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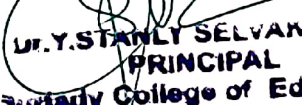
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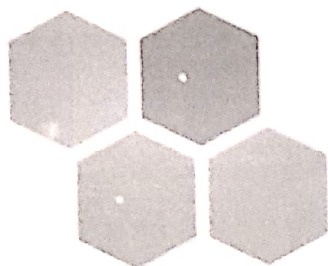
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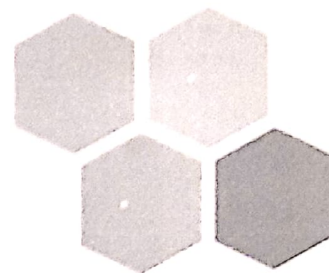

DR. Y. STANLY SELVAKUMAR
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Volume 8, Special Issue - 3

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**Dr. Y. STANLY SELVAKUMAR
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Global J. of Engineering and Technology (GJET) Vol. 8, Issue 11, 2018, pp. 1149-1153 (Print) - Being Research Publication

**Our Lady College of Education
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DESIGN AND PERFORMANCE OF DOUBLE GATE 8T SRAM CELL USING MULTI-THRESHOLD CMOS
Joy Merline, C.G., Rajendiran V¹, Tamilselvi, T and P. Gurunathan

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ABSTRACT

This paper concentrate on the dependability investigation at various draw up proportions and power dissemination of a novel low power 8T MTCMOS SRAM cell. In MTCMOS Technology the SRAM cell contains low VT (LVT) transistors and two high VT (HVT) sleep transistors for rationale usage. The power utilization during write and read method of operation is less and during standby mode leakage power is insignificant in SRAM cell on account of high Vth sleep transistors. To decrease the swing voltage at the yield hubs of the bitline and bitline bar in view of the two Additional voltage sources are utilized, one is associated with the draw up transistor as sleep and another is associated as sleepbar to pull down transistor. Both these voltages are complimentary to each other. The diminishment in swing voltage causes the lessening in unique power dispersal, low leakage power streams in MTCMOS innovation and the re-enactment consequences of proposed 8T Double gate SRAM cell utilizing MTCMOS cell have been resolved and contrasted with 8T Double gate SRAM cell and the recreation have been done in 45nm CMOS Technology utilizing Tanner EDA Tool.

Keywords: DG (Double gate), MTCMOS (Multi threshold CMOS), Low power, Sleep Transistor, SRAM.

INTRODUCTION

The SRAM cell design having low power and high stability is required as the demand of the portable electronic market constantly for less power-hungry architectures [1]. Here the same technique is introduced such as scaling the supply voltage using MTCMOS process. The SRAM is to ensure the reasonable noise margin which is normally measured by the static noise margin. According to this design degrade when the threshold voltage variation increases and are also linearly depend on the reduction of the supply voltage. So result is difficult to maintain the cell stability and technology enters less than 100nm regime [2].

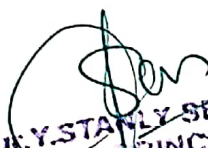
The 8T double gate SRAM cell is design to improve the stability and power dissipation. This Design having separated read and write operations. The static power dissipation and dynamic power dissipation in SRAM cell during write/read operation is minimized. Here the common method is used to improve the read and write operation which is boosted by MTCMOS technique. MTCMOS technology provides low leakage and high performance operation by utilizing high speed, low threshold voltage transistor during active mode and low leakage, high threshold voltage transistor during sleep mode. This technology is also called as power gating. During switching activities two voltage sources are used at the output nodes to reduce the swing voltage resulting in reduction of dynamic power dissipation.

Multi Threshold Complementary Metal Oxide Semiconductor (MTCMOS): Multi-threshold CMOS (MTCMOS) is a variety of CMOS chip innovation which has transistors with numerous limit voltages (Vth) so as to advance postpone or power [3]. The Vth of a MOSFET is the gate voltage where a reversal layer shapes at the interface between the protecting layer (oxide) and the substrate (body) of the transistor. Low Vth gadgets switch quicker, and are accordingly helpful on basic defer ways to limit clock periods. The punishment is that low Vth gadgets have significantly higher static leakage

power control. High Vth gadgets are utilized on non-basic ways to decrease static leakage power control immediately punishment. Ordinary high Vth gadgets lessen static leakage power by 10 times contrasted and low Vth devices. Multi-threshold CMOS (MTCMOS) is the most generally utilized leakage power control concealment method in best in class incorporated circuits [4]. In a MTCMOS circuit, high limit voltage (high-Vth) sleep transistors (header or potentially footer) are utilized to remove the power supply as well as the ground associations with a sit still low threshold voltage (low-Vth) circuit hinder as represented in Fig.1. In a power-gated MTCMOS circuit, a high-Vth header is appended between the chip control circulation organize (specifically associated with the power supply) and a virtual electrical cable (associated with the low limit voltage circuit hinder). On the other hand, in a ground-gated MTCMOS circuit, a high-Vth footer is embedded between the chip ground dissemination organize and a virtual ground line (associated with the low limit voltage circuit hinder). In a power and ground-gated MTCMOS circuit, both a high-|Vth| header and high-Vth footer are used to square access to the chip power and ground circulation systems, as delineated.

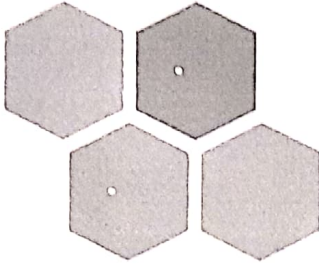
ACTIVE Mode: In ACTIVE mode, the header and footer sleep transistors are initiated, as appeared in Fig.1. The virtual electrical cable in the power-gated MTCMOS circuit is charged to VDD [3][4]. On the other hand, the virtual ground line in the ground-gated MTCMOS circuit is released to 0V. The powerful supply voltage experienced by the low-Vth circuit piece is VDD. The MTCMOS circuit in this manner keeps up superior like an absolutely low-Vth circuit.

SLEEP Mode: In SLEEP mode, the header and footer sleep transistors are sliced off to bring down the sub threshold leakage power streams [3][4]. The virtual electrical cable in the power-gated MTCMOS circuit is regularly released to an enduring state voltage level that is near 0V by the leakage

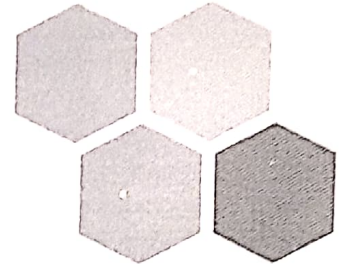

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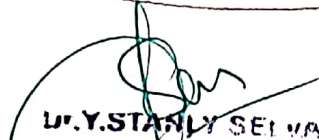
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Global J. of Engineering & Applied Sciences 8 (4), 2018. ISSN: 2249-2623 (Print) - Rising Research Publication



REAL TIME CONTROL DOOR UNLOCKING SYSTEM

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ABSTRACT

The system proposed is a door unlocking system containing multiple doors any of which can be used to access a certain zone e.g. a laboratory or library. The system is implemented using a central server which contains a central database gathering all the information about the authorized personnel. The hardware components required are RFID reader, passive RFID tags, wireless transmitter & receiver (433 MHz) and an Arduino microcontroller. Software assistance of Arduino IDE and Processing Development Environment (PDE) are required for control. There is also provision for real-time monitoring of users' activities i.e. entry and exit. This is made possible by automatic synchronization of the system with a secured webpage via internet.

Keywords: Internet of Things, Arduino, RFID and real time control.

INTRODUCTION

The system proposed can be basically used for offices, laboratories and libraries where it is essential to keep a record of the people entering and exiting. Research on home automation systems include several such sophisticated systems. It has often been seen that sometimes it becomes necessary for the supervisor of a particular office or lab or library needs to monitor the people coming in or going out immediately when it happens. In line with this thought an automatic attendance system along with secure access through RFID door locking is proposed. The log is automatically updated in a dedicated webpage and hence can be accessed from anywhere and from any device supporting internet. The main focus is to design a simple, cheap system which can be installed easily and also can be fully customized based on application specific requirements. Previous works has been mainly on Home Automation systems which have higher costs due to added sophistication like speech recognition [1], face recognition [2] [3], internet access at all the door, etc. Yong Tae Park et al [3] proposed a RFID based door lock system using ZigBee module for exchanging information. Nasimuzzaman Chowdhury et al [4] introduced the feature of remote access via internet but the main constraint was also the cost.

The main aim of the proposed system is to design a cost effective, easily implementable system for attendance monitoring and at the same time it can be customized to meet various demands, for example certain people, say security guards can access the doors only between certain times. The rest of the paper is structured as follows. First, the hardware components required is described and then a brief introduction of the system is given followed by a flowchart and a block diagram of the proposed system. Then we describe the basic working of the system along with snapshots of the actual webpage created. It will explain how a serial is being sent depending on the number stored in the RFID tag and the door from which it is accessed. Finally, in the conclusion the advantages of the system over the ones in market already are discussed and also improvements are suggested.

Component Description

- A. **Arduino UNO Microcontroller:** Arduino UNO is used to control the operations of RFID reader at the doors as well as the transmitters and receivers. Arduino UNO is a microcontroller board which is based on the ATMEGA 328P [5]. It has 14 digital Input /Output pins, 6 Analog Input/ Output pins, a 16 MHz quartz crystal, a USB connection, a power jack, an ICSP header and a reset button. It also includes: Flash Memory 32 KB (ATmega328) of which 0.5 KB used by bootloader, SRAM 2 KB (ATmega328) EEPROM 1 KB (ATmega328). [6]
- B. **RFID Reader and Tag:** A RFID reader needs to be installed at all the doors. It reads information on the "tag". Here we used a MFRC522 RFID reader [3] with a S50 Fudan card [84]. The reader has an operating frequency of 13.56MHz and the maximum data transfer rate is 10Mbit/s.
- C. **Wireless Transmitter and Receiver:** Here a Radio Frequency Module (433 MHz) is used which has both transmitter and receiver. Both the transmitter and the receiver work have a standard operating voltage of 5 Volt. Typical range of such modules is about 100 meters in ideal conditions.
- D. **Raspberry Pi:** The server used here is Raspberry Pi 3 (Model B) on which both the Arduino and Processing sketches of the server are run. Raspberry Pi 3B has a Broadcom BCM2837 System on Chip (SoC) running a 1.2GHz 64-bit quad-core ARMv8 CPU and 1GB of RAM. It includes 4 USB ports and an Ethernet port and also 802.11n Wireless LAN.

