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Research Article

Study on antibacterial activity of phytochemicals obtained from *Aerva lanata*

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Abstract

Objective: Bioactive compounds of aromatic and medicinal plants were showed remarkable activity against bacteria and fungi. **Material and methods:** *Aerva lanata* was extracted in hot extraction method using low polar to high polar solvents and used to screen the preliminary phytochemicals. The extracts were separated by thin layer chromatography method and identified compounds by NMR techniques. The isolated active compounds and extracts antibacterial activity was screened by disc diffusion assay, minimum inhibitory and minimum bactericidal activity assay methods. **Results**: Among the various extracts studied in the present investigation, the ethanol extracts of *Aerva lanata* (leaves) was found to be different secondary metabolites. The study revealed the polarity of the chemical composition of the leaves of *Aerva lanata*. In the present study, the Rf value of compound isolated from *Aerva lanata* by TLC method is given as; three spots from hexane extract (0.13, 0.17, 0.31) and five spots from butanol extracts (0.03, 0.06, 0.90, 0.12, 0.15. The proton NMR spectrum of the compound gave the following compound 2-Decyl-1-tetradecanol. In the case of butanol extract of *A. lanata* showed high antimicrobial activity against all the test pathogens while other extracts showed comparatively moderate activity. The butanol extract (150 µg/ml) of *A. lanata* was showed maximum inhibition 5.8 ± 0.4 mm against *Klebsiella* Sp, 5.1 ± 0.3 mm against *Staphylococus aureus*, 4.5 ± 0.3 mm against *Micrococcus* Sp. and 2.6 ± 0.2mm against *Pseudomonas* Sp. Followed by butanol, hexane extract (150 µg/ml) showed inhibition of *Staphylococus aureus* (4.8 ± 0.3 mm), *Pseudomonas* Sp (3.7 ± 0.2 mm), *Micrococcus* Sp (3.5 ± 0.2 mm) and *Klebsiella* Sp (3.5 ± 0.3 mm). Lower concentration of 2-Decyl -1-tetra decanol (20 µg/ml) also inhibited *Micrococcus* Sp (10 ± 0.3 mm), *Klebsiella* Sp (9 ± 0.3 mm), *Pseudomonas* Sp (8 ± 0.3 mm) and *Staphylococus aureus* (4 ± 0.3 mm). Conclusion: The active compound has good inhibitory effect against the test pathogens and crude extracts. In this study shows isolated active compound of 2-Decyl -1-tetra decanol to be used prepare plant based drugs to cure pathogenic bacterial diseases.

Keywords: Phytochemical analysis, microbial assay, *Aerva lanata*

Introduction

During the Vedic period itself plants were essential part of human society in different aspects such as construction, furniture manufacture, firewood, medicinal values etc (Manjula et al., 2009; Goyal et al., 2011).Mainly plants were used to cure respiratory infections, diarrhea, malaria, bacterial and fungal infections in rural communities of developing countries (Somchit et al., 2003). In traditional methods were used numerous tropical plants which are cure all kind of diseases (Amarnath et al., 2018). Bioactive compounds of aromatic and medicinal plants were showed remarkable activity against bacteria and fungi. It could be an alternate way to combat against pathogenic microbes (Ramasamy and Charles Manoharan, 2004). Hence in the present study was chosen a test plant *Aerva lanata* for screening their medicinal against pathogens.

Aerva lanata is herb, erect or prostrate with a long tap-root, branched from near the base; branches many, pubescent or wolly- tomentose, striate. Leaves alternate, 2-2 × 1-1.6 cm on the main stem, 6-10 x 5-6 mm on the branches, elliptic or obovate, or subotbicular, obtuse or acute, entire, pubescent above, more or less white with cottony hairs beneath; petioles

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REVIEW ARTICLE

EFFECT OF SUPPLEMENTRY FEED ON MORPHOMETRY AND DIGESTIVE TRACT ENZYMES OF *CATLA CATLA*

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ABSTRACT

The present study is an attempt to investigate the action of supplementary feed on morphometry and digestive tract enzymes of *Catla catla*. Juveniles of healthy fish, *Catla catla* were collected from Fish farm. Fish artificial nutrients were clearly mixed in right proportion and allowed to dry for 24 hrs. Using a standard scale and measuring board, the morphometric characters were analysed. Digestive enzymes such as amylase, protease, invertase, lipase and maltase in both control and treated fish samples were tested adopting the standard methods. The present study showed high digestive enzyme activity in control compared to fishes exposed to all other treatment. Enzyme activity of control fish showed in the following order Protease > Lipase > amylase > Maltase >Invertase. On the other hand, amylase activity of tank C fish sample was increased 50% compared to control tank fish sample. Lipase activity is slightly higher in stomach and mid – gut region of control fish sample, but no activity in the foregut and hindgut sample (all group). Combination food supplement such as soya meal, groundnut cake and wheat show remarkable changes in fish Morphometry and digestive tract enzymes. In this combination of food supplement to be improve growth of fish as well as their routine physiological metabolism.

Citation: Lighty George and Dhasarathan, P. 2017. "Effect of supplementry feed on morphometry and digestive tract enzymes of *Catla catla*", *International Journal of Current Research*, 9, (10), 59066-59068.

INTRODUCTION

In aquaculture nutritional context supplementation food is very essential to recover the deficiency and proper metabolic activity of aquatic animals. Natural pond system provides balanced diet but cultivation in artificial pond required proper food supplementation (Toutou *et al.*, 2016). Supplement feeds to be affect growth rate of fish and rearing in pond. The supplement food to be improves microbial count in the digestive tract and weight of the fish. Feed supplements have attracted considerable attention by feed manufactures as means of improving livestock performance. Hence in this study choose different supplementation to analyze effect on carp fishes. Carp is a very hardy fish, can be breed and reared to maturity under all kinds of conditions, requires no costly food, consuming refuse and other natural products which are otherwise useless, grows rapidly, and if properly cooked has a delicate flavor (Burridge and White, 2000). Rapid growth of the fish to a marketable size is essential to a profitable industry.

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Modern growers have succeeded in producing races that grow to an average weight of two and a half pounds at the end of the third summer and in some tropical countries the rapid growth is even more striking. Additional research efforts are required to authenticate application of supplementary tools used as effective nutrition (Makkar *et al.*, 2015).

MATERIALS AND METHODS

Collection and Acclimatization of the fish *Catla catla*

Juveniles of healthy fish, *Catla catla* (weight: average 12 ± 0.5 gms., Length : average 82 ± 2 mm) were collected from the National Fish farm at Manimuthar, Tirunelveli District. The fish were brought to the laboratory immediately and acclimatized under standard laboratory conditions for a period of twenty days (Sprague, 1973).

Fish feed formulation: Fish artificial nutrients were clearly mixed in right proportion and allowed to dry for 24 hrs. Every day 10 gm of the feed was administered to each tank

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Evaluation of Immunomodulatory Efficiency of Fish Protein

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ABSTRACT

Proteins play a vital role in our normal life. It enhances the immunity or suppresses the immunity in host organism based on the nature of property. In this study protein was isolated from the marine fish and screened their immunomodulatory effect on *Cyprinus carpio*. The efficiency of immunostimulant was analysed B and T cell counts and antibody titration against *Escherichia coli, Pseudomonas aeruginosa, Proteus vulgaris, Kliebsiella pneumonia, Citrobacter sp, Serratia marcescens, Micrococcus sp, Staphylococcus aureus* and *Bacillus subtilis*. From the results the antibody levels were significantly raised in protein treated animals. The T cell counts were increased due the cellular level stimulation of protein in host. In the present investigation conclude that the fish protein have immunostimulant potential against bacterial pathogens.

Keywords: Protein, immunomodulation and Cyprinus carpio.

INTRODUCTION

India is a major diversity nation, compromise 3231 species of fish, of that marine fish contributes 75.6% food requirement in human population (Aparna Joshi and Hyuntak Roh, 2009). Fish is one of the best dietary sources of animal protein because it gives healthy amount of protein. Demands for fish protein ingredients are gradually growing in the world (Thorkelsson *et al*., 2009). Cobia is a marine fin fish species emerging global potential for mariculture and medicinal propeties (Holt, 2007). Their rapid growth rate as well as the high quality of their flesh makes Cobia potentially one of the more important marine fish for aquaculture production. The white flesh and low fat content fish are considered as the most suitable species for developing fish protein ingredients (The Cancer Genome Atlas Research Network.2008 and Shaviklo *et al.*, 2012). As the protein has a high nutritional value, the present investigation screened immune modulatory efficiency of protein using fish, *Cyprinus carpio*.

MATERIALS AND METHODS

For the present study, from the Cobia fish protein was isolated from the muscle. The isolated protein was used administered to the *C.carpio* for further analysis. The edible freshwater fish *C. carpio* with the length of 30-35 cm weighing 16-20 g are collected from the fish culture pond of Government Fisheries Department, Thiruvallur Tamilnadu State, India. The fishes are brought to the laboratory using sterile plastic buckets containing pond water. The fish samples are brought to the laboratory within two hours after collecting the samples for organoleptic test and biochemical analysis.

Preparation of fish sample: On arrival to the laboratory, fishes treated with protein (12 mg/Kg) as experimental group (6 animals in group) and normal group (without treatment). Normal and after treatment of 3 weeks fishes were sacrificed and collected samples for further analysis. Blood samples (0.5 ml from each fish) were collected for immunological analysis. The muscle flesh samples are processed as fillets, packed and stored at different temperatures, such as room temperature, 4° C, -20° C and -80° C. Samples are evaluated for sensory and biochemical attributes at 0, 2, 4, 6, 8, 12 and 24 hrs under room temperature and at intervals of 24hrs upto 4 days under different storage temperatures.

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CONTROL OF MICROBIOME USING 2-DECYL-1-TETRADECANOL ISOLATED FROM *AERVA LANATA* L.

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ABSTRACT

Phytochemical constituents isolated from medicinal plants such as *Aerva lanata* using low polar to high polar solvents. The present study finds out 2-Decyl-1-tetradecanol compounds obtained in *Aerva lanata*. The isolated active phyto-constituents could be an alternate way to combat against bacterial diseases and their influence in control of pathogen multiplication in the aspect of microbiome. The isolated phyto-constituents verified against seven major pathogens including *E. coli, Klebsiella* Sp, *S. aureus, Aeromonas* Sp, *B. subtilis, P. aeruginosa, S. paratyphi* using disc diffusion assay and the value compared with inhibition of standard antibiotics. *S. aureus* was resistant against four antibiotics including Ampicillin, Co-Trimoxazole, Vancomycin and Kanamycin. One of the antibiotic resistant microbe, *S. aureus* screened using 2-Decyl-1-tetradecanol compounds, it show remarkable inhibition. The isolated compound, 2-Decyl-1-tetradecanol inhibit *E. coli* (14 mm), *Klebsiella* sp. (15 mm), *S. aureus* (17 mm), *Aeromonas* sp. (16 mm), *B. subtilis* (20 mm), *P. aeruginosa* (22 mm) and *S. paratyphi* (17 mm). From these findings plant based drugs compounds like 2-Decyl-1-tetradecanol can be used to control multiplication of synthetic antibiotic resistant microbes.

Keywords: Microbiome, 2-Decyl-1-tetradecanol, antibiotic and *Aerva lanata*.

INTRODUCTION

Plants have been an essential part of human society since the start of civilization. During the vedic period, great importance was given to plants. Medicinal and aromatic plants and their essence are rich in antibacterial and antifungal compounds could be an alternate way to combat against bacterial and fungal diseases [1]. *Aerva lanata* L. (Amaranthaceae) is a woody, prostrate or succulent, perennial herb or under shrub. Leaves are woolly, tomentose throughout, and smaller in flowering branches. Flowers are very small, sessile, bisexual, greenish or dull white, often clustered with spikes. Seeds are kidney-shaped and shining black in color [2]. *A. lanata* is used as an important medicinal plant for illness. It is also called in English as a stone breaking plant. *A. lanata* comprises medicinal and pharmaceutical importance [3]. The extract of *A. lanata* is endowed with flavonoids, alkaloids, triterpenes, steroids, polysaccharides, tannins and saponins. A variety of pharmacological activities of the Aerva plant such as anthelmintic, demulcent, anti-inflammatory, diuretic, expectorant, hepato-protective and nephron- protective [4].

Aerva lanata serves as a purpose of anthelmintic and medication that soothes inflamed and injured skin [5]. Plant initially produces these phytochemical compounds to protect themselves from pathogens and predator [6]. However, researcher has found that these phytochemical constituents produced by plant are able to exhibit some biological activities such as, antiperiodic, antibacterial, antitumor, antidiabetic, antithrombotic, anti-inflammatory anti-HIV, anti-feedant and antiviral [7]. The dramatically increases of bacteria resistance to the common use antibiotic increases the demand to search for the new, potential and alternative active compound in plants to treat the bacterial infection that cause by those antibiotic resistance bacteria [8]. However, different phytochemicals show various mechanisms of action, such as, inhibiting specific pathogens, increasing immunity etc., [9].

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WOUND HEALING MECHANISM IN FISH MUSCLE TISSUE AFTER ADMINISTRATION OF *Coscinium fenestratum, Azadirachta Indica, Cynodon dactylon* PLANT EXTRACT

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ABSTRACT

The Wound healing process on fish muscle and its repair mechanism is a natural process. The wound healing is achieved through four phases: Hemostasis, Inflammation, Proliferation, and Remodelling. The fish model taken for the wound healing process is Cyprinus rubrofuscus (Koi carp). The plants choosen for the administration in the wounded region are Coscinium fenestratum, Azadirachta Indica, and Cynodon dactylon. The chosen plant samples were analysed for the presence of alkaloids, flavonoids, tannins, terpenoids, glycosides, steroids, and saponins to confirm the phytochemicals in the plant extracts. The plants samples were then analysed with gas chromatography mass spectroscopy and the results obtained from GC-MS shows highest retention time (i.e RT=18.22) in Azadirachta Indica, for Coscinium fenestratum RT=16.66, and for Cynodon dactylon RT=16.68. From GC-MS results and the rate of wound healing Azadirachta Indica shows the best result.The sample analysed for the process of wound healing naturally show a decreasing in the size of the wound from day1 (1.12cm) to day7 (0.90cm). The collagen dermal patches with chosen plant extract were administrated to overcome the slowdown process of wound healing. The plant extract (A.indica) on administration shows an (38.8%); the plant extract (C.fenestratum) on administration shows an (29.4%); and the plant extract (C.dactylon) on administration shows an (27.5%) increased the rate of wound healing.

***Keywords**: Azadirachta indica, Cyprinus rubrofuscus, Coscinium fenestratum,, Cynodon dactylon, gas chromatography-mass spectroscopy*

1 INTRODUCTION

The wound healing is a normal biological process in all living organisms and there are factors which affects the natural wound healing and slows down the process of wound healing (S. Guo *et al.*,). To overcome the slowdown wound healing process cause by external factors, dermal patches with plant extract are administrated on the wound surface which would protect the wounded area from external factors and also promote wound healing (S. Baar *et al.*,). Some of these plants have been screened scientifically for the evaluation of their wound healing activity in different pharmacological models (*Tuhin Kanti Biswas et al.*,). Collagen is a natural substrate for cellular attachment, growth and differentiation, and promotes cellular proliferation and differentiation. Nowadays, many commercial and experimental products have been introduced to improve cutaneous wound

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Supremacy of STR –UMDNA Based Han Identity Testing A Comparison with other Forensic Testing

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ABSTRACT

The genetic relationship of the mother is rarely questioned but disputes over who may be the true biological father occur with some frequency. Previously Serological techniques were used in which a battery of blood group systems was needed to attain the level of discriminations to determine paternity beyond reasonable doubt. More recently STRs have been used although a large number of STR loci are required. The reason for the change from conventional typing to STR-DNA method is the high degree of probability obtained and the automation of the test. The efficacy of DNA- typing (STR-Typing) in terms of definite opinion (inclusion or exclusion) with other Forensic biological testing like Anthropology and Serology was probed and found that DNA-Typing was observed with 100% success rate than other testing in solving paternity cases more specifically.

KEYWORDS: Genetics, Forensic, STR, serology and DNA probe.

INTRODUCTION

A DNA laboratory can be asked to determine whether a man is the Biological father of a child. The genetic relationship of the mother is rarely questioned but disputes over who may be the true biological father occur with some frequency. Previously Serological techniques were used in which a battery of blood group systems was needed to attain the level of discriminations to determine paternity beyond reasonable doubt. More recently STRs have been used although a large number of STR loci are required. The reason for the change from conventional typing to STR-DNA method is the high degree of probability obtained and the automation of the test. For any biological test it is possible to determine the probability that two individuals taken at random from a defined population will be identical with regard to the genetic marker examined (Nata *et al.*, 1993). The power of the test is measured either the probability of identity or the probability of a match. In a civil or criminal case in most jurisdictions, the court is concerned with the finding between the case presented by the plaintiff and that presented by the defendant. This is to be decided upon by the balance of probabilities. Hence the test with the value of higher probability gains much significance as scientific evidence in judicial system.

Uncertainty is best measured by probability. An excellent description of probability and its role in Forensic science has been given by Findlay *et al* (1997). There are several laws of probability which describe the values that probability may take and how probability may be combined. All probabilities may be thought of as conditional probabilities. In other words, the probability of an event happening is conditional on the knowledge of other events and background data or information. Similarly the probability of a hypothesis such as the guilt of a suspect, is conditional on the knowledge of a events and of background data or information such as the experiences brought to the assessment by individual jurors. The probability attached to uncertain scientific evidence is conditioned on the background data or information relevant to the type of evidence being assessed. For example evidence concerning frequencies of DNA-profile (DNA – typing) will be conditioned on information regarding ethnicity of the people concerned for the value of these frequencies, that is population data.

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ANTIMICROBIAL ACTIVITY OF SELECTED NANO PREPARATIONS OF TRADITIONAL MEDICINE AGAINST HUMAN PATHOGENS

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ABSTRACT

Siddha medicine is one of the most ancient medical systems of India. Siddha is the mother medicine of ancient Tamils/Dravidians of peninsular South India. This system has enormous pharmacopoeia containing vegetable, animal and mineral products. Although the Siddha herbo-mineral preparations represent a rich source of antimicrobial agents. The selected Siddha herbo-mineral preparations were tested for antibacterial and antifungal activities. For antimicrobial assay five strains of bacteria viz. *E. coli, S. typhi, S. aureus, K. pneumonia* and *V. cholerae* were used, For antibacterial assay four concentrations of the Siddha drug (for LC, KR, VK and RC - 5 µl, 10 µl, 15 µL and 20 µl were used, Of the five bacteria tested, the growth of all the bacteria were well inhibited by the Siddha drugs. The disc diffusion assay indicated a dose dependent effect of the Siddha drugs to inhibit the growth of bacteria. From the study, it was observed that the Herbo – mineral Drugs such as *Kantha rasavillai* (KR), *Vajera kandi* (VK) and *Rasa chunnam* (RC) was found to have antifungal activity. But the Herbo-mineral medicine, *Linga chendhuram* (LC) has no antifungal activity against the selected five fungal strains. So It is concluded that these three Siddha preparations KR, VK, and RC can be used to control or prevent the fungal infections. Modern techniques are necessary to standardize and bring out high quality herbal products owing to their complex nature.

Keywords: *Antibacterial, Antifungal, Nano medicine, Traditional medicine and pathogen.*

I. INTRODUCTION

Siddha medicine is one of the most ancient medical systems of India. Siddha is the mother medicine of ancient Tamils/Dravidians of peninsular South India. The Siddha system of medicine, which has been prevalent in the ancient Tamil land, is the foremost of all other medical systems in the world. Its origin goes back to B.C 10,000 to B.C 4000 [1,2]. The uniqueness of Siddha system is evident by its continuous service to the humanity for more than 5000 years in combating diseases and also in maintaining its physical, mental and moral health while many of its contemporaries had become extinct long ago.

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EVALUATION OF ANDROGRAPHIS ECHIOIDES FOR ITS PHYTOCHEMICAL AND IN VITRO ANTIOXIDANT PROPERTIES

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ABSTRACT

The aim of the present study was to screen phytochemical derivatives from an Indian medicinal plant *Andrographis echioides* (L.) Nees and to evaluate its antioxidant potential. A preliminary phytochemical screening was carried out in plant extracts using qualitative and quantitative methods. Polar solvents showed presence of tannins, glycosides, proteins and organic acids while non-polar solvents showed presence of steroids, triterpenes and polysaccharides. The study concludes that the methanolic seed extract of plant possesses potent antibacterial property and justifies the need for further investigations and characterization of the bioactive compounds present in it. Based on the antioxidant assay results it was found that methanol extract exhibited better free radical scavenging activity than other extracts. The methanol extract exhibited highest DPPH scavenging activity exhibited best antioxidant activity with an EC_{50} value of 51.98 mg/mL. Among the different extracts, methanol was more effective in all the antioxidant assays i.e. DPPH radical scavenging assay and superoxide scavenging assay.

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A Comparative Study on the Effect of Pheromone Baited Traps and *Acalypha indica* Extract on *Leucinodes orbonalis*

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ABSTRACT

Botanical insecticides are naturally occurring chemicals extracted from plants. This study aims to analyze the insecticidal activity of bioactive compounds present in the aqueous extract of *Acalypha indica* and to analyze the efficacy of pheromone baited traps in integrated pest management. In this study, various bioactive compounds present in the aqueous extract of *Acalypha indica* were analyzed by phytochemical screening and GC-MS analysis. The molecular properties of the compounds identified from GC-MS analysis were screened based on Tice rules using bioinformatics molecular property analysis tools. Out of 8, four compounds namely oleic acid, phytol, flavone and estra- 1, 3, $5^{[10]}$-trien-17a`-ol strictly follows Tice rules. The aqueous extracts were used for the screening of insecticidal activity against 3rd instar larvae of *Leucinodes orbonalis* by diet incorporation bioassay. On observation it was revealed that the aqueous extract of *Acalypha indica* induce antifeedant effect, which was very efficient at 80% concentration. Three pheromone baited traps namely yellow sticky trap, bucket trap and sleeve trap were used to evaluate its efficacy in pest management. From the evaluation, out of three pheromone baited traps, sleeve traps performed statistically better than others, trapping higher population of adult *Leucinodes orbonalis*. The sticky traps captured the highest number of non-target insects, mostly being ants, flies, and beetles. In bucket trap moderate non-target populations were present. Thus, on the comparative study the preliminary screening shows that *Acalypha indica* can be used to derive a novel insecticide and pheromone baited sleeve trap shows positive integrated pest management.

Keywords: *Acalypha indica*, *Leucinodes orbonalis*, GC-MS analysis, Tice rule, pheromone trapping

In Tamil Nadu, agriculture continues to be the most predominant sector of the state economy, as 70% of the population is engaged in agriculture and allied activities for their livelihood. Eggplant and tomato are the most commonly grown vegetable crops of the state. Tomatoes and eggplants are subjected to large number of pest attacks from the time of emergence to harvest. The most destructive pest is the shoot and fruit borer, *Leucinodes orbonalis*, commonly found in tropical and subtropical parts of Asia and Africa. *L.orbonalis* is a typical Lepidopteron belonging to the family Pyralidae. The adults are weak fliers and active at night. *L.orbonalis* undergoes four distinct life stages: egg, larvae, pupa and adult. They lay eggs on leaves and tender shoots of eggplants and tomatoes. Shortly after hatching, the neonate larvae migrate to the nearest shoot or fruit and bore inside. In fruit, the larvae typically enter just below the calyx. A *L.orbonalis* larva feeding inside a fruit completes its four larval instar stages in 15 to 20 days. A fully grown larvae bore back to the surface and emerges from the fruit or shoot leaving obvious exit holes. The larvae migrate to the soil surface to pupate in plant debris. The pupal period lasts for 7 to 10 days. The young *L.orbonalis* adults are generally found on the lower leaf following the emergence from the

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SEPARATION OF ALGAL PIGMENTS BY THIN LAYER CHROMATOGRAPHY (TLC) AND HIGH PERFORMANCE LIQUID CHROMATOGRAPHY (HPLC)

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ABSTRACT

The pigment content in microalgae is one of the important features of each species. Four green algae such as G11, G12, G13 and G14 were isolated from different freshwater habitat in Madurai. The isolated microalgae G11, G12, G13 and G14 were closely related to *Chloromonas pichinchae* (G11), *Grasiella vacuolata* (G12), *Watanabea reniformis* (G13) and *Scenedesmus deserticola* (G14). Thin layer chromatography revealed the presence of xanthophylls, chlorophyll and β-carotene in the isolated green algal strains. In this study, using an optimized method of HPLC, trace pigments were also identified. Chlorophyll a, chlorophyll c_2, chlorophyll c_3 and β-carotene were identified as the major pigments present in all the four green algae. The retention time decreased in the following order (Phaeophytin a > Phaeophytin b > chlorophyll b > chlorophyll a > chlorophyllide a) and predominantly was dependent on the polarity of the mobile phase. Algal products have widening scope for industries in the form of dyes and bio-plastics which can increase profitability and reduce the biomass waste.

KEYWORDS: Green algae, Pigments, TLC, HPLC.

INTRODUCTION

Algae contain a wide variety of pigments that absorb light for photosynthesis. Aquatic light environments can be extremely variable. The variety of pigments in algae has contributed to their successful acclimation to light environments of different quality and intensity. The major photosynthetic pigments are chlorophylls, carotenoids and phycobiliproteins. Chlorophyll a is common to alloxygenic photosynthetic organisms including land plants

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RESEARCH ARTICLE

COMPARATIVE STUDY OF GREEN SYNTHESIZED MAGNESIUM OXIDE NANOPARTICLES FROM *AMARANTHUS BLITUM* AND *ALOE VERA* AND ITS APPLICATION IN WATER TREATMENT

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Magnesium oxide Nanoparticles, Scanning Electron Microscopy, UV-absorption Spectroscopy, Antibacterial activity.

ABSTRACT

Green synthesis is an effective concept towards ecofriendly synthesis, as chemical synthesis is toxic and harmful. The work focuses on the green synthesis of magnesium oxide nanoparticles from red spinach and *Aloe vera* with magnesium nitrate as precursor of magnesium. The UV-Visible Spectroscopy and Scanning Electron Microscopy (SEM) were performed for characterization of nanoparticles. The synthesized magnesium oxide nanoparticles are implemented in the treatment of polluted water. The bacteria were isolated from polluted water and antibacterial susceptibility test was performed to measure the zone of inhibition. Thus, the present study mainly focuses on the treatment of polluted water using magnesium oxide nanoparticles.

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INTRODUCTION

Water is necessary for sustaining life on Earth. About 70% of Earth's surface is water of which 97.5% is salty water and 2.5% is fresh water. Less than 1% of this 2.5% amount of fresh water is accessible. Pollution reduces the availability of water for human use. Chemical pollutants, microbial contamination and increase concentration of organic mattes can result health problems (Mishra, 2015). The major microbial pathogens in water are bacteria, virus, fungi and protozoan parasites. Bacterial pathogens are mostly present in feces and wide variety can be present in waste water due to fecal contamination (Tomilola Debby olaolu, 2014). The discharge of untreated or inadequately treated waste water into environment can have negative impact on human health due to release of pathogenic microorganisms into water which could lead to serious health diseases (Rosario *et al*., 2009). The main aim of this project is use of nanotechnology in polluted water treatment. Nanotechnology has provided innovative solutions for water treatment. Nanoparticles can be synthesized by chemical methods and biosynthetic method. The green synthesis of nanoparticles is safer compared to harmful chemical methods. In the current project, magnesium oxide nanoparticles were synthesized from*Amaranthus blitum* (red spinach) and *Aloe vera*. Magnesium oxide nanoparticles are very effective biocides against Gram positive and Gram-negative bacteria and bacterial spores (Stoimenov *et al*., 2002). Halogens such as chlorine (Cl) and bromine (Br) are well known and widely used as antibacterial agents, but direct use of halogens as bactericides has many problems because of their high toxicity and vapour pressure in pure form (Nagappa, 2007). Nanomaterials reveal good result then other techniques used in water treatment because of its high surface area (surface/volume ratio) (Mamadou, 2005). The synthesized magnesium oxide nanoparticles were characterized by UV-Visible absorption spectroscopy and scanning electron microscopy and used for water treatment.

MATERIALS AND METHODS

Sample Collection:*Amaranthus blitum* (red spinach) and *Aloe vera*was purchased from Koyambedu market, Chennai. The polluted water collected from Ambattur lake, Chennai.

Synthesis of magnesium oxide nanoparticles: The aqueous extracts of red spinach and *Aloe vera* were prepared. 50ml of *Amaranthus blitum* extract or *Aloe vera* extract was added to

Optimization of conditions for the extraction of Biodiesel from Jatropha curcas

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***Abstract*: Biodiesel is known as the green-fuel which is non-toxic and eco-friendly. The biodiesel is produced from Jatropha seeds by the process of transesterification. These seeds act as the main sources in the production of biodiesel. As in current scenario, the cost of all commercial fuels are of higher cost and the rates are increasing dramatically day by day and even their usage leads to pollution , that in turn increases the global warming. So, biodiesel usage would be the only remedial way that leads to the environmental friendly fuel and a cost-effective fuel. The existing method for the extraction of oil from seeds involves the solvent extraction method using different solvents. Using different combinations of solvent in order to determine the efficiency yield of oil from seeds. The yield percentage of the biodiesel is increased from the extraction method of oil. The best solvent and remedial measure of solvent was determined by the analysis. The estimation of biodiesel sample was carried out with Thin Layer Chromatography (TLC) and Gas Chromatography Mass Spectrometry (GC-MS) in order to determine presence of fatty acids in biodiesel. This method is an alternative for the extraction of oil from seed using solvent extraction.**

Keywords:Biodiesel,transesterification,Jatrophacurcas,Solventextraction

I. INTRODUCTION

Biodiesels availability and low cost of petroleum diesel fuel, vegetable oil-based fuels gained little attention, except in times of high oil prices and shortages. World war 2 and the oil crises saw brief interest in using vegetable oils to fuel diesel engines, in 1970's. Due to higher viscosity of traditional vegetable oil, the newer diesel engine designs could not run on traditional vegetable oils, compared to petroleum diesel fuel. To solve this problem an innovative method was needed to lower the viscosity of vegetable oils to a point where they could be burned properly in the diesel engine. Many methods have been proposed to perform this task, including pyrolysis, blending with solvents, and emulsifying with water or alcohols, none of which have provided a suitable solution. In the year 1937 it was a Belgian inventor who first proposed using transesterification to convert vegetable oils into fatty acid alkyl esters and use them as a biodiesel.

II. BIODIESEL IN ENVIRONMENTAL USE

The biodiesel was developed by inventor Rudolph diesel in the year 1890s which has become a choice of power, reliability and high fuel economy over the world wide. In the early experimental studies the French government and Dr. Diesel envisioned that pure vegetables oils could power early diesel engines for agriculture in remote areas of the world, where petroleum was not available at that time. Modern biodiesel involves the conversion of vegetable oil into a compound called fatty acid methyl esters, research conducted in Belgium 1930's, but today's biodiesel industry was not established in Europe until the late 1980's.

The diesel was developed for a particular reason to improve efficiency, cumbersome and dangerous steam engines of the late 1800s. The diesel works on the principle of compression ignition, in which fuel is injected into the cylinder after air has been compressed to a high temperature and pressure. This mainly involves the conversion of chemical energy in the fuel into mechanical energy. Dr. Rudolph diesel holds the first patent for the compression ignition engine in 1893. Diesel became known to worldwide for his innovative engine which could use variety of fuels.

III. OIL EXTRACTION PROCESS

The seeds were collected, sun dried and made into crushed mixtures using the mortar and pestle. 50g of crushed seeds (*Jatropha curcas*) were taken and covered within the muslin cloth. The soxhlet apparatus was setup and the distillation column was filled with the solvents chosen for the extraction process. About 200ml of solvents such a Hexane, Isopropyl Alcohol and Petroleum Ether were used to fill the distillation flask. The muslin cloth with the Jatropha seeds mixtures was packed into the condenser column.

Once the apparatus was setup, switch ON the heating mantle by setting the temperature equivalent to the boiling point of the solvent. Once the temperature was setup, the process was continued for 3 days till the colour change of the distillation column was observed. For 3 days, the boiling range of the solvents was maintained with proper condensing process of water in and out. After the colour change was observed the heating mantle was switched OFF and the distillation flask was separated to extract the oil from solvent. The solvents were recovered by distillation process, by heating the distillation flask to the solvent boiling temperature. Once the solvents are recovered, the oil was used for further analysis and conversion processes.

Advanced Technology for Speedy Construction (Tunnel Formwork)

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Abstract: In this project we plan to explain about the construction method using tunnel form technology and design and analyze an S+4 building using ETABS software. The tunnel form technology is one of the advanced methods of construction. Using the tunnel formwork technology the time of construction of a building can be greatly reduced. Due to usage of tunnel form construction we eliminate plastering. The design for the tunnel form construction is quite difficult, but the tunnel form structure can withstand large amount of seismic force. This project we mainly concentrated on analyses the seismic behavior between shear wall structure and the framed structure, and the construction procedure like assembling and handling of the tunnel formwork. These buildings can adopt in the earthquake prone areas and also adopted for the cellular and similar structure.

Index Terms- Tunnel Formwork, Plastering, Cellular, Earthquake, Shear wall.

INTRODUCTION:

A recent trend in the building industry in India, as well as in many countries with increasing city populations, is toward utilizing the tunnel-form (shear wall) construction system for development of multistory residential units. This has been driven basically by the need to construct earthquake resistant multistory reinforced concrete (RC) buildings with considerable ease, speed and economy. The tunnel-form system is an industrialized construction technique in which structural walls and slabs are cast (in situ) simultaneously using steel forms composed of vertical and horizontal panels set at right angles. To expedite the construction, non-structural components such as facade walls, stairs and chimneys are commonly produced as prefabricated elements. Tunnel-form buildings generally have a symmetrical configuration in horizontal and vertical planes that enables continuous flow of construction and better quality assurance. Besides the constructive advantages, tunnel-form buildings provide superior seismic performance compared to conventional RC frame and dual systems, which suffered significant damage and total collapse in many regions during recent devastating earthquakes in India.

Continuity of shear-walls throughout the height is recommended to avoid local stress concentrations and to minimize torsion. Such a strict shear-wall configuration in the plan and throughout the height of the building may limit the interior space use from an architectural point of view, and this is one of the disadvantages of tunnel form buildings. During construction, walls and slabs, having almost the same thickness, are cast in a single operation. This process reduces not only the number of cold-formed joints, but also the assembly time. The simultaneous casting of walls and slabs results in monolithic structures unlike any other frame-type RC buildings. Consequently, tunnel form buildings gain enhanced seismic performance by retarding plastic hinge formations at the most critical locations, such as slab–wall connections and around wall openings.

The increase in duration of construction greatly affects the construction cost. Selection of best formwork system gives best result in cost saving. Formwork consists of 20-25% of total cost of project. So that used advanced formwork system helps in cost saving as reduction slab cycle time. This study is done for comparative analysis of tunnel formwork system used for high rise building construction.Formwork systems are key factors in determining the success of a building construction project in terms of cost, speed, quality and safety of work. Formwork constitutes 30% of the cost and 60% of the time in concrete construction. Quality of concrete finish and soundness of concrete depends very much on the formwork system. Formwork should be properly designed, fabricated, and erected to receive fresh concrete. If formwork is not done properly the desired shape of concrete is not possible.

2. OBJECTIVE AND SCOPE

The objectives of our project are

I. To analyze the seismic behavior of the tunnel formwork building.
II. To compare the tunnel formwork building and conventional building design.
III. To compare the tunnel formwork with conventional formwork.
IV. To study the methodology of the tunnel formwork.

3. THEORETICAL CONTENT

3.1 Types of formworks

At present in Indian construction industry various types of formwork systems being used. Based on type of material, purpose of use and method of erection formwork systems listed as follows.

1. Conventional formwork.
2. Climbing formwork system.
3. Slip formwork system.
4. Permanent formwork.

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A REVIEW OF LIGHT WEIGHT CONCRETE USING VERMICULITE

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Abstract - It is evident from literature review that in the recent decades the thrust for finding an alternative to the costly steel reinforcement is increasing, several alternatives have been tested across the globe. Some viable alternatives are found, also many techniques of replacing the sand and addition of compressive strength to concrete is studied. The methods which are found to be cost effective and feasible are also tried in construction in various areas. Once, such alternative technique is providing subsidiary reinforcement in the way of addition of vermiculite to the concrete. This project is to be carried out on concrete cubes with various percentage of vermiculite 5%, 10% and 20% by volume of sand. Experiments were conducted on testing cubes after casting which increases the strength considerably by adding vermiculite. In addition to that, Vermiculite plays a major filler role in concrete instead to sand. By using this material, the wastes are recycled. Because Vermiculite is an abundantly available waste from the vehicle production industry. This is recycled without emitting as solid waste into the environment.

Keywords- Compressive strength, Flexural strength, Vermiculite, Density

I. Introduction

Lightweight concrete can be defined as a type of concrete which includes an expanding agent in that it increases the volume of the mixture while giving additional qualities such as nail ability and lessened the dead weight. It is lighter than the conventional concrete. The use of lightweight concrete has been widely spread across countries such as USA, United Kingdom and Sweden. The main specialties of lightweight concrete are its low density and thermal conductivity. Its advantages are that there is a reduction of dead load, faster building rates in construction and lower haulage and handling costs. Focused were on the performance of aerated lightweight concrete such as compressive strength tests, water absorption and density and supplementary tests and comparisons made with other types of lightweight concrete.

Pozzolanic admixtures react with CaOH generating additional CSH phases, resulting in a more compact concrete with increase durability. Some supplementary cementitious material, like fly ash has very slow hydration characteristics thus providing very little contribution to early age strength, while others like vermiculite possess a high reactivity with calcium hydroxide having the ability to accelerate cement hydration. Since current concrete structures present higher permeability levels that allow aggressive elements to enter, leading corrosion problems, using pozzolanic admixtures not only reduce carbon dioxide emissions but also allow structures with longer service life, thus lowering their environmental impact. Nevertheless, studies on the durability performance of concrete containing pozzolanic by-products are recent and still scarce. This paper presents experimental data about the strength and durability performance of vermiculite, fly ash based concrete. An effective way to reduce the impact on the environment is to use supplementary cementitious materials (SCM) as a partial substitute for cement. This strategy has the potential to reduce costs, save energy and reduce waste volumes. There are so many studies in the literature focusing on the improvement of concrete performance by replacement of Portland cement to some extents of various mineral admixtures; such as, fly ash, silica fume, blast-furnace slag, etc. Generally, the effects of mineral admixtures may be assessed as improvement in workability, durability to thermal cracking, durability to chemical attacks, and production of high performance concrete. In addition to their positive environmental impact, SCMs may improve concrete workability, mechanical properties, and durability. SCMs may possess pozzolanic or latent hydraulic reactivity or a combination of these. The term pozzolan refers to a siliceous material, which, in finely divided form and in the presence of water, will react chemically with calcium hydroxide to form cementitious compounds. Pozzolans can be of natural or industrial origin. Natural pozzolans include volcanic ash and diatomaceous earth, although pozzolans from industrial by-products are more commonly used today. Recently, there has been a growing interest in the utilization of high-reactivity vermiculite as a supplementary cementitious material in concrete industry.

