

Experimental Investigation on Reinforced Geopolymer Concrete Slabs

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ABSTRACT

Geopolymer is an ecological binding material alternative to Ordinary Portland Cement (OPC). Concrete made with this Geopolymer has several recompense compared to Ordinary Portland Cement (OPC). Generally, geopolymer concrete is the combination of Fly ash, Ground granulated blast furnace slag (GGBS), alkaline activator solution, fine aggregate and coarse aggregate. Here in this study 100% GGBS is used. GGBS is the consequence of iron and steel manufacturing industry. Alkaline solution is made up of sodium silicate and sodium hydroxide solution (NaOH) with 2.5:1. This study illustrates the experimental investigation on reinforced geopolymer concrete slabs using GGBS. The aspire is to compare the flexural behaviour of geopolymer concrete slab with the straight concrete of grade M40. The slab dimension is taken as 1000 mm × 1000 mm × 60 mm. The dissimilar molarities of NaOH used in this study are 8M, 10M, 12M, 14M and 16M.

Index Terms: Geopolymer Concrete, Load Vs Deflection, Molarity, Sodium Hydroxide, Sodium Silicate.

I. INTRODUCTION

Concrete is the major creation material used all over the world. The only compulsory material used in production of the concrete is Ordinary Portland Cement (OPC). The making of cement leads to many environmental effects due to the emission of a large amount of carbon dioxide (CO₂) throughout the manufacturing process. It is estimated that 1 ton of cement produces nearly 1 ton of CO₂ into the environment. It is compulsory to develop an alternate binder for the concrete to reduce the effect of CO₂ from the cement industry for a sustainable

surroundings. Geopolymer is an unusual binding material to Ordinary Portland Cement. The electrical force demand is increasing day by day due to the increase of urbanization. To full fill these energy need, the electrical energy manufacture is also increased. Due to the increase in production of electrical energy, the manufacture of fly ash will also increase. The disposal of this fly ash is the major problem to the environment. On the other hand, the usage of steel also increases for construction of industries. Ground granulated blast furnace slag (GGBS) is the waste material produced in

PROBING OF ECOBRICKS FROM INDUSTRIAL WASTE USING “ALKALI ACTIVATION TECHNOLOGY”

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ABSTRACT

This research incorporates waste boiler ash into masonry construction materials using alkali activation. Utilization of industrial waste Boiler ash is derived from paper mills. The process of Eco bricks is mixing with clay, lime, Boiler ash and NaOH and then dried with oven and direct sun light is termed as Alkali Activation Method. It reduces the CO₂ emission and serious hazards to human health. A brick formulation is boiler ash, clay, lime and NaoH to produces bricks. An economic and environmental analysis indicates that these bricks can be produced for similar cost as clay brick with reduced environmental impact making them a viable alternative in the market.

I. INTRODUCTION

House is a basic need, Owning a house is a problem for majority of people in India due to expenses cost of construction. To Address this situation attention has been focused on low cost alternative buildings. In India, Fired clay bricks are being used extensively and it consumes about 20,000 million bricks and 27% of total natural energy consumption for their production. So that we have to use alkali activation technology to reducing serious hazards to both environment and human health.

The manufacturing of clay brick is done by manual and mechanical, processes like mixing, casting is also manual and mechanical work. The composition of proportion of materials in each brick is depends on weight of than brick. Each brick having 4000gm materials required.

The approximately, the weight of one wet brick is 4 kg.

• MOULDS

Moulds are prepared as modular brick size of 215mm x 100mm x 70mm. For the purpose of comparison of brick test results into codes.

II. MIX PROPORTION

• GENERAL

STUDIES ON STRENGTH OF GEO-POLYMER CONCRETE BY USING FLYASH AND GRANITE WASTE

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ABSTRACT

The major problem the world is facing today is the environmental pollution. In the construction industry main lythe production of Portland cement will causes the emission of pollutants results in environmental pollution. We can reduce the pollution effect on environment, by increasing theusageofindustrialby-productsinourconstructionindustry.Geopolymerconcreteissucha one and in the present study, to produce the geo-polymer concrete the Portland cement is fully replaced with fly ash and the fine aggregate is replaced with granite dust and alkaline liquids are used for the binding of materials. The binder is the only difference to the ordinary Portland cement concrete. To activate the Silicon and Aluminium content in fly ash, a combination of sodium hydroxide solution and sodium silicate solution was used. Hence concrete with no Portland cement. The alkaline liquids used in this study for the polymerization are the solutions of Sodium hydroxide (NaOH) and sodium silicate (Na₂Sio₃). Different molarities of sodium hydroxide solution i.e. 8M, 12M and 14M are taken to prepare different mixes. And the compressive strength is calculated for each of the mix. The Geo polymer concrete specimens are tested for their compressive strength at the age of 7days, mixes of varying sodium hydroxide molarities i.e.8M,12M and 14M are prepared and they are cured by direct sun-light and strengths are calculated for 7 days.

KEYWORDS: Geo polymer concrete, Fly ash, NaOH, Na₂Sio₃, Curing

INTRODUCTION

The main ingredient to produce concrete is Portland cement. On the other side global warming and environmental pollution are the biggest menace to the human race on this planet today.

The production of cement means the production of pollution because of the emission of CO₂ during its production.

The cement industry contributes about 5% of total global carbon dioxide emissions.

And also, the cement is manufactured by using the raw materials such as lime stone, clay and

AN EXPERIMENTAL STUDY ON FIBER CONCRETE USING COCONUT COIR

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ABSTRACT

Investigations to overcome the brittle response and limiting post-yield energy absorption of concrete led to the development of fiber reinforced concrete using discrete fiber within the concrete mass. Out of the commonly used fiber, easily available low cost natural fiber is renewable source materials. Though these fiber are ecologically advantageous. Utilizing coconut coir in concrete production not only solves the problem of disposing this solid waste but also helps conserve natural resources.

The major quantity of wastes generated from agricultural sources are sugarcane molasses, paddy, wheat straw husk, vegetables wastes, food products, tea, oil production, jute fiber, groundnut shell, wooden mill waste, coconut husk, cotton stalks etc. The new and alternative building construction materials developed using agro-industrial wastes have ample scope for introducing new building components that will reduce to an extent the costs of building materials. One such alternative is coconut coir which is a form of agricultural solid wastes. It is one of the most promising agro wastes with its possible uses as pond ash in the production of concrete

This project presents adding and coir fibers to the percentage of 0.5, 1.0, 1.5, 2.0, % to the weight of the concrete. Physical and chemical properties of and coir fibers have been studied. A concrete mix has been designed to achieve the grade of M30 as required by IS 10262-2009. In the phase two contains to determine the Compressive Strength, Split Tensile Strength and Flexural Strength of the concrete at 7, 14 and 28 days.

Keywords: Concrete, Coir Fiber, Compressive Strength, Split Tensile Strength, Flexural Strength

INTRODUCTION

Fiber reinforced concrete (FRC) is concrete containing fibrous material which increases its structural integrity. It contains short discrete fibers that are uniformly distributed and randomly oriented. Fibers include fibers, glass fibers, synthetic fibers and natural fibers. Within these different fibers that character of fiber reinforced concrete changes with

varying concretes, fiber materials, geometries, distribution, orientation and densities.

Fiber reinforced concrete with mono fiber system provides limited enhancement of properties. Therefore for improved performance combining two different fibers at suitable proportion in concrete can offer more attractive engineering properties because the presence of one fiber enables the more efficient

INCORPORATION OF GRANITE AND MARBLE POWDER WASTE IN FLY ASH BRICKS

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Abstract: Building industries are the support for infrastructure development in India. The various By-products produced from industries grounds pollution in India. It has a major effect in the healthier environment of the Nation. The combinations of fly ash bricks have a mixture of percentage of the fly ash, granite and marble powder. In India thermal power plants and granite production are generating fly ash and granite dust in huge quantities. Industrial waste are destructive in nature, their disposal is of major concern. Recycling such wastes by exploiting them into building materials is a moderate resolution for the pollution problems. The search was carried out by various mix ratios using the laboratory test likes compression test, water absorption test. For strength characteristics, the results exposed that a frequently increase in compression strength, water absorption values in blocks was good while comparing the features compressive strength of bricks. The ceramic powder is mixed as bricks 5%, 10% and 15% of each mix proportions. To find materials properties, Water Absorption Test, Efflorescence Test, Soundness Test, Structure Test, Size and Shape Test, Density Test, Structural Strength were noted the ranges value of the specimen to compare the optimum dosage of ceramic powder.

Keywords: Fly Ash, Granite Powder, Marble Powder, Water absorption, Compressive strength, Density, Efflorescence, Soundness, Shape and Size, Hardness,

1. INTRODUCTION

Demand for the construction materials is growing day to day in housing sectors in both rural and urban areas. The reduction in the sources of sand and the need to decrease the cost of construction projects has resulted in the increase need to classify different construction materials to sand as fine aggregates in the construction projects.

Bricks are one of the conventional materials used in centuries. In world, Asia produced

nearby 87% of bricks. India and china are the major patrons of bricks, so an alternative and eco friendly materials to overcome the problem.

Marble and Granite powder is a by- product from the crushing process. It is estimated that 20% of ceramic powder in an issue of disposal and this creates environmental issues and landfill problems. It is good alternative during construction projects. In this project, the properties and features of ceramic powdered are studied.

AN EXPERIMENTAL INVESTIGATION ON FLY ASH BRICK WITH COCOUNT COIR

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ABSTRACT

The use of brick masonry is common in our country. The important material for construction of infill walls and load bearing walls are Clay bricks, Fly ash bricks, Hollow blocks and the dividing of rooms is made possible by steel sheets, wooden pieces and glasses.

This investigation is carried out by materials like fly ash, coir fibre, and quarry dust for manufacturing of bricks. The fly ash class 'F' is used for manufacturing of bricks. The fly ash is the waste product from thermal power plants and it disposed in huge volumes. But it can be used as a resource material for manufacturing of bricks. In agricultural field waste materials are generated. Especially fibres having good mechanical properties, coir fibre and banana fibre and jute fibre are examples.

This investigation deals with manufacturing of bricks using fly ash and coir fibre as a resource materials from waste and cement as a binding material, and adding coir fibre of 0.4%, 0.8%, 1.2%, 1.6%. After the specimen preparation, compressive strength test, water absorption test, shape and size test, hardness test, soundness test, color test, efflorescence test, structure test are conducted. We conclude that the brick with 1.6% of addition of coir fibre have 4.11 N/mm² of compressive strength. The maximum cost per brick Rs. 3.36. It is economical when compared to conventional bricks available in market.

Keywords: Bricks, Fly ash, Coir Fibre, Compressive Strength, Cement

INTRODUCTION

In the present scenario an alternate for clay bricks is fly ash bricks which plays key role in the construction of framed structures because of its less weight which will reduce the dead weight of the structures, another advantage is low cost. Such fly ash bricks are not subjected to load bearing structures because of its slight reduction in compressive strength compare with nominal clay bricks. So majority of the fly ash

bricks were used in framed structure construction. In this study a concern to increase compressive strength using coconut fibre is carried out. A comparison has been carried out for the normal brick to fibre reinforced bricks. From the comparison the test result has shown a significant change in the compressive strength by the addition of coir fibre and the test result show significant changes in water absorption quality and other properties of fly ash bricks.

UTILIZATION OF DEMOLISHED CONCRETE WASTE AS PARTIAL REPLACEMENT OF COARSE AGGREGATE IN CONCRETE

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ABSTRACT

Concrete waste is generated whenever any demolition activities take place. Recycling concrete waste as recycled aggregate is one of the methods adopted to reduce environmental impact. When the useful life of the structure is over it will be demolished and all the demolished wastes just find their way to landfills. Finding large areas for landfills is becoming very difficult. On the other hand continuous extraction and quarrying of natural aggregates for construction is causing depletion of natural resources. There cycling of demolished construction waste in to aggregates to be used in new engineering application provides a promising solution to both the problems. In this work the usability of demolished waste as coarse aggregates in new concrete is attempted. This experimental investigation involves evaluating the properties of the constituents of concrete including the demolished concrete wastes as coarse aggregate replacing by 0%, 10%, 20% and 30% in new concrete. The results of this experimental study is aimed at examining the properties and strength of recycled aggregate concrete made from different replacement ratios of recycled aggregates from natural aggregates.

Keywords: Recycled aggregate concrete, Natural concrete aggregate, Super plasticizer Conplast SP 430

1. INTRODUCTION

Construction and demolition wastes constitute one of the major components of wastes generated worldwide. Very large quantities of aggregates are used in concrete production and in construction. When the useful life of the structure is over it will be demolished and all the demolished wastes just find their way to landfills. Finding large areas for landfills is becoming very difficult. On the other hand continuous extraction and quarrying of natural aggregates for construction is causing depletion of natural resources. The recycling of

demolished construction waste in to aggregates to be used in new engineering application provides a promising solution to both the problems. In this work the usability of demolished waste as coarse aggregates in new concrete is attempted. This experimental investigation involves evaluating the properties of the constituents of concrete including the demolished concrete wastes which shall be used as coarse aggregates in new concrete with the aim of producing high strength concrete. The results of this experimental study is aimed at examining the properties and strength of

STUDY ON FLEXURAL BEHAVIOUR OF POLYMERMODIFIED FERROCEMENT BEAM ELEMENTS

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ABSTRACT

Ferrocement is widely used for thin wall structures because of the uniform distribution and dispersion of reinforcement which provides better cracking resistance, higher tensile strength to weight ratio, ductility and impact resistance. However, it forms minor cracks under small loads and so has a problem with durability, since cement mortar has conventionally been used as matrix for the ferrocement. Therefore, to improve the flexural behaviour and durability of ferrocement, specimens were made with modified mortars. The main objective of this paper is to study the Flexural strength for Modified ferrocement beam elements. The addition of admixtures in ferrocement improves its Flexural behaviour and Durability.

Key Words: Ferrocement, Durability, Flexural behaviour, cracking resistance, modified mortars.

1. INTRODUCTION

Ferrocement is a super reinforced concrete. It different from conventional concrete in that there is a higher ratio of steel to cement mortar by altering the cement/steel ratio. Ferrocement has many of the properties of steel and yet it will not rust. Mortar provides the mass and wire mesh imparts tensile strength and ductility. Compared to durability of a structure is its resistance to weathering action, abrasion, chemical attack, cracking or any other process of destruction. Corrosion of reinforcement is one of the major reasons for deterioration of ferrocement. The corrosion of reinforcement mainly depends upon the permeability of the

cement mortar. So by proper selection of chemical, water cement ratio of mortar can be reduced. It has found itself in numerous applications both in the construction of new structures and repair/rehabilitation of existing structures. Therefore the authors have conducted this investigation to improve the flexural magnitude than that of conventional reinforced concrete.

2. MATERIALS

CEMENT

The cement used was ordinary Portland cement of 53 grade confirming to IS 12269-1987. The net weight of each bag was 50 kg .

Experimental Investigation of Concrete Filled PVC Tube Columns Confined By Plain PVC Socket

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ABSTRACT

This paper presents results of an experimental study for concrete column filled poly vinyl chloride (PVC) tubes confined by plain socket with 5.8 & 6.8 mm thicknesses, 102 mm diameter and 100 mm depth. The total of five concrete filled columns using PVC tubes (CFT PVC) was tested to investigate the columns' behaviour. The column is 700 mm height, 100 mm external diameter and 3.5 mm tube thickness with different thickness of plain socket. The results presented include maximum axial load, plain socket confinement effect, the mode of failure, and lateral PVC strain. The axial load enhancement of PVC-concrete columns confined using plain socket shows an increment of 21.3% up to 55.2% and axial strain from 21% to 40% compared with displacement for control composite columns at 192 kN ultimate load.

1 Introduction

In building construction, the merits of a structure are based on factors such as availability, structural strength, durability, and workability. The properties of the structure materials may differ from each other and there is no single material that can fulfill all structural requirements which resulted in the application of composite structures. Composite columns, particularly composite concrete filled steel tube (CFST) columns, are increasingly used for high-rise building structures, owing to the advantage of combined characteristics of the steel and concrete materials.

PVC has advantages such as low cost, lightweight and is easy to handle and install. It is not affected by corrosion or other forms of

degradation; therefore, it is used as an alternative to the metal in many applications where corrosion can compromise functionality and increase maintenance cost. However, the study of concrete-filled PVC tube (CF-PVCT) composite columns are limited even though its advantages are many. The PVC tube does not only protect the core concrete from the corrosion of the atrocious environment, but it is the cheapest material and locally available in abundance. The development of the CFT column using this material could be an achievement for the local construction industries.

Steel and concrete are the common materials used in the composite CFT columns. The CFT columns are known due to their superior of strength with the ability to withstand the load

Investigation on Improving Compressive Strength of Pervious Concrete

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ABSTRACT:

Pervious concrete which is additionally referred to as the no-fines, porous, gap-graded, and permeable concrete and Enhance porosity concrete have been found to be a reliable storm water management tool. There is lot of research work goes within the field of pervious concrete. The compressive strength of pervious concrete is a smaller amount in comparison to the traditional concrete thanks to its porosity and voids. Typically pervious concrete has water to cementitious material ratio of 0.28 to 0.45. The mixture is composed of cementitious materials, coarse aggregates and water with little to no fine aggregates. The main theme of our project is to improve the strength characteristics of M40 grade of pervious concrete. But it are often noted that with increase in strength, the permeability of pervious concrete are going to be reduced. Hence, the development of strength should not affect the permeability property because it is the property which serves it purpose

KEYWORDS: Pervious concrete, Permeability, High strength, Pavements

I. INTRODUCTION

Pervious concrete was first utilized in the 1800s in Europe as pavement surfacing and cargo bearing walls. Cost efficiency was the main motive because decreased amount of cement.

It became popular within the 1920s for 2 storey homes in Scotland and England. It became increasingly viable in Europe after WWII mainly due to the scarcity of cement. It didn't become as popular within the US until the 1970s. In India it became popular in 2000. No Fine concrete could also be a surprising kind of concrete with a high porosity used for concrete

flatwork applications that allows water from precipitation and other sources to leave behind in a straight line through, thereby reducing the runoff from a site and allowing groundwater recharge. Pervious concrete is formed using large aggregates with little to no or some amount of fine aggregates. It is a crucial application for sustainable construction and is one among many low impact development techniques employed by builders to guard water quality. The strength of pervious concrete is low when compared to conventional concrete due to absence of fine aggregate.

DEVELOPMENT AND EXPERIMENTAL STUDIES OF PAPERCRETE WALL PANELS

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ABSTRACT

Papercrete is kind of fibrous cement, made by shredding paper (old newspapers, prints, cardboards etc.) into pulp in water and adding Portland cement to it and in some cases sandy soil to be used as a additive. It gains its inherent strength due to presence of hydrogen bonds in microstructure of paper. This thick mix can then be poured into molds and cast like concrete, to make it into any desired shape and size Papercrete is a sustainable building material due to reduced amount of cement usage and recycled paper being put to good use. It has numerous advantages in construction industry, namely low carbon footprint, recycled material usage, low embodied energy, high strength to weight ratio, high thermal insulation, high sound absorption, aesthetic and cost effective. Much research is being carried out globally on the material but it is yet to be acknowledged by Indian standard practices and codes and recognized by major building material organizations in India. This paper is used to study the properties of papercrete wall panels. It is also used for studying mechanical properties and construction technology associated with papercrete wall panels.

KEYWORDS: Papercrete, Recycled, Building material.

I. INTRODUCTION

Papercrete is a construction material which consists of re-pulped paper fibre with Portland cement or clay and/or other soil added. Papercrete gets its name from the fact that most formulas use a mixture of water and cement with cellulose fibre. The fibre is usually acquired from recycled newspaper, lottery tickets and phone books. Waste paper for construction not only has the potential of waste paper recycling

but it will also reduce the waste deposit. In construction industries, the usage of concrete increase as the demand for the production of cement is also increases and leads to releases of large quantity of greenhouse -Co₂ into the atmosphere. According to the consumption of cement in world, the requirement of Portland cement is currently exceeding 2.6 billion tons per year. Also one ton of production of cement emits the 0.8 ton of greenhouse gas of Co₂ in

Effectiveness of Vibration Control System as Tuned Liquid Dampers on High Rise Buildings

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ABSTRACT

The need to build flexible and slender buildings, that have relatively low damping properties has attracted engineers attention to look for efficient and economical techniques to control the vibrational response of structures. Recently, Tuned Liquid Dampers (TLD) has increased in popularity due to its low installation and maintenance costs. TLD is a passive damping device that consists of rigid tanks filled with liquid to suppress the horizontal vibration of structures. The tank is designed so that the liquid surface wave has frequency tuned to the fundamental frequency of the building. The main objective of this work was to propose TLD tanks for a 40 storeyed building in Kerala. The structure was first modelled and then its fundamental natural frequency was found out by carrying out free vibration analysis. TLD is then modelled into the structure and changes in natural frequencies were monitored. The structure was subjected to an earthquake loading (El-Centro Earthquake) and its frequency response was compared without TLD's and with TLD's. The optimum mass ratio was obtained at 0.8 % and corresponding reduction in displacement was found to be 28.73 %. Based on the optimum mass ratio obtained, number of TLD tanks, its dimensions and required water depth for the structure to control vibrations was proposed.