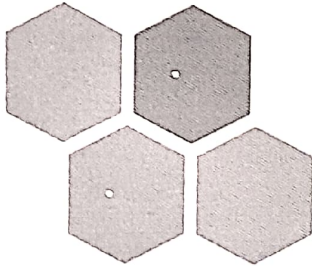
Brief Description of The System

The central database contains all the information of the authorized users say their names, occupation, age and the serials which are written within their RFID cards or tags. The users are uniquely identified by the server by the serial assigned to card. When a new user is first registered to the system new serial is generated randomly and is burnt to the new card using RFID reader. Next time when this user approaches to enter through any door the new serial is processed in the same manner as it is already included in the central database.

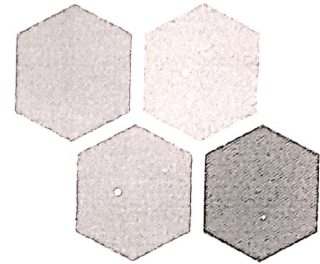
When a user comes to entry point only the serial number is fetched from the card and it is checked that whether the serial

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Global J. of Mechanical Engineering and Computer Science (GJMEECS) ISSN: 2249 - 3468 (Print) - Rising Research Journal Publication



INTELLIGENT MONITORING SYSTEM OF RESIDENTIAL ENVIRONMENT BASED ON CLOUD COMPUTING AND IOT

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ABSTRACT

The integration of Cloud Computing and the Internet of Things (IoT) has significantly advanced the capabilities of residential monitoring systems. This project outlines the development of an intelligent monitoring system aimed at enhancing home automation, security, and environmental management. Utilizing IoT devices for real-time data collection and cloud computing for data processing and storage, the system monitors various environmental parameters such as temperature, humidity, air quality, and security alerts. The methodology involves deploying IoT sensors throughout a residential environment, transmitting data to the cloud for analysis, and generating actionable insights and alerts. The results demonstrate substantial improvements in home safety, energy efficiency, and overall living conditions.

Keywords: Cloud Computing, Internet of Things, Home Automation, Environmental Monitoring, Data Analysis

1. INTRODUCTION

Technological advancements have paved the way for smarter living environments. Cloud computing and IoT are crucial technologies enabling the development of intelligent residential monitoring systems. IoT devices, equipped with various sensors, gather data from the environment, which is then processed and analyzed using cloud computing infrastructure. This combination allows for real-time monitoring and automated control, enhancing the safety, efficiency, and comfort of residential spaces [1]. Cloud computing offers robust infrastructure for managing the extensive data generated by IoT devices. It provides scalable storage solutions and powerful processing capabilities necessary for real-time data analysis and decision-making. IoT connects multiple devices and sensors, enabling them to communicate and collaborate seamlessly [2]. Together, these technologies facilitate continuous monitoring and management of various environmental parameters within a residential setting, leading to improved energy efficiency, enhanced security, and better overall living conditions [3]. Artificial Intelligence (AI) plays a critical role in enhancing the functionality of residential monitoring systems. By applying machine learning algorithms to the data collected from IoT devices, AI can identify patterns, predict potential issues, and automate responses. For example, AI can analyze historical temperature and humidity data to optimize heating and cooling systems, or process security camera feeds to detect unusual activities and trigger alerts [4].

This project aims to develop a comprehensive monitoring system for residential environments using cloud computing and IoT [5]. The primary objectives include enhancing home security, improving energy efficiency, and ensuring real-time monitoring of environmental conditions [6].

The methodology involves:

- Deploying IoT sensors to collect data on temperature, humidity, air quality, and security.
- Transmitting data to a cloud-based platform for storage and analysis.
- Applying machine learning algorithms to analyze data and generate actionable insights.
- Developing a user interface for residents to monitor and control their home environment.

2. METHODOLOGY

2.1 IOT SENSOR DEPLOYMENT

IoT sensors are strategically placed throughout the residential environment to monitor key parameters. These sensors include temperature and humidity sensors, air quality monitors, motion detectors, and security cameras. Each sensor collects data and transmits it wirelessly to a central hub [7].

2.1.1 TEMPERATURE AND HUMIDITY SENSORS

Temperature and humidity sensors are essential for maintaining a comfortable indoor climate. These sensors continuously measure the ambient temperature and humidity levels, providing data that can be used to regulate heating, ventilation, and air conditioning (HVAC) systems [8]. Optimal placement of these sensors ensures accurate monitoring of the entire residential space.

2.1.2 AIR QUALITY MONITORS

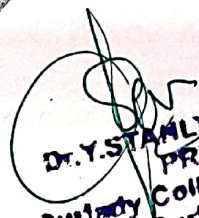
Air quality monitors are crucial for ensuring a healthy living environment. These devices measure pollutants, such as volatile organic compounds (VOCs), particulate matter (PM), carbon dioxide (CO₂), and carbon monoxide (CO). By continuously monitoring air quality, the system can trigger alerts and activate air purifiers when pollutant levels exceed safe thresholds [9].

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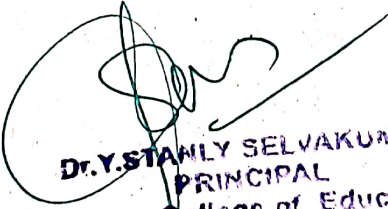
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Role of Teachers in Helping Exceptional Children in the Classroom

DR. Y. STANLY SELVA KUMAR *

The main role of the instruction and support which facilitates the participation of students with disabilities in the regular classroom. Beyond that, teacher serve many other roles in the classroom. Teachers set the tone of their classroom, build a warm environment, mentor and nurture students become role models and listens and look for signs of trouble. The most common role a teacher plays in the classroom is to teach knowledge to children.

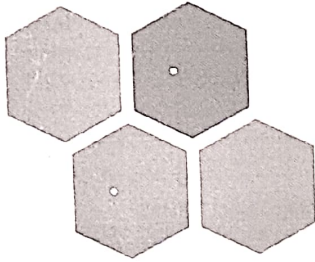
Teacher play vital roles in the lives of the students in their classrooms. Teachers are best known for the role of educating the students that are placed in their care. Beyond that, teachers serve many other roles in the classroom. Teachers set the tone of their classrooms build a warm environment mentor and nurture students become role models, and listen and look for sings of trouble.

* Madurai Kamaraj University, Madurai.

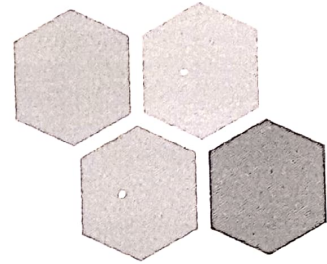
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Management 9 (2), 2019: ISSN: 2249-264X (Print) - Rising Research Publication

TOTAL QUALITY MANAGEMENT OF ORGANIZATION EMPLOYEE PERSPECTIVES

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*Our Lady College of Education, Maduravoyal, Chennai, Tamil Nadu 600095

ABSTRACT

The study is focused on the Total Quality Management concept and its implementation and its critical need for the survival of industries. In the meantime, lean manufacturing and constraint management could work together to improve productivity, efficiency and quality. The study discusses the environment in which businesses are operating, the effect of the total quality management on productivity and presents some of the benefits that were realized by implementing total quality management. The study discusses how constrained management substantially increases production. The aim of this study is focused at examining the totality of function in The Vellore Co-operative Sugar Mills Limited, Vellore on a variety of elements implemented TQM process. This will raise direct impact on business performance and success. The sampling method used for the survey by the researcher was convenient sampling. The collected data analyzed with the help of statistical tools such as percentage analysis and chi-square method.

Keywords: Business, productivity, efficiency and quality.

INTRODUCTION

Total quality management is a management approach that originated in the 1950s and has steadily become more popular since early 1980s. Total quality management is a description of the culture, attitude and organization of a company that strives to provide customers with products and services that satisfy the needs. The culture requires quality in all aspects of the company's operations (1). **Total Quality Management Six Basic Concepts:** Leadership, Customer Satisfaction, Employee Improvement, Continuous Process Improvement, Supplier Partnership and Performance Measures **Dimensions of Quality:** Noriaki Kano and others have proposed the concept of two dimension of product quality expected and performance excitement quality. Kano gives the following three features of quality.

Expected features: Fundamental functions must be present and Absence of these features dissatisfies, whereas presence does not satisfy.

Dimensions of Service Quality: Reliability- Consistency of performance and dependability. Responsiveness- Willingness or readiness to provide service, timeliness. Competence- Possession of skill and knowledge required to perform the service. Access- Approachability and ease of contact. Courtesy- Politeness, respect, consideration for property, clean and neat appearance (2). Communication- Educating and information customer's best interest at heart. Understanding- Making an effort to understand the customer's need, learning the specific requirements, providing individualized attention, recognizing the regular customer. Security- Freedom from danger, risk or doubt. Tangibles- The physical evidence of service (Facilities, tools, and equipment).

Scope of Total Quality Management:
Commitment and understanding from employees:

It is key to ensure that all employees within the organization know about the Total Quality Management policies and make it a fundamental part of their work. All the employees should know the corporate goals and recognize the importance of the company's goals to the overall success of the organization. Employees need to know what is expected from them and the reason. When employees understand and share the same visions as management a world of potential is unleashed. If they are in the dark, commitment is lacking and policies will not be successfully deployed (3).

Quality Improvement Culture: The organizational culture needs to be modernized on a continuous basis to encourage employee feedback. The employee's knowledge must be considered greatly, if employees have an idea on how to improve operations, they need to know management respects their ideas or they will not share.