Types of Lightweight Concrete - Lightweight concrete can be prepared either by injecting air in its composition or it can be achieved by omitting the finer sizes of the

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STATE OF THE ART ON COMPOSITE BEAM WITH SHEAR CONNECTOR UNDER PURE BENDING

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Abstract - A simple computation procedure is developed to predict the general behavior of composite beam with shear connector under bending. Different spacing of shear connector should be change cold form sheet considered. The experiments include four series of composite beams tested. The tests reported were used to ascertain the flexural strength of the beams and to validate the theoretical predictions. Companion specimens of concrete cylinders and cubes were tested for compressive strength and elastic modulus properties. Then accuracy of the results was checked with some available experimental data. The section was then exposed to bending, and the change in the behavior was noticed. The effect of a wide range of important parameters was studied on composite beams when they were exposed to two different loading combinations; Shear, torsion accompanied by bending.

Keywords: Shear connectors, Composite beam, Flexural strength, pure bending, Shear and torsion

I. Introduction

Modern civilization relies upon the continuing performance of civil engineering infrastructure ranging from industrial building to power station and bridges. For the satisfactory performance of the existing structural system, the need for strengthening is inevitable. Commonly encountered engineering challenges such as increase in service loads, changes in use of the structure, design and/or construction errors, degradation problems, changes in design code regulation and seismic retrofits are some of the causes that lead to the need for new techniques to upgrade the performance of the structures. Though Concrete a versatile construction material has several advantages due to its compressive strength and moldable shape, it has its own tensional limitation and poor ductility. Ductility is an important characteristic of a structure to resist earthquake, impact and blast loading. Steel has excellent ductile property. Hence a judicious combination of structural steel and concrete utilizing the strength possessed by them and suppressing their weakness resulted in the composite construction. The present day demands in construction on parameters such as strength, safety, serviceability, satisfactory and reliable performance expected of a structure apart from economical solutions has also made it imperative to use steel concrete composite construction techniques.

Composite Construction- A structural member composed of two or more dissimilar materials joined together to act as a unit is referred as composite structure. Joining two dissimilar materials to form a composite member does not only combine the collective strengths of the two materials, forming a union between relevant materials actually enhances their physical characteristics and makes the composite stronger than the sum of their strengths. An example in civil structures is the steel-concrete composite beam in which a steel wide-flange shape (I or W shape) is attached to a concrete floor slab.

In order to design the structural member with maximum efficiency and minimum cost, steel-concrete composite construction is adopted. It is a powerful construction concept in which compressive strength of concrete and the tensile strength of steel are almost effectively used. Steel and concrete have almost the same thermal expansion apart from an ideal combination of strength. Hence, these essential different materials are completely compatible and complementary to each other. Steel-concrete composite beams are today widely used for bridges and industrial buildings. In large scale construction, steel and concrete are most frequently used combinations for composite beams. The concrete lends the composite mass, stiffness and compressive strength and reduces deflection and vibration in the slab. The steel members give the beam its tensile strength with excellent strength to weight ratios and rapid construction times. Steel-concrete composite beams have long been recognized as one the most economical structural systems for both multistory steel buildings and steel bridges. Buildings and bridges require a floor slab to provide a surface for occupants and vehicles respectively. Concrete is the material of choice for the slab because its mass and stiffness can be used to reduce deflections and vibrations of the floor system and to provide the required fire protection. The supporting system underneath the slab, however, is often steel because it offers superior strength-weight and stiffness-weight ratio, ease of handling and rapid construction cycles. Since both the steel and concrete are already present in the structures, it is logical to connect them together to better utilize their strength and stiffness.

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Comparative Study of Reactive and Modified Reactive Powder Concrete

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Abstract: ***Eactive powder concrete (RPC) is the type of cementitious composite materials developed by the technician division of Bouygues, in the early 1990s. The absence of coarse aggregate was considered by inventors to be key aspect for the microstructure and performance of RPC in order to reduce the heterogeneity between cement matrix and aggregate. Reactive Powder Concrete (RPC) is an high strength and high ductility composite material with advanced mechanical properties. The purpose of this investigation is to determine the strength variations in RPC and MRPC. MRPC is carried out with an introduction of graded aggregate (8-10mm) and deal with steel fibers as replacement of coarse aggregate. Our investigation also deals with the various applications of each mix based on cost analysis and to determine the suitable mix proportion. It is done by carrying a comparative study of RPC with cement, quartz sand, silica fume and modified RPC with cement, silica fume, quartz sand and superplasticizer partially replace with coarse aggregate and addition of steel fibre called as RPCCAF. Hot water curing is carried so that the quartz react with it and produce higher strength. So as to make this RPC more economical and feasible without much reduction in its mechanical properties.***

Keywords: Quartz sand, steel fiber, hot water curing, cost analysis.

I. INTRODUCTION

Reactive powder concrete (RPC) is an cementitious composite which entirely differs from conventional concrete. Developed by P. Richard and M.. Cheyrezy. According to his theory, he eliminated coarse aggregate since it affects the homogeneity property. This type of concrete has enhanced mechanical and durability properties. The addition of supplementary material, elimination of coarse aggregates, very low water/binder ratio, additional fine steel fibers, hot water curing were the basic concepts on which it was developed. RPC structural elements can resist chemical attack, impact loading from vehicles and vessels, and sudden kinetic loading due to earthquakes. The mixing time was found to be shorter than for RPC without coarse aggregates. Formulations with and without coarse aggregate exhibited a similar behavior under compressive loading. Reactive Powder Concrete has higher durability, higher fatigue, and impact and abrasion resistances. Here, a cube of size 75 x 75 x 75 mm is used since there is a reduction in coarse aggregate utilization. Based on its strength and cost of RPC and MRPC in various mixes it can be applied in various areas.

A. Advantages of Rpc

1) Better alternative to HPC.
2) High Tension Ductile failure mechanism eliminates the need for reinforcing steel.
3) Improved seismic performance by reducing inertia loads with lighter members.
4) The main advantage that RPC has over standard concrete is its high compressive strength.

B. Disadvantages

1) NO CODE (no any formal worldwide document but is under research).
2) The mineral component causes cost.

C. Applications

1) RPC has found application in the storage of nuclear waste, bridges, roofs, piers, seismic-resistant structures and structures designed to resist Impact/blast loading.
2) Owing to its high compression resistance, precast structural elements can be fabricated in slender form to enhance aesthetics.

D. Objectives

1) To calculate best mix proportion.
2) To compare the compressive strength of RPC with and without coarse aggregate in different proportions with different materials.

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Experimental Study on Concrete Using E-Waste

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Abstract: ***The waste material utilization by construction industry is a sustainable solution to ecological and environmental problems. Large-scale use of electronic goods in the recent times has contributed to generation of huge quantity of electric waste. E-waste consists of discarded refrigerators, TVs, radios, mobile phones, air conditioners, computers and several other electronic gadgets that have reached end of their useful life or become obsolete. The economic and safe disposal of these wastes has been a perennial problem confronted all over the world. Use of e-waste materials in cement-concrete, RCC and other construction materials is an accepted way of the disposal of the wastes. Efforts are being made in the construction industries to use non-biodegradable components of electronic waste as a partial replacement of the fine or coarse aggregates in concrete. A direct benefit of this is reduction in use as well as cost of precious concrete construction materials. Other indirect benefits include reduction in landfill cost, saving energy and reduction in solid waste. The main aim of this study is to investigate the change in mechanical properties of concrete with the addition of electronic waste in concrete. It is found that the use of electronic waste aggregates results in the formation of light weight concrete. In this present study, coarse aggregate is partially replaced by e-waste from 0% to 20%. It is hereby expected that utilization of this electronic waste in concrete will reduce the requirement for conventional coarse and fine aggregates thereby resulting in conservation of natural resources.***

Keywords: Electronic Waste, Safe Disposal, Coarse Aggregate, partial replacement, Natural resources.

I. INTRODUCTION

Concrete is a material and widely used in construction field. The production of solid wastages is increasing day today and causes serious concerns to the environment. The recycled plastics are used in the concrete by partial replacement of coarse aggregate in concrete. Due to rapid increase of population in world, the amount of waste products such as waste plastic also increases rapidly .These waste plastic will remain in the environment for hundreds of years. The combined of these waste plastic in concrete may reduce the environmental problems up to certain extent. It is possibility of disposal of these wastages in mass concrete such as in heavy mass concreting in FCC in pavements consideration. The e-waste plastic is one component of Municipal Solid Waste (MSW). The disposal of the e-waste plastic which cause the big problems to the environment and the plastic is very low biodegradable material. As from many years the research concern that the use of by-products from industry may augment the properties of concrete. In the modern decades, the use of byproducts such as silica fume, glass culvert, fly ash, ground granulated blast furnace slag etc. Efforts have been made to use in civil construction. The application of the industrial by-products in concrete is as partial replacement of cement or partial replacement of aggregate. The use of these e-waste plastic in concrete can control the environmental problems or constraints if safe disposal of these products. In the present study the e-waste is used to prepare the coarse aggregate there by providing sustainable option to deal with plastic waste.

II. EXPERIMENTAL PROGRAM

For the purpose of testing specimens, various concrete specimens were prepared for different mixes using rotating drum mixer. Preparation of concrete specimens aggregates, cement and E-waste was added. After thorough mixing, water was added and the mixing was continued until a uniform mix was obtained. The concrete was then placed in to the moulds which were properly oiled. After placing of concrete in moulds, proper compaction was given using the table vibrator. For compressive strength test, cubes of size 150mmx150mmx150mm were cast. For splitting tensile strength test, cylinders of size 150mm diameter and 300mm height were cast and for flexural strength test, beams of size 100mmx100mmx500mm without reinforcement were cast. Specimens thus prepared were demoulded after 24 hours of casting and were kept in a curing tank for curing. Then the specimens were tested for a curing period of 7 and 28 days.

III. MATERIALS

A. Cement

Cement is a binder material, a substance which generally hardens independently and is used to bind the combination of cement and aggregate to form a strong building material. There are variable grades of cement available in our market, for this study ordinary Portland cement of grade 53 is used i.e. OPC 53.

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Experimental Study on Flexible Concrete

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***Abstract**: Our project deals with comparative study on flexible concrete with conventional concrete. Conventional concrete is composed of all traditional components which is almost unbendable and makes them highly brittle and rigid. This causes failure under strain .To overcome this type of failure flexible concrete is preferred. Flexible concrete is also known as engineered cementitious composite or bendable concrete. Flexible concrete is composed of all traditional concrete mirus and it reinforced with polymer fibers. Fibers are reinforced in concrete to control and reduce the cracks due to plastic shrinkage and drying shrinkage. In our project we used poly vinyl alcoholic fiber to increase the flexibility and strength of concrete. The amount of fiber added to a concrete mix is expressed as a percentage of the total volume of the composite (concrete and fibers), termed "volume fraction" typically ranges from 0.1 to 3%. super plasticizers are added to reduce the water content in the mixture and to increase the workability of concrete . Flyash coupled with ordinary portland cement to increases the binding property which is suitable for cementitious application. In this experimental work, two different mix proportion of fibers are added. The flexural strength and compressive strength of slabs and cubes is determined and also the flexibility characteristics of the concrete are checked during flexural strength test.*

***Keywords**: polymer fibers, binding property, mix proportion, flexural strength.*

I. INTRODUCTION

The term Flexible concrete consist of special type of materials that makes it flexible is Engineered Cementitious Composite (ECC). It exhibits the property of a ductile material instead of a brittle material which is shown by the conventional concrete. For giving the concrete flexibility we have to alter the material of the conventional concrete. In the flexible concrete we eliminate the coarse aggregate. Instead of that we use the fibres that are used in the fibre reinforced concrete such as silica fibres, glass fibres, steel fibres, asbestos fibers, polyvinyl alcohol fibers, etc. The micro fibres provide the flexibility to the concrete. It also acts as a reinforcement material in the concrete. The basic difference in the properties of engineered cementitious composite and fiber reinforced concrete is that after cracking the engineered cementitious composite strain hardens while the fiber reinforced concrete does not exhibit such behaviour. In fiber reinforced concrete, the crack develops with the rupture of the fibers due to which the stress bearing capability is decreased. In addition, the engineered cementitious composites have a high fracture toughness that is similar to that of aluminium alloys, and the damage tolerance is extremely high. ECC is made from the same basic ingredients as conventional concrete but with the addition of High-Range Water Reducing (HRWR) agent is required to impart good workability.

A. Fiber

Fibers are used in concrete for a variety of reasons, but not all fibers do the same thing or have the same effect. They can be used for reinforcing or can be used to prevent shrinkage and cracking.

1) When fibers are used for improving the flexural/tensile properties of the concrete, this is known as primary reinforcing.
2) When fibers are used for plastic shrinkage control, and to prevent crack creation and propagation in the cement matrix by bridging the microcracks, it is known as secondary reinforcing.

The choice of what fiber to use depends upon a variety of factors. In commercial construction, cost is often the primary factor, as most fibers are used for secondary reinforcement reasons. For concrete countertops and other creative concrete applications, the cost of the fiber is often less important than the effect of the fiber on the concrete's performance and on its appearance. Additionally, different mixes are best suited for different fibers. GFRC fibers must be used in high volumes, so the mix is built around a specific fiber used in a specific dose. ECC is the same way, but with different mix proportions and very different fibers.

B. Poly vinyl Alcohol Fiber

PVA fibers are used in ECC to provide both structural strength and shrinkage control. The combination of well-dispersed, micro PVA fibers and the strong, fine-grained homogeneous matrix is what results in the amazing ability of ECC to bend and crack without losing strength. Because of the highly dispersed microfibers, cracks tend to be small, and sometimes even invisible. ECC is a complex composite of PVA fibers, 1% to 2% of total mix weight, in a properly engineered mix utilizing very fine aggregates.

EXPERIMENTAL INVESTIGATION ON LIGHTWEIGHT SELF – COMPACTING CONCRETE USING POLYPROPYLENE FIBER

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Abstract: This project presents the experimental study to determine the simultaneous effects of polypropylene fiber on the mechanical properties of light weight self-compacting concrete using pumice powder. Mixes with different fiber volume fractions (0.0, 0.2, 0.4 and 0.6%) at different levels of fly ash (0.0, 10, 20 and 30%) as a replacement by weight of cement were prepared. Concrete offers many advantages regarding mechanical characteristics; the brittle behavior of the material remains a larger handicap for the seismic and other applications where flexible behavior is essentially required. Reinforcement with randomly distributed short fibers presents an effective approach to the stabilization of the crack and improving the ductility and tensile strength of concrete. Polypropylene (PP) fiber reinforcement is considered to be an effective method for improving the shrinkage cracking characteristics, toughness, and impact resistance of concrete materials. Also a variety of materials are added to concrete so as to improve its mechanical behavior.The mechanical properties were conducted by comprising the compressive, splitting tensile & flexural strengths at 14 days , 21 days and 28 days. All mixes achieve self-compacting properties using polypropylene fiber up to 0.4% fiber content. The Light Weight Self Compacting Concrete mixes have a slump flow in the range of 610–690 mm. However applying these fibers at their maximum percentage volume fraction determined through this study, increased the tensile strength and the flexural strength.

***Key words*–Polypropylene fiber,flyash,pumice powder.**

I. INTRODUCTION

Lightweight concrete has been used for a number of applications and is also known for its good performance and durability. In structural applications, the self weight of the concrete structure is important since it represents a large portion of the total load, the reduced self weight of lightweight concrete will reduce gravity load and seismic inertia mass, resulting in reduced member size and foundation force. The development of new types of high performance concretes, such as self-compacting concrete (SCC) and lightweight concrete (LWC) responds to some of the urgent needs of the construction sector . The development of SCC has been perceived by many specialists as a giant step towards achieving high performance cement- based materials . It offers also limitless advantages in terms of durability, cost efficiency, and job site productivity. On the other hand, lightweight concrete can decrease the self weight of structures which can result in reduced members' sections and simplify construction. Therefore, lightweight concrete can save overall construction costs. Conventionally, lightweight aggregate concrete is mixed and produced in a similar manner as conventional concrete. This manufacturing method is usually associated with segregation problems in the mixture due to the low density of the aggregate used. In contrast, with a reduced aggregate content, self-consolidating concrete can be manufactured with a large volume of powders. This usually results in a concrete having an enhanced viscosity at the fresh stage and higher compressive strength at it hardens. Self-compacting concrete (SCC) is considered as a concrete which can be placed and compacted under its self-weight with little or no vibration effort and which is at the same time cohesive enough to be handled without segregation or bleeding . SCC was originally developed at the University of Tokyo, Japan in 1986 by Prof. Okamura and his team to improve the quality of construction and to overcome the problems of defective workmanship . It is used to facilitate and ensure the proper filling and good structural performance of the restricted areas and heavily reinforced structural members. SCC can also provide a better working environment by eliminating the vibration noise . Self-compacting lightweight aggregate concrete (SCLC) is a kind of high-performance concrete developed from self-compacting concrete (SCC). SCLC combines the favourable properties of lightweight aggregate concrete (LWAC) and SCC, needs no external vibration, and can spread into place, fill the formwork and encapsulate reinforcement without any bleeding or segregation . On the other hand, the use of chemical admixtures is always necessary when producing SCC in order to increase the workability and reduce the segregation. The content of coarse aggregate and water to binder ratio in SCC are lower than those of normal concrete. Therefore, SCC contains large amounts of fine particle such as, fly ash in order to avoid gravity segregation of larger particles in the fresh mix. The wide variety of the lightweight aggregate source result in distinguishing behaviour among the SCLCs. Thus, properties of SCLCs have to be examined individually .Achievements in modern concrete technology have led to the introduction of light-weight concrete (LWC) and selfcompacting concrete (SCC) as structure mass reducing and workable materials. The relation between cement paste and

EXPERIMENTAL STUDY ON REHABILITATION AND UPGRADATION OF NH-4 (NALAGAMPALLI TO AP/KARNATAKA BORDER)

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Abstract: The National Highway development programme (NHDP) is carried out by National Highway Authority of India. In India as well as in the whole world transport system plays a very important role in the development of the country as an economic way. In other ways also such as development of agriculture and industries. It also helps us to reduce poverty by creating employment. Our project deals with the detailed study on Rehabilitation and Upgradation of NH-4 from Nalagampalli to AP/Karnataka Border (from existing Km 171.590/ Design Km172.00 to existing Km216.912/ design Km219.687)(Design length =47.68Km) to four lane under NHDP=4 in the state of Andhra Pradesh on EPC mode. The study includes that material production, tests on materials and mix designs, which involves in up-gradation of highway. The project is carried out by the company DILIP BUILDCON LIMITED.

I. INTRODUCTION

The National Highways Authority of India (NHAI) is the nodal agency responsible for building, upgrading and maintaining most of the national highways network. It operates under the Ministry of Road Transport and Highways. The National Highways Development Project (NHDP) is a major effort to expand and upgrade the network of highways. NHAI often uses a public-private partnership model for highway development, maintenance and toll-collection.

While national highways constitute 1.8% of Indian roads, they carry 40% of the traffic. The majority of existing national highways are two-lane roads (one lane in each direction), though much of this is being expanded to four-lanes and some to six or more lanes. Some sections of the network are toll roads.

The National Highways Act, 1956 provides for private investment in the building and maintenance of the highways. Some existing roads have been reclassified as national highways. Bypasses have recently been constructed around larger towns and cities to provide uninterrupted passage for highway traffic. The hugely varied climatic, demographic, traffic, and sometimes political situation in India results in national highways being single lane in places with low traffic to six lanes in places with heavy traffic. National highways are being upgraded or are under construction. Some national highways are long while some are short spurs off other national highways to provide connectivity to nearby ports or harbours.

A stretch of national highway Mumbai to Pune to Hubli to Bangalore to Chennai was earlier called NH 4 before renumbering of national highways in year 2010. The former NH 4 is now renumbered as NH 48.

Transportation plays very important role in the development of the country. It contribute to the economic, cultural and industrial development. The development generally based on the developed roads .The NHAI already developed some roads and Highways into 4 lane.

EXPERIMENTAL INVESTIGATION ON LIME CONCRETE USING BAMBOO FIBER

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Abstract: This project presents the experimental study to determine the simultaneous effects of bamboo fiber on the Lime Concrete. Mixes with different levels of fly ash (0.0, 10, 20 and 30%) as a replacement by weight of white cement were prepared. Concrete offers many advantages regarding mechanical characteristics. Reinforcement with randomly distributed short fibers presents an effective approach to the stabilization of the crack and improving the ductility and tensile strength of concrete. Bamboo fiber reinforcement is considered to be an effective method for improving the shrinkage cracking characteristics, toughness, and impact resistance of concrete materials. Also a variety of materials are added to concrete so as to improve its mechanical behavior. The mechanical properties were conducted by comprising the compressive, splitting tensile & flexural strengths at 14 days , 21 days and 28 days.. The Lime Concrete mixes have a slump flow in the range of 230mm for 30sec. However applying these fibers at their maximum percentage volume fraction determined through this study, increased the tensile strength

Key words **– Bamboo fiber,flyash,white cement.**

I. INTRODUCTION

Lime mortar is not as strong in compression as Portland lime based mortar, but both are sufficiently strong for construction of non-high-rise domestic properties. Lime mortar does not adhere as strongly to masonry as Portland lime. This is an advantage with softer types of masonry, where use of lime in many cases eventually results in lime pulling away some masonry material when it reaches the end of its life. The mortar is a sacrificial element which should be weaker than the bricks so it will crack before the bricks. It is less expensive to replace cracked mortar than cracked bricks.Under cracking conditions, Portland lime breaks, whereas lime often produces numerous microcracks if the amount of movement is small. These microcracks recrystallise through the action of 'free lime' effectively self-healing the affected area. Historic buildings are frequently constructed with relatively soft masonry units (e.g. soft brick and many types of stone), and minor movement in such buildings is quite common due to the nature of the foundations. This movement breaks the weakest part of the wall, and with Portland lime mortar this is usually the masonry. When lime mortar is used, the lime is the weaker element, and the mortar cracks in preference to the masonry. This results in much less damage, and is relatively simple to repair.Lime mortar today is primarily used in the conservation of buildings originally built using lime mortar, but may be used as an alternative to ordinary portland lime. It is made principally of lime (hydraulic, or non hydraulic), water and an aggregate such as sand. Portland lime has proven to be incompatible with lime mortar because it is harder, less flexible, and impermeable. These qualities lead to premature deterioration of soft, historic bricks so the traditionally, low temperature fired, lime mortars are recommended for use with existing mortar of a similar type or reconstruction of buildings using historically correct methods.

II. HYDRAULIC LIME AND NON HYDRAULIC LIME

Hydraulic lime sets by hydration so it can set under water. Non-hydraulic lime sets by carbonatation and so needs exposure to carbon dioxide in the air and cannot set under water or inside a thick wall. For natural hydraulic lime (NHL) mortars, the lime is obtained from limestone naturally containing a sufficient percentage of silica and/or alumina. Artificial hydraulic lime is produced by introducing specific types and quantities of additives to the source of lime during the burning process, or adding a pozzolan to non-hydraulic lime. Non-hydraulic lime is produced from a high purity source of calcium carbonate such as chalk, limestone or oyster shells.

III. NON HYDRAULIC LIME

Non-hydraulic lime is primarily composed of (generally greater than 95%) calcium hydroxide, $Ca(OH)_2$. Non-hydraulic lime is produced by first heating sufficiently pure calcium carbonate to between 954° and 1066 °C, driving off carbon dioxide to produce quicklime (calcium oxide). This is done in a lime kiln. The quicklime is then *slaked*: hydrated by being thoroughly mixed with enough water to form a slurry (lime putty), or with less water to produce dry powder. This hydrated lime (calcium hydroxide) naturally turns back into calcium carbonate by reacting with carbon dioxide in the air, the entire process being called the lime cycle.

EXPERIMENTAL AND ANALYTICAL INVESTIGATION OF COLD FORMED STEEL LATTICED BEAMS

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Abstract: The main objective of this paper is to determine experimentally and analytically, the buckling-modes and maximum load carrying capacity of six built-up latticed beams with top chord as CFS angle sections of 1.2 thick (three specimens of 5 mm lipped and other three specimens of non-lipped) with 8mm rod spot welded and 12mm rod as bottom chord. The top and bottom chords are connected by a 6mm lattice links. The stiffeners and base plates of 1.2 mm thick are provided at equal intervals and the sizes of CFS angles, stiffeners, and base plates vary for different types of specimens. The analysis is carried out using ANSYS 13.0 and the results are compared with experimented results.

Index Terms **– Buckling-modes, CFS, load carrying capacity, built-up latticed beam, ANSYS 13.0.**

I. INTRODUCTION

The cold formed steels are generally light gauge thickness flat steel sheets, and they exhibits greater strength when they are subjected to be made as desired shapes. The self-weight of these, materials are generally low when compared to hot rolled sections and they are formed at very low temperatures easily. Unlike the hot rolled sections, the cold formed sheet can be bent and formed at different cross-sections.

II. CROSS SECTION OF THE SPECIMENS

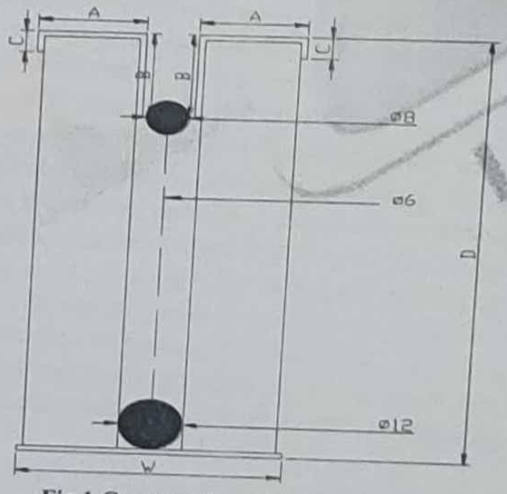

Fig.1 Cross section of the specimens

Where, the top chord of the specimen comprises of a bar of 6 mm, which is spot welded with the CFS angle sections as shown in the figure 1, and the 12 mm bar is taken as bottom chord and the top and bottom chords are spot welded with the Lattice links of 6mm bars. The diameter of the bars provided for all the specimens are taken as same, and provided for the entire length of the specimen 900 mm.

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Characterisation and Assessment of Ground Water Pollution near Ambattur MSW Landfill

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Abstract: *The leachate is the liquid which drain in the MSW by two form is observed rain water and heat condensation. Leachate and groundwater samples were to be collected from ambattur landfill-site in dunlop area. In these areas to study the possible impact of leachate percolation on groundwater quality. Concentration of various physic-chemical parameters including heavy metal (Cd, Cr, Cu, Fe Ni, Pb and Zn) concentration and microbiological parameters (total coli form and faecal coli form) were determined in groundwater and leachate samples. The presence of TC and FC in groundwater warns for the groundwater quality and thus renders the associated aquifer unreliable for domestic water supply and other uses. The moderately high concentrations of Cl, NO_3-, $SO_4$2-, NH_4+, Phenol, Fe, Zn and COD in groundwater, likely indicate that groundwater quality is being significantly affected by leachate percolation . The primary objective of this study to suggest suitable measures to reduce further groundwater contamination by leachate percolation .The first safe measure to cannot be leachate percolation into the groundwater by using of the geo textiles polymer in between to MSW and to soil ,which using of the geo textiles polymer(water proofing material)the leachate percolation cannot enter in the ground(soil porous).the second safe measure is the emission of gases by the waste which effect the atmosphere, the emission of is control by using of green plastic polymer is to be cover in the top of MSW the emission of gases is reduced high level to low level.*

Keywords: *total coli form (TC), faecal coli form (FC), geo textiles polymer, green plastic polymer, groundwater quality check*

I. INTRODUCTION

Landfills have served for many decades as ultimate disposal sites for all types of wastes: residential, commercial and industrial. Physical, chemical, and biological processes interact simultaneously to bring about the overall decomposition of the wastes. One of the by-products of all these mechanisms is chemically laden leachates. The major environmental problem experienced at landfills is the loss of leachates from the site and the subsequent contamination of groundwater. Modern landfills have liners at the base, which act as barriers to leachate migration. However, it is widely acknowledged that such liners deteriorate over time and ultimately fail to prevent the movement of leachates into an aquifer. The aquifer is underground layer which is separated the water table into the multi layer with the distance. The aquifer is which can effect by percolation of leachate. The minerals of aquifer can effect and the water table or groundwater is also polluted by the leachate percolation ,the quality of groundwater is polluted and the oxygen level is reduced. So intake by the human, the animals and the environmental are get effect by the leachate percolation in groundwater .The percolation of the leachate and the emission of gases were stop by the geo textiles polymer and green plastic polymer. The geo textiles polymer is the water proofing materials which is used in the under sheeting to MSW for stopping the percolation of leachate into the groundwater and aquifer. The emission of gases in the waste within the atmosphere which reduced the oxygen so the emission of the gases to control by the green plastic polymer which cover in the top surface of the MSW . The effected groundwater are causes the health issuses and effect environmental cycle . this are the safe measure is used for avoid the leachate percolation and the emission gases.

A. Geo textiles Polymer

Geo textile are permeable fabrics which, when used in association with soil, have the ability to separate, filter, reinforce, protect, or drain. The polymer which are in sheet form in the size of the 1*1, 2*2 (feet) . It is the thin polymer which act as a water proofing material to protect observation of water from into soil properties and in the construction work also is used. Typically made from polypropylene or polyester, geotextile fabrics come in three basic forms: woven{resembling mail bag sacking }, Non woven{resembling felt}, Heat bonded {resembling ironed felt}.

B. Green Plastic Polymer

green polymer is the made up of green waste plastic material into the fibre wire and net into the fabrics , which is main used in the

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Study on Pervious Block to Control Stagnation of Rainwater

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Abstract: ***River sand is one of the constituents of concrete which acts as a filler material between the voids present in between the coarse aggregate. A present rate of construction is unimaginable without the use of fine aggregates. Unfortunately the unchecked excavation and use of river sand as a fine aggregate has led to the scarcity of this component. This problem is especially is severe in the state of Tamil Nadu where almost every major river bed has been stripped away of the fine river sand. This highlights the importance of judicious use of this precious material and also innovation and experimentation of replacement of fine aggregate as a component wherever necessary so as to preserve the river sand. Our project aims to use M-Sand in concrete and further use this type of concrete in highway to aid the speedy drainage of water from the pavement which will ultimately lead to longer lifespan of the road network.***

Keywords: ***Porous Concrete, M-Sand, Concrete, Water, Aggregate***

I. INTRODUCTION

The basic constituents of concrete are cement, water and aggregate. Other constituents such as admixtures, pigments, fibres, polymers and reinforcement, can be incorporated to modify the properties of the plastic or hardened concrete. The properties of the plastic and hardened concrete are determined by the combination of constituents used. Concrete Mix Design is the name for the procedure for choosing a particular combination of constit Cement when mixed with water will form a paste that hardens into a strong rigid material. It is this paste that fills the voids between aggregate particles and binds them all together to form concrete. This hardening process (which occurs by a chemical reaction with water) is known as hydration. When water is added to cement, hydration products grow outwards around a cement particle as it takes up water. This zone of expanding hydration products will intersect and bind with those from other cement particles and firmly encase aggregate particles thus 'binding' the concrete together. Cement will hydrate under water. If there is an inadequate amount of water available hydration will stop and the concrete may be of poor quality. The process of keeping water in concrete to facilitate full hydration is known as curing.Until recently, the term 'cement' was an abbreviation for Portland Cement. However, its meaning has now expanded to cover a greatly increased product range, in which Portland Cement is combined with other constituents such as fly ash, also known as pulverised fuel ash (pfa) and ground granulated blast furnace slag (GGBS). Pozzolans are natural or industrially produced materials that react with the lime released from the hydration of Portland Cement. Natural pozzollans occur in mainland Europe and other parts of the world and have been used in concrete since Roman times. Industrial pozzolans are normally the by-products of other processes and materials of this type include pulverised fuel ash, ground, granulated blast furnace slag, microsilica and metakaolin. They are widely used in the United Kingdom and elsewhere to improve the properties of concrete, usually by eliminating free lime and converting it into stable cementitious products.

II. PERVIOUS CONCRETE

Pervious concrete uses the same materials as conventional concrete, with the exceptions that the fine aggregate typically is eliminated entirely, and the size distribution (grading) of the coarse aggregate is kept narrow, allowing for relatively little particle packing. This provides the useful hardened properties, but also results in a mix that requires different considerations in mixing, placing, compaction, and curing. Proportioning pervious concrete mixtures is different compared to procedures used for conventional concrete and the mixture proportions are somewhat less forgiving than conventional concrete mixtures. Weight controls on batching of all of the ingredients are necessary to provide the desired results. When developing pervious concrete mixtures, the goal is to obtain a target or design void content that will allow for the percolation of water. The void content of a pervious concrete mixture will depend on the characteristics of the ingredients, how they are proportioned and how the mixture is consolidated. Pervious concrete is typically designed for a void content in the range of 15% to 30%. Generally, as the void content decreases, the strength increases and permeability decreases. For pervious concrete mixtures it is even more important to verify through trial batches that the mixture achieves the characteristics assumed or targeted when developing mixture proportions. Frequently one finds

ANALYSING THE PERCEPTION LEVEL OF THE HEARING IMPAIRED USING A MULTIMEDIA WEB APPLICATION

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Abstract-The hearing impaired undertakes a test which involves three streams of questions such as audio, visual and audio-visual stimulus types. By using audio-visual stimulus in testing process, Mcgurk effect in the perception by the patient can be identified. McGurk effect is a phenomenon that affects the somatosensory nerve which is used to observe and perceive the audio and visual signals and hand out them as input to the brain. With this as the rudimentary concept a multimedia test application for children and adult is developed which contains various key words as the stimuli that are independently controlled for the lexical characteristics of word frequency and lexical density, to check the coordination of hearing and vision of the patient.

Keywords: **Hearing impaired, Mcgurk effect, Somatosensory nerve, Stimuli, Multimedia**

I. INTRODUCTION

Ears are the sensory organs that assist us in the hearing activity. But this sensational part gets impaired at any stage of the life, it may be during the childhood or adulthood for that matters. Such situations must be handled in a practical way so as to proffer some treatments. This can be accomplished by developing a multimedia test application with a analyzing phase. Usually the hearing loss patient use to discern the word by observing the lip movement of the speaker as their visual capability is more than the habitual. Once they undergo the hearing surgery they can perceive the audio signals too. In this state of uncertainty they may not be able correlate the word they hear with the word they grasp through the lip movement. So they come up with a third word which is not the exact word. This is due to an effect in the somatosensory nerve and this effect is popularly known as the McGurk effect. This application examines the patient in different ways of test and by generating scores for the same, therefore providing the patients with a minimal consultation without the help of the audiologist. These tests are conducted for people with normal hearing capability, people using cochlear implant and people using hearing aid. In the audio test, only the audio is played and then the patient has to choose the right word from the options provided for that particular question. In visual test, lip movement is played with muted audio and the patient must answer accordingly. In audio visual test, both the audio and the lip movement are played together and the patient has to answer the question by choosing the appropriate option. At last the score is calculated for the entire test and represented in the form of the graph. This is used in the analysis of any improvement or degradation in the hearing level of the patient. So this is a simple yet convincing application for the hospitals as it seems to be the best replacement of the audiologist where even the patients who cannot afford much for consultations can also attain the benefits.

II. EXISTING SYSTEM

At present, all hospitals prefer audio-visual presentation. In audio-visual presentation, the audiologist is directly involved. Audiologist utters the word and the patient has to perceive it from the lip movement and voice. With the number of words identified correctly by the patient, the scores are calculated which is used for future proceedings. They also use functional magnetic resonance imaging concepts to track the brain activities for any abnormal behavior.

DISADVANTAGES OF EXISTING SYSTEM

- All the methods used currently are time consuming as audiologist must be available with the patient till the end of the process.
- As audiologist and FRMI concepts are involved, this is an expensive technique which cannot be consumed by all the people.
- Existing techniques have to be scheduled prior-hand as it involves audiologist and takes more time.
- History and improvement of the patient is stored in a paper which is not a reliable recording and is a time consuming process too.

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Catch Me If You Can – IoT based System

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ABSTRACT

Catch me if you can is a project with the main idea to protect the lives of the fishermen by ensuring their safety when they are travelling into sea for fishing. We propose to track and monitor them using a different approach. Most of the fishermen cross the borders knowingly. So this cannot be prevented. Instead, we can have a single point check to make sure the required devices are in their possession and some other things can be checked by scanning them using SCANDIT SDK which is integrated to smartphone to ensure fishermen safety as well as national security. Also, we will provide an IOT device so that we can track the location of their boats and send alerts to them who may cross the border unknowingly through which may save them from get caught by neighboring country's coast guards.

Keywords: *SCANDIT SDK, Single Point Check, IoT Device, Alerts.*

1. INTRODUCTION

One of the major problems that the present day the country is facing is the problem with the safety of the fishermen and are taking various measures in order to safeguard them. Generally, the sea police look after the illegal activities and the fishermen, boats but still this type of monitoring is not that reliable because they cannot ensure the total security. The government provides 70% of subsidy to fishermen to buy the safety equipment. These equipment are to be ensured to be present on each boat that sails into the sea, but the fishermen are ignoring to take them into the sea with them resulting in the malicious activities happening which may affect the national safety as well as the fishermen lives. Every year many fishermen are getting caught by the other country coast policemen because of the crossing the borders. Still, many measures are being taken in order to eradicate this issue and many state governments are working collectively to solve it.

2. RELATED WORKS

By the study we carried out, we came to know that ensuring the presence of some devices in-turn ensures the safety of fishermen. For example, ensuring the presence of an Emergency Position Indicating Radio Beacon or EPIRB, ensures the rescuing of fishermen in distress or emergency and also came to know the various current scenarios between the fishermen and government. By having discussions with one of the navy men we came to know about how to install a single point check.

Also, we referred to a paper by J. Thomas, J. Robble, and N. Modly, named "Off-grid communications with android meshing the mobile world" through which we learned how to track the location in the absence of the mobile network by the concept of Off-Grid Communication.

