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CSE-07 Medical Imaging using Deep Learning

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***Abstract*—*The role of data analytics in medical imaging has grown rapidly in the last decade. This has also prompted increasing interests in the generation of analytical, data driven models based on machine learning in medical imaging. Deep learning, a technique with its foundation in artificial neural networks, is emerging in recent years as a powerful tool for machine learning, promising to reshape the future of artificial intelligence. Rapid improvements in computational power, fast data storage, and parallelization have also contributed to the rapid uptake of the technology in addition to its predictive power and ability to generate automatically optimized high-level features and semantic interpretation from the input data. This article presents a comprehensive up-to date review of research for deep learning in medical imaging providing a critical analysis of the tumor detection.*

***General Terms* —** *deep learning, Tumor detection, Diabetic Retinopathy.*

I. INTRODUCTION

In 1895, the German physicist, Wilhelm Röntgen, showed his wife Anna an X-ray of her hand. "I have seen my death," she said. Medical imaging broke paradigms when it first began more than 100 years ago, and deep learning medical applications that have evolved over the past few years seem poised to once again take us beyond our current reality and open up new possibilities in the field. Artificial intelligence (AI) deals in imaging and diagnostics are peaked in 2015 and have continued to hold steady. One third of healthcare AI startups raising venture capital post January 2015 have been working on imaging and diagnostics, and 80 percent of the funding deals took place thereafter. For instance, Enlitic, a startup which utilizes deep learning for medical image diagnosis, raised $10 million in funding from Capitol Health in 2015.

IBM researchers estimate that medical images currently account for at least 90 percent of all medical data, making it the largest data source in the healthcare industry. This becomes an overwhelming amount on a human scale, when you consider that radiologists in some hospital emergency rooms are presented with thousands of images daily. New methods are thus required to extract and represent data from those images more efficiently.

Though one of the most common early healthcare machine learning applications was actually in medical imaging, it's only recently that deep learning algorithms have been introduced that are able to learn from examples and prior knowledge. Though we haven't yet arrived at scale, such technologies are bringing society closer to more accurate and quicker diagnoses via deep learning-based medical imaging.

Current Deep Learning Medical Applications in Imaging

1] Tumor Detection

Over 5 million cases are diagnosed with skin cancer each year in the United States. The most commonly diagnosed cancer in the nation, skin cancer treatments cost the U.S. healthcare system over $8 billion annually.

Melanoma (the deadliest form of skin cancer) is highly curable if diagnosed early and treated properly, with survival rates varying between 15 percent and 65 percent from early to terminal stages respectively. Proper treatment can even produce a 5-year survival rate of over 98 percent.

One of the most promising near-term applications of automated image processing is in *detecting* melanoma, says John Smith, senior manager for intelligent information systems at IBM Research. To detect the tumor, the DL algorithm learns important features related to the disease from a group of medical images and then makes predictions (i.e. detection) based on that learning.

Enlitic, the Australian-based medical imaging company referenced earlier, is considered an early pioneer in using DL for tumor detection, and its algorithms have been used to detect tumors in lung CT scans. Jeremy Howard, CEO of Enlitic, says his company was able to create an algorithm capable of identifying relevant characteristics of lung tumors with a higher accuracy rate than radiologists.

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CSE-08 Software for Training and Placement

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ABSTRACT- *This project is aimed at developing a Training and Placement Cell of the college. The system is an online application that can be accessed throughout the organization and outside as well with proper login provided. This system can be used as an application for the Training and placement officer (TPO) of the college to manage the student information with regards to placement. Students logging should be able to upload their information in the form of a Resume. Visitors/Company representatives logging in may also access or search any information put up by Students. The management of Training and Placement is supported by paper-based systems, databases, spreadsheets and E-mail communications. The aim of this project is Automation of Training and Placement. The project will include minimum manual work and maximum optimization, abstraction and security. This is a web application which will help students as well as the administration authority to carry out each and every activity in this department.*

I .INTRODUCTION

In the present day's world everyone is travelling for jobs after Completion of their graduation. It has became need for each and every students ,but for that they need to travel worldwide in searching of jobs.For simplicity of this whole hectic procedures we had proposed Online Training and Placement System because of earlier system is totally done manually by maintaining records,time consuming and very difficult to maintain coordination between student and companies.

In our proposed you will save time as well as money as its web based application. We can collect information of all college students and fetch them according to criteria given by company. We have three modules Admin/Training and Placement Officer(TPO),Student, Company. Admin has full access reserved over the system. Student's can mainly upload their CV and can download resources by Admin/TPO and Company .Company can register and give their criteria for placement.

II .LITERATURE SURVEY

This system can be used as an application for the Training and Placement Officers(TPO) of the college to manage the student information with regard to placement. Students logging should be able to upload their information in the form of a CV. The key feature of this project is that it is a onetime registration. The application provides the facility of maintaining the details of the students. It also provides requested list of candidates to recruit the students based on given query. Administrator logging in may also search any information put up by the students. This project will aid colleges to practice full IT deployment. This will also help in fast access procedures in placement related activities. This led to a unique web-based placement management system developed specifically by the placements practitioner and the software programmer to become Online Training and Placement System.

III. PROPOSED SYSTEM

The Proposed system is a browser which is completely related to internet browsing. The web enabled information recruitment system designed to automate the entire operations of a modern. This maintains and controls the online learning and recruitment details and does online operations and generates various reports.

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CSE-09 Campus Navigation Android Application

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Abstract *–Global Positioning System is the most important contribution in determining position of user and in direction-finding him to his target. This system uses satellites to triangulate the position of the device. Though this system has made a good impression in terms of accuracy and is the preferred location based system for outdoor positioning, when it comes to indoor environment, GPS has proved to be incompetent. The reason for its inadequacy is that in order for GPS to perform a triangulation, the appliance needs to be in line-of-sight from the satellites. Moreover, GPS system has a low eminence which make it not appropriate for indoor areas. Therefore, when it comes to indoor positioning system, other alternatives such as Bluetooth, Wi-Fi, RFID and Infrared are more pleasing. This project proposes to implement a mobile application which will be able to estimate the position of a user within a building using WiFi technology.*

The Indoor Navigation Framework we have proposed allows any wheelchair user to be guided to a desired location on his own, as long as the building itself is adopted to the novel system. Unlike the state of the art, where no automation exists for guiding a wheelchair in modern buildings.

Keywords**:*****Framework, Indoor, Localization, Mapping, Navigation, Robotics***.

INTRODUCTION

1.1 Project Context

Within living memory the domain of navigation is of great interest and was regular researched and further developed. Nowadays, navigation and the possibilities provided by it have only very little in common with the orientation at landmarks and simple maps back then. Prerequisite for the development of navigation systems are sophisticated positioning methods which are able to provide the current location of a user or device with an adequate accuracy for a given context. Various technologies are available for different fields of application. The accuracy of these technologiesrange from several meters, up to a some centimeters, depending on the specific context.With the Global Positioning System (GPS), the Galileo system and other satellite navigation systems, several globally operating positioning technologies are availablenowadays.These systems already proved its suitability for daily use in various products,such as car navigation systems and smart phones, or will do so soon. In most environments the globally operating positioning systems work well. However, in specific areas, such as urban neighborhoods (so called urban canyons) and indoor environments, these systems operate unreliably or, in the worst case, not at all. Various technologies are available to determine the location of a user or device in a local manner. These technologies are often based on optical, acoustic, or radio methods. Depending on the area of application and the specific environment thesesystems have various advantages and disadvantages.As Lorenz and Ohlbach [LO06, p. 102] state, "car navigation systems are becoming amore or less standard commodity nowadays [... and ...] the problem of navigating carsthrough large road networks has been well investigated and the solutions are mature".Less investigated is the domain of navigating pedestrians through indoorenvironments. An actively assisted indoor navigation system would be beneficial,especially in large buildings, such as airports, hospitals, supermarkets, and officebuildings.Due to the wide distribution of smart phones and the numerous possibilities that thoseprovide, this device class represent

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CSE-10 Improved Data Mining Based Prediction of User Behavior through Sessions

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Abstract –
Users are increasingly pursuing complex task-oriented goals on the web, such as making travel arrangements, managing finances, or planning purchases. To this end, they usually break down the tasks into a few codependent steps and issue multiple queries around these steps repeatedly over long periods of time. To better support users in their long-term information quests on the web, search engines keep track of their queries and clicks while searching online. In this paper, we study the problem of organizing a user's historical queries into groups in a dynamic and automated fashion. Automatically identifying query groups is helpful for a number of different search engine components and applications, such as query suggestions, result ranking, query alterations, sessionization, and collaborative search. In our approach, we go beyond approaches that rely on textual similarity or time thresholds, and we propose a more robust approach that leverages search query logs. We experimentally study the performance of different techniques, and showcase their potential, especially when combined together.

Keywords
Energy efficient algorithm; Manets; total transmission energy; maximum number of hops; network lifetime

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1. INTRODUCTION

AS the size and richness of information on the web grows, so does the variety and the complexity of tasks that users try to accomplish online. Users are no longer content with issuing simple navigational queries. Various studies on query logs (e.g., Yahoo's and AltaVista's) reveal that only about 20 percent of queries are navigational. The rest are informational or transactional in nature. This is because users now pursue much broader informational and task oriented goals such as arranging for future travel, managing their finances, or planning their purchase decisions. However, the primary means of accessing information online is still through keyword queries to a search engine. A complex task such as travel arrangement has to be broken down into a number of codependent steps over a period of time. For instance, a user may first search on possible destinations, timeline, events, etc. After deciding when and where to go, the user may then search for the most suitable arrangements for air tickets, rental cars, lodging, meals, etc. Each step requires one or more queries, and each query results in one or more clicks on relevant pages

One important step toward enabling services and features that can help users during their complex search quests online is the capability to identify and group related queries together. Recently, some of the major search engines have introduced a new "Search History" feature, which allows users to track their online searches by recording their queries and clicks. For example, a portion of a user's history as it is shown by the Bing search engine on February of 2010. This history includes a sequence of four queries displayed in reverse chronological order together with their corresponding clicks. In addition to viewing their search history, users can manipulate it by manually editing and organizing related queries and clicks into groups, or by sharing them with their friends. While these features are helpful, the manual efforts involved can be disruptive and will be untenable as the search history gets longer over time. In fact, identifying groups of related queries has applications beyond helping the users to make sense and keep track of queries and clicks in their search history. First and foremost, query grouping allows the search engine to better understand a user's session and potentially tailor that user's search experience according to her needs. Once query groups have been identified, search engines can have a good representation of the search context behind the current query using queries and clicks in the corresponding query group. This will help to improve the quality of key components of search

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CSE-11 Survey on Predicting Instructor Performance using Data Mining Technique

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Abstract – *Data mining applications are becoming a more common tool in understanding and solving educational and administrative problems in higher education. Generally, research in educational mining focuses on modeling student's performance instead of instructors' performance. One of the common tools to evaluate instructors' performance is the course evaluation questionnaire to evaluate based on students' perception. In this study, instructor's performance is based on student feedback and instructor feedback. classification algorithm of Naïve Bayes, K-Means clustering and C5.0 are used to build classifier models. Their performances are compared over a dataset composed of responses of students to a real course evaluation questionnaire, instructor feedback to a subject related questionnaire and students final examination results using accuracy, precision, recall, and specificity performance metrics. Although all the classifier models show comparably high classification performances, Naïve Bayes classifier is the best with respect to accuracy, precision, and specificity.*

Keywords-*Performance evaluation, students final examination results, C5.0, Naïve Bayes classifier, K-Means Clustering.*

INTRODUCTION

Nowadays Data Mining (DM) has attracted a lot attention in data analysis area, and it became recognizable new tool for data analysis that can be used to extract valuable and meaningful knowledge from data. DM offers promising ways to uncover hidden patterns within large amounts of data. These hidden patterns can potentially be used to predict future behavior. Accordingly, DM has been adopted by many researchers to solve real-world problems in various domains such as marketing, stock market, telecommunication, industrials, health care, medical and customer relationship. Recently a reasonable number of researches have been conducted to apply DM techniques in the education area in ordered to classify and predict student performance in numerous education institutes. Employing DM techniques in education is promising because of the tremendous opportunities in this area[2]. Recent national policies on higher education mandating high stakes evaluation of instructors and the learning system coupled with the quest for an optimal algorithm for evaluation of instructors' performance in higher institutions of learning especially in the developing countries are primary motivation for this work.

Higher education institutions are interested in predicting the paths of students and alumni, thus identifying which students will join particular course programs and which students will require a large number of debates. Nowadays, one of the biggest challenges that educational institutions face is the sudden growth of educational data and to use this data to improve the quality of managerial decisions. Data mining techniques are analytical tools that can be used to extract meaningful knowledge from these large data sets[4]. Moreover, education systems claim new approaches which improve quality, efficiency, and achievement. Mostly DM is utilized in education to investigate the impact of pedagogical strategies on students, and how students understand the course. The academic

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CSE-12 Analysis of Multiple Link Failures in MPLS Network

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ABSTRACT

MPLS stands for Multiprotocol Label Switching (MPLS). It provides significant benefits by fast forwarding packets.In MPLS, there is no admission control for nodes and it is connection-oriented network which makes network more reliable. if the network link is overloading with traffic or node leave network, failure can be occur at any point of timethen there is need to establish a new label switched path (LSP) and then forward the packets to the newly established LSP. From this survey analysis of various recovery mechanisms of MPLS based on some performance parameters. The parameters consider for analysis such as resource requirement, fault recovery time, packet loss ratio, packet re-ordering, complexity, optimal path option selection. The forwarding of failed link traffic to different or backup path this may leads LSP get more congested. Here some mechanisms used for to tolerate these link failures in MPLS network. The main focus to analyze the various mechanisms used for tolerates the link failure in MPLS based on the Quality of Service (QoS) parameters. The expected result from this thesis, the network should maintain connectivity after multiple failures without causing congestion.

INTRODUCTION:

The MPLS domain can be divided into MPLS core and MPLS edge. Multiprotocol Label Switching (MPLS) is an improved method for forwarding Internet Protocol (IP) packetsthrough a network using information contained in labels. Nowadays IP based networks uses MPLS as backbone network for fast forwarding and switching of IP packets.The labels are inserted between the Layer 3 (network) header and the Layer 2 (data link layer) header, so it is also called 2.5 layer networks. Also Frame Relay (FR) and Asynchronous Transfer Mode (ATM) networks have many disadvantages in the management operation of large networks such as cost, security, scalability and flexibility; this can be overcome in MPLS network.

The nodes in the MPLS domain are called as LSRs (Label Switch Routers). The nodes in the core are called transit LSRs and the nodes in the MPLS edge are called LERs (Label Edge Routers). If a LER is the first node in the path for a packet travelling through the MPLS domain this node is called the ingress LER, if it is the last node in a path it's called the egress LER. This depends on the direction of traffic flow in the network, one node can therefore be both ingress and egress LER depending on which flow is considered in the network. The terms upstream and downstream routers are also used to indicate in which order the routers are forwarding the traffic flow. If a LSR is upstream from another LSR, traffic is passed through that LSR before the other (downstream). A schematic view of the MPLS domain is shown as follows.

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BLOCKCHAIN TECHNOLOGY- A SURVEY

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Abstract *– Blockchain is being termed as the fifth disruptive innovation in computing. In simplest words, it is a distributed ledger of records that is immutable and verifiable. Since its advent in 2008, blockchain as a concept has been used in various ways. The largest impact or application is seen as a multitude of cryptocurrencies that have sprung up. However, with time, it has become clear that blockchain as a technology is likely to have an impact much wider than just the cryptocurrency domain and much deeper than simple distributed ledger storage. This detailed survey intends to bring together all the key developments so far in terms of putting blockchain to practice. While the most common adoption of blockchain is in finance and banking domain, there are experiments being conducted by many big players in various other domains. This paper will explore the various domains where blockchain has had an impact and where future implementations may be expected.*

General Terms-*Blockchain*
Keywords-*Blockchain, Cryptocurrency, Distributed Ledger*

INTRODUCTION

Blockchain technology or the distributed, secure ledger technology has gained much attention in recent years. This paper presents a detailed survey of blockchain technology literature and its applications. The sources of blockchain literature examined for this survey include research papers, books and book chapters, journal papers, specific cryptocurrency sites and wikis, conference papers, company 'Point of View's (PoVs), whitepapers published by various

organizations implementing and experimenting in Blockchain. Blockchain being a much hyped and experimented technology a lot of literature is found in content hosted on proprietary forums such as company websites, web articles, etc. This survey is extensive and covers the various aspects of blockchain including consensus algorithms and their variations as well as currently implemented and possible future applications. This survey will not cover the details of technical aspects of blockchain, however, references that cover these aspects may be found in bibliography.