OBJECTIVES OF THE STUDY

- To detect, reduce and eliminate industrial errors in The Vellore Co-operative Sugar Mills Limited, Ammudi, Katpadi Taluk of Vellore district on the Thiruvallam-Katpadi road.
- To provide empirical evidence on top management's awareness and understanding of the Total Quality Management and its role towards business survival and competitiveness.
- To study the level of organizational commitment of employees towards their work to the success of Total Quality Management.

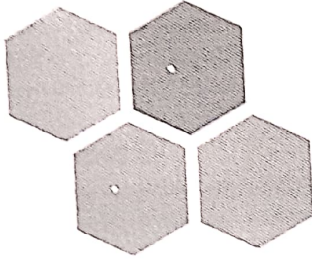
SCOPE OF THE STUDY

The present study on The detection of Total Quality Management in The Vellore Co-operative Sugar Mills Limited, Vellore is set appropriate information and the total quality management detection is analysed to find out present level of quality management in

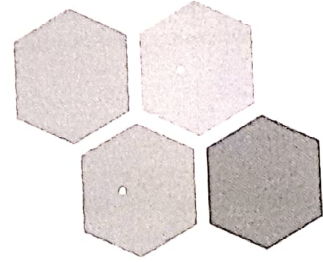
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IMPLEMENTATION OF QUALITY FUNCTION DEPLOYMENT IN CONSTRUCTION PROJECT

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ABSTRACT

Quality Function Deployment is a powerful development methodology with a wide range of applications. The main purpose of QFD in this study was to apply in construction a method of customer oriented design used in other industries. One of the common issues with this latter group of companies is that they have not understood what QFD really is not what it can do for them. If one explores the common issues companies face with new product development, one can better understand how QFD can fit into the development process to address these issues. QFD provides a concept selection Matrix using the requirements as a basis for decision criteria. QFD places an emphasis on innovation and providing innovative and exciting capabilities to customers.

Keywords: Quality Function Deployment, Construction and customer satisfaction.

INTRODUCTION

Improving customer satisfaction has identified as one of the most important challenges facing businesses over the past decade. As industries and companies worldwide face increasing competition, slower growth rates, and price pressures, greater attention continues to be placed on customer satisfaction. Private business entities are looking for magic ways to improve the quality of their products and services in order to survive in the keenly competitive world (Kamara *et al.*, 1999). The public sector is facing similar challenges regarding the quality of products and service provided, as one of its paramount responsibilities is to ensure that the community gets maximum value from the available resources. Over the past decade, Quality has been a differentiating factor within the construction industry (Akao, 1990). It has been demonstrated that despite the constraints on quality differentiation efforts like project budget, rules and regulations etc., Many companies are competing using quality differentiation strategy and sustaining their competitiveness in the long run. Achievement of client satisfaction, however, necessitates the management of quality systematically, which further necessitates utilization of quality tools and techniques for this purpose. Quality function deployment (QFD) is one of these techniques to deal with customer needs and expectations more systematically for achieving the most important objective of a construction company, satisfaction of clients. QFD is broadly a total quality management (TQM) implementation technique requiring clear assessment of client or end user expectations apart from the basic needs of a project to convert them into design targets. Construction facilities are usually made to order products that are based on the specific requirements of clients. These requirements are related to the ultimate need that the facility is intended to fulfill (Abdul-Rahman *et al.*, 1999). For example, the need

for office space for a business enterprise is satisfied by a building. Thus, the requirements for such a building must reflect the requirements of the ultimate need i.e, office space, if it is to fully satisfy the client. The realization of the clients vision of proposed facility are defined and communicated to the design team.

Quality function deployment (QFD) is a quality improvement technique that deals with quality problems from the outset of the product design and development stage and assures that customers requirements are accurately translated into appropriate technical requirements and actions. The emphasis on "voice of the customer is the key to QFD (Hauser and Clausing, 1988). This makes good sense in the construction industry, as every construction project is unique. Each building is custom made to meet the requirements and needs of the client. As the construction matures, the ability to understand and translate the needs of the client into a finished building or product is fast becoming a prerequisite for the long term viability of a company (Chan and Wu, 2002).

Exploring the suitability of QFD as a project management tool in the planning and design of construction projects. And to purpose a QFD application model that can be used in the planning and design marketing of house project (Dikmen *et al.*, 2005). This paper helps to understand the QFD technique and its step by step implementation in the planning and design phase of construction projects.

METHODOLOGY

Quality Function Deployment is a powerful development methodology with a widerange of applications. The main purpose of QFD in this study was to apply in construction a method of customer oriented design used in other industries. In this report, an attempt has been made to examine the

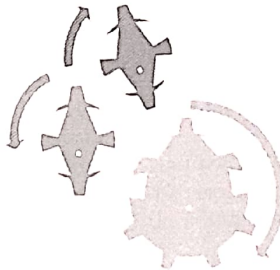
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DESIGN AND FABRICATION OF THE COMPARISON BETWEEN THE CONICAL AND HEMISPHERE FLAME HOLDERS IN RAMJET ENGINE

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ABSTRACT

The combustion in the gas turbine engine is one of the most critical components to be designed. Among that can combustion are self-contained cylindrical combustion. The can type combustion chamber is design by using CATIA software. The combustion process is carried out experimentally for stabilizing the flame. We are going to compare two types of flame holders (conical and hemisphere). In this we are going to find out that conical flame holder would be more efficient, which can provide laminar flow by stabilizing the flame. Conical flame holder is more efficient than hemisphere flame holder.

Keywords: : Turbine engine, Conical flame holder and Conical flame holder

INTRODUCTION

This project is implemented here to stabilize the flame by fabricating the single can type combustion chamber internal combustion engine has the difficult task of transforming chemically bound energy into mechanical work (Tishkoff et al., 1997). The first stage of the process is to transform the chemical energy in the fuel into heat by combustion, this can be done with almost 100 % efficiency, the difficult part is to turn the heat into mechanical work with high efficiency. A combustion engine can be seen as a combustion system coupled to a heat engine (Figure 1).

This basic sketch can be used to describe any type of combustion powered engine including piston engines, gas turbines, rockets, power plants etc. In a diesel engine the combustion system consists of the fuel injector and the combustion chamber. In a spark ignited (SI) engine the combustion system consists of a sparkplug and the combustion chamber (Abbitt et al., 1993). In a direct injected (DI) engine the combustion chamber mostly consists of a piston bowl. In both types of engine the heat engine is made up of the piston mechanism. In the case of a hydro carbon fuel the ideal combustion process would apart from heat result in nothing but carbon dioxide and water vapor. In reality thousands of chemical species are formed. Some of these are toxic or environmentally hazardous enough and formed in enough amounts that it has been necessary to legislate about maximum allowed emitted levels.

The air speed raise does not affect the temperature distribution on the vertical direction. The temperature distribution, were induced by the flame

holder installed. The flame holder shape strongly influence the graph shape. For graphs without a flame holder, the graph trend to be wavy with the top temperature at the third observing point, which is about 3 cm from the burner tip. After reaching that point the temperature tend to be decreasing (HartZ et al., 1994). On the O-ring flame holder type, the temperature graph has a similar characteristic as of the combustion without a flame holder, especially for the o-ring at a 2 mm height from the burner tip.

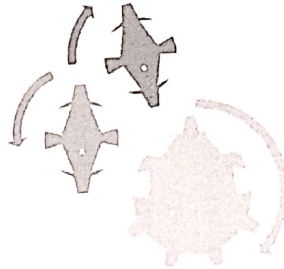
On the cone shape, the highest flame temperature was reach at 700°C till 1000°C. Whereas the flame temperature tend to lessen. The far the observe point the lessen the temperature. This is an indication that the air and fuel mixing process is getting lesser. While on the cone type, there was a little turbulence. The flame stability limit, lift off and blow out, Unibraw Malang. Could be affected by the burner geometry in the Transition and Stability of combustion system installation (Riggins et al., 1995). Consequently a flame turbulent jet diffusion flames holder should be put in to hold the flame as big as International on Combustion. Possible on a stable condition. The flame holder could disturb the air and fuel flow. The fluid flow blockage by Exothermic, Spatially developing, forced, Reacting the flame holder will generate vortex and this vortex will Shear Layer, end up with a turbulence condition (Riggins and Vitt, 1995). This turbulence combustion Condition will shift the critical stability limit and will produce a perfect combustion. Fig 1. Principal layout of a combustion engine

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ENSURE OF ORGANIZATION IN THE ASPECTS OF TOTAL QUALITY MANAGEMENT

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ABSTRACT

Doing business in a competitive and dynamic environment requires companies to continually improve and enhance their business performance and capabilities. One of the key determinants of the survival of the company in such circumstances is the application of total quality management. In recent years, the company management is more focused on total quality management, which leads to maximizing production performance. The present study aims to explore the current practices adopted by manufacturing organisations in India. The aim of this study is focused at examining the totality of function in The Vellore Co-operative Sugar Mills Limited, Vellore on a variety of elements implemented TQM process. This will raise direct impact on business. The collected data analysed with the help of statistical tools such as correlation for the findings and recommendation. The conclusion and suggestion are also given in report for the improvement of system in the organisation. Here we discussed about Total Quality Management, steps in implementing TQM, principle involved in these systems and the importance of implementing these modern systems in sugar industry.

Keywords: Business, quality management, performance and success.

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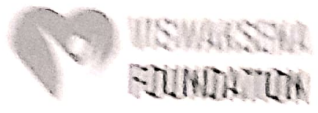
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FABRICATION OF CAM OPERATED BOTTLE WASHING MACHINE

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ABSTRACT

This project focuses on the design and fabrication of a cam-operated bottle washing machine, utilizing a toggle mechanism to enhance the force applied during the cleaning process. This machine aims to address inefficiencies in traditional bottle washing methods by providing a more efficient and cost-effective solution. The design involves metallic links connected by pin joints, arranged to amplify a small applied force into a larger force, thus facilitating effective bottle cleaning. The methodology includes detailed design, material selection, and fabrication processes, with performance testing to ensure the machine meets required standards. Future work will focus on optimizing the design for higher efficiency and broader applications.