Keywords—Tuned Liquid Dampers; Eigen Value Analysis; Fluid Structure Interaction; Response Spectrum Analysis;

I. INTRODUCTION

Nowadays, there is an increasing trend to construct tall structures, to minimize the increasing space problems in urban areas. These structures are often comparatively light and flexible, possessing low damping, which make them more vibration prone. Thus to ensure functional performance of tall buildings, against wind and earthquake forces, it is important to

keep the frequency of structural motion below threshold. The various techniques to achieve this can be classified broadly into 2 categories i.e. Active Damping Techniques and Passive Damping Techniques. Active dampers use a power source to create an additional force between the damper and the structure. This type of supplying energy to the system is also known as negative damping. Passive damping refers to

Investigation of Beam with Partial Replacement of Press Mud

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ABSTRACT

Durability of concrete and economy has made it the world's most used construction material. It is basically consists of four components: cement, water, aggregates and admixture. Due to development of infrastructure, necessity of producing large quantities of cement is required and usage of natural resources is required. Initiatives are emerging worldwide to strike a balance between the developments in infrastructure and prevention of the environment from contamination by reusing the industrial wastes. Thus, requirements for more economical and environmental-friendly cementing materials have extended interest in partial replacement of cement in infrastructure development. In this research work, M25 grade of concrete beam with partial replacement of cement by sugarcane bagasse ash at 5%, 10% and 15% specimens were casted and tested for flexural behaviour at 28 days.

Keywords-*sugarcane bagasse ash, flexural strength, Reinforced cement concrete.*

I. INTRODUCTION:

Cement is the binder material used in the concrete to bind fine aggregate and coarse aggregate together to act them as homogeneous material. This is done because of its pozzalonic property. The materials which has pozzolonic property may be used as replacing material for cement. The material should not be replaced fully but it can be done by partially. The waste industrial byproducts such as fly ash, blast furnace slag, silica fume and sugarcane bagasse has this pozzalonic property and so the above waste materials should be used in concrete as replacing material for cement. In this proposed

project we focused on to find the optimum percentage of addition of sugarcane bagasse ash in reinforced cement concrete. The addition of this SBA should not affect the workability, setting time, strength and durability of concrete. The standard fabricated steel mould are used to caste the beams of size 1000mm x 150mm x 100mm of length, breadth and depth respectively. Four NOS of beams are casted at varying percentage of SBA by 0%, 5%, 10% and 15%. A linear compaction should be done during the time of casting to ensure the density of concrete. The reinforcement used is Fe415 grade and thermo mechanically treated bars.

Automation of Commercial & Residential buildings using IoT

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Abstract

Power consumption of electrical appliances when not utilized is a serious issue in all organizations and institutions. Most of the organizations have manual control to operate and monitor the electrical appliances. By this practice, the electrical appliances like lights, fans, computers, etc are left ON when they are not in use in office rooms and even in restrooms. This led to unnecessary power consumption which can be utilized properly if avoided. In this paper, automatic control and monitoring of electrical appliances is done with the use of IoT. For implementing the concept, RFID tags, IR sensors, solenoid locks are utilized for sensing and automating the door lock system. A mobile application is developed to ease the entire process.

Keywords: *IoT, Wi-Fi, RFID, Sensors, Automation, smart room*

I. Introduction

In modern society, people spend most of time in their organization. There is no doubt that the organization environment directly affects the working efficiency, so comfort is required inside the organization. On the other hand, the current energy crisis and growing environmental contamination dilemma all over the world especially in developing countries make energy conservation become the new trend of organization buildings. In response to these thorny issues, the smart office system emerges.

A smart organization system usually consists of an embedded automation system, information technology, and automation technology, several controlled objects and corresponding sensors. It should be sensitive to user's demand, and then analyze it, finally react to it in time. On the other hand, recent researches on smart organization system mainly focus on only one installation e.g. lighting. The automation of technology is achieved through Internet of Things (IoT). Nowadays, we are encircled by lots of IoT

Student Academic Management System using Android Application

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Abstract

Technology has changed our daily life routine and living style. College and school students require new technology that supports smart phone to get information and notifications related to examination, placement, Attendance (Leave/OD), transportation, etc. The online tools like Google classroom facilitate Students and teachers to access lecture notes, assignments, quiz, etc. But Google classroom tool does not support details like accessing information about their attendance percentage, requesting permission for leave/OD, no due, semester results and examination details. Maintaining the academic records becomes a key concern in an institution since the authorities spends adequate time to maintain it and students spend most of the time for requesting leave/OD, no due, etc. The traditional way needs physical presence. This project provides a mobile app which facilitates easy access of all academic related access for students and teachers and eradicates the usage of paper.

Keywords: Mobile Application, MYSQL Database, PHP, Student Management System, Web Server.

I. Introduction

Application of Information Technology has been in the lead of modern education and management. While online courses have become a trend, not only online learners but tutors and management are also making the best use of Internet. Universities and colleges of some countries around the world have adopted the practice of integrating interactive mobile applications into campus management systems (CMS). Compared with traditional approach, CMS optimized with effective mobile application can improve productivity and ease the load of teachers, students and management.

Now a days, students and teachers can access the information through internet. In some cases academic information such as assignments has some deadlines; therefore, it must be

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Exploration of finger vein recognition systems

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Abstract

Finger vein recognition is a method that identifies an individual using the finger vein pattern. Finger veins are unique to an individual. The friction ridges which create finger veins are formed while inside the womb and grow proportionally as the baby grows; even identical twins have different finger veins. The era of biometrics has been going on, various authentication algorithms has been proposed for security purpose, as time and technology has improved. In this paper proposes an analysis of various Finger vein recognition systems. Some finger vein techniques are multi-image quality assessment, Deep learning, Back propagation neural network and Adaptive threshold. This paper gives a detailed proposal of the techniques that are used in the proposed systems of finger vein recognition technology and also future enhancement of the system.

Keywords: Biometrics, finger vein, deep learning, neural network, recognition

1. Introduction

Accurate recognition of human identity for security and control is a major issue of concern. Hence automatic authentication systems for control have found application in criminal identification, automated banking, etc. Biometric identification is the study of physiological and behavioural attributes of an individual to overcome security problems. There are several types of biometric techniques available such as finger print, palm print, hand veins, finger veins, palm veins, foot vein, iris, gait, DNA recognition, palates, voice recognition, facial expression, heartbeat, signature, body language, and face shape. The traditional authentication systems like identity card or password can be easily stolen or acquired by unauthorized person. All these traditional authentication systems are gradually replaced by biometric systems like finger prints, iris recognition, palm print and finger vein recognition. Researchers focus on Finger Vein patterns as it is associated within body and hence it is difficult to spoof or forge the same under normal processing environment. The vein pattern is generally captured by the near-infrared light, as the light can be intensively absorbed by the haemoglobin in the vein but easily transmit other finger tissue. The resulting vein image appears darker than the other regions of the finger, because only the blood vessels absorb the rays. The capturing device can be a compact type, and easily installed in public and private places without any access to direct sunlight. A finger-vein identification system offers a guaranteed recognition process that is safe, simple and highly accurate. Fig.1 illustrated block diagram of finger vein recognition process.

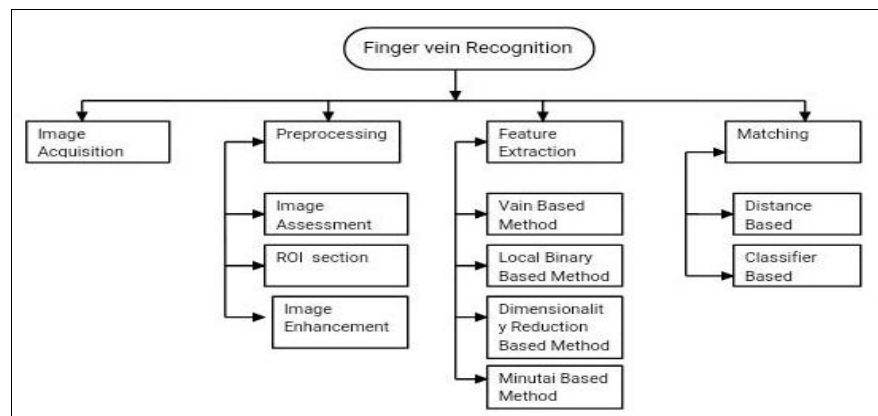


Fig 1: Block diagram of finger vein recognition

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IOT BASED PATIENT DATA BASE MANAGEMENT SYSTEM USING BIOMETRIC

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ABSTRACT - In the Healthcare industry, when it comes to Patient Safety and Security, the most debated and talked about subjects are Patient Identification and Patient Data Integrity. Fingerprint Recognition Technology has become part of our daily lives. Few of its most common uses are, timekeeping systems for payroll purpose and Smart-phones with the ability to identify users based on their finger prints. In the similar lines, some of the hospitals are exploring the use of fingerprint scanners. The approach has both benefits and drawbacks. Since the biological pattern found in the fingerprints of every individual is unique and permanent, the use of fingerprint biometrics would provide to be a reliable and accurate method to efficiently identify the patients. The best part of the fingerprint technology is that apart from safeguarding the patient's information, it also protects against fraud and minimizes human intervention. Such use of this technology minimizes the need to enter new information into patients' records, limiting the human element involved with data entry thus making it easier to match the patients' records for his/her future visits. Organizations using the Fingerprint Recognition Technology mostly use the fingerprint scanners. Simply by placing a finger on a self-service kiosk or other reading device, the enrolled patients get registered quickly at the entry point of any facility, like the emergency department, inpatient areas or outpatient locations. Looking at the flip side of the coin, this technology tends to be more challenging and invasive for patients to accept and use at registration desk.

I.INTRODUCTION

Doctor's facilities continuously require exceptional administration. The database of every last bit patients ought to be helpful sufficient. Be that as also, there ought to be information avoidance. Likewise the tolerant information ought further bolstering be kept private in the event. Social insurance may be the The majority critical concern from claiming numerous nations in the universe. Enhancing those exists of patients particularly in the weaker parts of the particular social order which incorporate those elderly, physically Also rationally handicapped and additionally the chronically sick patients may be the main consideration will make progressed. On existing system, those information is recorded in the manifestation from claiming paperwork or looking into general stockpiling server. However by and large that information will be approachable on every last one of staff Furthermore doctors. Subsequently we need aid proposing another route the place tolerant What's more doctors fit to correspond through versatile requisition Furthermore web requisition.

II.SYSTEM DESIGN

The system IoT Based Patient Data Base Management System Using Biometric :

- Power supply
- Fingerprint sensor
- IOT
- LCD
- Arduino Uno.(Atmega 328p)
- PC (personal computer)

Disaster Management System Using IOT

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Abstract—The disaster management system prototype using Internet of Things (IoT) proposed here is capable of sensing atmospheric changes and upload the data obtained to the cloud server i.e., Thing speak server. On the occurrence of disastrous events, alerts are given via Gmail and Telegram application using IFTTT SaaS. Actuators like Fan and Sprinklers are used to control disasters like fire and extreme temperature. Smart cities mission is an urban renewal and retrofitting program by the Government of India with a mission to develop 100 cities all over the country making them citizen friendly and sustainable. Addressing to the disasters that may occur naturally or man-made disasters involves widespread human material, economic or environmental impacts. This proposed system provides interconnected smart modules as a way to enable centralized data acquisition by sensing and communication technologies of Internet Of Things (IoT) and Wireless Sensor Networks (WSN) to coordinate disaster management at the national and local levels in coordination with relevant agencies, and raise awareness on disaster risks in real time. This system can be controlled and monitored from remote location and delivering real time notifications based on information analysis and processing without human intervention. The data stored can be utilized for prediction of risks in future.

I.INTRODUCTION

Many Disastrous events are cordially involved with the momentum of nature. As such incidents have been showing off own mastery, situations have gone beyond the control of human resistive mechanisms far ago. Fortunately, many technologies are in place to gain affirmative knowledge and analysis of a disaster's occurrence. Recently, Internet of Things (IoT) paradigm has opened a assured door toward scattering of multitude problems related to agriculture, industry, security, and medicine due to its distinct features, such as heterogeneity, interoperability, light-weight, and flexibility. Furthermore, IoT-supported protocols an product are mainly used to address these issues. Many countries are facing of several social issues in aged population, healthcare, disaster reduction/prevention, safety, security, etc. The smart city concept that utilizes the Internet-of-Things (IoT) technologies to strengthen social infrastructures opens a new door for innovative solutions to the above-mentioned issues and also creates a big commercial market. This project proposes a mechanism to data in community-based IoT networks. If unexpected things happened to the elderly people, they need emergency help which may not be provided. Children are usually play outside they need to monitored always which is not possible. Any disaster reduction works may not be monitored by the government. All these are problems of the existing system. When the a particular region is equipped with sensor devices, microcontroller and various software applications becomes a selfprotecting and self-monitoring environment and it is also called as smart environment. In such environment when some event occurs the siren or SMS alerts automatically. The effects due to the natural disasters on human beings can be monitored and controlled by smart monitoring systems. By using embedded intelligence into the environment makes the environment interactive with other objectives, this is one of the application that smart systems. Human needs demand different types of monitoring systems these are depends on the type of data gathered by the sensor devices. Initially the sensor devices are deployed in coastal region to detect the parameters (e.g., Axes of the earth, water levels etc.) while the data acquisition, computation and controlling action (e.g., the variations in the axes and water levels with respect to the specified levels). Sensor devices are placed at different locations to collect the data to predict the behaviour of a particular area of interest. The main aim of this paper is to design and implement an efficient monitoring system through which the required parameters are monitored remotely using internet and the data gathered from the sensors are stored in the cloud and to project the estimated trend on the web browser. A solution for monitoring the coordinates of the earth and water levels i.e., any parameter value crossing its threshold value ranges, for example water levels in river in a particular area exceeding the normal levels

II.LITERATURE REVIEW

A.IoT-SUPPORTED PROTOCOLS FORDISASTER MANAGEMENT:

This section presents several genres of the IoT supported protocols that are suitable for performing different activities in the disaster management. Primarily, the implied protocols are segregated into seven types such as infrastructure, discovery, data, communication, semantic, multi-layer Framework, and Security. Disasters require special interventions in terms of the protocols because each type of disaster has its notion of occurrence, time of the mishap, damage ability. For example ,landslides are often localized, whereas earthquake affects the large geographical region. In addition, these disasters have various impact on human life and infrastructure. Thus, it is necessary to consider several issues while selecting infra structure and multi-layer framework protocols. Further more, the lightweight and energy efficient IoT-based protocols are useful to discover local sensor devices and gateways for starting of communications in a secure way. As the disastrous situations always cut-off the affected region from outside employing wire communication links e.g., overhead wires, antennas, and optic fibre

Design and implementation of virtual brain using IOT

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Abstract -Human brain, the most valuable creation of God. The man is called intelligent because of the brain. But we loss the knowledge of a brain when the body is destroyed after the death. Virtual brain project will search for insights into how human beings think and remember. The main aim is to upload human brain into a VBOT Sensor. After the death of the body, the virtual brain will act as the man's brain. Such models will shed light on how memories are stored and retrieved. This could reveal many exciting aspects of the brain, such as the form of memories, memory capacity and how memories are lost. This project contains two sensors wireless body area sensor network named Nanobots. This sensor is a wireless network of wearable computing devices. BAN devices may be embedded inside the body. it gather energy from the body temperature and communicate with the VBOT Sensor. Next Sensor is VBOT Sensor it acts like virtual Brain. Through this sensor we can store our secret and our intelligence with the help of PC or Mobile. We can use the secret

Keywords- matlab , frame separation, colour detection feature extraction, fire detection.

I.INTRODUCION

Human brain is the most valuable creation of God. The man is called intelligent because of the brain. The brain translates the information delivered by the impulses, which then enables the person to react. But we loss the knowledge of a brain when the body is destroyed after the death of man. That knowledge might have been used for the development of the human society. What happen if we create a brain and up load the contents of natural brain into it?

Blue Brain

The name of the world's first virtual brain. That means a machine that can function as human brain. Today scientists are in research to create an artificial brain that can think, response, take decision, and keep anything in memory. The main aim is to upload human brain into machine. So that man can think, take decision without any effort. After the death of the body, the virtual brain will act as the man .So, even after the death of a person we will not loose the knowledge, intelligence, personalities, feelings and memories of that man that can be used for the development of the human society. No one has ever understood the complexity of human brain. It is complex than any circuitry in the world. So, question may arise "Is it really possible to create a human brain?" The answer is "Yes". Because what ever man has created today alwayshe has followed the nature. When man does not have a device called computer, it was a big question for all. Technology is growing faster than every thing. IBM is now in research to create a virtual brain, called "Blue brain". If possible, this would be the first virtual brain of the world. With in 30 years, we will be able to scan ourselves into the computers.

II.LITERATUR REVIEW

[1]A synchronization method for wireless acquisition systems has been developed and implemented on a wireless ECoG recording implant and on a wireless EEG recording helmet. The presented algorithm and

Optimisation of Fire Detection and Recognition Based On Virtual Reality Video Image

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Abstract – Fire address a genuine danger to living souls, environmental frameworks, and foundation. Numerous business fire location sensor frameworks exist, yet every one of them are hard to apply everywhere open spaces like backwoods as a result of their reaction delay, important support required, significant expense, and different issues. In this paper a backwoods fire discovery calculation is proposed, and it comprises of the accompanying stages. Right off the bat, foundation deduction is applied to development containing district recognition. Besides, changing the fragmented moving locales from RGB over to YCbCr shading space and applying five fire recognition rules for isolating applicant fire pixels were embraced. At long last, fleeting variety is then utilized to separate among fire and fire-shading objects. The proposed technique is tried utilizing informational index comprising of 6 recordings gathered from Internet. The end-product show that the proposed strategy accomplishes up to 96.63% of genuine discovery rates. These outcomes show that the proposed technique is exact and can be utilized in programmed alarm frameworks.

Keywords- matlab , frame separation, colour detection feature extraction, fire detection.

I.INTRODUCION

Fire is perilous that brings incredible death toll and properties. Yearly thousand of mishaps identified with fire happen everywhere on the world because of force disappointment, incidental fire, common lightning. So to control fire, different framework is created and being created. The current frameworks are the smoke sensors types and sprinkler type frameworks that distinguish fire from smoke and intended to actuate subsequent to arriving at the edge set temperature. All things considered, with this sort of framework, there are numerous burdens like a bogus caution, space inclusion, signal transmission, and furthermore the deferral in an alarm.

As smoke alarms are put in the roof, smoke stake time to reach up to the roof, which brings about time delay. Also, another issue of the existed framework is difficult to execute in the open climate and enormous foundations like arenas, airplane holders because of the tremendous zone covered by these foundations. Utilizing the picture handling innovation in fire recognition opens numerous prospects

II.LITERATUR REVIEW

[1]The rapidly spreading forest fire is always uncontrollable and unpredictable and also has a disastrous effect on the environment as well as human individuals. This is also able to wipe out large acres of forest as well as the agricultural lands. Therefore, in this paper, a fire detection approach is presented in the non sub sampled contour let (NSCT) domain by extracting the fused fire regions of visible and infrared (IR) images using spatial fuzzy C-means clustering (SpFCM). Firstly, the NSCT is applied to decompose

IOT BASED ENGINE OIL LEVEL AND IMPURITIES MONITERING SYSTEM WITH TRACKING SYSTEM

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Abstract—The paper describes the design and development of an IoT based oil impurities, level monitoring instrument and its operational methodology. The research work uses a unique approach with customized system to monitor the vehicle's engine oil level and impurities with live tracking of vehicle. The developed instrument has done Qualitative and Quantitative assessment of lubricant oil in IC engine's sump. This in turn is helpful in carrying out decisive task towards maintaining Engine life cycle and carbon footprint. The system has advantages of affordability and portable design. This project also allows the user to navigate the vehicle live. The live vehicle tracking is achieved by GPS with the help of android app and internet. Thus this project helps the user to prevent the vehicle theft in effectively.

Keywords—IoT, Light-dependent resistor, engine oil, GPS

I. INTRODUCTION

Automotive engine characteristics such as efficiency in terms of quantitative and qualitative parameters such as Engine performance parameters are power, torque and specific fuel consumption is directly related to the designed mechanisms of the engine and its smooth functioning within the limit of carbon footprint. Lubricating oil plays a major role to keep the engine running with desired performance. Engine oil and lubricating oil in internal combustion engines are exposed to varying strains depending on the operating conditions and the fuel quality therefore it is essential to maintain the quality of engine oil and Lubricating oil so as to minimize the friction within the Engine. On one hand the oil must be changed in time to avoid possible engine failures, on the other hand an unnecessary oil change should be avoided for environmental and economic reasons.