BLOCKCHAIN OVERVIEW

- **Blockchain Technology**

The blockchain is the core mechanism for the Bitcoin. Blockchain was first proposed in 2008 and implemented in 2009. Blockchain can be regarded as a public ledger, in which all committed transactions are stored in a chain of blocks. This chain continuously grows when new blocks are appended to it. The blockchain technology has the key characteristics, such as decentralization, persistency, anonymity and auditability. Blockchain can work in a decentralized environment, which is enabled by integrating several core technologies such as cryptographic hash, digital signature (based on asymmetric cryptography) and distributed consensus mechanism. With blockchain technology, a transaction can take place in a decentralized fashion. As a result, blockchain can greatly save the cost and improve the efficiency.

Although Bitcoin is one of the most famous blockchain applications, blockchain can be applied into diverse applications far beyond cryptocurrencies. Since it allows payment to be finished without any bank or any intermediary, blockchain can be used in various financial services such as digital assets, remittance and online payment.

BLOCKCHAIN ARCHITECTURE

Blockchain is a sequence of blocks, which holds a complete list of transaction records like conventional public ledger. Figure 1 illustrates an example of a blockchain. Each block points to the immediately

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CSE-14 Android Based Waste Food Management Using Sustainable Food Prevention Strategies

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Abstract *–The mobile devices are very vast in used in now a days android mobile in today's market come in very cheap rate and offerable for many people and now a days it become prime need for the people in many countries around the world face striving problem also in many situation like a family function or at restaurant there is lots of foods wastage happens. Here we playing to develop an app which will form a like between the striving and people those who have food waste in this project we communicate through the app and bridge the requirements of food donators and needy people through food wastage donation. The use of sustainable food prevention strategies which add some constraints to food testing in case of food making time is more. This project is used to manage wastage foods in a useful way. Every day the people are wasting lots of foods. So we have to reduce that food wastage problem through online. If anyone have wastage foods they are entering their food quantity details and their address in that application and then the admin maintain the details of food donator. The donator 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 needy People's details too and the admin collect foods from donator through their nearby agent then provide to nearest orphanages or poor people. After receiving the food from the agent by admin and give alert message to that donator. If the donator needs any detail about the orphanage with helping thought they can give request to the admin and collect the orphanage details. 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.*

1. INTRODUCTION

Now days many people around the world have wastage of food in their home and daily life, or in some programs and parties and other many so many situations are there where food is wasted. If anyone have extra food because of any function in their home it will become waste because instantly there is no way to share that food with anyone. 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 there for we came in this paper with idea of food wastage reduction. There are so many research papers available for wastage of food prevention but in this paper we deal with some food prevention strategies which will be used to secure food donation if food is fresh and have the quality to be donated to the needy people then it will donated otherwise it is donated to decomposition department. These strategies are imposed to increase safety and donating good quality food. The food redistribution is an enormously successful social innovation that tackles food waste and food poverty. We can add NGO's to the admin who will collect foods from donator through their nearby agent then provide to nearest orphanages or poor people. After receiving the food from the agent by admin and give alert message to that donator through this way we can reduce food wastage problem. Also we can have

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CSE-15 A Review on Retinex based Image Enhancement Techniques

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Abstract :*Retinex is a method of bridging the gap between images and the human observation of scenes. Retinex theory is a model of lightness and color perception of human vision proposed by Edwin Land in 1986. While the retinex theory was actually aimed at providing explanation of human color perception, it has led to various image enhancement algorithms called as retinex algorithms, which are usually used to enhance local image contrast. This paper presents a review of several image enhancement techniques based on retinex model.*

Keywords:*Retinex, image enhancement, single-scale, multi-scale, illumination estimation, Color Restoration.*

1. INTRODUCTION

Retinex is the theory of human color vision proposed by Edwin Land to account for color sensations in real scenes. Color constancy experiments showed that color does not correlate with receptor responses. In real scenes, the content of the entire image controlsappearances. A triplet of L, M, S cone responses can appear any color. Land coined the word "Retinex" (the contraction of retina and cortex) to identify the spatial image processing responsible for color constancy. Further, he showed that color sensations are predicted by three lightness's observed in long-, middle-, and short-wave illumination. Retinex is also used as the name of computer algorithms that mimic vision's spatial interactions to calculatethe lightness's observed in complex scenes.

Edwin H. Land, the inventor of hundreds of film patents, was struck byexperiments showing that color sensations in real complex images depend on scene content. Film responds to the light falling on each tiny local region. Land realized that vision's mechanisms were very different from film. His early experiments studied the color's observed in red and white projections. He realized color appearance required both the cone responses to a local region and the neural spatial processing of the rest of the scene. He proposed the Retinex Theory.

Land coined the word Retinex to describe three independent spatial channels. In 1964 he wrote: "We would propose that all of the receptors with maximum sensitivity to the long-waves in the spectrum, for example, operate as a unit to form a complete record of long-wave stimuli from objects being observed. (For convenience of reference, let us call this suggested retinal-cerebral system a "retinex."). It is the word that describes the mechanism that performs the comparison of scene information to create the array of sensations of lightness in three channels.

2.RETINEX IN IMAGE PROCESSING

Land described that the fundamental challenge of color vision shifted to the ability to predict lightness; that is, the spatial interactions found in post-receptor neural processes. In 1967 Land and McCann proposed a computational model for calculating lightness from the array of all scene radiances. The model compared each pixel with every other pixel in an image. The goal was to calculate the sensation of image segments that equalled what observers saw. In the past 50 years, there have been many implementations and variations of this process. They are called Retinex algorithms. It is curious that Land reserved the use of the term "Retinex" to describe three independent lightness channels. Today's usage of the word includes a much wider range of computer

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CSE-16 Priority based Algorithm for Automatic Question Paper Generation

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Abstract *–Now a days, education is the supreme significant way of accomplishing success. When we deal with the education, the traditional and best suitable way to analyze the impact of education is by conducting the examination. But the world is growing faster and use of ICT is too common everywhere. Examinations make students to let them prepare in their quest for understanding. The traditional method and wost widely used method is by generating the paper manually. In this technique definite official's workout and writes the question paper or type the paper. But this technique is inefficient because it is time consuming and unsecured because the leak of paper may happen by simply guessing the paper and its format. Because the officials are limited hence they can easily know which kind of questions they can have. Hence we have proposed and algorithmic based automatic question paper generation system. We have proposed an automated process of Question Paper Generation which is fast and greedy algorithm based algorithmic solution for selection problem. It is secure and randomized algorithm which can be suitably applied to select the questions from the given set and subsets of questions. This system is fully automatic hence there is no problem security threats anymore. Meanwhile this system is fully secured, robust and can select best suitable questions for question paper generation. This system assigns priorities to question depend on the wattage of syllabus and importance of topics to the questions and depend on the priority randomly questions are selected as mentioned above it greedy algorithm based solution which finds the suitable n selections and depend on the priority one is selected.*

Keywords— *question paper generation; paperless; automation; randomization; information communication technology (ICT)*

1. INTRODUCTION

Education is the tedious and important aspect of being able to do something now a days There is a countless affluent in e-learning in the area of technology-enhanced Intelligent Tutoring Educational Systems where excellent virtual instructors/teachers which guide their learners/students. Growth has been made, addressing a variability of educational needs, ranging from enhancements to existing "traditional" courses, to complete on-line programs. Despite all this effort, hype, and even product development, most of the courseware material available for use at the educational level is still not judged to be as effective as a teacher lecturing and leading discussions with students.

However, it is difficult to make a fair online evaluation of how well the students understanding. There are several disturbances for realizing fair grading such as mere duplication of answers between the students or illegally pretending to be other persons to answer the exam.

An online question bank and examination system is a relatively new and rapidly expanding system. Although it is an effective solution for mass education evaluation, the fairness of the evaluation is still a big concern. Most of the present systems were designed to grade students based on how well they have done on their examination.

These systems were designed with the concept of traditional paper based examination in mind. There is

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CSE-17 Finger Matching Using Ratio Of Relational Distances & point Matching

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Abstract – *We present a fingerprint matching algorithm that initially identifies the candidate common unique (minutiae)points in both the base and the input images using ratios of relative distances as the comparing function. A tree like structure is then drawn connecting the common minutiae points from bottom up in both the base and the input images. Matching score is obtained by comparing the similarity of the two tree structures based on a threshold value. We define a new term called the 'M (i) - tuple' for each minutiae point which uniquely encodes details about the local surrounding region, where i = 1 to N, and N is the number of minutiae. The proposed algorithm requires no explicit alignment of the two to-be compared fingerprint images and also tolerates distortions caused by spurious minutiae points. The algorithm is also capable of comparing and producing matching scores between two images obtained from two different kinds of sensors, hence is sensor interoperable and also reduces the FNMR in cases where there is very little overlap region between the base and the input image. We conducted evaluations on the FVC-2000 [1] datasets and have summarized the results in the concluding section Fingerprint matching has been successfully used by law enforcement for more than a century. The technology is now finding many other applications such as identity management and access control. The authors describe an automated fingerprint recognition system and identify key challenges and research opportunities in the field. A fingerprint verification system based on triangular matching and dynamic time warping is proposed which provides better results especially for poor quality fingerprint images. An existing reference fingerprint image must validate the identity of a person by means of a test fingerprint image acquired online and in real time using minutiae matching. The matching system consists of an information extraction block and matching block.*

1. INTRODUCTION

A fingerprint is the pattern of ridges and valleys on the surface of the finger. The uniqueness of a fingerprint can be determined by the pattern of ridges and furrows as well as the minutiae points. Minituae points are local ridge ending. Even identical twins having same face and genes are said to have different fingerprint. Among all the biometrics fingerprint based identification is one of the most mature and proven technique. Fingerprint is an impression formed through deposit of minute ridges and valleys when a finger touches a surface. Facts exist that the ridges and valleys do not change throughout lifetime no matter what happens and in a case of injury or mutilation, they reappear within a short period. The five commonly found fingerprint ridge patterns are arch, tented arch, left loop, right loop and whorl (Figure 1) [1 - 6]. Fingerprint has proved to be a very reliable human identification and verification index and has enjoyed superiority over other biometrics such as ear, nose, iris, voice, face, gait and signature [7]. The uniqueness of the ridges and valleys makes it immutable and therefore serves a strong mark for identity. Fingerprint based biometric authentication and verification systems have gained immense popularity and acceptance ever since their inception. This is primarily because of the ease of operation, installation and easy acquisition of the biometric feature, which in this case is a fingerprint. Matching two fingerprints can be unsuccessful due to various reasons and also depends upon the method that is

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CSE-18 Internet of Robotics Things

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Abstarct:

Day to day The Internet of Things (IoT) concept is evolving rapidly and influencing new developments in various application domains, such as the Internet of Mobile Things (IoMT), Autonomous Internet of Things (A-IoT), Autonomous System of Things (ASoT), Internet of Autonomous Things (IoAT), Internet of Things Clouds (IoT-C) and the Internet of Robotic Things (IoRT) etc. are progressing/advancing by using IoT technology. This IoT paper focus on the IoRT concept, technologies, architectures and applications and to provide a comprehensive coverage of future challenges, developments and applications.

Keywords: Internet of Robotic Things
, artificial intelligence, machine learning, IoT platforms

Introdcution

Internet of Robotic Things Concept

Robotics systems traditionally provide the programmable dimension to machines designed to be involved in labour intensive and repetitive work, as well as a rich set of technologies to make these machines sense their environment and act upon it, while artificial intelligence and machine learning allow/empower these machines to function using decision making and learning

algorithms instead of programming. The combination of these scientific disciplines

opens the developments of autonomous programmable systems, combining robotics and machine learning for designing robotic systems to be autonomous.

The IoT technologies and applications are bringing fundamental changes in individuals' and society's view of how technology and business work in the world.

Citizen centric IoT open environments require tackling new technological trends and challenges. In this context, the future developments where IoT infrastructure and services intersect with robotic and autonomous system technologies to deliver advanced functionality, along with novel applications, and new business models and investment opportunities, requires new IoT architectures, concepts and tools to be integrated into the open IoT platforms design and development.

The concept of IoRT goes beyond networked and collaborative/cloud robotics and integrates heterogenous intelligent devices into a distributed architecture of platforms operating both in the cloud and at the edge. IoRT addresses the many ways IoT today technologies and robotic "devices" convergence to provide advanced robotic capabilities, enabling aggregated IoT functionality along with novel applications, and by extension, new business, and investment opportunities not only in industrial domains but in almost every sector where robotic assistance and IoT technology and applications can be imagined (home, city, buildings, infrastructures, health, etc.).

At the technology side, the proliferation of multi-radio access technology to connect intelligent devices at the edge has generated heterogeneous mobile networks that need complex configuration, management and maintenance to cope with the robotic things. The artificial intelligence (AI) techniques enable IoT robotic cognitive systems to be integrated with IoT applications almost seamlessly for creating optimized solutions and for particular applications. Cognitive IoT technologies allows embedding intelligence into systems and processes, allowing businesses to increase efficiency, find new business opportunities, and to anticipate risks and threats thus IoRT systems are better prepare to address the multiple requirements in the expected more IoT complex environment as it is depicted in

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CSE-19 Computer and Network Security

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Abstract:
Computer security is the continuing effort to protect electronics data and computer system from unwanted instruction. The goal of computer security is to protect electronic information both in transit and at rest. Our aim with this research is to check the awareness level of cybercrime and security majors and to suggest necessary steps which can really be helpful in making the environment secure, robust.

It is critical we consider what implications current and future technologies have for security and privacy. Requirements for further research, we explore how security and privacy might involve over the next decade. Computer network security is the first line of defense to accomplish information assurance. The computer network is at risk without a well-designed and flawless implemented network security policy. The main problem is that network administrators are not able to verify the network security policy. Although further research has been carried out, it mainly concerns small specific parts of the overall system

Introduction:

Network Security is the most vital component in information security because it is responsible for securing all information passed through networked computers. Network Security refers to all hardware and software functions, characteristics, features, operational procedures, accountability, measures, access control, and administrative and management policy required to provide an acceptable level of protection for Hardware and Software , and information in a network.

Network security problems can be divided roughly into four closely intertwined areas: secrecy, authentication, non repudiation, and integrity control. Secrecy, also called confidentiality, has to do with keeping information out of the hands of unauthorized users. This is what usually comes to mind when people think about network security. Authentication deals with determining whom you are talking to before revealing sensitive information or entering into a business deal. Non repudiation deals with signatures.

Network security starts with authorization, commonly with a username and a password. Network security consists of the provisions and policies adopted by a network administrator to prevent and monitor unauthorized access , modification in system, misuse, or denial of a computer network and network-accessible resources. Basically network security involves the authorization of access to data in a network, which is controlled by the network admin. It has become more important to personal computer users, and organizations. If this authorized, a firewall forces to access policies such as what services are allowed to be accessed for network users. So that to prevent unauthorized access to system, this component may fail to check potentially harmful content such as computer worms or Trojans being transmitted over the network. Anti-virus software or an intrusion detection system (IDS) helps detect the malware. Today anomaly may also monitor the network like wire shark traffic and may be logged for audit purposes and for later on high-level analysis in system. Communication between two hosts using a network may be uses encryption to maintain privacy policy.