Keywords: Cam-operated, Bottle washing machine, Toggle mechanism, Fabrication, Efficiency

1. INTRODUCTION

1.1 Background and Motivation

With the increase in beverage consumption and the necessity for maintaining high hygiene standards, the demand for efficient bottle washing machines has grown. Traditional bottle washing methods often involve significant manual labour and are not cost-effective or efficient enough to meet the high demands of industrial applications. Cam-operated mechanisms provide a solution by amplifying small input forces, making them ideal for tasks requiring significant force, such as bottle washing. This project aims to develop a cam-operated bottle washing machine that enhances operational efficiency and reduces labour costs.

The toggle mechanism, central to this project, is a combination of solid metallic links connected by pin joints arranged to create a larger force from a smaller input. This principle is utilized to maximize cleaning force while minimizing manual effort, making it suitable for industrial applications where efficiency and cost-effectiveness are crucial.

1.2 Historical Context and Development

The first known cam and camshaft were invented in Mesopotamia and later found applications in European machinery from the 14th century onwards. These mechanisms have been integral in various industrial processes, including the operation of intake and exhaust

valves in automobile engines. The evolution of cam mechanisms has seen significant advancements, making them more reliable and efficient for various applications [1][2]. The camshaft's ability to convert rotary motion into reciprocating motion is particularly useful in the design of bottle washing machines, where consistent and powerful cleaning actions are required [3].

1.3 Theoretical Foundations

The theoretical foundation of this project lies in the mechanical advantage provided by the toggle mechanism. By arranging metallic links and pin joints in a specific configuration, a small applied force can be significantly amplified, resulting in a larger output force. This principle is essential in the design of the cam-operated bottle washing machine, where the goal is to achieve maximum cleaning efficiency with minimal manual input. The mechanical advantage provided by this arrangement allows for effective cleaning of bottles with varied sizes and shapes [4].

1.4 Objectives and Methodology

The primary objective of this project is to design and fabricate a cam-operated bottle washing machine that is efficient, cost-effective, and easy to operate. The methodology involves several phases:

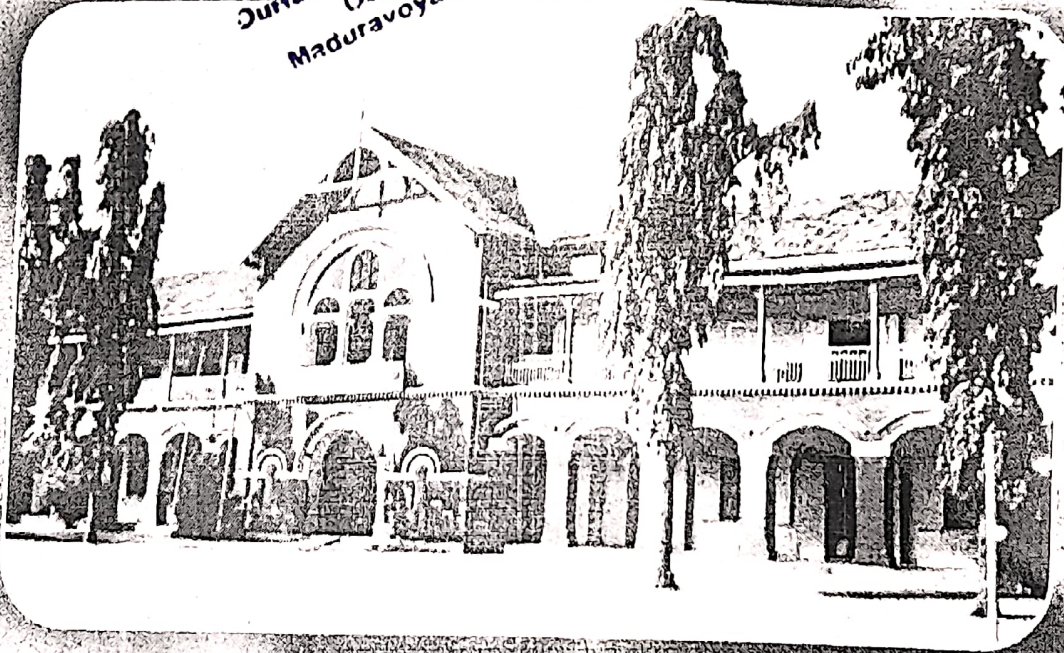
1. Design Phase: Creating detailed schematics of the cam-operated mechanism, selecting appropriate materials, and configuring dimensions to ensure optimal performance.

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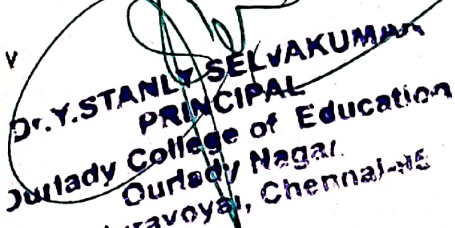
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Usage of Resource Management at Higher Education Level in the Global Competitive Environment

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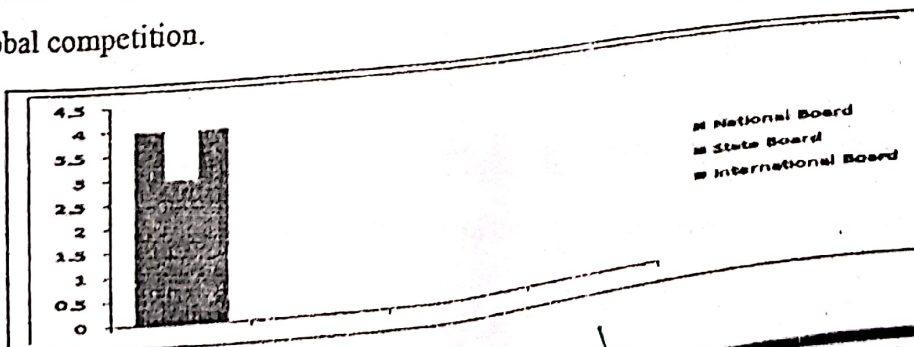
Introduction

When it comes to education, resource management is the work that allows the schools to organize the resources they need or have and to make appropriate decisions about such resources. Educational resources are the resources which are freely accessible, openly licensed text, media and other digital assets which is used for acquiring knowledge, teaching, sharing your knowledge. If it's something which supports the education. Schools and colleges are formal organization setup for the purpose of educating, the youngsters. Resources in education refers to all of those assets- contingency, equipment, instructional materials, finance etc.,

Imbalance Between the Students Syllabus:

Changing and challenging economic times are creating a fiscal environment in states, districts and schools across the country. The resources may vary from school to school yet forming an unequal balance in performance. Think of it a public school will never match the private school's syllabus. There is major fault in these two syllabus encouraging the rift between these two categories. Due to these difference in the syllabus the private schools get a chance for the advanced use of resources whereas the public school will struggle to get the recognition.

Even though the students were talented and knowledgeable as others it takes a pinch of innovation and a massive flow of resources. The high paid schools which were well equipped in all ways from the projected classroom to the neat infrastructure but in the public schools though it have the qualified teachers the amount of ignorance in using the avail resources causes the limp in the global competition.



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Quality Educational Resources to Persuade the Worldwide Education

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Introduction

Educational Resources: Any tool which supports or makes greater impact in the field of education and meet the global needs of worldwide education through the resources such as human resources (teachers), objects either be Concrete or Abstract Models. Model such as real life environment i.e., Concrete objects or Abstract objects such as audio-visual aids are said to be an Educational Resources. They additionally encompass different imperative materials used in the college to make educating very easy and learning greater meaningful and understandable to the learners. Education resources covers all these materials human and non-human, drawn or photographed, constructed manually or electronically operated, books and all varieties of related substances used in teaching and learning process.

Categories of Resources Management:

a. Physical Resources:

The physical resource consists of structures, the machines, raw materials, vehicles, and different tools, which can facilitate organizations activities and processes. The bodily resources may also now not be the equal in all organization. In academic system, the physical sources would consist of the classrooms/lecture rooms, workforce offices, vehicles, fitness centers, library, laboratory, and so on, which at once or in a roundabout way contribute to the success of goals.

b. Human Resources:

Human resource administration in education is a set of practices and strategies of integrating and maintaining the educating group of workers in the school so that the college can attain their reason and as well as meet the dreams for which they were established. It is the motivation and co-ordination of the activities and effort of the instructors in school in order to obtain maximum output from them and consequently gain the goals of education optimally.

c. Financial Resources:

Financial resources are the funds required for the smooth operations of a college and are viewed as the life-wire of any system. It is certainly a more integral side with which other elements of administrations are created, maintained and sustained. In faculty administration,

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Academic Exploration and Ethical Motives

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Introduction

The social process of education involves a contemporary, capitalist move toward securing a public marketplace for faculties and developing rank for educators. As a method that has made data, rationalized relationships, and controlled markets, social process of education has additionally outlined associate degree moral discourse. Articulated in language, inscribed in state law, and embodied in conduct, skilled ethics are written formally in "codes of ethics" and informally in skilled identity and ways that of thinking. The favoured discourse of skilled ethics in education narrows and constrains moral risk ethical possibility in practice.

The Importance of Ethics

The importance of ethics in education, it constitutes the repository of their social and cultural values, and also the medium of their historical memory. In common usage doctrine education typically refers to education concerning completely different ethnic teams. As dialogue on cultural distinction and education has unfolded to different nations, it's become additional sharply targeted on complicated problems with identity, diversity, and citizenship."the

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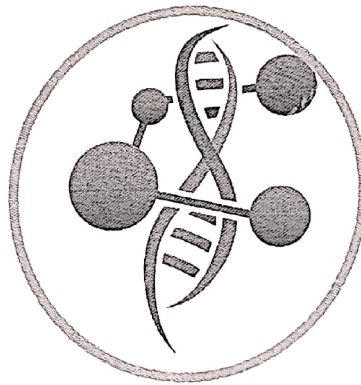
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EFFICIENT CODER FOR DEEP SPACE COMMUNICATION THROUGH VLSI

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ABSTRACT

With the advent of the space age, deep space exploration increasingly has become an important strategic task for human beings. To carry out space exploration, it is necessary to launch many space detectors with a variety of purposes, so that it requires establishing effective communication between the detector, and between the detectors and the Earth, that is to carry out deep space communication. Deep space exploration has proven that deep space communication monitoring and controlling network plays an important role in the development of space. Its basic characteristic is that it involves a very large distance, and is more difficult comparing with other means of communication. Deep space communications require error correction codes able to reach extremely low bit-error-rates, possibly with a steep waterfall region and without error floor. Several schemes have been proposed in the literature to achieve these goals. Most of them rely on the concatenation of different codes that leads to high hardware implementation complexity and poor resource sharing. This work deals with the design, simulation and implementation of an efficient channel coder for deep space communication. In this paper, it is proposed to implement the channel encoder using LT coder. A significant characteristic of the LT code is rateless. It can be said that the code words create and launch ceaselessly like the fountain, until enough codes are received to restore raw data. Deep Space communications channel has a more abundant frequency bandwidth, allowing the use of encoding with lower frequency band utilization ratio and binary modulation method. Fountain code is a sparse matrix coding based on erasure channel. The system is realized using FPGA.