3. PROBLEM IDENTIFICATION

The existing system for monitoring the location of the fishermen was done by patrolling the sea. Coastguards are currently using their ships to physically check their presence. Also, they are manually checking the list of items that were carried by them into the sea that was given by the government. Due to this, there are many cons like there might be many fishermen still crossing the borders

Monitor and Assess Natural Disaster using Twitter Data in Data Analytics

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***Abstract*—Disaster management is a sequential and continuous process planning. A complex mixture of disasters, ranging from solar flares, cosmic explosions and meteorites, to earthquakes, tsunamis, landslides, floods, hurricanes, droughts, terrorism, wars, and to disasters due to technical failures or human operator faults imperil people, populations, civilization, and humankind. Defending against these threats requires various kinds of endeavors supported by varied tools and large technical and human capabilities. Social media is emerging as important information based communication tool for disaster management. People suffer from unexpected natural and man-made disaster due to lack of awareness. Using machine learning, human language is recognized as machine language and graph is generated for monitoring the tweets and places where affected more affected due to disaster is generated for prevention and this information can be shared in social media by a particular member.**

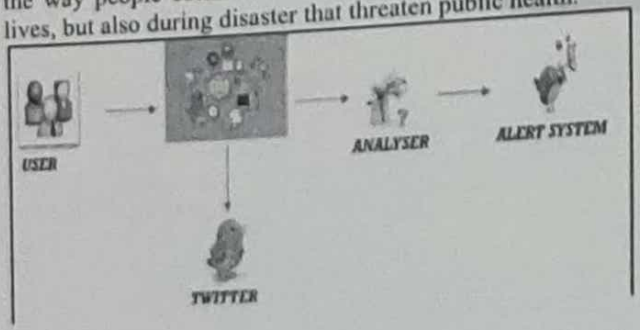
Keywords—Data Collection, Tokenizing, Data Preprocessing, Filtering, Parsing, Machine Learning

I. INTRODUCTION

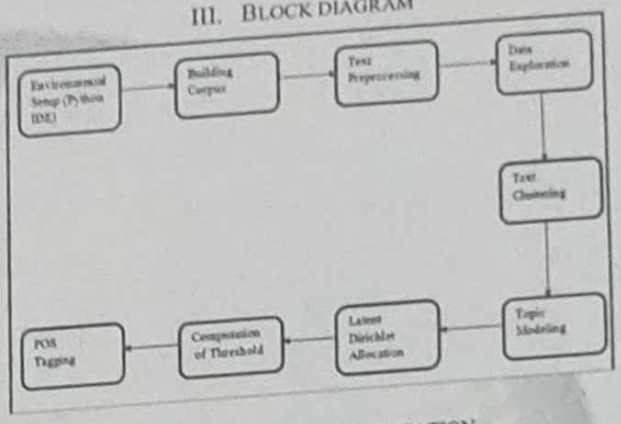
The service to monitor and assess disaster management using social network is based on data analysis that aims to assess the disasters and to spread information among people. In these days, though the sharing of information using social media has become so easy, the prediction of disasters cannot be accurate and this information cannot be shared too. To overcome such things it helps the people to be cautious by predicting the disasters. Then the information can be shared in social media by collecting twitter data sets and analyzing the most frequently used hash tags to produce a graph with a threshold value.

II. PROPOSED SYSTEM

In proposed system K Means clustering is implemented for accurate prediction. The user receives the tweets posted by his/her friends and it will be analyzed. This system helps to monitor and assess the disaster and can prevent loss by sharing the assessed information in social media by a particular member. Clearly, the social media are changing the way people communicate not only in their day to day lives, but also during disaster that threaten public health.



III. BLOCK DIAGRAM



IV. MODULE IMPLEMENTATION

A. Building Corpus

Here, twitter data sets (Chennai floods) are collected using anaconda prompt. Data sets are collected based on the date and time; these data's are stored in csv format. NLTK tool is installed to recognize the human language for applying statistical natural language processing.The hash tags are separated based on the common hash tags used at that particular period of time. Also the places affected by the natural disasters are mentioned in those hash tags. These hash tags are categorized based on the damage, time, area, geographical location.

B. Data Cleansing

The NLTK contains text processing libraries for,

1) TOKENIZING:

In python, NLTK is one of the leading platforms for working with human language data. This tool is used for natural language processing. Tokenizing means generally giving unique identity for each words to define the words. Example the number in the credit cards are given in a unique way to all the members. Not all the credit card have the same number since to show the uniqueness of it. Tokenization can be accomplished by using spaCy library. Using a method function generatetokens(), the tokenization can be achieved.

2) STEMMING:

Stemming is a sort of normalizing method. Many variations will be there in a sentence which carries the same meaning. When both the sentences have same meaning they can be normalized by using stemming method. Parts of speech tagging with NLTK module means labeling words in a sentence as nouns,adjectives,verbs,etc. Many POS Tagging list are NN means Nouns, NNS means noun Plural, JJ means adjective, etc.

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A Rational Approach of SAP ERP Based HR Module for an Educational Institute

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Abstract- Since mechanization business is increasing in the world, the HR module in Enterprise Resource Planning (ERP) has rich features which are static in nature and integrates seamlessly with assorted modules. ERP systems are adopted by various academic institutes for key management and educational offerings. ERP based HR module provides huge solutions for HR stream and making it feasible for different branches to get access to specific worker record. SAP ERP (Enterprise Resource Planning) is commercial software that integrates all the data in single software, considering numerous factors like time and cost. This helps to manage the complete information and process about the employees in an organization. This paper emphasis on techniques of ERP-based HR module for educational institutes to utilize the human sources.

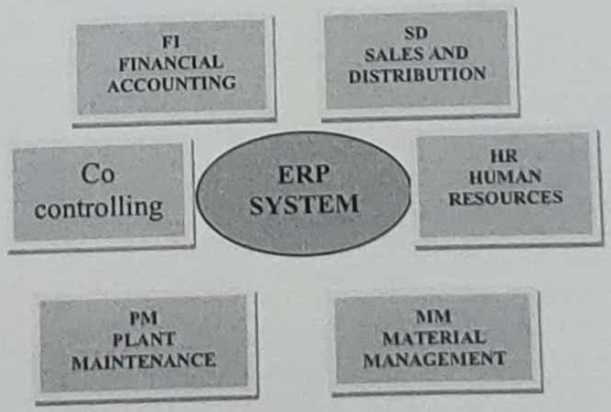
Index Terms-ERP, Academic Institute, HR module.

1. INTRODUCTION

With the introduction of ERP systems, any educational organization, the data in their statistics device is a file, a folder, an e-book, or any digital information from any electronic device. The ERP device is the quality answer for any information system which remains your system simple after it has built the structure of the system in over a time. Optimization and resource usage is the key component of any enterprise which has the inclination to attain the first-class outcome from the prevailing infrastructure. Institute control is the largest mission for any organization to gain the favored desires, excellent quality and the targets. ERP structures are followed by the numerous educational organizations for key managerial and theoretical services. In an educational organization the combination of all enterprise resources represents the mixing of systems for human resource management (monitoring of employees) and finance (accounting, payments, investments and finances) that was once reinforced through discrete and often incompatible data applications. Nowadays, industries are renewing the human assets and turning them into one of the essential features of the challenge management. In an organization HR functions are fully integrated and mainly focusing on management, recruitment and providing direction for the people who are working. The research on HRM in the framework of ERP is relatively new.

2. ENTERPRISE RESOURCE PLANNING SYSTEM

Enterprise Resource Planning (ERP) is software that combines all streams and functions across an organization onto a single computer system and serves all the department's particular needs. ERP is a common name for all software provided by various vendors. Some of the ERP vendors are SAP, ORACLE, BANN, Microsoft etc. The Enterprise Resource Planning solution through SAP (a software package) is found to be suitable to deal with our huge network of business.



2.1. Benefits of SAP-ERP

- SAP is primarily using in all business management tasks of a company which includes paying invoices, managing product and customer information, and controlling finances.
- SAP is managing the tasks in modules that all work together in single system by sharing information.

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A Rational Approach of SAP ERP based PM Module for an Educational Institute

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Abstract— **Since mechanization business is increasing in the world, the pm module in Enterprise Resource Planning (ERP) has rich features which are static in nature and integrates seamlessly with assorted modules. Our priority is to maintain the highest possible performance in terms of health and safety, availability efficiency and asset integrity for all types of power station. To achieve these, we implement a systematic operating process and up-to-date maintenance procedure using SAP-Plant maintenance, which helps to manage all maintenance activities.**

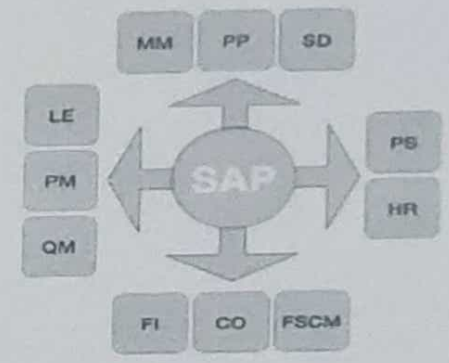
I. INTRODUCTION

With the introduction of ERP systems, any educational organization, the data in their statistics device is a file, a folder, an e-book, or any digital information from any electronic device. The ERP device is the quality answer for any information system which remains your system simple after it has built the structure of the system in over a time.Optimization and resource usage is the key component of any enterprise which has the inclination to attain the first-class outcome from the prevailing infrastructure. Institute control is the largest mission for any organization to gain the favoured desires, excellent quality and the targets. ERPstructures are followed by the numerous educational organizations for key managerial and theoretical services. In an educational organization the combination of all enterprise resources represents the mixing of systems for human resource management (monitoring of employees) and finance (accounting, payments, investments and finances) that was once reinforcedthroughdiscrete and often incompatible data applications.Nowadays, industries are renewing the human assets and turning them into one of the essential features of the challenge management.In an organization plant maintenance functions are fully integrated and mainly focusing on management, recruitment and providing direction for the people who are working. The research on plant maintenace in the framework of ERP is relatively new.

II. ENTERPRISE RESOURCE PLANNING SYSTEM

Enterprise Resource Planning (ERP) is a software that combines all streams and functions across an organization onto a single computer system and serves all the department's particular needs. ERP is a common name for all software provided by various vendors.

Some of the ERP vendors are SAP, ORACLE, BANN, Microsoft etc. The Enterprise Resource Planning solution through SAP (a software package) is found to be suitable to deal with our huge network of business.



A. *Benefits of SAP-ERP*

- SAP is primarily using in all business management tasks of a company which includes paying invoices, managing product and customer information, and controlling finances.
- SAP is managing the tasks in modules that all work together in single system by sharing information.
- Common database is used in SAP R/3 because as you enter the information in the system and that is made available to the rest of the organization immediately.
- Increasing the inventory leads to greater inventory rate, poor inventory costs, low setup times, and paper work.
- Provides greater and effective control on account, quality and less re-work improves supply demand linkage with remote locations and branches in different locations.

B. *3-Tier Architecture of SAP*

Presentation servers contain systems capable of providing a graphical interface.

- Presentation Layer is also known as client Layer
- Presentation Layer is a user interaction
- In SAP-User interaction purpose we use GUI
- GUI sands for Graphical user interface Example – Desktop, Mobile Devices, laptops

C. *Application Layer*

- Application servers include specialized systems with multiple CPUs and a vast amount of RAM.

Intelligent Drone for Industrial Inspection(UAV)

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Abstract : Our paper is subjected to Real-Time Monitoring System for preventing the calamities in Industries using UAV (Unmanned Aerial Vehicle). Now-a-days, Industries are prone to calamities. Even if any explosion occurs due to leakages, it can't be easily known to the manual workers and it may cause explosions. So in order to avoid this, we have developed a mobility assistive drone. Drone is allowed to monitor the ambient situations using surveillance Pi camera and exact location of leakages is also detected. Toxic gas like CO is sensed using the MQ-7 sensor and the sensed data are transmitted from Raspberry Pi 3 to Monitor through Wi-Fi. If any gas leakage is detected, then two levels of alert will be given. By this the human intervention can be avoided inside the industry and the calamities can be prevented.

IndexTerms **- Raspberry Pi 3, MQ-7 sensor, UAV, Drone, CO, Wi-Fi.**

I. INTRODUCTION

In the harmful working environment, human safety is vital. Coal mines is a place in which human lives are more dangerous and many workers are injured due to explosions and leakage of toxic gases. Fire calamities can also happen. At the same time if any person is absent in an important place for monitoring, it may also cause serious risks. At present many systems are implemented in industrial areas but still those calamities are occurring.

A drone is designed and that is allowed to enter into the industrial area. The drone will be equipped with MQ7-gas sensor for detecting the toxic gas like CO. The drone used must be a flame-proof so that even if any calamity occurs it will transmit the information to the receiver without fail. Also, it must be designed to work in the high temperature situations. A Pi camera is also interfaced with the drone which will give a live video of the environment and this video is transmitted to the monitor or mobile phone to the user who is controlling the drone by means of Wi-Fi technology. If leakage occurs means an alert will be given to the nearby workers through buzzer and in the serious situation alert will be given to Fire Service through call.

Wireless communication is also an important issue inside the industry. Usage of wired technologies are not worthy as the cables will get damaged after a certain period of time or due to some environmental factors. So the wireless transmission technology is preferred. The industrial monitoring protocol should be designed such that the system must have a reliable end to end data delivery.

The data which is collected from the drone should be transmitted without any delay and loss of data. Some of the techniques like ZigBee, Bluetooth have a small range and the data rate is minimum when compared to Wi-Fi. So using Wi-Fi the data can be transmitted to a wide range with a high data rate of 54Mbps.

II. HARDWARE IMPLEMENTATION

The Raspberry pi 3 microprocessor is used since this is compact in size and the power consumption is too Low. Raspberry Pi 3 board is selected because it is fast when compared to the earlier versions. Many sensors or peripherals can be interfaced with it at the same time and can work very fast as the quad core processor is used in it. This processor allows us to interface many modules at a time. It has 26 GPIO pins, two 3.3V pins, two 5v pins, eight ground pins and two I2C pins. It has 4 USB ports also which allows us to connect the Pi camera, Wi-Fi module etc. The gas sensor used here is MQ-7. It is used to sense the gas data of the industry. This sensor is connected with the GPIO pins through ADC Convertor (MCP3008). MQ-7 gas sensor is used in order to sense the gas leakage in the industrial areas. A gas sensor is for detecting the combustible, flammable and the toxic gases. The MQ-7 sensor mainly detects the CO gas which is most emitted in coal mining areas.

The voltage required is 3.3V which is provided from the GPIO pin. In the gas sensor, H-pins are allowed to heat for a while so that it can detect the gas. Once the gas is detected, an alert is given to the workers within the industry. If it became threat to workers, then it will give alert call to the fire service. A normal Pi camera is connected to the board. The Pi camera captures and sends the live video signal to the receiver. It has a coverage area of 150 feet. The data transmission rate is about 54Mbps. So the live video can be transmitted without any delay.

The Raspberry Pi 3 is placed on the Quadcopter. It is given power through 11.1V rechargeable battery and has 935KV motor, propeller, Electronic Speed Controller, Flight Controller, Transmitter and Receiver.

FARMERS BRO – WEATHER PREDICTION AND FARMER SUPPORT SYSTEM

K.Manojkumar, R.Sarisaran, R.Ganesh, Dr.S.Padmapriya Prof.
Department of C.S.E,Prathyusha Engineering College,Thiruvallur,Chennai.

Abstract: - **Weather forecasting is a most important application in meteorology and has been one of the most scientifically and technologically challenging problems around the world for Formers. A wide variety of rainfall forecast methods are available. There are mainly two approaches to predict rainfall. They are empirical method and dynamical method. This Application provides information such as humidity, minimum temperature, maximum temperature, wind speed and direction. The existing system uses decision tree algorithm which provides lesser accuracy in weather prediction. This application provides better accuracy in weather prediction and meet the real-time needs of farmers and contribute to weather-based crop/livestock management strategies by providing the scheduling details of preferred crops.**

Index Terms – **Farmers Bro, Management, Structure, Co-curricular Activities.**

I.INTRODUCTION

Weather forecasting is mainly concerned with the prediction of weather condition in the given future time. Weather forecasts provide critical information about future weather. There are various approaches available in weather forecasting, from relatively simple observation of the sky to highly complex computerized mathematical models. The prediction of weather condition is essential for various applications. Some of them are climate monitoring, drought detection, severe weather prediction, agriculture and production, planning in energy industry, aviation industry, communication, pollution dispersal, and so forth. The selection of variables is dependent on the location for which the prediction is to be made. The variables and their range always vary from place to place.

II. RELATED WORKS

[1] "Rainfall prediction using Data Mining Techniques" by Jyothis Joseph, Ratheesh.T.K on International journal of Computer Applications, Dec, 2013, Vol-83.No-8.

The Empirical approach is based on analysis of historical data of rainfall and it relationship to a variety of atmospheric and oceanic variables over different parts of the world. The most widely used empirical approaches used for climate prediction are regression, artificial neural network, fuzzy logic and group method of data handling. This paper uses data mining techniques such as clustering and classification techniques for rainfall prediction

III.PROBLEM IDENTIFICATION

Climate predictions of precipitation and temperature during various stages of the growing season can be especially helpful to farmers producing crops under irrigation. These predictions allow farmers to more efficiently plan the timing of water application and apply the amount of water needed to optimize crop yields.

Climate prediction is in its infancy. However, the payoff from the research and development of reliable climate prediction information can be substantial for the agricultural industry. This is especially important considering the increased frequency of the extreme weather events that we are experiencing and will experience in the Midwest in coming decades.

IV.PROBLEM SOLUTION

Climate prediction of seasonal weather patterns help farmers decide which crops are most likely to flourish in the predicted growing season. This will impact their decisions of which crops to grow and how much of each crop to grow on their farms and whether to purchase crop insurance. This is especially relevant in regions of the country where farmers traditionally grow a variety of crops. In areas of the country where crop mix does not change, climate predictions help farmers decide on the relative proportions of each crop to grow.

V.FLOW DIAGRAM

A RATIONAL APPROACH OF SAP ERP BASED HR MODULE FOR AN ORGANISATION PAYROLL

Dr.S.Padmapriya, Professor, Computer Science and Engineering Department, Chennai.
Ragunath C, Computer Science and Engineering Department, Chennai.
Sasidharan K, Computer Science and Engineering Department, Chennai.
Sriram J Computer Science and Engineering Department, Chennai.

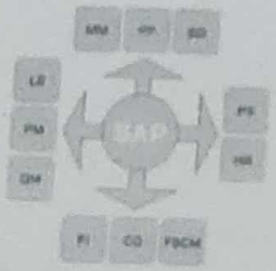
ABSTRACT--
Management Business is rapidly increasing in the world, Enterprise Resource Planning (ERP) has high productivity which are static and integration done seamlessly with their respective modules. With the help of HR module, unambiguous hierarchy of the employees within their organization along with their roles and positions, then maintainence done. Inorder to maintain consistency , we implemented a systematic fixed operating process and up-to-date maintenance procedure using SAP-Staff maintenance, which helps to manage all maintenance activities.

INTRODUCTION--With the introduction of ERP systems, any educational organization, the data of their employees will be as a file, a folder, an e-book, or any digital information from any electronic device. The ERP device is the quality answer for any information system which remains your system simple after it has built the structure of the system in over a time. Optimization and resource usage is the key component of any enterprise which has the inclination to attain the first-class outcome from the prevailing infrastructure. Institute control is the largest mission for any organization to gain the favoured desires, excellent quality and the targets. ERP structures are followed by the numerous educational organizations for key managerial and theoretical services. In an educational organization the combination of all enterprise resources represents the mixing of systems for human resource management (monitoring of employees) and finance (accounting, payments, investments and finances) that was once reinforced through discrete and often incompatible data applications. Nowadays, organisations are renewing the human assets and turning them into one of the essential features of the challenge management. In an organization, Staff creation and maintainence functions are fully integrated and mainly focusing on management, recruitment and providing direction for the people who are working. The research on human resource in the framework of ERP is relatively new.

ENTERPRISE RESOURCE PLANNING SYSTEM

Enterprise Resource Planning (ERP) is a software combines every streams and functions across of organization to a centralized system which serves every organisation particular needs. ERP is a common referral name for every software provided by many vendors.

Some of them are SAP, ORACLE, BANN, Microsoft etc. ERP solution through SAP is suitable to dealing with organisation's huge network of business.



BENEFITS OF SAP-ERP:

- SAP is primarily used in every Management tasks of a organisation including creating organisation, managing organisation and customer information, and controlling finances and finally generating the payroll
- Sharing information is the main concept of SAP.
- Centralised database is used in SAP R/3 because of generalising the information.
- Increasing the inventory leads to greater flexibility, maintainence costs will also be less.
- Effective control of account, quality and less re-work improves supply relationship connectivity with remote locations and branches in different locations.

3-TIER ARCHITECTURE OF SAP

PRESENTATION LAYER:

Presentation servers contain systems capable of providing a graphical interface.

- Presentation Layer is also called as Client layer.
- Presentation Layer holds information about user interaction .
- In SAP-User interaction purpose we use Graphical User Interface(GUI).

APPLICATION LAYER:

- Intermediate to Database and the Presentation layer.
- Uses huge amount of RAM.

Application Layer is also known as Kernel Layer and Basic Layer.

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Real Time Identification Of Crops, Weeds, Diseases, Pest Damage and Nutrient Deficiency

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[V]K.Balaji, [VI]P.Manoj Kumar, [VII]S.Vignesh
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Abstract
Agro consultant application deals with crop's name, weed, pest damage, disease and nutrient deficiency analysis using image processing techniques for automated vision system used at agricultural field. The proposed decision making system utilizes image content characterization and supervised classifier type of neural network .Image processing techniques for this kind of decision analysis involves preprocessing, feature extraction and classification stage. At Processing, an input image will be resized and region of interest selection performed if needed. Here, color and texture features are extracted from an input for network training and classification. Color features like mean, standard deviation of HSV color space and texture features like energy, contrast, homogeneity and correlation. The system will be used to classify the test images automatically to decide leaf characteristics. For this approach, automatic classifier NN be used for classification based on learning with some training samples of that some category. This network uses tangent sigmoid function as kernel function. Finally, the simulated result shows that used network classifier provides minimum error during training and better accuracy in classification.

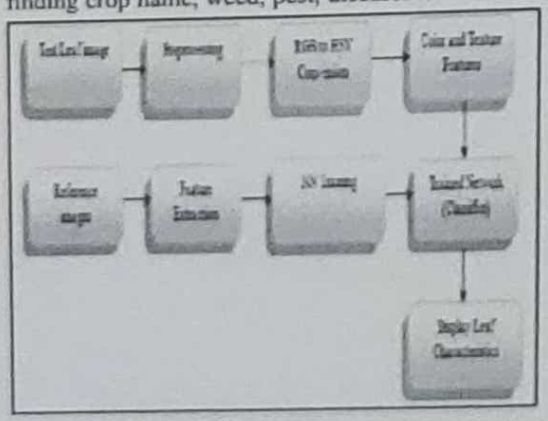
Keywords
Image processing, HSV, Pre-processing, homogeneity and correlation.

I. Introduction

In agriculture research of automatic leaf characteristics detection is essential one in monitoring large fields of crops, and thus automatically detects symptoms of leaf characteristics as soon as they appear on plant leaves. Agricultural research remains a central concern of the developing countries. In India Agriculture contributes around 26 % to the total GDP. It provides livelihood to about 65 % of the labor force and accounts for 8.56% of India's exports. So it is essential to improve the yield and increase productivity by eradicating weeds damage, pest damage and nutrient deficiency. New technologies, inputs and technique reduce the workload of farmers. Agro Consultant looks for unique ways to increase productivity in efficient manner possible.

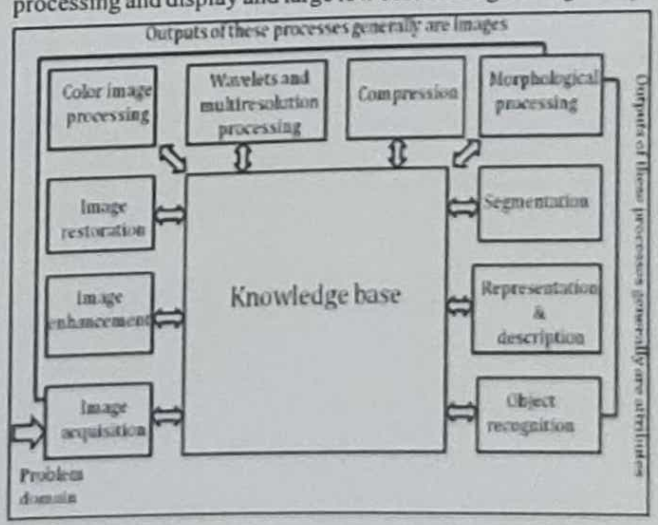
II. Proposed System

The proposed decision making system utilizes image content characterization and supervised classifier type of neural network .The user's input image will be fed into the system. The image will be pre-processed where the color, texture and the shape features are extracted. Then a neural network is formed between the input image and the images in the data set. Here K-means clustering algorithm is used which provides better accuracy in finding crop name, weed, pest, diseases and nutrient deficiency.



III. Image Processing

Digital image processing, the manipulation of images by computer, is relatively recent development in terms of man's ancient fascination with visual stimuli. In its short history, it has been applied to practically every type of images with varying degree of success. The inherent subjective appeal of pictorial displays attracts perhaps a disproportionate amount of attention from the scientists and also from the layman. Digital image processing like other glamour fields, suffers from myths, mis-connections, mis-understanding and mis-information. It is vast umbrella under which fall diverse aspect of optics, electronics, mathematics, photography graphics and computer technology. Several factor combine to indicate a lively future for digital image processing. A major factor is the declining cost of computer equipment. Several new technological trends promise to further promote digital image processing. These include parallel processing mode practical by low cost microprocessors, and the use of charge coupled devices (CCDs) for digitizing, storage during processing and display and large low cost of image storage arrays.



PATIENT MONITORING SYSTEM USING IOT

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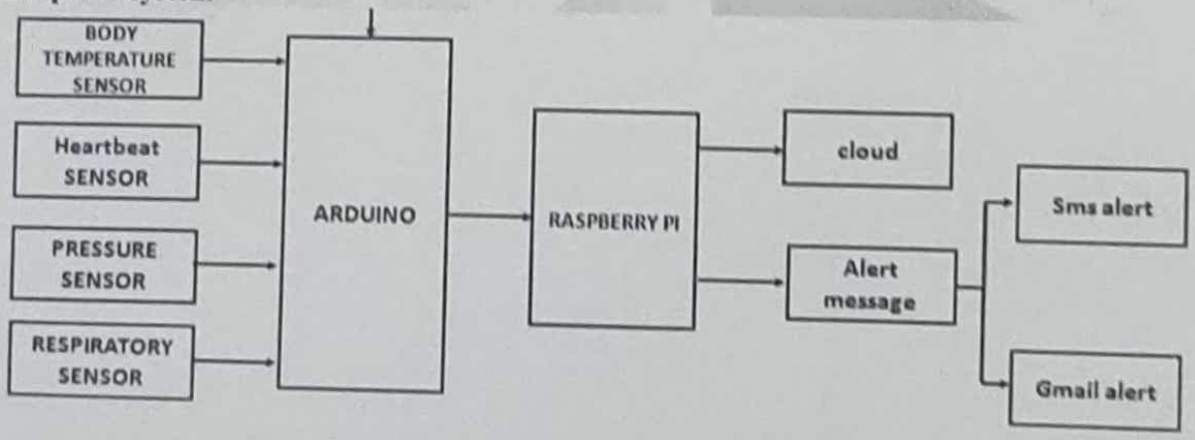
*Abstract:*This is an IOT based project implemented with the help of Raspberry Pi3, arduino nano and physiological sensors such as body temperature, blood pressure, respiratory and heartbeat rate sensors. This project is useful in detecting patient's physiological parameters using sensors and storing those parameter values in the cloud database so that we can view those details from anywhere and at anytime. In case of abnormal condition an automatic interactive alert message and mail will be sent to doctor. Then,, the doctor can give the preliminary consultation to the patient via video conferencing.

Keywords: IOT, Raspberry Pi3,arduino nano, cloud database.

Introduction

The Internet of things is the network of physical devices, home appliances and other items embedded with electronics, software, sensors and connectivity which enables these objects to connect and exchange data. The IOT creates more opportunities for integrating the physical world with the computer systems. The new technologies of IOT can change human lifestyle from normal to smarter one. A normal heart rate of adults ranges from 60 to 100 beats per minute while for a old person the heartbeat range is between 54 to 91 bpm. Increase or decrease in this range can lead to heart attacks. [2] The normal body temperature ranges from 97 degree Fahrenheit to 99 degree Fahrenheit. Exceeding 100 degree Fahrenheit can lead to fever [2].

2.Proposed system



This block diagram consists of Raspberry Pi3,arduino nano, and four physiological sensors. Heart Beat sensor senses the heart rate value. Blood pressure sensor detects the patients bp value. The body temperature sensor reads the temperature value of the patient. The respiratory sensor monitors the respiratory rate of the patient. These values are being stored in a cloud database named UBIDOTS. The patients, doctors as well as the family members can view those parametric values. If the patient gets critical i.e.; if any of the parameter values exceeds the normal range then an automatic interactive alert message and mail will be sent to doctor. The doctor then can contact the patient by connecting with a specific IP address or URL through video conferencing and can give preliminary consultation.

3. Implementation Methodology

3.1. Hardware Description

3.1.1. Raspberry pi

Raspberry Pi is a mini computer. It is a single board computer with wireless LAN and Bluetooth connectivity with CPU is 1.4 GHz 64/32 bit quad core ARM cortex A53 and memory 1GB LPDDR2 RAM at 900 MHz [1].

Biometric BFS based Fingerprint Identification System using MATLAB

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Abstract: Fingerprint identification is most important due to its singularity and flexibility .It can be used for identification purpose in a period of years. Fingerprints are accepted with a century, more recently become a automated due to advancement in computing capabilities. In this paper, we use the Novel based matching and Breadth first search technique for minutiae matching. This technique is used for finding the matched pairs. The experimental results shows that the proposed method is very accurate in matching the fingerprint .

Index Terms - **BFS technique, Ridge ending, Bifurcation point , Extraction and Matching.**

I. INTRODUCTION

Fingerprints are created by Dr. Henry fault in 1882[1].It analyse the pattern of fingertips .Fingerprint identification is very secure compared with other methods. They are used for recognition due to its uniqueness and durability. Fingertips consists of ridges and valleys in a finger.It is a process of identifying the match between the persons.It is also unique to each persons, fingerprint cannot be changed throughout their lifetime.Fingerprints can be done by enrollment and verification .Most popular algorithm used for fingerprint is minutiae matching because of efficiency and accuracy .The required work for fingerprint identification is skin distortions.It includes elasticity of skin, changeable load by apt. [2,4].

II.BIOMETRICS

The term bio means life and metrics means to measures .It provide the authentication and verification function . The term biometrics is related to security system.Biometrics are used to replace the id cards because it can be stolen away. It is a identification of a person customs or quality.Biometrics is based on physical or behavioural types.The types are face, fingerprint, hand ,geometry, iris, retinal, signature, and voice[3]. Secure identification is needed due to the security misuse and increase in fraud transactions. By utilising these techniques the recognition is accurate and it is very convenient.The applicationsare used invariety of sectors like criminal investigation, secure banking, financial transactions and criminal investigations[2].

Figure 1:Biometrics

III.TYPES OF BIOMETRICS

Two types of biometrics are used, that is physical and behavioural biometrics.

Estimation of Solar Radiation for Thiruvallur Region Based on Historical Data

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Abstract: Solar energy which is the main objective of living and non-living things it has a source of energy and radiation that is mainly useful. Solar radiation has a major role as a controller and a regulator of development and growth of plants. The framework was started with the statement that exist several different patterns in the stochastic module such as different seasons, weather conditions and other factors of the solar radiation series. In this paper we are analyzing crop data by using Hadoop tool. And also using familiar hadoop frameworks like sqoop, hive, hdfs and pig. To observe the crop base season time while crossing each month at major cropping ranges which can be brought into several years and implemented them.

Index Terms – **Crop range, solar radiation**

I. Introduction

The sun is a primary source which produces some energy said to solar energy, it is about billions of years ago. It is the basic need for the contemporary life [4]. Solar energy is the energy from undeletable source. The quantification of the emission from the suitable crop is the main impact of the analysis for providing the sustainable growth of the agriculture field. It also not only contains radiation value, which also have pest, soil type and some climatic factors that depend on the type of crop.

To uncover the pattern it makes the breaking of solar series and combined them into another forms. For all the respective collection, a declaration model was sustain to implement same sort of arrangement. In this finding the appropriate pattern which is more important. Thus the methods for recognition of instruction was proceed to find suitable series generation of crops belonged on it.

Then the proposed framework was compared with patent such as splitting the data movement and average model and time delay. The comparative results showed that the proposed framework provide better performance than other techniques. To predict solar radiation using various climatic parameters through linear and non-linear types with input model [4, 5]. This type of crop enhancement is appropriate to time series prediction.

II. Characteristics

Solar radiation contains heat and light energy from the sun which can be helpful for providing the sun which can be helpful for providing photosynthesis, electricity like solar water heater and also it saves the electric power

In the photosynthesis, solar energy is transformed into some energy which can be used by the plants it makes fossil fuels. Solar energy can be used an industrial and agriculture also in many other fields to develop the profit. It is the amount of sun's receiving electromagnetic radiation per unit area, it is calculated on the outside the surface of atmosphere in an artic raft perpendicular to the rays.

III. Features

Solar energy is easily feasible and it can be accessed to reduce the harmful effects. By some analysis is to evaluate the basic ingredients of the solar radiation. However, it is quite difficult to find the accurate but it can determine the appropriate one. This output will be beneficial for the farmers to cultivate the crops and to get more valuable fields by using different parameters such as temperature, pressure and humidity. With the use of these kind of tools there is no obstruction of details and no facts misplacing issue was there and also we can get maintaining cost and high throughput also very less [5]. It is compatible in all the platforms.

IV. Framework Methodology

The main objective is to aid the cultivation researches by providing the information related to the agriculture. The data is created from various experimental analysis. In that analyze of solar data which will get the optimum output based on the user basis, preprocessing solar radiation. Limitation of a particular statistical structure to a percentage of valid instance data [1].

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Biometric Iris Identification using Gauss Laplace and Gabor Filter

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Abstract
The recognition of an individual human by means of their physical characteristics is termed to be biometric identification. Iris recognition is the one of the most reliable unique biometric identification. Our iris contains very perceptive features and provides the error free authentication of persons. Biometric identification system is a deprecatory demand in a variety of applications. Even though there are some techniques have clampdown in identifying individual meticulously and effortlessly. In our scheme, a strategy that seize domestic and universal attribute of the iris, using a bank of Gabor filters is initiated. Our experimental results demonstrate that Gauss Laplace filter is applied to the CASIA iris image to decrease the sensitivity of noise and it is used for edge detection. The outcome of our paper is to get optimal segmented iris image to produce more flawless data.

Keywords
Biometric, CASIA, Gausslaplace, Gabor filter.

I. Introduction

Iris Recognition is the action of recollection of a individual by study the undirected sketch of the iris.[1]The automated technique of iris recollection is relatively young, existing in permit only since 1994. Iris is the muscle within the eye which modulates the size of the pupil, managing the amount of the melatonin pigment within the muscle.[4]

In our report, we possess segmentation and normalization on the eye image of 320 x280 dimensions is acquired from CASIA database[6]. In segmentation process, it is used for localizing the iris and pupil regions is done by circular Hough transform. Using Hough transform for localizing the eyelids and thresholding for detecting eyelashes.[2,3] At normalization technique, the segmented iris image is converted into rectangular form using Daugmans rubber sheet model. After detecting, it is easy to map the inner and outer boundaries of the iris to a rectangular block in a stable size.[1] Encryption features of the iris is achieved so that the 2D normalized template divided into a series of 1D signals. To perform iris recognition by convolving we normalized the iris region with the Gabor filters then it is phase quantised to obtain the output. we have used hamming distance for matching to calculate the bit differences between two template. In present method, for producing optimal segmented iris Gauss laplace filter is used to gain more accurate and gives the best results for stable authentication.[2]

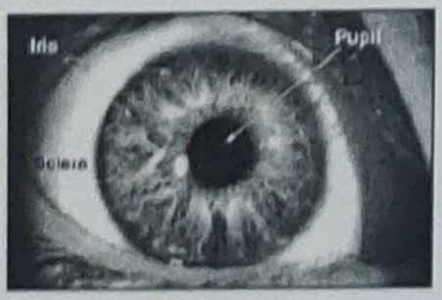

Fig.1: Eye image

II. Characteristics

Its feature are: 1. singing 2.walking 3.tone of voice etc., for chemical traits, we also uses the DNA , bloodglucose and also the body odour. The fig.1 shows the coloured ring around the pupil of the eye is termed to be Iris. The right eye differs from left eye. The twins usually have different iris texture[1].The Iris patterns are eminently composite than other biometric patterns.

III. Features

The attribute : 1.Enduring 2.Idiosyncratic 3.Being collectible 4. Efficacy 5.High reliability 6.Being commensurate 7.General acceptance etc. Daughman presented the first iris system-matic representation whose invention are highly utilized by the Iradian company. [1] An iris recollecting system includes the following steps: step1:Segmentation step2:Normalization step3:Encryption step4:Feature extraction and Matching.

IV. Segmentation

Iris segmentation automatically detects the Pupilllary and limbic boundries of an iris in a given image,The fig.2 shows that the code comprise automatic segmentation system that is assembled on Hough transform, and is able to delimit the circular iris and pupil region, materialised eyelids ,eyelashes and reflection [6]. The extracted iris recollection was then normalized into a rectangular block with sustained dimension. Atlast, from 1D-log was quantized from gabor filter by four levels to unique pattern of the iris into a bit-wise biometric template[1].

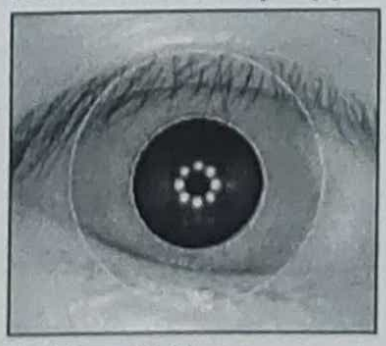
Fig 2.Segmented image

V. Hough Transform

Hough transform is designed to detect lines. The Hough transform is an algorithm for detecting the geometrical shapes in images. [2,3] The fig.3 demonstrates the flow of complete process of iris identification. This algorithm uses a long pro-cessing time.[9]

C2C PLATFORM FOR ON WOMEN EMPOWERMENT

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Abstract : The crowd sourcing is a sourcing model in which individuals or organizations obtain goods and services, including ideas and finances. Existing crowd sourcing platform doesn't provide requirements to the people both in terms of finance and human resources. This platform works for the cause of women empowerment, who needs support in terms of both finance and human resources. This platform isdeveloping to facilitate the interaction while maintaining a level of security between the users.

1. INTRODUCTION

A crowd sourcing platform which connects the two sets of people, those who are struggling to find support in terms of finance as well as human resources and the people who are willing to help them. In the existing system, they are private platforms such ad kickstarter,Indiegogo, Crowdera and Freelancer. Kickstarter,Indiegogo and Crowdera only support intern of finance Freelancer support only in terms of human resources.These websites doesn't support both finance and human resources.In these websites, the interaction between the users is not possible and high level of security is not maintained. In our website, the crowd sourcing platform helps people in both finance and human resources which maintaining a level of security between the users. The operations and maintenance of the platform may be given to an in-house or out sourced teams.