Network security:

System and Network Technology is a key technology for a wide variety of applications. It is a critical requirement in current situation networks, there is a significant lack of security methods that can be easily implemented. There exists a "communication gap" between the developers of security technology and developers of networks. Network design is a developed process that is depends on the Open Systems Interface (OSI) model. The OSI model has several advantages

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Thermal Imaging in Electronics: A Review

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Abstract - *Thermal imaging was made possible by the discovery of infrared energy over two centuries ago. Thermal imagery is the use of specialized equipment to detect infrared energy and create images out of tiny differences in that heat. As the security industry continues to advance, many avenues now require more sophisticated methods in order to provide a higher degree of surveillance. And this includes the ability to see in areas containing very little or no light, or areas of extreme contrast that make it very difficult to distinguish between good and bad.*

Keywords – thermal imaging, infrared energy, surveillance, contrast

INTRODUCTION

Thermal imaging is a technique which is used to measure the working temperature of electronic device**.** There are two methods of measuring thermal resistance. First, there is an increased awareness of the importance of thermal design brought about by increased power densities and secondly the development of relatively cheap computers that can be used in the process of data acquisition, processing and display.

LITERATURE SURVEY

The technology of thermal imaging of electronic devices with low surface emissivity which uses an infra-red scanning imager to map the surface temperature of electronic devices and circuits . Technique of measurement is to mount the device to be tested on a temperature controlled heat sink and measure the radiation emitted from the surface at one or more elevated temperature. These data are used to produce an emissivity map of the surface. The sample is then cooled to an appropriate temperature and energized and then a further measurement is performed. This final measurement and the emissivity map are then used to work out the temperature over the device surface. In this technology system has software to allow the two dimensional Fourier transformation of the results, low pass spatial filtering, which is followed by the inverse process. All the measurements are displayed as isometric projections[1].

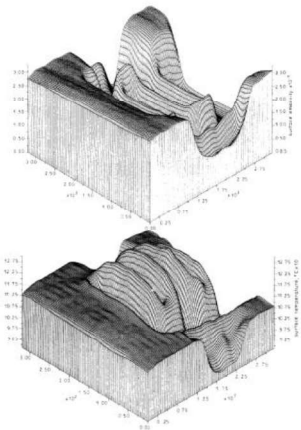

Fig. 1 Emissivity of gallium arsenide MOSFET
Fig. 2 Measured thermal distribution for the factor F = 0

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A Survey of Advertising & Digital Marketing on performance of Indian Telecomm Industries

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Abstract – *The marking communication activities are advertising and sales push –up that promotes the sales of Telecomm companies. The advertising sale & sales push-up study will assist telecomm to predicts other advertise spend and sales push-up expenses. Due to increasing use of Internet or Web, digital marketing can employ variety of digital channels such as mobile phones, wireless communications and digital TV. These increased digital media marketer need to ensure about improving their potential. A digital marketing can be uncertain due to its internal & external uncertainty & complexity of interaction. To improve the efficiency of advertising through digital marketing, a hybrid/integrated view is used which strengthen various decision support technique.*

Now a days, children and teenagers are surrounded with the environment of digital media like instant messaging, mobiles, interactive games, online videos in their personal and social use. A large infrastructure of advertising agencies improves use of smartphones so mobile marketing companies reached to peoples easily. Fast food, snacks and soft-drink companies targeted the children. There is a need of improved evaluation metrics and lack of smart future proofing for reduction in skill gaps which is the current challenge in communication industry.

There is a try held to remotely manage smart advertising system designed using Raspberry pi along with python programming. This system is very efficient to provide advertising information, to those people who live in public areas but; some areas that does not convenient to build- up the other types of advertise hoarding boards for their information. The system will consume a smaller amount of power and become the system smartness. The main goal is to study broadcasting information and remotely controls it. The information can be broadcast to buses and bus station, train and train station, shopping malls, city square, highways, subways, hospital, in conference hall along with educational institutes like colleges and schools for the purpose of displaying notices for students and also displaying all institutional growth and achievements information for visitors.

It has been tried here to review the impact of advertising and marketing of the product through Internet i.e. digital marketing on the consumer, retailer, and sale of product digitally. A review of comparative study of various aspects of digital marketing over advertising is mentioned.

Keywords: *advertising, digital marketing, communication industry, mobile devices, intelligent decision support*

INTRODUCTION

The Indian Telecomm sector is highly growing, on 2nd rank in the world. India also has largest users the

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CSE-01 Public Cloud For Academic Stuff

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Abstract *- Public clouds are made available to the students by a service provider who hosts the cloud infrastructure. Generally, public cloud providers like Amazon AWS, Microsoft and Google own and operate the infrastructure and offer access over the Internet. With this model, customers have no visibility or control over where the infrastructure is located. It is important to note that all customers on public clouds share the same substructure group with limited formation, security protections and availability variances.Some peoples have their own collections like articles, document, video, audio, etc. They have not any way to present their collection they cannot present to general public.We Providing storage for students to sharing their educational data publicly ,such as Pdf's,word document,Audio Video,Images.*

Keywords – Cloud computing, services, Search engine, Server, Privacy, Virtual machine monitors.

I. INTRODUCTION

A public cloud can be defined as an emerging computer prototype where data and services reside in parallel scalable data centers in cloud and we can accessed these data from any connected devices over the Internet. Public cloud is a way of providing various services on virtual machines. And virtual machines allocated on top of a large physical machine pool which resides in the cloud. We have lots of compute power and storage capabilities which residing in the distributed environment of the cloud. The basis of public cloud is to create a set of virtual servers on the available huge resource pool and give it to the clients. Through virtual servers any web enabled devices can be used to access the resources. Based on the client's need, the client can be scaled up or down the infrastructure.

In this type an organization rents cloud providers provides cloud services on-demand basis. Using utility computing model services provided to the users.. In traditional main stream public cloud or external cloud describes cloud computing. Public clouds are run by third parties, and applications from different customers are mixed together on the cloud's servers, storage systems, and networks. A public cloud provides some cloud services.

Public cloud is Internet-based computing, which shared resources, software, and Information are provided to computers and other devices on-demand basis.

Public cloud computing model is Internet based computing model where virtual shared servers provide software, infrastructure, platform, devices and other resources Users can access these types of services available on the "Internet cloud" without knowing -how on managing the resources involved. Therefore, to manage their business processes users can concentrate more on their core business processes rather than spending time and gaining knowledge on resources needed Customers of the public cloud do not ownthe physical infrastructure; rather they rent the usage from a third-party provider. This is helpful them to avoid huge.

Public Cloud customers benefit from economies of scale, because infrastructure costs are spread across all users.store the our data publically.

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CSE-02 Survey on a Secure Health Care Technology Based on BSD Care

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Abstract *– Advances in data and communication technologies have diode to the coming out of net of Things (IoT). Within the latest thing health care atmosphere, the usage of IoT technologies brings convenience of physicians and patients since they're applied to varied medical areas (such as period observation, patient data management, and tending management). The body detector network (BSN) technology is one in every of the core technologies of IoT developments in attention system, where a patient area unit usually monitored employing a collection of small powered and lightweight wireless device nodes. However, development of this new technology in attention applications whereas not considering security makes patient privacy weak. Throughout this text, at first we have a tendency to tend to focus on the most important security desires in BSN based smart attention system. After, we have a tendency to tend to propose a secure IoT based tending system pattern BSN, called BSN-Care, which may with efficiency accomplish those desires.*
.

Keywords- Data Privacy, Android, IOT, Security, BSN,
Classification, ECG

NOMENCLATURE TABLE

Sr. No.	**Short Form**	**Description**
1	IoT	Internet of Things
2	GPS	Global Positioning System
3	BSN	Body Sensor Network
4	SE	Self Encryption
5	API	Application Program Interface
6	SQL	Structural Query Language
7	RFID	Radio Frequency Identification
8	SDK	Software Development Kit
9	LPU	Local Processing Unit
10	ECG	Electrocardiograms

I INTRODUCTION

Internet of Things (IoT) has become one of the foremost powerful communication paradigms of the 21th century. inside the IoT atmosphere, all objects in our everyday of living become a vicinity of the online because of their communication and computing capabilities (including little controllers, transceivers for digital communication). IoT extends the construct of the online and makes it loads of enveloping. IoT permits not to be faulted interactions among different types of devices like medical detector, observance cameras, home appliances so on. Because of that reason IoT has become loads of productive in several areas like health care system. In health care system, IoT involves many sorts of low value sensors (wearable, implanted, and environment) that modification aged people to consider stylish medical health care services anywhere, any time. Besides, it to boot greatly improves aged peoples quality of life. The body detector network (BSN) technology is one of the leading very important technologies used in IoT-based stylish health care system. It's basically a crowd of low-power and lightweight wireless detector nodes that square measure comfortable monitor the frame

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CSE-03 Android Based Smart Attendance System

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Abstract:

An Education complex in India wil become so advanced in future due to the development of the internet based technical knowledge. Smart class, video conferencing are some of the examples of modern technology in educational system. These applications help the institute to move forward quickly, fulfil their vision and accomplish their goals, E-way. The kernelidea of research project have to implement Android based application for attendance management system for advancement of institution and education system. The proposal project will be implemene in applications such as online study material, notices,and online indicator of exam, online attendance record, achievement record, and parent intimation system using Android based applications. This system helps teacher to take attendance through smart phone and keep record of students for their progressive assessment. This system gives a ahead intimation to student as soon as their attendance goes down the detailed attendance threshold in the form of an SMS.

Keywords: Android, Attendance management, E-learning, GPRS, smart phone, etc.

I. INTRODUCTION

Nowadays, mobile devices have become approach of life for students particular in higher education. Computers are now replaced by compress smart mobile phones that can be fit into pocket and can be carried anywhere. The rapid progress in mobile technology has created a new area which is known as mobile learning. Mobile aquire information is the next generation of e-learning that leads attractive way of knowledge delivery especially used in teaching and learning process. With development of this Android application the student preferred to use mobile devices as technology supported educational tool. This system is designed because notes dictation in the class is difficult considering semester duration, student might miss the exam and important
notice show due to innocence, errorness marking of attendance is more due to more paper work and manual attendance entry, evaluation and report generation is tedious and delay job. Decades to parent are not accessible. With this system teacher can upload notes, time tables, assignment on server and broadcast it to the registered mobile numbers so that it is easily accessible to student by their own smart phone. This system enables student to learn anywhere, anytime and at their own advancement s. This system makes students to alive, responsive while learning their academic. Another application that is provided by this system is smart attendance evaluation and report generation. Smart phones are based on operating systems like blackberry, I OS and Android. To design proposed project, smart phones with Android operating system are chosen because penetration rate of Android OS is 70 percent. It is open expert and free ware.
An education system in India has become so advance in previous decade due to the development of the technology class,video conferencing are some example of modern in education system. This system helps teachers to take attendance through a smart phone and keep record of student for their increasingappraisal.

II. LITERATURE SURVEY

Next conventional systems are utilized to be able to mark working the training method. Some sort of. Guide work process Is it doesn't conventional method connected with taking work by simply contacting names or even deciding upon in writing but it is dysfunctional owing to be able to more likelihood of not working and much more

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CSE-04 ACADEMIC TEACHING PLAN

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Abstract: A academic teaching plan is a teacher's detailed description of the course of instruction for a syllabus. A daily lesson plan is developed by a teacher to guide class learning. Details will vary depending on the preference of the teacher, subject being covered, and the needs of the students. There may be requirements mandated by the college system regarding the plan. A academic teaching plan is the teacher's guide for running a particular lesson, and it includes the goal (what the students are supposed to learn). And it also include student attendance record and there marks details. Teacher also include there personnel information regarding there college record.

INTRODUCTION

In the current system all the activities are done manually. Academic teaching System deals with various activities related to students, teachers. It is very difficult and time consuming to retrieve the information of the individual student from the database. Academic teaching plan is a large database system which can be used for managing college's day to day activities. Academic teaching plan allows users to store almost all of their student's information electronically, including information of students, teachers etc. Most importantly, this information can be easily shared with authorized users, records can be easily searched, and reports can be easily generated. Academic teaching plan software is helpful for college authorities. Academic teaching plan provides following facilities- Students information All the necessary data about the student such as NAME,DOB, ADDRESS, TELEPHONENO etc. Teaching & Student info. To keep all the record of all the teaching and NAME, MOBLIE NO, ADDRESS, and SALARY, DATE OF JOINING.

LITERATURE SURVEY

Academic teaching plan incurs such application software designed for educational establishments to manage collage data. Academic teaching plan provide capabilities for entering student test and other assessment scores, building student schedules, tracking student attendance as well as managing many other student-related data needs within the institution univer Thus, many of these systems applied in the Philippines can b scaled to different levels of activity and can be configured by their home institutions to meet local needs. M ver, before universities have created their own bespoke stude record system but with growing complexity in the business of educational establishments, organizations now choose to buy customizable within the shelf software. It can be that, modern Academic teaching plan are usually server-based, with the application residing on central computer server and are being accessed by client applications at various places within and even outside the school. During the year 1990s,

Academic teaching plan have been changing and are fast adopted through the presence of a web medium as a channel for accessing without any hassle upon viewing student details and information. Ideally, educational institutions are under constant pressure to demonstrate both willingness and capacity to incorporate the latest developments in Academic teaching plan along with communications technology supporting various teaching ways. As Liao et al., (2007) asserts that SIS process within such technological sophistication does create precise knowledge edge, that such SIS application can be appealing to students and to the academic faculty as well as the parents. Thus, believing that technology is the repository of the bulk of the information that underpins society's major enterprises and concerns and the

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CSE-05 STUDENT INFORMATION MANAGEMENT SYSTEM

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Abstract*:-Student Information Management System provides a simple interface for sequence of database of student information.We made system information management system for educational institutes or colleges to maintain the details of students easily. The creation and management makes accurate, up-to-date information according to a student's academic profession is main in the university as well as colleges. Student information system deals with all kind of student details, academic related information, college details, course details, curriculum, batch details, placement details and other source related details too. The student information management system tracks all the details of a student from the starting date to the end of the semester or course which is used for all reporting purpose, tracking of attendance, progress in the course, to completed semesters, years, coming semester year curriculum details, project or any other assignment details, exam result and all these information will be available through a safe way. It will also have faculty details, batch execution details, students' details in all aspects, the various academic notifications to the staff and students updated by the college administration. It also facilitate us explore all the activities occurrence in the college, Based on huge options related to student batch, course, faculty, exams, semesters, certification and even for the entire college different reports and queries will be generated.*

Keywords-Student Information System, Database, HTML,SQL,Apache,DFD.

INTRODUCTION

The design and implementation of a complete student information system and user interface is to replace the current paper work .College Staff are able to directly access all information of a student's academic growth through a secure, online interface embedded in the website. The system use user permission, displayingonly information necessary for an individual's. Furthermore, each sub-system has verification allowing authorized users to create or update information in that system. All data is thoroughly reviewed and validated on the server before actual record change occurs. In addition to a staff user interface, the system plans for student user interface, allowing users to access information and submit requests online thus reducing process time. All data is stored securely on servers and ensures maximum possible level of security. The system features a difficult logging system to track all users access and ensure conventionality to data access rule and is expected to increase the correctness of the student record management thereby reduced the work time needed to fetch and transport student information to users[2].