Keywords: Coder, deep space communication and LT code.

INTRODUCTION

Exploration of space is involved by its communication system. This system is responsible for sending scientific data and providing the capability of tracking and commanding to take certain actions. Communication systems are the most critical functions in space exploration. It also has the following functions: (1) Acquire telemetry data from spacecraft. (2) Transmit commands to spacecraft. (3) Gather science data. (4) Monitor and control the performance of the network. Deep space communication channel has adequate bandwidth but limited amount and size of equipments, the long distance transmission makes it resource constrained. Deep space communication channel are regarded as a limited power and bandwidth affluent channel exchange for reliability by efficiency [1]. The bit error is 10^{-7} to 10^{-5} and packet loss is high and the time delay, makes delivery failure.

The reliable information transmission in deep space communication is guaranteed by channel encoding and

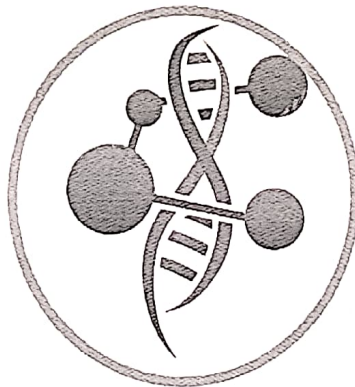
decoding. The deep space communication channel is a very ideal channel similar to memory less AWGN channel [1]. It also has the following features: (1) long distance and long propagation delays. (2) Very weak received signal. (3) Variational delay and intermittent connectivity. (4) Asymmetric channel [2]. The traditional channel coding technique can't satisfy the future deep space communication. Comparing with the drawbacks involved in deep space communication the forward error control codes have greater advantages which makes the simulation result close to the actuality. Rate less indicates the receiver can get any number of coding symbols from information block [1]. These codes succeed to recover the original information as long as the receiver received adequate number of coding symbols. The fountain codes improve the delivery efficiency, shortened delay and suitable for deep space communication. The fountain codes help in recovery of the symbols by encoding and decoding process but for the faster recovery, the universal fountain codes called LT codes were developed consisting of faster encoding and decoding process.

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A study on employee perception towards the organization design and working environment at private hotel resort in Tamilnadu, India

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ABSTRACT

The economic viability and success of a hotel depends on the optimization of all resources, including Human Resources (HR). Major influence towards employee was working environment and supervision of directors. It does this by carrying certain kinds of expectancies about what consequences will follow from different actions. Individuals in the organization have certain expectations and fulfillment of these expectations depend upon their perception as to how the organizational climate suits to the satisfaction of their needs. Thus organizational climate provides a type of work environment in which individuals feels satisfied or dissatisfied. In the present study, descriptive method is used to study the prevailing organizational climate at Chariot Beach Resort (A Unit Of Hotel Radha Pvt. Ltd., Tamilnadu, India). The main purpose of descriptive research is description of the state of affairs as it exists at present. A quantitative research approach was followed in this study. A survey questionnaire was developed in order to collect data from 130 Samples, in hospitality department at chariot Beach Resort. The findings reveal that the content of organizational climate has varied widely and they include almost all the important aspect of organizations such as structure, communication, leadership, Conflicts, reward system, inter personal relationships organizational effectiveness, reasonability and so forth.

Keywords: Employee, Organization, Work environment and Resort.

INTRODUCTION

A concept that management can ill afford to ignore is "Organizational Climate". All organizational theoreticians and researchers unanimously agree that a sound climate is extremely important for the ultimate achievement of organizational goals (Park & Levy 2014). Organizational climate is normally associated with job performance and job satisfaction and morale of the employees. It is indeed a truism, that the individual setting is growing more complex and competitive everyday with new changes and developments emerging with regard to technology, the aspirations of the working class and in the organization itself (Grant 2008). No organization in the present context can hope to exist in a vacuum, as it has the responsibility of catering to the requirements of its different publics, who contribute largely towards its survival. Innumerable studies conducted go to prove that it requires more than modern up-to-date equipment, skilled workmen, technical know-how, better employer employee relationship, better working environment etc. to achieve his target successfully (Miles *et al.*, 1996).

Statement of the Problem: The study of the climate of an organization is necessary for an insight into important dimensions such as communication, co-operation, creativity, employee satisfaction, etc. All these factors determine effectiveness of the organization. Thus, climate has an important

influence on performance and satisfaction of employees. If the climate of an organization is favorable, there would be greater organization effectiveness.

Industrial Profile: The hotel industry is one of the most important components of the wider service industry, catering for customers who require overnight accommodation. It is closely associated with the travel industry and the hospitality industry which links to those other service industry sectors, and the range of hotel and guest accommodation types that exist (Lee *et al.*, 2012). Different Types of Accommodation facility available in the Hotel Industry like as hotels, bed and breakfasts, motels, hotels, inns, resorts, serviced apartments, hostels, apartment hotels, boutique hotels, condo hotels, eco hotels, guest houses, holiday cottages, pensions, pop-up hotels and roadhouses.

OBJECTIVES OF THE STUDY

Primary Objective: To study the Organizational Climate among the employees in resort.

Secondary Objectives: 1. to find the level of contentment of the employees in the present physical working environment. 2. to identify the various attributes used to improve the job involvement of the employee.

Scope of the study: This study focuses on accessing the organizational climate among the employees in Chariot Beach Resort. This would help the company

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IOT BASED AUTOMATED STREET LIGHT CONTROL WITH FAULT DETECTION AND REPORTING SYSTEM

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ABSTRACT:

The growth of smart cities is one of the areas where IoT has significantly impacted. IoT-based smart street light development has received much attention in this aspect. A smart street light system modifies the intensity of the lights based on the amount of ambient light in order to use less energy while improving brightness. Additionally, it has the ability to recognize the presence of people or cars and modify the brightness of the lights accordingly. In addition to that it detects the street lights which became faulty automatically and updates or passes the information to the cloud.

By using IoT, these systems can be remotely controlled and monitored. Smart street light systems can be integrated into a single IoT platform to create a more comprehensive smart city solution. The system can be designed to detect the density of vehicles and people in a particular area and adjust the intensity of the street lights accordingly. The development of such systems has several benefits. They can significantly reduce energy consumption, resulting in cost savings and a reduced carbon footprint. Finally, by using IoT, these systems can be remotely controlled and monitored, resulting in better maintenance and reduced downtime.

The main objective of the project is to develop an automated streetlight system based on motion detection and to identify, report faulty lights using IoT.

Existing system:

In the existing system, the streetlights are monitored manually. No existing automated system is been implemented practically. As it is been done manually it has its own draw backs. To overcome these drawbacks a new unique system is been developed based on the latest trending technology IoT.

Requirements:

Hardware Requirements:

1. Arduino uno
2. Esp 8266
3. LDR sensor - 4
4. PIR sensor - 3
5. LED - 5
6. Power supply board
7. Street lights setup and ribbon wires

Software Requirements:

8. Arduino ide platform
9. Embedded C language
10. Android application

Proposed System:

The proposed system is based on motion detection, daylight function, and rainy condition

detection. LDR sensor is used for detecting the presence of surrounding light so that during the day time when sun is bright, the street light is switched off automatically. During the night time when there is no light, the LDR sends signal to microcontroller to turn on the street light.

Whenever the PIR sensor senses vehicle movement, the led output goes to maximum. It stays high for a few seconds and then returns to a low intensity state. The rain sensor is the integral part of the system. The LDR is used to detect the working condition of the light based on the intensity of the light.

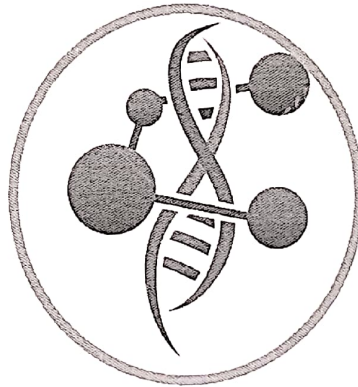
The integrated system is connected to a IoT server and the status of the entire operations is viewed through an android app.

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EXPERIMENTAL STUDY ON CONCRETE BY PARTIAL REPLACEMENT OF MARBLE DUST POWDER WITH CEMENT, QUARRY DUST WITH FINE AGGREGATE AND COCONUT SHELL WITH COARSE AGGREGATE

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ABSTRACT

Now time has come to think of some alternative materials for sustainable use in concrete mix. Day by day amount and type of waste materials has increased accordingly creating environmental issues. Civil engineering is a professional engineering discipline that deals with the design, construction and maintenance of the physical and naturally built environment, including works like roads, dams, parks and recreation, bridges etc. Rapid increase in construction activities leads to acute shortage of conventional construction materials. Concrete is the vital civil engineering material. Its manufacturing involves utilization of ingredients like cement, sand, aggregates, water and required admixtures. Demand of construction material is increased due to infrastructural development across the world. The possibility of a complete depletion of concrete ingredients has rendered continued use of natural materials for construction unsustainable. In view of this challenge, researchers throughout the world have been investigating ways of replacing concrete ingredients to make construction sustainable and less expensive. Using alternative materials place of natural material. concrete production makes concrete as sustainable and environment friendly Construction material. Now a days most of the researchers have focus on use of the waste materials in concrete according to their properties.wastes generated by industrial and agricultural processes have created disposal and management problems which pose serious challenges to efforts towards environmental conservation, their use contributes to resource conservation, environmental protection and the reduction of construction costs.