Oil degradation is the process by which the lubricating, cooling, cleaning, protection or sealing performance of the fluid decreases. Chemical reactions such as Oxidation, nitration, temperature rise, external contamination, shearing, corrosive ambient, additive depletion, etc. are the most important factors for accelerating the oil degradation process. Therefore, degradation of lubricant and engine oil impacts the performance of the machines such as gears, transmissions or automatisms where they are being used, and often the degradation of the lubricant properties is the cause of downtimes, dramatic failures and increases carbon footprint. Periodic change of these oils is a basic part of the maintenance program of Engine servicing operation which is not an optimum method economically and qualitatively.

IOT Based Intelligent Parking System in Smart City Developments

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Abstract - The main aim of the project is to implementing a parking system in order to eliminate the traffic problem on roads. Generally in this modern world the usage of area on the earth is much more and the place provided is very less. Traffic congestion due to vehicles parked in No parking zones has become a serious problem in major cities of India. Due to traffic congestion environment, economy and overall quality of life is affected. Hence it is high time to effectively manage the traffic congestion problem. With increase in number of vehicles, discipline in road regulation or traffic system becomes mandatory. With the advent of new technology this problem can be tackled by using Wi-Fi enabled microcontrollers, RF Transmitter/Receiver and cloud systems to monitor every vehicle on the road all the time. This becomes easy for the government in regulating its traffic rules with high efficiency without affecting the smoothness of the traffic.

I. INTRODUCTION

The present scenario around us we see excess vehicles and the ineffectiveness to manage them in the correct order. As the population increases day by day the rate of utilization also increases and coping up with the numbers becomes a task. An omnipresent problem around the world is finding a parking space to park your vehicle. This task looks simple on side roads and interior lanes but the actual problem arises

when parking in malls, multistory parking structures, IT hubs and parking facilities where several hundred cars are parked and it becomes arduous to find a spot. The general approach to finding a parking space is to go around and drive aimlessly until a free space is found. Finding a parking space could be the easiest task or could be the most tedious one when it involves wide acres of distributed space across one level or multiple levels. The time and fuel are consumed unnecessarily because the destination is unknown. The easiest way of approach is to provide a destination specific driving within the parking structure.

II SYSTEM MODEL

As the name signifies, an embedded system is embedded or builds into something else. Embedded systems encompass a variety of hardware and software components, which perform specific functions in host system, for example satellites, washing machine, handled telephones and automobiles.

A few years ago, embedded technology existed in standalone devices such as vending machines and copiers that did their jobs with little regards for what went on around them. But as technology advance to connect devices to the internet and to each other, the potential of embedded technology has increased. Home appliances, mobile phones, cars, avionics etc., are all using embedded technology.

ADVANTAGE:

- ✓ The proposed method reduces almost traffic in smart cities.
- ✓ It also reduces time complexity of vehicles congestion
- ✓ Enhancements are used to make it easier for parking and every vacant available.

Design and Implementation of Anti-Theft for ATM using Embedded Systems

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Abstract- Our proposed system will provide advanced ATM theft security system. The afflatus for our project is gained from the news and issues which are happening in our daily life. Now a day's larceny or robbery of ATM is superabundantly increased so due to that we trying to disclose remedy for it. Keeping the technique of 'keep it simple' in our mind, were commended 3-layered advanced ATM theft security system for ATM machine, starting from sensors at the entrance to GPS technology in the ATM machine. Followed by the smart unauthorized access detection and informed to the nearest police station and the Bank Authority.

Key words: GPS, vibration sensor, motion sensor, ATM theft, ATM Security.

1. INTRODUCTION

We belongs to the edge of digitized and smart world. People are getting smarter day by day with the help of new technology, new innovations. Main reason behind the up-gradation of new technologies are nothing but to overcome the existing problems.

Economic growth of world makes the life smarter and better as compared to previous lifestyle. A smart step towards economy is the introduction of Automated teller machine (ATM), for faster and easier money transfer. But a group of people do malpractices over this ATM system to put people, organization or bank into a millions pounds of loses.

This system proposed in our project, maintain the entry of a single card holder at a time with the help of auto sensor detection. Follows by the vibration detection and GPS technology used in the ATM machine. If any types of unexpected events occurred, nearest police station and the authority will be informed automatically.

1. OBJECTIVES

- To overcome the ATMtheft.
- Restrict the entry of any unauthorizedperson.
- Provide moresecurity.
- Formal step towards smartcity.

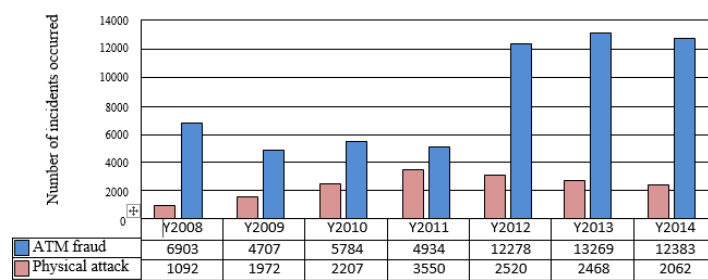


Figure 1: ATM robbery in per year

Design of Low Power High Speed adder using XOR Gate

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I. INTRODUCTION

Addition is the most important operation in almost microprocessors, digital signal processing, digital image processing etc., also it is the basic operation which is the base for many other complex operations. Area and power are the two crucial factors which are to be concerned in order to increase the portability and better life of portable devices. Even in Personal Computers (PC) and servers, power dissipation is an important design concern. In recent time, most of the computational devices are in thrust of getting area and cost efficient systems and it serves as the most important research area in many domains. The carry propagation serves as the crucial factor in deciding the speed of addition, the faster it propagates the faster is the computation and vice versa. Depending on delay, area and power consumption requirements, several adder implementations have been proposed. Ripple carry adder is the slowest adder as compared to other adders as it works on the principle of rippling the carry which takes time. Carry select adder (CSL) improves the performance and it is faster and therefore used in many high speed arithmetic calculations and processing applications. By gate level modification of CSL architecture, we can reduce area and power. The basic motivation of this work is to develop an efficient less area and low power adder.

II. CARRY SELECT ADDER (CSL)

The main advantage of CSL [1] is to improve the delay in carry propagation. One way of doing this is to have simultaneously more than one pair of ripple carry adder, in which the carry bit ripples from one stage to next stage. The adder output i.e. sum and the carry out from any stage cannot be produced, until sometime after the carry-in of the stage occurs. This is due to the propagation delay in logic circuitry, which leads to a time delay in the addition process. Therefore, the efficiency of ripple carry adder has been dependent on the delay in carry propagation from previous stage to next stage. The CSL has been popularly used to improve the performance of arithmetic unit by independently generating the multiple carries and then selecting the required carry output to give the final output.

SMART MISBEHAVIOUR DETECTOR

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ABSTRACT

In today world everyone installed CCTV camera for security purpose. The CCTV cameras continuously record the situations. Hence there is an unnecessary memory wastage if there is nothing happening in front of the camera. User put a person for monitor cameras 24*7. The proposed system main concepts is how to use CCTV more efficiently. Which will record each and every action if there is happens any unusual activity in front camera it will automatically alert authorized person. We can use camera for Human Motion Detection(yolov3) .The camera is used to catch the live images of the area in which it is being implemented, if any object is moving. If there is any misbehavior activities happens the capture live images automatically detect the behavior of the victim by using yolo version 3, by the detection if its misbehavior emergency mail alert automatically sent to the authorized person and nearby police station with photo image. The mail sending working based on simple mail transfer protocol.

Key words: Object detection (yolov3), Object tracking (deep sort), pascalvoc, Simple Mail Transfer Protocol, CCTV.

I. INTRODUCTION:

Capturing the live video nourish into the webcam is the first step in video surveillance. It is not feasible to process the video directly. Analyzing images, our proposed system compare the current frame captured with previous frame to detect the human motion. Activity Behavior of the human is analyzed by using of trained image. CCTV is the monitoring of the behavior, activities, or other changing Information. Video analysis involves object tracking. Object tracking is based on deep sort. way to look at object tracking is the creation of temporal correspondence among detected object from frame to frame. Object tracking is an important component of many vision systems. It is used not only for visual surveillance, but also for augmented reality, traffic control, medical imaging, gesture recognition, etc.

Primary need of the system is huge amount of dataset for perfect accuracy. In first our system trained for humans and their motions, after that we trained our model for misbehavior. Our system also applicable for real time and video recording. Our system model can use many field like directing (cini field), traffic, Bank safe, factory and other public places.

Object detection detect each frame by frame so we can identify person action. If its wrong behavior our system automatically send the mail to the authorized person or police station. The main advantage of the mail sending is, in that alert mail with captured image or video so we can identify the accurate problem. Mail sending act by using of SMTP protocol.

INTELLIGENT WATER QUALITY MONITORING AND LEAKAGE DETECTION SYSTEM

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ABSTRACT

In the urban area, the physical infrastructure plays an important role. In water distribution system, the water supplied from the reservoir to the consumer end. The pattern of the pipeline will follow the road network of the area. Due to rapid urbanization in an urban area, the water demand is rapidly increasing. Therefore, the pressure on the existing network is growing. This may result in the gap between supply and consumer chain in a different manner. Leak detection plays a significant role in the efficient management of Water Distribution System (WDS), as it will help in reducing water wastage. Water leakage is main problem which is to be rectified. The water quality is to be monitored to avoid some chronic diseases. By applying modern tools in the system, the existing problems will be minimized and give one step ahead for the making of the smart city.

I. INTRODUCTION

Driven by increasing concerns over the security of the nation's water supply and water quality infrastructure, reliable access to safe and clean drinking water has become one of the greatest global challenges. In order to maintain a safe water quality, it is critical to continuously monitor sudden changes in toxicity concentration at various water supply and distribution system locations at industries. Conventional techniques are not suitable for providing the required analysis capabilities of water quality because they are time-consuming, cumbersome and need a wide range of *ex-situ* experiments with external equipment. With

the continuous economic growth, the water demand of enterprises is also increasing.

With the continuous economic growth, the water demand of enterprises is also increasing. The monitoring of water resources for these enterprises can prevent the occurrence of stealing water and leaking water effectively. Therefore, the monitoring system of urban water supply has aroused extensive attention in recent years. Urban water supply networks form the link between drinking water supply and drinking water consumers. These large-scale networks are vital for the survival of urban life, for maintaining a healthy level of economic development, and for the continuous operation of factories and hospitals.

AUTO-TRACKING AND CONTROL OF LIGHT CHASING VEHICLE USING IOT

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ABSTRACT

This paper mainly discusses the application of Internet of Things (IoT) technologies; all the things around us are getting smarter. This project mainly discusses the application of Internet of Things (IoT) in mobile vehicle tracking. We combine embedded control and IoT technology to design and develop a smart light chasing vehicle that automatically chases the light source and tracks its moving direction and moving path. This light-chasing vehicle can be used with Arduino embedded control technology combined with four-azimuth light sensing component are used to design and develop a smart chasing vehicle that can automatically chase the light source from eight directions (N, E, W, S, NE, NW, SE, SW) and record the sensing value and moving direction. In addition through the IoT remote WiFi wireless communication function, light source parameters and the vehicle moving direction can be transmitted. The real time vehicle tracking system is to be implemented to monitor, the vehicle live location as well as vehicle tracking record through GPS (Global Positioning system).

1. INTRODUCTION

The Internet of Things (IoT) refers to a message connection and switching network formed by physical objects, such as vehicles, machines, household appliances, etc., through embedded control sensors and API devices. IoT can digitize the real world and has a wide range of applications. Its main application areas include transportation and logistics, industrial manufacturing, health care, smart environments (home, office, and factory), individuals and society, with a very broad market and application prospects. In order to explore the application of IoT technology in mobile vehicle tracking, this study combines Arduino embedded control and IoT communication technology. On the one hand, the four-direction light sensing

components are used to design and develop a smart chasing vehicle that can automatically chase the light source from eight directions and record the sensing value and moving direction. In this paper, the system architecture and system development of this automated light-chasing vehicle will be described, and topics such as the light-chasing control process of the vehicle and the algorithm for determining the direction of movement when displaying the moving path will be discussed.

1.1 INTERNET OF THINGS (IOT)

The **Internet of Things (IoT)** is a system of interrelated computing devices, mechanical and digital machines, objects, animals or people that are provided with unique identifiers and the

STRESS DETECTION AND REDUCTION USING BINAURAL WAVES

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ABSTRACT

The negative effects of mental stress on human health has been known for decades. High-level stress must be detected at early stages to prevent these negative effects. After the emergence of wearable devices that could be part of our lives, researchers have started detecting extreme stress of individuals with them during daily routines. We developed an automatic stress detection system using physiological signals obtained from unobtrusive smart wearable devices which can be carried during the daily life routines of individuals. Stress can trigger ill mental health or, at any rate, poor mental health, which places psychological stress on the body. It is estimated that 60% of doctors' appointments are triggered by stress-related symptoms.

Keywords-Stress, Galvanic skin response,Binaural waves,Noemcu,Arduino.

I. INTRODUCTION

Stress, better explained in , is a response to particular events. It is the way our body prepares itself to face a difficult situation with focus, strength and heightened alertness. When we perceive a threat, our nervous system responds by releasing a flood of stress hormones, including adrenaline and cortisol. These hormones rouse the body for emergency action. In some cases it is necessary to collect feedback in order to control this symptom because it can become dangerous in certain situations. Therefore, it is necessary to build a device to detect stress. In our method we use pulse oximeter and galvanic skin response to detect stress, when the user is in stress the pulse rate and skin conductance is monitored and at the critical stage a message to the registered mobile

number and after the pre-stored binaural waves can played automatically, the user can hear it through headphones.

II. LITERATURE REVIEW

^[1]Although psychologists studied emotions since the 19th century, there is still no consensus on a universally accepted definition of what emotions are and how they are generated. However, over a century of research clearly shows that emotions and bodily functions are related. For this reason, many studies in the psychophysiology literature employ physiological data such as electrodermal, cardiovascular and muscular activity to measure participants' affective states including those related to stress. Other instruments such as questionnaires and

DIGITAL IMAGE ENHANCEMENT USING MULTIPLE MOTION ANALYSIS

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ABSTRACT

Objective of Image enhancement is to process an image so that result is more suitable than original image for specific application. Digital image enhancement techniques provide a multitude of choices for improving the visual quality of images. Appropriate choice of such techniques is greatly influenced by the imaging modality, task at hand and viewing conditions. This project will provide an overview of underlying concepts, along with algorithms commonly used for image enhancement. The paper focuses on spatial domain techniques for image enhancement, with particular reference to point processing methods and histogram processing.

INTRODUCTION

Image processing is a method to convert an image into digital form and perform some operations on it, in order to get an enhanced image or to extract some useful information from it. It is a type of signal dispensation in which input is image, like video frame or photograph and output may be image or characteristics associated with that image. Usually Image Processing system includes treating images as two dimensional signals while applying already set signal processing methods to them. It is among rapidly growing technologies today, with its applications in various aspects of a business. Image Processing forms core research area within engineering and computer science disciplines too.

SYSTEM MODEL

Image restoration removes or minimizes some known degradations in an image. In many image processing applications, geometrical transformations facilitate processing. Examples are image restoration, where one frequently wants to model the degradation process as space invariant, or the calibration of a measurement device, or a correction correction in order to remove a relative movement between object. Multiresolution/multi orientation methods, such as the wavelet transform, originally developed in the signal processing field have been proposed for image enhancement, segmentation or edge detection in the field of digital mammography since it

SMART WASTE MANAGEMENT USING AI

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ABSTRACT

This Paper deals with the most blistering topic i.e. waste segregation using AI. An efficacious management needs to be materialized for better planet to live in. Hence, with our cost effective project proposal, we try to bring in the change. This paper proposes an automatic waste segregator (AWS) using AI which is a cheap, easy to use solution for a segregation system at households, so that the wastes can be sent directly for processing. AI based waste segregator is designed to sort the waste into three main categories namely; metallic, organic and plastic, thereby making the waste management more effective. Sensors are connected near smart bin to detect different types of waste. first sensor connected is the capacitive proximity sensor to detect non conducting waste and which is having highest priority among the two sensors connected. This sensor gives accurate results even for smaller objects.

I. INTRODUCTION

To make the cities greener, safer, and more efficient, Internet of Things (IOT) can play an important role. The implementation of proper waste management system will avoid the spreading of such disease. In project we proposes a smart mechanism for improving the management of wastes in cities. Things that are connected to the Internet and those devices controlled from the Internet is called Internet of Things. In this system, the smart bin is connected with the internet to display the exact information about the dustbin level and to which area it belong. In present there was a rapid growth in the population which leads to large quantity of waste disposal in the cities. The overflow of dustbin will create a unpleasant environment and it affect many people by spreading the deadly disease.

The ultimate need of the hour for a developing nation is the key for “Smart City”. The influential ecological factors that poses to be a threat to this may include: hazardous pollution and its subsequent effects on health of humanity, alarming global warming and depletion of ozone layer etc. Mostly Environmental pollution may be owing to the

Municipal Solid Leftovers (MSL). A Proper maintenance becomes mandatory for an efficient and effective removal of the generated Municipal Solid Leftover. It is perceived that often the waste space gets too much occupied due to irregular removal of garbage occupancy in the dustbin.

II LITERATURE REVIEW

[1] Solid waste management has become one of a major concern in environmental issues (Mazzanti & Zoboli, 2008). This is particularly true to urban areas where population is rapidly growing and amount of waste generated is increasing like never before (Kathiravale & Mohd Yunus, 2008).

Current earth's population is 6.8 billion and it is estimated that almost half of this population lives in urban areas (Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat, 2009).

[2] Waste generation increase proportionally to this population number and income, creating the needs of effective management (Mazzanti & Zoboli, 2008). Urbanization and industrialization leads to new lifestyles and behavior which also affects waste

Smart Glass for Blind People

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ABSTRACT

Eyes are the blessings given by God to humans to live their life beautifully. The world population is about 7.8 billion, but everyone having the right vision means it is questionable. People with visual impairments use Braille Codes for reading and writing, walking sticks to detect and identify obstacles in their paths. People who are experiencing these kinds of impairments may face various problems, some of them are teased without their knowledge, some may make fun of them. This stressful environment is not good for Blind People. The main objective of our project is to make sure that blind people are aware of the person whom they are interacting with and notifying them with audio of the person's name. With the help of our proposed system, blind people can survive without depending on others or any external assistive systems. This system makes use of deep learning techniques to identify a person and provide their name as an audio output through earphones. The modern tools are just available to alert them in case of any objects present in front of them and these devices have low accuracy and cost is also high in which Blind people cannot afford to buy those gadgets. Our project provides good accuracy, best performance results for Blind people.

Keywords- Haar Cascade, Numpy array, Tensorflow, Opencv-Python, Face recognition.

I. INTRODUCTION

Blindness as well as low vision, are conditions where people have a decreased ability to see and visualize the outside world. This reduces their mobility and productivity in completing their daily tasks. Blind people usually depend upon experience, smart sticks or some other people to help them in walking and avoiding obstacles. They do not have a sense of sight which makes highly dependent on their memory. Also, they cannot be aware of sudden changes in the surroundings which makes it almost impossible to react to an instantaneous situation. Understanding any of the visual aspects like colour, orientation and depth of an object is not easy. However, in the recent past, technology has made many advancements for the Visually impaired human beings. Hands free devices work completely on the audio input of the users. However, these devices are not enough to make the personal life and professional life of sight impaired people easy. They only take audio input and when users want to understand the image of their surroundings or texts. These are not helpful for Blind people. In order to increase their level of assistance, their innovation will be more helpful to Blind people. This makes visually challenged smartly survive in an environment as like normal people.

II. LITERATURE REVIEW

[1]A system with people tracking and re-identification using RGB-D camera was developed by Kenji Koide is all about to identify the person in an office and track their paths. It is a face recognition-based people tracking system and re-identifying them using RGB-D camera networks. This system utilizes OpenPTrack, an RGB-D image-based people tracking framework and re-identify the people by face recognition based on OpenFace, which is a deep convolutional neural network-based face representation. Here, they have proposed a Bayesian interference-based face classification method for reliable re-identification of the system. Here, face visibility is hard.