Previously, the college relied closely on paper records for this idea. While paper records are a fixed way of managing student data there are several drawbacks into this. First, to transmit information to the students it should be displayed on the notice board and the student has to visit the notice board to check that information. It takes a very long time to communicate the information to the student. Paper records are difficult to manage and store[3]. The physical effort or work required to retrieve, change, and re-file the paper records are all non-value added activities. This system provides a simple interface for the maintenance of student data. It can be used by educational institutes or colleges to maintain the records of students easily. Achieving this objective is difficult using a manual system as the information is spotted, can be redundant and collecting relevant information may be very time consuming. All

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CSE-06 ACTIVE ZIGBEE AND GPS BASED PRECISE DEVICE TRACKING SYSTEM

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***Abstract*—GPS is one of the technologies that are used in a huge number of applications today. One of the applications is tracking various Portable Devices and keeps regular monitoring on them. This tracking system can inform you the location of Equipment which is embedded this hardware, and that information can be observed from any other remote location. This system enables us to track target in any weather conditions. This system uses GPS and Zigbee technologies. A method for tracking Device using a terrestrial system similar to GPS is presented. With GPS and public Google Map API functionalities, global location and sensor information are sent over networks to an cell-phone embedded with a simplified Zigbee technology used to track device, in addition combination of these technologies resulting feasible and efficient tracking of various devices.**

To develop a prototype project that can help to assist user in detect a missing Device. To create a pair of device used Zigbee and GPS technology that can detect each of devices which is will emit a Message and latitude & longitude coordinates when it reach the distance limit. To help user to guide to find stolen device from any location and aware from any lost occur in limitation distance.

Virtually anything on the world can be mapped, and anyone can create a map, given the knowledge of the location of attractions relative to the latitude and longitude boundaries. This can be useful not only for vehicles lost or stolen on any place, but for cars, bicycles and key-chains etc. This product may have a high potential market for many people with their many loved devices want to ensure the safety of their devices.

Keywords— Transmitter,Receiver,Tracking device ,GPS, Zigbee,GSM

I. INTRODUCTION

GPS is one of the technologies that are used in a huge number of applications today. One of the applications is tracking Mobile or Any Portable Device and keeps regular monitoring on them. This tracking system can inform you the location and route travelled by Equipment which is embedded this hardware, and that information can be observed from any other remote location. This system enables us to track target in any weather conditions. This system uses GPS and Zigbee technologies. A method for tracking Device using a terrestrial system similar to GPS is presented. This system enables simultaneous tracking of thousands of Equipment's with transmitters that are lighter, longer lasting, more accurate and cheaper than other automatic positioning tags. An open architecture for Device tracking systems using various sensors built into a compact prototype, easily embedded in any Device.

With GPS and public Google Map API functionalities, global location and sensor information are sent over networks to an Cell phone, embedded with a simplified Zigbee technology used to track device when closing by with an adaptive alert Message to the receiver for monitoring and searching. In addition, to efficiently save the battery power and cost of the tracking system, and then implemented resulting in feasibility and efficiency of battery power and data transmission.

Now a day's technology is growing higher and higher pick level, because of this the common people are ready to absorb these technology facilities in their daily life. In their day to day life peoples are demanding to protect their instruments, devices etc. by using the available resources. Hence this project is made on the platform of this demand. Problem statements:

- People's difficult to monitor their devices when they are busy or at public area.
- The disappearance of the device at the public's attention often occurs.
- Difficulties in finding the device which stolen from them.

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Smart Weighing Scales in Shopping Malls: A Critical Review

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Abstract - *The electronic weighing scale available is in price computing scale mode along with camera and printer. The fruit and vegetable departments of large supermarkets offer an overwhelming choice of fresh products. Consumers benefit from this broad selection, as most fruits are now available year round. Another advantage of self-service supermarkets is that consumers can check and choose the fruit and vegetables themselves. A compact, integrated camera helps self-service scales automatically recognize individual products. The analysis process starts automatically as soon as a presented for selection in large, coloured fields. The computer vision strategies used to recognize a fruit rely on four basic features which characterize the object: intensity, colour, shape and texture. This seminar proposes an efficient fusion of colour and texture features for fruit recognition. The consumer can now choose the desired type, and the scale prints the label. Due to various disturbance factors, a fully automatic system cannot be implemented, as highly fluctuating light conditions or covered areas in the image affect the analysis. If conditions are good, however, the camera system achieves a high accuracy even if the weighed products are in plastic bags. weight is placed on the scale. The scale's operating panel displays: "Recognition in progress." First, the scale checks whether the image captured by the camera changes; for example, because the user's hand was in the field of view. As soon as the image remains still, the system starts analyzing. This takes about a second. Then four possible matches are*

Keywords – electronics weighing scales, self-service super markets, colour fusion, texture.

INTRIDUCTION

The electronic weighing scale available is in price computing scale mode along with camera, printer.The analysis process starts automatically as soon as a weight is placed on the scale. The scale's operating panel displays: "Recognition in progress." First, the scale checks whether the image captured by the camera. The computer vision strategies used to recognize a fruit rely on four basic features which characterize the object: intensity, colour, shape and texture. This paper proposes an efficient fusion of colour and texture features for fruit recognition. A number of challenges had to be overcome to enable the system to perform automatic recognition of the kind of fruit or vegetable using the images from the camera, many kind of fruits are subject to significant variation in colour and texture.

The major advantage of electronic weighing scale is accuracy, precision and reliability. electronic scale finds more popularity in vegetable shops, health industries and especially to identify the measurement of the tiny things. The prominent features of the system are low cost, easy maintenance, flexible

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Nano sized ZnO: Synthesis, Characterisation And Gas Sensing

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Abstract *– This paper reports the synthesis, characterization of nano-sized ZnO. A simple chemical co-precipitation method is used for the synthesis of ZnO nano-sized powder at room temperature. The resulting nano-sized powder was characterized by X-ray diffraction (XRD) measurements, transmission electron microscopy (TEM) and energy dispersive X-ray (EDX). The XRD studies revealed that the nano ZnO have wurtzite structure (hexagonal).The crystalline size was found to be smallest for nano sized ZnO when the as prepared powder was cacinated at 800^{0}C for 2 hr. The H_2S sensing properties of the synthesized nano-sized ZnO were investigated at different operating temperatures and H_2S concentrations. It was found that the operating temperature significantly affect the sensitivity of the nano-sized ZnO powder to the H_2S.*

Keywords- Co-precipitation, XRD, TEM, Gas Sensing.

INTRODUCTION

The semiconducting metal oxides such as SnO_2 [1], ZnO [2], WO_3 [3] and Fe_2O_3 [4] have been widely used as gas sensing materials for the detection of inflammable and toxic gases. It was reported that the sensor performance is strongly dependant on the microstructural features such as crystalline size, grain boundary characteristics and thermal stability [5]. Zinc oxide, wide band gap II-VI compound semiconductor, has a stable wurtzite structure with lattice spacing a=0.325 nm and c=0.521 nm. Zinc oxide is on the borderline between a semiconductor and an ionic material [6, 7]. It has attracted intense research effort for its unique properties and versatile applications in transparent electronics, ultraviolet (UV) emitters, piezoelectric devices, chemical sensors and spin electronics [8-17].

EXPERIMENTAL

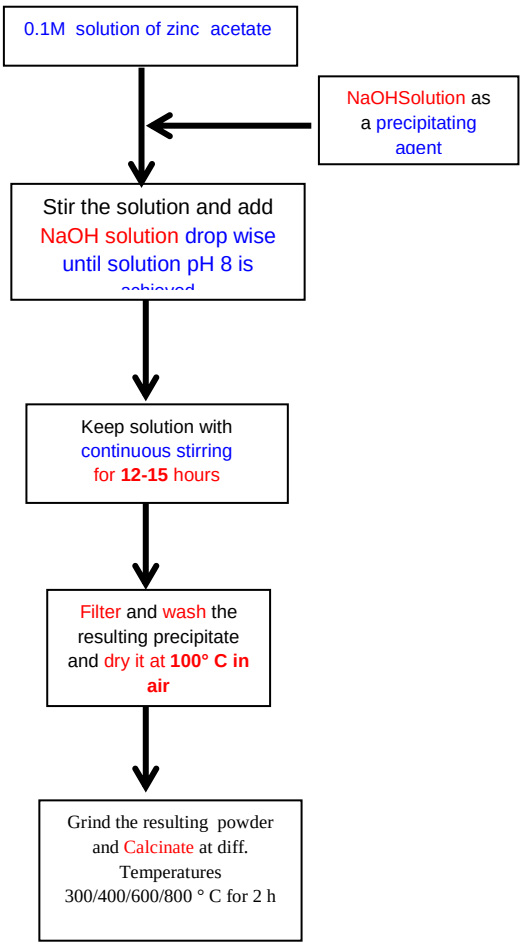

Fig. 1 : A schematic diagram of the synthesis procedure.

The nano-sized powder of ZnO was prepared by a simple co-precipitation method. In this work, the aqueous solution of 0.1 M zinc acetate ($Zn(C_2H_3O_2)_2$) was prepared in double distilled water. To this solution the

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Techniques of pollution control in construction

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Abstract – *Construction sector is considered as one of the main sources of environmental pollution in the world. It has massive direct and indirect effects on the environment.*

Keywords- Construction, pollution, effects, techniques, control.

INTRODUCTION

Environmental protection is an important issue in developed and developing countries (Tse, 2001). Construction is not an environmentally friendly process by nature (Li et al., 2010). Levin (1997) indicated that building construction and operations have a massive direct and indirect effect on the environment. Ijiga et al. (2013) stated that identifying the impacts of construction project on the environment is a task that needs to be accomplished to realize an effective environmental.

Shen et al. (2005) claimed that construction is a main source of environmental pollution, compared with other industries. Li et al. (2010) agreed with Shen (2005) and maintained that any typical construction process involves using various construction equipment's and natural resources and generates many pollutants. Several writers (Morledge and Jackson, 2001; Ball, 2002; Chen et al., 2004; Lam et al., 2011; Zolfagharian, 2012) summarized these pollutants as noise, air pollution, solid and liquid waste, water pollution, harmful gases, and dust. Furthermore construction projects have become one of the driving forces for the national economy, whose energy consumption, environmental emissions, and social impacts are significant (Chang et al., 2011).

It has been reported that very few contractors and private developers spend efforts in considering the environment and developing the concept of recycling building materials (Lam, 1997), because most of them ranked completion time as their top priority and pay little attention to the environment (Poon et al., 2001).

Most construction projects are located in a densely populated area. Thus, people who live at or close to construction sites are prone to harmful effects on their health because of dust, vibration and noise due to certain construction activities such as excavation and pile driving (Li et al., 2010). During the construction phase of a project, construction dust and noise are regarded to be two major factors that affect human health (Tam et al., 2004). Li et al. (2010) and Zolfaghrian et al. (2012)

IMPACTS OF CONSTRUCTION

The main impacts experienced during the construction of the project are given in detail below

Noise:

- Noise was felt to be particularly bad during demolition and the early stages eg. pile driving, drilling, hammering
- Noise was caused by extra traffic, lorries, heavy machinery and engines.
- Local residents kept windows closed at all times.

Vibration:

- Damage occurred to houses eg cracking occurs to walls , plaster
- People were stressed by vibration from demolition and drilling at the same time.

Pollution:

- Residents were worried about pollution, eg asbestos dust from the site coming into homes.

Dust:

- Homes were covered in the dust both inside and outside, particularly in summer .Windows curtains and bed clothes were covered in dust even when the windows were closed.
- Plants and gardens were damaged.
- Children could not play outside for many months. This was problematic particular in the summer.

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Solar Powered Water Dispencer

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Abstract *– The present water cooling methods are evaporative coolers, compressor, fans and dehumidifiers. But running these products need a source called electricity. The producing of electricity is ultimately responsible for hot and humid conditions i.e. global warming. In hot and humid conditions the need to feel relaxed and comfortable has become one of few needs and for this purpose utilization of systems like refrigeration has increased rapidly. These systems are most of the time not suitable for villages due to longer power cut durations and high cost of products. Solar power systems being considered as one of the path towards more sustainable energy systems, considering solar-cooling systems in villages would comprise of many attractive features. This technology can efficiently serve large latent loads and greatly improve water cooling quality by allowing more ventilation while tightly controlling humidity. Despite increasing performance and mandatory energy efficiency requirements, peak electricity demand is growing and there is currently no prevalent solar air cooling technology suited to residential application especially for villages, schools and offices. This project reviews solar powered air cooler for residential and industrial applications*

Keywords- solar energy, solar inverter, water cooler dispenser

INTRODUCTION

This paper reveals the comfort conditions achieved by the device for the human body. In summer (hot) and humid conditions feel uncomfortable because of hot or normal water . So it is necessary to maintain thermal comfort conditions. Thermal comfort is determined by the drinking cold water. comfort. Relative humidity (RH) is a measure of the moisture in the water, compared to the potential saturation level. Warmer water can hold. When you approach 100% cooling The hot normal water in a building is based on the outside temperature and sun loading plus whatever heating or cooling is added by the HVAC or other heating and cooling sources.. Need of such a source which is abundantly available in nature, which does not impose any bad effects on earth. There is only one thing which can come up with these all problems is solar energy.

PRESENT PROBLEM

The producing of electricity is ultimately responsible for hot and humid conditions i.e. global warming. As in below shown chart it is clear that major quantity of electricity is produced by coal (fossil fuel).
Fossil fuels also contain radioactive materials, mainly uranium and thorium, which are released into the atmosphere, which contribute to smog and acid rain, emit carbon dioxide, which may contribute to climate change. Longer power cut durations in villages and high cost of cooling products.[4]

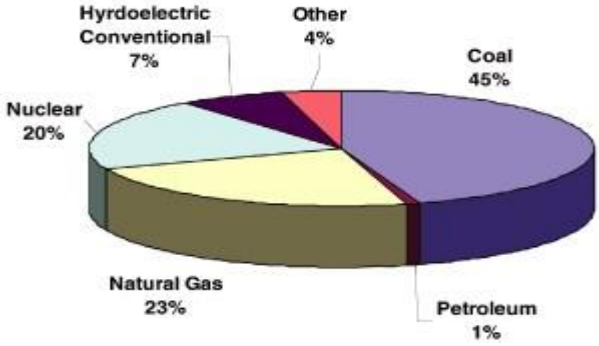

Fig.1 Production of electricity from different sources

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Automatic Power Factor Correction

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Abstract *–In the present technological revolution power isvery precious. So we need to find out the causes of power loss and improve the powersystem. Due to industrialization the use of inductive load increases and hence powersystem losses its efficiency. So we need to improve the power factor with a suitablemethod. Whenever we are thinking about any programmable devices then theembedded technology comes into force front. The embedded is now a day very muchpopular and most the product are developed with Microcontroller based embeddedtechnology.Automatic power factor correction device readspower factor from line voltage and line current by determining the delay in the arrival ofthe current signal with respect to voltage signal from the function generator with highaccuracy by using an internal timer. This time values are then calibrated as phase angleand corresponding power factor. Then the values are displayed in the 2X16 LCDmodules. Then the motherboard calculates the compensation requirement and accordinglyswitches on different capacitor banks. This is developed by using 8051 microcontroller.*

Keywords- Microcontroller, LCD display module, Capacitor bank, SCR, Optocoupler, Transformers, Voltage regulator

INTRODUCTION

Unlike Director Current Circuits, where only resistance restricts the current flow, in Alternating Current Circuits, there are other circuits aspects which determines the current flow; though these are akin to resistance, they do not consume power, but loads the system with reactive currents; like D.C. circuits where the current multiplied by voltage gives watts, here the same gives only VA.

Like resistance, these are called "Reactance". Reactance is caused by either inductance or by capacitance. The current drawn by inductance lags the voltage while the one by capacitance leads the voltage. Almost all industrial loads are inductive in nature and hence draw lagging wattles current, which unnecessarily load the system, performing no work. Since the capacitive

Currents is leading in nature, loading the system with capacitors wipes out them. The power factor of an AC electric power system is defined as the ratio of the real power flowing to the load to the apparent power in the circuit, and is a dimensionless number between 0 and 1 (frequently expressed as a percentage, e.g. 0.5 Pf = 50% Pf). Real power is the capacity of the circuit for performing work in a particular time.Apparent power is the product of the current and voltage of the circuit. Due to energy stored in the load and returned to the source, or due to a non-linear load that distorts the wave shape of the current drawn from the source, the apparent power will be greater than the real power.In an electric power system, a load with a low power factor draws more current than a load with a high power factor for the same amount of useful power transferred. The higher currents increase the energy lost in the distribution system, and require larger wires and other equipment. Because of the costs of larger equipment and wasted energy, electrical utilities will usually charge a higher cost to industrial or commercial customers where there is a low power factor.