1.1 EXISTING SYSTEM

At present, they are private platforms such as Kickstarter, Indiegogo, Crowdera and Freelancer. But Kickstrater, Indiegogo, Crowdera only support them in terms of finance whereas Freelancer support only in terms of human resources. This paper attempts to analyze the status of Women Empowerment in India and highlights the Issues and Challenges of Women Empowerment. Today the empowerment of women has become one of the most important concerns of 21st century. But practically women empowerment is still an illusion of reality. We observe in our day to day life how women become victimized by various social evils. Women Empowerment is the vital instrument to expand women's ability to have resources and to make strategic life choices. Empowerment of women is essentially the process of upliftment of economic, social and political status of women, the traditionally underprivileged ones, in the society.

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1.1.1 DISADVANTAGES

These websites doesn't provide support both in terms of finance as well as human resources.Interaction between the users is not possible.High level of security is maintained.

1.1.1 DISADVANTAGES

These websites doesn't provide support both in terms of finance as well as human resources.Interaction between the users is not possible.High level of security is maintained.

1.2 PROPOSED SYSTEM

A crowd sourcing platform which connects the two sets of people , those who are struggling to find support in terms of finance as well as human resources and the people who are willing to help them. This platform have the KYC verification and the portal should have the option of a payment gateway so people may choose to pay directly. The system should create profile for different types of users while also allowing both public and private interactions between them.

1.2.1ADVANTAGES:

It is a crowd sourcing platform which helps people in terms of both finance and human resources.

- This platform has been developed to facilitate the interaction while maintaining a level of security between the users,
- The operations and maintainance of the platform may be given to an in-house or outsourced team

CHATBOT IMPLEMENTATION USING MOBILE APPLICATION

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Ravikumar R, Computer Science and Engineering Department, Chennai.
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ABSTRACT--

Today the users face a lot of problem regarding reviews of the movies in any android application because in most of the cases the user gets result more than what he expected or he gets results which are not according to his convenience .This paper focuses on automating the process of communication by use of chat-bot and it also focuses on providing customized results to the user which makes the process of Movies reviews and details convenient and user friendly for him. An extensive research done on existing systems gave us an insight into their shortcomings which this system attempts to overcome by creating a chat-bot using Artificial Intelligence Markup Language and using various algorithms such as Keyword Matching , String Similarity , Spell Checker and Natural language parser. The implementation of this system has resulted in better resource utilization and increased responsiveness of user behavior. This system has been implemented to integrate with any movie review Management Android Application to ease the process of movie reviews and story.

INTRODUCTION--This paper proposes to reducing paper work for the Movie reviews and hence improving its efficiency and speeding up all the process by using chatbot. A chatbot is a computer program which conducts a conversation via auditory or textual methods. The main objective of the chatbot is to understand the requirements of the user and to respond with the sufficient informations requested by the user. India has the fastest growing telecom network in the world with many users moving towards Smart Phones and majority by students. Android paves as a reliable software development kit issued by Google which provides developers with a huge comprehensive set of tools essential for building Android applications. If used properly, the SDK (Software Development Kit) and JDK (Java Development Kit) is able to deliver state-of-the-art software for Android devices In other words, the SDK includes only the basic utilities for Android app development. The information which we get from our mobile in a cost effective way and a person can get information easily and quickly, so this application is time saving and a person can be able to retrieve the movie review by texting the bot, the bot responds as soon as the message is delivered. A person has to enquire about a movie at first, moreover they have to make the conversation understandable by the bot. The bot will retrieve the data from the database and produce it to the end user. Further more activities can also be carried out using the bot regarding new releases.

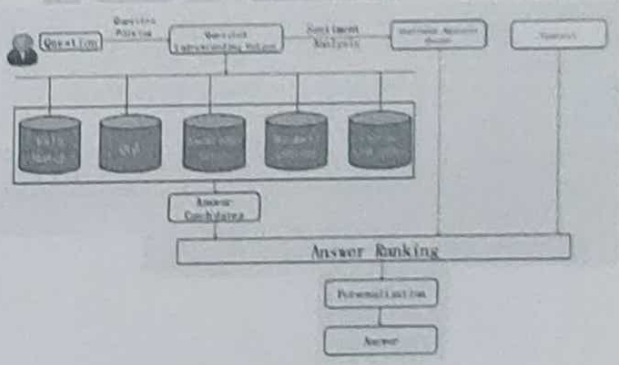
AI CHATBOT:

Chatbot is a computer program which communicates with the user without the use of Human intervention. These Can communicate with users either by text messages and also by voice recognition. It behaves as the conversational partner where the computer program talks and retrieve the data which is required to the user easily. This reduces the labour work and increases the throughput.

MACHINE LEARNING:

Machine Learning is the branch of Artificial Intelligence which deals with the study of teaching and make to learn computer by itself. Here the program learns the constraints by continuously subjecting them to prevail in the field and it learns automatically by itself similar to the humans. Here our program can receive the data either by textual messages or by the voice commands and then it processes the commands using regular expression concept and it finally fetches the result to the user understandable format.

ARCHITECTURE:



WORKING:

Here the user first asks the question to the chatbot by installing the chatbot on the android mobile.Here the given input is parsed by intermediate parser which changes the content from one form to the other format. Then it is first matched with the set of rules with the help of regular expression and then it is fed to IBM Watson. In IBM Watson, we are giving the possible questions and theie respective types of replies in them as a response of that message. Then These responses are recorded with an individual unique id. Then these id's are taken into the account and fed to the Android Programming language which gives response to the user in the text format. Then the user finally gets the requires result and then they can continue to the other requests or else they can simply quit.

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Research Article

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Chatbot for Train Ticket Booking Enquiries

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Abstract:
To access this Ticket Booking System in Chatbot, users doesn't suppose to register by giving their entire details to retrieve information but for booking a ticket registration is must. In the Chatbot, User can get the details of in between Stops and its timings while Travelling from one place to another place will be updated automatically with request and responses in chat. User can also able to see the previous Stop places and it's Timings for starting and ending points. Chatbot helps to give responses for the users requests with the help of pattern matching and NLP programming. The main goal of their creation was to resemble a human being in the way they perform said interaction. Chatbots use sophisticated natural language processing systems, but many simpler systems scan for keywords within the input, then pull a reply with the most matching keywords, or the most similar wording pattern, from database. It enquiries about train details for customers. The process of creating a chatbot follows a pattern similar to the development of a web application. The chatbot will define the chatbot personality, the questions that will be asked to the users, and the overall interaction.

INDEX TERMS:
Natural language processing (NLP), ASP .NET, Chatbot.

1. INTRODUCTION

A **chatbot** (also known as a **talkbot**, **chatterbot**, **Bot**, **IM bot**, **interactive agent**, or **Artificial Conversational Entity**) is a computer program which conducts a conversation via textual methods. Such programs are often designed to convincingly simulate how a human would behave as a conversational partner, thereby passing the Turing test. Chatbots are typically used in dialog systems for various practical purposes including customer service or information acquisition. Some chatbots uses sophisticated natural language processing systems, but many simpler systems scan for keywords within the input, then pull a reply with the most matching keywords, or the most similar wording pattern, from database. The implementation of chatbot system has resulted in better resource utilization and increased responsiveness of user behavior. It is one of the easiest way to fetch information from a system without having to think for proper keywords to look up in a search engine or browse several web pages to collect information users can easily type their query in natural language and retrieve information. Each time a user enters a statement, the library saves the text that they entered and the text that the statement was in response to it.

2. EXISTING SYSTEM:

The first chatbot developed was ELIZA. It was developed by Joseph Weizenbaum using a keyword matching technique. The idea was to read the input from the user and search for specific patterns, if a pattern was found then the answer is retrieved. If a keyword is not found then ELIZA tries, according to defined rules, to get more information from the user to keep the communication with the user alive. ALICE uses pattern matching and saves the information in Artificial Intelligence Mark-up Language (AIML) files. Like ELIZA it is a chat-bot that is used mainly for the purpose of chatting with the user. It is mainly used for casual communication with user. Natasha is a live assistant on hike android application and replies to your text, in a pre-defined intelligent way. You can spend time with her if you feel bored, she will surely make you feel better. She is a really good assistant who can provide you with quite a lot of useful information .

DISADVANTAGES

- ELIZA doesn't understand what it is saying. It only produces results according to rules that are predefined.
- ALICE does not have the ability to learn and can only come with data that exist in its database.

3. PROPOSED SYSTEM

- This system communicates with the users using a chatting application which provides intelligent answers and guidance to get information required for bookings of train tickets.
- The system provides precise output to its users even avoiding minor spelling mistake.
- Moreover the parsing avoids sending the system, words that do not form patterns.
- Regular travelers can make most out of the system.

ADVANTAGES

- It starts with providing of input by the user through the chat interface. Now the chatbot checks whether input provided by the user is inappropriate, insufficient, complete, or conversational.
- If the input is inappropriate the user is notified that he has entered a wrong input.

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Scrutiny – Intranet Infrastructure in Social Media

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Abstract— **Scrutiny is the web application that has the perspective attaining attraction of those colleges don't have good performing application for keeping their information secure and make their management easy and quality. Scrutiny gives glorious environment about students and staff, therefore you can manipulate data and information about their management easily. Core purpose of "Scrutiny" is to manage and to reduce the time for searching appropriate candidates in college view. This system provides the detailed structure of the college campus and its departments. Scrutiny synchronizes the working of all the departments. It looks on all aspects of a college, its students, faculties, Departments, notes uploading and other co – curricular activities. Scrutiny is the easiest way to manage all functionalities of a college.**

Keywords— **Scrutiny, Management, Structure, Co-curricular Activities.**

I. INTRODUCTION

Social media is an internet-based form of communication. Social media like WhatsApp, Facebook, twitter and many allow users to have conversations, share information and create a good web content. There are many forms of social media, photo-sharing pages,social networking pages, instant messaging, video-sharing pages, podcasts, virtual worlds, widgets, and more.When used properly, social media can be a valuable addition to a environment. Because many employees speak out an interest in developing and maintaining a social media presence in personal and professional environment, also Communications and Marketing paved the way to social media. Please read this overview prior to developing your social media presence.Social media has become ubiquitous and important for social networking and content sharing[2].

II. RELATED WORKS

"Social media include web- and mobile-based technologies which are used to turn communication into interactive dialogue among organizations communities and individuals"[2].

Intranet social network site was launched for IBM employees is called Beehive. It is designed to determine the boundaries of work and home, professional and personal, business and fun. This site is referred from "Research on the Use of Social Software in the Workplace" by Joan M. DiMicco, at 2007 in One Rogers Street Cambridge, MA 02142 USA[3].

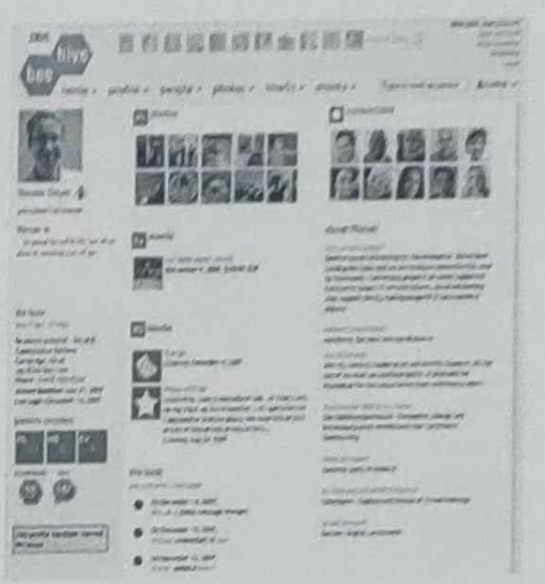

Fig 1. IBM Beehiv

III. PROBLEM IDENTIFICATION

In Colleges students and staffs are busy with their own work. So they didn't know what happened in same or other departments at college. It is very difficult to obtain notes for each and every subject. To develop a project there is a need of more information, related with other departments.

As more employees using the social software and social website, both outside and inside of the company, to exchange information and share with their colleagues, to gain information through chatting with friends, there is an increasing need to understand the use of these sites changes relationships, and alters the workplace social dynamic[3].

IV. PROBLEM SOLUTION

The solution that we derived for the above mentioned problem. To overcome these problems we designed a web application called SCRUTINY. By using this application we can easily communicate each other department in college. We can get lot of information regarding various department for the development of project. It is also used to know about the various events, held in the college. The application is also used to get the study notes(All Year) for each and every departments in the college.

MEDICATION FOR CANCER CELL LINES

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Abstract- There is several hundred panels of human cancer cell lines and number of anticancer drugs available. But predicting the most effective anticancer drug for specific cancer cell line is still remains challenge. Analyzing each anticancer drug response with cancer cell lines is manually difficult. It takes more time to test each anticancer drug with cancer affected cell lines to predict the effective anticancer drug. So, our project helps to identify the most suitable drug for affected cell lines. The cancer cell lines are characterized with genomic and pharmacological data. An analyses is done with these pharmacogenomics data and the most effective anticancer drug response for cancer cell lines were predicted by identifying the IC50 (Concentration of Inhibitor) and AUC (Concentration of Drug) for the cell lines. From these values the suitable anti-cancer drug can be selected and that can be prescribed in future.

Keywords- **Data collection, Cell line, anticancer drug, pharmacoGX, Data analysis, IC50, AUC**

INTRODUCTION

Cancer genome analysis and drug prediction is a concept of data analysis to predict effective anticancer drug response for cancer affected cell lines. Analyzing millions of cancer cell lines with anticancer drug and predicting effective anticancer drug are not so easy. And manually it takes more effort, so we made an analysis with data available for cancer cell lines and anticancer drug response using data mining algorithms to predict effective anticancer drug response. Using these algorithms we can analyze those data in pharmacoGX framework and predict the anticancer drug.

EXISTING SYSTEM

The system uses NextGen sequencing approach and it is used to study the data in micro level. Genetic level variation is compared for various cancer types using the ATGC sequence. The DNA sequence is analyzed for the prediction of GC content variation that is to reveal the cases of horizontal transfer or reveal biases in mutation and the Rho value calculation to measure how over-represented or under-represented, a particular DNA word is, is done for different types of cancer. And the observation is made which leads to the next step of the study which includes the applying of IC50 values on the drugs used for treating several types of cancer that are read from the GDSC-CCLE database. Then a graph is plotted for each cancer type from the IC50 values of different cancer drugs which may assist in prescribing drugs for the individuals.

DISADVANTAGES OF EXISTING SYSTEM

- Infectious cause of other cancers could not be identified because infection status was recorded for some cancer types.
- And therefore in this system, there are limited numbers of genome sequences and fewer amounts of data sets to be compared.

PROPOSED SYSTEM

In Proposed system, we use pharmacoGX library function to access and retrieve large publicly available datasets for all cell types. This involves analyzing large set of pharmacogenomics objects to identify drug sensitivity for each cell type. Then gene expression is estimated to find the similar cell lines. This estimation is done to find drug sensitivity on cell lines because as we know similar cells have similar drug sensitivity. Then IC50 and AUC values were computed to find the suitable drug with an IC50 of value less than 1. Finally gene-drug are associated and most effective drug for the cell line is estimated.

ADVANTAGES OF PROPOSED SYSTEM

- Effective genetic diagnosis for all tumour types.
- Large amount of pharmacogenomics data are downloaded easily by using pharmacoGX framework available in R tool.
- The graphical representation makes better understanding of the result analysis.

PREDICTION OF INDIVIDUAL GENETIC RISK

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1, 2 Student, 3Professor
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Abstract-Our paper is subjected to Coronary heart diseases (CHD), which is a leading cause of mortality and morbidity worldwide due to the lifestyle of an individual person there may be changes in genetic risk factors. To calculate GC values for specific heart disease or DNA sequence, where GC-content (or guanine-cytosine content) is the percentage of nitrogenous bases on a DNA or RNA molecule. In order to avoid redundancy identical sequences are merged, regardless of whether they are from the same or different species. Each sequence is given a stable and unique identifier (UPI), making it possible to identify the same protein from different source databases. Since there is a correlation between the single sequences, which is completely overcome with Uniprot database. With the help of single sequence, the mutation can be identified later. Additionally, to read and make a multiple alignment of the protein sequences from the Fasta file for both long and short DNA sequences, the CLUSTAL software is used. Apart from Clustal software, we are also including the protein gap, where it is used to estimate the divergence between two sequences, and it's usually measured in quantity of evolutionary, thereby calculating the genetic distances between DNA (or mRNA) sequences and to build a phylogenetic tree based on the distance matrix.

***Keywords:*GC content, Clustal, FASTA, Protein gap, Uniprot, DNA, RNA**

INTRODUCTION

GC-content (or guanine-cytosine content) is the percentage of nitrogenous bases on a DNA or RNA molecule that are either guanine or cytosine (from a possibility of four different ones, also including adenine and thymine in DNA and adenine and uracil in RNA). GC content is usually expressed as a percentage value, but sometimes as a ratio (called G+C ratio or GC-ratio). GC-content percentage is

Calculated as,

$$\frac{G+C}{A+T+G+C}$$

Whereas the AT/GC ratio is calculated as,

$$\frac{A+T}{G+C}$$

A protein gap is used to estimate the divergence between two sequences, and its usually measured in quantity of evolutionary, thereby calculating the genetic distances between DNA (or mRNA) sequences and

RECOMMENDED CORRELATION ANTICIPATED FOR CHOROGRAPHY & NON CHOROGRAPHY NEXUS

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Abstract: Social networks are a popular way to model the interactions among the people in a group or community. It focuses on non-temporal cold start link prediction problem and we use the term cold start link prediction to refer a non-temporal version of problem. It allows people to have their own accounts to manage friends, upload videos and can view videos according to their particular state of mind. In this process, the YouTube like application is created and the common interest between the users are identified to suggest the new link prediction. Also, the videos are classified based on the individual user interest which makes the user to access the videos easily at times. We introduce cold start link prediction as the problem of predicting the structure of a social network when the network itself is totally missing while some other information regarding the nodes is available.

1. INTRODUCTION TO PROJECT

Large real-world networks exhibit a range of interesting properties and patterns. Many types of networks and especially social networks are highly dynamic they grow and change quickly through the additions of new edges which signify the appearance of new interactions between the nodes of the network. Thus, studying the networks at a level of individual edge creations is also interesting, and in some aspects more difficult than global network modelling. Identifying the mechanisms by which such social networks evolve at the level of individual edges is a fundamental question that is still not well understood, and it forms the motivation for our work here. We consider the classical problem of link prediction where we are given a snapshot of a social network at time t, and we seek to accurately predict the edges that will be added to the network during the interval from time t to a given future time t0. More concretely, we are given a large network, say Facebook, at a time t and for each user we would like to predict what new edges (friendships) that user will create between t and some future time t0. The problem can be also viewed as a link recommendation problem, where we aim to suggest to each user a list of people who has common interests (i.e., entertainment, comedy, horror). The user can also upload videos and they can also watch according to their particular state of mind. From the technical point of view, it is not clear how to develop a method in a principle way, which combines the features of nodes (i.e., user profile information) and edges (i.e., interaction information) with the network structure. A common, but somewhat unsatisfactory approach is to simply extract a set of features describing the network structure (like node degree, number of common friends, shortest path length) around the two nodes of interest and combine it with the user profile information.

2. EXISTING SYSTEM

Existing system focus on information starved link prediction and attempts to predict the possible link between cold-start users and existing users which is inefficient. Also retrieving the videos with respect to the individual interest is difficult.

3. DISADVANTAGES

- The main disadvantage of this project is that the user may miss some information with respect to their interest.
- Cold start problem occurs. It simply means that the circumstances around the engine are not optimal to produce the final prediction.

4. PROPOSED SYSTEM

The MyPlay video Application takes all the existing problems into account and presents an easy access to the relevant videos. The cold-start recommendation method is used to find the common relation between them and suggest the users pointing to that relation in an effective manner. It provides a hierarchical structure which helps to predict the missing links in networks and provides semantic based friend recommendation system for social networks.

There are five different categories of interest fields available which includes animation, comedy, entertainment, horror and adventurous. The user can select any of these interests according to their particular state of mind which helps the users to get the relevant information.

5. ADVANTAGES

- In this proposal the connection between existing user and new user will be very effective.
- It fills the connections between nodes of existing users and cold-start users.

Deduplication of encrypted data in cloud

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ABSTRACT: Attribute-based encryption (ABE) has been widely used in cloud computing where a data provider outsources their encrypted data to a cloud service provider and can share the data with users possessing specific credentials. However, the standard ABE system does not support secure Deduplication, which is crucial for eliminating duplicate copies of identical data in order to save storage space and network bandwidth. Here, we present an attribute-based storage system with secure Deduplication in a hybrid cloud setting, where a private cloud is responsible for duplicate detection and a public cloud manages the storage. Compared with the prior data Deduplication systems, this system has two advantages. Firstly, it can be used to confidentially share data with users by specifying access policies rather than sharing decryption keys. Secondly, it achieves the standard notion of semantic security for data confidentiality while existing systems only achieve it by defining a weaker security notion. In addition, we put forth a methodology to modify a cipher-text over one access policy into cipher-texts of the same plaintext but under other access policies without revealing the underlying plaintext.

1. INTRODUCTION TO THE PROJECT

Cloud computing greatly facilitates data providers who wants to outsource their data to the cloud without disclosing their sensitive data to external parties and would like users with certain credentials to be able to access the data. This requires data to be stored in encrypted forms with access control policies such that no one except users with attributes of specific forms can decrypt the encrypted data. An encryption technique that meets this requirement is called attribute-based encryption (ABE), where a user's private key is associated with an attribute set, a message is encrypted under an access policy over a set of attributes, and a user can decrypt a cipher-text with private key if set of attributes satisfies the access policy associated with this cipher-text. However, the standard ABE system fails to achieve secure Deduplication, which is a technique to save storage space and network bandwidth by eliminating redundant copies of the encrypted data stored in the cloud. On the other hand, existing constructions for secure Deduplication is not built on attribute-based encryption. Nevertheless, since ABE and secure Deduplication have been widely applied in cloud computing, it would be desirable to design a cloud storage system possessing both properties.

2. SCOPE OF THE PROJECT

This System can be used as an application to detect duplication of data in cloud to avoid repeaters. This mechanism helps to save space in Cloud server. Cloud computing provides seemingly unlimited "virtualized" resources to users as services across the whole Internet, while hiding platform and implementation details. In cloud service providers offer both highly available storage and massively parallel computing resources at relatively low costs. As cloud computing becomes prevalent, an increasing amount of data is being stored in the cloud and shared by users with specified privileges, which define the access rights of the stored data. One critical challenge of cloud storage services is the management of the ever-increasing volume of data. Data De-duplication is a specialized data compression technique for eliminating duplicate copies of repeating data in storage. The technique is used to improve storage utilization and can also be applied to network data transfers to reduce the number of bytes that must be sent. Instead of keeping multiple data copies with the

We consider the following scenario in the design of an attribute-based storage system supporting secure Deduplication of encrypted data in the cloud, in which the cloud will not store a file more than once even though it may receive multiple copies of the same file encrypted under different access policies. A data provider, Bob, intends to upload a file M to the cloud, and share M with users having certain credentials. In order to do so, Bob encrypts M under an access policy A over a set of attributes, and uploads the corresponding cipher-text to the cloud, such that only users whose sets of attributes satisfying the access policy can decrypt the cipher-text. Later, another data provider, Alice, uploads a cipher-text for the same underlying file M but ascribed to a different access policy A. Since the file is uploaded in an encrypted form, the cloud is not able to discern that the plaintext corresponding to Alice's cipher-text is the same as that corresponding to Bob's, and will store M twice. Obviously, such duplicated storage wastes storage space and communication bandwidth.

STUDENT PREDICTIVE ANALYSIS USING DATA MINING

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ABSTRACT- Detecting students performance becomes more challenging ,due to the large volume of data in educational databases. The lack of existing system to analyze and monitor the student progress and performance is not being addressed .First, the study on existing prediction methods is still insufficient to identify. The most suitable methods for predicting the performance of students .Second is due to the lack of investigations on the factors affecting students achievements in particular courses. Therefore,a systematical literature review on predicting student performance by using data mining techniques is proposed to improve students achievements. The main objective is to provide an overview on the data mining techniques that have been used to predict students performance.

KEYWORDS – Data Mining, Predictive Analysis.

1. INTRODUCTION

Students performance is an essential part in higher learning institutions. This is because one of the criteria for a high quality university is based on its excellent record of academic achievements . There are a lot of definitions on students performance based on the previous literature.However, most of the studies mentioned about graduation being the measure of students success.Generally,most of higher learning institutions in Malaysia used the final grades to evaluate students performance. Final grades are based on the feedbacks from the students and faculty. By analyzing students performance, a strategic program can be well planned during their period of studies in an institution . Currently, there are many techniques being proposed to evaluate students performance. Data mining is one of the most popular techniques to analyze students performance. Data mining has been widely applied in educational area . It is called educational data mining. Educational data mining is a process used to extract useful information and patterns from a huge educational database . The usefulinformation and patterns can be used in predicting students performance. As a result,it would assist the educators in providing an effectiveteaching approach. Besides, educatorscouldalso monitor their students achievements. Students could improve their learning activities,allowing the administration to improve the systems performance. Thus ,the application of data mining techniques can be focused on specific needs with different entities.

2. PROPOSED SYSTEM

In this project the students feedback is shown in the chart format, such that clear analysis of the student will be provided .The faculty feedback is also added ,such that faculty will provide feedback about the students through a set of questions. In this project decision tree algorithm is used to predict the students mentality and activities being updated to the faculties .Through this analysis we can easily sort out the reason for the student dropout and can prevent from being dropped out from the college.

3. MODULE IMPLEMENTATION

3.1 ADMIN MODULE

Module is the super user of the system who maintains the details of the system. Admin module contains the following sub modules; course details, branch details, semester details, subject details,student registration, student attendance, student marks, student update marks, student details update.

3.2 STAFF MODULE

- **Upload dropout details:**
- **Take the report**
- **View reasons for dropout**

3.3 STUDENT MODULE

- **Registration**
  The students have to register for feedback before login
- **Login**
  After the registration students are allowed to login to take feedback
- **Take the feedback**

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Mobile Distributed System for Personal Security

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Abstract— **Android operating system supports most applications in today's technical world. It is an open source operating system which highly satisfies the user's needs. In this paper, the applications that are location based, the applications that make use of the Global Positioning System (GPS) is discussed. It is a space-based satellite navigation system which provides details of time and location in all weather conditions anywhere on or near earth. We use this GPS and GSM (Global System for Mobile) to track our current location and to show alerts of our current location in notification bar at time of location change. The location can also be shared to other users using SMS.**

Keywords— **GSM, GPS,ADT,JDK,APK.**

I. INTRODUCTION

A Location Based Services is an entertainment or information services accessible to mobile devices through the mobile network and utilizing the ability to make use of the geographical position of the devices. LBs are used in many contexts such as health, indoor objects search, work, entertainment, personal life, etc. LBS can be classified into different categories such as

- Consumer Services
- Emergency Services/Public Safety
- Maps Navigation
- Maps Navigation

LBS are widely utilized concepts. It can be implemented in public and safety industry such as emergency services, tracking industry such as fleet management and so on.

A. Applications of LSB

1. Traffic coordination and management
2. Shopping
3. Job dispatch and fleet management
4. LBS games and entertainment
5. News to location

Examples of LBS based android application are Personal location tracking by family member (SMS), Nearest friend's notification reminder etc.

Some of the examples of LBS are Requesting information about nearest hospitals, petrol pumps, Requesting information about ATM's, Traffic related information.

In future a system can be implemented for municipal waste with the help of GIS.

Location correctness Spotter protocol is used to verify the user's location. There will be a secret key generated for getting the particular location using LCP (Location centric profile).Location based services with location centric profiles. It aggregates over the profiles of users that visited discrete locations. A decentralized solution is needed for computing real time LCP over the profiles of collocated users. A single database is maintained which holds all the LCP's and its corresponding matching ID's. LCP correctness LCP is altered by user in two ways. One or more counters are modified and at least one counter is modified or corrupted. To detect the invalid shares key values are signed by the providers.

B. Architecture Diagram

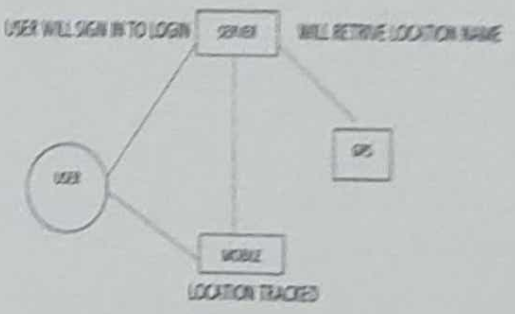

Fig.1 Architecture Diagram for Location Tracker

C. Technology used

Android is an open source and Linux-based operating system for mobile devices such as smartphones and tablet computers. Android was developed by the Open Handset Alliance, led by Google, and other companies. This tutorial will teach you basic Android programming and will also take you through some advanced concepts related to Android application development. Android applications are usually developed in the Java language using the Android Software Development Kit. Once developed, Android applications can be packaged easily and sold out either through a store such as Google play, SlideME, Opera Mobile Store, Mobango, F-droid and the Amazon Appstore.

Android powers hundreds of millions of mobile devices in more devices in more than 190 countries around the world. It's the largest installed base of any mobile platform and growing fast. Every day more than 1 million new Android devices are activated world wide.

The code names of android ranges from A to N currently, such as Aestro, Blender, Cupcake, Donut, Eclair, Froyo, Gingerbread, Honeycomb, Ice Cream Sandwitch, Jelly Bean, Kitkat, Lollipop and Marshmallow. Let's understand the android history in a sequence.

BIG DATA ANALYTICS FOR E-AGRICULTURAL

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ABSTRACT

Recommending appropriate product items to the target user is becoming the key to ensure continuous success of E commerce. Today, many E-commerce systems adopt various recommendation techniques, Collaborative Filtering (CF)-based technique, to realize product item recommendation. Overall, the present CF recommendation can perform very well, if the target user owns similar friends or the product items purchased and preferred by target user own one or more similar product items (item-based CF). While due to the sparsity of big rating data in E-commerce, similar friends and similar product items may be both absent from the user-product purchase network, which lead to a big challenge to recommend appropriate product items to the target user. Considering the challenge, we put forward a Structural Balance. Theory-based Recommendation approach. In the concrete user-based recommendation: we look for target user's "enemy" afterwards, we determine target user's "possible friends", according to "enemy's enemy is a friend" rule of Structural Balance Theory and recommend the product items preferred by "possible friends" of target user to the target user. Likewise, for the product items purchased and preferred by target user, we determine their "possibly similar product items" based on Structural Balance Theory and recommend them to the target user. At last, the feasibility of SBT-Rec is validated, through a set of experiments deployed on MovieLens-1M dataset.

1. INTRODUCTION:

"E-Agriculture" is an emerging field in the intersection of agricultural informatics, agricultural development and entrepreneurship, referring to agricultural services, technology dissemination, and information delivered or enhanced through the Internet and related technologies. More specifically, it involves the conceptualization, design, development, evaluation and application of new (innovative) ways to use existing or emerging information and communication technologies (ICTs). E-Agriculture goes beyond technology, to promote the integration of technology with multimedia, knowledge and culture, with the aim of improving communication and learning processes between various actors in agriculture locally, regionally and worldwide. Facilitation, support of standards and norms, technical support, capacity building, education, and extension are all key components to e-Agriculture. There are several types of activity related to e-agriculture applications that are widely recognized around the world today. The delivery of agricultural information and knowledge services (i.e. market prices, extension services, etc.) using the Internet and related technologies falls under the definition of e-Agriculture. More advanced applications of e agriculture in farming exist in the use of sophisticated ICTs such as satellite systems, Global Positioning Systems (GPS), advanced computers and electronic systems to improve the quantity and quality of production.

In India agriculture is a major occupation for most part of population. Most rural population depends upon agriculture as their important occupation. Techno legal ICT and cyber law specialist of India and the managing member of „Association for people of India" (AFPOI), the agriculture development characteristics are analyzed keeping in mind the advent of E-agriculture in India.

2.SCOPE OF PROJECT:

The main objective of this project is as follows

1) Insufficient agricultural infrastructure and support facilities,

2) Insufficient institutional capacity to deliver farmers specific services,

VOIZR- A SOCIAL NETWORK FOR VOICES

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ABSTRACT: **The basic idea is that anyone who have this specific application in their mobile can convert articles to speech using Text-to-Speech synthesis(TTS) and read images using OCR algorithm. Our application converts inputted text into synthesized speech and reads out to the user which can then be saved as 3GP(3rd Generation protocol) audio file and listened offline. Image reading is done with Optical Character Recognition (OCR). It is implemented using Tesseract that can be integrated with android. Using this application, the user can either type the text or load an image or copy the contents from URL which can be saved as audio file and used in future. Thus, the proposed application uses Tesseract and Optical Character Recognition (OCR) which helps the user to hear the articles rather than reading during travelling and it also helps the visually challenged people to hear the articles.**

Keywords— **Text-to-Speech, Optical Character Recognition, Tesseract, Generation Protocol, Uniform Resource Locator .**

1. INTRODUCTION

The application field of synthetic speech is growing fast while the quality of TTS systems is also increasing steadily. Speech synthesis systems are becoming more affordable for common customers, which makes these systems more suitable for everyday use. For example, TTS systems may increase employing possibilities for people with communication difficulties. Probably the most important and useful application field in speech synthesis is the reading and communication aids for the blind. Before synthesized speech, specific audio books were used where the content of the book was read into audio tapes. In recent years, OCR (Optical Character Recognition) technology has been applied throughout the entire spectrum of revolutionizing the document management process. OCR has enabled scanned documents to become more than just image files, turning into fully searchable documents with text content that is recognized by computers. With the help of OCR, people no longer need to manually retype important documents while entering them into electronic databases. Instead, OCR extracts relevant information and enters it automatically. The result is accurate, efficient information processing in less time.

2. PROPOSED SYSTEM

The Text-to-Speech synthesis converts the multiple lines into speech using TextToSpeech class imported in android and the converted speech is saved in the device that can be used in future. The user can also load the text files from the device and convert them. Optical character recognition (OCR) algorithm is used to extracting the text from images which can be handwritten, signboards etc. The user can load the images from the device or open the camera to take photos instantly and it can be converted into speech. The audio can also be saved.URL option allows the user to copy the contents from the web page using clipboard and paste them. The pasted text can then be converted to speech and saved in the device.

3. SYSTEM ARCHITECTURE

The system architecture of the application starts with launching the application initially. Once the application is launched the user will be prompted to choose the option of his choice. If the choice is TEXT, the user will be directed to the page where he can manually type the text and save the speech. The user can also load the text files form the device that can be read by TTS. If the choice is IMAGE, then the user has two options to open camera or load the image that has to be read. The OCR recognizes the image and views the content of the image in text format which can be read by TTS. If the choice of the user is URL, then the user has the option to copy the contents of webpage using URL and paste the contents which can be read and converted to speech.

OBJECT DETECTION USING CNN

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ABSTRACT:

Object Detection is the process of finding what object is present the image. This can be done using Deep learning algorithms. To find an object, we can use their shapes or edges. The edges of the objects are memorized by the trained model and that is used to find the objects which have been trained to it. The identification of particular object will help in various problem. There are more ways to find an object in an image, but convolutional neural networks will give more accuracy and minimum loss.

KEYWORDS: Object Detection, CNN, Deep Learning.

1. INTRODUCTION:

The Convolutional neural networks are the popular technique to find objects in the image. This study is shows the implementation process of Object detection. This process comes under supervised learning process. In this experiment, the images are collected from various websites. For 10 objects, 1000 images were downloaded for each classes. They are resized to same size and the label for each image is created. 700 images were taken for training purpose, 300 images for testing purpose. All the images were preprocessed and feed into the model. The model will understand the structure of each class and it will be able to predict the trained objects in the real time. For training purpose, GPU's has been used for faster training. After training, the model has to be tested, wether it is capable of predicting the trained objects. This is work is done for the study purpose, to know about the convolutional neural networks.

2. CNN

The convolutional neural networks has many layers including input layer, in which the input images are given, output layer, which will predict the object in the image and in between many hidden layers will be present, which help the model to predict the object in the image. The hidden layer consists of convolution layer, pooling layer and fully connected layer. The convolution layer is used to detect the pattern in the image. In this layer, the image is multiplied with a filter matrix to detect the pattern of the object. This will feed forward to the next layer. Sometimes in the same convolution layer more number of filters are used to detect the pattern. The filters are the weights, the values will be changing for each iteration in the training process. If one filter is multiplied, the result image matrix has depth one, if n numbers of matrices are used then the depth will be n. The next one is the pooling layer, which will combine the output of the previous layer. This layer will reduce the size of the image in to half. Two types of pooling are there, one is max pooling and another is average pooling. Again another convolution and pooling will be there. Finally the image will be flattened in to single dimension. This output is feed in to our model with the label and the training will get started.

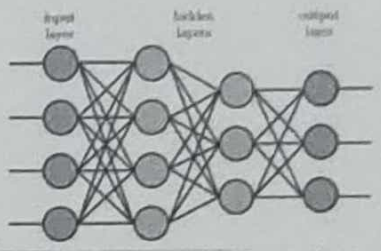

Figure 1: A simple convolutional neural network with hidden layers.

3. DATASETS:

The images are collected from various sites for each classes. For each classes 1000 images were downloaded. Each images are resized into 32x32 dimension. Each image has the object in the center. 70% of the images were used for the training purpose. 30% percent were used for the testing purpose. Training images were stored in the separate directory. Each class of image is stored in separate directory. Testing images are also saved like that. All the images were converted into an array. There were two arrays, one for training purpose, whose dimension is 7000x32x32 and other one is for testing purpose, whose dimension is 3000x32x32. They were converted into pickle file using python cpickle library. So that we need not read the whole images for all the time.

The Challenges & Counter Measures of Teaching Engineering in Higher Education

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Abstract— The main aim of this project is to find the best pedagogy to be used and implemented in the current education system. Based on the evaluation the results are being generated. Pedagogy is the discipline that deals with the theory and practice of teaching. The existing pedagogy practices are adaptive teaching, cross learning, computational thinking, incidental thinking etc., Questionnaires are given to the students and graph is generated based on their results. Our aim is to find the best pedagogy practices to be implemented for higher education.

Key words: Pedagogy, Education System, Cross Learning

I. INTRODUCTION

In computing, a web application or web app is a client–server computer program in which the client runs in a web browser. The commonly used web applications include webmail, online store or e-commerce, portal web app, wikis, animated web application and many other functions. In Mobile Web Application responsive web design can be used whether it is a conventional website or single web page application. The web design includes static and dynamic web pages where the static is the content that is being displayed to the user whereas the dynamic is the backend which defines the behavior of a web page.

In this web app the score is generated from the test which is being undertaken by every students in an institution. Score is a function which holds the test value. This score function is sent to the admin database. The average of every of individual pedagogies are being calculated and is stored in the database. From this the resultant score set the graph is generated. The pedagogy with a higher level of student understanding can be found through this.

This is very useful method because in the higher level education in engineering the current education system and the practices being used does not cope up with the rapidly changing industrial environment and the industrial requirements [1]. To meet the needs of the society and to fulfill the growing requirements there is a necessity for better teaching and learning practices to be followed.

II. EXPLANATION

A. Existing Method

In the existing method there is a necessity to exhaustively repeat the activities of the same content and the learning is carried without any recreational activities.