[2]Jawaid Nasreen invented an application for object detection and narration for the visually challenged. This is a system which can be used to assist the visually impaired people in the understanding environment by narrating the objects in the surrounding. This developed system is based on using a website which on loading takes the image from the back camera of the phone and pass that image to the server. On server side, a trained machine learning model called YOLO (You Only Look Once) is deployed to detect the objects in that image. The result of detection is passed to the client browser where a browser-based voice library

EFFICIENT SUIT WITH SUPERIOR SAFETY FOR SOLDIERS IN BORDER USING IOT

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ABSTRACT

In today's world, enemy warfare is an important factor in any nation's security. One of the important and vital roles is played by the army soldiers. There are many concerns regarding the safety of soldiers. So for their security purpose, many instruments are mounted on them to view their health status as well as weapon's present with them. Bio-sensor systems comprise various types of small physiological sensors, transmission modules and processing capabilities, and can thus facilitate low-cost wearable unobtrusive solutions for health monitoring. These devices are being added to soldier's jackets and uniforms so that field commanders can track their soldier's movements in real time.

Keywords :Internet of Things, ESP8266 module, Arduino, Health Monitoring, Encryption.

I. INTRODUCTION

The aim of creating fully integrated combat systems for soldiers. Alongside vast improvements in protective and weaponry subsystems, another major aspect of this technology will be the ability to provide information superiority at the operational edge of military networks by equipping the dismounted soldier with advanced visual, voice, and data communications. Capable of displaying maps and real-time video from other squad members, ranges of physiological sensors monitoring heart rate, core body temperature etc. These devices will improve situational awareness, not only for the host, but also for collocated military personnel who will exchange information

using wireless networks. The challenge was to integrate these piecemeal components into a lightweight package that could achieve the desired result without being too bulky and cumbersome or requiring too much power, also High-speed, short-range, soldier-to-soldier wireless communications to relay information on situational awareness.

SYSTEM MODEL

With recent advances in technology, various wearable sensors have been developed for the monitoring of human physiological parameters. The various sensing technologies are available, which can be integrated as a part of health

IMPLEMENTATION OF SMART HELMET FOR ACCIDENT AVOIDANCE

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ABSTRACT

In recent times helmets have been made compulsory in all over the world. Traffic accidents in India have increased year by year. The impact when a motorcyclist involves in a high speed accident without wearing helmet is very dangerous and can cause fatality. Wearing a helmet can reduce shock from the impact and may save a life. There are many countries enforcing a regulation that requires the motorcycle's rider to wear a helmet when riding on their motorcycle. In India drunken drive case is a criminal offence of The Motor Vehicle act 1939. Which states that the bike rider will get punish. In existence bike rider easily get escaped from law. These are the three main issues which motivates us for developing this project. The first step is to identify the helmet is wear or not. If helmet is wear then ignition will start otherwise it will remains off till helmet is not wear. For these we use RF Transmitter/ Receiver. The second step is alcohol detection. Alcohol sensor is use as breath analyzer which detect the presence of alcohol in rider breathe if it is exceeds permissible range ignition cannot start.

I. INTRODUCTION

In recent times helmets have been made compulsory in all over the world. Traffic accidents in India have increased year by year. The impact when a motorcyclist involves in a high speed accident without wearing a helmet is very dangerous and can cause fatality. Wearing a helmet can reduce shock from the impact and may save a life. There are many countries enforcing a regulation that requires the motorcycle's rider to wear a helmet when riding on their motorcycle. In India drunken drive case is a criminal offence of The Motor Vehicle act 1939. Which states that the

bike rider will get punish. In existence bike rider easily get escaped from law.

These are the three main issues which motivates us for developing this project. The first step is to identify the helmet is wear or not. If helmet is wear then ignition will start otherwise it will remains off till helmet is not wear. For these we use FSR sensor. The second step is alcohol detection. Alcohol sensor is use as breath analyzer which detect the presence of alcohol in rider breathe if it is exceeds permissible range ignition cannot start. It will send the message to register number. MQ-3 sensor is used for these. When these two conditions are satisfied then ignition will start. The third main

- [Log in](#)
- [Published: 27 February 2021](#)

Developing Optimal Spectrum Sharing Protocol and Optimal Linear Precoding for Multi-Carrier Code-Division Multiple Access Using Massive Multiple Input Multiple Output in 5G Wireless Networks

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- [K. Umadevi](#)

[Wireless Personal Communications](#) **volume 119**, pages983–1008 (2021)[Cite this article](#)

- **119** Accesses
- [Metricsdetails](#)

Abstract

Currently, wireless systems are moving towards implementing fifth-generation (5G) wireless networks to compensate for intense growth and surpass demands concerning future wireless services. Consequently, massive multiple-input multiple-output (mMIMO) and multi-carrier code-division multiple access (MC-CDMA) have received considerable attention for addressing the prevailing constraints in developing 5G mobile networks. To meet requirements related to future wireless services such as achieving elevated data rates, avoiding multi-user co-channel interference (CCI), and satisfying other network limitations, implementing MC-CDMA with mMIMO has become mandatory. In this study, a detailed literature review is conducted on research for implementing MC-CDMA and mMIMO, and it is determined that the utilised methods fail to effectively solve previous issues. Thus, this paper proposes combining an optimal spectrum sharing (OSS) protocol and optimal linear precoding (OLP) with MC-CDMA and mMIMO. The OSS protocol



RECENT DEVELOPMENTS IN TERAHERTZ COMMUNICATION AND APPLICATION TO BEYOND-5G NETWORKS

Terahertz (THz) Communication¹ can support far greater bandwidths than millimetre-wave (mmWave)² technology and is seen as attractive for implementations of “Beyond-5G networks”. This article provides an overview of current research to increase range and enhance data rates in THz communication networks, improvements in antenna array design through the use of Ultra-Massive Multiple-Input Multiple-Output (UM-MIMO) technology and potential major applications.

Moore's Law states that with technological development, the speed and capacity of a computing device doubles every two years. As a consequence, digital technology is constantly upgraded with an ever-increasing volume of data being processed. Such data must be communicated across the globe inevitably compromising the processing speed of personal and professional digital processing devices.

Miniwatts Marketing Group have released statistics on world internet usage and population up to the end of 2019 which show that 4.5 billion people across the world rely on internet usage. This is over 10 times

the number of internet users in 2000. To meet this increasing demand for ever higher data rates, it is necessary to exploit additional spectralband-width and develop enhanced technologies.

In the field of short-range communication, the millimetre wave (mmWave) and Terahertz (THz) bands are attractive for the support of future wireless networks because of the huge spectral bandwidth which ranges from 10 GHz for the mmWave to several hundred GHz for the THz band. With adequate technology development, certain applications to meet the demand for higher data rates could be addressed effectively

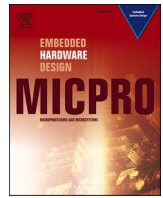
**A. VIJAY,
K. UMADEVI**
Meeting global
data demand

using the THz band as it has a much greater capacity to mmWave technology.

This article reviews key characteristics of THz communication, specialist antenna design techniques to improve range such as

¹The wavelength of signals ranging from 1µm to 1mm are referred to as THz bands, on which frequencies greater than proposed 5G networks can be transmitted.

²Signals whose wavelength ranges from 1 mm to 10 mm are called mmWave, and on these, higher frequencies can be transmitted than on current 4G networks.



An efficient wideband low noise amplifier (WLNA) using advanced design system based industrial micro strip antenna

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ARTICLE INFO

Keywords:

Polarization conversion meta-material
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Radar cross section

ABSTRACT

An efficient architecture to design low noise amplifier methods aimed at reducing the radar cross-section (RCS) under the X - and Y-polarizations with incident waves, the characteristics of radiation has been analyzed. The goal is to carry out the Polarization Conversion Meta Material (PCM) implementation and passive cancellation policy. The Low-Noise Amplifier (LNA) supports the use of multi-stable applications being the front end of any micro strip antenna with the need for a multiband receiver is very high in technology development. This LNA design requires the synchronization of a single device frequency of a different device. So researchers work on developing a Wideband Low noise Amplifier (WLNA) with the wideband receiver. An LNA radio receiver from the mainstream is that the subsequent stages of the signal are lossless and the low noise rate has the highest gain. LNA design is an important task for the proper management of trade between all parameters of it, including gain, noise, stability, and power consumption. Advanced Design System (ADS) software is used to design and simulated the proposed micro strip antenna with LNA. The proposed micro strip antenna is to be fabricated using the Fr4 substrate and investigated by simulation and measurements like radiation patterns, S-parameters and return loss by using Advanced Design System software to improve the existing System.

1. Introduction

Satellite communications for military purposes not only for contact is a great contribution. In order to play the main role that broadband and successive generations of internet services network, it will provide more information. Satellite receiver systems require a low noise amplification, which is much smaller and has been placed right of the antenna to increase signals. The transmitting signals have been one of the key factors in the receiver's quality factor, due to the absence of the noise rate from the first amplifier to the amplitude of the receiver. The purpose of this work has designed a wideband LNA with a low noise figure to get as possible high. Two-stage LNA design to gain the advantage of the need for a system with no noise bandwidth. The first level will be to optimize the noise of figure, bandwidth and overall gain are increased in the second stage.

Due to the increased use of the patch antenna in wireless communication, it has a wide range of configurations [1]. The radar device is used to measure function and/or movement of objects using ultra-high frequency (UHF) or radiofrequency (RF) for spectrum microwave segmentation function. In some frequencies, precipitations are used to

monitor the storm systems by radar and electromagnetic fields are reflected. It is widely used in marine infiltration in specific maps of air traffic control, aeronautical guide, and radar systems used in addition to specific maps. The most surface of the Earth's surface is highly detailed by North Atlantic Space Administration (NASA). Because the radio frequency zone gets reflected by it. In a global positioning system, high permittivity molecular material has been used in Micro patch antenna containing the base of Low noise amplifier (LNA) [2] and the basic functional block diagram of micro strip antenna is shown in Fig. 1

A Low noise amplifier (LNA) has been one of the main components of the wireless transceiver circuit and it plays a very significant role in determining the receiver's capacity. Wideband LNA is based on a wavelength based on more than one or more of the same operating characteristics over wideband applications [3]. Wideband LNA increases the number of noise in receiver positions for wake up after a thoroughly widespread increase and the frequency of the radio receiver increases and reduces the noise figure. LNA designing for frequency widespread so this signal can be effectively withdrawn in later stages and thereby increasing the benefit of the low noise effect as possible.

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An optimized distributed secure routing protocol using dynamic rate aware classified key for improving network security in wireless sensor network

S. S. Sathya & K. Umadevi

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Protecting user profile based on attribute-based encryption using multilevel access security by restricting unauthorized in the cloud environment

V. Vijayakumar & K. Umadevi

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Design of Reconfigurable Monopole Antenna for Cognitive Radio Application

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Abstract

A compact frequency reconfigurable UWB antenna for cognitive radio application is presented in this paper. The proposed structure has a simple design and easy construction. The antenna is made reconfigurable, by enabling or disabling the parasitic element coplanar to the main radiator. The resonance frequency of the proposed antenna operates in two configurations which is achieved by employing three ideal switches. This antenna is operational in the practically whole UWB spectrum. Antenna parameters in terms of current distribution, return loss and radiation pattern are also presented. Experimental results successfully validate the proposed design methodology in this work. The simulations were carried out in the Agilent Advance Design System (ADS).

Keywords—Microstrip antenna, cognitive radio, reconfigurable, wideband antenna, UWB,

I. INTRODUCTION

Antenna is an interface between transmitter and free space for radiation of electromagnetic energy. Shape and structure of antenna defines the radiation characteristic and hence interface efficiency [1]. Various popular antennas include dipole, bow tie and horn etc, usually there are various parametric constraints on antennas for radiation. These include size, shape and feeding structure etc [2].

In the last decade the ultra wideband (UWB) communication has been in the focus of various studies relating to mobile communication. As per FCC regulations, they use license exempt RF spectrum in the range from 3.1 GHz 10.6 GHz [3]. Moreover the expanded enthusiasm for these systems is because of their points of interest, for example, high data rates, low operating costs, low power spectral density, ease of antenna construction and wider bandwidth [4]. As a result, a significant number of researchers have dedicated their urge to the improvement of the UWB antenna. With the introduction of LTE/LTE-advance mobile communication standards the cognitive radio communication systems have begun to obtain a lot of consideration. Numerous designs and architectures have developed. To use the same antenna for both detecting and communication by reconfiguring (UWB) sensing antenna pass on into various frequency band, is one of the strategies to use reconfigurable antenna in cognitive radio devices [5].

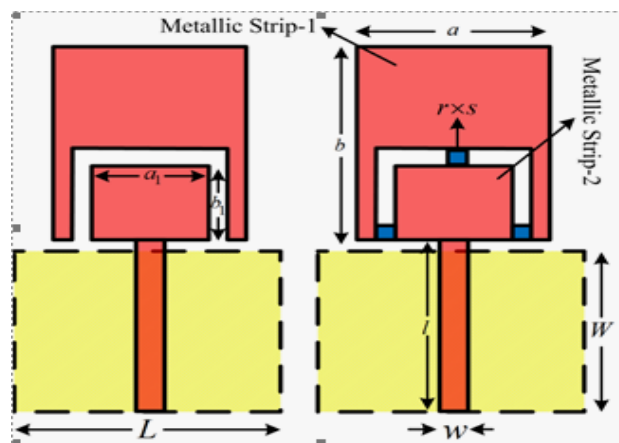


Fig. 1.Reconfigurable UWB Monopole Antenna.

DESIGN OF KU BAND PATCH ANTENNA FOR SATELLITE APPLICATIONS

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Abstract—In proposed antenna, a square patch with pi (π) shape reflector antenna was designed using ARLON AD 1000 (tm) substrate. This antenna is used to receive the signal of ku band frequencies. The dimension of patch antenna is 4.6×4.6mm and pi (π) shape meander line radiator is 6×0.5mm, 0.5×6mm and 0.5×6mm. The design and simulation of the antenna is done by using ANSYS HFSS software tool. The resultant antenna return losses are -15dB at 16.8GHz and -23dB at 18.2GHz. The measured gain is 1.2dB at 16.8GHz, 18.2GHz and the corresponding efficiency is 78.38% respectively. The proposed antenna has the potential application in live broadcasting, downlink naval satellite applications.

Index Terms— Square patch, Pi (π) shape reflector, Live broadcasting, Downlink naval satellite application

I. INTRODUCTION

The systematic investigation involves patch antenna with pi (π) shape reflector designed for ku (Kurtz - under) band. This design was introduced for the Live broadcasting and Downlink naval satellite applications. The patch antenna is a low profile radio antenna mounted on the flat surface, is mainly practical at microwave frequencies at which its wavelengths are short. PCB is widely used as portable wireless devices because of easy fabrication. Microstrip antennas are named because of multiple patches on the same substrate can be used to make high gain phased arrays antennas.

The demand of developing RF & microwave communication equipment, the research of antenna focuses on “how to reduce the size of antennas while maintaining

higher radiation efficiency”. Meanwhile, with the improvement of small scale integrated circuits, the size of communications equipment is also getting smaller and smaller.

Reflector antennas are widely used to modify the radiation pattern of a radiating element, reflectors are used for redirecting radio frequency (RF) energy. For example, plain sheet reflector of large dimension eliminates the backward radiation. Several types of reflectors are active corner reflector, passive corner reflector, parabolic reflector, elliptical reflector, hyperbolic reflector, circular reflector and thin reflector. To reduce diffraction the reflector should have a rolled edge with radius of curvature at least $\lambda/4$ at the longest wavelength of operation.

A live broadcast generally refers media broadcast have no significant delay. The most common seen media example of the live transmission is an news broadcasting, live radio, live television, internet television, internet radio and live blogging are the important live broadcasting applications where the proposed antenna was operated.

An satellite navigation is a system that uses antenna to provide autonomous GPS and allows small electronic transceiver antenna to calculate the current local time to high precision, which allows time synchronisation and the time signals transmitted along a LOS by radio from satellites. The system can be used for providing position, navigation for tracking the position using antenna. Transmission and reception operation are done independently in Satnav systems, though these technologies can enhance the usefulness in the positioning information generated. Satnav system provides enhanced accuracy and integrity monitoring.

A Standalone BLDC Based Solar Air Cooler

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Abstract—This article proposes the idea of using Solar Energy (SE) as a source of power for designing and developing a standalone air-cooling system. This type of application is particularly suited for rural areas that have a considerable amount of solar radiation and have no access to grid systems. The proposed system is comprised of a photovoltaic (PV) array, DC-DC boost converter and DC-DC buck converter. Two Permanent Magnet Brushless Direct Current (PMBLDC) motors are employed to drive a centrifugal water pump and an air blower coupled to their individual shafts. The air blower is connected with a DC-DC boost converter . A centrifugal water pump is connected with a DC-DC buck converter. The challenging task in an air cooling system is to maintain the constant speed of the blower under variable irradiance conditions. The power provided by the solar PV array can be shared between the two DC-DC converters in such a way that the BLDC motor connected with the blower will maintain a constant speed by maintaining the constant voltage of the DC-DC boost converter. The rest of the available PV power will be handled by the pump. Case studies have been performed with a variable PV irradiance and the results are explored.

Index Terms—BLDC air blower, BLDC motor, BLDC Pump, PV System.

I. INTRODUCTION

The rate of energy consumption is increasing very rapidly due to increases in population, industrialization, transportation, etc. and the energy supply is depleting due to the annihilation of fossil fuels, resulting in inflation and energy shortages. This paves the way for exploring other available renewable resources. Among all the renewables, solar is the most abundant and the effective harvest of this energy can easily fulfil the present energy demands of the world.

Though the extraction of energy from the sun is a bit costly, the reduction in the cost of power electronic devices and Solar

Panels in recent years along with their increased lifetime has increased the usage of solar photovoltaic (PV) based generation for various household and industrial applications.

Although several researches have been carried out on PV array fed automotive and irrigation systems combining various DC-DC converters and motor drives , very little work has been done on PV based home appliances. Further, the applications of BLDC motors are expanding, as these motors are highly reliable, highly efficient, with low radio frequency interference, noise and high torque/inertia ratio with improved cooling, and require practically no maintenance. Due to these merits, a BLDC motor is considered to help develop a solar PV fed air cooler, which can operate satisfactorily for longer time periods as compared to brushed motors under dynamically changing atmospheric conditions.

The challenging issue in designing a solar air cooler as compared to solar pumps is to maintain the constant speed of the motor that drives the air blower. In the process of maintaining the constant speed of the air blower, power imbalance occurs between the PV source and the load which otherwise leads to a continuous rise or fall in the DC capacitor voltage. To avoid this power imbalance and to manage DC voltage within limits, an additional BLDC motor is used which can be used to drive the pump load in the cooler. The inverters are operated at fundamental frequencies which are obtained from the motor running speed which reduces the switching losses in the inverter. A hall sensor-based scheme is adopted to obtain the speed and position of the BLDC motor. The electronic commutator provides the gate pulses to the

Performance Evaluation of speed control using Fuzzy dependent Genetic Algorithm in PMSM

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Abstract. This paper examines the role of the tuning algorithm for speed regulation of the Permanent Magnet Synchronous Motor (PMSM). The picks of the PID regulator normally provide adequate results in the application of a low-force drive, but for high-power application drives, a self PID controller doesn't provide any acceptable performance. Such applications require high-precision, superior and adaptable speed regulators and effectiveness in the cycle and execution of the plan. High-performance applications need some capacity based on High-speed high-reliability regulators, adaptability with maximum torque coefficient, higher rating capacity with minimum ripple torque. So many speed controlling mechanisms are available in the quick world, and these methods vary from the choice of regulator used in the PMSM to the method of programming/use of equipment. In this paper, generous examination is taken to control the speed of PMSM with three unique specialists, ABC based speed control drive, ANFIS controller of PMSM drive and Genetic algorithm based fuzzy controller. The planned regulators are tried through the mathematical reproductions in the MATLAB Simulink Platform. The examination between the reproduction aftereffects of execution measures are introduced toward the end. Hereditary calculation based Genetic algorithm based fuzzy controller gives some better outcome appropriate for the superior applications.

Keywords: Artificial bee colony; ANFIS; Fuzzy Controller; PID controller; Genetic Algorithm; PMSM, Speed regulation.

1. INTRODUCTION.

The development of attractive materials and power electronics devices has rendered the PMSM drive extremely important in various control applications. The PMSM motor is inherently an asynchronous motor where the field is energized by a durable magnet and a sinusoidal EMF. These motors are sufficient to make torque, near to zero rpm by the usage of permanent magnets. For the comparable force produced by induction motors, they have a more manageable packaging size. This makes PMSM machines successful in all types of special operations (e.g., Electrical vehicles and hybrid electrical vehicles, CNC machines, industry robots, ventilating and air conditioning applications). Nevertheless, PMSM sensitivity is highly susceptible to disturbances of external loads and parametric uncertainties in the system. Some



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Design and Analysis of six DOF Robotic Manipulator

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Abstract. The robotic manipulators are nowadays used for many applications in the industries. This project involves the design and analysis of a six DOF manipulator for welding, pick and place application. We developed a robot in SolidWorks and analysed its motion, load withstanding capacity and path traceability. However, design and analysis of a robot involves modelling of its forward and inverse kinematics. We modelled the forward and inverse kinematics by D-H parameters. The proposed model makes it possible to control the manipulator to achieve any reachable position and orientation in an unstructured environment. The inverse kinematics provided many possible combinations of angles for a single end effector position. A GUI was created in MATLAB for studying the forward and inverse kinematics of the robot. It gave results with precision of 0.2 cm. the load analysis also gave the maximum load it can withstand 200 KN without permanent deformation. The approach presented in this work can also be applicable to solve the kinematics problem of other similar kinds of robot manipulators.