Linear loads with low power factor (such as induction motors) can be corrected with a passive network of capacitors or inductors. Non-linear loads, such as rectifiers, distort the current drawn from the system. In such cases, active or passive power factor correction may be used to counteract the distortion and raise the power factor.

The devices for correction of the power factor may be at a central substation, spread out over a distribution system, or built into power-consuming equipment.

METHODOLOGY

Power factor is a ratio of real power and apparent power. Ideal power factor is unity. Pure resistive loads have unity power factor. But there is no such load exist. So we always try to make power factor close to unity reactive power is also reason of low power factor. Inductive loads absorb reactive power and capacitive loads provide reactive power.

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Solar Based Grass Cutter Machine

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Abstract – *In today's generation the major problems are the pollutions, cut of power etc. Thus overcome to these problems we have thought about device which can be work efficiently without causing any types of problem. So we work on the project of grass cutter machine which performing fully automated and using renewable source of energy that is solar power. The main object of this project is to invent solar operated grass cutting machine which is operated on the solar power. There is power shortage therefore we decide to work on the device which operated on solar power. And if the somecondition there is solar power will be not done we use the external power supply, for that we make the external power supply circuit. This project working is easy and simple in construction. In this project we use the solar panel which is connected to the battery where the battery supplies the power to the whole arrangement. In this project we connect the four motors where the two motors for moving action and other two motors for the cutter blades. So from this paper we present the daily purpose robot which cuts the lawn.*

Keywords-Solar Plate, Battery,Blades, Atmega8 Microcontroller, Sensors, DC Motor, Voltage Regulator, Sensor.

INTRODUCTION

Solar energy is the form of renewable energy source and this source ischaracterized as either passive solar or active solar depending on how they capture and distribute solar energy or convert it into solar power. Basically solar energy is the free energy source which can be used easily. Then by using this free solar energy, solar based grass cutter machine will be operating automatically. Generally in the market there are many grass cutter machines are available like electrical and gasoline based. The gasoline grass cutter machine fully depends on the fuel means it works on the fuel which increases the air pollution. And the electrical grass cutter machine fully depends on the electricity provide by the electrical motor that is induction motor.

For this cutter machine long wire required for the power supply and due to the high weight of induction motor, it is difficult to operate. If think about these problems, try to make grass cutter machine on fully automated based on the solar power. In this project the 10 watt solar panel used for the power supply and 12V battery used for storing the solar power.

There are four motors are used which are controlled by the Atmega8 microcontroller. Where the two motors are used for the moving action and the other two motors used for grass cutting purpose.For avoiding the obstacles during the operation the ultrasonic sensor is used for avoiding action. There is no need of fuel and any wire extension for the power supply therefore it is pollution less and eco-friendly project.

METHODOLOGY

The solar panel mounted on the grass cutter machine receives the solar power from the sun. This solar power stored in the battery. The battery provides power supply by using the solar charge controller.The main function of the solar charge controller is to increase the current from the panels while batteries are charging, it also disconnects the solar panels from the batteries when they are fully charged and also connects to the panels when the charging in batteries is low [2].

The solar grass cutter machine is start operation by the switch connected on the board which allows the flow of current to the motor which in turn drive the blades used for moving[5]. In this solar grass cutter machine the four dc 12v motors are connected to the both side of the machine, per side two motors are connected in parallel connection so they works as a single unit on both side[1]. Other additional motors are connected at the

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GSM Based Three Phase Induction Motor Protection and Control

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Abstract *–This paper provides embedded based solution for a protection and control of three phasesInduction Motor. The proposed system is able to protect motor from various electrical faults like under voltage over voltage overheating and single phasing also as well as this system is also able to control three phase induction motor fro1m mobile phone by using GSM module. The basic idea for the development of this system is to control induction motor from remote areas to make agriculture water pumps more user friendly and to provide safety to motors installed in various industrial application. When any of the mentioned faults occurred in system corresponding relay will trip and motor is detached from fault condition. This system developed by using components like 8051 microcontroller GSM module temperature sensor relay LM-339 OP-AMP etc.*

Keywords- Microcontroller, under-over voltage, overheating, GSM module etc.

INTRODUCTION

Nowadays three phase ac motors are widely used in many industrial applications due to many advantages associated with it like easy maintance rigidity and the main speed control flexibility. These ac motor are also used in agriculture sector for water pumping. So the following system is proposed to protect ac motors from electrical faults like under-over voltage single phasing and overheating etc. which helps to improve reliability of system in which motor is installed and the facility to control motor by using mobile makes it more user friendly. [1]

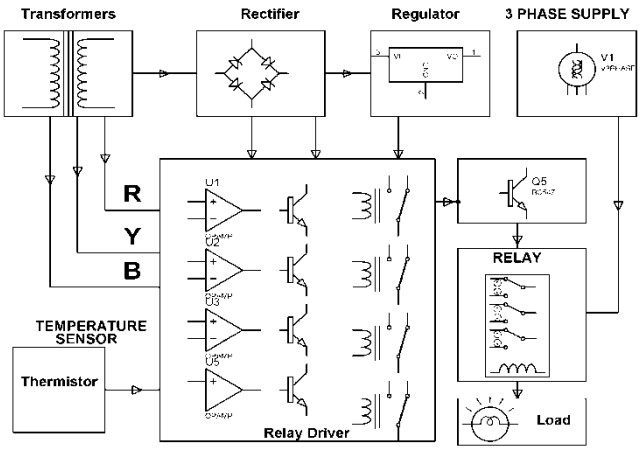
OBJECTIVE

There are two main objective of this system:

1] To protect ac motor from faults like under-over voltage, single phasing, over heating etc.

2] To switch on-off motor through GSM [3]

METHODOLOGY



BLOCK DIAGRAM

There are two main section of this system one is to protect motor from faults and other is to make on-off using GSM. For this purpose system will use 8051 microcontroller, 3 single phase transformer, 4 relay, relay driver, LM-339,

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Analysis Of Solar Small Size 100 Va Inverter For 55Watt Led TV

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Abstract *–In that project we are focusing on the analysis of solar small size 100VA inverter for 55 watts LED TV. We know that the normal 500 VA solar inverters are much heavy near about 8kg to 10 kg. Now this good for other loads.But in case our load is low like LCD or LED TV,laptop. In this case that heavy and bulky inverter is not so good. Then we replace that to 100VA solar inverter and this inverter is light in weight, compact in size and also low cost a means low in cost. And because of using solar inverter then we also save the electrical energy. On that project we will analyze the behavior of inverter by connecting variable loads and variable range of input panels (PV panels) to the inverter.*

Keywords- Solar Inverter, PV panel, Batteries, LCD or LED TV.

INTRODUCTION

In today's climate of growing energy needs and increasing environmental concern, alternatives to the use of non-renewable and polluting fossil fuels have to be investigated. One such alternative is solar energy.

I. Problem statement

The world demand for electric energy is constantly increasing, and conventional energy resources are diminishing and are even threatened to be depleted. More over their prices are rising. For these reasons, the need for alternative energy sources has become indispensable, and solar energy in particular has proved to be a very promising alternative because of its availability and pollution free nature.

Due to the Increasing efficiencies and decreasing cost of photovoltaic cell and the improvement of the switching technology used for power conversion, our goal is to design an inverter powered by PV panels and that could supply stand-alone AC loads.

II. Objective And Scope

The main objective of our project is to design and develop and construct a PV based system that produces electric energy and operates in dual mode, supplying stand-alone AC loads, while minimizing its cost and size.The systems main property is to production of quality electricity from a renewable source to reduce dependence on fossil fuels and the associated emissions of pollutants.Our goal is to design and develop an inverter that will handle the task described.

METHODOLOGY

Solar energy conversion is done by using solar inverter and battery. Because of we used the pure sine wave solar inverter the charge controller is inbuilt on this. Therefore we installed the system as per fig.

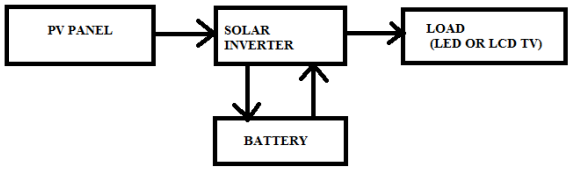

Fig. solar energy conversion process

In this system we used the 100 watt pure sine wave inverter, PV panels as supply and LCD TV as load..

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PLC Based Object Sorting According To Height

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Abstract – *In today's world of technology and due to speed running industries, the production rate has increased tremendously. Here sorting plays an important role. Industrial automation mainly focuses on developing automations having low cost, low maintenance, long durability and to make systems user friendly as possible. This project consists of two parts, first consisting of software which contains ladder logic programming which is used to program PLC that controls the whole process of the project step by step according to input data sequence. Second is the hardware part which consists of conveyors used to transport the objects, sensors used to sense the height.*

The development of a LCA (Low Cost Automation) system to sort objects according to their height has been discuss. This LCA system is controlled by Programmable Logic Controller (PLC). The objects are been sorted according to their respective height. The main conveyor is supported of two branches to load the distinguished object on to the respective one as separated by the electronic system and detected by the laser sensors.

Keywords-Programmable Logic Controller, Manufacturing, Sorting, Low Cost Automation.

INTRODUCTION

In this project, we have developed a Low Cost Automation System for sorting the light weight objects on the basis of height variation. The project mainly focuses on sorting 3 different height objects using photo-electric sensors and DC geared motors interfaced with Programmable Logic Controller (PLC). PLC is programmed with three different logics, each for sorting. Sorting is very important in any type of industry such as manufacturing industry to improve the efficiency of manufacturing processes g different height product. The purpose of this project is to save the time for inspection and to reduce the efforts of the workers in material handling. A sorting machine is more practical and economical method of automation, which transfers material from one point to another.

Conveyor: - A conveyor belt consists of two or more pulleys, with a continuous loop of material which rotates over them. There are two main industrial classes of belt conveyors; The system needs to satisfy industry requisition. This is an industrial automation based application. The problem statement for the project is to create the electronic material handling system which can be used to reduce the efforts of workers as well as to reduce the time spent in inspection of the components, during their manufacturing. It also reduces the efforts in transferring the components manufactured to anther workstation. The most apparent reasons that are associated in installing of automatic system in industry are i. Saving Man Power ii. Improved Quality and Efficiency

LITERATURE SURVEY

Industrial automation and robotics play important role in growth of industry. The main criteria in industry are quality and flexibility of the product. In 80's robot were used to perform tasks like machine tending, material transfer, painting, welding which does not require high accuracy. All height sorters tested used Pulsed Light Emitting Diode (LED) technology to determine the height of material falling from the edge of a belt.

i) Existing System:

In currently existing systems, use of different technology is made according to budget and scope of industry. It

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Brushless Dc Motor Speed Control Using Microcontroller

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***Abstract* –** The hardware project is designed to control the speed of a BLDC motor using closed loop control technique. BLDC motor has various application used in industries like in drilling, lathes, spinning, electric bikes etc. The speed control of the DC motors is very essential. This proposed system provides a very precise and effective speed control system. The user can enter the desired speed and the motor will run at that exact speed.

***Keywords*-** Hall position sensors, Brushless DC motor, Microcontroller.

INTRODUCTION

Permanent -magnet excited brushless DC motors are becoming increasingly attractive in a large number of applications due to performance advantages such as reduced size and cost, reduced torque ripples, increased torque-current ratio, low noises, high efficiency, reduced maintenance and good control characteristics over a wide range in torque–speed plan.In general, Brushless DC motors such as fans are smaller in size and weight than AC fans using shaded pole or Universal motors. Since these motors have the ability to work with the available low voltage sources such as 24-V or 12-V DC supply, it makes the brushless DC motor fans convenient for use in electronic equipment, computers, mobile equipment, vehicles, and spindle drives for disk memory, because of its high reliability, efficiency, and ability to reverse rapidly. Brushless dc motors in the fractional horsepower range have been used in various types of actuators in advanced aircraft and satellite systems torque null regions are reduced significantly [8, 11]. In this paper, a brushless DC motor with distributed winding and a special form of PM-rotor with special stator periphery are described. Which develop a speed control system for a BLDC motor by closed loop control technique

. PRESENT PROBLEM

The producing of electricity is ultimately responsible for hot and humid conditions i.e. global warming. As in below shown chart it is clear that major quantity of electricity is produced by coal (fossil fuel).
Fossil fuels also contain radioactive materials, mainly uranium and thorium, which are released into the atmosphere, which contribute to smog and acid rain, emit carbon dioxide, which may contribute to climate change. Longer power cut durations in villages and high cost of cooling products.

PROPOSED SOLUTION

Need of such a source which is abundantly available in nature, which does not impose any bad effects on earth. There is only one thing which can come up with these all problems is solar energy.

OBJECTIVE THE PROJECT

Pulse-width modulation (PWM) is a commonly used technique for controlling power to an electrical device, made practical by modern electronic power switches. The average value of voltage (and current) fed to the load is controlled by turning the switch between supply and load on and off at a fast pace The desired speed can be obtained by changing the duty cycle. The PWM in microcontroller is used to control the duty cycle of DC motor.

Average Voltage=D * Vin

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Grid Synchronized Voltage Source Inverter Controlled By Using PI Controller

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Abstract *- Over the years, power converters have found wide application in grid interfaced systems, including distributed power generation with renewable energy sources. In distributed energy systems like solar, hydro or any diesel generation where the output of the system is DC and is expected to be converted in AC, an inverter is used. There are various modes to have a controlled output of inverter. The paper consists of the study of three phase Voltage Source Inverter in grid connected mode. In PI control, the stationary reference frame is used to transfer the feedback quantities, where the decoupling of component requirement increases some complications. The main advantage with this controller is the reduction in steady state DC error. The PI controller is adopted in the most familiar dqo reference frame. The three phase system is simulated in the matlab-simulink environment with both the controllers and experimental results are given to prove the correctness and feasibility of the system.*

Keywords—*PI controller; d-q reference frame; reference tracking; Grid synchronization*.

INTRODUCTION

Due to rapid depletion of fossil fuels and the rising demand of electricity power, the interconnection renewable energy sources (RES) including wind turbines, photovoltaic (PV), and other distributed generation etc., has raised concern in the last few years. Hence it became general trend to increase the electricity production using renewable power systems. According to the survey, in the last few years there is a great increase in the use of solar and other renewable energy systems. This increase is nearly from 5% to 20% of the total energy used. Also in the year 2008 - 2009 there is a drastic increase in use of solar energy compared to the last decade [1]. In order to control these renewable energy sources more effectively and fulfill power quality requirement, micro-grid concept is proposed more recently. A micro-grid is a cluster of RES and loads, which can operate in both grid-connected mode and islanded mode. All the renewable energy sources are parallel connected to an ac common bus through inverters or ac-to-ac converters, the common bus is then connected to the utility/grid. The key functional element of an AC Micro-Grid system is a Voltage Source Inverter (VSI). The different Renewable Energy Sources (RES) within the Micro-Grid system can operate independently or interconnected to a common DC link which supplies constant input to the VSI. These systems are to be properly controlled in order to provide the reliable power system to the utility network [1]. Fig. 1 shows the block diagram of the photovoltaic grid interfaced system. It gives the general idea of distributed generation system consisting a boost converter and inverter. The renewable energy source used is photovoltaic system. As the output of Photovoltaic system is very low as compared to the grid utility voltage, the boost converter is required to boost the low level output of PV system. The output of the Boost converter is thus fed to the three phase voltage source inverter.