The traditional learning method contains the didactic learning method. This method includes the conventional learning practice which provides the students with required theoretical knowledge. It was an effective method used previously to teach students to organize their work who depends on the teachers for instructions. It is also used to teach basic skills of reading and writing.

This demands a change in the educational methodologies and strategies to be established[2]. The focus is to be on the student, who has an active role in the learning process which is later explained in the proposed system.

B. Proposed Method

This method proposes the development of enduring skills for problem solving by analyzing the real world problems and by acquiring knowledge from it. The students are put into the practice of analytical skills, decision making, observation, listening, diagnosis and participation using the methods like case studies.

Using these techniques the students are encouraged to think and act around the development of a project, developing strategies for inquiry, identification and problem solving [3]. In addition, with this learning strategy the educational system is more significant, encouraging non-memorization.

These strategies encourages learning through exploration that is to say, that learning takes place at anytime and anywhere, exploring, experimenting[4] and applying what is learned at the same time.

So, by using the new emerging pedagogies and by incorporating these in the educational system it will make that to seek harness the full potential of these technologies, framed in a new culture of learning.

III. METHODOLOGY

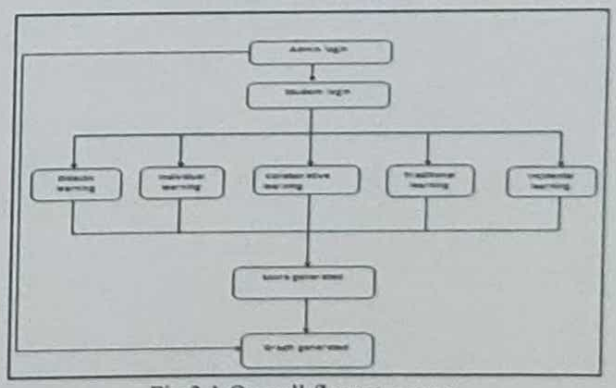

Fig 3.1 Overall flow structure

A. Student Login

The student login is generated by the admin which is then distributed among the students for further proceedings. The tests are being scheduled to the students in their respective profiles.

Once the test gets commenced it is required for the student to take all the test given in their profile. At the end of each test the student can view their scores with the total

REAL TIME ASSISTANCE FOR INDIAN AGRICULTURE

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Abstract: Mobile or smart phones are becoming an essential device for all types of people irrespective of age group and literacy. This can improve the condition of Indian agriculture but also the life and working conditions of the farmer. Advances in Information and Communication Technology (ICT) are promoting agriculture in India. Computational power and interconnection capacities have contributed smart phones and tablets to become an essential tool in agricultural sector. Our agriculture project using mobile application discuss everything about providing notifications on various agricultural updates as per user requirements , crop cultivation based on humidity of the environment , provides experts suggestion during cultivation on his/her mobile phones. The updates varies from rate of product to stocks of other products in the market, this is helpful for farmers around the state. This app updates is mainly concerned about specific group of customers which is farmers, its update status on a particular product is as per the user choice.

IndexTerms – **Mobile application, Information and Communication Technology, Notifications, Rate of Products .**

I. INTRODUCTION

India is a land of agriculture. Agriculture may be defined as an integrated system of techniques to control the growth and harvesting of animal and vegetables [1]. The development of agriculture has much to do with the economic welfare of our country [3]. Agriculture is one of the most important things for a developing country like India. Contribution made by India through agricultural sector in GDP (Gross Domestic Product) is more than any other country, annually. More than half of our country population depends on agriculture either directly [4]. The increasing use of mobile devices has created an opportunity to make useful information more widely available. The main objective for such project is to develop a mobile phone based solution that helps in management, improvement and maintenance of land.

Mobile or smart phones are becoming an essential device for all types of users irrespective of age group [5]. Mobile technology in India has created high possibilities in communication medium to reach out to the masses. Android is the open-source mobile operating system developed by Google is emerging as a choice for developers.Its open nature has encouraged a large community of developers to use the open-source code as a foundation for community-driven projects which deliver updates to older devices, add new features for advanced users [2].

The vast majority of Indian farmers which includes small-scale producers are often unable to access the information and technological resources that could increase the yield and lead to the better prices of their crops and products [9]. Android based application can be widely implemented in the near future this will benefit people in rural areas.

II. EXISTING SYSTEM

The existing system provides suggestion for consumer to buy different products with respect to their requirements[10]. The goal of the project is to help farmers in improvement of agricultural fields by providing suggestion for them.

Small farmers cited market prices, weather information and seed information as their top needs. It also studies stakeholder's interest and willingness to use the mobile apps for their daily activities. Market prices are valuable not only in deciding where and when to sell, but also in deciding the cropping pattern[7]. It proposes android based mobile application which could take care of updates of different commodities and weather forecast updates. Kissan Kerala in its attempt to redefine the services provided to the farming community has introduced a new feature to cater to the needs of the farmers to its full potential[5]. This app provides weather details of the state along with information that contains agricultural news and animal husbandry to farmers.

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Encryption and De-Duplicating of Data in Cloud

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Abstract: ***Cloud computing is an online data centre for providing a large amount of computing and storage resources for various service applications with high quality. However, cloud users no longer possess their data in a local data storage infrastructure, which would result in auditing for the integrity of outsourced data being a challenging problem. To help the users complete verification of the integrity of the outsourced data has become a key issue. The secure Encryption and de-duplication techniques are used to solve this problem, from which the users can resort to a third-party auditor (TPA) to check the integrity of outsourced data and Encryption algorithm MD5 is used to secure the data outsourced. The duplication of data has been avoided using the De-duplication techniques by comparison of files in the user database using php ,this will enhance the memory efficiency of the storage and the processing time is reduced.***

I. INTRODUCTION

In current days, the speeding growth of digital contents is gearing up to raise the demand for new storage and network capacities, along with an increasing need for more cost- effective and more use of storage and network bandwidth for data transfer. Now, the use of remote storage systems is gaining an expanding interest, namely the cloud storage based services, as it provides cost efficient architectures. In addition to save resources consumption in both, network bandwidth and storage capacities, many cloud services, namely Dropbox, wuala and Memopal, apply client side deduplication. This concept ignores the storage of redundant data cloud servers and reduces network bandwidth consumption associated to transmitting the same contents times.

Cloud storage service providers perform deduplication to save space by only storing one copy of each file uploaded. Should clients conventionally encrypt their files, however, savings are lost. Message-locked encryption resolves this tension[1]. However it is inherently subject to brute-force attacks that can recover files falling into a hacker hands. But customers may want their data encrypted, for reasons ranging from personal privacy to corporate policy to legal regulations[5][4]. A client could encrypt their file before storing it. But common encryption modes are randomized, making deduplication impossible since the Storage Service effectively always sees different cipher texts regardless of the data. If a client's encryption is deterministic (so that the same file will always map to the same cipher text) deduplication is possible. Cross-user deduplication, which allows more storage savings, is not possible because encryptions of different clients, being under different keys, are usually different. Sharing a single key across a group of users makes the system brittle in the face of client compromise.

II. EXISTING SYSTEM

In the traditional architecture there existed only the server and the client. In most cases the server was only a data base server that can only offer data. Therefore majority of the business logic i.e., validations etc. had to be placed on the clients system. This makes maintenance expensive. This also means that every client has to be trained as to how to use the application and even the security in the communication has to be considered. Since the actual processing of the data takes place on the remote client the data has to be transported over the network, which requires a secured format of the transfer method[3]. But transactions are considered to be "un-trusted" in terms of security, i.e. they are easy to be hacked. And also we have to consider the transfer the large amount of data through the network will leads to network traffic while transferring. In the same way sensitive data transfer is to be carried out even if there is lack of an alternative. We know that deduplication reduces the storage space at cloud server side.Data integrity is very critical issue in storage systems, because only a single instance of file has been accessed by multiple user. To ensure private information the secret sharing scheme is utilized effectively.

A. Disadvantages

The major disadvantage of existing system is the storage; it needs more memory space which is costly to maintain. The existing system depends upon sharing of data through network bandwidth. This is time consuming and expensive and have to rely on hard-drive and still not finding appropriate data to process. The data integrity and authentication is mainly important in cloud storage.

Notification and Communication of Village Development using Firebase and One Signal API

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Abstract— This paper describes about creating a mobile application that is desired to create an awareness among the people about Sansaad Adarsh Gram Yojana (SAGY) and its purpose to public. The application details on the 5 major development plans under SAGY (Personal, Human, Economic, Social, Environment) and various other details (MP Details, Village Details, Schemes, Notification, Gallery and Organization Associated). It also maintains information regarding past, ongoing and future events. The future events are notified to the users via non-intrusive push notifications. The various schemes of SAGY are grouped into 31 categories. The user selects one of these 31 categories while registering into the application. Notifications are sent to the users based on the category they select. The objective of these schemes are to bring the perception of Mahatma Gandhi of bringing developed villages into existence.

Key words: Sansad Adarsh Gram Yojana (SAGY), Notifications, Firebase, One signal

I. Introduction

Honourable Prime Minister has visioned that the development of the nation relies on the development of villages. Each Member of the Parliament is expected to show progress by developing his/her model village within a year and two more villages within the next two consecutive years. Framework for the schemes are designed by the Department of Rural Development. Our Prime Minister inaugurated the Framework release ceremony at our capital in the year 2014.SAGY is a rural development programme which is focused widely upon the development of the villages including communal and ethnic development, also spreading inspiration and motivation. amongst the people belonging to the village confederacy. For the SAGY schemes to be successfully accepted within society, the schemes need to reach the end user. Around 57% of the people are expected to be using android mobiles by 2019. Therefore deploying a mobile application will certainly prove useful in taking the schemes to the end users. In this mobile application we display notifications, details of villages adopted, details of Hon'ble Members of Parliament (MP), details of the institutions associated with the adopted villages, details of Program conducted & developmental activities initiated under SAGY. The future events are notified to the users using push notifications. This mobile application creates awareness among people about the various schemes and measures taken by the government to develop the villages and gives a total understanding on SAGY and its purpose to its users.

II. Explanation

A. Existing Method

Up till now the existing system available for this project is only a website which contains details about SAGY alone. There are no android applications for the system we consider. To view the details of the members of parliament or to explore the various schemes or to view the details of villages adopted by the members of the parliament the users have to search through various websites and several web portals.
Drawbacks: If the user wants to learn about a particular village he/she has to search through, the entire website. The users don't get to know about a new event that is to be hosted unless or until they visit the website periodically.

B. Proposed Method

In this newly updated system we provide ease of access to the users via the mobile application. The users can select the category of schemes from a list of categories. On doing so, they receive notifications of events occurring only in these particular categories rather than receiving notifications of every event occurring in every village. Notifications are sent to the users whenever a new scheme is about to be introduced and events are to be carried out to implement the scheme.

III. Methodology

The proposed system allows the users to view details of the Hon'ble members of parliament (MP), Details of the village, schemes, and the organizations associated with the adopted villages under one single port.

Firebase is an open source platform for the development of both mobile on as well as web application. It was developed in 2011.To authenticate users firebase uses the Firebase Auth. OneSignal is an Application programming interface(API) used for sending push notifications for both web and mobile applications. Both firebase and one signal are interfaced with the mobile application. User first registers into the application through the android device using his credentials. These credentials are stored in the firebase database. While registering the user selects a category of scheme based on which he/she will receive notifications. The users are grouped based on the category they select and the admin will send unique notifications to each of these groups using the one signal API.

Traffic Identification Engine for Real Time Networking

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Abstract— Traffic classification is an emerging topic in the field of computer science. The Classification and the analysis of the network traffic is useful to avoid the traffic congestion while transferring the data. The classification of traffic refers to categorizing the traffic according to its various application type and also helps in managing the overall performance of a network. The flow of traffic analysis is an essential piece of knowledge for engineering a network. However, with the rapid evolution of the internet applications the effectiveness of the customary methods like port based, payload based. The Machine learning algorithms has achieved high accuracy and best results. The use of Hello Packet for the classification makes easier in analysing the real-time network which adds accuracy to the existing system. The accurate classification is achieved using the hello packet which classifies the network in an effective way and transfers the data through the easier and the shortest path.

Key words: Traffic Classification, Hello Packet, Traffic Flow Analysis

I. Introduction

Network Traffic classification is an important topic nowadays in the field of communication and computer science.

This is useful for the Internet Service Providers (ISPs) to manage the network performance. Classification of the traffic is the first step in identifying and classifying the unexplored network classes.

The Network traffic identification plays a vital role in network security and management such as the Intrusion Detection and Quality of Service (QoS) There are several techniques have been proposed classifying and analysing the network traffic which includes the traditional techniques like port based method payload based techniques these techniques .Port based technique is a great technique for network classification. This technique failed due to increase of peer to peer applications.

The Payload based Technique which is also called Deep Packet Inspection (DPI) is effective in classification but it cannot be applied to encrypted data network applications as numerous data network applications use encrypted techniques to protect the data from detection . The DPI technique failed due to use of encrypted flow of applications. The researchers then proposed Machine Learning Technique to classify the internet traffic as well as to know the type of applications flow in the network.

II. Problem Statement

The evolution in the internet applications has led to different methods of classifying the network traffic. The port based, payload based techniques has efficient classification but comparatively has low accuracy.

These techniques failed for the encrypted data network applications. The port based technique failed due to dynamic port numbers. Dynamic port number means unregistered number with the (Internet Assign Number Authority). The classification results in a better way but it doesn't compare the results of those algorithms. The port based technique has failed due to increase of peer to peer communication.

III. Existing System

The network classification has several traditional techniques to classify the network traffic such as the payload method and port-based method which does not support for encrypted data network applications as numerous network applications use encrypted network to protect data from detection. Port based techniques failed due to increase of peer to peer applications. The port based and the payload based techniques have achieved in classifying the network effectively but has failed when applied to encrypted data applications.

IV. Proposed System

TIE recommends a unified representation of classification results. It defines IDs for application classes and associates them with group classes. The comparison of traffic classifiers which have application-level protocol. It uses the Hello Packet to compute the distance from the source to destination. The hello packet establishes and confirms network relationship. It distinguishes the traffic as per its constraints. The TIE is also used to compute the following Duration of a video or audio stream

- Voice or video quality of experience
- Counts of the number of events
- Tracking of "top" items (e.g., most frequently requested URLs, most popular video providers, etc.)
- Summations (adding up a number of events).

V. Objective

The main aim of the project is to transfer the data without traffic congestion. This analyses the traffic and classifies the network traffic and transfers the data via the shortest path. The shortest path is computed using the Machine Learning algorithms.

The Machine Learning algorithm is used as it achieves high accuracy. The Hello Packet is used to easily classify the network traffic and transfers the data via the free and the shortest Path.

VI. Methodology

Hello Packet implementation along with the machine learning algorithms provide higher accuracy compared to previous classification techniques.

Hello Packet is a special packet that is sent from a router which is used to establish and confirms the network adjacency relationships.

A Wireless Body Sensor Network for Health Monitoring

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Abstract— The vast improvement in Information technology has led to the development of Internet of Things (IoT). Nowadays human health care system uses IoT for the convenience of physicians and patients and also used for real-time monitoring of patient information. The proposed system uses Body sensors for monitoring patient's temperature, blood pressure, pulse rate, ECG etc. The output produced by the sensors are analog data which is transformed into digital using the Arduino UNO microcontroller. The output can be viewed in the LCD display and computer. This system uses GSM module to transmit the real-time patient's data to the physicians and family members. The main objective of this system is to monitor the patient health condition and wirelessly transmit the details to the physician's mobile phone.

Key words: Biomedical Sensors, Arduino, Wireless, Smart Phone, GSM

I. INTRODUCTION

Body sensors are used in several applications. One of the important application using Body sensors is human health care monitoring system. The emergence of IoT has enhanced the development of real-time human health care system. IoT is the ability of humans, computer, things etc. to transfer data over the network. Human health monitoring systems are mainly used for old age people who cannot walk. The aim of the system is to combine the portable sensors with the GSM module. To develop a wireless network for health care systems, small independent body sensors are placed in human bodies. In this system, temperature sensor and pulse rate sensor are deployed in human. These sensor collects the temperature and heart rate of the patient. These data are analog signal which is then transformed into digital using the Arduino Uno microcontroller. The program for performing operations in Arduino is dumped into the Arduino board using the software Arduino 1.0.6. The digital values are displayed in the LCD display and also in computer. This is proposed system we use GSM module to transfer the patient real-time data to the physicians and family members. Whenever the condition of the of patient reaches critical, automatically messages are sent to the physicians and family members about the condition of the patient.

II. EXPLANATION

A. Impact of Using Body Sensor in Wireless Network

Sensors are small independent devices that are attached to human, computer or things. Body sensors are sensor devices that can be attached only on human. Some of the body sensors are Temperature sensor, Pulse rate sensor, blood pressure sensor, blood glucose level detection sensors Etc. Body sensor network (BSN) plays a vital role in every fields in day-to-day environment. Some of the fields that uses BSN are medical treatments, sports, military, social welfare and it changes the way human uses computer. In this proposed system, we use BSN for home health care. It is mostly deployed for chronic diseases. Chronic diseases are diseases which lasts for longer time. According to studies 88% of human above 65 years suffers from chronic disease like arthritis, heart attacks, stroke, diabetes. The senior citizens in most of the cases needs continuous monitoring. Hence, small sensors are deployed on the people which in turns monitor their condition and regularly send the messages to the physicians.

B. Existing System

The Existing system consists of body sensors like temperature, pressure, spo2sensor. It uses Atmel microcontroller as analog to digital converter. It also contains a Bluetooth module with which the data can be sent to the physicians.

The drawback of this system is, by using Bluetooth module the data transmission and reception range is low. Because the Bluetooth module transmit the data within 100m which is not suitable for larger hospitals where transmission and reception range is too large. The physician could not receive the patient data if he moves away from the patient.

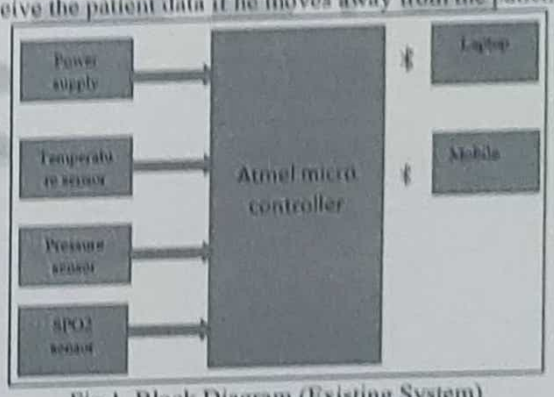

Fig 1. Block Diagram (Existing System)

C. Proposed System

The proposed system is designed to overcome the drawback of the existing system. It consists of two sensors namely temperature sensor, pulse rate sensor. These sensors are connected to Arduino Uno microcontroller which acts as the analog to digital converter. Along with the Arduino board a LCD display is attached. A GSM module is interfaced with Arduino microcontroller. The purpose of the GSM module is to transfer the patient conditions to the physician. Due to this GSM module message can be send anywhere at any time. There is no transmission or reception range in this system.

Corpus ID: 196179155

GPS-based Dengue Risk Index App

P. Chitra, P. Pavithran, +2 authors G. Shruthi · Published 2018 · Computer Science

Our idea is to develop GPS-based dengue risk index app which is mainly used to predict the outburst of dengue diseases in user's location. The prediction is based on analysing climatic condition. The climatic parameters that are used in analysis are temperature, rainfall and humidity. Linear regression algorithm is used to extrapolate in the multidimensional space to predict the threat of dengue exploration at user's location. The dengue risk index score will indicate and alert the user to take... Expand

Topics from this paper

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CHILD ABDUCTION ALERTING SYSTEM IN HOSPITALS USING GSM AND PIR SENSOR

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Abstract : Security is the most important thing concerned in the day-to-day life. Safety and security of the new born baby is the concept of the child abduction alerting system. The system focuses on the alerting and tracking the motion of the abducted child in hospitals. PIR sensors are used to detect the motion of the cause or any activity that when the child get abducted. The GSM modem is use to send the alert message to the parents or the hospital management when the child was abducted by the thieves. In this the tracking of the abducted child is tracked by using the Bluetooth device and Smart phone. The PIR sensor sense the presence of the intruder and the Controller reads the signal from the sensor, if the intruder is detected it turns on the buzzer and sends the alert message to the predefined number through the GSM. The system consists of MQ135 and temperature sensor to detect the temperature and Air Quality in the room.

Keywords: PIR sensor, GSM module, Arduino UNO.

I. INTRODUCTION

We know that theft have been become an major issues nowadays everywhere. The new born infant had been abducted from the hospitals is the common one. Although the new born babies do not have the strength and skill to move out from the nursing room. It is not the uncommon for the babies to get abducted by cold-hearted baby thieves once in a while.so we are like to implement the system for the security of the new born babies. Everywhere the hospitals make use of the CCTV camera for the security purpose, but the CCTV. Cameras of capable of only recording and storing the data .So we have come up with this system to ensure the child safety [2]. We have used PIR sensor for the motion detection [6]. The PIR sensor can be placed at the top of the roof to sense the motion of the intruder at the specific range. The alarm results in the motion of the intruder in the nursing room. The GSM module is used to send an alert message simultaneously the alarm is triggered when the motion is detected [3]. The alert message can be send to the predefined number [7]. The Bluetooth device is used for the tracking the child theft [8]. Once when the child is abducted the bluetooth device is used to track the direction of the child [1]. Through this system the hospital management ensure the safety of the new born babies with the more concerns. This also prevents the child mix up in the hospitals. The security of the infants baby in the hospitals have been more effective through this system. The system is connected to MQ135 sensor to detect the quality of air in the room [12] where it is necessary for the child to get good air and temperature sensor is used to measure the temperature of the room[13].

II. HARDWARE DESIGN

The Hardware consist of the Arduino UNO Board,PIR(Passive Infrared sensor),GSM modem, Buzzer and the Reset button.

AUTOMATIC IRRIGATION AND MOTION DETECTION USING IOT

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ABSTRACT:

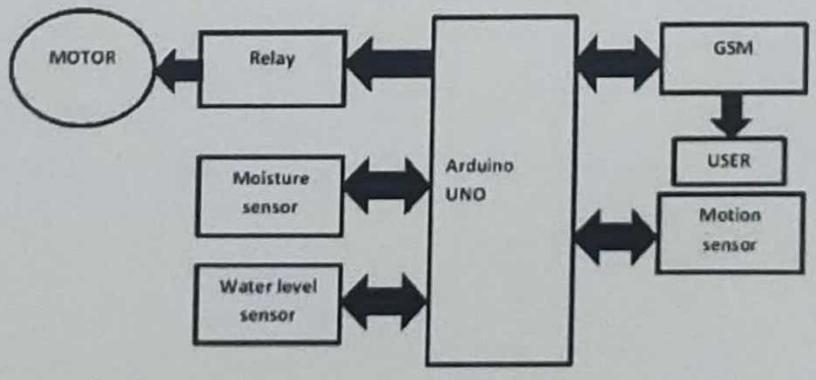
Water scarcity and field monitoring are big concern at recent times. This project is used to irrigate the farmland and also protect the field from trespassers. In an efficient manner with an automated irrigation system based on a water capacity needed for a particular plant will be irrigated. Soil moisture sensor is used to find moisture level in the field and based on this a periodic notification is displayed to the farmer and the system will automatically switching the console of the motor pump. For field monitoring a motion sensor is used. During trespassing, a notification is passed to the farmer and he can control his farming field.

KEYWORDS: PIR sensor, Soil Moisture sensor, Water level sensor, Gas sensor, GSM module.

I. INTRODUCTION:

India consist of a vast land in North the Himalayas in West the Thar in East the Sutherland and other deep forest and in South the Deccan. More often we lived in a moderate climate because of the natural protection of this land. For 1.25 billion people live in this land it provides food by agriculture and agricultural products provided by farmers and hence they provide probably more than our needs and it is recently reducing due to their wages which is constantly reducing year by year. The lack of investment and turn down in man power gives less result which affects their livelihood hardly. In this project we were excluding the manpower of the farmers by giving a product with work free and provides field protection to avoid the animal inclusion or presence in the field. This will reduces the presence of the farmer in the field for irrigation process which will automatically done by the system which makes to earn through other ways for his livelihood.

II. ARCHITECTURAL DIAGRAM:



The main component of this project is arduino,which acts as backbone to connect the sensors and other modules for integration. First, the soil moisture sensor collects the data from the soil and passes it to the arduino. Water will be irrigated (or) stopped as per the threshold value get by the sensor. The message will be passed to the farmer by the result of the sensor. During irrigation when the level of the water gets maximum, level of water indicator (or) sensor passes the information to the arduino and the flow of water from

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Various Approaches on Sentiment Analysis Using Social Media Data

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Abstract-Sentiment analysis or opinion mining is the computational study of people's opinions, sentiments, attitudes, and emotions expressed in written language. It is one of the most active research areas in recent years. Its popularity is mainly due to Social media like Facebook, Twitter, YouTube review videos, is the platform, where people express their frank opinions and thoughts about any event or program. To understand the feedback of the viewers, social media is employed as the best tool. Twitter is the world's most powerful and the 9th widely viewed social media platform. To analyse the sentiments for a channel program, a twitter API is created to extract tweets and preprocess them, to analyse the sentiments through the back-end process. Finally, the sentiment analysis is visually represented in different perspectives of sentiments, which can easily aid the enhancement of quality of the program, to provide the best entertainment and satisfy the audience.

1. INTRODUCTION

Sentiment analysis is the process of analysing the opinions, feelings and attitude of the author about a particular product, topic, task, organization etc. Hence, it is known as opinion mining. Social media has made people to express their emotions, feelings and suggestions as comments voluntarily.

It is complex to find out the overall opinion and suggestions of the people. Sentiment analysis has been a popular research area in the past few years. Many approaches and algorithms have been introduced for this analysis. We are using Naïve Bayes algorithm to predict the sentiment of people on a television program.

2. DIFFERENT CLASSES OF SENTIMENT ANALYSIS

Sentiments can be classified into three different class i.e. positive, negative and neutral sentiments.

a. Positive Sentiments: These are considered as the good words about the object/subject in concern. If there is lot of positive sentiments, it is denoted as good.

b. Negative Sentiments: These are the bad words about the object/subject in consideration. If there is lot of negative sentiments, it is rejected from the preference list.

c. Neutral Sentiments: These are neither good nor bad words about the product. Hence it is neither preferred nor ignored.

3. LEVELS OF SENTIMENT CLASSIFICATION

There are three different levels of sentiment classification i.e. word level, phrase level and document level sentiment classification .

a. Word Level Classification: This type of classification is done on the basis of the words that indicate the sentiment about the target. Word level classification is based on lexicon-based approach. It only classifies the words which expresses sentiment. The word may be noun, adjective or adverb. Word level classification does not give more accurate classified sentiments.

b. Phrase Level Classification: This classification results in positive as well as negative category. The phrase signifying the attitude is found out from the sentence and the classification is done. But then it sometimes gives incorrect

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A Billing Scheme of Tollbooth in Service Oriented Vehicular Network

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Abstract – In this paper we have proposed to billing scheme of tollbooth in service oriented vehicular network It is an emerging technology is built and improve the safety. The VANETs – vehicular Ad-hoc network is a most important role for commercial services. The vehicular network is works with an ore effective and good approach. I toll requirement is essential to control fine grained, I our main aim is clear the billing issue and address with safely, privacy using VANETs, in proposed scheme to long access delay of the centralized novel AAA architecture. In high security billing and control access for encryption ensure fine- grained the valid electronic currency are to authorized to access the requested services, in our system to high security non fraud electronic currency prevention, analysis and simulated with demonstrate using AAA architecture with centralized and decentralized method for scalability improve for service orientation VANETs.

Index Terms – Secure billing, VANETs, Electronic currency, Security, Access control devices.

Introduction

The VANETs - vehicular Ad-hoc networks is one of the most popular networks for access with security and privacy notation used for industry and academic as well as researcher. It's the Dedicated short range protocol to communication using standard IEEE802.11p worked with group communication protocol, the VANETs is used for communication is classified in to two various types one is V to V- vehicle to vehicle and another is V to I- Vehicle to infrastructure, in purpose Road access unit(RAU) is function to transferred the data to gateway. VANETs application is referred to service in vehicular network for commercial, access to vehicular network into practice emerging challenges must be consider. In VANET address in security issue is standard IEEE609.2 for security and vehicular network such as includes billing process and authentication.

The novel based AAA architecture is widely adopted for high secure and authentication in standard IEEE EAP /802.1X based for authorization "New research challenges, especially in the aspects of security, user privacy, and billing. In this article we first identify the key requirements of authentication, privacy preservation, and billing for service delivery in vehicular networks"[1]. "The standard covers methods for securing WAVE management messages and application messages, with the exception of vehicle-originating safety messages" [2]. "Lightweight authenticated key establishment scheme with privacy preservation to secure the communications between mobile vehicles and roadside infrastructure in a VANET is proposed" [3]. We are proposed a portable billing machine with fine-grained control to access with privacy and security to use of E-coin to achieve location authentication.

Motivation of Research

The current security mechanisms in VANETs are used in service oriented VANETs to access centralized billing system. The security is the important criteria for billing system and identification in road side units. He hole authentication is described in standard IEEE802.1x its required for delay up to 750-1200 Ms for long time authentication due to the long roundtrip passing signal between the AAA server to RAU. The final end of the problem if any other occurs in the common server to large scale vehicular network (8). Centralized AAA architecture it is one of the lead a high packet low loss ratio and lower customer satisfaction in this disadvantage overcomes to utilize our localized security scheme in VANETs.

The managing of service provider (SP) et the offer from service resources like security and privacy issue because is belong to government in GSB trusted, in service provider (SP) to offer some services to vehicle including location based service, multimedia and content services. The government is maintained information storage units with well equipped to subordination with RAU. The RAU is the gateway for information delivering in particular vehicle with use of SPs and GSB. Every vehicle having he separate onboard unit (OBU) to communicate with RAU for the purpose of moving vehicle identification. The DSRC protocol is majorly used for communication.

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Research Article

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Fraud Resilient Device for Off-Line Micro Payments

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Abstract:
Credit and debit card data theft is one form of cybercrime. Attackers often aim at stealing such as customer data by targeting the Point of Sale system, where retailer first gets the customer data. Modern POS systems are equipped with a card reader and specialized software. User details are given as input to the POS. In this malware steals card data as soon as they are read by the device. Until the customer and vendor are disconnected from the network, no secure on-line payment is possible. It describes a secure off-line micro-payment solution that is resilient to POS data stealing. FRODO provides secure fully off-line payments

I. INTRODUCTION:

Computer security (Also known as cyber security or IT Security) is information security as applied to computers and networks. The field covers all the processes and mechanisms by which computer-based equipment, information and services are protected from unintended or unauthorized access, change or destruction. Computer security also includes protection from unplanned events and natural disasters. Otherwise, in the computer industry, the term security or the phrase computer security refers to techniques for ensuring that data stored in a computercannot be read or compromised by any individuals without authorization. Most computer security measures involve data encryption and passwords. Data encryption is the translation of data into a form that is unintelligible without a deciphering mechanism. A password is a secret word or phrase that gives a user access to a particular program or system.

II. LITERATURE SURVEY:

1. PAY WORD AND MICRO MINT: TWO SIMPLE MICROPAYMENT SCHEMES
AUTHOR: R. L. Rivets

The Basic Paper coin method can be implemented in a variety of ways, to maximize ease of use for the customer in a given situation. While the basic pepper coin method requires that each consumer have digital signature capability, one can easily eliminate this requirement by having a party trusted by the consumer sign payments for him as a proxy; this might be a natural approach in a web services environment. The pepper coin method can also be implemented so that it feels to the consumer as a natural extension of his existing credit-card processing procedure, further increasing consumer acceptance and ease of use.

2. SECURE POS & KIOSK
AUTHOR: BOMGAR

Limited interfaces and location within local networks, supporting kiosks and point of sale (POS) terminals can be challenging. Often they are located on networks that are not connected to the internet, making direct access impossible for most remote support tools. And even when an employee is present at the terminal, access restrictions and/or lack of technical knowledge Makes communicating the solution to a problem difficult. To add complications, hackers are ramping up their efforts to steal payment card data by gaining access to POS systems and kiosks.

3. RELIABLE OSPM SCHEMA FOR SECURE TRANSACTION USING MOBILE AGENT IN MICROPAYMENT SYSTEM
AUTHOR: NC Kiran

This project introduces a novel offline payment system in mobile commerce using the case study of micro-payments. The present project is an extension version of our prior study addressing on implication of secure micropayment system deploying process oriented structural design in mobile network. The previous system has broad utilization of SPKI and hash chaining to furnish reliable and secure offline transaction in mobile commerce. However, the current work has attempted to provide much more light weight secure offline payment system in micro-payments by designing a new schema termed as Offline Secure Payment in Mobile Commerce (OSPM). The empirical operation are carried out on three types of transaction process considering maximum scenario of real time offline cases. Therefore, the current idea introduces two new parameters i.e. mobile agent and mobile token that can ensure better security and comparatively less network overhead.

4.LIGHTWEIGHT AND SECURE PUT KEY STORAGE USING LIMITS OF MACHINE LEARNING:

A lightweight and secure key storage scheme using silicon Physical Unclonable Functions (PUFs) is described. To derive stable PUF bits from chip manufacturing variations, a lightweight error correction code (ECC) encoder / decoder is used. With a register count of 69, this codec core does not use any traditional error correction techniques and is 75% smaller than a previous provably secure implementation, and yet achieves robust environmental performance in 65nm FPGA and 0.13μ ASIC implementations. The security of the syndrome bits uses a new security argument that relies on what cannot be

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VOLTAGE PROFILE IMPROVEMENT IN A HYBRID DISTRIBUTION SYSTEM USING ETAP

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Abstract:

To design and analyse the integration of high PV and wind penetration into the Distribution system.This integration have been carried out on 33kv and 14 bus node test in the distribution feeder .To show the load flow analysis and impact of adding DG in the medium voltage distribution network using ETAP software.Renewable energy resources are present a high potential to fulfill the global increasing power demands. In distribution side ,high absorbs the reactive power so it must be equalize by renewable energy to improve the voltage level in the distribution network. Additionally, in order to examine the grid performance during this conditions.In etap software ,Adaptive Newton-Raphson method was used in the distribution network.

Keywords- Electrical Transient Analysis Program(ETAP),DistributedGeneration(DG), Photovoltaic(PV),Renewable Energy,Load Flow Analysis.

I. INTRODUCTION

Power consumption is one of the daily resources without which we can't imagine our modern life.The demand of consumer is much higher then supply generation and imbalanced.So in 2020 ,20% of renewable energy integration to the grid.The combination of two energy source is known as hybrid energy source.Nowadays the conventional energy sources are limited and cause pollution to the environment.So the government now move to the renewable energy sources such as solar,wind,fuel cells,biomass,hydro etc.But main drawback in the renewable source is depending upon the nature.While comparing to other renewable source wind and solar sources are generate high MW power[1].In conventional energy sources are generated the power in very long distance so it have high transmission losses to reach at consumers but in renewable energy sources are generated the power in short distance. Renewable energy sources like wind and solar power form a Distributed Generation (DG). The major problem today in power sector is losses in distribution network. Wind energy is the fastest growing and the most promising renewable energy source because it is plentiful, cheap, inexhaustible, widely distributed, clean and climate benign. The weak buses are the buses where the transmission line parameters namely voltage, current and power factor are not maintained efficiently, which results in poor voltage regulation[2].

Now a days the home appliances are inductive load so it absorbs more reactive power from the generation source.Therefore voltage drop occurs in the distribution networks and also in distribution network have several branches to separate the power for consumers ,it also make a cause for voltage drop[1].The impact of PV penetration at a large scale into the electricity distribution networks, at severe network conditions and location of fault occurrence remains uncertain. This leads to the importance of

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AUTOMATIC ON LOAD TAP CHANGER BASED SMART GRID DISTRIBUTION SYSTEM

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Abstract

A smart grid is an evolved grid system that manages electricity demand in a sustainable, reliable and economic manner. The smart grid is the future for electrical systems. Today, existing grids are under pressure to deliver the growing demand for power, as well as to provide stable and sustainable supply of electricity. To maintain the voltage throughout the day, the variation of load is the main criteria. It is more in the peak hours, medium in the rest of the hours and less in the midnight to early morning. This variation is due to the industrial and residential load patterns. This paper mainly focused on distribution of quality of power using smart grid. The main criteria required for all the devices are the rated voltage which plays vital role in power quality. In this paper it is planned to provide a transformer with multiple taps and selecting the taps required for the moment will be automatically chosen by the on-load tap changeover system which is operated by the controller. Here, voltage transducers are used to sense the change in voltages, ADC will convert the analog signals into digital signals. These digital signals are interfaced with computer which in turn operates the on load tap changers. Suitable taps are selected and its driver relays are operated by the computer through opto-coupler and switching transistors. In this model a computer acts as a controller with the aid of the C software.

INTRODUCTION

Today, existing grids are under pressure to deliver the growing demand for power, as well as provide a stable and sustainable supply of electricity. These complex challenges are driving the evolution of smart grid technologies Smart grids will make use of new design concepts and advanced materials in system components like transformers and circuit breakers to improve efficiency, safety and operational performance. Widespread use of power electronic devices will help maximize performance of existing assets and make the grid more resilient in the event of disruptions. The control strategy coordinating conventional voltage control devices

VERTICAL AXIS WIND TURBINE FOR POWER GENERATION IN HIGHWAY LIGHTING

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Abstract

In recent years, worldwide energy crisis is emerging accompanied by high global emission and hence research and development activities are carried out in the field of wind and solar energy which are of renewable energy resources. The vertical axis wind turbine replaced the horizontal axis wind turbine because HAWT are not used for household purposes but VAWT can operate in low wind condition and also serves for household purposes. This design should have the higher efficiency when compared to the HAWT and contribute to its steady growing popularity for the purpose of mass utilization in the near future as a reliable source of power generation. The Vertical axis wind turbine is used to generate the DCpower and fed to the power grid. A Vertical axis wind turbine does not need to be oriented into the wind. A power transmission mechanism can be mounted at ground level for easy access. For generating the power it depends on the wind velocity. But we assure that Vertical axis wind turbine can generate the fixed D.C. output which does not depends majorly on the velocity of the wind.

Keywords: vertical axis wind turbine, blade design, inverter, battery source, bearings, DC generator.