INTRODUCTION

It is conventional that sand is being used as fine aggregate in concrete. For the past some years, the escalation in cost of sand due to administrative restrictions in India, demands comparatively greater cost at around two to three times the cost of quarry dust even in places where river sand is available nearby. To achieve economy, it is proposed to study with the use of crusher powder, a quarry waste as an alternative material to replace sand by crusher powder because quarry dust is an industrial waste (Abdulfatah and Saleh, 2011).

Coconut shell is an agricultural waste .In developing countries, where abundant coconut shell waste is discharged. Coconut is grown in more than 93 countries. India is the third largest, having cultivation on an area of about 1.78 million hectares. Coconut shell is one of the waste material can also be used as a aggregate in concrete due to some reasons like large scale cultivation of coconut remain as solid waste for years (Suribabu et al., 2015).

Waste marble powder is an industrial waste. Waste marble powder is generated as a byproduct during cutting of marble. It is therefore very important to reuse the waste marble powder which shall solve most of the problem. One of the logical means for reduction

of the waste marble masses calls for utilizing them in building industry itself (Latha et al.,2015).

These wastes can be used as potential material or replacement material in the construction industry. This will have the double advantage of reduction in the cost of construction material and also as a means of disposal of wastes. Tests are as per the specified procedure of Indian Standard Codes. The advancement of concrete technology can reduce the consumption of natural resources and energy sources and lessen the burden of pollutants on environment (Ajim et al., 2015).

The main objective of this present work is

- To study the influence of partial replacement of cement with marble dust powder, fine aggregate with quarry dust , coarse aggregate with coconut shell.
- To compare the compressive strength, flexural strength and split tensile strength with normal concrete.
- To find the optimum percentage of waste marble dust powder replaced in cement partially, quarry dust replaced in fine aggregate partially and coconut shell replaced in coarse aggregate partially that

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MEAN SQUARE ERROR (MSE) ALGORITHM DESIGN FOR DETECTING THE BITS BY IMPLEMENTING TERNARY QAM

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ABSTRACT

This paper presents a high throughput analysis in Near Field Communication (NFC) using Ternary Quadrature Amplitude Modulation in 0.25 μ m CMOS process using tanner tool. NFC is a wireless communication works on the principal of electromagnetic induction that helps in the data transmission between active device and passive device. In the proposal there is a separate transmitter and receiver module for modulation and demodulation. The transmitter module consists of Ternary demultiplexer, 2:9 decoder and Read Only Memory (ROM) for storing the ternary QAM modulated signal in the form of bits that is in phase and quadrature components. In the receiver side Mean Square Error (MSE) algorithm have used for detecting the bits accurately without any error. The receiver module consists of Full Subtractor, Multiplier, Adder and Divider. Ternary QAM appears to increase the efficiency of transmission for radio communication systems by using both amplitude and phase variations. In order to increase the levels and data rates, Ternary Quadrature Amplitude Modulation have used.

Keywords: Constellation diagram, Decoder, Demultiplexer, QAM, ROM, Ternary logic.

INTRODUCTION

NEC abbreviates as for "Near Field Communication". The short-range communication is enabled between two compatible devices. In the existing technology, Amplitude Shift Keying with Manchester coding is used for Near Field Communication. Amplitude Shift Keying has less noise immunity when compared to other modulation techniques. The NFC standard uses the various modulation depth in ASK ranging from 8 to 100%. The 100% ASK modulation in type A tag in NFC forum has defined by the protocol ISO/IEC14443 [1] and [2]. A highly efficient NFC transmitter working at a frequency of 13.56MHz using 180nm technology [3]. The multi ASK modulation depth is implemented with help of variable pulse width modulation (PWM) build by delay locked loop (DLL). The survey of the paper [4] discussed that the multi ASK depth is realized using resistor bank and switch. Because of using the resistor network power consumption increases. The modulation depth is limited by number of resistors which have used.

The survey of the paper [5] and [6] discussed about the ASK demodulator. In the existing method, modulation technique used for NFC is in binary format. In this proposal, a new ternary quadrature amplitude modulation is proposed to increase the throughput in Near Field Communication and it is implemented by using the software tanner tool (250nm technology) [4]. The rest of the paper is organized as below. Section II describes the proposed work. Section III says about the 9QAM. Section IV evaluates the data rate calculation. Section V shows the demodulation of the work. Section VI discuss about the software implementation. At last, Section VII concludes the paper with conclusion. In our proposed work, Quadrature Amplitude Modulation is used for Near Field Communication. The block diagram for NFC is shown in Fig. 1. The binary QAM has 2n

combinations, where n is number of bits. For Ternary QAM there are 3n combinations, where n is a number of trit. TQAM appears to increase the efficiency of transmission for radio communications systems by utilizing both amplitude and phase variations. In order to increase the levels and data rate Ternary QAM is used. Fig. 2 shows the memory module for transmitter.

A. Ternary Demultiplexer: A Demultiplexer is also called data distributor. A demux has 2ⁿ output lines where n is a number of select lines to select which output line to send the input line. The output obtained from the demultiplexer given as an input to the 2 to 9 decoder. Here demultiplexer has used to give three level input to the decoder. When the select lines A1 =A2 =0, Y0 will be selected, as shown in Fig. 3. Similarly, the result obtained for other control signals.

1. 2 to 9 Ternary Decoders: The truth table of 2:9 Ternary decoders is as shown in Table The 2:9 Decoder has 2 inputs and 9 outputs as shown in Fig. 4. Data1 and Data2 are the inputs and the outputs are represented by the variables W1, W2, W3, W4, W5, W6, W7, W8 and W9. All the nine PMOS are connected to the power supply (Vdd=5V). Here select lines C1, C2, D1 and D2 are having 9 input combinations and 9 outputs. Whenever the corresponding control signals are activated, a particular output will be obtained which is same as that of the data. The outputs obtained from first demultiplexer are P1, Q1 and R1 and output from second demultiplexer are P2, Q2 and R2. Similarly, it occurs for remaining combinations of signals.

9QAM: By increasing the modulation order in the power of three that is ternary concepts. In ternary QAM there are 3ⁿ Output combinations. The E_b/N₀ for 9QAM is 4.963. The constellation

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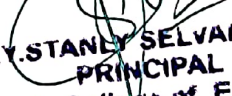
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EFFICIENT ELECTRICAL DEVICE SURVEILLANCE USING IOT

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ABSTRACT

with every enhancement in Internet in terms of speed and bandwidth, IOT (Internet Of things) is taking the market on a new node and knocking the door with new opportunities of inventions. This paper talks about an energy saving electrical device Surveillance and Control system based on IOT. A large amount of energy is consumed by lighting appliances, so making improved efficiency and quick fault detection is a significant challenge. In this work, two different model approaches is followed depending on the nature of application. For small areas or confined premises IEEE 802.11 wireless technology is used where all the appliances is connected to a common Wi-Fi network. In the second model like street lamp pole where number of appliances grows only in one direction, wired configuration is used to avoid range issue.

Keywords: Street light; Traffic Signal, Signal Control; Node MCU and ESP8266.

INTRODUCTION

IOT is system of related sensors, computing and digital devices spread across the globe over the internet which can communicate amongst them to share and transfer information using unique id which is assigned to each and every device, as UIDs (Unique Identifiers). With the growing of different commercial premises and societies, the focus to automate these premises have increased drastically. Also the growing traffic mess in the cities has pushed everyone towards a better and more reliable electrical control system. A user friendly web application and mobile based surveillance & control system connected to IOT cloud server is used here for more energy conservation and early resolution in case of any fault detection. In this new growing era where smart cities are taking into shape, the effort for optimal energy based traffic signal and light control system has gained pace. So effort has been taken to provide a reliable and user friendly application for easy to use and monitor the electrical devices.

IOT has great application in many of the fields, for example: Smart Exam based on IOT to access student difficulty and disability to attempt exam questions [1]. This system allows analyzing the ability of student to understand a given topic or subject area Patient health monitoring application from remote place based on IOT [2]. Now days, vehicle monitoring system is developed to get the live feedback of vehicle movement and track its performance [3]. IOT has also given opportunity for criticizers for an open debate on security on using IOT, as it transfer data into an open cloud system. Proper care and precaution needs to be taken in order to implement IOT [4].

Majority of the street lamps have used LDR based control system [5-6] which turns on the street lights in night and turns off the street lights in day. Street lamp or the on premise light system still consumes lot of electricity when there are few vehicles around or no people in the office, as the new design is better in providing the option to manually monitor and control through mobile or web based portal. Simultaneously, providing feedback of the faulty devices

through sensors to the concerned authority to quickly fix the issue may be convenient to the end user.

Many systems have been developed based technologies like GSM [7] and Zig bee [8]. GSM modem which needs an active SIM to send/receive SMS through microcontroller. Here the street controller 89C51 is connected to GSM modem through its UART port (Serial Ports). Sim card used in the GSM module may be compromised with certain risk and also the cost of developing such system is quite high. Security algorithm adopted in GSM (e.g. A3, A5) is all not disclosed algorithms. The researchers have proved that these algorithms cannot prove 100% security. Lastly, every time, the GSM module sends a signal through SMS a minimum balance has to be maintained in each individual GSM module of the connected network. So there is an overhead maintenance cost included. Zig bee module is costlier in nature as compared to Node MCU which is very lesser as compared. Several architectures have been developed to implement wireless system. Comparison chart is given in Table I.

Node MCU Wi-Fi chips are a quite lesser in cost than The Node MCU as shown in Fig.1 has assimilated TCP/IP protocol that can give any microcontroller entrance to the Wi-Fi network that supports 2.4 GHz Wi-Fi (802.11 Wi-Fi standards). Node MCU is capable of either connecting to an existing wireless connection or hosting an application over http protocol. Each Node MCU module comes pre-programmed with an AT command set firmware which means one can simply link this up to your Raspberry Pi device and get about like Wi-Fi shield.