Keywords. Robot, Manipulator, MATLAB, kinematics, position.

1. Introduction

Nowadays robots are used in many areas like Industries, Hospitals, Warehouse, Harbours, etc., When it comes to industries mainly robotic manipulators are used extensively. Because it can carry heavy payloads and do work more faster and smarter than humans. These manipulators are introduced into the industries for increasing the productivity and quality of products in a greater extent. The modern commercial robotic systems are very complex. They are integrated with many sensors and actuators which, have many interacting DOF and most of them require user interfaces and programming tools. When it comes to designing a robotic arm first we have to design the mechanical structure and model its kinematics. While modelling the forward and inverse kinematics of a 5 DOF manipulator the singular problem was discussed after the forward kinematics is provided. For any given reachable position and orientation of the end-effector, the derived inverse kinematics will provide an accurate solution [11]. But inverse kinematics gave many possible positions and it was complex to solve as DOF increases.

The inverse kinematics solution of general SN (cylindrical robot with dome), CS (cylindrical robot), NR (articulated robot) and CC (selectively compliant assembly robot arm-SCARA, Type 2) robot manipulator belonging to each group mentioned above were provided as examples [8]. The inverse kinematics of the P2Arm, which makes it possible to control the arm to any reachable position in an unstructured environment. The strategies developed here could also be useful for solving the inverse



Solar Based Uninterruptible Power Supply by using MPPT

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Abstract-In this paper we implement the MPPT algorithm in the solar UPS . Photo voltaic cells which is helps to converts heat energy into electric energy. MPPT is an algorithm which is extract maximum available power from the solar module so that increasing efficiency of the system and give an liner output .There are several limitations in solar power consuming and energy storage As a solution to this problem, SCC with MPPT is needed to extract maximum energy from the solar module and ups provides backup power when your regular power source fails. So that we implement society without polluted and consuming high efficient energy.

IndexTerms- solar, photovoltaic, PWM, MPPT

I Introduction

Now a day's demand of electricity is increasing and also we use major sources for generating electricity such as petrol, diesel are also create an pollution, costly and also that's are depleting source. So we need an alternative solution that which give an linear at the same time give an efficient energy output. Renewable energy is an best replacement for the kind of issue but the major drawback of renewable source it's an low energy consumption source and efficiency also low compared to petrol and diesel .In this paper give an brief idea about high efficient energy consumption. MPPT is an algorithm which is used in a renewable energy source such as solar, wind to extract maximum power from the solar module under certain conditions. Normally many type controllers in the market but they are give low efficiency and non-linear output and that are efficiently work in normal radiation so that output lowers than the solar panel output .In our project we implement MPPT based solar ups .The MPPT applied a buck converter and Pulse Width Modulation (PWM) signal to keep the load from the module and the load balanced, so the module's output power reaches the maximum efficiency. MPPT which extract maximum available power from solar module increase voltage compare to battery voltage converts voltage into amps store the energy inform of DC in battery inverter circuit which helps to convert DC into AC and connected to load. UPS system store the energy in battery for the future purpose as backup whenever power failure .MPPT system can increase efficiency above 90%of the system and consume 25-35% energy in irradiance level .It give linear output whatever the weather condition may be.

II Existing system

In existing .power loss is very high . Output voltage is not stable it cause device damage .Low efficient in output voltage .Energy storage, harmonics due to low level of converters. Old solar panels are not too smart enough to understand the battery conditions. Non-linear output of solar panels due to the weather conditions. They need to be operated at a particular voltage to harvest maximum available power from module. Their output varies through the day. There is no any prevention for overcharging and reverse current protection .Circuit that cannot cope with a range of input voltages. The conversion efficiency PWM is relatively 30% lower with compared to MPPT.

III Proposed System

In our proposed system we implement MPPT algorithm. Over load, short circuit and reverse power flow protection by using buck converters .Harmonics are reduced by level up converter. Easy to use both hardware and software Linear outputs and high efficiency by MPPT. Utilizing high energy from sun radiation Generate more electricity due to increased direct exposure solar rays. Increases the current to the battery by approximately 25% to 35%. It is equipped with various protections to protect the circuitry from abnormal conditions. It steps the higher solar panel voltage down to the charging voltage of the battery. The Arduino tries to maximize the watts input from the solar panel.

IV Working Principle

The major principle of MPPT is to extract the maximum available power from PV module by making them operate at the most efficient voltage (MPPT checks output of PV module, compares it to battery voltage then fixes what is the best

SPEED CONTROL OF SQUIRREL CAGE INDUCTION MOTOR USING ANDROID SYSTEM

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Abstract—Single-phase induction motors are widely used in home appliances and Industrial control because of their cost and useful application. Many industrial processes require Variable speed drives for various applications. This paper investigates the speed control of single-phase induction motor using microcontroller. ATmega328P. PWM technique has been employed in this Power inverter to supply the motor with variable frequency. The MOSFET driver serves the purpose of amplify between the microcontroller circuit and the inverter and supplies the required gate voltage for the conduction of the power MOSFET (IRF540) in the inverter. The microcontroller senses the speed signal and consequently provides the pulse width variation signal that sets the frequency, which intern provides the different switching Frequency for the desired speed. The complete system is modelled and tested using hardware implementation to control the speed of a single phase induction motor.

Keyword: PWM, Opto-coupler, Triac, LCD Display

I.INTRODUCTION

Induction motors are the most widely used electrical motors due to their reliability, low cost and robustness. However, induction motors do not inherently have the capability of variable speed operation. Due to this reason, earlier dc motors were in most of the electrical drives. But the recent development in speed control method of the induction motor have led to their large scale use in almost all electrical drives. out of the several methods of speed control of an induction such as pole changing, frequency variation, variable rotor resistance, variable stator voltage, constant V/F control, slip recovery method etc., constant V/F speed control method is most widely used. In this method, the V/F ratio is kept constant which in turn maintain the magnetizing x constant so that maximum torque remain unchanged

[1]. Thus, the motor is completely utilized in this method. This project is concerned with Microcontroller based speed control of Sinusoidal PWM Inverter fed three phase Induction Motor. The work involves design and fabrication of a variable frequency PWM inverter using IGBT, operating from a DC source

[2].The objective is to implement variable frequency sinusoidal PWM inverter in order to control the speed of the induction Motor using Microcontroller. When it is required to provide wide range of speed control covering up to motor rated speed, normal three phase supply at 50Hz with voltage control alone is not successful due to the unstable region in Torque-Slip characteristics of the motor. Hence it is necessary to go in for variable voltage and variable frequency mode of operation.

II. SPEED CONTROL BY V/F METHOD

The torque developed by the motor is directly proportional to the magnetic field produced by the magnetic field produced by the stator. So the voltage applied to the stator is directly proportional to the product of stator flux and angular velocity. This makes the flux produced by the stator proportional to the ratio of applied voltage and frequency supply. By varying the voltage and frequency by the by the same ratio, flux and hence, the torque can be kept constant throughout the speed range. This makes constant V/F the most common speed control of an induction motor[1]. The Fig 1 shows the relationship between the

Classroom Automation Based IOT

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Abstract-With the development in technology, it is now becoming a common practice to communicate with your day- to-day interacting appliance remotely using a portable device like a Smartphone which has internet connectivity. This has been made easier by the concept of Internet of Things (IoT). In this paper, we present such a system where classroom hold interactions is made easier by implementing automation and security along with the Internet of Things to create a system which will enable someone to remotely monitor and control some areas of a house remotely from anywhere. As a district administrator, you are in a position to do something about it. There are all kinds of ways that you can automate your classrooms and give your schools the resources they need to focus on what they do best. Even a handful of minutes saved every day will result in a rapid return on investment, measured in both actual costs and improved student outcomes. By the virtue of blooming automation industry and wireless connectivity, all the devices within the classroom can be connected. This improves the comfort, energy efficiency, indoor security, cost savings of the classroom. We also detect the presence of human in the classroom by using ultrasonic sensor the sensor head emits an ultrasonic wave and receives the wave reflected back from the target. Ultrasonic Sensors measure the distance to the target by measuring the time between the emission and reception.

Keywords: IoT, automation, security, Node MCUs, PIR sensor.

I. Introduction

The project aims at designing an advanced class room automation system using normal web server and Wi-Fi technology. The devices can be switched ON/OFF and sensors can be read using a controller through Wi-Fi. We also able to ON/OF our project or in the class room. Automation is the most frequently spelled term in the field of electronics. The hunger for automation brought many revolutions in the existing technologies. These had greater importance than any other technologies due to its user-friendly nature. These can be used as a replacement of the existing switches in home which produces sparks and also results in fire accidents in few situations. Considering the advantages of Wi-Fi an advanced automation system was developed to control the appliances in the classroom. Wi-Fi (Short for Wireless Fidelity) is a wireless technology that uses radio frequency to transmit data through the air. Wi-Fi has initial speeds of 1mbps to 2mbps. Wi-Fi transmits data in the frequency band of 2.4GHz. It implements the concept of frequency division multiplexing technology. Range of Wi-Fi technology is 40-300 feet. The controlling device for the automation in the project is a NodeMcu. The data sent from PC over Wi-Fi will be received by Wi-Fi module connected to NodeMcu. NodeMcu reads the data and decides the switching action of electrical devices connected to it through Relays.

II. Literature Survey:

When people think about classroom automation, most of them imagine living in a smart classroom: One remote controller for every house hold appliance, cooking the rice automatically, starting air conditioner automatically, heating water for bath automatically and shading the window automatically when night coming. To some extent class room automation equals to smart class room. They both bring out smart living condition and make our life more convenient and faster.

In their paper, Tan, Lee and Soh (2002) proposed the development to a Internet-based system to allow monitoring of important process variables from a distributed control system (DCS). This paper proposes hardware and software design considerations which enable the user to access the process variables on the DCS, remotely and effectively. Potamitis, Georgila, Fakotakis, and Kokkinakis, G. (2003) suggested the use of speech to interact remotely with the home appliances to perform a particular action on behalf of the user. The approach is inclined for people with disability to perform real-life operations at home by directing appliances

Audio Guidance System for Blind People

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Abstract — The most of blind people in the world use white canes to go from one place to another place. Due to their blindness they are not able to perceive their surroundings. So the mobility of visual impaired people is limited. People with visual disabilities are often dependent on external assistance which can be provided by humans, trained dogs, or special electronic devices as support systems for decision making. We accomplished this goal by adding ultrasonic sensors at specific positions to the cane that provided information about the environment. The system consists of obstacle and moisture detection sensors for receiving, processing and sending signal to the alarm system which finally alerts the user prompt action. Blindness is one of the most feared afflictions in the world. It is difficult to travel to a desired destination for blind people. This feature of this device are real time obstacle detection, voice command, functionality vibration for guidance.

Key words— Arduino Uno, Ultrasonic Sensor, Audio playback voice recorder, Speaker.

I INTRODUCTION

In this world approximately 21.2 million blind or visually impaired people in the US alone. Currently most blind people rely on other people, dogs, and their canes to find their way in building. This project aims to help the blind in object detection with the distance of the object and to provide audio information about the object detect. The system facilities blind people to navigate independently without any external help by means of talkative assistance.

The system is equipped with obstacle sensors such as Ultrasonic and RF sensors to alert the blind people. The goal of this paper is develop a intelligent system for guiding by providing information about the environmental of object around them. The main functions of this system are path for recognition. The system is equipped with a small embedded system.

The recognize the destination place from voice command a route from current position to desire destination. Ultrasonic sensor will provide information about obstacles in the range. The device to develop a good reliable system for visually impaired people to identify obstacles and alert and the audio recognition for the blind people. The study purpose a improved technique for designing a smart stick to help visually impaired people for their system. In this system, the ultrasonic sensor are used to detect the obstacles by using sensor. By sensing the obstacles the sensor passed the received data to the microcontroller.

II EXISTING SYSTEM

Existing system which provides guidance to blind like guide cane, smart vision use ultrasonic sensors or RF sensor to detect in front of blind by transmitting the reception of reflected. It produces an audio or vibration in response to detected to blind person. System like ultra cane help blind people by collecting information through sensors transmitting through vibration or audio message to hopes provide a blind people. Systems like Sound View use single camera or stereo video cameras mounted on a wearable device to capture images. These captured images are resized, processed further and converted to speech, audio, musical sounds or vibrations. In such systems, the frequency of warning sound signal is correlated with the orientation of pixels. Some systems like Ultra Cane help blind people by collecting information through sensors and then transmitting recommendations through vibration or sound message to the user. The above solutions have disadvantages for instance, they can't detect obstructions that are hidden but very dangerous for the blind such as downward stairs, holes etc.

WIND AND SOLAR BASED HYBRID POWER SYSTEM

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Abstract- Now a day's electricity is most needed facility for the human being. All the conventional energy resources are depleting day by day. So we have to shift from conventional to non-conventional energy resources. In this the combination of two energy resources is takes place i.e. wind and solar energy. This process revives the sustainable energy resources without damaging the nature. We can give uninterrupted using hybrid energy system. Basically this system involves the integration of two energy system that will give continuous power. Solar panels are used for converting solar energy and wind turbines are used for converting wind energy into electricity. This electrical power can utilize for various purpose. Generation of electricity will be takes place at affordable cost. This paper deals with the two sources combine which lead to generate electricity with affordable cost without damaging the nature balance.

Index Terms- wind, solar, electricity, hybrid, power

I. INTRODUCTION

Electricity is most needed for our day today life. There are two ways of electricity generation either by conventional energy resources or by non conventional energy resources. Electrical energy demand increases in words to fulfill demand we have to generate electrical energy. Now a day's electrical energy is generated by the conventional energy resources like coal, diesel, and nuclear etc. The main drawback of these sources is that it produces waste like ash in coal power plant, nuclear waste in nuclear power plant and taking care of this waste is very costly. And it also damages the nature. Then nuclear waste is very harmful to human being also. The conventional energy resources are depleting day by day. Soon it will be completely vanishes from the earth so we have to find another way to generate electricity. The new sources should be reliable, pollution free and economical. The non conventional energy resources should be good alternative energy resources for the conventional energy resources. There are many non conventional energy resources like geothermal, tidal, wind, solar etc. the tidal energy has drawbacks like it can only implemented on seashores. While geothermal energy needs very large steps to extract heat from earth. Solar and wind are easily available in all condition. The non conventional energy resources like solar, wind can be good alternative source. Solar energy has drawback that it could not produce electrical energy in rainy and cloudy seasons so we need to overcome this drawback we can use two energy sources so that any one of source fail so other source will keep generating the electricity. And in good weather condition we can use both sources combine.

II. HYBRID ENERGY SYSTEM

Hybrid energy system is the combination of two energy sources for giving power to the load. In other word it can be defined as "Energy system which is fabricated or designed to extract power by using two energy sources is called as the hybrid energy system." Hybrid energy system has good reliability, efficiency, less emission, and lower cost.

In this proposed system solar and wind power is used for generating power. Solar and wind has good advantages than other than any other non-conventional energy sources. Both the energy sources have greater availability in all areas. It needs lower cost. There is no need to find special location to install this system.

IOT Based Underground Cable Line Fault Detection

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Abstract: IOT based underground cable line fault detection system is helpful for find out faults and its location in very easy manner. Underground cables have been widely used with the development of power system grid. Underground cables are prone to a wide variety of faults due to underground conditions, wear and tear, rodents. Detecting fault source is difficult because entire line is to be dug in order to check fault at cableline. The repairmen know exactly which part has fault and only that area is to be dug to detect the fault source. Thus it saves a lot of time, money and allows to service underground cablelines faster. We use IOT technology that allows the authorities to monitor and check faults over internet. The system detects fault with the help of potential divider network laid across the cable. When a fault gets created in a cableline, a specific voltage gets generated as per the resistors network combination. This voltage is sensed by the microcontroller and is updated to the user. The information conveyed to the user is the distance to which that voltage corresponds to. The microcontroller detects the fault cableline data and displays this data over LCD display, it transfers this data over internet to display online. Thing Speak to develop the online system that links with the system to display the cable faults online.

Keywords: Thing Speak, Rodents, Fault Source

1. INTRODUCTION

Underground cables have been widely used with the development of power system grid. Till last decades cables were made to lay overhead & currently it is to lay underground which is superior to earlier method. Because the underground cable are not affected by any adverse weather condition such as storm, snow, heavy rainfall as well as pollution. But when any fault occur in underground cable, then it is difficult to locate the exact location of fault. Today the world is become digitalized so this paper is intended to detect the location of fault in digital way. The underground cable system is more common practice followed in many urban areas. While faults can occur for different reason in cableline, the repairing process related to that particular cable is difficult due to not knowing the exact location of cable fault. As it is very difficult to find the exact location or faulty location manually, which suddenly affects the efficiency of the cable wire due to losses occurred. Nowadays many techniques had already been implemented in order to detect cableline fault. But the problem came up is how to detect fault in cable wire when it is undergrounded, and how to access or retrieve those data related to faulty location whenever it is required.

In order to fill those gaps, we proposed the system which detects the exact location of the fault and through the means of IoT it's serially communicated towards server. The project "IoT based underground cable line fault detection system" is used for finding out and locating the faults. The manual method is very time consuming. Here, we propose a cable fault detection over IoT that detects the exact fault position over IoT that makes repairing work very easy. For most of the worldwide operated low voltage and medium voltage distribution lines underground cables have been used from many decades. The complexity of the whole network comprises numerous components that can fail and interrupt the power supply for the end user. Use of underground power cable is expanding due to safety considerations and enhanced reliability in transmission and distribution in recent times. Due to safety reasons and high power requirements use of underground cables has been increased. To increase the reliability of the system proper fault detecting and locating techniques are required. The inaccessibility of the underground cable makes the location and detection of fault in the cable a challenging task. The fault detecting and locating techniques play a very important role in maintaining the system and thereby increasing the reliability.

2. METHODOLOGY

Many techniques have been developed in cable line fault detection over the last few decades. Generally we use overhead lines. It can easily identify the faults but in rushed places or familiar cities we can't use overhead lines. So, we are moving to underground cables. In this paper it uses IoT technology that allows the authorities to monitor and check faults over internet. The system detects fault with the help of potential divider network laid across the cable. Whenever a fault gets created at a point shorting two lines together, a specific voltage gets generated as per the resistors network combination. As the existing system is not efficient, this paper proposes a system based on IoT. The objective of this project is to determine the distance of underground cable fault from base station in kilometers using an IoT Gecko platform. The underground cableline system is used in many urban areas. Various fault locating methods like the sectionalizing methods, acoustic detection method, Murray loop methods are not used much because they suffer from many disadvantages. The sectionalizing method can't be employed because section wise checking of underground cable is not possible. The acoustic method may become disastrous at the time of rain and it is a bit cumbersome method too. The Murray loop method is based on the principle of Wheatstone and due to different resistances of leads there are

A Novel Smart Entry Theft System (SETS) For IOT Based Smart Home

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Abstract—Despite many efforts, Energy crisis is the present day problem and it is getting worse day by day. To overcome this situation people are finding various energy efficient resources. In this paper, a model is designed which aims to identify and control power consumption of a particular area or sector. The designed model monitors the power consumption of the end users and cut off the power supply when it exceeds the set limit. The device sends the power consumption data to the concerned person through server using Internet of Things (IoT) technology. The designed model can be placed before the transmission of the load in each house of that particular area. It consists a meter that generates a continuous unit pulse which can communicate with network through an Internet gateway WI-FI. With the help of internet accessibility, communication will be possible between end-user and the supplier. The supplier can monitor and control the power consumption of the end user from a place. Along with that the device sends notification to the supplier about status of power consumed.

1. I INTRODUCTION

Due to fraud of electricity consumers power utilities lose large amount of money every year. Electricity fraud can be defined as a dishonest or illegal use of electricity equipment or service with the intention to avoid billing charge. It is difficult to distinguish between honest and fraudulent customers. Realistically, electric utilities will never be able to eliminate fraud. It is possible, however to take measures to detect, prevent and reduce fraud. Investigations are undertaken by electric utility companies to assess the impact of technical losses in generation, transmission and distribution networks, and the overall performance of power networks. The installed capacity of the electricity sector in India is 344.00 Giga Watts as on 30 June 2018, which includes renewable and non renewable sources. The per capita electricity consumption in India in 2016-2017 was 1,122 kWh. Electricity losses are the result of technical inefficiency and theft, but in places with good technical efficiency and low theft, T&D losses generally range between 6% and 8%. The work finds the solution for monitoring the power theft happening in and around a particular locality. The new research has been done for which concern about power consumption and smart prepaid energy meter are discussed. At the time of purchasing the meter according to the requirement of customer the limit of meter will be set; in the same way the limit of transformer is also set according to the consumer requirement of the particular area. If the consumer uses the power beyond the limit of the meter in that case they have to pay the penalty. As many of the consumer's uses the high amount of power which crosses the limit of the transformer at that time the probability of busting of transformer increases. So in this paper we proposed a method to overcome above problem this paper mainly focusing on identifying and controlling of power in the range of limit of the meter. The IOT has recently become universal to highlight the vision of a global structure of interconnected physical objects.