1. Introduction:

The highly emerging clean energy in the world is wind energy. This requirement only due to the hike in rate of fossil fuels. According to Global wind Energy Council, in next few years the employment for the wind power generation should be increased if this system is implemented. A major problem facing with the technology is deviation in the wind power. Due to rapid moving of the vehicles in the highways there will be the availability of constant wind power, so the purpose of this project is to contribute the clean energy in a useful way for worldwide. The VAWT are classified a three air foil shaped blades are arranged in vertical shaft where the blades projected outwards to face the wind direction and it requires normal wind velocity to run and the another type of turbine is one where the blades arranged vertically with S shape. The direction of air flow does not affect the direction of rotation in the turbine. An explicit way of reusing the wind energy obtained by vehicles moving at high speeds on our national highway.We already know that the air turbulence will generated by the

Detection of Microorganism in Milk Using Arm Processor

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***Abstract*—** Food safety is a scientific discipline describing handling, preparation and storage of foods in ways that prevent food borne illness. This includes number of routines that should be followed to avoid potential health hazard. Recent studies highlight that raw milk contain pathogenic organism which could results in illness if consumed. Hence it is necessary to develop tools for real-time and smart sensing for quality monitoring and so to make appropriate and timely decisions. In this paper we present a monitoring tool that gives information about concentration of gases in raw milk. If the raw milk is stored for longer time the milk will rapidly develop the signs of spoilage like raw smell an off-white or yellowish tinge color due to the rapid growth of bacteria. Hence there is a need for monitoring system to detect and identify the spoilage of milk and produce a health product. Therefore this work helps in early detection of toxic substance in milk to produce a healthy product. The proposed prototype is an ARM based unit which measures the unwanted ingredients present in the tested milk with the help of Total Gas Control sensor.

***Keywords*— Gas sensor, ARM processor, pathogen, monitoring tool, toxic substance**

I. INTRODUCTION

The essential food of a human being is milk which has high calcium and carbohydrates which provide more stamina to human beings. The quality of food products is essential to the society as this leads to the development of urbanization.The objective of this proposed methodology is to design and develop the dairy product quality with high performance, low cost and real time smart sensing system for monitoring and detecting the microbial activity through ARM processor and Gas sensors. Food safety in rural and urban areas is a very important topic, as it closely affects the health of citizens. Hence, it is necessary to develop tools for real-time and smart sensing for quality monitoring, so and to make appropriate and timely decision.

II. BLOCK DIAGRAM & WORKING

The proposed system consists of various sensors and RF wireless units. The basic units are Sensory system which is directly exposed to the milk samples from 3cm distance where the responses of each sensor are observed from the milk surface. The gas sensor collects data samples from the Spoiled raw milk and this data is processed in the form of gas molecules. If the input data of the gas molecules is in the form of (parts per million) to voltage then by using the heating elements the above data is considered for the further process.

The voltage values are varying continuously according to the concentration of the spoiled milk where vapour gas molecules are represented with parts per million. The gas sensors are connected to the Microcontroller which presents the processing of the data values in the form of voltages and it is displayed by using the LCD Module. The tested raw milk shows the amount of spoilage which is to decide and compare the good raw milk voltage levels with spoilage raw milk voltage levels.It helps in early detection of toxic substances in milk. The concentration of volatile organic compounds (VOC) present in the head space of milk is obtained in real time.

ANALYSIS OF INSUFFICIENT LIGHTING IN SUBSTATION BY DIALUX SOFTWARE

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ABSTRACT-

The floodlighting in the Substation where the conventional lights were placed at different points. The project deals with a case study of flood lighting used in the Switchyard where lighting was not sufficient the substation chosen was of 220/132/66 KV. Flood lighting of the substation which was installed with conventional lights. Designing of the flood lights lighting scheme used in substation by using DIALux software. This software gives the layered structure of the whole system then it will help in selecting the no of lights required for the project will help in selecting the types, height, angle, development of LUX required for the project.

I. INTRODUCTION

Over centuries artificial lighting has made a significant progress from candles, gas to Kerosene Lamps to today's incandescent, fluorescent Lightings. As a result the overall operating cost of light has been reduced to 4.3 orders of magnitude since the 1700s [1]. The world uses 0.72% of GDP in the Light, World GDP of 63.12 T$ (USD). Which means 455 B$ in Lighting [2]. Hence Lighting should be such that will reduce the cost for that energy efficient Lighting is the best possible solution to reduce the overall cost. For that energy auditors and engineers are focusing on the use of energy efficient lighting devices which will help in the reduction in the overall cost of Lighting. Recent trends witness companies incurring a one-time cost to install LED lights in place of halogen bulbs, implement real time energy monitoring and measurement software tools, etc. Physiological changes that occur as a person ages include reduced pupil size, cloudier lenses, and reduction in the amount of photoreceptors that play a dominant role in low level lighting, all have a significant impact on visual performance as light levels decrease.

Because the physiology of the human eye is such that visual performance degrades as a person ages, implementation of lighting systems that can account for that degradation is critical[3].As the age of the ground staff varies from 20 years to 50 years the certain degradation in that Ferber is taken in to consideration and proper illumination is needed to be provided so that they would carry out the maintenance work and at the same time it is needed a proper lighting is essential for maintaining the security of the assets in the substation. In India the BEE is the prime institution which keeps the Lighting parameters into consideration hence the LUX is needed to be maintained accordingly. Yet the transmission companies need to maintain the proper LUX taking in to consideration various standards of Lighting as been specified in IS.

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BRIDGELESS SEPIC CONVERTER FOR REDUCTION OF RIPPLE CURRENT AND CONDUCTION LOSS

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ABSTRACT

In power electronic converters, active power factor correction circuits (PFC) are employed to correct the power conventional power factor correction SEPIC suffers from high conduction loss at the input bridge diode. To overcome this problem, a bridgeless SEPIC converter with ripple-free input current is proposed. In the proposed bridgeless converter, the input bridge diode is removed and the conduction loss is reduced. The input current ripple is reduced by means of an auxiliary circuit. The auxiliary circuit consists of an additional winding of the input conductor, an auxiliary small inductor and a capacitor. In this converter, the input current in a switching period is proportional to the input voltage and near unity power factor is achieved. Thus the proposed converter has the advantages of both reduction of ripple current and conduction losses which increases the efficiency of the converter and it is also capable of efficient power factor correction. The operating principles and the waveforms of the converter are analyzed and the performance of the proposed converter is verified by MATLAB simulations.

Keywords—**Bridgeless converter, coupled inductor, Power Factor Correction (PFC), Single-Ended Primary Inductor Converter (SEPIC).**

INTRODUCTION

According to the demand on high efficiency and low Harmonic pollution, the active power factor correction (PFC) circuits are commonly employed in ac–dc converters and switched-mode power supplies. Generally, these kinds of converters include a full-bridge diode rectifier on an input current path so that conduction losses on the full-bridge diode occur and it will be worse especially at the low line. To overcome this problem, bridgeless converters have recently been introduced to reduce or eliminate the full-bridge rectifier, and hence their Conduction losses.

A bridgeless boost converter is widely used in advantages of reduced input current ripple, but its output voltage should be higher than the peak voltage. Since the input current of the PFC buck converter has dead angles during the time intervals when the input voltage is lower than the output voltage, there is a strong trade-off between power factor and output voltage selection. On the other hand, a SEPIC PFC converter can provide a high power factor regardless its output voltage due to its step up/down function . The efficiency of these converters is improved by removing the input bridge diode. However, bulk input inductor or another LC filter is required to suppress the input current ripple.

SOLUTION FOR CEED USING HYBRID (FIREFLY-DE) ALGORITHM

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Abstract—

This project develops efficient algorithms by using firefly and differential evolution algorithm to minimize Economic Dispatch, NO_x Emission Dispatch and Combined Economic and Emission Dispatch problems in thermal power plant. The thermal power plants pollute air, soil and water. Due to this, the present energy production processes are not ecologically clean. The combination of fossil fuels gives rise to particulate materials and gaseous pollutants apart from discharge of heat to water courses. The three principal gaseous pollutants, namely carbon-dioxide, oxides of sulfur and nitrogen cause detrimental effects on human beings. This harmful ecological effects caused by the emission of particulate and gaseous pollutants can be reduced by adequate distribution of load between the plants of a power system. But, this leads to a noticeable increase in the operating cost of the plants. For successful operation of the system subject to ecological and environmental constraints, algorithms have been proposed for minimum cost, minimum NO_x emission and combined economic and emission dispatches. These are based upon quadratic type objective function and the solution gives the optimal dispatch directly. In the present work, a price penalty factor is introduced which blends the emission cost with normal fuel cost. This avoids the use of two classes of dispatching and the need to switch over between them.

Keywords—**Firefly Algorithm (FFA), Differential Evolution (DE).**

I. INTRODUCTION

The Resource scheduling problem is divided into two stages, the commitment stage and the constrained economic dispatch stages. The OPF constraints that are relevant to the active power such as transmission capacity constraints, different types of emission requirements (i.e. SO2 and NOx), emission caps for certain areas of the system and the total system emission as well as fuel constraints are considered in the formulation of the commitment stage to ensure the feasibility of the constrained economic dispatch stage. In the constrained economic dispatch, constraints corresponding to transmission capacity, load and reserve requirements as well as generating unit limits are incorporated. To obtain fast and efficient solutions, the constrained economic dispatch problem is decomposed into sub problems, each corresponding to constrained economic dispatch of committed units at a given period Economic power dispatch is a common problem pertaining to the allocation of the amount of power to be generated by different plants in the system on an optimum economy basis. Some of the states in India expertise severe power shortage for which optimization of fuel costs are not of current interest during peak load periods. But during lean load periods, economic dispatch reduced fuel cost and line losses. The existing energy production processes are not ecologically clean.

A SINGLE SWITCH NON-ISOLATED TRANSFORMERLESS DC-DC BUCK BOOST CONVERTER

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ABSTRACT:

A Transformerless buck–boost dc–dc converter is proposed in this paper. The presented converter voltage gain is higher than that of the conventional boost, buck–boost, CUK, SEPIC, and ZETA converters, and high voltage can be obtained with a suitable duty cycle. In this converter, only one power switch is utilized. The voltage stress across the power switch is low. Hence, the low on-state resistance of the power switch can be selected to decrease conduction loss of the switch and improve efficiency. The presented converter has simple structure, therefore, the control of the proposed converter will be easy.

I. INTRODUCTION

In recent years, environmental troubles, such as climate change and global warming by Increased emissions of carbon dioxide,are very important.

The Cuk converter (pronounced Chook; sometimes incorrectly spelled Cuk, Cuk or Cuk) is a type of DC/DC converter that has an output voltage magnitude that is either greater than or less than the input voltage magnitude.

The single-ended primary inductor converter (SEPIC) is a type of DC/DC converter allowing the electrical potential (voltage) at its output to be greater than, less than, or equal to that at its input.

Concepts in an isolated zeta converter is principle of operation and design in CCM.

The power factor of an AC electric power system is defined as the ratio of the real power flowing to the load to the apparent power in the circuit, and is a dimensionless number.

A hybrid fuel cell power system was proposed on published April 1, 2009 by Ke Jin, Xinbo Ruan,Mengxiong yang.It consists of a fuel cell, an isolated unidirectional converter, a bidirectional converter, an inverter, and a battery. A power management control scheme, which controls the bidirectional converter operating under buck, boost, or shutdown mode according to the operation condition of the fuel cell and battery, so that the battery can be charged or discharged.

AN INTELLIGNET DEMAND SIDE MANAGEMENT WITH RENEWABLE ENERGY INTEGRATION FOR SMART HOMES BASED ON TIME OF USE (TOU)

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Abstract—

Global energy demand is increasing rapidly in comparison to the steady growth of energy generation and transmission setups, thereby widening the demand-supply gap. In traditional grids, utilities cater this situation by increasing the total generation capacity as a function of peak demand. However, the resulted system by a large part is unutilized. Price based load management system consider flattening demand fluctuations as an objective. Both the customer and the utility will get the benefits. It encourages the customer to encourage peak demand in response to the incentives. The model is simulated in TOU pricing environment for three cases: (i) Traditional homes, (ii) Smart homes & (iii) Smart homes with RES. Simulation results shows that the proposed model optimally schedules the appliances resulting in electricity bill and peaks reductions, Real Time Pricing combined.

Keywords— TOU (Time Of Use), RES (Renewable Energy Sources), RTP (Real Time Pricing), EMS (Energy Management System).

I. INTRODUCTION

Renewable energy is the present and future source of energy. This project deals with hybrid energy which is a combination of solar and EB Grid. In this paper, we present a cost-efficient appliance scheduling model for residential users. Our appliance scheduling model aims at optimizing the operation time of electrical appliances. Results validate that the proposed model performs well in scheduling the household electrical appliances and provides benefits to the users by significantly reducing their electricity bills.

II. PRINCIPLE AND WORKING

A. *Principle*

The principle depends on the switching operation of the MOSFET. This automatically switches the source from solar to EB grid depending on the total power consumed by the load.

B. *Working*

When a stream of photons (i.e. light) falls on the photo-voltaic plate, it dislodges a few electrons that produces a current in its connected eternal circuit. This is used to supply the load initially.

FLYBACK CONVERTER FED CURRENT SOURCE INVERTER USING PHOTO VOLTAIC

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Abstract: *This paper proposes a circuit topology of a single-stage three-phase current-source photovoltaic (PV) grid-connected inverter with high voltage transmission ratio (VTR). Also, an improved zone sinusoidal pulsewidth modulation (SPWM) control strategy and an active-clamped subcircuit that can suppress the energy storage switch's turn-off voltage spike are introduced. The circuit topology, control strategy, steady principle characteristics, and high-frequency switching process are analyzed profoundly, as well as the VTR's expression and design criterion of the center-tapped energy storage inductor. The improved zone SPWM control strategy consists of two control loops, namely, the outer loop of input dc voltage of PV cells with the maximum power point tracking and the inner loop of the energy storage inductor current. The experimental results of a 3-kW 96VDC/380V50Hz3φAC prototype have shown that this kind of a three-phase inverter has the excellent performances such as single-stage power conversion, high VTR and power density, and high conversion efficiency. Nonetheless, it has small energy storage inductor and output CL filter, low output current total harmonic distortion, and flexible voltage configuration of the PV cells. This study provides an effective design method for single-stage three-phase inverting with high VTR.*

INTRODUCTION:

SOLAR photovoltaic (PV) electricity generation is not available and sometimes less available depending on the time of the day and the weather conditions. Solar PV electricity output is also highly sensitive to shading. When even a small portion of a cell, module, or array is shaded, while the remainder is in sunlight, the output falls dramatically. Therefore, solar PV electricity output significantly varies. From an energy source standpoint, a stable energy source and an energy source that can be dispatched at the request are desired.

Different scenarios for PV generation and load supply sequence.

As a result, energy storage such as batteries and fuel cells for solar PV systems has drawn significant attention and the demand of energy storage for solar PV systems has been dramatically increased, since, with energy storage, a solar PV system becomes a stable energy source and it can be dispatched at the request, which results in improving the performance and the value of solar PV systems . There are different options for integrating energy storage into a utility-scale solar PV system. Specifically, energy storage can be integrated into the either ac or dc side of the solar PV power conversion systems which may consist of multiple conversion stages.

Fig. 1 shows different scenarios for the PV generated power time of use. In case (a), the PV energy is always delivered to the grid and there is basically no need of energy storage. However, for cases (b) and (c), the PV energy should be first stored in the battery and then the battery or both battery and PV supply the load. In cases (b) and (c), integration of the battery has the highest value and the RSC provides significant benefit over other integration options when there is the time gap between generation and consumption of power.

A **solar inverter**, or **PV inverter**, converts the variable directcurrent (DC) output of a photovoltaic (PV) solar panel into a utility frequency alternating current (AC) that can be fed into a commercial electrical grid or used by a local, off-grid electrical network. It is a critical component in a photovoltaic system, allowing the use of ordinary commercial appliances. Solar inverters have special functions adapted for use with photovoltaic arrays, includingmaximum powerpoint tracking and anti-islanding protection.

Solar inverters may be classified into three broad types:

Stand-alone inverters, used in isolated systems where the inverter draws its DC energy from batteries charged by photovoltaic arrays. Many stand-alone inverters also incorporate integral battery chargers to replenish the battery from an AC source, when available. Normally these do not interface in any way with the utility grid, and as such, are not required to have anti-islanding protection.

Grid-tie inverters, which match phase with a utility-supplied sine wave. Grid-tie inverters are designed to shut down automatically upon loss of utility supply, for safety reasons. They do not provide backup power during utility outages.

Battery backup inverters, are special inverters which are designed to draw energy from a battery, manage the battery charge via an onboard charger, and export excess energy to the utility grid. These inverters are capable of supplying AC energy to selected loads during a utility outage, and are required to have anti-islanding protection.

MAXIMUM POWER POINT TRACKING :

Solar inverters use *maximum power point tracking* (MPPT) to get the maximum possible power from the PV array.[2] Solar cells have a complex relationship between solar irradiation, temperature and total resistance that produces a non-linear output efficiency known as the *I-V curve*. It is the purpose of the MPPT system to sample the output of the cells and determine a resistance (load) to obtain maximum power for any given environmental conditions. The fill factor, more commonly known by its abbreviation *FF*, is a parameter which, in conjunction with the open circuit voltage and short circuit current of the panel, determines the maximum power from a solar cell

Transformer Cooler Control Automation And Condition Monitoring System Using PLC And HMI Modules

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ABSTRACT –

Transformer plays a vital role in transmission and distribution system. There are many problems associated with power loss in transformer but this paper mainly focuses on efficient cooling system design. We have proposed an intelligent cooling system based on Programmable Logic Controller (PLC) which eliminates the problem of manual transformer cooling control system by automatically switching ON and OFF. This switching is PLC controlled and thus minimizes the errors caused by human intervention. PLC logic is used for controlling all the components which are involved in the cooling system control cubical of transformer and it also uses the component only when needed, this reduces the wastage of power and unnecessary operations. We have also focused upon proper utilization of standby bank by means of periodic switching. Human Machine Interface (HMI) can also be used for complete visualization of the process in the control room. Along with this, continuous monitoring and data recording is simultaneously done.

I. INTRODUCTION

In this world of technology, the demand for better and hassle free electrical energy is an absolute necessity. One of the most crucial roles played in supply of electrical energy is by the transformer. Without transformer the electrical energy generated at generating stations won't probably be sufficient enough to power up a city. Just imagine there are no transformers. How many power plants do you think have to be set up in order to power up a city? It's not easy and it's expensive. Transformer helps in amplifying the transformer output by stepping up or down the level of voltage and current. Over excitation leads to excessive flux which causes heating and increased current, noise and vibration. All devices that use electricity gives off waste heat as a byproduct of their operation. Transformers are no exception. The heat generated in transformer causes temperature rise in internal structure of the transformer. When the temperature of the transformer rises, oil level in the tank, decreases due to heating effect. If the oil level goes beyond marked level, it will affect the cooling and insulation of transformer. Insulation breakdown can occur between winding and earth, between phases and in between adjacent turns. These failures can also be due to some reasons like Natural deterioration due to aging , excessive heat and moisture, chemical deterioration, mechanical damage, sunlight and excessive voltage stresses . All these faults increase the heating and thereby increase the temperature of the transformer resulting in local hotspots and even the insulation failure. Failure of insulation is the most common cause of problems in electrical equipment. Initially, the degradation of insulation occurs slowly but increases at faster rate ,which leads to final failure of transformer. So, it is necessary to ensure proper working of cooling system when required. In this paper an attempt has been made to operate the cooling banks in a smarter way by using PLC. And also use of HMI is considered as an interface between the user and the machine.

II. LITERATURE SURVEY

DESIGN AND PROTOTYPE IMPLEMENTATION OF SYSTEM DETECTING MAINTENANCE EARTH ROD ON OVERHEAD LINES IN TRACTION NETWORK

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Abstract

Unlike transmission lines, Traction Over Head lines requires more maintenance. In metros it is even more complicated due as there exist structures above Over Head lines. During maintenance it is mandate to provide earth rods on Over Head lines to avoid electrocution due to induction voltage and false operation by operator. In metro system Energisation of Traction Over Head lines is done remotely through Supervisory Control and Data Acquistion (SCADA) system from Operation control Center by Traction Power Controller (operator). During energisation it is duty of Traction Power Controller (operator) to get confirmation from filed staff for removal of earth rod. There has been a regular incident of human error leading to energisation of Section with earth rods unremoved. This poses heavy risk for operation team and also stresses the system. Hence it warrants a system to detect the presence of earth rod on Section before energisation. The system proposed uses a electronic circuit to that injects a current in to the secondary of potential transformer which responds differently when the primary circuit is open circuited and close circuited. Based on the output of system designed Interlock in shall be provided in Remote Terminal Unit preventing Operation of circuit breakers.

INTRODUCTION

The events that brought about the signalling systems of today, the primary functions and technology of the signalling and the underlying design principles. It looks at the operation of The the railway as a system and in particular at the role of train control systems. This includes the role of Automatic Train Protection (ATP) in a modern metro environment, the application of automatic train regulation, and automatically driven trains protected by a moving block, radio based, signalling system. The need for synergy between the designs of the rolling stock and signalling systems is demonstrated by a review of current practice, and a way forward towards a more systematic approach is outlined. The role of signalling in gathering and disseminating information and the potential for integrated customer information management, the needs for management information and the potential benefits of improved real time maintenance information are outlined. Whilst written primarily from the point of view of a rapid transit railway signalling engineer the author makes use of some passing acquaintance with bigger trains and other technologies(1).

FAULT DETECTION IN DC MICROGRID SYSTEM

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Abstract—

A fault detection and isolation scheme for low-voltage dc-bus micro grid systems is presented in this paper. Unlike traditional ac distribution systems, protection has been challenging for dc systems. The goals of the proposed scheme are to detect the fault in the bus between devices and to isolate the faulted section so that the system keeps operating without disabling the entire system. To achieve these goals, a loop-type dc-bus -based micro grid system, which has a segment controller between connected components, is proposed. The segment controller consists of master and slave controllers that monitor currents and control the segment separation, which include solid -state bidirectional switches and snubber circuits. The proposed system can detect faults on the bus regardless of fault current amplitude or the power supply's feeding capacity. The proposed concepts have been verified by OrCAD/PSpice simulations and experiments on hardware test bed.

KEYWORDS — **DC distribution, fault protection, micro grids, solid-state switch.**

I. INTRODUCTION

Recently, many distributed power systems have been researched and developed, especially to meet the demand for high penetration of renewable energy sources , such as wind energy and solar . The distributed power systems have advantages, such as the capacity relief of trans-mission and distribution, better operational and economical generation efficiency, improved reliability, eco-friendliness, and higher power quality. The energy policy of many governments in the world competitively increases the requirement of the penetration of renewable energy resources and distributed generation (DG). For instance, in the U.S., California is trying to increase the usage of renewable generation up to 33% by 2020 and Colorado has set specific requirements for DG from eligible renewable energy resources.

The micro grid system is a small-scale distributed power system consisting of distributed energy sources and loads, and it can be readily integrated with the renewable energy sources. Due to the distributed nature of the micro-grid approach, the connection to the central dispatch can be removed or minimized so that the power quality to sensitive loads can be enhanced. Generally, they have two operation modes: stand-alone (islanded) mode and grid-connected mode.

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On the technologies empowering drones for intelligent monitoring of solar photovoltaic power plants

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Abstract

Monitoring of solar photovoltaic power plants is an essential task that could enable efficient operation and maintenance. Active control and regular maintenance will enhance the photovoltaic plant's output performance and helps in reasonable or better returns on the investments made. The process of monitoring is done by conducting manual inspections, but due to technological advancements, the manual checks were replaced by intelligent systems, centralized control, and monitoring systems, surveillance cameras, robotics, drones, etc. Drones are becoming more suitable for the solar industry due to a wide range of surveillance capability, long range inspection, efficient data logging capability, easy to control and access from the central level, etc. In this paper, the role of drones in solar photovoltaic power plants, and scope for enabling intelligence and automation in drones for the active monitoring and data logging is discussed. Various types drones and their configurations along with the dynamics are also considered. A study on the technologies behind the drone intelligence and automation were identified and discussed. From this study, it was found that Recognition Technologies (RT), Artificial Intelligence (AI), and Machine Learning (ML) could empower the drones and make the monitoring of large-scale solar power plants easier. This study could help the developers and researcher who are working on intelligent drones for specialist care of massive solar parks, unaccessible remote solar plants, etc.

Keywords: Drones; solar power plants; monitoring of solar plants; drones in the solar industry; intelligent drones; autonomous drones.

1. Introduction

In line with the population growth over the nations led to the expansion of industries and various utility level projects serving the needs of humanity for better living on this earth[1]. This expansion led to the exponential increase in energy demands across the globe contributing the significant share of electricity. It is a noted fact for all of us that

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Abstract

Monitoring of solar photovoltaic power plants is an essential task that could enable efficient operation and maintenance. Active control and regular maintenance will enhance the photovoltaic plant's output performance and helps in reasonable or better returns on the investments made. The process of monitoring is done by conducting manual inspections, but due to technological advancements, the manual checks were replaced by intelligent systems, centralized control, and monitoring systems, surveillance cameras, robotics, drones, etc. Drones are becoming more suitable for the solar industry due to a wide range of surveillance capability, long range inspection, efficient data logging capability, easy to control and access from the central level, etc. In this paper, the role of drones in solar photovoltaic power plants, and scope for enabling intelligence and automation in drones for the active monitoring and data logging is discussed. Various types drones and their configurations along with the dynamics are also considered. A study on the technologies behind the drone intelligence and automation were identified and discussed. From this study, it was found that Recognition Technologies (RT), Artificial Intelligence (AI), and Machine Learning (ML) could empower the drones and make the monitoring of large-scale solar power plants easier. This study could help the developers and researcher who are working on intelligent drones for specialist care of massive solar parks, unaccessible remote solar plants, etc.

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1. Introduction

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Survey on Energy Consumption Modeling Using Topology Controlling Methods for IoT Cloud Federation

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bstract – Sustainable Energy-Aware Resource Management, nvironmental data acquisition, Large-scale, cloud environment nd Bigdata are being driven by recent technological evelopments such as Internet of Things (IoT) and Web of Tings VoT). The efficient use of limited energy resources of multiple oud environment based applications, which is critically nportant to support these advance technologies. The application f topology control methods will have a profound impact on nergy efficiency and hence battery time period. In this survey, we ajorly focus on energy efficiency problem and present study of pology control techniques. Here, the IoT Cloud energy anagement strategy is presented for optimizing the allocation of calized smart sensors. The thought of IoT Cloud as a mesh of oT Cloud providers that is interconnected to provide a ecentralized sensing system and actuating environment where verything is driven by network protocol in a ubiquitous nfrastructure. In this system, a dynamic algorithm was able to nprove energy sustainability in an IoT Cloud ecosystem. The nedical cloud can distribute its own medical information to nedical IoT devices via access points. The proposed dynamic nergy-efficient algorithm computes particular amount of power llocation in each access point based on a buffer size and channel. he performance of the proposed algorithm is improved in terms f energy efficiency and it is observed to achieve desired erformance.

ndex Terms – Energy-Aware, Bigdata, Data acquisition, IoT, VoT, medical cloud, dynamic algorithm, mesh topology.

1. INTRODUCTION

The IoT is internetworking of physical devices embedded with electronics, software, sensors, actuators, and network connectivity that enable these objects to collect and exchange data. The IoT allows objects to be sensed and/or controlled remotely across existing network infrastructure,[4] creating opportunities for more direct integration of the physical world into computer-based systems, and resulting in improved efficiency, accuracy and economic benefit.[5] When IoT is augmented with sensors and actuators, the technology becomes an instance of the more general class of cyber-physical systems, which also encompasses technologies such as smart grids, smart homes, intelligent transportation and smart cities. Each thing is uniquely identifiable through its embedded computing system but is able to interoperate within the existing Internet infrastructure. Experts estimate that the IoT will consist of almost 50 billion objects by 2020.

Typically, IoT is expected to offer advanced connectivity of devices, systems, and services that goes beyond machine-to-machine (M2M) communications and covers a variety of protocols, domains, and applications. The WoT is a term used to describe approaches, software architectural styles and programming patterns that allow real-world objects to be part of the World Wide Web. Similarly to what the Web (Application Layer) is to the Internet (Network Layer), [1] the Web of Things provides an Application Layer that simplifies the creation of Internet of Things applications.[2] Rather than re-inventing completely new standards, the Web of Things reuses existing and well-known Web standards[3][4] used in the programmable Web (e.g., REST, HTTP, JSON), semantic Web (e.g., JSON-LD, Microdata, etc.), the real-time Web (e.g., Websockets) and the social Web (e.g., social networks).[6]

2. RELATED WORK

The emergence of the IoT almost certainly is the most important single development in the long evolution of energy management. The premise of energy management is controlling elements at a fundamental and granular level. In a world that is saturated in IoT devices, that control will be quite deep. The billions – and eventually trillions – of sensors and other devices that will create a mesh that will facilitate energy management services and procedures that would have been impossible otherwise. The IoT permits folks and things to be connected any time, any place, with anything and anyone, ideally utilizing any path/network and any service [5]. The IoT is anticipated to get massive volumes of sensor data [4].

As a result of the newest innovations in the computer hardware sector and therefore the reduction in hardware costs, large-scale data processing is turning into progressively economical.

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Design of Slotted Back to Back E-Shaped Microstrip Patch Antenna for Wi-Fi Applications

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[1,2,3] PG student, [4,5]Professor, Department of Electronics & Communication Engineering
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Abstract—**Micro strip patch antennas are widely used in wireless applications in recent years. The C-band frequencies of 5.4 GHz band [5.15 to 5.35 GHz, 5.47 to 5.725 GHz, or 5.725 to 5.875 GHz, depending on the region of the world] are used for IEEE 802.11a Wi-Fi and cordless telephone applications, leading to occasional interference with some weather radars that are also allocated to the C-band. The proposed slotted back to back E-shaped antenna designed for 29.4*29.4mm operates at a frequency of 5.4GHZ for C band application such as Wi-Fi. The substrate material of the antenna is Flame Retardant (FR-4), dielectric constant 4.4 and thickness 1.6mm. The basic theory and design are analyzed, and simulated using Advanced Design System Software ADS. The main objective of the work is to improve gain, return loss and radiation.**

Keywords— Slotted back to back E shape microstrip patch antenna, Wi-Fi, ADS, FR4

I. INTRODUCTION

In modern wireless communication systems, high data rate is required over band-limited channels. For the explosive growth of wireless system and booming demand for a variety of new wireless application, it is important to design broad band antennas to cover a wide frequency range. The design of an efficient wide band small size antenna, for recent wireless applications, is a major challenge. Micro strip patch antenna have found extensive application in wireless communication system wowing to their advantages, low – cost fabrication and ease of integration with feed networks. In this project, the design and development of slotted back to back E shaped patch antenna is fabricated for 5.4GHz frequency, reduction in return loss and increased gain for Wi-Fi application. Currently 5.4GHz has less traffic through use and it can handle more traffic more efficiently as the frequency gains in popularity, with the clear signal, more non over lapping channels and can offer higher speeds. However, narrow bandwidth is the major disadvantage for this type of antenna. The double back to back E shaped micro strip patch antenna is to optimize higher bandwidth. The list of WLAN channels is the set of legally wireless local area network channels using IEEE 802.11protocols.They have a five distinct frequency ranges; 2.4GHZ, 3.6GHZ, 4.9GHZ, 5GHZ bands. The IEEE802.16 WiMAX standard allows data transmission using multiple broadband frequency ranges. The original 802.16a standard specified transmission range 10-66GHZ, but 802.16d allowed lower frequencies in the range 2 to 11GHZ. Patch of the Microstrip antenna is made up of copper or gold and it can be of any shapes. It has radiating patch on one side of a dielectric substrate and ground plane on the other side as shown in fig.1

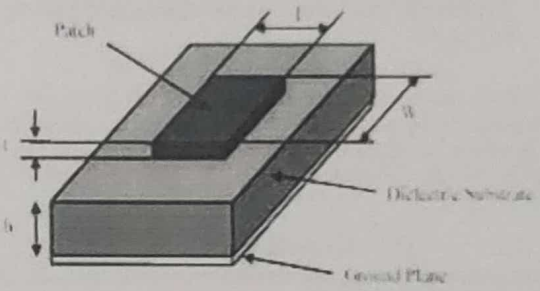

Figure 1. Structure of Microstrip Patch Antenna

Micro-Strip Patch Antenna is used as it has many advantages like its low-profile structure, less fabrication cost, supporting both linear and circular polarization. Thick substrate is used to increase the bandwidth of patch antennas.

Micro-strip patch antenna feeding is classified into two categories- contacting and non-contacting. The four most popular feed techniques used are the Micro-strip line, coaxial probe (both contacting schemes), aperture coupling and proximity coupling (both non-contacting schemes).

Microstrip patch antennas can be fed by a variety of methods. These methods can be classified into two categories contacting and non-contacting. In the contacting method, the RF power is fed directly to the radiating patch using a connecting element such as a microstrip line. In the non-contacting scheme, electromagnetic field coupling is done to transfer power between the microstrip line and the

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(3)

A Novel Approach for Distillation of Hard Water Using Photovoltaic Effect

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Abstract - The scope of this system is to use photovoltaic energy for distillation of water. A solar smokestack distillation system includes the Photovoltaic smokestack, photovoltaic collector, passive condenser, and evaporation system, was designed and constructed. The air in the collector after heating gets released at the base of the smokestack, now this dry air goes upward. By showering saline water into the hot air stream at the middle of smokestack the air is humidified. Now, the remaining vapors contained noticeable all around are dense to give desalinated water. The system is minimal in nature as it is easy to assemble and dismantle. It can be utilized for purifying rain water in summer under rain water harvesting. The cost of this system is low as we use country wood and recycled Aluminum jars.

I. Introduction

Desalination is a chemical process of converting seawater into fresh water. The two approaches for desalination of water are thermal distillation and membrane processes. The main thermal desalination process are multi-effect distillation, multistage flash distillation, vapour compression distillation and photovoltic distillation. In the last years, an exciting innovation has been introduced by researchers called — Photovoltaic smokestack. This project is of great significance for the development of new energy resources.

II. Literature Review

The use of advanced water treatment technology to application from research is limited by to implement research concepts prior to full scale design. Twelve key desalination-related papers from seven states outlined some type of state desalination research and implementation priority. Websites also are catalogued where appropriate. On a broad level, Reclamation's desalination investments are guided by institutional knowledge, and by key publications such as the Desalination and Water Purification Technology Roadmap (2003) and Desalination: A National Perspective (2008).

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A. Photovoltaic Desalination Methods

Direct and indirect techniques are the two basic methods used for achieving desalination of salt water. Photovoltaic desalination is a method which utilizes solar radiation to produce desalinated water. Based on this method different Photovoltaic desalination plants are developed. The main classifications are direct method and indirect method. A simple cycle that couples a Photovoltaic collector along with a distilling process is the basic mechanism used in direct method.

Photovoltaic desalination is a small-scale operation. Apart from same designs of Photovoltaic distillation (figure 1), the basic principle behind it is similar as such that the heat energy from sun evaporates freshwater from salt water. The water vapour after evaporation process in Photovoltaic distillation condenses on a glass covering and is collected in a condensate trough as freshwater. The covering transmits radiant energy and permits water vapour to condense completely on its inner surface. The brine solution is formed by the left out salt and un-evaporated water in the still basin which must be removed at required timings.

Photovoltaic distillation is frequently used in dry and barren regions where drinking water is less available. Based on the geographic location differing quantity of freshwater is produced by Photovoltaic distillation units. Photovoltaic stills (Figure 2) produced by Unisol Company are employed in many small distillation and desalination system.

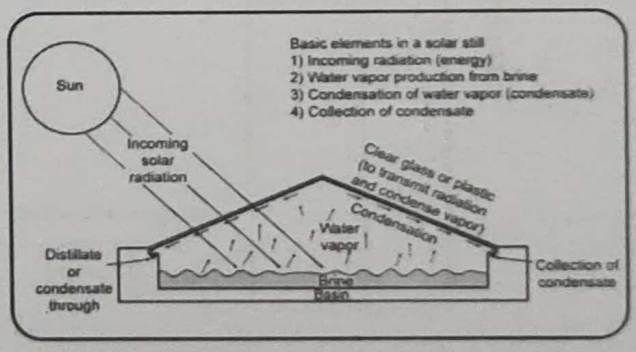

Figure 1: Example of a Photovoltaic distillation process. Source: MECHELL & LESIKAR (2010)

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www.jncet.org

Low Power High Speed Carry Select Adder Using GDI-MUX

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bstract – This paper discusses about the performance haracteristics of a Full Adder based Carry Select Adder using arious logics and also GDI-MUX technique. The adders are used many data path applications and also the area, power onsumption and delay in the design can be reduced. The roposed technique is the GDI-Mux which enables the reduction f above mentioned parameters and also reduce the number of ransistors. The Full Adder based Carry Select Adder designed in omplementary Pass Transistor Logic, Complementary Metal Oxide Semiconductor Logic and Gate Diffusion Input – Mux and hey are compared and the most efficient technique is identified.

ndex Terms – GDI Technique, Design of carry select adder for ow power and high speed VLSI applications.

1. INTRODUCTION

The history of transistor dates back to the mid1920s when devices to control current in solid-state diodes and convert them into triodes were attempted to be invented .Very-Large-Scale-Integration(VLSI) is the process of creating an integrated Circuit by combining thousands of transistors into a single chip. Before the introduction of VLSI IC's had only a limited set of functions they could perform. A well established domain in VLSI is low power design. It has undergone many changes through transistor sizing, clock gating, voltage scaling and so on. For many designs, power dissipation is as important as timing. Requirements for lower power consumption continue to increase significantly as components become battery-powered, smaller and require more functionality. Now a day's power is the primary concerned due to the remarkable growth and success in the field of personal computing devices and wireless communication system which demand high speed computation and complex functionality with low power consumption. The motivations for reducing power consumption differ application to application. The need for lower power systems is being driven by many market segments. The software used is DSCH and MICROWIND.

2. CARRY SELECT ADDER

Carry Select Adder is one of the fast adders. It reduces the propagation and can perform fast additions. A 4-bit Carry Selecy Adder is desinged using two Ripple Carry Adders and Multiplexers. The first 4-bit Ripple Carry Adder has "Zero" carry-in and the second 4-bit Ripple Carry Adder has "One" carry-in.

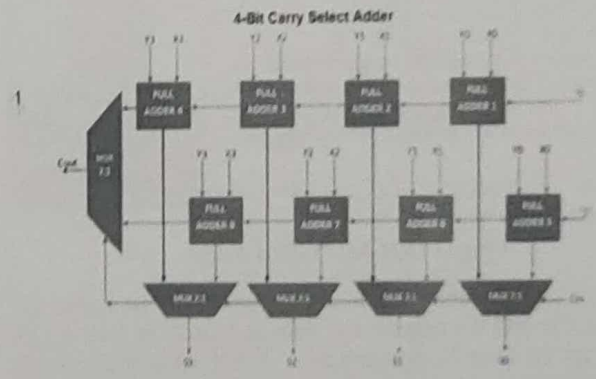

Fig. 1 Carry Select Adder

Four Multiplexers are used to determine the sum output of the Carry Select Adder and One Multiplexer to determine the Carry-out output . The Selection line to the Multiplexer is Cin. The block diagram of a Carry Select Adder is

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CSRR Loaded Microstrip Transmission Line with Stop band Characteristics

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Abstract – In this project, square shape vaselogo material also known as metamaterials is used to design the proposed microstrip transmission line. The metamaterials are artificial materials reflected by characteristics generally not present in nature. Metamaterial elements particularly used Split ring resonator and Complementary split ring resonator for simulation. A Complementary Split Ring Resonator (CSRR) Defected Ground Structure (DGS) is designed and etched on the ground plane mainly to reduce the coupling effect. The proposed CSRR loaded antenna is designed at height of 1.6 from ground plane for the operating frequency of 1-10GHz. The structure is designed on FR4 substrate and simulated using CST Microwave Studio. The simulated output of proposed structure produces three stop bands such as from 2.19GHz to 2.35GHz, 3.47 GHz to 3.8 GHz and 5.89 GHz to 6.33 GHz with resonant frequencies of 2.27GHz, 3.67GHz and 6.11GHz and insertion loss of -14.24 dB, -33 dB and -37 dB respectively. The proposed antenna is fabricated and analyzed with network analyser which found applications in filters with enhanced performance and miniaturization.