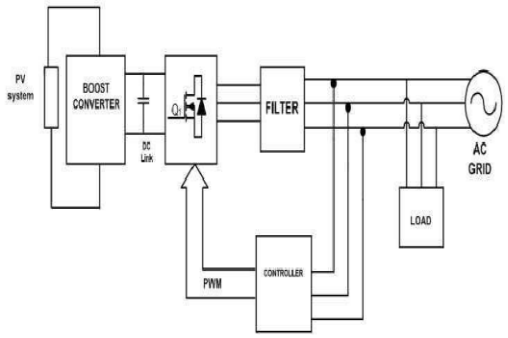

Figure 1. Block diagram of grid connected RE System

The output of the inverter is given to the grid utility through the filter. The control block, as shown in

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Electrical Hoist

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Abstract *–Material handling plays vital role in any industry. The main object of this project is to invent Electrical Hoist with dynamic braking. A problem for shifting of light weight objects around 25 Kg to a height of about 30 meters from ground has been discussed here. To solve this issue across Godavari college of Engineering, an idea of using small electrical Hoist is presented. It basically involved design calculation for hoist motor and required accessories for it.*

Keywords-dc series motor, rope,drum, dynamic braking.

INTRODUCTION

The Hoist mechanism shall include a driving motor, a gear reduction unit, two rope drums, ropes, shafts, gears, couplings, brakes, emergency manual arrangements, limit switches, gate position indicator (both analogue and digital), covers etc., all mounted on a fabricated steel frame. Electrical controls and all necessary electrical and mechanical accessories shall be provided for the satisfactory operation of the hoist. The hoist shall be capable of fully opening/closing the gate. Sufficient space shall be provided around the hoist components for repair/maintenance.A hoist is a device used for lifting or lowering a load by means of a drum or lift-wheel around which rope or chain wraps. It may be manually operated, electrically or pneumatically driven and may use chain, fiber or wire rope as its lifting medium. The most familiar form is an elevator, the car of which is raised and lowered by a hoist mechanism. Most hoists couple to their loads using a lifting hooksontic sensor is used for avoiding action. There is no need of fuel and any wire extension for the power supply therefore it is pollution less and eco-friendly project.

METHODOLOGY

The single phase supply is given to the hoist through power supply converter ,since we are using dc motor ac power is converted in dc by rectifier and filter in power supply and the output is applied to the motor is forward or reversed by the switch as the power applied to motor it runs.

The shaft of motor is coupled the pulley is coupled to the spur gear pulley with the help of chain. The spur gear arrangement runs according to the speed of the motor. As motor is switched ON, the wire or rope is wound or released as per direction selected by the control switch .

The rope is supply by a wire tare. The tare is rotating which is mounted on bearings to the frame stand by two end bearings, so that it will run freely according to the speed of the rolling shaft.

The rolling shaft is rotated when the motor switched ON. The spring wire is rolling in the rolling shaft due to the rotation of the rolling shaft. The length of the rolling rope is decided by the operator. The required length of the rope is rolled the motor is switched OFF.

Types of Braking in a DC Motor

The different types of motors that are available today and in this article, I shall discuss about the various techniques used to stop a DC Motor or to bring it to rest as we cut off the supply. Kindly see that the braking preferred to stop a DC Motor is Electrical Braking and not Mechanical Braking. In other words, the motor is stopped by the voltage and current action in the circuit rather than the mechanical friction brakes on the rotor.

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Design of Three Phase Induction Motor with Pole Change Array

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Abstract – *Three Phase induction motor are employed in almost all industry because of its simple construction and easy operation. Efficiency of induction motor is affected by its fix losses and variable losses which mainly defense upon input supply voltage and load current respectively .And attempt is made to minimize the iron losses using the perment magnet ferrite .A new three phase induction motor using return pole technology is proposed in this paper whose stator consist of two three phase winding accommodated in the same core and rotor is use as squirrel cage rotor with ferrite material on its periphery. Shaft lode are categorized as low, medium and high, stator winding are energized through control based and lode demand when compare to convention to induction motor, the motor efficiency and power factor are improve. Another approached of this machine is that ferrite layer on the rotor periphery will reduce the motor loss which result improving the motor efficiency.*

INTRODUCTION

Induction motors are the most widely used motors for appliances, industrial control, and automation hence, they are often called the workhorse of the motion industry. They are robust, reliable, and durable. When power is supplied to an induction motor at the recommended specifications, it runs at iterated speed. However, many applications need variable speed operations. Historically, mechanical gear systems were used to obtain variable speed. Recently, electronic power and control systems have matured tallow these components to be used for motor control in place of mechanical gears. These electronics not only control the motor's speed, but can improve the motor's dynamic and steady state characteristics. In addition, electronics can

reduce the system's average power consumption and noise generation of the motor. Induction motor control is complex due to its nonlinear characteristics. While there are different methods for control, Variable Voltage Variable Frequency or Volts/Hertz is the most common method of speed control in open loop. This method is most suitable for applications without position control requirements or the need for high accuracy of speed control.

However, AC motor speed control requires either varying the magnetic flux or changing the number of poles on the motor. Even decades after the induction motor gained widespread use, changing the frequency for speed control remained an extremely difficult task and the physical construction of the motor prevented manufacturers from creating motors with more than two speeds.

As a result, DC motors were necessary where accurate speed control and significant power output were required. In contrast to AC motor speed control requirements, DC motor speed control was achieved by inserting a rheostat into the low-power DC field circuit, which was feasible with available technology. These simple motor controls varied the speed and torque, and were the most economical way to do so for a number of decades. some electrical devices which need variable frequency than the fixed

supply frequency. The induction motors are one of the best example for variable frequency drives.

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Investigation of Microstrip Circular Patch Antenna and Step Discontinuities in Feed Line

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Abstract *– This paper presents the study and investigation of microstrip circular patch antenna and its feed line. Planar antennas such as microstrip and its modifies versions have an attractive features of low profile, miniature size and conformability to mounting hosts and are flexible component for designing purpose. Due to its versatility researchers from RF and Microwave field have attracted towards the compact and broad band design techniques for planar antennas. Microstrip patch antenna has found its wide range of applications in communication devices for wireless local area network (WLAN) systems in 2.45 GHz (2400-2484 MHz). The performance of microstrip patch antenna mainly depends on its return loss S_{11} (dB), Gain, NearETotal field and E & H field. The performances of microstrip patch antenna were considerable modified by introducing some discontinuities in a feed line. In this paper a microstrip circular patch antenna with single and double step discontinuities were investigated and the performance of circular patch antennas were found to be increased by using double step discontinuities.*

Keywords- *Circular microstrip patch antenna, step discontinuities, feed line, return loss, Gain and E & H field*

INTRODUCTION

Microstrip patch antenna are flat in appearance and have a low profile, recently received much attention for application in cellular communication systems, such as global system for mobile communication (GSM), the digital communication system (DCS), satellite communication, wireless local area networks and many more. Novel designs of planar antenna for applications such as internal mobile phone antennas, base station antennas, WLAN or Bluetooth antennas, required for achieving broadband circular polarization (CP) and dual-polarized radiation to enhance system performance. Planar antennas are also extremely smart for purpose in communication devices for wireless local area network (WLAN) systems in the 2.4 GHz (2400-2484 MHz) and 5.2 GHz (5150 – 5350 MHz). The most commonly used planar antenna is rectangular microstrip patch antennas, in which the characteristics of the antenna depends on the length and breadth of the metallic patch and substrate. The substrate should have low dielectric constant for higher radiation efficiency and thickness to increases the impedance bandwidth [1]-[3].

In addition to the rectangular patch, the subsequently most popular configuration is the circular patch or disk. The modes that are supported principally by a circular microstrip antenna whose substrate height is small ($h<<\lambda$) are TM^z, where z is taken perpendicular to the patch. In a rectangular microstrip patch antenna, the order of the modes can be changed by changing the relative dimensions of the width and length of patch (width-to-length ratio). On the other hand, for the circular patch there is only one degree of freedom to control i.e. radius of the patch, which does not modify the order of modes but transform the absolute value of resonant frequency. The commonly used analytical methods to study circular patch antennas were full-wave analysis and cavity model. In a cavity model there are two perfect electric conductors at the top and bottom to represent patch and ground surrounded by perfect magnetic conductor [4]-[7]. In a low profile single and

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Intelligent Medicine Tray for ICUs in Hospitals: A Literature Review

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Abstract – *We reside in a fast growing nation where one can progress only when one gets his basic needs fulfilled. But these basic needs will be enrooted properly only when public health is proper. Due to the rapid development, people keep working hard without caring for their own health. Main reason behind this is the lack of time and also health is considered to be a secondary factor when earning is compared. We earn enough to survive. But again they need to worry about securing their earnings. Thus we need to focus on health and security. Health Monitoring and Home Automation systems mainly focus on medical and home security fields. The new era can be facilitated with Health Monitoring and Home Automation systems using Wireless Technologies as Wired being more complex and bulkier. Due to rapid rate of growth in human development, people forget to look after their health leading to unhealthy lifestyle which further takes turn to various sudden health issues which need to be treated as soon as detected. If these issues are not resolved, it will deteriorate human health. This topic is itself a novel approach to monitor patient health and provide proper timely treatment using an intelligent medicine tray.*

Keywords- Medicine Trolley, Arduino, Sensors, Health Monitoring, IoT

INTRODUCTION

This survey paper proposes architecture for an Intelligent Trolley System (ITS) that can be used by hospital care staff, nurses and physicians to identify the patients who need an immediate or urgent attention. The system mainly focuses on hospital bound patients who have limited mobility and reduced ability to call for help when needed. The system will be helpful in chronic medical conditions such as doctor away from ICU, Chronic Obstructive Pulmonary Disease (COPD) and Heart Disease.

The smart sensors can monitor patient information like heart rate (HR), Body temperature, and level of saline bottle. Moreover, in recent cases the symptoms diary is maintained through a personal digital assistant (PDA) but in our project we read all these parameters using sensor and show on remote desktop PC using IoT (internet of things). The data from the sensor network and PDA are automatically uploaded to a remote server using Wi-Fi. The server shows the patients information and extracts the non-trivial information from the patients' histories, symptoms diaries and management strategies. This system uniquely generates alert signals to provide timely treatment to patients' chronic medical conditions. A survey has been done by studying various methodologies used by researchers and a comparative study has been done to determine the best suitable technique. In short, this survey focuses on four main objects:

1. Intelligent Medicine Trolley
2. Sensors to keep monitoring parameters like body temperature, Heart rate and the level of saline bottle with respect to each patient.
3. Alert Panel with buzzer and indication.
4. IoT for remote access.

Thus this system may prove very time efficient and error free. Also group of nurses need not to be always present in the ICUs and only one person may be enough in ICU to look after patients. This will help in avoiding the chaos in ICUs that take place due nurses and relatives present in ICUs. Currently we are trying to implement only four patient beds in ICU with four patients. This number of beds and patients is not limited to four and

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Survey on Printed Antenna for Wireless Communication

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Abstract – *Now a day there are vast development in wireless communication technology so size of antenna is reduced by day by day. In past year mostly yagi uda antenna was used. But convectional antenna has less advantages and prospects as compared to printed antenna. In this paper we are making survey to design proposed antenna for the frequency bandwidth 207MHz to 211MHz.*

Keywords- *Printed antenna (microstrip patch antenna), Microstrip Feed line*

INTRODUCTION

The communication is the process of transferring the information from one point to another. The information which is to be transferred over a distance is commonly achieved by superimposing or modulating the information on to a electromagnetic wave which is act as carrier signal. At the destination this signal is received and original signal is extracted from this signal by using demodulation process. For the communication, antennas are most important components which are used to creat the communication link. Antenna is the transducer designed to transmit or receive electromagnetic waves. Printed antennas are the most common option for communication. Printed antenna have several advantages over the convectional microwave antennas. Printed antenna fabricated using microstrip technique on a printed circuit board. It is mostly used at microwave frequency. We can design printed antenna in various shapes like circular, rectangular, elliptical, dipole etc. in this paper we have design rectangular printed antenna. Some printed antenna do not use a dielectric substrate and instead are made of a metal patch mounted above a ground lane using dielectric spacer. Printed antenna in its simplest configuration is as shown in fig 1

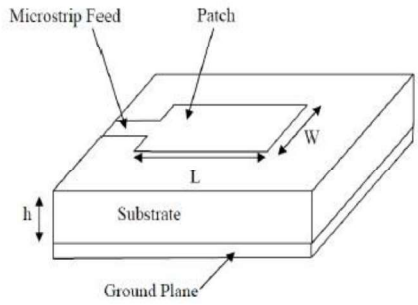

Fig 1.Printed antenna

LITERATURE SURVEY

1.Survey and review on gain enhancement methods of microstrip patch antenna:- Published by Anilkumar patil , Dr. B. Surykant

We know that microstrip patch antenna is widely used because of its low profile but simultaneously it is having some disadvantages such as lower bandwidth and lower gain. In this paper there are different technique used for enhancing bandwidth and gain of microstripn patch antenna[1]

2.Designing of S shaped microstrip patch antenna for broadband application using slotting technique:- Published by Menaka R., Nishandhi S., Sivaranjani S

In this paper they made a microstrip patch antenna of 4.5GHz frequency with 4.485% BW which is 1.595% more as compared his reference antenna[2]

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A survey on various traffic management schemes for traffic clearance and emergency vehicles

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Abstract - *Due to growth in a number of vehicles on roadways Traffic congestion on city road networks is one of the main issues to be addressed by today's traffic management schemes causes heavy traffic congestion on the road. Traffic congestion on roads may cause the delay for emergency services (i.e. Ambulance, Firefighter, Police, etc.). Neither manual control by police officers nor using predefined timers has proved effective, but they are still being used in many places. Due to this, these emergency vehicles are not able to reach their destinations in time, resulting in a loss. A traffic light plays an essential role in traffic management. Under the normal state traffic light duration for the path is almost fixed and same for the entire path and emergency vehicle are not considered. A various paper present different schemes that determine traffic volume and set the green light duration for the path. This paper presents a survey on various traffic management schemes for traffic clearance and path clearance of the emergency vehicle. Researchers have used several techniques such as Embedded Systems, Wireless Sensors Network, Intelligent Ambulance and Image Processing for traffic management. These techniques have been discussed thoroughly and comparative analysis has been made.*

Key Words: *GSM, RFID, IR sensor, IOT .*

INTRODUCTION

The number of vehicles is increasing exponentially, but the infrastructure for transportation we have is not sufficient to satisfy their needs. Due to this, valuable time of public is being lost every day. This also leads to huge economic problems. The main problem occurs when this traffic congestion costs the life of someone. This mainly has a major impact on the vehicles dealing with an emergency situation. It should not be surprising that traffic congestion affects almost all emergency vehicles, which can be too much hazardous to affected people. There isn't any quick solution for this. The government can't continue making roads everywhere. There should be a technical solution to get away with this. There should be a solution by which these emergency vehicles can get their way in midst of traffic and traffic signals. No doubts, the ambulance could not have to be waiting on the traffic junction even when the traffic signal is red.But traffic on road doesn't give a path for an ambulance.

A literature survey has been done according to techniques researchers have used. The techniques described in this paper are Embedded System, Wireless Sensor Networks, algorithmic method, Active RFID and GSM Technology, Intelligent Ambulance and Image Processing. Not only description, but comparative analysis has been done in this paper

Fig. 1 Traffic Congestion in Roadways

LITERATURE SURVEY

In real world there are many traffic management schemes established already and various solutions

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PLC BASED AUTOMATIC CAR WASHING

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Abstract-*Currently necessity of main is to live life in automatic way so as to perform task at higher speed. Technology is best interconnecting channel in each part of world with the means of transportation or communication or business which lead to highly increase in the number of cars. time management is directly proportional to reduction of cost for maintenance. The project helps us to use proximity sensor to detect the car. Customer parks the car in particular specified washing area. The main objective of this project is to perform exterior car washing automatically using programmable logic controller integrated with PLC send information like arrival or departure of vehicle. Car washing technique is collection of various things as spraying solution of detergent, cleaning with water then completing task with force air draying fan. the main thing is that in our project the going to used sand filter. again we will use that same water.so that water will be saved.*

Keywords- *PLC, Nozzles, Solenoid Valve, Pump, Sensors, Relay.*

INTRODUCTION

There are many type of car washes like manual car wash were the vehicle is washed by employee, secondly self-service car wash were the customer has to perform the washing and 3rd chemical car wash which use chemical to wash and polishing the car surface etc. in all automobile industry manual car washing need more labor to carry out work which effects in time consumption and also the result may or may not be satisfactory to the customer that depend. So as to overcome these issues, car washing can be done automatically using programmable logic controller (PLC).