This chip is manufactured by Chinese company [5] which has in built MCU and TCP/IP layer. The key focus area of this is cheap cost, lesser power consumption than other controllers and reliable performance. There are various application of Node MCU like home automation, electronic product and medical equipment. The proposed Surveillance and control system in this paper is divided into two categories On premise, One directional. Though both the categories have same purpose but differ in the system design. One directional focuses

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ANALYSIS OF EMPLOYEE PERCEPTION TOWARDS THE CO WORKER RELATIONS AND JOB SATISFICATION AT PRIVATE HOTEL RESORT IN TAMILNADU, INDIA

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ABSTRACT

Organizational climate has a major influence on human performance through its impact on individual motivation and job satisfaction. Individual employee expected the individual job satisfactions from the working place/ organization. Since satisfaction of individual goes a long way in determining his efficiency, organizational climate can be said to be directly related with his performance in the organization. In this study carried out by survey of 130 people in private hotel resorts at Tamil Nadu. The employees were happy due to the organization design and working environment.

Keywords: Employee, Organization, Work environment and Resort.

INTRODUCTION

The work force is said to be the most important resource of any organization. Therefore, other than providing employment, every organization is obliged to see that the production and the overall organizational goals are achieved. Statement of the Problem: An organization is likely to be more effective if there is a two-way communication and employees are co-operative and have better perception of organization. Such employees have higher job-satisfaction and feel committed to organization. The productivity will also be higher.

Significance of hotel industry: Within the hotel industry, star ratings are used to provide a measure of the quality of hotels. Although there is no international standard for defining what star ratings actually mean, the most popular version of this system is associated with the Forbes Travel Guide, where hotels are rated based on established criteria (Kim et al., 2005) Star ratings carry huge significance within the hotel industry because so many customers take the time to research hotels before making a booking (López-Cabarcos et al., 2015). Although word of mouth and feedback from other customers is important, star ratings can carry extra weight, because evaluators have experience with so many different properties (Sampson & Akyeamong 2014). The significance of hotel star ratings is further highlighted by the steps that those in the hotel industry take to achieve higher ratings, and this is for good reason. Moving up a star rating can help hotels to generate more bookings and charge higher rates while moving down can have the exact opposite effect.

OBJECTIVES OF THE STUDY

Primary Objective: To study the individual employee job satisfactions and co-worker relationships at resort environment.

Secondary Objectives: 1. To identify how far the superior subordinate relationship is effective and helps the employee to improve his/her career. 2. To find the current job satisfaction level and the employee's

expectations of the job.

Scope of the study: This study focuses on accessing the individual employee's satisfaction with co-worker relationships and also helps the organization to improve their organization. The researcher also aims to give suggestions to improve the organization with employee satisfactions.

RESEARCH METHODOLOGY

Research methodology is a technique to properly solve the research problem. It may be proved through science of studying how research focuses individual job satisfactions.

Research Approach: Surveys of individual satisfactions and fact-finding enquiries was carried-out through questionnaires. Surveys are conducted in case of descriptive research studies. (Lam et al., 2001). Primary data were used to collect the data for this study.

Primary Data: Primary data was collected in the form of Direct Contact Method with the employees in the organization (Kyndt 2009). A questionnaire was provided to the employees in order to record the response for analyzing the co-workers relations and job satisfactions (Lailun Nahar et al., 2013).

Area of Survey: The survey was done with 130 members of industry. The scope is to study the individual job satisfactions in resort at Tamil Nadu, India.

Sampling Size: This refers to the number of items to be selected from the universe to constitute a sample. The sample size is 130 respondents. They were interviewed for the purpose of this study (Zopiatis et al., 2014).

Sampling Technique: Simple random sampling technique was used in this study (Masa'deh, 2016). The employees were directly contacted and the questionnaire was given to them. The direct contact method is helpful to get some more additional information for the purpose of study.

Questionnaire Design: The questionnaire framed for the research study is a -Likert-point scale (Highly Satisfied, Satisfied, Neutral, Dissatisfied, Highly Dissatisfied)

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IMPACT ALERT SYSTEM USING IMAGE PROCESSING AND INCIPENCY OF AN ANDROID EPISTLE SERVICE

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ABSTRACT

In order to avoid the growing number of accidents year after year, we have developed a system to reduce the occurrence of accidents. The system involves maintenance of safe distance from one vehicle to the other and thus avoiding collision. Image processing techniques have been employed to maintain safe distance, between vehicles. A display of distance along with caution notice to the driver of the vehicle is also developed. In case the accident occurs due to the negligence of the driver and also not paying heed to the caution alerts, then an SOS app has been developed to assist the driver both in sending information to the next of kin as well as to provide medical emergency services. Java software is used for the development of SOS app. Open CV is used for the processing of videos captured by web camera.

Key Words- Object detection, SOS app, MS_COCO data set, Mobile net, Open CV

INTRODUCTION

India tops the world in the number of road accident related deaths globally as per the records of the World Bank. Almost 11% of the total global deaths related to accidents are accounted by India. On an average, 17 people die in car accidents every hour. The Indian government has been actively trying to tackle this issue for several years.

Despite the fact that precautions such as seat belts, anti-lock brakes, and no drinking and driving have been severely enforced, the patterns show no significant statistical decline over time. Road accidents are multi-causal, resulting from several elements that can be broadly classified as human error, road condition and environment, weather and vehicle condition. Human errors caused by neglect and carelessness account for a large portion of these accidents. Drivers frequently lose sight of the road ahead and end up in a head-on collision.

To avoid such collisions, we devised a collision avoidance system that uses image processing algorithms to detect objects and send alerts when the vehicle comes too close to them. This allows drivers to take the appropriate actions quickly and avoid any fatal catastrophes. We have also analysed the number of fatalities that occur as a result of a lack of a system that alerts the necessary medical aid team as soon as an accident occurs. The time for an ambulance to reach the destination might not find any significant changes in the future but the time required to inform the ambulance team can surely be reduced. Accidents are also not notified to the next of kin until it is far too late. Our system's SOS feature warns the next of kin and emergency service close to the site of the accident.

Background study: With the frequent loss of lives due to negligent driving, it is necessary to find a system which can be used to alert the drivers to avoid any possibility of an accident. In one of such techniques Roopa et al [1], has made use of background subtraction algorithm for vehicle detection and the vehicles are counted in a selected zone of the road but the algorithm accuracy is affected from poor lighting conditions. In [2], Usman et al proposed a system that uses ultrasonic sensors on the car to detect the collision and notify the current location using the GSM-GPS module but the sensors may lead to false alert due to external conditions (temperature, wind, etc). A variation of

this prototype has been developed in [3], wherein they use a vibration sensor instead but has less accuracy when compared to the former. A dashboard video accident detection data set has been used in [4] which is used to detect the variation in visual information during an accident using Computer Vision techniques, however, the dataset used is limited. Nazir et al [5] has proposed a system that makes use of MPU-6050 module which detects the accident and sends notification via the SIM808 module, but its usage is limited only to a mobile network. A 3-part prototype has been developed in [6], which consists of the prevention part, detection and rescue part and the black box part which makes use of various sensors along with Arduino which is coded using C++ software, but the range of the sensors used are limited. A vision-based technique is used in [7], wherein a Convolutional Neural Network is built using accident/non-accident images, however, it provided an accuracy of just around 85%. In [8], Naji et al makes use of an IR sensor along with RF transmitter and receiver modules to send SMS to the users upon the detection of the accident but the IR sensor results are affected by dust, haze or light. The YOLO V2 algorithm is used to detect the vehicles in [9] and estimates the distance using 2 ROS nodes for collision warning but accuracy decreases if object moves away. In [10], Andrew et al developed a warning system that uses YOLO algorithm for accident detection along with ultrasonic sensors for increasing the range of the detection at blind spots, nonetheless the sensors may not work under non-ideal conditions such as heavy winds. The system developed in [11] uses Bluetooth, WIFI and ultrasonic modules along with the processor for collision detection and an android application for distance reminder, alarm etc but the modules used have same communication band which may lead to interference between them. A machine-learning based approach including decision tree, neural net-based classification and support vector machine is implemented to give warning or no-warning signal to the driver in [12] but the processors used in this model makes it expensive. In [13] Abhir et al has chosen the approach which makes use of a LIDAR sensor for the obstacle detection and warns the driver based on the distance and angle of the obstacle, but the working of the sensor is affected by heavy rain, foggy weather. Least Square - Support Vector Machine and

INSTRUMENT USED IN FLIGHTS – A short communication

Abinaya, Kalai Chelvi, S¹, Gokulavasan and Madhumita

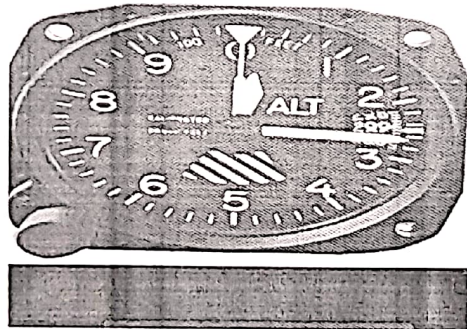
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Flight instruments are the instruments in the cockpit of an aircraft that provide the pilot with information about the flight situation of that aircraft, such as altitude, airspeed and direction. They improve safety by allowing the pilot to fly the aircraft in level flight, and make turns, without a reference outside the aircraft such as the horizon. Visual flight rules (VFR) require an airspeed indicator, an altimeter, and a compass or other suitable magnetic direction indicator.

Instrument flight rules (IFR) additionally require a gyroscopic pitch-bank (artificial horizon), direction (directional gyro) and rate of turn indicator, plus a slip-skid indicator, adjustable altimeter, and a clock. Flight into Instrument meteorological conditions (IMC) requires radio navigation instruments for precise takeoffs and landings.

Altimeter

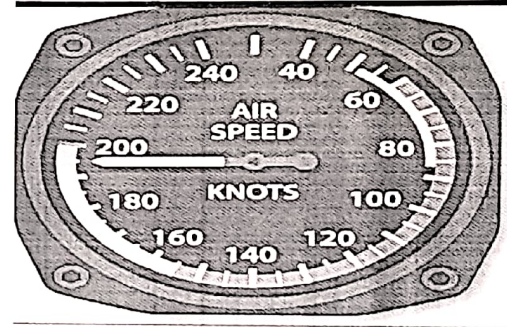


The term is sometimes used loosely as a synonym for cockpit instruments as a whole, in which context it can include engine instruments, navigational and communication equipment. Many modern aircraft have electronic flight instrument systems.