Index Terms – Metamaterials, SRR, CSRR, Vaselego Materials, CST Software, Microstrip line.

1. INTRODUCTION

Printed circuit board technology is used to design Microstrip line, a type of electrical transmission line. It is used to transmit microwave frequency signals. It consists of three layers namely conducting strip, dielectric substrate and ground. Dielectric layer called the substrate separates the conducting strip from a ground plane. Microstrip transmission line have unique characteristics and attractive features such as low profile configuration , light weight, compact in weight and low fabrication cost. This has major drawback of low power capacity, higher losses, low gain and narrow bandwidth. The drawback of microstrip line is overcome by using metamaterial.

Metamaterials are artificial structures designed to have properties not found in common materials. electromagnetic properties of Metamaterials can be chan something beyond one which is found in future. This wo combination of "Meta" and "Material", Meta is a Greek which means something beyond, altered, or cha Metamaterials with negative permeability (μ) and permi (ε), are called as left handed materials. Metamaterial was introduced by Victor Veselago in 1940. He discovered negative permeability and negative permeability prope metamaterials. Prof. John Pendry(1943) suggested the pra method for making metamaterials in 1999. W communication systems widely used Planar metama structure based microstrip antennas . The end result produ here is good radiation pattern of the antenna with reduced increase in bandwidth and multiple resonant frequency.

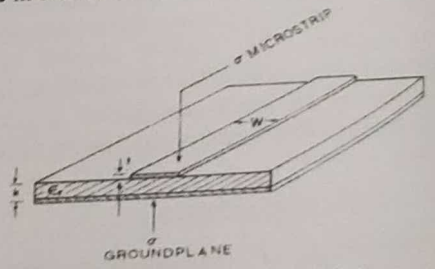

Fig: 1. Microstrip line structure

Split ring resonator and Complementary split ring resonator mostly used for metamaterial elements simulation. A split r resonator is an artificially produced structure common metamaterials. Desired magnetic susceptibility (magn response) can be produced in many types of metamaterials to 200 terahertz. The SRR was first proposed by J. B. Pend achieving negative value of permeability in resonant

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Support Vector Machine Based Data Classification to Avoid Data Redundancy Removal before Persist the Data in a DBMS

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[2]*Professor, Prathyusha Engineering College*

Abstract—**Data Base Management System is one of the growing fields in computing world. Grid computing, internet sharing, distributed computing, parallel processing and cloud are the areas store their huge amount of data in a DBMS to maintain the structure of the data. Memory management is one of the major portions in DBMS due to edit, delete, recover and commit operations used on the records. To improve the memory utilization efficiently, the redundant data should be eliminated accurately. In this paper, the redundant data is fetched by the Quick Search Bad Character (QSBC) function and intimate to the DB admin to remove the redundancy. QSBC function compares the entire data with patterns taken from index table created for all the data persisted in the DBMS to easy comparison of redundant (duplicate) data in the database. This experiment in examined in SQL server software on a university student database and performance is evaluated in terms of time and accuracy. The database is having 15000 students data involved in various activities.**

Keywords—**Data redundancy, Data Base Management System, Support Vector Machine, Data Duplicate.**

I. INTRODUCTION

The growing (prenominal) mass of information present in digital media has become a resistive problem for data administrators. Usually, shaped on data congregate from distinct origin, data repositories such as those used by digital libraries and e-commerce agent based records with disparate schemata and structures. Also problems regarding to low response time, availability, security and quality assurance become more troublesome to manage as the amount of data grow larger. It is practicable to specimen that the peculiarity of the data that an association uses in its systems is relative to its efficiency for offering beneficial services to their users. In this environment, the determination of maintenance repositories with "dirty" data i.e., with replicas, identification errors, equal patterns, etc.) goes greatly beyond technical discussion such as the everywhere quickness or accomplishment of data administration systems. The solutions available for addressing this situation need more than technical efforts; they need administration and cultural changes as well.

To distinguishing and manipulation replicas is essential to assure the peculiarity of the information made present by emphasizing system such as digital libraries and e-commerce agent. These systems may rely on compatible data to propose exalted profession benefit, and may be inclined by the existence of replica in their repositories. A Hereditary Scheme (HS) approach was used to register deduplication [1]. The problem of find out and destroy replica entries in a repository is known as record deduplication [2]. This approach bind several dissimilar portion of attestation extracted from the data content to exhibit a deduplication function that is capable to recognize whether two or more entries in a database are replicas or not. Since record deduplication is a time consuming work even for small databases, our scope is to encourage a process that predicting a peculiar combination of the best pieces of evidence, thus yielding a deduplication function that improves the performance using a method to compare the corresponding data for training process. Finally, this function can be applied on the entire data or even applied to other databases with similar characteristics. Moreover, modern supplemental data can be entreated similarly by the suggested function, as long as there is no unexpected deviate in the data patterns, something that is very important in huge databases. It is valuable consideration that these (arithmetical) services, which can be considered as a combination of several powerful deduplication regulations, is easy, fast and strong to calculate, permit its effectual technique to the deduplication of huge databases. By record deduplication using HS approach that generates gene excellence for each record using genetic operation. If that gene value equal with any other record that record was considered as a duplicate record. These trading operations are to increase the characteristic of given record. Genetic Operations are Reproduction, Mutation and Crossover [1]. From this, it can be understand that genetic operations can impact the performance of the record deduplication task. From the experimental results it can be concluded that the significant difference among the various efforts required obtaining suitable solution. The main contribution of the existing approach is to eliminate the record duplication.

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SENTIMENT CLASSIFICATION ON SOCIAL NETWORK DATA

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ct:

do the people think?" is an important factor that is needed to be considered during the decision making process. analysing the sentiments of the people are more important. Sentiment analysis is particular to a topic. I.e., ers can perform well only on a particular topic. If the topic differs classifiers may not be able to perform well. considered to be a major drawback in the case of sentiment analysis on social network data. Social network data ed and this increases the complexity on classification of data. An universal labelling of data are more complex on er hand. Sentiment classification of data aims at analysing and classifying the various diversified data to ne whether the data falls under positive, negative or neutral category. Sentiment analysis mainly deals with ning the polarity and the classification of emotions. Classification involves the process of splitting up the data and non-text features. Further the algorithms are used to classify the data. Classification involves in two process larity classification and emotion classification. Finally, a visualization graph is drawn to visualize the ation.

ds: Social media, sentiment classification, svm, naive Bayes.

luction: Sentiment analysis is the process of analysing the opinions , feelings and attitude of the speaker about a r product, topic, task, organization etc. Hence, it is known as opinion mining. The growing social media has the people to post their emotions, feelings and suggestions as comments. The opinions of the people not only he emotions but also have business values. But, it is an complex to find out the overall opinion and suggestions ople. To classify their opinion, we need sentiment classification system which would drastically reduce the work man and would classify huge number of social network data.

Estimation of Association Summarization Techniques Performance in Prediction of Diabetes Mellitus

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bstract – Diabetes is a menacing disease which is evolving as a hallenge for human life irrespective of age groups. In order to educe severe complications and mortality rate, prediction of iabetes in earlier stage has become mandatory. So the health re institutions all over the world are concerned in predicting nd monitoring the risk factors by using different association le techniques. To surpass the influential demerits such as data edundancy, less data space coverage which were encountered so r, an extension method of incorporating diabetes risk factors to roduce an optimal summary is carried out. In this paper, arious summarization techniques are studied and a mparative evaluation on the performance of each algorithm is erformed to suggest an algorithm with high accuracy.

dex Terms – Association rule summarization techniques, Data edundancy, Risk factors, Data space coverage.

1. INTRODUCTION

iabetes Mellitus is a disease which is caused due to lack of nsulin production from pancreas or lack of cell response to e produced insulin. If diabetes is not treated earlier, it may ad to severe complications. According to recent report by entres for disease control out of 30.3 million people, 23.1 illion people have been diagnosed with either Type1 or ype2 diabetes. Diagnosing Diabetes manually is a mplicated task. Hence, data mining techniques are used to edict prevalence of the disease.

ta Mining plays an important role in processing the huge mount of dataset and extract valuable information from em. This information is converted into useful knowledge hich should be understandable in nature. Data mining clude different techniques such as Clustering, Classification, ediction, Association, Sequential patterns etc. Clustering is process of grouping the data with similar features. Hence data within a cluster is similar and dissimilar to the data in other cluster. Classification is used to analyze a new set of a and predict the group to which the data is belonging. The rpose of prediction is to identify the relationship between pendent and independent variables. Sequential pattern alysis is used to uncover similar patterns that existing in a transaction over a period. Those patterns are useful in business decision making. The Association rule mining generates .rules from the frequently occurring factors in a transaction. Association Rules generated from diabetes risk factor also provide justifications, which may serve as a guide for diabetes care .Data mining is used in various domain such as healthcare, Bioinformatics, Finance, Business in order to improve the performance in future, reduce the cost, enhance the efficiency and accuracy.

2. BACKGROUND KNOWLEDGE

2.1 KDD Process

Knowledge Discovery from Database in shortly known as KDD. The main objective of KDD process is to explore useful knowledge from large databases and predict the interesting patterns among them. KDD is an iterative process in which the following steps are repeated until an interesting, understandable pattern is obtained.

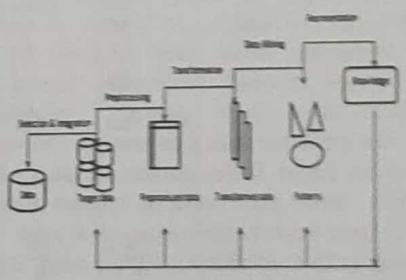

Fig 2.1.1 Steps involved in KDD

The steps involved in KDD process are as follows,

Initially develop an understanding on the domain and create/select a dataset. Later follow the steps given below,

- Data Pre-processing and Cleansing- the noise data, missing data and outliers are handled in this step.

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A Billing Scheme of Tollbooth in Service Oriented Vehicular Network

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bstract – In this paper we have proposed to billing scheme of llbooth in service oriented vehicular network It is an emerging chnology is built and improve the safety. The VANETs – hicular Ad-hoc network is a most important role for mmercial services. The vehicular network is works with an ore fective and good approach. I toll requirement is essential to ntrol fine grained, I our main aim is clear the billing issue and dress with safely, privacy using VANETs, in proposed scheme long access delay of the centralized novel AAA architecture. In gh security billing and control access for encryption ensure e- grained the valid electronic currency are to authorized to ess the requested services, in our system to high security non id electronic currency prevention, analysis and simulated h demonstrate using AAA architecture with centralized and entralized method for scalability improve for service entation VANETs.

ex Terms – Secure billing, VANETs, Electronic currency, urity, Access control devices.

roduction

VANETs - vehicular Ad-hoc networks is one of the most ular networks for access with security and privacy tion used for industry and academic as well as researcher. the Dedicated short range protocol to communication g standard IEEE802.11p worked with group munication protocol, the VANETs is used for munication is classified in to two various types one is V - vehicle to vehicle and another is V to I- Vehicle to structure, in purpose Road access unit(RAU) is function nsferred the data to gateway. VANETs application is ed to service in vehicular network for commercial, s to vehicular network into practice emerging challenges be consider. In VANET address in security issue is rd IEEE609.2 for security and vehicular network such ludes billing process and authentication.

ovel based AAA architecture is widely adopted for high and authentication in standard IEEE EAP /802.1X for authorization "New research challenges, especially aspects of security, user privacy, and billing. In this we first identify the key requirements of authentication, privacy preservation, and billing for service delivery in vehicular networks"[1]. "The standard covers methods for securing WAVE management messages and application messages, with the exception of vehicle-originating safety messages" [2]. "Lightweight authenticated key establishment scheme with privacy preservation to secure the communications between mobile vehicles and roadside infrastructure in a VANET is proposed" [3]. We are proposed a portable billing machine with fine-grained control to access with privacy and security to use of E-coin to achieve location authentication.

Motivation of Research

The current security mechanisms in VANETs are used in service oriented VANETs to access centralized billing system. The security is the important criteria for billing system and identification in road side units. He hole authentication is described in standard IEEE802.1x its required for delay up to 750-1200 Ms for long time authentication due to the long roundtrip passing signal between the AAA server to RAU. The final end of the problem if any other occurs in the common server to large scale vehicular network (8). Centralized AAA architecture it is one of the lead a high packet low loss ratio and lower customer satisfaction in this disadvantage overcomes to utilize our localized security scheme in VANETs.

The managing of service provider (SP) et the offer from service resources like security and privacy issue because is belong to government in GSB trusted, in service provider (SP) to offer some services to vehicle including location based service, multimedia and content services. The government is maintained information storage units with well equipped to subordination with RAU. The RAU is the gateway for information delivering in particular vehicle with use of SPs and GSB. Every vehicle having he separate onboard unit (OBU) to communicate with RAU for the purpose of moving vehicle identification. The DSRC protocol is majorly used for communication.

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A SURVEY ON SENTIMENT ANALYSIS

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Abstract - The growth of web 2.0 provides a great medium for people to share opinions, comments and emotions. Web Opinion Mining or Sentiment analysis is one of the tasks in text mining that aims to develop system to automatically extract, identify and classify user's opinion from text written in natural language, user generated content or user generated media. Organizations are interested to get feedback on their products and customer service for business intelligence. Individuals are also interested in other's opinion for decision making. This survey presents the details of recent works available in the literature for the field of Sentiment Analysis. The existing techniques are grouped into categories based on the methods. The aim of this survey is to provide a summary of current research activities on this area and implementation of various useful techniques applied on sentiment analysis.

Keywords: Machine Learning,Natural Language processing,NavieBayes,Opinion Mining, Sentiment Analysis,SVM

1. Introduction

Today reviews or comments plays an impact on customer procuring through e-commerce websites. This sharing provides attitude, emotion, or reaction about customer. The comments may be about goods, or services or any related things. To make decision on the availability of opinion rich and huge volume of information (Example comments in Amazon, Flipkart, Twitter, Facebook etc.,). we need an intelligent system for learning opinions. This analysis is known as Sentiment Analysis or Opinion Mining. It will help the individuals, Organizations, and Government to know what the attitude of public about their particular product or service is [12] [48]. Opinion mining is a task which combines Natural Language Processing (NLP) and machine learning techniques to analyze text as positive, negative or neutral. For example," I had an Intel XOLO Q1100 for about 2 years. It works brilliantly, durable and reliable. Its display is beautiful and the phone is fast and perfect size to fit into my pocket", is a positive opinion. Opinions may be Direct and Indirect. The expression of sentiment on some objects is referred as Direct Opinions. For instance," Sony Xperia S is excellent phone with excellent Camera Quality and Gaming", is a positive opinion for Sony mobile phone. Indirect opinions are comparing two or more objects with similarities and differences. For example, "Intel XOLO Q1100 is far better than iPhone. I look at the customization, ease of use, menus, and speed everything". In the above example, the author compares the features of mobile phones.

Subjectivity Detection is a technique to determine opinion as subjective or objective expression from a piece of text. For instance, (1) Digital Camera is a good device for taking photographs. (2) The quality of picture on this camera is good. Both the sentences contain sentiment bearing words good, despite first sentence is an objective or factual sentence (i.e., does not convey any sentiment) whereas second one depicts opinion about that camera, is a subjective sentence. Sentiment Classification is to organize the subjective sentence as positive, negative or neutral from the document, also known as polarity classification. Sentiment Summarization provides sentiment summary at aspect level.

The applications of Opinion Mining are: Brand Sentiment analysis helps to understand the tastes, preferences and customer patterns by mining unstructured data from blogs and social media. Competitor analysis is also important for organizations to compare with their peers and able to know their strength and weakness of their products. In marketing intelligence, business organizations collect feedback from customers through email or social media and analyze which aspects of the product or service they are having difficulty. This type of analysis is known as complaint analysis which detects new problems faced by the customers. In Audio and Video processing, opinion mining procedures are used as an input feature for text to speech synthesis, and online video analysis. In Financial industry, opinion mining is used to predict stock market and to analyze it. Government will take decision based on opinion polls collected from social web sites to know their strength and weakness.

Major challenges are addressed in various research works [12] [48] [61] [65]: Entity Identification is an important task in opinion mining. A sentence may contain multiple entity, the opinion mining system needs to identify on which entity the opinion is expressed. Opinion Holder Detection is a task of detecting opinion topics

MEASUREMENT OF CRACK DETECTION IN CONCRETE IMAGE USING IMAGE PROCESSING TECHNIQUES

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Abstract: The cracks arriving in the concrete surface due to atmospheric effects such as stains, climate etc. The aim of crack detection is to be monitored and identify the crack to prevent damage very effectively. The image can be processed and displayed by using image processing techniques.

The crack detection is useful for predicting the level of damages on concrete surfaces. Conventional crack detection can be performed by manually sketches the pattern of cracks; however, such detecting algorithms had higher cost in nature. Then the automated detection of cracks techniques have been introduced to optimize the resources using image processing methods which concentrates on to maintain accuracy of the detected cracks as well as the time required for computation that is more useful for practical purpose of digital image. The boundaries of crack image on a concrete structure are detected by involving various easier algorithms used for image processing that includes the Pre-processing i.e. by using a simple filters to remove an unwanted noise and equalization is done through Histogram technique. Thus the proposed method is not much complex[1] to execute and maintain the accuracy that implies the detection of crack on the concrete structure is very simple in practical life.

Index Terms - Crack image, Segmentation, Conventional crack detection, automated crack detection, Pre-processing, Histogram equalization

I. INTRODUCTION

The cracks arriving on the concrete structure due to stains, stress, climate etc that reduces the stiffness and cause material discontinuity. Thus the crack on the concrete structure image can be detected using some simpler image processing algorithms/ techniques. Image acquisition is the first step in image processing to convert the analog image into digital by sampling and quantization processes. Pre-processing has been done next to remove noise and degradations in a concrete structure image. Colour image processing and image resolution can be presented by a graphic display with quality and accuracy detail. In segmentation the image is partitioned into several non-overlapping regions which are used to extract the crack characteristics from the concrete structure and background regions. Surfaces of crack boundary can be extracted, modelled, manipulated, measured and visualized based on the partitioning results. Therefore, to develop reliable image segmentation methods for crack on concrete structure has the priority by the other research groups. The crack boundary can be analyzed and detected using computers as a first step. In the literature, the performance of segmentation becomes complicated and does not provide sufficient information when the magnitude of the image gradient is used. Thus, to improve the quality of the image segmentation the proposed histogram equalization technique is used rather than the gradient magnitude.

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A Novel Segmentation Technique For Carotid Artery

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Abstract— **In this paper various performance metrics of IT (Intima media thickness) measurement and common rotid artery segmentation is discussed. The main intension this paper is to explain how intima media thickness of a mmon carotid artery is measured using ultrasound B-mode ages semi automatically. Atherosclerosis is a disease of an tery. To evaluate the risk in the development of herosclerosis the IMT, is the important indicator. This chnique robust the difficulties in the existing techniques to prove the accuracy and efficiency in Image segmentation.**

Keywords: **Medical imaging, Ultrasound imaging, Internal d External carotid arteries, Image segmentation, IMT, herosclerosis, CCA, Speckle reduction filtering, RANSAC.**

I. INTRODUCTION

The purpose of segmentation is dividing the pixel of nage into meaningful region or groups it. It is mainly ased on the image measurements. It partitions a digital nage. The process which assigns the name to each and dividual labels. The labels which are named with same entification can share their characteristics. The haracteristic may be the image colour, texture or intensity.

The set of meaningful region denotes the entire image. he labels which are close to each other have the different haracteristics. In medical applications these image egmentation is used to generate the 3D reconstructions. he above 3D reconstruction can be done with the use of lgorithms, generally using interpolation algorithm.

The blood is supplied to the organs through the blood essels. Especially carotid arteries which are present at the eck supplies the blood to brain, neck and face. Carotid rtery is classified into two types. One is present at the left nd another one is present at the right. At the neck, each lood vessel is divided into two: Internal blood vessel upplies blood to the brain. External blood vessel supplies lood to neck and face.

Like all other arteries, carotid arteries also made up with hree layers of tissues:

. Intima
. Media
. Adventitia

The major branch point of carotid artery is carotid sinus; t contains blood pressure regulating sensors.

Fig1 : Carotid Artery

Atherosclerosis is a condition in which an artery wall becomes thick as the result of a formation of fatty materials like cholesterol. The arterial wall becomes thickened in the Intima and may extend into flowing blood. This thickened area of the artery is called a plaque. The deposition of Lipid in the Intima of the blood vessel forms an arteriosclerotic plaque may also manifest fibrosis and calcification (hardening of the arteries). Severe atherosclerosis leads to narrowing of the artery and may cause hypertension.

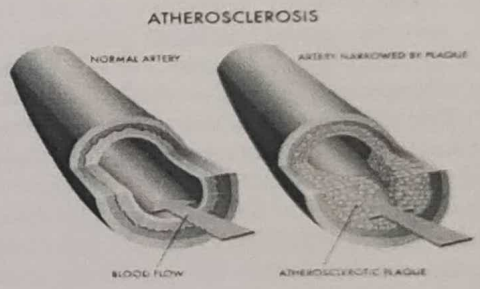

Fig2 : Atherosclerosis Disease

The molecules are created due to the lining of artery that keep blood moving and prevent the formation of blood clot. However, an atherosclerotic plaque may breach or causes ulcer that leads to development of blood clot in the carotid artery. The blood clot travelling to the brain from the carotid is called as an atherosclerotic plaque and eventually, the artery becomes provoked. The muscle cells get enlarge due to the cholesterol and form a hard cover over the affected area. The narrowing of the artery is caused by this hard cover and reduces the blood flow and the blood pressure gets increases.

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VOICE RECOGNITION ROBOT USING HC-05

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bstract

his paper proposes a system where the human voice is key urce to direct devices. With the support of an android plication, control of any real world device is achieved by cognizing human voice commands and then processing it. The ntrol of a robot is achieved by the simple use of an proficient ntrol system utilizing the Arduino microcontroller board, the luetooth module and an easy user interface based android ice application. This shows that it is feasible to efficiently fluence and automate the real world activities using human ice as a control mechanism.

ywords: **Voice command, Bluetooth, Android Interface, rduino Uno**

INTRODUCTION

he main objective of our project is to minimize the cost d power consumption which involves more efficient, ccessibility and manipulation of objects. Now-a-days, smart hones are becoming more powerful, larger storage apacities and effective communication method. Usually luetooth technology is mainly used for data sharing; and lds a new attribute to our mobile phones. People use digital chnology in home or office, and has replaced conventional ired digital devices into wireless devices. A host Bluetooth evice is capable of communicating with upto 7 Bluetooth odules at same time through one link. Bluetooth chnology and other similar techniques have considerably creased the smart phone users. Smart mobile phones have ogressively turned into an all-purpose portable device and ovide people for their daily use.

recent years, Android open source platform has been used idely in smart phones. Using smart phone as brain of robot already an active research field with several open pportunities and promising possibilities. This paper esents a review of current robots controlled by mobile one and discusses a close looped control systems using audio channels of mobile devices, such as phones and tablet computers. In this work, the robot in made to move (forward, backward, left & right) by the android application.

2. PROPOSED WORK

The purpose of our work is to provide simple robots hardware architecture with powerful computation. This simple architecture of robot is also useful for education purposes, because students can build their own robots with low cost and use them as platform for experiments in several courses.

3. TASK OF ROBOT

A robotic car is constructed and it is controlled through voice commands. These types of systems are called as Speech Controlled Automation Systems.
The fundamental tasks that a robot can do are:-

1. Move forward
2. Move back
3. Turn right
4. Turn left
5. Stop (stops current job)

A. *ARDUINO UNO (ATMEGA 328p)*

The microcontroller board used in this work is Arduino Uno (ATmega328P) consisting of 14 digital I/O pins (6 can be used as PWM outputs), 6 analog inputs (A0-A5), a 16 MHz crystal oscillator frequency, a USB connection, a power jack, an ICSP header, and a reset button. The Arduino Uno converges from other foregoing boards for the reason that it does not use FTDI USB-to-serial driver chip. To process both analog and digital signals, the Arduino Uno has an integrated Analog to digital convertor. To store code, the Atmega328p has 32 KB of flash memory (0.5 KB is used for boot loader), 2 KB of SRAM and 1 KB of EEPROM. Arduino Uno has an operating voltage of 5V and a recommended input voltage of about 7V-12V. However, the Arduino Uno does not have a current driving capacity to drive all the DC motors attached to it, therefore requires intermediary motor driver. The 14 digital I/O pins on the

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DETECTION OF CHROMOSOME ABNORMALITY USING IMAGE PROCESSING TECHNIQUE FOR HUMAN CHARACTERISTICS

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tract: The proposed system classifies the human chromosomes and detects chromosomal abnormalities automatically without an supervision. Chromosome image is acquired and processed, features are extracted and Linear Vector Quantization classifier is for classification. LVQ are multiclass classification algorithm by which it improves accuracy and another advantage in LVQ is algorithm complexity can be adjusted during training. Chromosome abnormality is a missing, extra or irregular portion of mosomal DNA. There are two types of chromosome abnormality they are numerical abnormality and structural abnormality. ad of 46 chromosomes there might be 45 or 47 chromosomes is type of abnormality is called numerical abnormality. Structural rmality occurs when there is a change in the structure or components of a chromosome. In this work only numerical abnormality tected. The chromosomes are classified according to their length, width, area, entropy, standard deviation and are compared with rmal. This system helps in identifying the chromosome abnormality and detects genetic disorders in infants.

Terms - **Matlab, DNA, FIR, IIR, ROI, LVQ, PCA.**

RODUCTION

Chromosomes are several threadlike bodies, it consists of chromatin, which carry the genes. The human being has 23 pairs of osome i.e., 46 chromosomes, arranged from 1 to 22 in order of decreasing size and XX and XY for the female and male sex osomes respectively. The chromosome consists of protein and a single molecule of DNA that is carried over from parents to . DNA contains the specific information which makes every living creature unique. A Chromosome band is defined as a section chromosome, which shows comparatively darker or lighter stain as compared to the adjoining sections of the identical osome. All the twenty four pairs of chromosomes comprise a particular band pattern. The entire chromosome has many nts. The chromosome is typically divided into two arms "short arm" and a "long arm" of the chromosome. The short arm, is the half of the chromosome, is identified as the "p arm." The long arm, which is the lower half of the chromosome, is known as the ." In between p arm and q arm there appears a center part called as centromere.

ETHODLOGY

K DIAGRAM

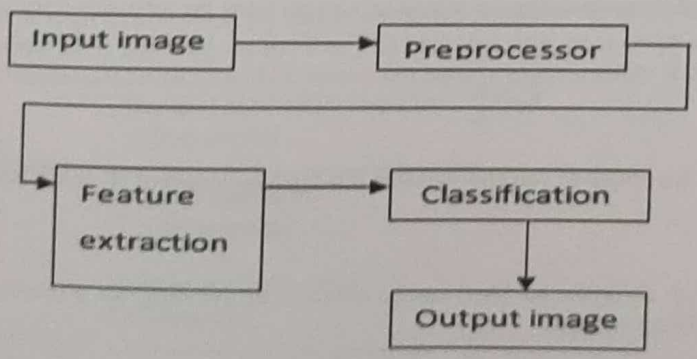

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Image Forgery Detection Using Blind Detection

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ABSTRACT: Today manipulation of digital images has become easy due to powerful computers, advanced photo-editing software packages and high resolution capturing devices. Verifying the integrity of images and detecting traces of tampering without requiring extra prior knowledge of the image content or any embedded watermarks is an important research field. An attempt is made to survey the recent developments in the field of digital image forgery detection and complete bibliography is presented on blind methods for forgery detection. Blind or passive methods do not need any explicit prior information about the image. First, various image forgery detection techniques are classified and then its generalized structure is developed. An overview of passive image authentication is presented and the existing blind forgery detection techniques are reviewed. The present status of image forgery detection technique is discussed along with a recommendation for future research.

KEYWORDS: JPEG Compression; Quantization; Quad tree; Discrete Cosine Transform; k-dimensional tree; seed region.

I. INTRODUCTION

Nowadays, it has become easier to duplicate and manipulate such content without degrading the quality because of the development of increasingly sophisticated digital processing tools. In addition, computer graphics can now generate images with a photorealistic quality level, so it is expected that confidence in the reliability and veracity of digital images or videos will decline. The potential negative impact on some applications (e.g. criminal investigations) is obvious; therefore image or video forensics is becoming increasingly important.

Tampering with, or forging, an image involves making subtle changes to the image's gray levels. Generally, such changes are imperceptible to the human eye, but some tiny variations can be detected by computer processing techniques. Generally, the most commonly performed operations in image tampering are: Deleting or hiding a region in the image, adding a new object into the image, Misrepresenting the image information, Region duplication or region cloning is a very common practice of image tampering, where a continuous portion of pixels in an image are pasted to a different location to conceal undesirable objects or contents in the original image.

In recent years, several methods have been proposed to detect region duplication for the purpose of image forensics. These methods are based on finding pixel blocks that are exact copies of each other in an image. Such methods are most effective for the detection of region copy-paste, where a region of pixels is pasted without any change to another location in the image.

II. RELATED WORK

In [1], authors describes a novel multipurpose watermarking scheme, in which robust and fragile watermarks are simultaneously embedded for copyright protection and content authentication. On the other hand, for the purpose of image authentication, this approach can locate the part of the image that has been tampered with and tolerate some incidental processes that have been executed. In [2], authors exposited image processing units that inherit images in raster bitmap format only so that processing is to be carried without knowledge of past operations that may compromise image quality (e.g. compression).Hence, to carry further processing, it is useful to not only know whether the image has

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IDENTIFICATION OF HUMAN EMOTIONS USING ECG SIGNALS

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Abstract— Emotions are defined as a psychological state that occurs naturally without any sensible effort and there is physiological changes. The cognitive process, physiological arousal, motivational tendencies, and behavioral reactions are responsible for emotions. Emotion is complex feeling which results in physical and psychological changes that influencethought and behavior. Emotion modelingplays a vital role in psychology,cognitive science and engineering. The main objective of thiswork is to recognize the emotional states of human beingsusing ECG signals, which will be useful in the field of medicine, education, entertainment, education, etc. This work determines the emotional state basedon empirical mode decomposition for the detectionof emotion patterns on ECG. The emotions are classified based on the Intrinsic Mode Functions (IMF)**and the local oscillation within every mode. For efficient classification of ECG signals the noise is removed by using Fast Fourier Transform (FFT).**

Key terms: ECG, Emotion detection, empirical mode decomposition

1. INTRODUCTION:

Emotion refers to the intellectual and behavioral strategies people use to stimulate their own emotional experience. It is the general term for subjective, conscious experience that is characterized primarily by psychophysiological expressions, biological reactions and mental states. Emotion is often related andcommonly influential with mood, temperature, personality, disposition and motivation. Emotions are important in many different areas including rational decision making and purposeful behavior. Emotions are complex set of interactions among subjective and objective factors, mediated by neural/hormonal systems. Emotions can cause affective experiences such as feelings of arousal and pleasure, generate cognitive processes, active widespread physiological adjustments to arousing conditions and lead to behavior that is often expensive, goal directed and adaptive.

People's emotional state can be accessed through processing various signals. Physiological measures are often obtrusive and, hence, disregarded for user-centered applications. Human emotions are psychophysiological experiences that affect all aspects of our daily lives. Emotions are complex processes comprised of numerous components, including feelings, bodily changes, cognitive reactions, behavior, and thoughts. Various models have been proposed by considering the ways in which these components interact to give rise to emotions, but at the moment there is no single formulation that is universally acceptable. Modeling emotions is a very challenging problem that has drawn a great deal of interest from the emerging field of human-computer interaction. The objective is to design systems that can automatically identify emotional states, which would revolutionize applications in medicine, entertainment, education, safety, etc. The main difficulty in formulating these models lies in the fact that we must rely on visible manifestations of emotions to produce and verify them since the latent factors that generate emotions are unobservable. The word labels used are joy, sadness, surprise, anger, fear, etc.

2. METHODOLOGY:

The proposed consists of four steps. The first step is the synthesis of ECG signals, in which an ECG signal is generated. The dataset used in this work is from the physionet ECG data base. The synthetic ECG signal is generated from the raw data of the ECG signal. The second step is to remove the noise from the synthetic ECG signal. Thus for accurate

INTELLIGENT PLANT CARE AEROPONIC USING IOT

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Abstract— Aeroponics is the recent advancement in the modern organic plant culture. In this process of culture nutrient rich air or mist is used as the growing medium. Plants are grown on a solid cloth or equivalent membrane like holding medium and which takes the nutrients from the spray or mist given to the roots. A minimum support of the plant to the holding medium is ensured in order to avoid pathogen and other cosmopolitan microbe growth. Aeroponics provide fast and efficient food production. In this phase, design has been shown through a proteus software.

Keywords: *Aeroponics, Hydroponics.*

I. INTRODUCTION

Implementation of modern organic plant culture in n air or mist environment without the use of soil or n aggregate medium (Aeroponics). Aeroponic culture differs rom both conventional hydroponics, aquaponics, and in-itro (plant tissue culture) growing. Unlike hydroponics, hich uses a liquid nutrient solution as a growing medium and ssential minerals to sustain plant growth; or aquaponics hich uses water and fish waste, aeroponics is conducted ithout a growing medium. It is sometimes considered a type f hydroponics, since water is used in aeroponics to transmit utrients.

II. AEROPONICS (AIR CULTURE)

Aeroponics is a form of hydroponics where plants roots are spended in a chamber and nutrient solution is sprayed from elow. The main difference of air culture is that it does not quire a growing medium like in other hydroponic systems xcept for NFT). This method of spraying nutrient solution lows roots to absorb more oxygen than it is in the soil oponic) system. It has been reported that, in air culture, ant growth and metabolism rate increased ten times than that soil. Through aeroponic systems, root growth, nutrient, ater, and environment conditions around the roots can be onitored and controlled than other hydroponics or geoponic.

A. Benefits

Air cultures optimize access to air for successful plant growth. Materials and devices which hold and support the aeroponic grown plants must be devoid of disease or pathogens. A distinction of a true aeroponic culture and apparatus is that it provides plant support features that are minimal. Minimal contact between a plant and support structure allows for 100% of the plant to be entirely in air. Long-term aeroponic cultivation requires the root systems to be free of constraints surrounding the stem and root systems. Physical contact is minimized so that it does not hinder natural growth and root expansion or access to pure water, air exchange and disease-free conditions.

B. Existing system

An Intelligent Plant Care Hydroponic Box (IPCH-Box) that exercises environment driven control methods through an Internet-of-Things (IoT) management tool called IoT talk. IoT talk provides a scalable and configurable software for users to easily and quickly add/remove/exchange the sensors and actuators, and program their interactions. From the experimental measurement results of IPCH-Box, the developed environment driven control methods include LED lighting, water spray and water pump which can effectively lower the CO2 concentration, the temperature and increase\ water level, respectively. Specifically, the time of CO2 concentration reduction in IPCH-Box is 38.54% faster than that with the plant system without our mechanism.

III. PROPOSED SYSTEM

The principles of Aeroponics are based on the possibility of cultivating vegetables whose roots are not inserted in a substratum (the case with hydroponics) or soil, but in containers filled with flowing plant nutrition. In these containers roots can find the best condition regarding oxygenation and moisture. These conditions allow for better plant nutrition assimilation in a more balanced way, with consequential faster development of the cultivated plants.

ANT COLONY OPTIMIZATION ON CLSTERED WSN FOR INDUSTRIAL MONITORING

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Abstract— **Wireless sensor network, efficient technology to build the monitoring system which consists of nodes with limited power deployed in several area. Minimizing the deployment cost is one of the major criteria in wireless sensor network design, as the positions of sensors have to be carefully determined. In this work, two important facts are being focused and that includes an energy efficient transmission and a prolonged network lifetime. A Power-Aware Scheduling and Clustering algorithm based on Ant Colony Optimization (PASC-ACO) with energy efficient transmission using compressive sensing is deployed for large scale wireless sensor with multi hop data delivery. The proposed algorithm improves the energy of each sensor node in the clustered network.**

Keywords: Compressive sensing, IOT Platform, Application Program Interface.

I. INTRODUCTION

Wireless Sensor Networks (WSNs) enable the observation f the world with an unprecedented resolution. These networks are omposed of many tiny low-cost low-power on-chip sensors. ypically, a sensor node includes four main components: a sensing nit for data acquisition, a microcontroller for local data processing, communication unit to allow the transmission/reception of data /from other connected devices and finally a small battery. Short mmunication ranges and limited bandwidth of sensor nodes lead multi-hop communications and low data rates. Hence, the dividual devices sense the surrounding environment and send their ta, directly or via multiple hops, to a central device, namely the nk for processing.

electrical power plants, radiation measurements can be delivered sensors without compromising the life of people working in these ants. Besides, in an accident caused by an earthquake or tsunami, wired sensors networks may be damaged. However, wireless sensors can be easily deployed after plant's accident.

Thus, they can provide an accurate damage assessment. Moreover, the typical communication pattern in the industrial application is many-to one communication. Every node plays the role of data source and/or router node through a routing tree to deliver packets to the sink. This data collection is called raw data converge cast. In this context, nodes that are near the sink should forward more packets than sensors far away. Hence, the scheduling of transmissions should be traffic-aware

A Wireless sensor network consists of low size and low complex devices known as nodes that may sense the environment and gather the data from the monitoring field and communicate through wireless links. The information collected is forwarded through multiple hops to a sink. In WSN, the sensor nodes are deployed randomly in a sensing area. Each sensor in WSN monitors its environment and delivers some global data or an inference about the environment to a base station which could be located randomly in a network. So, it collects the local information, process them and send it to a remote base station. Using GPS technology, the information about the environment are collected and given to the application Web server for data communication. In the proposed system, two important facts are taken into account for energy efficient transmission and to have a prolonged network lifetime. In this work, a Power- aware scheduling and clustering algorithm based on Ant Colony Optimization (PASC-ACO) with energy efficient transmission using compressive sensing is deployed for large scale WSN multi hop data delivery. It improves the energy of each sensor node in the clustered network as well as enhances the lifetime of the real sensor network.