PLC is specialize computer used for the control and operation manufacturing process and machinery which function using a programmable memory to store many instructions and execute function including timing counting, ON/OFF control, data handling, sequencing and arithmetic most of the company in industry used programming as updating or change as per need in programming can be made easy as per requirement many electromechanical relay are observed in current existing system which were replace by programming logic controller. Hence according to it the user can be informing efficiently in case of completion of the process or any emergency. Car washing required components like relay for switch, pipes for spraying water as well as foam water, sprayers which are drive by dc motors, solenoid valve, nozzle, sensors. Control of all this part is made through programming logic control i.e. PLC.

METHODOLOGY

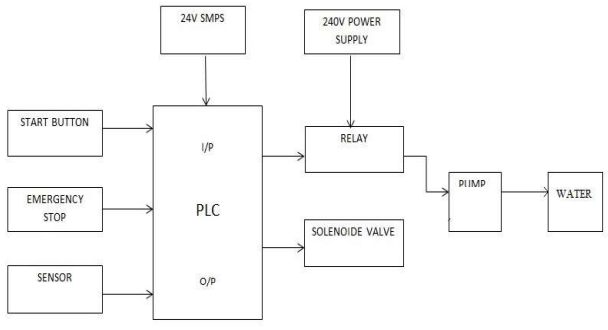

FIG: Block diagram of Automatic car washing using PLC

As seen in the above figure, all the components like Shower, Cleaner, Dryer are connected to the PLC. These components are getting signals from the PLC. Also a start and stop switch is given as an input to the PLC. A Proximity sensor which senses. If the vehicle is in place or not is also connected to the PLC.

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Edge Mesh: A New Paradigm to Enable Distributed Intelligence in Internet of Things

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Abstract *– There has been a paradigm shift in Internet of Thinds(IoT) of centralized cloud computing to edge computing(or fog computing). developments in ICT have made increment of communication and computation abitilies of embedded systems. But they do not use low-level devices for any decision making process. In this paper we propose a new computing paradigm, named Edge Mesh, which classifies decision making tasks among edge devices in the network rather then sending all the data to a centralized server. All the computation task are shared using mesh network of edge devices. Edge mesh gives many advantages like distributed processing, low latency, fault tolerance, better scalability, better and privacy. These advantages are used for critical applications, which needs high reliability, real-time processing , mobile support, and context awareness. we give overview and details of edge mesh. Then we describe details including the proposed framework, research challenges and benefits of Edge Mesh and its various application scenarios, including smart home, intelligent transportation system, and healthcare.*

Keywords- *Edge devices, Internet of Things, distributed intelligence, distributed computing, mesh network.*

INTRODUCTION

Internet of Things (IoT) envisions to revolutionize our life by connecting everything around North American nation with one another. IoT has modified the approach we expect regarding our encompassing. IoT affects the majority aspects of our life together with our homes, offices, healthcare, transportation, power grid, logistics, industries, and lots of a lot of areas. Most IoT systems use finish devices for sensing the environment while communication and networking responsibilities square measure undertaken by gateways and routers. Computation is sometimes done at a centralized server and also the data generated by process is used by some elite devices that act as actuators. Sensing, communication and networking have always been the main target of attention for researchers, however, researchers have currently conjointly started considering problems connected to computation and intelligence. because the variety of devices continues to extend within the returning future, a significant issue can web of Things (IoT) envisions to revolutionize our life by connecting everything around North American nation with one another. IoT has modified the approach we expect regarding our encompassing. IoT affects the majority aspects of our life together with our homes, ofces, healthcare, transportation, power grid, logistics, industries, and lots of a lot of areas. Most of the, wherever there are four main elements i.e. Sensing, Communication, Computation, and feat. IoT envisions embedding of sensing/communication/computation/actuation capabilities in common objects, however, in existing systems, a single device sometimes doesn't supports all the capabilities. Most IoT systems use finish devices for sensing the environment while communication and networking responsibilities square measure undertaken by gateways and routers. Computation is sometimes done at a centralized server and also the data generated by process is used by some elite devices that act as actuators. Sensing, communication and networking have always been the main target of attention for researchers, however, researchers have currently conjointly started considering problems connected to computation and

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Survey On Fractal Antenna For Wireless Communication

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Abstract – *Fractal Antenna are simple, light weight and compact in size. In modern wireless communication system multiband and compact antennas are required. The proposed antenna will be fractal antenna so making this survey on fractal antenna have many future applications. This proposed antenna will be multiband and compact Fractal Antenna with rectangular shape for wireless communication with operating frequency 2.41GHz of basic patch antenna.*

Keywords- *Fractal, Multiband, Compact.*

INTRODUCTION

According to Webster's dictionary a Fractal is defined as being " derived from the Latin 'Fractus' meaning broken, uneven any of various extremely irregular curve or shapes that repeat themselves at any skill on which they are examine "[1]. Day by day, in communication development significance usage is found on phones, tablets, GPs radio navigators and laptop and other wireless devices. Hugely, use of communication devices to getting high performance demands in small size antennas [2]. In study of antennas fractal antenna theory is a relatively new area .Currently, wireless communication has an developing need for more closely and easily carried of communication system. And its characteristics like conformal nature, low manufacturing cost, light weight and easy printed circuit process. It can be comfortably mounted to any kind of surfaces. Fractal antennas are based on concept of a Fractal [3]. Mostly are self similarly or dissimilar concept and the can achieve multiple frequency bands because of different part of the antennas are similar to each other at some different scale [4]. Fractal Antenna can take on various shape and forms [5]. The fractal antenna not only has a large effective length but the contours of its shape can generate or capacitive or inductive that can help to match the antenna to the circuit [10].

LITRACTURE SURVEY

1] Punte et.al (1996) demonstrated multiband behavior for fractal sierpinski gasket. They observed that this behavior depends on the self-similarity properties of this gasket which may propose on alternative way for the designing of new type of frequency independent and multiband antennas [7].

2] Douglas H. Werner and Suman Ganguly (2003) presented the overview of fractal antenna engineering research. They described the combination of fractal geometry with electrodynamics and have elaborated the mathematical formulation [4].

3] Wen-Ling Chen et.al (2009) suggested a wide fractal shaped slot for enhancement of bandwidth using micro strip feeding technique. They experimentally studied the relation between the iteration order, iteration factor and bandwidth of the fractal shape. Experimentally results show that it achieved 9.2dB gain bandwidth of 1.59 GHz which indicates that the impedance bandwidth of this proposed fractal can attain an operating bandwidth of 2.4GHz having operating frequencies which is nearly 3.5

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Solar Parameter Simulation

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Abstract – *The aim of this paper is to measure a solar panel parameters by using solar simulator. In this, a solar panel is used which keeps monitoring the sunlight. Here different parameters of the solar panel like light intensity, voltage, current and temperature are monitored. Solar panel is also known as photovoltaic cell device. The measured current and voltage (I-V) characteristics of photovoltaic (PV) device basically measured with respect to standard reference conditions, that is by a spectrum, intensity, temperature and area. This paper proposes a method of simulation of photovoltaic cell. The main objective is to find the I-V characteristics by adjusting the curve at points: open circuit, maximum power, short circuit, etc.*

Keywords- *Solar photovoltaic, solar cells, Solar simulator.*

INTRODUCTION

A solar cell produces small power, in the range of less than a watt to few watts. However, for our application we need the power in ten of watts, kilowatts and sometimes megawatts. In order to generate large power using solar cell, many solar cells are connected together to make a PV module. The most common technology for solar PV modules uses crystalline Si solar cells. A photovoltaic system directly converts sunlight into electricity. The basic device of a PV system is the PV cell. Cells may be grouped to form panels or arrays. The voltage and current available at the terminals of a PV device. PV devices present a nonlinear I-V characteristic with several parameters that need to be adjusted from experimental data of practical devices. Growing energy demand and soaring prices of fossil fuels along with concern about degrading. Environment have generated enormous amount of interest in the utilization of renewable energy sources. Power generation from photovoltaic has been a rapid growth in the last few years leading to extensive research on using solar energy.

The first purpose of this paper is to present a brief introduction to the behavior and functioning of a PV device. The introduction on PV devices is followed by the simulation of PV parameter, which is the main subject of this paper. A PV device may be any element that converts sunlight into electricity. The elementary PV device is the PV cell. A set of connected cells form a panel. Panels are generally composed of series cells in order to obtain large output voltages. Panels with large output currents are achieved by increasing the surface area of the cells or by connecting cells in parallel. A PV array may be either a panel or a set of panels connected in series or parallel to form large PV systems.

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ELECTROMAGNETIC INTERFERENCE IMPROVEMENT IN ELECTRONIC CIRCUITS

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Abstract – EMI caused by generation & radiation of unwanted RF signals that pollute carefully managed radio spectrum. Increasing data-rates and tougher EMC standards make EM radiation a highlighted concern. Recent digital ICs like microprocessor and DSP s include an increasing number of elementary logic gates which absorb/drive pulsed currents driving EM e missions. EM field directly radiated by package frame and circuit routed at silicon level are referred as IC radiated emissions. The pulsed currents conducted off chip by the IC pins feeding PCBs traces and cables which act as emitting antennas are referred as IC conducted emissions. An attempt has been made here to review the problems associated with interference issues results in RF disruption or intermittent failure of electronic, communication and information system. The signal with sharper rising/falling edge is comprised of higher order Harmonics. The Harmonics-included in actual digital signal are the principle cause of EMI emission from electronic simulator simulates noise suppression filters and chip capacitors in single end line and differential line. EMC means that the device is capable with its EM environment & does not emits the EM energy that can cause EMI in other IT, industrial & healthcare devices in the vicinity

Keywords: EMIFIL, BLM-NFM series filters, EMC standards, Conducted Emission

INTRODUCTION

1.1 EMI Fundamentals:

Electromagnetic Interference: An EM disturbance which may degrade the performance of a device, system / sub-system or an equipment or causes unwanted response / malfunction of an electronic or electrical equipment . [5] Radio Frequency (RF): The frequency range in which coherent E M radiation is useful for communication purposes - roughly from 10KHz to 100GHz. This energy ma y be generated internationally , as b y a radio transmitter or unit nationally as by electronic devices operation. RF energy is transmitted through two basic modes: Radiated Emission (RE): The component of RF energy that is transmitted through a medium as an EM field. RF energy is usually transmitted through free space. Conducted Emission (CE): The component of RF energy that transmitted through conductive medium as an EM field, generally through a wire or interconnect cables referred to be CE. Line conducted interference (LCI) refers to RF energy in a power card.[3]

Electromagnetic Compatibility

EMC is a near perfect state in which a receptor (a device, or equipment, or a system/sub-system) functions satisfactorily in common EM environment, without introducing intolerable EM disturbance to any other devices/ equipment / system in that environment. An Electromagnetic disturbance which ma y degrade the performance of a device, system / sub-system or an equipment or causes unwanted response/malfunction of an electronic or electrical equipment or IT equipment. EMI noise problems [8] since the design have many ICs which make the process of EMI emission very complicated [9]

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A Survey on Speaker Identification System

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Abstract: *- The speech processing for providing vast security is more popular day by day. For the purpose of authentication of speech by speaker is widely used. Speaker recognition is the process which can verify and identifies a human from features of voice. The speaker recognition has made great process. But in real life or real situation the environment noise is effected for the performance of speaker recognition systems. This paper studies the performance of speaker recognition system in noisy surroundings. And now a days (in the present) this system is using MFCC (Mel frequency cepstrum coefficients) techniques. The MFCC feature is used along with the VQLBG (Vector Quantization – Limba, Buzo and Gray) differentiate between silence and voice activity and significantly improve the performance of SRS (speaker recognition system) under the noisy conditions. The requires measurement were performed in MATLAB which proving speech signal image recognition in a simple and easy way to used.*

Keyword:- *MFCC (Mel Frequency Cepstrum Coefficient), VQLBG (Vector Quantization-Limba, Buzo And Gray), SRS (Speaker Recognition System).*

INTRODUCTION

Speech is one of the most important way of human communication like finger print, it carries the similarity of the speaker as voiceprint. The Human delivery is a signal inclusive combined types of information, Including words, feelings, language and identity of the speaker.[10] This can be done by developing an automatic speech recognition (ASR) system which allows a computer to recognize the words that a person or a human beings speaks into a mice i.e microphone or telephone and translate it into a written text format. As a result it has possible of being of important mode of interaction between the human and computers.[9] This research works discuss the difficulties of speaker verification. And it can be determining the given speaker with the help of training set of samples. The main steps of speaker recognition start with the preprocessing of voice signal, perform sampling and quantization, and then feature extraction. At the last step the extracted features are given to a classifier. This field is still under the research at which the allow able feature set that consists with the best special characteristics of each voice which is investigated by the appropriate classifier for every feature set. In this work, the MFCC (Mel frequency cepstrum coefficients) feature are used to design a text dependent speaker identification system. MFCC'**s** are obtained in training and testing phase. Speaker Uttered same words once in a training phase as well as testing phase. Depending on the various function, speaker recognition could be classified into two parts as a identification and a verification of a speaker. [9] To identifying which one of N known speakers is the very analogous to the input voice such called as speaker identification**.**

The following definitions are the basics needed for understanding speech recognition technology.

Utterance:-

An utterance is the vocalization (speaking) of a word or word that represent a single meaning to the computer. Utterances can be a single word. a few words, a sentence, or even multiple sentences

Speaker Dependence:-

Speaker dependent system are designed around a specific speaker. They generally are more accurate for the correct speaker , but much less accurate for other speaker. They assume the speaker will speak in a consistent voice and tempo. Speaker independent system are designed for a variety of speakers. Adaptive systems usually start as speaker independent systems and utilize

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Survey Paper on Bimodel Biomatric Authentication System

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ABSTRACT:
A new technique for human identification using fussion of both face and speech in which the improve the rate of recognition as compared to the single biometric identification for security development. In this paper we proposed to uses Principle Component Analysis (PCA) as feature extraction techniques in which last/ past year mostly 2D and 3D some use face recognition system. Now we have to use methods as Mel-frequency Centrum Coefficients (MFCC) feature extraction techniques are used for speech recognition and the hidden Markov model (HMM) is used to calculate the likehoods in the MFCC extracted features to make the decision about the spoken words.

Keywords *: Biometrics, PCA-Principle component Analysis, MFCC-Mel-Frequency-Ceswtrum Coefficient, HMM-Hidden Markov Model, ASR-Automatic speaker recognition system.*

INTRODUCTION

The Biometric identity authentication system is based on the biological characteristics of a person, such as face, voice, fingerprint, iris, gait, hand geometry or signature. Identity authentication using the face or the voice information is a challenging research area that is currently very active. We study the fusion of speech and face in a recognition system for taking a final decision (i.e. accept or reject identity claim). We evaluate the performance of each system differently then we fuse the result and compare the performances.

LITERATURE SURVEY

1. **Survey and review on Face recognition system – A challenge, published by Dr. Pramod Kumar, Mrs. Monika Agarwal, Miss. Stuti Nagar.**
   The 2D and 3D dimensional picture fail the reason is that-
   (i) 2D picture to compare it with the image sorted in database, but these programs did not the succeed only.
   (ii) If the person is looking just to the camera of course any one suspect will be warned that he/she will see a camera in place.
   (iii) There lies the problem where this fails by depending on the 2D system.