2. II EXISTING SYSTEM

Arduino is an open-source project that created microcontroller-based kits for building digital devices and interactive objects that can sense and control physical devices. The project is based on microcontroller board designs, produced by several vendors, using various microcontrollers. These

DESIGN AND FABRICATION OF TRI WHEEL E-VEHICLE

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ABSTRACT

The purpose of this study is to design rigid and lightweight chassis for an electric vehicle. Various chassis types with different geometries are considered chassis are designed using Computer Aided Design (CAD) software. Designs are analysed using software and performance characteristics are parametrically and structurally optimized. The automotive chassis is one of the most important structures of any self-propelled construction because of its multifaceted role on vehicle dynamic behavior. The main target is to evaluate chassis deformation, based on static and analysis, in order to reduce weight and at the same time achieve adequate vehicle operation in a demanding low energy consumption race. The design is carried out based on specific standards and limitations set by the competition regulations. The specifications of chassis materials linked to mechanical and physical properties are defined and set. A analysis is also set up and run, to determine the natural frequencies and the mode shapes of the chassis, so to partly understand the dynamic behavior of this structure. In order to improve the fuel efficiency and reduce emissions in air the use of conventional vehicles has to be reduced and the implementation of electric vehicles should be promoted.

Keywords: Design, E-Vehicle, Frame, Chassis.

I. INTRODUCTION

Renewable energy integration to the transportation has been increasing rapidly due to uncertainties in petroleum reserves and increasing environmental pollution caused by carbon dioxide emission. Electricity as a renewable energy is the major alternative to petroleum in transportation. Electric vehicle's environmentally friendly characteristic due to zero carbon dioxide emission makes it a good alternative to conventional internal combustion engine vehicles. Generally, electric vehicles consist of a chassis that resists all the loadings, an electric motor that runs the wheels and battery that supplies energy to the electric motor. Controlling and monitoring of the vehicle overall performance are handled by battery management

system and motor controller system. The battery pack of an electric vehicle has a considerable amount of weight compared to the total weight of the electric vehicle. The weight of an electric vehicle becomes the major consideration because of the heavy battery packs. Weight increase of electric vehicles results in the decrease of the range without recharging. Vehicle manufacturers are striving to balance the heavy battery pack weight using lightweight chassis. Chassis is the main structure of a vehicle that all other components like engine, power train, steering system and wheels assembled on it. The main function of the chassis is to carry all the loads on it and to resist all the forces. Forces on chassis could be an inner force in case of acceleration and braking or could be an outer force due to

DESIGN AND FABRICATION OF ROAD CLEANING MACHINE

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ABSTRACT

Our study shows that dirt besides the road causes uncleanness and accident problems. We had developed a semiautomatic road side cleaning machine that insures that dust and dirt in sides of road should be clean. Our design proposes and successfully implemented the use of scrubber and brush that will remove the dust and collect it in to the storage box in which the scrubber is driven by engine which removes the dust and throws it into the path of brush. This brush is driven by speed amplification mechanism which consist of chain and gear drive separately. The motion of brush allow to push the removed dust into the storage box.

Keywords: Vacuum pump, Motor, Storage box

I. INTRODUCTION.

Environment is a place where humans as well as plants and animals live. Keeping it clean and neat is our responsibility. It is necessary to keep our environment clean because we get fresh air, reduce pollution etc. An unclean environment leads to a bad condition of a society, arrival of diseases and many more. In recent years cleanliness is becoming an important factor for the betterment of the nation and so, to support the cause we have conducted a study, prepared a design and working of a Semiautomatic Road Cleaning Machine. The cleaning machine is an approach to deliver easy and time efficient cleaning of roads, by reducing human efforts.

There are in numerous functions of the road cleaning machine mainly cleanliness is becoming an important factor for the betterment of the nation and so, to support the cause we have conducted a

study, prepared a design and working of a Semiautomatic Road Cleaning Machine. The cleaning machine is an approach to deliver easy and time efficient cleaning of roads, by reducing human efforts.

II .PROBLEM STATEMENT

Now, workers are hired to do this stuff but it is impossible to work continuously for workers. So this is time consuming and also costly process because of workers salary. The important factor is eliminating traffic problem because of less manpower as well as accident

DRAINAGE CLEANING SYSTEM

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ABSTRACT

Water is the basic need for the existence of life on earth. In spite of 70% water on earth majority of water is not suitable for drinking purpose. There is a huge demand of clean water as it is used for a variety of purpose such as drinking, bathing, cleaning, cooking etc. Impurities present in water can cause serious health issues that can damage the life of human beings. The chief function of the automatic drainage system is to collect, transport, as well as dispose the solid waste in the waste bucket by the help of claws. Solid waste in drainage water includes empty bottles, polythene bags, papers etc. Impurities in drainage water can lead to blockage of the drainage system. In order to avoid such situation these impurities are needed to be taken out time to time for the continuous flow of drainage water. Drain can be cleaned continuously by the help of model using the drive system to remove the solid waste and threw it into waste bucket. This project is designed with the objective to initiate the efficient working of system. This project automatically cleans the water in the drainage system each time any impurity appears, and claws which are driven by chain sprocket grasp the solid waste and threw it into the waste bucket to avoid blockage. It even reduces the cost of manual labour as well as reduces the threat to human life.

I. INTRODUCTION

Automatic Drainage Water Cleaning overcomes all sorts of drainage problems and promotes blockage free drains promoting continuous flow of drain water. In the modern era there have been adequate sewage problems where sewage water needs to be segregated to clean our surrounding environment. The waste and gases produced from the industries are very harmful to human beings and to the environment. Our proposed system is used to clean and control the drainage level using auto mechanism tech.

II. LITERATURE REVIEW

Abhishek ,Lingesh S , Sabin Khatri , Manoj M ,
Mohammed Saleem A Sayed

Design and Fabrication of Drainage Cleaning
System

Nowadays even though automation plays a very important role in all industrial applications, the proper disposal of sewages from industries and commercials are still a challenging task. Drainage cleaning system is proposed to overcome the real time problems. With the continuous expansion of industries, the problems of sewage water must be urgently solved to minimize the increasing sewage problems from industries that effects the surrounding environment. The solid waste

DEVELOPMENT OF STEPPED STILL SOLAR DESALINATION SYSTEM

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ABSTRACT

Solar still is widely used in solar desalination processes. But the productivity of the solar still is very low. To enhance the productivity of the single basin solar still many research works is being carried out up till now. In this work change the design of solar still used stepped solar still. Study the shape of the absorber surface over the distillate yield obtained the shape of the absorber surface provided in the basins of solar stills. The shape of use absorber surface plate area convex and concave increase basin water temperature causes the productivity and efficiency increase. In this work, experimental results were compared with conventional basin type still and still with wicks. That stepped solar stills can increase the distillate productivity about conventional solar stills, many reports studied the performance of stepped solar still. We are attempting to study the present status of different designs and performance of stepped solar stills enhances the productivity and efficiency of stepped solar still.

I. INTRODUCTION

Water is the one of the resources that is potentially useful to all living beings. Often water sources are brackish containing harmful bacteria and therefore cannot be used for drinking. Distillation is the one of the processes that can be used for water purification. Desalination refers to the process of removing salt and other minerals from water. Water is desalinated in order to convert salt water to fresh water which is suitable for human consumption or irrigation. Most of the research in desalination was focused on developing cost-effective ways of providing fresh water for human use. Various research works are being carried out to improve the performance of the still. The basin area of the still, free surface area of water, inlet temperature of water, wind velocity, solar radiation, depth is some of the factors that three times more than the conventional system. solar integrated along with solar still to enhance productivity. Many materials such as sponges, fins, wick and pebbles are added in the still and

maximum 78% productivity was found for fin, sponge combinations. It was shown that about 20% of daily efficiency has been improved in the modified still. Lalit (2013) When the convex and concave type stepped solar stills were used, the average daily water distillate had been found to be 56.60% and 29.24% higher than that of flat type stepped solar still, respectively Theoretical analysis is also made by solving energy balance equations and compared with experimental.

II. COMPONENTS

2.1. WATER TANK

Storage tanks are containers that hold liquids, compressed gases or mediums used for the short- or long-term storage of heat or cold. The term can be used for reservoirs, and for manufactured containers. The usage of the word tank for reservoirs is uncommon in American English but is moderately common in British English. In other countries, the term tends to refer only to artificial containers.

A SMART TREADMILL BIKE

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ABSTRACT:

This project work modifies a treadmill to better fit the requirements of users. Treadmill bike is designed for those humans who love to run outside. Treadmill equipped on bike frame and formulates a big innovation named 'TREADMILL BIKE'. This bike has electronic parts and runs perfectly on human momentum. As the rider walks on the treadmill, the belt butts up against the rear wheel propelling the bike forward. Treadmill bike is designed for runners as the ideal treadmill device, this device combines the best exercise running and cycling to deliver a low-impact, high performance workout outdoors. We believe it is the ideal device for healthy runners. It delivers an exercise experience that is closer to running than anything else available today.

Key Words: *Treadmill, Walking.*

I. INTRODUCTION

The treadmill bike is completely a new way of movement completely designed for runners. Typically using a treadmill basically is similar to running, hiking or walking. Think about the last time you were riding a bike over some kind of obstacles such as train tracks, potholes, speed bumps. Possibilities are you stood up on the pedals to improve your balance when crossing the obstacle. Basically, the treadmill bike will provide the rider a well-balanced position the entire time. It is a combination of amalgamation of DC motor with different components upgrading your walking speed to a much higher pace. Since it uses no fuel it is a very conventional option for people in their busy schedule to take care of their health completely. People with a busy schedule will also be able to take care of their health and physical fitness. Above all, it is not a conventional treadmill to make use of only in closed rooms, person using treadmill bike can roam on roads also. This project overcomes the drawback of the conventional treadmill which is stationary which in fact does not provide the jogger to get exposed to the natural atmosphere. So this proposed methodology provides an ultimate solution by making use of wheels and making the

treadmill bike a walking cycle. The major elements in our project are as listed below.

II. LITERATURE SURVEY

[Kirtishbondre, 2016]¹ explains about the "Physical activity," "exercise," and "physical" describe different concepts. This fitness are three different terms that paper are confused with one another, and the terms give definitions to distinguish them. Any bodily movement produced by skeletal muscles that result in energy expenditure is known as Physical activity. The energy expenditure is measured in kilocalories. In daily life physical activity can be categorized into occupational, sports, conditioning, household, or other activities. It is a set of attributes that are either health or skill-related. The degree to which people have these attributes can be measured with specific tests.

A SMART COCONUT AND PALM CUTTING DRONE

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ABSTRACT:

This Fruit plucking during harvesting period involves labor intensive and time consuming steps. Automatic fruit plucking drones has to be developed to avoid the scarcity of labor and to consume less time. In order to make drones automatic, fruits have to be detected and classified properly. Drone need to be stabilized during flight and remotely controlled by the user. Robotic arm with gripper needs to be interfaced with the drone to pluck and hold the fruit. There is a rising shortage of skilled labors for climbing because these works are not considered a respectable job by people, although the wages are very high. It is highly challenge to grab the fruits from high altitude trees such as coconut tree and palm etc. Grabbing the fruits of trees in hilly region and mountains are also very difficult. Project can be implemented to harvest various kinds of fruits in orchards like apple, banana, guava and citrus etc.

Key Words: Drone, Electric Motor, Slider crank mechanism, Cutting blade, Fruit identification.

I. INTRODUCTION

The skilled farm labour in the agriculture is one of the most cost demanding factors. This is due to the rising values of supplies such as migration of large population from rural to urban areas, power, water irrigation, agrochemicals and so on. This puts the farming to be under pressure with small profit margins. Under these challenges food production and harvesting still need to meet the growing demands of a never-growing world population and this problem has to be overcome. India is a biggest agriculture country in the production of coconut and palm. Manual climbing on the trees is the major setback due to the shortage of skilled manpower (trained climbers) and accidents. It directly affects the productivity and economics. During the cultivation process in the coconut and palm trees, the accidents are happened to the humans. To avoid this we would come with a new technology called A Smart Coconut and Palm Cutting Drone.

II. LITERATURE SURVEY

[Ruggiero, 2018]¹ Multicopters are gaining more interest in many aerial applications. Multicopters include helicopter, tricopter, quadcopter, hexacopter and octocopters. When one or two of the motors are damaged or not functioning properly due to unpredictable environmental issues or mechanical failures, multirotors can still maintain stable flying. For heavy lift applications hexacopter is preferable than the quadcopter because they give more stability to drone, provide higher durability and larger payload. Octocopter also has the ability as hexacopter but it cost more price due to increase in number of motors.

[Suprpto, 2017]² Hexacopter has been designed, rotation of rotors has two direction i.e. three on counter clockwise and three on clockwise. Thrust was calculated based on the total weight has to lift. Batteries plays important role in flight time, therefore current should be more than motor current. As weight on hexacopter increases flight duration also decreases.

CATTLE FEED CUTTING MACHINE

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ABSTRACT

The cattle feed cutting machine is mainly used for supplying required nutrients to animals and poultry feed. There are high-cost machineries available in the market. The final products can be used to feed cattle, goats, deer, and horses. Chaff cutters have developed gradually from the basic machines into commercial standard machines that can be driven at various speeds so as to achieve various lengths of cuts of chaff with respect to animal preference type. This paper represents the design, fabrication, development and testing of a low cost electrically operated animal feed cutting machine with locally available materials and promote their business well in the field.

Keywords: Cutter, DC motor, Battery, Solar panel

I. INTRODUCTION

A chaff cutter is a mechanical device used to cut the straw or hay into small pieces so as to mix it together with other forage grass and fed to horses and cattle. This improves the animal's digestion and prevents animals from rejecting any part of their food. Chaff and operations until they were replaced by tractors in the 1940s. Chaff cutters have developed gradually from the simple machines to commercial standard machines that can be driven at various speeds so as to achieve various sizes of chaff with respect to animal preference type. New chaff cutter machines include portable tractor driven chaff cutters in which cutting of chaff is done in the field and loaded in trolleys. The present green fodder cutting machine features a single, only rod-shaped cut green fodder, green fodder cannot cut block. Whether peasant family, tribunal or farms and sales markets are in urgent need of a new, practical, functional and greener fodder cutter. And as per today's scenario the population of cattle is drastically increased. So to increase the productivity and reduce the physical effort required

for running the machine the motorized machineries came into existence.

II. EXISTINGSYSTEM

- The past technology of grass cutting is manually operated by the use of hand devices like scissor, these results into more human effort and more time required accomplishing the work.
- Also in old methods lack of uniformity of the remaining grass. Also due to the use of engine powered machines increases the air and noise pollution also this grass cutter require maintenance.
- In the cattle cutting machine we used both grass and feed cutters.

III. DESCRIPTION

The base frame which acts a chassis of vehicle is fabricated with the help of square tubes and channels by metal cutting and metal joining process called welding. Four wheels are attached to the

PLASTIC CRUSHING AND MELTING MACHINE

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ABSTRACT

The main aim of the concept is used to optimize the crushing of plastic; this project is used to crush the plastic for application of molding operation. This machine is very useful for time savings and reduces the human fatigue. Purpose of making plastic crusher machine is viable to control plastic waste management. The project consists of heater, pneumatic cylinder, and solenoid valve and frame setup.

Keywords: Heater,PneumaticCylinder,Solenoidvalve,Frame setup

1.INTRODUCTION

Plastic recycling is the process of recovering scrap or waste plastic and reprocessing the material into useful products. Since plastic is non-biodegradable, recycling is a part of global efforts to reduce plastic in the waste stream, especially the approximately eight million metric tons of waste plastic that enter the Earth's ocean every year. This helps to reduce the high rates of plastic pollution. Plastic recycling includes taking any type of plastic sorting it into different polymers and then chipping it and then melting it down into pellets after this stage it can then be used to make items of any kind such as plastic chairs and tables. Soft Plastics are also recycled such as polyethylene film and bags. The project is about design of a Plastic Bottle Crusher\ which would help to crush the used Plastic bottles and would thereby help in waste management and disposal. A crusher is a machine designed to reduce large solid material objects into a smaller volume, or smaller pieces. Crushers may be used to reduce the size, or change the form, of materials so they can be more easily and efficiently used in the purpose intended to. Crushing is the

process of transferring a force amplified by mechanical advantage through a material made of molecules that bond together more strongly, and resist deformation more, than those in the material being crushed do. Crushing devices hold material between two parallel or tangent solid surfaces, and apply sufficient force to bring the surfaces together to generate enough energy within the material being crushed so that its molecules separate or change alignment in relation to each other. The equipment mainly includes the cutting machine and the crushing machine, whose basic principle is to destroy the material's integrity depend on the shear strength and the impact strength.

II.EXISTINGSYSTEM

- They use mechanical set up crush the Plastics some of project use pressure with heat.
- But in our project we use pneumatic force to crush the plastic and we use high heater to melt the plastics.

COMPRESSED AIR USING PNEUMATIC CYLINDER

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ABSTRACT

The rate depletion of conventional sources of energy are much faster than the new ones are made, which puts us in place to consider and identify the other sources of energy to drive the needs of the world. Compressed air as the energy source has shown promising results in the field of automobile. Efforts are being made by many organizations to design and develop compressed air-driven vehicle which definitely going to reduce the uses of fossil fuels and its share in the environment. This study presents the methodology towards design and fabrication of a vehicle equipped with pneumatic power generating concept. Most likely, it will be the evolution car that is being built by Zero Pollution Motors. The cars have generated a lot of interest in recent years, and the Mexican government has already signed a deal to buy 40,000 evolutions to replace gasoline- and diesel-powered taxis in the heavily polluted Mexico City.

I. INTRODUCTION

A Pneumatic air engine is a double acting pneumatic cylinder that creates useful work by expanding compressed air. A compressed-air vehicle is powered by an air engine, using compressed air, which is stored in a tank. Instead of mixing fuel with air and burning it in the engine to drive pistons with hot expanding gases, compressed air engine (CAE) uses the expansion of compressed air to drive their pistons. They have existed in many forms over the past two centuries, ranging in size from hand held turbines up to several hundred horsepower.

For example, the first mechanically-powered submarine, the 1863 Plan gear, used a compressed air engine. The laws of physics dictate that uncontained gases will fill any given space. The easiest way to see this in action is to inflate a balloon. The elastic skin of the balloon holds the

air tightly inside, but the moment you use a pin to create a hole in the balloon's surface, the air expands outward with so much energy that the balloon explodes. Compressing a gas into a small space is a way to store energy. When the gas expands again, that energy is released to do work. That's the basic principle behind what makes an air car go. Some types rely on pistons and cylinders, others use turbines. Many compressed air engines improve their performance by heating the incoming air, or the engine itself. Some took this a stage further and burned fuel in the cylinder or turbine, forming a type of internal combustion engine. One manufacturer claims to have designed an engine that is 90 percent efficient. Compressed air propulsion may also be incorporated in hybrid systems, e.g., battery electric propulsion and fuel tanks to recharge the batteries. This kind of system is called hybrid-pneumatic electric propulsion.

TOXIC GAS SAFEGUARD IN AUTOMOBILES

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ABSTRACT

We have pleasure to introducing our new project “TOXIC GAS SAFEGUARD IN AUTOMOBILES”. This project is based on the gas detection in the car. Sensors are used to detect the gases present in the certain area. So, this device is used in car to detect the gas level present inside car. Because many death occurs in car due to breathing problems by air conditioner or by smoking inside the car causes suffocation inside the car that effect unconsciousness death and this device in the car is to detect the gas level of oxygen depletion or exceed of any harmful gases and it gives signal to the Arduino and it controls the car’s windows motor and it opens the window, it allows atmospheric air inside the car, which helps to breath. Hence, we can reduce the accident and death rate by this project.

Keywords: Arduino, Sensors, Oxygen depletion.