II. EXISTING SYSTEM

Conventional measuring stations are equipped with multiple lab quality sensors. The majority of deployment approaches uses a simple detection model assuming the detection range of the sensors. Most research work is based on atmospheric dispersion modelling which calculates the threshold using ILP formulation for WSN coverage. Some of the work is based on geographical analysis

PATIENT MONITORING SYSTEM USING IOT

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Abstract—Telemedicine is a rapidly developing application of clinic medicine where medical information is transferred through the phone or internet or other networks for the purpose of consulting and performing remote medical procedures or examinations. This project elaborates the experience; a methodology adopted and highlights various design aspects to be considered for making telemedicine in patient monitoring system effective. In this method, the patient's vital signs like, blood pressure and temperature sensor are capturing and the values are entered into the database. It is then uploaded into the web based server and sent to the doctor's phone using ANDROID technology. It also enables the doctors to instantly send back their feedback to the nurse station. In its broadest application, telemedicine can be defined as the use of telecommunication technologies to provide medical information and services. The key aspect of telemedicine is the use of electronic signals to transfer information from one site to another.

Keywords- Internet of things, telemedicine,android.

I. INTRODUCTION

Mobile healthcare applications receive more and more attention due to the ability to reshape healthcare delivery, for example, enabling self-management of patients while they pursue their daily activity .Mobile healthcare web services using Android can provide advantages to patients, enabling them to query their Symptoms and get the expert response from the Expert System in the form of identification of the disease and medications to cure the illness. Patients can access medical information and Expert system independent of their current place and time and content can be dynamically adjusted to the current context and terminal type. Healthcare services Using Android Devices involves the use of a mobile client-server model employing web services in order to transfer the currently available web-based system onto an Android platform. The server is dedicated to provide an interpretive report of the obtained test results, whereas the client acts as a convenient user front-end. Communication between the client and the server is based on web services

Now with the growing social pressure and the life more and more quick steps, most people are facing with health problems, especially a lot of high-level personnel who are insub-health. And modern social accidents occur frequently. It is more important to design a health security system for people.. As mobile phones play more and more important role for people, it is the best choice that the system will be deployed on mobile phones.Normally, a healthcare emergency alarm system is deployed on an independent device, wired or wirelessly linked to a gateway, and then connected to the hospital or emergency center, such as and But the disadvantage of such systems is obvious: once getting out of the coverage of the gateway, the system won't work anymore. A healthcare management system has two main functions. The one is life reminder system. The other is On-Line medical. However the life reminder function is useful and helpful for the senior people and chronic patients to give a friendly reminder for medicine and so on.

II. PROPOSED MODEL

This paper presents the implementation of an Mobile app towards the IoT connected healthcare applications. It consists of 3 major parts: 1) a arduino board with voltage regulator circuit, 2) temperature and pulse sensor, 3) a smart phone application acting as the IoT gateway for sensor data visualization.

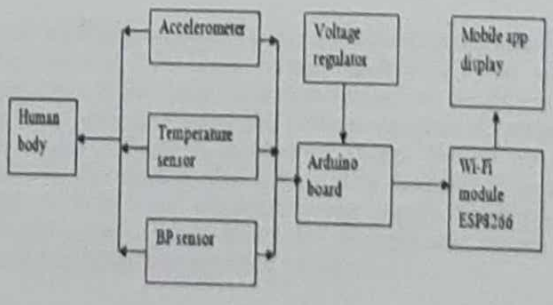

Fig:1 Block diagram.

1. ARDUINO BOARD

Arduino Uno is a microcontroller board based on the ATmega328P (datasheet). It has 14 digital input/output pins (of

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SMART HUB FOR DOMESTIC EQUIPMENTS

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ract: Home automation systems have gained popularity in recent years, paralleling the advances in the ept of the Internet of Things. The current project presents the implementation of an inexpensive home nation system, within the framework of assistive technology. The system implementation is based on the ino microcontroller, with Bluetooth communications capability, and it is designed for use by the elderly people with disabilities. The system is user-friendly, with an intuitive interface implemented on an oid- based smart phone. Demonstrations show that the system facilitates control of home appliances, s, heating, cooling systems and security devices by the intended users.

ords: Home Automation, Arduino microcontroller, Bluetooth.

1.INTRODUCTION:

The widespread use of home automation can be seen in cold cities such as Milwaukee, where people the heating of the house to go off when they leave and switch on the heater 15 minutes before they rn. The system is known as HVAC and is the best option for home automation.

In an era with wireless technology such as Bluetooth, WiFi, Zigbee, and GSM, users want home liances to be connected wirelessly. Each of these wireless technologies has its own connotation and ulation. This project lucratively uses Bluetooth with an available frequency of 2400 Hz, a range of 100 ters, and a speed of approximately 3 Mbps.

There are a few concerns to be addressed when designing a home automation system. The system uld be designed in a manner that integrates new devices, so that these devices should not be a problem at a r stage. On the host side, the system should be comprehensible, so that the devices can be monitored and trolled easily. In case of any problems in the future, the interface of the system should provide diagnostic vices. As a final point, the system should be money-spinning so that it can be extensively used by any son in the market.

Engine Lock and Tracking System

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Abstract *- An efficient vehicle tracking system is designed and implemented for tracking the movement of any equipped vehicle from any location at any time. The proposed system made good use of a popular technology that combines a Smartphone application with a microcontroller. This will be easy to make and inexpensive compared to others. The designed in-vehicle device works using Global Positioning System (GPS) and Global system for mobile communication technology that is one of the most common ways for vehicle tracking. The device is incorporated inside a vehicle whose position is to be determined and tracked in real-time. A microcontroller is used to control the GPS and GSM modules. The vehicle tracking system uses the GPS module to get geographic coordinates at regular time intervals. The GSM/GPRS module is used to transmit and update the vehicle location to a database. A Smartphone application is also developed for continuously monitoring the vehicle location. The Google Maps API is used to display the vehicle on the map in the Smartphone application. Thus, users will be able to continuously monitor a moving vehicle on demand using the Smartphone application and determine the estimated distance and time for the vehicle to arrive at a given destination. In order to show the feasibility and effectiveness of the system, this paper presents experimental results of the vehicle tracking system and some experiences on practical implementations.*

Index Terms— Global positioning system (GPS), Global system for mobile communication (GSM), Microcontroller, Relay, Trac king system, Engine Control Unit (ECU).

I. INTRODUCTION

In today's world vehicle theft is a common issue v everyone faces in insecure parking places .This feature w help the owner for tracking of vehicle in case of theft saving time and money .This paper introduces an And based tracking system .GSM and GPS technologies employed to make vehicle theft almost impossible .GPS space based navigation system that provides location and information in all weather conditions .A GSM modem specialized type of modem which accepts a SIM card . operates just like a mobile phone .The proposed sy integrates both GPS and GSM technologies .GPS gives latitude and longitude positions of the vehicle .Relay performs the engine locking mechanism .A Stepper mot interfaced with relay which is used to immobilize the vel .This system is an integration of several modern embed and communication technologies.

II. EXISTING SECURITY ISSUES

A. *Literature Survey*

1) Hybrid GPS-GSM Localization of Automobile Tracking System:

An integrated GPS-GSM system is proposed to t vehicles using Google Earth application. The rer module has a GPS mounted on the moving vehicl identify its current position, and to be transferred by G with other parameters acquired by the automobile's port as an SMS to a recipient station. The received G coordinates are filtered using a Kalman filter to enh the accuracy of measured position. After data process Google Earth application is used to view the cur location and status of each vehicle. This goal of system is to manage fleet, police automobiles distribu and car theft caution.

Personal Assistant for Visually Impaired

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stract : An assistive system is one which can be used to serve in many applications for the people with physical impairments alleviate their sufferings in their day-to-day lives. For the visually challenged community it is tedious to find an object of erest in the surroundings and the time taken for such process is too long and is very difficult to deal in unknown environments hey are unaware of the location of the desired object. To overcome this problem, we present a "Neural networks" based proach called "**Automatic Object Detection System**" which can detect the object requested by the user and the system can igate the user to the object. This is achieved by processing frame by frame video information of the surroundings, through a **onvolutional neural network(CNN)**" and obtaining the spatial information which can be prompted back to the user via audio dback. Our system is a non-haptic complete audio controlled and is not just limited to objects but can also detect and recognize es of known people and can recognize different types of Indian Currency. The system provides some personal assistance nctionalities such as time keeping, note taking, gathering information, such as weather,news,directions from place-to-place m the internet using web scraping techniques. On a whole our system can be considered as a pocket sized virtual eye powered a raspberry pi.

dexTerms - **Convolutional Neural Networks, Movidius VPU, Python, Tensorflow, Web-scraping.**

I. Introduction

A study by lancet global health indicates that around 253 million people across the globe live with visual impairment in which million people are estimated to be blind this number seems to triple to touch 115 million by 2050, where the most affected will from the developing nations. In India, in the span of 25 years (1990-2015) the count of blind people rose from 7.2 million to 8 million constituting a 25% of the whole blind community around the world.

The contribution of the development community to the society has been focused on a number of developmental prospects in e fields of healthcare and education. It's important not to forget that if one cannot see, then there is a lot he/she can't do even ith the best education.

In general, the term "assistive technology" is used where users, who are disabled require some form of assistance. One of the ost challenging and important tasks in creating such technologies is to develop a device that is best suited for the potential of lind users, both in the aspects of the user providing the input and interpreting output/ feedback of the device.

The main objective is to provide a system for detection and avoidance of obstacles that assists visually impaired/disabled ersons to reduce their risk of collision in their movement. Artificial intelligence and neural networks have a key role in the daptive learning of the dynamically changing known or unknown environment. The application of hardware implemented rtificial neural networks for achieving an intelligent feedback device which is then used to communicate results effectively to the ser is proposed.

The proposed system employs a camera for real-time object detection whose main objective is to determine all the object nstances of the any desired object from user regardless of scale,view and position with the camera.

In the following sections of this paper we briefly discuss the techniques and methodologies implemented in the design of the roposed system.

II. Literature Survey

2-1 Guiding (or) Smart canes

Ayat A. Nada et.al. [1] in 2015 proposed a smart cane based system for the effective navigation of the visually challenged eople. There are many more systems as this one but they are not completely satisfactory when tested.

These systems come equipped with distance detecting sensors and ultrasonic range finders which are mere extensions for the ionic white cane and does not provide much spatial information regarding the environment. They just alert the user if there is an

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A Gesture Controlled Hoverboard

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ABSTRACT: *The Gesture controlled mechanism will be an excellent alternative for the physically challenged people who struggle with joystick control. The main aim of this project is achieved by using gesture sensor and a microcontroller to provide high efficiency, accuracy and flexibility. RF Transmitter and Receiver are used in transducing the signal at 433MHZ. In existing, motion sensor is manipulated to sense the motion which is coupled to the Microcontroller. But, we use gesture sensor for perceiving the direction of motion.*

KEYWORDS -*Gesture, Sensor, microcontroller.*

I. INTRODUCTION

Across the world, Engineering has the common Moto is -"Improving the Quality of Life" of mankind without any restrictions. To achieve this transformation in science and technology is needed. The term gesture refers to a class of technology that uses hand gestures to propel vehicles with dc motor rather than with simple wheels axels and bearings. Hoverboard is a personal transportation device which lifts person, where person can experiences more smoothness while moving.

RF Transmitter will transmit the data to the RF Receiver through Wireless technology. Then the data is received by the RF Receiver which is connected to the Microcontroller. Then the data is processed by the Microcontroller through Relay driver unit. Relay driver unit is used to drive the Robot which consists of 4 Operations Namely Forward, Right, Left and Stop. LCD Display is used to display the information about the System which is directly connected to the Ports of the Microcontroller

II. OBJECTIVE

The intended system implements the Gesture sensor & a microcontroller for providing high suppleness and precision thereby supervising the power resourcefully.The projected method involves transmitting and receiving section, in which the transmitting module transmits the commands for direction of mobility through the flex sensor and receives the control using receiving module.

Gesture based management scheme is proportioned to accomplish the available power efficiently in case of affording effective direction of gesticulation. The top-notch of this proposed system is to manage the available power in a competent manner orderly to supply power, priority based when the power consumption is low.

III. DESIGN AND IMPLEMENTATION

The Microcontroller unit is connected with flex sensors, and RF Transmitter which is powered using a battery. Microcontroller is a 40 pin IC with 3 ports P0, P1 & P3.

In this circuit, flex sensors are connected with ports of microcontroller and contains four switches which are connected to ground. RF Transmitter is connected to microcontroller using four data lines D0, D1 D2, & D3.

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REALTIME AQUACULTURE MONITOING USING IOT

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ABSTRACT:

Aquaculture is the farming of fishes and aquatic cultures for commercial and ediblepurpose. Aquaculture is one of the fastest growing industries. So, the aquatic organisms are continuously monitored for their healthy growth as parameters varies continuously with time and surrounding should also monitor. In this paper we designed and developed a low cost IOT based real time aquaculture monitoring system with an automatic feeding system. This system consists of several sensors like temperature, salinity and turbidity sensors. These sensors are used to measure physical and chemical parameters in and around water. Using IOT, the farmers or owners can continuously monitored and through the internet over long distance. This wireless monitoring system reduces the stress of the aquaculture owners, reduction on labor work, and intensity improvement of aquatic products and protection of aquaculture environment.

Keywords: Internet of things, wireless sensors, cloud computing, microcontroller, Automatic feeding.

1.INTRODUCTION:

Water is fuel of life and no life exit without water on this earth. In this paper we intend to present that the IOT & Remote sensing techniques are used in different areas of research for monitoring, collecting and analyzing data from remote location. The water has to be monitored periodically for aquaculture and this has done using IOT. With the help of sensors and IOT we can reduce its work and fish farmer or the owner need not required to check the water parameters periodically. The system consists of parameter sensors which are used for measuring physical and chemical parameters of water. Here the parameters such as temperature, Turbidity and salinity can be measured. Using this system a person can detect the parameters of water anywhere in the world and an alert can be sent to mobile phone which helps in the survival of fish.

2.EXISTING METHOD:

The monitoring of aquaculture includes continuously measuring of water parameters. They only measured the conditions for the survival of fishes by measuring the parameters of water not included the feeding system for the fishes as food is the important factor to live. So

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WIRELESS PATIENT HEALTH MONITORING USING IOT

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Abstract - Remote patient monitoring devices had greatly decreased the burden of patients and delivered high quality of care with lower risk by monitoring various medical parameters such as BP, ECG, Heart Rate, temp. The implemented technology is being enhanced in every district and answers all medical related problem of the patient at any remote locations using IoT. The usage of IoT technologies brings convenience of physicians and patients, since they are applied to various medical areas such as healthcare monitoring. Body sensor network used to monitor the patient regularly, the sensed values is continuously compared with threshold limits. Whenever the sensed values exceed the threshold limits, the message about patient health condition is communicated through IoT.

Keywords – Arduino UNO R3, Blood pressure, ECG, Temperature, Heart Rate, IoT.

I. INTRODUCTION

Health is the fundamental capability humans require to perceive, feel, and act effectively, as it represents a primary element in the development of the individual. That is why it is necessary to provide adequate ways to manage healthcare by monitoring and medical assistance. Increased life expectancy of the elderly and technological evolution led to innovative and effective solutions for in-home monitoring and treatment of patients. This introduces the use of telemedicine and home monitoring using Internet of Things (IoT). A solution for a sustainable and adaptable patient oriented infrastructure development is presented with the help of Arduino UNO R3. Thus this hopes to achieve a solution that is cheap and economically stable. This proposes architecture for the system, which is developed using the above mentioned devices. The main applications of IoT can be in healthcare, which increase the availability, quality of care and reduces costs. This system will help in real time monitoring of the patient but will be cost efficient. Thus we can make use of arduino for developing cheap systems in healthcare using IoT.

Advancement in information and communication technologies has led to the emergence of Internet of Things. In the contempory health care environment, the usage of IoT technologies brings convenience of physicians and patients, since they are applied to various medical areas (such as real- time monitoring; patient information management, and health care management). The body sensor network (BSN)

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FUSION OF MEDICAL IMAGES USING WAVELET TRANSFORM AND SECOND GENERATION CURVELET TRANSFORM

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Abstract—This paper analyzes the characteristics of combination of wavelet transform and second generation curvelet transform. In the existing system, Wavelet transform of CT images (i.e.) the image may be CT image or MRI image is obtained and the curvelt transform is taken for the wavelet transformed image. Finally the two curvelet transformed images are fused. The limitation of this method is loss of curved ends in CT image and loss of sharp ends in the Curvelet transformed image. Wavelet transform takes block base to approach the singularity of C^2. So curved ends are missed in this transformation but we can obtain the sharp ends. By using curvelt transform we can able to recover the curved ends of the image because it takes wedge base to approach the singularity of curve. But we missed the sharp ends in the Curvelet transformed image. But in the proposed system, Wavelet transform as well as curvelet transform is taken for two CT images. These two transformed images are then fused. The similar technique is applied for MRI image also. So that we can able to recover both the sharp ends and the curved ends when we use these two transformed images. The fused image is more informative than the original image.

Keywords-component; Image Processing, Image fusion, Signal Activity, Wavelet Transform, Second generation curvelet transform

1.Introduction

Image fusion is the one of the data fusoin technique which is the process of combining relevant information from two or more images into a single image.Also it refres to the technique that integrate multi-images of the same scene from multiple image sensor data or multi-images of the same scene at different times from one image sensor.[1]

Fused images may be created from multiple images using the same imaging modality, or by combining information from multiple modalities, such as magnetic resonance image (MRI), computed tomography (CT), positron emission tomography (PET), and single photon emission computed tomography (SPECT). In radiology and radiation oncology, these images serve different purposes. For example, CT images are used more often to as certain differences in tissue density while MRI images are typically used to diagnose brain tumors [2]

The image fusion algorithm based on wavelet transform which is used for multi resolution analysis image fusion method in recent decade [3].Also Wavelet transform has better time-frequency characteristics. It was applied successfully in image processing field. But simply its characteristics in one dimension can't be extended to two dimensional or multi dimension [4]

In order to overcome the limitations of Wavelet transform, E.H.Candes and D.L.Donoho introduces new transformation in 2000 called Curvelet transform [5]. It consists of special filtering process and multi-scale ridgelet transform.However,Curvelet transform had complicated digital realization including Sub-band division,Smooth block, normalization and so on[6] .So E.H.Candes put forward Fast Curvelet Transform which is also called as Second generation Curvelet Transform which is easily understandable and simple in 2005[7] .This paper is used to obtain the more informative fused image

I. WAVELET TRANSFORM

The word *wavelet* has been used for decades in digital signal processing and image processing. A **wavelet** is a wave-like oscillation with amplitude that starts out at zero, increases, and then decreases back to zero. It can typically be visualized as a "brief oscillation" like one might see recorded by a seismograph or heart monitor. Generally, wavelets are purposefully crafted to have specific properties that make them useful for signal processing. Wavelets can be combined, using a "revert, shift, multiply and sum" technique called convolution, with portions of an unknown signal to extract information from the unknown signal.

A. Continuous Wavelet Transform

In continuous wavelet transforms, a given signal of finite energy is projected on a continuous family of frequency bands (or similar subspaces of the L^p function space $L^2(R)$. For instance the signal may be represented on every frequency band of the form $[f, 2f]$ for all positive frequencies $f>0$. Then, the original signal can be reconstructed by a suitable integration over all the resulting frequency components.

The frequency bands or subspaces (sub-bands) are scaled versions of a subspace at scale *1*. This subspace in turn is in most situations generated by the shifts of one generating

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BREAST CANCER DETECTION IN DIGITAL MAMMOGRAMS USING IMAGE PROCESSING TECHNIQUE

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Abstract: Mammography using digital techniques plays a vital role in mammogram screening at former stage of breast carcinoma even though it is very onerous to find mastery abnormality in prevalent screening by radiologists But the possibility of precise breast cancer screening is consoled to predict the mastery type of abnormality through Computer Aided Diagnosis(CAD) systems The two most important indicators of breast cancers are normal and abnormal .This study proposes two complex feature extraction methods to negotiate a complete description of quantitative characteristics. The first feature extraction module adopts GLCM features and optical density features. This is a type of complex texture feature extraction method that extracts the information of local intensity relation and discrete photometric distribution and Support Vector Machine(SVM) classifier is employed for classification with k-fold cross validation. Conclusively, the mammogram is classified as benign and malignant using SVM classifier with the enforcement matrices of accuracy, specificity and sensitivity.

Index Terms - **Breast carcinoma, grey level co-occurrence matrix, optical density co-occurrence matrix, Support vector machine (SVM)**

INTRODUCTION

Breast cancer is a common form of cancer disease among women with nearly 1.7 million new cases recognized in 2015 and the second prompt of cancer deaths worldwide. Early detection of breast cancer is a key factor for successful cancer treatment. In women breast cancer is most common and deadliest forms of cancer found worldwide. Early detection and removal of the primary tumor is an essential and effective method to magnify survival rate and reduce mortality. Breast cancer is the second leading cause of cancer death and its incidence continues to rise. Of all diagnostic methods currently available, mammography is the most reliable method for early detection. In an exertion to lower the cost and increase effectiveness, investigators are developing alternative techniques to improve mammography imaging. Mammogram interpretation is performed by radiologists by visual examination of the films. The shortage of radiologists and the large volume of mammograms to be analyzed make such readings labor intensive, cost ineffective, and often inaccurate. Therefore, it is useful to construct computer systems to aid early diagnosis of breast cancer with mammography.

An automated computer system could evaluate all mammograms and point out the areas which are detected as abnormal. The mammograms that are detected as abnormal by the computer would pass on to the radiologists for final diagnosis. Misinterpretations can thus be reduced and significant time, cost and valuable lives can be saved.

EXISTING SYSTEM

In this method, they have automatically classified the breast tumor in mammogram images to benign and malignant classes using shearlet transform. First the region of interest (ROI) of the mammogram image is subjected to shearlet transform and various texture features are extracted from different levels and orientations. The dimensionality of extracted features are reduced by kernel principal component analysis (KPCA) method and ranked based on T-value. Ten ranked features are fed to k-nearest neighbor (KNN) classifier using minimum features. Our results show that shearlet transform coupled with KPCA is superior to shearlet transform.

DISADVANTAGES

Theoretically PCA relies on linear assumptions whereas kernel PCA (an extension to PCA) is non-linear. Relies on the orthogonal transformations of the original variables whereas kernel PCA allows the nonlinear mapping. PCA based on mean vector and covariance matrix. Some distributions may be characterized by this but not all and PCA is not scale invariant.

PROPOSED SYSTEM

In our proposed system we have restricted the breast tumor in mammogram images to normal and abnormal classes using GLCM and ODCM technique. First the region of interest (ROI) of the mammogram image is directed as input images and features are excerpted using GLCM method and ODCM technique is engaged to extract the features. Both GLCM and ODCM outcomes are given as input to the classification stage. Then Support Vector Machine (SVM) classifier is used to allocate the images. Enduringly, the mammogram is restricted as normal or abnormal using SVM classifier.

Smart Baton

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Abstract
Smart baton is deliberated for blind people for easy steering. The system consists of a microcontroller interfaced with an ultrasonic sensor, water sensor, and also includes an IR module. Ultra sonic sensor which was to detect and estimate the distance of obstacles around the blind and to guide them towards the obtainable path. Water detecting module is designed to identify the presence of water and prevent the water damage. Output is in the form of series of beep sound along with a vibrator. An additional module feature is provided to the system in such a way that even though the stick is lost, blind can find out it by using an IR.

Keywords: Baton, Water sensor, Ultrasonic sensor, IR sensor

1. Introduction

The research which was done by the World Health Organization (WHO) in 2016 says that there are 39 billion of people are blind in the world and in that 15 million people are in India. So in order to help the blind people by providing an artificial vision, blind stick with improved feature has been introduced. In this paper we are telling about improved features of the blind stick which consists of the ultrasonic sensor (21kHz-50 kHz), moisture sensor, buzzer, vibrator and ATMEGA328 micro controller which was placed in arduino

2. Literature Review

For many years external assistance were provided to visually impaired people by means of trained dogs, humans or white cane.

Abhishek Bhokare [1] introduced a system with ultrasonic sensors, it provide a beep sound when an obstacle is detected.

Kher Chaitrali S [2] implemented an intelligent walking stick with RFID technology. With the help of RFID and Bluetooth device the blind get voice navigation. In this system RFID tags are installed into public buildings and also in the blind stick.

Mohammad Hazzaz Mahmud [3] designed a smart walking stick with sonar sensor, proximity sensor and micro pager motor. It detects the obstacle in front of the blind person.

Ankit Agarwal [4] proposed an ultrasonic blind stick with three side of ultrasonic sensor along with the camera. The sensors can find obstacle in three directions.

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sign of H-Shaped Multiband Slot Antenna for LTE Applications

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– An efficient design for H-shaped slot antenna has been d which resonates for 2 to 5 GHZ. As the technology more prominent the demanding need of designing an for multiple applications is greatly increased. To enhance eloping technology, H-shaped slot antenna has been l to provide multiband applications like WIFI, Bluetooth, LTE. Here the patch is sketched for a thickness of 2 mm, f 29 mm and a width of 38 mm. The prototype of the d antenna has been fabricated and measured results show rrow band operation has been obtained for multiple cies. The substrate material of the antenna is Flame nt-4 (FR-4), with the relative permittivity of 4.4. The structure has been modelled and its performance has luated using an Advanced Design System (ADS) software.

Terms – Multiband applications – WIFI, Bluetooth, LTE, FR-4, Advanced Design System(ADS).

1. INTRODUCTION

nds for *Long Term Evolution* and it was started as a in 2004 by telecommunication body known as the ieneration Partnership Project (3GPP). SAE (System cture Evolution) is the corresponding evolution of the G packet core network evolution. The term LTE is y used to represent both LTE and SAE.

as sketched with high radiation, low return loss and high cy validate the idea behind optimal antenna design to igh device performance.

n important property of microstrip patch antenna is that e designed in any shape and sizes. The design of MPA s a low profile and low cost. The proposed H-shaped is designed for Wireless Communication and its ion. The method proposes the design of H-shaped and H-shaped antenna combined with the help of a strip ich is of 2mm width. The proposed shaped is designed ulated using Advanced Design System 2009 (ADS The system is designed to operate at 2.4GHz (IEEE standard).

atch is designed using FR-4 substrate which has a permittivity of 4.4 and the patch's dimensions are n order to resonate at a frequency nearly 2.4 GHz. The technique used for simulation is the Method of Moment (Mom) technique.

The designed antenna considers the following electrical parameters,

- Operating frequency
- VSWR and Return Loss
- Gain
- Radiation pattern.

The impedance and radiation characteristics of the antenna are over viewed. The antenna parameters such as return loss, gain and directivity are investigated for the H-shaped, a minimum return loss of -10dB is achieved for the obtained design at its resonant frequency (2.4 GHz). The gain of the patch is obtained for the values greater than 5dB.The stimulated patch is fabricated by converting them to respective Gerber files and the corresponding hardware output of the antenna patch are tested using Network Analyzer and the simulation results are compared.

The smart antenna technology significantly improves wireless system performance and economics for range of users, it enables operators of Pcs, cellular and wireless networks to realize significant increases in quality, then 2GHz, they take the advantage of the ability to adapt to operating environment to combat jamming.

2. RELATED WORK

One type of an antenna that fulfils most of the wireless system requirements is the microstrip patch antenna. These antennas are widely used on base stations as well as handsets. The existing microstrip patch antennas have a variety of configurations. The low profile, low volume and conformity makes them more outstanding in real-time applications. The requirements are such that these systems must radiate low power and provide reliable communication.

Presently, the patch antennas are available only in certain shapes and only for attaining single application. This becomes a limitation in certain expertise. The antennas used in wireless

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SIGN OF MONOPOLE PATCH ANTENNA FORWi-MAX, WLAN, ISM AND C-BAND APPLICATIONS USING STRIP LINE FEEDING

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STRACT:

ltiband in Ultra-wide band microstrip patch ennas is proposed. The antennas are suitable for rating frequency of 3.5GHz and 7.5GHz in Wi-max ISM band it is shown that return loss of the ennas at 3.5GHz and 7.5GHz is better than10dB. VSWR obtained is less than 7.5 the patch antenna ound to have the compact size and more bandwidth. return loss value of first band is -20.0 dB and for ond band are -19.0dB. With radiation efficiency % and antenna efficiency 80% calculated using ADS ulation software. The measured results are also culated with vector network analyser.

YWORDS:WLAN,ISM,Wi-Max,Ultra-wide d,Patch antenna.

NTRODUCTION:

)(Federal communications commission) allocated the k of radio spectrum from 3.1 GHz to 10.6GHz for UWB ations. UWB system providesmore than 500 Mbps data smission within the area of 10metres. The present munications desire condensed size, less cost printed nnas with wideband and ultra-wideband acteristics.There are two types of UWB antennas, that irectional and Omni-directional antennas.The size of tional antennasis large with high gain andfield of view rrow. The size of Omni-directional antennas are small has less gain with widespread field of view since it tes in all directions.

The main advantage of UWB antennas are low large channel capacity and it is immune to multipath ference. Among the many challenges in UWB antenna n, the major challenge is to achieve wide impedance width. The UWB antenna is required to be operated the entire range of 3.1 GHz – 10.6 GHz. The USB nas are designed to transmit and receive short pulses. The radiation pattern analysis of wide bandwidth is required for efficient operation of the antenna.

In literature many planar shapes, such as square, circular, triangular and elliptical shapes are analysed and reported. The circular ring type antenna is difficult to design compared to monopole based planar antennas, which is due tothe effect of ground pane.The bandwidth of the microstrip patch antenna can be enhanced by modifying the ground plane. Many research work is performed to improve the design of circular antennas.

In [6] the authors proposed a double-ridged horn antenna applied to UWB for human being detection. The frequency in which the antenna works is 0.86 - 2.37GHz with antenna gain is 9.6 -12 dB. The reflection coefficient is less than -10dB. In [7], the authors proposed the design and simulation of a modified double-ridged antenna. This main objective of this work is to the design an ultra-wideband Double Ridged Horn antenna with VSWR less than 2, which operats at 5.3 GHz - 6.3 GHz, 11.02 GHz - 11.8 GHz, 16.5 GHz - 18 GHz, 22.8 GHz - 23.7 GHz and 28 GHz - 29.14GHz frequency ranges which is appropriate as a feed element in reflectors of the RADAR systems. The authors of [10] designed a dipole antenna which is a compact UWB antenna fed by strip line. The antenna is a log-periodic dipole antenna with 18 elements.

2. OBJECTIVE:

The main objective of this work is to design and simulate a compact microstrip patch antenna using Advanced Design System (ADS) simulation software and the characteristics of antenna is analysed. The simulated antenna is fabricated with FR-4 substrate material and thickness of 1.6mm. The fabricated antenna is tested using Network Analyser and the simulated results and fabricated results are compared.

3. ANTENNA CONFIGURATION AND DESIGN:

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MICROSTRIP PATCH ANTENNA DESIGN FOR PLASTIC EXPLOSION

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Abstract : Terahertz Frequency system has gained high attention because of high potential for huge number of analysis. The proposed paper illustrated the design and analysis of microstrip patch antenna for detection of plastic explosive SEMTEX. The substrate used in the design is Fr4 material with thickness of 1.62μm which is having dielectric constant of 4.4. The radiating patch and ground plane are made up of copper material having high conductivity and low resistivity. The ground plane should be reduced to get the resonant frequency. For the designing and analysis of the proposed antenna Computer Simulation Technology(CST) Microwave studio 2016 has been deployed input impedance of 50Ω which resonant at 5.95THz frequency with returnloss of -30.08dB with the gain of 5.76dB and directivity of5.565dBi.

Index Terms - **SEMTEX, Plastic explosive, Gain, Directivity, Input impedance.**

I. INTRODUCTION

The electromagnetic spectrum present between classical microwave and the infrared region is known as terahertz frequency band (0.1THz- 10THz), it is gaining popularity in applications like sensing, imaging, medicines etc. In order to detect the presence of destructed materials, we can use terahertz frequency spectrum using terahertz radiation. These can penetrate through substances like paper, plastic, transparent and has low photon energy which can be used for detection purposes. These light waves can be easily manipulated with the help of lenses and mirrors.

In the last few years ago, there is a lot of research have been taken placed on terahertz frequency. They are trying to develop technique to enable fast, more sensitive and simpler determination to trace or identify explosive substances. They are detected on the basis of their spectral signature which are the result of intramolecular and intermolecular vibrational modes of the materials. We can image of THz-TDS (Terahertz time domain system)and terahertz microstrip patch antenna for the various applications like standoff detection of explosives [10], medical imaging etc. In order to generate and detect terahertz efficiently which emerged as the main spectroscopic modality with more compactness and stability

Terahertz time domain spectroscopy is used. Terahertz microstrip patch antennas was designed for detection and determination of fake drugs, explosives etc. In this paper a Terahertz microstrip patch antenna has been designed for the detection of plastic explosive SEMTEX which is strongest explosives in world. If we take 250 mg of SEMTEX .it has capability to destroy a commercial airplane. The paper can also able to detect the explosive at resonant frequency of 5.95 THz.

The proposed paper comprises of four section as described below:

Section II consists of antenna geometry and antenna dimensions of the top view, bottom view and side view of the proposed antenna design. Further section III consists of simulated results based upon various antenna parameters and Section IV concludes the proposed technique and observations formulated through it which shows that the proposed paper is suitable for detection of plastic explosive SEMTEX.

II. ANTENNA GEOMETRY

I. Designing and simulation of the proposed antenna design has been done using Computer Simulation Technology (CST) Microwave Studio 2016. In the proposed antenna design Flame Retardant (Fr4) material has been used as substrate having thickness of 1.62 μm with dielectric constant of 4.4. Both patch and ground plane are made up of conducting material copper of thickness 0.02 μm.

II. Reduced ground plane has been used so as to acquire the desired resonant frequency and to improve other antenna parameters like S-parameter, gain, directivity etc. The proposed antenna has an input impedance of 50 Ω so as to match the impedance of coaxial cable in order to have minimum reflections and maximum power transfer. Fig. 1 shows the front view of the proposed antenna along with its dimensions whereas the fig. 2 shows the back view of the proposed antenna.

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CONTROL OF HOME APPLAINCES THROUGH VOICE COMMANDS

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Abstract:
Voice Recognition is an important method used for automation. Speech is the most common mode of communication between human beings, and in this work the home appliances are efficiently controlled by human voice. The voice commands are used to turn the lights ON/OFF and control the speed of appliances. This control mechanism is very useful for the aged and physically disabled person. The graphical program(GUI) system developed using LabVIEW is useful for interacting with real world and also for developing custom applications. Thus the methodology of control of home appliances is enforced usingLabVIEW. With this voice recognition technique, accuracy of over 90%is achieved.

Keywords: Automation, Voice Recognition, LabVIEW, Data Acquisition, Speed Regulation.

I.INTRODUCTION:

Controlling appliances is the main part in automation. In future, voice recognition technique is an important method for dominant appliances, computers and robots. Voice recognition is standalone and more cost-effective technique to control home appliances. Aged population worldwide is increasing and this automation processhelps the disabled and aged population.A set of voice commands are functionally reminiscent of the set of switches that is employed to regulate the wheelchair.

Homeappliances are mostly controlled by Bluetooth baseddevice. Keypad is interfaced to a microcontroller which isinterfaced to Bluetooth module to provide wireless interface for the remote to communicate with the appliances management module. A Voice-Input Voice-Output Communication Aid (VIVOCA) acknowledges the disordered speech of the user and builds messages that are regenerated into artificial speech. The speech is processed and recognized by a speech recognizer. Mean recognition accuracy is 67%.

A mobile application is developed that converts the user voice commands into SMS and is sent through GSM network.Wireless Home Automation System(WHAS) controls all home appliances in a home or workspace using voice commands with low-power RF Zigbee wireless communication modules. Controlling home appliances is done by using a computer and computer interface to regulate the appliances. Twodifferent approaches are required for management of home appliances. Multiplatform system for home automation is created using LabVIEW. Through this the coded signals are sent through the home's wiring to switches and retailers that are programmed to control appliances and electronic devices in each part of the house.

II. VOICE RECOGNITION TECHNIQUE:

Voice Recognition is the technology by which sounds, phrases spoken by people are transformed into electrical signals and these signals are converted into cryptography patterns to which meaning is assigned. This idea could be referred to as sound recognition or speech recognition.

Principle of voice recognition is shown in Fig.1.

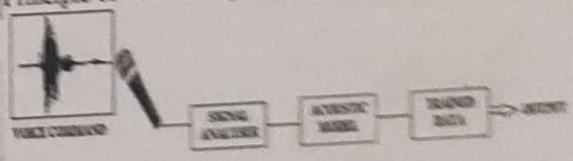

Fig.1. Principle of voice recognition

The first component that is required for voice recognition is the assortment of speech data. Information of speech data is constructed from multiple speech samples. Then those samples of the specified speech data is recorded and kept. The signal instrument passes the information from the speech sample to the acoustic model for identification.Samples of accomplishable speech data is passed into language models. These prospects are compared with previous results from the trained models. The speech knowledge with the very best chance of a match is chosen as being the right knowledge and given as output.

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AUTOMATIC VEHICLE RECOGNITION IN TOLL GATES

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Abstract : The proposed system detect the moving vehicle form the video sequence, to locate the license plate on the detected vehicle automatically, to recognize the numerical as well as alphabets in license plate. The first crucial step is to detect the license plate which consist of several segments, where the left most four segments are indicating the state. The remaining segments of the license plate are either numbers or alphabet are indicating the individual vehicle. Texture or the combinations of colors are also considered as key features for license plate detection. This license plate recognition will assist automatic toll gate payment system as well as video surveillance system with reduced human effort. Here, the video sequences are acquisitioned into the algorithm and each frame is processed individually. In a single frame, the car image is extracted separately using Gaussian mixture model based foreground detector. The detected car is subjected into visual attention model for each car's license plate region is located. The morphological operators are further implemented for fine location of license plate. After locating the license plate region, the next step is to locate the alphabet and letter in that for further recognition. The support vector machine classifier is responsible for the recognition part and this sequence of processes are carried out for each frame of the video sequences.

Keywords: Video sequence, Gaussian mixture model, Foreground detector, Support Vector Machine

INTRODUCTION

Automatic Number plate recognition is used to read the vehicle number plate using optical character recognition. In current scenario, systems can able to scan number plates at around one per second on cars travelling with the speed of 100mph (160 km/h). This can reduce the burden of various police forces and also makes electronic toll collection on pay-per-use roads easy, and to monitor traffic activity such as red light adherence in an intersection. Hence, we can store the image captured by the cameras and the text from the license plate. In India, all vehicles are provided with a unique registration or license number. The district-level Regional Transport Officer (RTO) is the main authority on road matters, who will issue the license plate number. The license plates is placed in the front and back of the vehicle. According to the law, all license plates should in modern Arabic numerals with Latin letters. Using this method, we doesn't require any special tag to recognize the license plate.

OVERVIEW OF PROPOSED SYSTEM

In the car license plate recognition, the first crucial step is to detect the license plate which consist of several segments, where the left most four segments are indicating the state. The remaining segments of the license plate are either numbers or alphabet are indicating the individual vehicle. Texture or the combinations of colors are also considered as key features for license plate detection. This license plate recognition will assist automatic toll gate payment system as well as video surveillance system with reduced human effort. The proposed work is implemented on both image as well as video sequence.

A. FLOW CHART

The automatic vehicle recognition in toll gates is performed through the following steps in fig 1. This process done using Matlab.