   And that about 3D system-
   (i) The 3D system for face recognition based on the pattern of three-dimensional (3D).
   (ii) Where special cameras win captured images of three-dimensional views of the suspected person.
   (iii) Using the special main features of each face that are not changed significantly with time, such as eye hole, distance between the eyes, nose shape and other[1]
2. **Survey and review 2D and 3D face recognition publish by . Andrea F. Abate, Michele Nappi, Daniel, Gabriele Sabatino.**
   In this paper it was inferred that the automatic face recognition, the old and the new in this pattern recognition problem, which is very hard to solve due to its non-linearity. We can think of it as a template matching problem, where recognition has to be performed in a high-dimensional space. Since Higher the dimension of the space is more the computation we need to find a match a dimensional reduction technique is used to project the problem in a lower dimensionality space indeed. [2]
3. **Survey and review on face recognition techniques. Publish by – Rabia Jafri and Hamid R. Arabnia**
   In this paper we shows that the face recognition from intensity images, there are some types featured-based, Holistic, Statistical, multiple classifier systems, face recognition from video sequences, face recognition from other sensory inputs like 3D model based and intra-red. These are different on face recognition technique. [3]
4. **Survey and review- All Embedded HMM based approach for face detection and recognition. Published by – Ara V. Nefian and Manson H. Hayes III.**
   In this paper the face recognition system work on embedded HMM (Hidden Markov Model). The embedded HMM model, the two dimensional data better than the one dimensional HMM and is computationally less complex than the two-dimensional HMM.[4].
5. **Survey and review – A New face recognition method based on SVD Perturbation for single Example Image per person. Published by – Daoqiang Zhang, Songcan Chen and Zhi-Hua-Zhou.**
   In this paper the use of new face recognition SVD perturbation is elaborated. There are two algorithms, in first algorithm; the original image is linearly

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Biometric Authentication By Using Face Recognition

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Abstract: *Currently there are vast development in biometric authentication technology so password hacking is reduced by day by day. In past year mostly thumb scanning was used. Face recognition technology is used to automatically identify a person like as he open account by using his own password. In this paper we are focus to directly capture information about the face shape using face recognition.Face recognition is used for highly secured system. In this paper we proposed the technique for human identification which can substantially improve the rate of recognition as compared to the other biometric identification. we propose the best, highly secured device, does not hack, all this features are developed by face recognition.*

Keywords- *face features, feature selection, local binary patter, camera, moduls of proposed system.*

INTRODUCTION

In general, face recognition problem can be briefly defined as the process of matching a new input face to the existing known individuals in the database. In machine learning practice, it is a supervised learning problem. More specifically it is a multi valued classification task with as many classes as there are individuals whose faces are stored in the face database. Face recognition can be applied for a wide variety of problems like image and film processing, human-computer interaction, criminal identification etc. This has motivated researchers to develop computational models to identify the faces, which are relatively simple and easy to implement. The model developed in [1] is simple, fast and accurate in constrained environments. Our goal is to implement the model for a particular face and distinguish it from a large number of stored faces with some real-time variations as well. The scheme is based on an information theory approach that decomposes face images into a small set of characteristic feature images called 'Eigen faces', which are actually the principal components of the initial training set of face images. Recognition is performed by projecting a new image into the subspace spanned by the Eigen faces ('face space') and then classifying the face by comparing its position in the face space with the positions of the known individuals. Recognition under widely varying conditions like frontal view, a 45° view, scaled frontal view, subjects with spectacles etc. are tried, while the training data set covers a limited views. Further this algorithm can be extended to recognize the gender of a person or to interpret the facial expression of a person. The algorithm models the real-time varying lighting conditions as well. But this is out of scope of the current implementation.

LITERATURE SURVEY

M Vadiraj described that in each and every organization attendance monitoring is made as one of the most important task. Many traditional methods have been proposed for the same. This paper provides an efficient method for marking attendance which is based on facial recognition of an individual. In this method the images of the students are captured in a group and the faces which are detected are segmented. Then the segmented images are verified with the database of the class. Using a GSM technology, notification of absence will be sent through SMS for the particular student [1]

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LITERATURE SURVEY OF INDUSTRIAL MONITORING & FAULT DETECTION

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Abstract – *Monitoring and controlling is the heart of industrial automation applications and thus, a time response mechanism is required to be able to implement such systems. This project presents a survey of Implementing Real Time Systems for industrial automation applications. Recently, PLCs have dominated industrial automation implementations but however, they do present some challenges especially in meeting real time constraints due to its centralized control and cyclically scanned program execution mechanisms. This paper proposes an alternative implementation approach using FreeRTOS platform that can act as a benchmark for time bound services. This would help in having a hybrid system that can work with PLCs and/or where possible replace PLCs for deterministic service delivery.In this system we have monitor some parameter which is difficult to measure by an instrument manually like Temperature, Humidity, Voltage, Current, Light Intensity etc.*

These all parameter are measured by an presice sensors and comparator using microcontroller. All sensors output is connected to the microcontroller (ARM) I/O port where they receive the data and perform the control action on output devices.

Keywords- ARM, Sensors, Industrial Parameter Monitoring, IoT etc.

INTRODUCTION

In recent few years, science has made great progress. Automation makes many industries more dynamic and the Internet of Things (IoT) has brought about a radical change in world, still industrial monitoring field requires more manual power to monitor and control the industrial parameters such as temperature, humidity, voltage, current, pressure etc. at present. This is one of the most upcoming issues in the industrial sectors. If the parameters are not monitored and controlled properly due to unavoidle manual error, it leads to a harmful situation. Sometimes, if this control process may not handle properly, it results in occurrence of major accidents. With the embedded technology, it is very easy to overcome the greater issues in industrial automation monitoring and controlling.

In industrial automation parameters can be monitor by the use of various sensors such as temperature sensor, voltage and current sensor, humidity sensors and the sensed values processed by microcontroller (here ARM LPC2148 microcontroller is used). The processed values can be displayed through Monitor of PC or Mobile Display or using IoT at remote location to take an immediate control action.

In this system we have monitor some parameter which is difficult to measure by an instrument manually like

a) Temperature
b) Humidity
c) Voltage
d) Current
e) Light Intensity

These all parameter are measured by an presice sensors and comparator using microcontroller. All sensors output is connected to the microcontroller (ARM) I/O port where they receive the data and perform the control action on output devices. The whole system can be monitor on display OR PC OR mobile easily and can access at remote location using IoT.

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A Survey on Robotics in Medical Field

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Abstract – *Robots have taken a great consideration in the medical field. The term medical robotics has often been construed to refer strictly to surgical procedures. However, due to its accuracy, repeatability, and indefatigability, robotic technology is increasingly affecting the entire healthcare sector through advances in diagnosis, preoperative planning, surgery, postoperative evaluation, acute rehabilitation, and chronic assistive devices. Information and communication technology (ICT) and mechatronics play a basic role in medical robotics and computer-aided therapy. The basic concepts of computer-integrated surgery, surgical CAD/CAM, and surgical assistants, it discusses some of the major design issues particular to medical robots.*

Keywords – Robotics, ICT, Computer-integrated Surgery, Surgical CAD/CAM

INTRODUCTION

During the last 45 years, robotics research has been aimed at finding solutions to the technical necessities of applied robotics. This evolution has been dominated by human necessities. Medical robotics is a promising field that really took off in the 1990s. Medical robots assist in operations on heart-attack victims and make possible the millimeter-fine adjustment of prostheses. There are, however, many challenges in the widespread implementation of robotics in the medical field, mainly due to issues such as safety, precision, cost and reluctance to accept this technology. The field of medical robotics is expanding rapidly and results are impressive as a large number of commercial devices are being used in hospitals. Robotics systems for surgery are computer-integrated surgery (CIS) systems first, and "medical robots" second. Robot and Robotics technologies represented a practical application of physics, computer science, engineering and mathematics.

It provides a very powerful and flexible approach to demonstrate a variety of engineering concept. "An electrical or mechanical or electromechanical, programmable or non-programmable multifunctional manipulator designed to move material, parts, tools, or specialized devices through various programmed motions for the performance of a variety of tasks." *Isaac Asimov* popularized the term robotics. Asimov is a visionary who envisioned in the 1930's the positron brain for controlling robots. He invented the three laws of robotics: (1) A robot may not harm a human through action or inaction, allow a human to come to harm. (2)A robot must obey the orders given by human beings, except when such orders conflict with the First Law. (3)A robot must protect its own existence as long as it does not conflict with the First or Second Laws. The evolution of robotics research in the last half century as a response to the evolution of human social needs, from the industrial robotics that released the human operator from dangerous or risky tasks to the recent explosion of field and service robotics to assist the human. During the last 45 years, robotics research has been aimed at finding solutions to the technical necessities of applied robotics Robots were initially used in the automation sector to handle repetitive and simple tasks reliably, with the objective of cost reduction per product. Along with the increased speed of embedded microcontrollers, the service robotic sector has started to grow.

RELATED WORK

Technology invented by author is the use of Medical Robotics in Computer-Integrated Surgery. The problem is being to use which design issues in medical robotics, computer-integrated surgery, surgical CAD/CAM, and surgical assistants.[14]

The solution obtain is to focus on the role of medical robots within the context of their role in CIS systems. The systems into two broad families: surgical

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Study Of CAN Bus In Autonomous Of All Terrain Vehicle

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Abstract – *The mechanical control system of the all-terrain vehicle (ATV) is converted to an electronic control system and is interfaced to a wireless radio system. In order to improve the control system design and reduce the wiring, a Controller Area Network (CAN) control system has been implemented which is very flexible and reliable. A CAN control system contains electronic control units (ECU) which communicate over CAN protocol. CAN protocol is a serial communication protocol which is internationally standardized by ISO and it creates a two line differential bus for communication. It is a widely used real time communication protocol designed mainly for in vehicle networking but also gained popularity in many embedded applications.*

Networked Electronic Control Units (ECUs) are increasingly being deployed in automobiles to realize various functions and Controller Area Network (CAN) is deployed for the communications among ECUs. Our primary objective is to build both hardware and software that interface and communicate directly with CAN network and extract CAN messages for reliable car communications. The hardware is a

circuit board that is capable of capturing CAN signals released from an automobile. The software will be both the firm-wares programmed for the two microcontrollers found on the circuit board, as well as the Graphical User Interface on the PC that enables users to control the functionalities of automobile via a few simple clicks of the buttons.

Keywords – All Terrain Vehicle, CAN, Networked Electronics Control Unit

INTRODUCTION

(ECUs) are increasingly being deployed in automobiles to controls one or more electrical subsystems to realize The recent technology trends in the automobile industry are bringing more safety and comfort in a vehicle by incorporating automation techniques like collision avoidance, air bag deployment and entertainment devices. In the process of making an automated vehicle, there was a rapid increase in the use of electronic control units (ECU) in the vehicle. Therefore, there was a need for a special communication system for achieving the communication between the ECUs in a vehicle. Initially, multiplexed communication was implemented which decreased the interconnections (cables) between the ECUs. The main problem with the multiplexed communication system was it could not communicate data in real time. In 1980"s, BOSCH Corporation designed a multi master serial communication protocol called Controller Area Network (CAN) protocol for robust and real time for in-vehicle networking.

In recent years, control systems of cars have moved from the analog to the digital domain. In

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Nano Structured Solar Cell: A Review

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Abstract:- *Here, different types of nano-structured solar cells are studied. The solar cell parameters vary with the change of material in the fabrication of solar cell films. The comparative study of various parameters like open-circuit voltage(V_{oc}),short-circuit current density(J_{sc}),fill factor(FF) & power conversion efficiency(ŋ) is presented for different types of nano-structured solar cells. Depending on all the parameters discussed above nm-scale texture based Si solar cell have achieved highest efficiency of 14.9%,Jsc 30.49mA/cm^2 & FF 73% among all the nanostrucured solar cells investigated.*

INTRODUCTION

The use of nanotechnology into the photovoltaic films shows special promise to both enhance efficiency and lower total cost. Now days, many nano-structured materials are being investigated for their applications in photovoltaics. Nano-structured layers in thin films offer several important advantages. First, due to multiple reflections, the optical path require for absorption is much larger than the actual film thickness. Second, recombination losses are greatly reduced because light generated electrons & holes need to travel over a shorter path. This results in the absorber layer thickness as thin as 150nm in the thin film solar cells...

LITERATURE SURVEY

Nanostructured solar cells offers several advantages for solar cells including, 1) The ability to exceed a single junction solar cell efficiency by implementing new concepts, 2)It provides larger optical path for light absorption , and 3)Recombination losses are reduced. The RF magnetron sputtering method allows to deposit hydrogenated nanocrystalline silicon (nc-Si:H) at high rates & low temperature (50^0C) with high crystalline volume fraction (80-90%) [1]. Using the MIG method, nc-Si:H films were formed ,which avoids high temperature processing. It is a low temperature & low cost method for fabrication of nc-Si:H [2].The metal induced growth (MIG) process is used to develop Si nanostructures & wires in both vertical & lateral directions .In this process , a nanocrystalline Si thin film with a 100nm scale continuous & columner structures was formed. It forms a novel device to generate photocurrent & give antireflection [3].

To obtain high Voc & high fill factor (FF), the required CdS crystallinity was achieved using novel technology. Also, a 14.8% efficiency of the low environmental –load CdS or CdTe solar cell was achieved [4]. The nc-Si:H films are more stable during light soaking than amorphous Si [5]. The light-soaking degradation of a-Si:H solar cells was overcome using nanostructure tailored Si. Degradation ratio is reduced from 19% to 5%. Also, a light-soaked efficiency of 7.3% was achieved which is more than amorphous solar cell (6.8%) on nanostructured substrate [6].

The use of nanostructures in photovoltaics offers the potential for high efficiency & low fabrication costs, moving to structures or materials which can be fabricated using chemically or biologically formed

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Comprehensive Survey on Thermal Challenges In Electronics Circuits

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Abstract *– Electronic devices and their applications have been among the fastest advancing fields, with the characteristic dimensions of devices shrinking past the micro scale and into the nanoscale within the matter of just two decades. Today, many modern electronic devices operate with critical dimensions in the tens of nanometers. Moreover, minimum feature sizes of 14 nm and below are being targeted for next-generation technology nodes. At the same time, new approaches at the die and package integration levels such as many-core architectures and three-dimensional (3D) chip stacking are emerging as potential means of increasing computing performance without relying on reduced feature scaling alone. In addition, the rise of mobile devices and touch screen applications has driven new research and development efforts into devices and materials compatible with transparent and/or flexible substrate design requirements. However, these exciting technological advances and emerging applications are also creating thermal challenges that may serve to ultimately limit their effectiveness, scope of implementation, or overall feasibility..During a power amplifier design phase, an important item for a designer to consider is the management of performance over temperature. One of the main parameters that affect performance is the quiescent current. The challenge for designer is to maintain constant quiescent current over a large temperature range. The problem becomes more challenging in a multistage IC (integrated circuit). To overcome this difficulty, Free scale has embedded a quiescent current thermal tracking circuit in its recently introduced family of RF power integrated circuits.*

INTRODUCTION

Over the past half-century, the drive for faster, cheaper computing and its long-associated requirements of increasing device density and progressive device miniaturization have served to push scientists and engineers to continually develop new and ever-improving materials, tools, processes, and design methodologies. As a result, electronic devices and their applications have been among the fastest advancing fields, with the characteristic dimensions of devices shrinking past the micro scale and into the nanoscale within the matter of just two decades. Today, many modern electronic devices operate with critical dimensions in the tens of nanometers. Moreover, minimum feature sizes of 14 nm and below are being targeted for next-generation technology nodes.

At the same time, new approaches at the die and package integration levels such as many-core architectures and three-dimensional (3D) chip stacking are emerging as potential means of increasing computing performance without relying on reduced feature scaling alone. In addition, the rise of mobile devices and touch screen applications has driven new research and development efforts into devices and materials compatible with transparent and/or flexible substrate design requirements. However, these exciting technological advances and emerging applications are also creating thermal challenges that may serve to ultimately limit their effectiveness, scope of implementation, or overall feasibility..During a power amplifier design phase, an important item for a designer to consider is the management of performance over temperature. One of the main parameters that affect performance is the quiescent current. The challenge for designer is to maintain constant quiescent current over a large