I. INTRODUCTION

Present industry is increasingly shifting towards automation. Two principle components of today’s industrial automations are programmable controllers and robots. In order to aid the tedious work and to serve the mankind, today there is a general tendency to develop an intelligent operation. This project idea was selected because we all are interested in working with and learning about sensors, Embedded, and automobile electronics. We are excited about this project because we will be building and testing our own sensor system and implementing it into a vehicle. In the cold winter or hot summer, many motorists like a long time to open the car air conditioning, due to the small interior space, doors and windows closed, the air inside and outside the car difficult to form convection, long-term operation of the engine

will emit large amounts of carbon monoxide, these part of the gas into the car, and a long stay in the car, the occupants will be monoxide poisoning unknowingly lose severe life.

ARDUINO is the heart of the device which handles all the sub devices connected across it. It has flash type reprogrammable memory. It has some peripheral devices to play this project perform. It also provides sufficient power to inbuilt peripheral devices. We need not give individually to all devices. The peripheral devices also activates as low power operation mode. These are the advantages are appear here.

II. NEED FOR AUTOMATION

Automation can be achieved through computers, hydraulics, pneumatics, robotics, etc., of these sources, pneumatics form an attractive medium for

BOTTLE CLEANING MACHINE

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ABSTRACT

This project “Automatic Bottle Washing Machine” deals with the cleaning of bottles used for packing soft drinks. This project will be quite useful when implemented in soft drinks manufacturing companies as bottles are collected and reused for packing. Recently the Cleanliness of these bottles had brought in a quality problem which leads to the reduction in sales for these soft drinks. Hence such a project which automates the cleaning of bottles might be of some help provided the water used for purpose is frequently changed and checked. This project deals with the fabrication of a simple model of the unit, which uses pneumatic components which are controlled by a Solenoid valve and Control Timing Unit.

Keywords-Bottle Cleaning Machine, RGB (Returnable Glass Bottle), SSR (Solid State Relay), Washing Compound

I. INTRODUCTION

In beverage filling and packaging industry, various types of machines are used to carry out the beverage filling and packaging process. However, some variation in terms of machines is possible depending upon the type of container used to carry the beverage in the beverage filling and packaging line. Mainly, three types of containers are used to carry the beverage: (1) RGB (Returnable Glass Bottle), (2) PET (Polyethylene terephthalate) bottle, and (3) Can.

The bottle washer machine is a prominent part of the bottle filling and packaging line and it is used in the beginning of the bottle filling and packaging line. The bottle washer machine is mainly used to clean the used bottles in case of RGBs and it is used to rinse the bottles in case of PET bottles before the beverage filling and packaging is carried out. The functionalities of the bottle washer machine will be different based on the type of beverage container used. The used RGBs need to be cleaned before beverage filling and packaging is carried out since used bottles may contain dust,

sand, beverage residues, rain water, mineral stains and microbes.

The project proposes to undertake bottle washing process in an automated bottling plant. Both automated and manual operations are possible in the process. The manual operation, the Hand operated Direction Control Valve is Used. The automation process is done through a Solenoid Valve and Control Timing Unit. The project is an electro pneumatic project with an interconnection of pneumatic parts and electronics.

II. LITERATURE SURVEY

In small scale industries the bottle are washed in the hands so the manpower, money and time are waste to overcome the issues the bottle cleaning machine was created and reduce the size of the machine for small industries as compared to large scale industries.

Paper [1] Temperature is the most critical parameter to ensure the proper cleaning of beverage containers in bottle washer machine. The requirement and importance of temperature control

SMART MOTORIZED TROLLEY

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ABSTRACT

The super shops are the places where people go to buy their daily using products and also pay for that. So the need to calculate the number of products sold and generation of bill for the customer. When people go for the shopping in a shop, we have to select the right product. After that, it's a hectic to stand in line for billing purpose. Hence, we are going to propose the "Smart Motorized Trolley System" that will save the track of products which are purchased and calculate the bill using RFID reader and Transmitter and Receiver.

The system will also provide suggestions for products to buy based on user purchase history from a centralized system. In "Smart Shopping Cart System" every product in Mart will be attached with RFID tag, and every cart will be having RFID Reader, LCD display and Transmitter and receiver attached to it.

I. INTRODUCTION

Nowadays, many supermarkets offer convenience for shopping, one of which is a shopping trolley. It is used by customers inside the store to transport goods to the cashier during shopping and designed not to leave the store. One of the first shopping carts was introduced by Sylvan Goldman. He receives many complaints from his customers because they have difficulty in carrying groceries from his shop. He put the basket on a carriage with small wheels to help customers carrying groceries. To facilitate and satisfy his customers, he asked an engineer to design a modern shopping trolley and patented this invention. To this day, we find many shapes of shopping trolleys in a modern supermarket.

The concept addresses the expectations of customers whose basic demand is to reduce the various problems in the way of making their purchase. By initiating the idea of an RFID based shopping cart, people would easily understand the bill of products themselves, irrespective of the

presence of staff of the shop as details of product would be readily available and would be displayed on the trolley as they add the product in the trolley. This outcome of this project will not only be in favor of the customers but also the mall owners who can make a one-time investment which can lead to long-term benefits in terms of business as well as customer satisfaction.

II. LITERATURE SURVEY

People have consistently imagined and built up an innovation to help their needs as far back as the start of humanity. The fundamental reason for headway in innovation has been in limiting errands and making regular tasks simpler and quicker, regardless of the different spaces accessible. A significant task on which people are discovered spending significant measure of time is shopping. For this at start we used Barcode system but after some years it also started to have issues like LOS (line of sight), increasing queue etc. so overcome

A Smart Gear Lever Locking System

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ABSTRACT

The present condition of insecure environment causes increase in the ratio of vehicle theft, which creates a major responsibility towards manufacturers as well as owners of luxury automobile to inbuilt the anti-theft system which prevent the car from theft. The objective of this work is to design and fabricate an anti-lock gear lever system by locking the gear lever of the car with the help of microcontroller. This project is very useful for anti-theft, because gear lever unit is locked when vehicle is in the parking condition. Gear lever is released when the password is matched with the owner's password. And if the password is mismatched, the gear lever didn't unlock. When the vehicle is parked, anti-lock steering system is activated by the microcontroller.

Key words:Pneumatic Cylinder, Solenoid Valve, Gear Box.

I. INTRODUCTION

Car theft is one of the strangest events of one's life. Thus, theft proofing your car is as important as purchasing one. The additional vehicular security systems to be perfectly installed are very important. When the car is parked and locked by the owner it should be in rest in all condition till the owner unlocks it. With the increasing vehicle theft, the prime concern for vehicle safety and surveillance is arising. Thus, safety of the automobile has become a vulnerable issue which created the urge of developing new security system.

vehicle does not move. Thus, the most expensive and important asset of all of us, will be on our fingertips and fully secure. This will prove to be a great technique to prevent the theft of the vehicles, especially in metropolitan cities, where theft cases are being reported, every day.

K. M. Arunraja et al. (2017) The Anti-theft steering system and vehicle information system through password serves as a best safety and convenience system for the vehicle users to protect themselves from impending danger. This research work widens the area of safety and comfort systems in the field of automobile engineering providing various benefits such as accident prevention and passenger safety installations.

II. LITERATURE SURVEY

Samir Rana et al. (2018) In this paper, we have made an android app, which is used to communicate with the device installed in our vehicles, which in turn will control the functions of the vehicle, as well as ensure the locking of the accelerator, gear and brake pedals, so that the

Student's Performance Evaluation And Intelligent Tutoring System

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ABSTRACT— Most of the educational institutions facing the problem how the students are performed in their Examinations. And also the staff couldn't able to analyze each student's capacity based on their Examinations. Student Evaluation is the process of determining the performance levels of individual students in relation to Educational learning objectives. In this paper the authors mainly focus on the prediction of Student's Academic Performance by using Fuzzy Logic Approach. The Fuzzy Logic is the technique which can be used for solving the problems in many fields. It is very useful when it comes to the problem where we need to decide and find the values ranging between 0 and 1 or any other specific range. The Internal Assessment Marks should be taken as a parameter for the evaluation process. And finally it gives the possible score with the corresponding CGPA value based on their performance. Additionally, the Intelligent Tutoring System can be added to this system for the chat purpose. It provides the immediate and customized response to the students corresponding to their queries. The purpose of the paper is to make institution give full consideration of the grades of students to define their performance.

Keywords—Fuzzy Logic, Student, Intelligent Tutoring System

I. INTRODUCTION

The main aim of Educational Institutions is to provide student with the evaluation reports regarding their examinations as best as possible with minimum errors. Student's performance evaluation includes analysis of skills and ability which are characterized by using linguistic terms instead of numerical values. In this paper the evaluation of student's performance can be implemented by using the Fuzzy Logic Approach. This approach will have no restrictions of number of parameters and kind of parameters. The Fuzzy logic can be developed and implemented depending on the performance in different subjects chosen by a student and also the performance in the other related parameters. On the basis of Fuzzy logic approach the evaluation of student's performance can be done on the basis of fuzzy sets and fuzzy rules that helps the students to get a clear view of their End Semester Examination results. In recent years, there is a growing need for computer technology to be used in an educational systems. In this paper, we are implementing the Intelligent Tutoring System (ITS) that provides the personalized instruction and feedback to the users without a human teacher. When ITS are used in this system, the system is not only used by students, but by teachers as well.

II. LITERATURE REVIEW

- I. In paper [2] the most purpose of this study is that the presentation skills evaluation of pre-service teachers via fuzzy logic. There are two totally different groups during this study. The first one consists of fourteen instructors serving inside the Computer Education and Information Technology (CEIT) Department of Firat University (FU). This group has provided skilled view in ranking the importance of the matters within the presentation analysis scale (PES) and in forming the rule base that sets ground for the operation of fuzzy logic mechanism. The second group consists of forty one juniors having the operating Systems and Applications Course among the CEIT Department of FU. The scholars during this group build a presentation related to the units of this course, PES area unit applied on them and also the study is conducted by the information obtained from this scale.
- II. In paper [5] the authors have proposed a new fuzzy logic based performance evaluation technique. During this technique, they consider three parameters attendance, internal marks and external marks that are considered to evaluate students in an IT related Under-graduate course.
- III. In paper [8] the authors focus on the fuzzy based approach for evaluation of the student numeric grading without entailing the human judgmental.
- IV. In paper [11] the authors propose a new performance evaluation technique using fuzzy logic

Detection of Manhole using Image Processing on Google Street View imagery

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Abstract—Manholes are usually known as a pothole used for several purposes in roadside areas such as maintenance purposes, checking the ground water utility, electric works, pipeline maintenance. Those manholes can vary in shapes and sizes like circular, rectangular, square, oval and unstructured format too. These unpredictable structures make danger while crossing the road by vehicles or by walk. Especially for daily workers like office going people, delivery workers and new visitors in new places even the blind people are quite in risk. Unexplained manholes can be harmful to people during the climate change. We are unable to define the exact location of the manholes during a flood emergency caused by climate change. Some precautionary measures are required to protect against such consequences. So we need heavy field work to overcome these hazards.

I. INTRODUCTION

Urban areas and rural development areas also need some infrastructure maintenance of manholes in this period of growing population. The number of reported deaths in India in the year 2016 stood at 17278 and 19092 in the year 2017, a 10.5% increase year on year [1]. With the advent of private entities like Google LLC in the digital footprint space, locally updated high-resolution imagery is readily available. Underground utility networks need to be assessed while city planning and re-planning [2]. This has created an opportunity for extrapolation of that imagery for creating user-friendly applications for detecting and alerting users in times of emergencies. Furthermore, the record-keeping and mapping of utility spaces in cities across many countries has been done using inefficient methods and hence create inaccurate records and misinformation [3]. Finding information from these records has become a hassle. To ease this process, image processing techniques could be used to detect these manholes and enable state officials as well as the common man to be updated with the network of these sites [4]. This will help the officials to keep track of the utilities whereas for the common man, it would be a single information point for all the locations that need to be avoided in times of heavy rainfall or when drains overflow. The idea is aimed to reduce dependency on analog information stored in the form of paper records. Continuous mapping and infrastructure management based on the proposed solution paves a way for real-time condition assessment and resource administration [5].

Based on the current state of affairs in the resource allocation and management strata of utility network systems especially in metro cities, there is a need for a more technologically advanced and geographically scalable method to encapsulate geo-referencing of said manholes. The proposed methodology intends to create a database of manholes and provide updates on the same user information status available there.

Apart from bringing in new techniques to aid planning of manholes, the methodology also presents a great opportunity for utilization in other public sector undertakings for their betterment in terms of facility management [6]. Since the present methodology needs image processing techniques to detect the manholes and generate results that whether the manholes is present in Google StreetView Imagery or not.

II. METHODOLOGY

1. Block Diagram :

Fig. 1 describes the taken images from the Google Street View Imagery. After taking an image, the selected image is going to be processed using image processing technique.

2. Image pre-processing:
In today's world, the data obviously is unavailable, lacking information, faulty data, redundant data or some missing or duplicate data too. So, the data under preprocessing makes sure that it has high accuracy without noise. Filtering image is an important process in preprocessing technique.

DETECTING AND TRACKING MENTAL ILLNESS ON SOCIAL NETWORKS BY USING SVM

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ABSTRACT

Although rates of diagnosing mental illness have improved over the past few decades, many cases remain undetected. Symptoms associated with mental illness are observable on Twitter, Facebook, and web forums, and automated methods are increasingly able to detect depression and other mental illnesses. In this paper, recent studies that aimed to predict mental illness using social media are reviewed. Mentally ill users have been identified using screening surveys, their public sharing of a diagnosis on Twitter, or by their membership in an online forum, and they were distinguishable from control users by patterns in their language and online activity. Automated detection methods may help to identify depressed or otherwise at risk individuals through the large-scale passive monitoring of social media, and in the future may complement existing screening procedures.

1.INTRODUCTION

1.1 About The Project

Psychological Stress is becoming a threat to people's health nowadays. With the rapid pace of life, more and more people are feeling stressed. According to a worldwide survey reported by new business in 2010, over half of the population have experienced an appreciable rise in stress over the last two years. Though stress itself is non-clinical and common in our life, excessive and chronic stress can be rather harmful to people's physical and mental health. According to existing research works, long-term stress has been found to be related to many diseases, e.g., clinical depressions, insomnia etc. Moreover, according to Chinese Center for Disease Control and Prevention, suicide has become the top cause of death among Chinese youth, and excessive stress is considered to be a major factor of suicide. All these reveal that the

rapid increase of stress has become a great challenge to human health and life quality.

2.LITERATURE SURVEY

2.1 Related work

We have divided the related work into four subsections. First, we discuss the state-of-the-art approaches for studying depressive behavior on social data. Second, we review studies that have inferred demographic information using social media data. Then, we discuss the association between color sensitivity and mental health disorders. Finally, we cover state-of-the-art studies that have used visual imagery to study individual's behavior.

COLLABORATIVE FILTERING BASED RECOMMENDATION SYSTEM FOR ELECTRONIC GADGETS

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Abstract -The rapid development of Mobile Internet and information technology has made the internet flood with more complex and redundant information. In this circumstance, it is difficult for people to access useful information for making decisions. Therefore, the recommendation system monitors the user's interest across the world so as to recommend in an efficient way. Currently, collaborative filtering has been successfully utilized in recommendation systems based on user's reviews and ratings. collaborative filtering based recommendation system for electronic gadgets brings a new similarity measure method which considers comments, ratings and specification of the product. It uses Natural Language Processing algorithm for the extraction of the customer reviews and for the segregation of the user comments. Through the comment based recommendations one will be able to pick a better product of their choice as the ratings provided at the site may not be accurate to the actual rating of the product. Finally, the proposed result is suitable for mining the data effectively, thereby increasing the accuracy of prediction and also enhances the recommendation quality of the items and content recommended to the users

Keywords - collaborative filtering, Natural Language Processing, recommendation, comments

I. INTRODUCTION

The recommendation system plays a huge role for people who rely on knowledge for deciding their interests. The collaborative filtering model takes data from a user's previous behavior as well as similar decisions made by other users which personalize recommendation and deal with an interest of accuracy. There by recommendation system is a sharp system that provides ideas about the item to users that might interest them. The project collaborative filtering based recommendation system for electronic gadgets will serve as a recommendation system using collaborative filtering models. The existing recommender system using collaborative filtering only focuses on the product ratings and results in recommendations. Many researchers have used algorithms like Alternating Least Squares, Singular Value decomposition, K-Nearest Neighbor algorithm, and Normal predictor algorithm. Collaborative filtering techniques divided into memory-based and model-based methods. Memory-based methods take action only on a user-item rating matrix and can easily be adjusted to use all the ratings before the filtering procedure; thus, its results are updated. On the other hand, a model-based system, like a neural network, generates a model that learns from the information of user-item ratings and recommends new items following shows the detailed description of all the above approaches. The recommender system still requires improvement to develop a better and accurate method.

II PROCEDURE

The project aim is not only to recommend the best outselling products but also to satisfy the customer with their interests. The recommendations are not totally dependent on the product ratings but also the comment section. Hence, the software also relies on the customer feedback for better approach in recommendation. After the extraction of the comments, it would be converted and segregated into positive and negative feedback. Later the highest count among the positive and negative feedback will be the ending result that would be recommended to the user. Recommending the listed products based on its rating and customer reviews will be helpful for making the customer's choice among the huge variety of products and will also satisfy the customer for their best selection among the various collections. Therefore this recommendation system can be used for all online shopping sites that would fulfill the requirements of the customer at it's best and will fit into the online shopping environment successfully.

Linking Website For Entrepreneurs, Investors and Job Seeker

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Abstract:We review the extensive literature since 2000 on the personality traits of entrepreneurs. We first consider baseline personality traits like the Big-5 model, self-efficacy and innovativeness, locus of control, and the need for achievement. We then consider risk attitudes and goals and aspirations of entrepreneurs. Within each area, we separate studies by the type of entrepreneurial behaviour considered: entry into entrepreneurship, performance outcomes, and exit from entrepreneurship. This literature shows common results and many points of disagreement, reflective of the heterogeneous nature of entrepreneurship. We label studies by the type of entrepreneurial population studied (e.g., Main Street vs. those backed by venture capital) to identify interesting and irreducible parts of this heterogeneity, while also identifying places where we anticipate future large-scale research and the growing depth of the field are likely to clarify matters. There are many areas, like how firm performance connects to entrepreneurial personality, that are woefully understudied and ripe for major advances if the appropriate cross-disciplinary ingredients are assembled. Over the years the definition of the entrepreneurship has changed from taking initiative to unknown experience with risk taking and finally to recognizing opportunities in innovative ways to benefit society. This shows entrepreneurship and education have come much closer to each other in the current generation and even with regard to engineering education. Together they promise to provide a holistic approach to benefit the humankind. The paper tries to bring forth some of the myths and myth consumptions, challenges, opportunities revolving around entrepreneurship in engineering education. An effort is made to review entrepreneurship development at reputed institutes and their practices have been presented in this paper.

1.Introduction

The fascination with entrepreneurs is not brand new, of course, and a literature dating to the 18th century explores what drives entrepreneurs and whether their traits matter for the outcomes of their ventures. This literature now spans many fields and has introduced multiple concepts and methods related to the analysis of entrepreneurial characteristics. In this review, we collect and organize the latest findings on the prevalence of various personality traits among the entrepreneurial population and their impact on venture performance. We cover academic work ranging from economics to psychology to management studies, with a focus on studies published after 2000. One of the important aspects of the entrepreneurship cell is also to enable skill training and mentoring. Entrepreneurship with business education is an excellent combination for students to learn and understand the intricacies of starting an industry. Engineering education should imbibe the entrepreneurial way of thinking. For most part engineering education has ceased to challenge the brightest mind for introducing innovative ideas. This has made the graduates more of conventional thinking which is reactive in nature rather than making them more proactive.

II. Proposed Work

There are three modules in our application. Entrepreneurs have to login with his Name, mail and the password that created for our site. At the same for Investor to login with his name, organization and investing field details. The Job seeker also login with the same credentials. The three of them got benefits and they can raise opportunity to all seekers. Investor and Entrepreneurs are able to see the profile of the jobseekers, for shortlisting them for their project or businesses. Jobseekers are able to apply the jobs which Investors and Entrepreneurs looking for. Opportunity – based entrepreneurship has the capacity to not only generate the jobs we want but also enhance economic growth and development. This poses problems for explaining differences in entrepreneurship across the broad workforce, and the businesses started by these very wealthy individuals are frequently of a low capital intensity such that the owners could have opened the business at lower wealth levels had they wanted to.

3. A Study of Working of Entrepreneurship

DENSITY BASED TRAFFIC CONTROL SYSTEM WITH AMBULANCE DETECTION

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Abstract— The technological landscape of ITS has been radically transformed by the emergence of the big data streams generated by IOT. It is timely and pertinent that ITS harness the potential of an AI to develop the Big data-driven smart traffic management solutions for effective decision-making. STMP based on unsupervised online incremental Machine, Deep and deep reinforcement learning to address these limitations. We proposed a new technology used for four way road by using sensors for counting the vehicle and store a count of vehicle and time using big data. Sensor finds the count of vehicle and compares with the big data values. We proposed adaboost and linear regression algorithm It also used for city's to reduce traffic congestion. Then this system also detect the ambulance then the ambulance path will be opened

Key words—Vehicle, Traffic signal time, Emergency vehicle,

I INTRODUCTION

Road traffic conditions and flow management continue to be an important area of research with many practical implications. During the last decade, the technological landscape of transportation has gradually integrated disruptive technology paradigms into current transportation management systems, leading to Intelligent Transportation Systems (ITS). The emergence of Internet of Things (IoT), sensor networks and social media has surpassed traditional means of collecting data, by creating voluminous and continuous streams of realtime data. Leveraging such big data environments is a formidable issue, due to the intense volume and velocity at which data is generated by transportation and mobility systems Furthermore, the dynamic nature of these environments makes the data generation volatile, which impedes the effectiveness of decision-making in ITS. The dynamicity of data generated by transportation systems consists of continuously changing patterns and concept drifts. In a traffic context, concept drifts are the changes to the distributions of data in a traffic data stream over time . Based on the nature of fluctuations in data streams, these changes are further classified as recurrent and non-recurrent concept drifts. For example, traffic congestion changes due to peak/off-peak traffic is a recurrent concept drift whereas an accident or breakdown is a non-recurrent concept drift. Special importance should be placed into identifying non recurrent concept drifts as it could affect the entire road network.

II. SYSTEM ANALYSIS

➤ Existing System

Existing literature reports a number of supervised machine learning algorithms that detect drifts and adapt to new concepts. Real-time detection is crucial for effective decision making in transportation, and feedback on the traffic incident is received following an unknown delay. We postulate concept drift detection in road traffic requires unsupervised machine learning to address the challenges of real-time, unlabeled, volatile data streams. The existing method consumes more time in waiting for the signal.



Figure: A.2.1

AN AUTOMATED COVID-19 FACEMASK DETECTION WITH DEEP LEARNING

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ABSTRACT

The COVID-19 pandemic is causing a worldwide wellbeing emergency so the successful security strategies is wearing a face veil in open regions as indicated by the World Health Organization (WHO). The COVID-19 pandemic constrained governments across the world to force lockdowns to forestall infection transmissions. Reports show that wearing face veils while at work unmistakably diminishes the danger of transmission. A proficient and monetary methodology of utilizing AI to establish a protected climate in an assembling arrangement. A mixture model utilizing profound and traditional AI for face cover discovery will be introduced. A face veil identification dataset comprises cover and without cover pictures , we will utilize OpenCV to do continuous face location from a live stream through our webcam. To utilize the dataset to assemble a COVID-19 face veil indicator with PC vision utilizing Python, OpenCV, and TensorFlow and Keras. We will probably recognize whether the individual on video transfer is wearing a face cover or not with the assistance of PC vision and (RCNN) profound learning

Keywords; COVID19,R-CNN,Deep learning

I. INTRODUCTION

A vital weapon against the spread of COVID-19 has been the utilization of face veils. This has been ordered and underlined by the administrations of various nations, in view of the rules by the World Health Organization (WHO). As per the WHO, face veils can be utilized for control of source (worn by tainted people to restrain further transmission) or for the assurance of sound individuals. Programmed face-cover location at constant is arising as an intriguing issue with regards to picture handling and PC vision. The objective has been to identify consequently if an individual is wearing a cover. We present here a novel model dependent on neural organizations, explicitly, convolutional neural

organizations, that has an exactness of 96%. Because of our work, governments, strategy producers, medical care suppliers and educationalists will have the option to discover if there are specific spots or areas and possibly specific timings when individuals are not wearing face covers. Therefore, they can design and coordinate mindfulness crusades, law authorization fortifications, free face veil disseminations and such exercises..

1.1 DEEP LEARNING

Deep learning techniques target taking in highlight orders with highlights from more elevated levels of the chain of importance shaped by the creation of lower level highlights. Naturally learning highlights at

CREDIT CARD FORGERY ANALYSIS

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INTRODUCTION

Now a day the usage of credit cards has dramatically increased. As credit card becomes the most popular mode of payment for both online as well as regular purchase, cases of fraud associated with it are also rising. Online Shopping – one of the largest and fast going trend Mode of payment – credit card, debit card, Net Banking Online payment does not require physical card Major Risk – credit card detail is known to other

2 RELATED WORK

2.1 A Cost-Sensitive Decision Tree Approach For Fraud Detection

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With the developments in the information technology, fraud is spreading all over the world, resulting in huge financial losses. Though fraud prevention mechanisms such as CHIP&PIN are developed for credit card systems, these mechanisms do not prevent the most common fraud types such as fraudulent credit card usages over virtual POS (Point Of Sale) terminals or mail orders so called online credit card fraud. As a result, fraud detection becomes the essential tool and probably the best way to stop such fraud types. In this study, a new cost-sensitive decision tree approach which minimizes the sum of misclassification costs while selecting the splitting attribute at each non-terminal node is developed

and the performance of this approach is compared with the well-known traditional classification models on a real world credit card data set. In this approach, misclassification costs are taken as varying. The results show that this cost-sensitive decision tree algorithm outperforms the existing well-known methods on the given problem set with respect to the well-known performance metrics such as accuracy and true positive rate, but also a newly defined cost-sensitive metric specific to credit card fraud detection domain. Accordingly, financial losses due to fraudulent transactions can be decreased more by the implementation of this approach in fraud detection systems.

3 SYSTEM ANALYSIS

3.1 EXISTING SYSTEM

Three methods to detect fraud are presented. Firstly, clustering model is used to classify the legal and fraudulent transaction using data clusterization of regions of parameter value. Secondly, Gaussian mixture model is used to model the probability density of credit card user's past behavior so that the probability of current behavior can be calculated to detect any abnormalities from the past behavior. Lastly, Bayesian networks are used to describe the statistics of a particular user and the statistics of different fraud scenarios. The main task is to explore different views of the same problem and

College Grievance System

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Abstract College Grievance Website provides an online way of solving the problems faced by the public by saving time and eradicate corruption. The objective of the College Grievance Website is to make complaints easier to coordinate, monitor, track and resolve, and to provide company with an effective tool to identify and target problem areas, monitor complaints handling performance. College Grievance Website is a management technique for assessing, analyzing and responding to customer complaints. College Grievance Website is used to record resolve and respond to complaints, requests as well as facilitate any other feedback. The test result shows that this system is able to reduce the time and procedures for complaint handling, increase the channel for filing the complaint, and increase the channel for progress reporting and tracking the status of the complaint. It used modeling language (UML) to make the abstraction of the program, PHP as the language program and MySQL as the database.

I. INTRODUCTION

College Grievance Website is an online platform to receive and act on complaints reported by students and Staff of institutions, enabling prompt actions on any issue raised by them and to avail services more effectively. College Grievance Website can be handled directly by institutes through their own websites. Also the smart web portal for grievance processing connects students and action-takers directly through online platform. Grievance System helps to pursue quick action for solving the grievance, while maintaining affordability and ease to the users. They are not interested to visit faculty room, write the complaints then fill it to the box. On the other side, English Study Program finds difficulty to accommodate the complaints. No human being can ever be satisfied on all accounts. The same applies on Students and employee on institutions and organizations who may have some aspects as their working life such as behaviour of managers, wages, Canteen Facility, Transport Facility, Lab Facility, Supervisors and colleagues.

1. Problems of complaint procedure

- Students do the mistake in channel for complaint and how to file complaints from
- Student spend a lot of time on complaint
- Students do not know the status for the complaint
- The redundancy of complaints from institutions
- The details of complaints are not clear and insufficient
- The institution do not have channel for asking further information about complaint and forwarding complaint
- Complaints are not related to the responsible department

The project entitled as “Student complaint maintenance system” provide an interface for maintain the student complaint of a college. It can be used by educational institutes to maintain the records of student’s complaint details easily. The creation and management of accurate, up-to-date information regarding a student’s academic career is critically important in the colleges. The biggest challenge of a college authority is to manage each and every student detail and their complaint effectively and efficiently. It tracks all the details of a student from the day one to the end of the course which can be used for all reporting purpose, progress in the and all these will be available through a secure application.

This website application has the facility to store the student information details in all aspects, the various academic notifications to the students updated by the administration. It also facilitate us explore to analysis of the student complaint. Different reports can be generated based on vast options related to students and even for the entire college.

1. METHEDOLOGY

Research methodology is the systematic way of method applied at the field of study that used to analyze or collect data in a research. In information system field the research methodology called system development methodology..student Complaint Management might affect the level of student satisfaction, therefore each management will have a process to handle complaints with the purpose of doing the maximize student satisfaction. Complaint management process is a set of operations that used to handle complaints in managements in order to resolve problems. The procedures for handling complaints are as follows:

DOMESTIC FARM PORTAL

(Using to buy and sell the domestic animals through online,It deals with the farm owners and consumers satisfaction.)

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Abstract--Our project "DOMESTIC FARM PORTAL" deals with the computerization of the farm owners sales activities. The main objective of the system is to increase the communication between farm owners and consumers. The word "FARM" means an area of land with fields and buildings that is used for growing crops and keeping animals. Farming is an intentional activity, carried out with the intent of meeting the needs of people as consumer and producers of food and as members of society. Our project maintains details of all types of farm owner's salable items such as cow, hen, goat, etc.,It also records the information of consumers who buy the items. The master component is used to enter the input data about farm owners, consumers, salable items details. Category wise items details are maintained.

Our project helps to maintain the daily transactions, how much items kept for sold, how much items requested by consumers and their reports. During the stock item update, the farm owner selects the items and key in the quantity and rate. During the item request, the reference number and date are automatically printed, farm owner and item details are selected and quantity is given. These details are

I. INTRODUCTION

Nowadays, **FARM** is a part of agriculture people may have started farming because the weather and soil began to change. Farm animals is to increase the necessity of the animals breeding. In the current scenario, hunting animals like cow, hen, goat, etc, for the purpose of meat and then customers spent more time and cost to buying the animals with the help of procures. It is the time taken process, in this process consumers waste their time and cost. So, we can developed our web application for avoiding the above difficulties. This was named as "DOMESTIC FARM PORTAL".

In this portal the farm owners can upload their breed variety like cow, hen, goat,etc, and their age, type and the salable details. Then the consumer needs that breed variety, they will be request to the farm owners and it will be directly delivered to the customers. We can also add user manual for the breed animals. It consists the detailed description about the animals, like their food details, breed details and etc,. We can introduce in our project the consumers pay their fee through online payment system. Finally, we add the google maps for the purpose of consumers they know their farm owners places. The farm owners can share their places using our google maps

LICENSE ELIGIBILITY MEASUREMENT SYSTEM

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ABSTRACT

Now a days in current situation, test for driving license is not done before the RTO officer. it is done by the driving school, they provide certificate for driving. After the driving school given certificate they applied for driving license it was easily getting from the RTO office. During this , certification from the Driving School. some of them have a chance for fraud work, that is without drive a car or bike they will provide certificate for money ,then the person will easily get a driving license. These type of person have a 90% chance of accident on the road. By avoid these type of accident, in this paper we discuss about the driver performance measuring by a eligibility test kit. A driver performance measuring kit will helps to analyze the member who is driving the car and their driving data will be collected from the sensors to Microcontroller and the data is automatically updated to the test kit.

Finally the data will be send to the RTO office Via GSM Technology ,after completing a driving course eligible candidate only getting the driving license from the RTO office. The main aim of this project helps to avoid Accident on Road and fraud done during the driving test.

I. INTRODUCTION

Now-a-days in our country most of the existing RTO offices didnt have systematic driving license verification system. If we want to get the driving license from RTO office, it is not a difficult task now a days but maintaining the original driving license is major task to the vehicle users . On the other side vehicle users are cheating the police by maintaining fake license which was crime. Currently driving license card having details like driving license identification number and address Details of the authorized vehicle Drivers are being morphed. So now-a-days the persons who are maintaining fake driving license, they are removing the authorized vehicle driver license photo and the details and using

same license identification number . This is the major disadvantage for the authorized driving license persons and it is advantage for the persons who are maintaining fake driving license. In order to overcome these problems an authenticating driving license system is proposed and provided to RTOs. By making use of RFID reader we can maintain authenticated driving license system. The existing method at the road transport officers was we need to fill the online driving license application form and next step is the written exam, that exam issuing a driving license by taking photo and the details of the eligible person .So in that driving license as we already know there existing a license. This is the major drawback of the existing driving license issuing system.

FEED THE NEED

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Abstract— This paper is used to manage wastage foods in a useful way. Now days the peoples are wasting a large amount of foods. For example weddings, parties, functions, etc., We are contributing towards hunger killing through this step. So we develop an android application to reduce a food waste and recover surplus food from people and then sharing the food through android application. and then the admin maintain the details of food feeder. The user can create the account and whenever they are having wastage food they can login and give request to the admin. And the admin also maintain the needer (orphanage, poor people) details too. After the admin view the donator request and give the alert message like time to come and collect the food. This paper is food redistribution is an enormously successful social innovation that tackles food waste and food poverty. The user's details are maintained confidential because it maintains a separate account for each user.

Keywords— Food donator, Food wastage problems, collecting foods.

I. INTRODUCTION

The sharp increase in the amount of wastage in terms of food. Makes the need for charity in terms of donation. This paper presents 'Helping Hands', a new internet-based application that provides a platform for donating leftover food to all needy people organizations. It provides information about the motivation to come up with such an application, thereby describing the existing donation system and how the proposed product works for the betterment of society. The product is shown to be an effective means of donating things to organizations, etc. over the internet. It shows the potential for avoiding the wastage of food. In highly populated countries like India, food wastage is a disturbing issue. The streets, garbage bins and landfills have ample proof to prove it. Marriages, canteens, restaurants, social and family get-togethers and functions expel out so much food. Food wastage is not only an indication of hunger or pollution, but also of many economic problems. The high standard of living has resulted in the wastage of food, because of quick changes in habits and lifestyle. Instead of wasting these things we can put them in use by donating them to various organizations such as orphanages, old age homes, etc. The product is an internet-based android application that basically aims at charity through donations.

Most people don't realize how much food they throw away every day from uneaten leftovers to spoiled produce. About 95 percent of the food we throw away ends up in landfills or combustion facilities. In 2013, we disposed more than 35 million tons of food waste. Many people wish to donate things to needy organizations. Also, many organizations wish to ask for various things required by them food, but there is no source available through which they can satisfy their requirements. Thereby, an Android application has been developed through which people can donate items as per their capacity and the application also allows organizations to put up their requests, i.e. items required by them, if any. The majority of the population today uses smart phones with active internet connection, which is the basic requirement for this product to function properly.

II. PROBLEM STATEMENT

Now a days the peoples are wasting a large amount of foods. For example weddings, parties, functions, etc., if anyone have extra food because of any function or in their home it will be become waste because instantly there is no way to share with anyone if they are having lots of food. Even if they want to give that extra food to any orphanage or poor people they don't have time or don't have an idea about that We are contributing towards hunger killing through this step. So we develop an android application to reduce a food waste and recover surplus food from people and then sharing the food through android application.

I. BLOCK DIAGRAM

E-VOTING APPLICATION USING BIOMETRICS & SMS OTP VERIFICATION

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ABSTRACT

The project title is “**E-VOTING APPLICATION USING BIOMETRICS &SMS OTP VERIFICATION**”.The problem of voting is still critical in terms of safety and security. This paper deals with the design and development of a web-based voting system using finger print and Aadhaar card in order to provide a high performance with high security to the voting system. Also, we use web technology to make the voting system more practical .The proposed Online Voting System allows the voters to scan their fingerprint ,which is then matched with an already save damage with in a data base that is retrieved from Aadhaar card database of the government. The voting system is managed in a simpler way as all the users must login by Aadhaar card number and One Time password and click on his/her favorable candidates to cast the vote. This will increase the voting percentage in India and reduces the cost of voting process. By using biometric fingerprint it provides enough security which reduces he false votes

Keywords: Admin ,User, Biometric, Fingerprint

1. INTRODUCTION

Voting schemes have evolved from counting hands in early days to systems that include paper punch card mechanical lever and optical scanner machines. An electronic voting system which is used nowadays provide some characteristic different from the traditional voting technique, and also it provides improved features of voting system over traditional voting system such as

Accuracy, convenience, flexibility, privacy, verifiability and mobility .But Electronic voting system suffers from various drawbacks such as time consuming, consumes large volume of paper, work, no direct role for the higher officials ,damage of machines due to lack of attention mass up date

does not allow users to update and edit many items simultaneously etc.

These drawbacks can overcome by Biometric and SMS OTP Online Voting System. This is a voting system by which any voter can use his/her voting rights from anywhere in the country. We provide a detailed description of the functional and performance characteristics of biometric online voting system. Voter can cast their votes from anywhere in the country without visiting to voting booths, in highly secured way. That makes voting a fearless of violence and that increases the percentage of voting.

2. RELATEDRESEARCH

Voting schemes have evolved from counting hand

PREVENTION OF PORT FORWARDING AND PRIVILEGE ESCALATION

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ABSTRACT

A privilege escalation in the Linux system can be defined as a method of gaining access to the kernel system and allowing the user to have an administrative access to the local admin account system on the computer. This problem describes the of concept attack scheme using Dynamic port forwarding. The attack scheme, the same interaction on the physical access to the computer system could be accomplished by the attacker using a little effort specialized Port vulnerability to take over the computer system in full where it will collect valuable information,to avoid that through IP block and Preventing Port vulnerability.To preventing like user-friendly python programming language to run check and resolve the problem.

Privileges describe what a user is permitted to do such as viewing files, modifying or deleting data. Privilege escalation takes place when a user gets access to more resources or services than they are normally allowed to perform unauthorized actions. It attacks the main kernal OS of the Computer system like as a user to escalate the admin permission.

Keywords: Privilege escalation, Port ,vulnerability

1. INTRODUCTION

Port vulnerability mechanisms to scanning 65,565 ports then to block backdoor operation running on that port. In case the system Port forwarded to prevent that process. A privilege escalation in a way to obtain the permission from unprivileged access to the higher level of administrator privilege. In Linux system that is being access into guest account have a restricted features and limitation to certain function. A privilege escalation in a way to obtain the permission from unprivileged access to the higher level of administrator privilege. In Linux system that is being access into guest account have a restricted features and limitation to certain function. It is

include to limit the activity of the guest user to change or going into the system's programs. Whereby User Account Control (UAC) is a Linux program that has a concept of privilege escalation by means if the guest user is performing a task under administrative level of permission. The existing Kernels of operating systems are written in low-level unsafe languages inevitably vulnerable to memory corruption attacks.

User Account Control or UAC in Linux is a security feature which helps to prevent an unauthorized changes to the Linux operating system that can be initiated by applications, users or malware. This feature will ensure only certain changes will be executed under normal guest account which required approval from the

Optima Web Application Development using Angular JS

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ABSTRACT

Optima ("PROPOSAL DOCUMENT FOR OPTIMAL ENHANCEMENT DEVELOPMENT") is one of the five important scientific research project funded by the Italian space to study of the application the information of the imaging spectrometer. And the panchromatic camera of the prisma mission. One of the main tax of the project is the implementation of advance autonomous techniques for radiometric calibration and atmospheric correction. Using of coding web page application. Proposal_MSPL_optima_Enhancement, the using of project programming are HTML, CSS, JS, BOOTSTRAP, ANGULAR JS. The design of the job card will be mutually discussed and approved. In this method we used in working for company project schedules system. Olympus required to enhance the functionality of Optima portal in Reference to Requirements for Optima 2.0 Upgrade document, the scope and deliverables planned and details in the document. The performance of the software in terms of its response time while checking in, while clicking on various workflow tabs and while exporting data should be substantially improved.

Keywords: Knowledge Base, QC, Model Driven Architecture (MDA), Software Migration.

1. INTRODUCTION

Olympus required to enhance the functionality of Optima portal in Reference to Requirements for Optima 2.0 Upgrade document the scope and deliverables planned and details in the document. The Italian space to study of the application the information of the imaging spectrometer And the panchromatic camera of the prisma mission. One of the main tax of the project is the implementation of advance autonomous techniques for radiometric calibration And atmospheric correction. In addition to the card view, the jobs should also be displayed in Grid View (switch to grid / card option on the display).

The column headings of the grid view, the action buttons above the grid view and the action icons on each row of the grid view will be discussed and agreed.

2. PROJECT SCOPE

2.1 Performance Improvement of the Software

The performance of the software in terms of its response time while checking in, while clicking on various workflow tabs and while exporting data should be substantially improved

2.2. Pause-Play function on each Job

This is an existing feature on the software, which has been developed and tested but has not been rolled out / implemented for usage. The feature is not usable in its current form, mainly because the change from Pause to Play and vice versa should happen within a fraction of a second

Enhancement of the UI Design

The Job Cards being shown below the workflow tabs have to be redesigned. Colour coding changes, additional