The altimeter shows the aircraft's altitude above sea-level by measuring the difference between the pressure in a stack of aneroid capsules inside the altimeter and the atmospheric pressure obtained through the static system. It is adjustable for local barometric pressure which must be set correctly to

obtain accurate altitude readings. As the aircraft ascends, the capsules expand and the static pressure drops, causing the altimeter to indicate a higher altitude. The opposite effect occurs when descending. With the advancement in aviation and increased altitude ceiling, the altimeter dial had to be altered for use both at higher and lower altitudes. Hence when the needles were indicating lower altitudes i.e. the first 360-degree operation of the pointers was delineated by the appearance of a small window with oblique lines warning the pilot that he or she is nearer to the ground.

Airspeed indicator



The airspeed indicator shows the aircraft's speed (usually in knots) relative to the surrounding air. It works by measuring the ram-air pressure in the aircraft's Pitot tube relative to the ambient static pressure. The indicated airspeed (IAS) must be corrected for nonstandard pressure and temperature in order to obtain the true airspeed (TAS). The instrument is color coded to indicate important airspeeds such as the stall speed, never-exceed airspeed, or safe flap operation speeds

Vertical speed indicator

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LED BASED INTEGRATED ILLUMINATION AND OPTICAL WIRELESS COMMUNICATION SYSTEM UTILIZING UNIFORM REFLECTION AND WIDE ANGLE DIFFUSION

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ABSTRACT

An integrating sphere has been specially designed using multiple white light LEDs mounted on both the inner and outer surfaces of the sphere to create improved uniform illumination inside a computer laboratory room. The LEDs are simultaneously used as optical transmitters of trans-receiver systems for indoor optical wireless communication. More uniformity of light helps to develop better access to wireless communication systems, comfortable movement inside the room and reduced shadowing effect in wireless communication. One integrating sphere fitted with LED arrays divided among outer and the inner surfaces of the sphere is able to create ideal uniformity conditions for illumination and data communication within a volume (3 x 3 x 3) m³ of laboratory space. The system is capable of bidirectional full-duplex communication using IR LEDs as source for uplink and silicon photodiodes as receivers for optical wireless communication links. The theory and the design principles of the integrating sphere and the optical wireless communication link design would be presented.

Keywords: integrating sphere, illumination, optical communication, LED, wireless communication

INTRODUCTION

The semiconductor heterojunction optoelectronic devices including LEDs, lasers, and photodiodes are now available with high performance characteristics for applications in all branches of science. We are continuously exploiting the electro-optical and spectral properties of these semiconductor light sources for applications in illumination science and engineering and for transmission of analog and digital optical information in free-space and through optical waveguides such as optical fibers. In effect these two solid state lighting devices have made a revolutionary change due to their several attractive features. They have high quantum efficiency, rugged construction, high speed of response and high speed modulation capability and long life. They are also available in red (R), green (G), blue (B) as primary colours and many other colours in the visible region of EM spectrum. LED light sources in the UV, Visible and IR regions of spectrum are also available. LEDs are also readily available as white light sources giving light output power ranging from microwatt to tens of watts. The near field radiation pattern of LEDs are uniform, however, the far field pattern is non-uniform particularly for LED arrays (1). Most importantly, the reliability, performance criteria and temperature effects on these semiconductor junction devices as light sources are continuously improving due

to sustained research in the development of the materials and technologies of these devices around the world. New high power white light LEDs are now available in the market with features suitable for illumination in indoor and outdoor environments for plenty of applications. Again as these are current injection devices their operations can be easily controlled by using simple low cost electronic drive circuits for current injection and electronic modulations. Because of eye safety regulation, we use LEDs instead of lasers in indoor situations. One important point to mention is that the commercial LEDs do not have proper built in lens (2). In this work, we have mainly studied the requirement to produce spatial and temporal uniformity of illumination in an indoor environment for simultaneous wireless optical communications and illumination using arrays of white light LEDs. Uniformity in illumination inside an enclosed space or a room is one major requirement for error free bidirectional communication. At the same time, for high speed data transmission, optimum photon flux density is to be essentially maintained throughout the volume. We have judiciously designed illuminators to provide uniform indoor illumination for high speed optical wireless communication.

Integrating Sphere – Principle Of Design

An Integrating sphere based white light illumination system has been designed to produce uniform

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AIRCRAFT INDUSTRIES IN INDIA – A REVIEW

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DGCA (Directorate general of civil aviation)

Located at Rajiv Gandhi Bhavan at the safardung airport in New Delhi. It is responsible for the administration of the aircraft act 1934. Aircraft rules 1937 and various other legislations pertaining to the aviation sector in the country this ministry exercise administrative control over attached and autonomous organization like the directorate general of civil aviation, Bureau of civil aviation security and Indira Gandhi Rastriyauran academy and affiliated public sector undertaking like airports authority of india and Pawan Hans helicopter limited

Vision and mission

Vision: The Indian aviation market is on a high growth path total passenger traffic to form and within India during April to November 2018 crew by around 15 percentage year as compared to around 6 percentage globally. India is now the seventh largest aviation market with 187 million passengers FY 2017 to 2018 it is expected to become the third largest by 2022.

Mission: This growth is being driven by a growing economy rising income intense competition among airlines and a supporting policy environment the national civil aviation policy (NCAP2016) signaled the government intent to radically alter the sectors growth trajectory Ncaps flagship program regional connectivity scheme (RCS or UDAN) is taking flying to the masses by offering subsidies fares as low as USD 35 for a one hour flight.

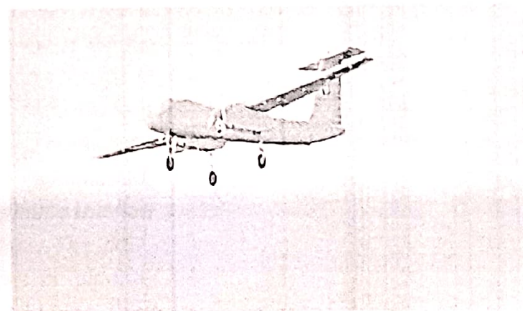
HAL (Hindustan aeronautics limited)

Hindustan aeronautics limited (HAL) is an Indian public sector aerospace and Defence Company headquarters in Bangalore. Established on 23 December 1940 HAL is one of the oldest and largest aerospace and defence manufactures in the world HAL began manufactures as early as 1942 with license of production of Harlow PC 5, Curtiss p-36 hawk and vuleet A-31 vengeance for the Indian Air force.



UAV

MALE UAV "TAPAS, (Tactical Airborne platform for aerial surveillance) is being developed to meet the Indian armed forces requirement for intelligence surveillance and reconnaissance (ISR) roles by transmitting real time data to ground control station .It may also be used for civil purpose assignment in relief and rescue operations during natural calamities.



LCA MK IA

A handwritten signature in black ink, appearing to read "Dr. Y. Stanley Selvakumar".

DESIGN AND FABRICATION OF SMOKE TUNNEL

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ABSTRACT

The smoke flow visualization is an efficient method to visualize flow field around an aerodynamic body in low speed wind tunnel. In our project the design, development and fabrication of the smoke tunnel (900*558mm) as well as a description of the experimentation done on the smoke tunnel such as calibration of instruments and flow visualization over several models, the scientific and theoretical background used for the design and development was reviewed and included.

Keyword: Smoke flow, aerodynamic body and fabrication.

INTRODUCTION

Flow visualization is an effective means to obtain better understandings of the flow physics. There are various methods of flow visualization, ranging from very simple and easy to access, to very complicate and expensive. For centuries, fluid flow researchers have been studying fluid flows in various ways, and today fluid flow is still an important field of research. The areas in which fluid flow plays a role are numerous. Gaseous flows are studied for the development of cars, aircraft and space crafts, and also for the design of machines such as turbines and combustion engines. Liquid flow research is necessary for naval applications, such as ship design, and is widely used in civil engineering projects such as harbour design and coastal protection. In chemistry, knowledge of fluid flow in reactor tanks is important; in medicine, the flow in blood vessels is studied. Numerous other examples could be mentioned (Bradshaw, 1979). In all kinds of fluid flow research, visualization is an key issue. Flow visualization has been a very active subfield of scientific visualization in recent years. Flow visualization is an experimental means of examining the flow patterns around a body or over its surface. The flow is "visualized" by introducing dye, smoke or pigment into the flow in the area under investigation. The primary advantage of such a method is its ability to provide a description of the flow over a model without a complicated data reduction and analysis. Smoke-flow visualization involves the injection of streams of vapor into the flow. The vapor follows filament lines (lines made up of all the fluid particles passing through the injection points) in steady flow the filament lines are identical to stream lines. (Lines everywhere tangent to the velocity vector). Smoke-flow visualization thus reveals the entire flow pattern around a body. It is difficult to exaggerate the value of flow visualization. The ability to see flow pattern on a model often gives insight into a solution to an aerodynamic problem. Flow visualization can be divided into two types. The first is surface flow visualization and the second is off surface flow visualization. In surface flow visualization media is applied to the surface

such as tufts and oil flow etc. The second type is off surface such as smoke and streams (John, 2007). There are basically four methods of recording the flow visualization test. The first and the best but the least permanent method is for the scientist and the engineer to observe with his eyes. Because of the depth perception one can see a three dimensional picture. The other three common methods of recording the result of flow visualization are by film, either still or movie or television camera or video and magnetic tapes. It must be realized that all three of these methods are using a two dimensional medium to often record a three dimensional phenomena. This is especially fine when using a smoke or helium bubbles to trace flow stream lines pass the model. All three of these methods can be used either black and white or color.

Many well-established techniques have emerged that help scientists get a better understanding of their data. Early techniques such as texture-based visualizations tried to display all details in the flow. As datasets became larger and more complex, visualization techniques were developed that present a structural overview of the flow. These partition based techniques have the benefit that they retain a view of the whole flow while being abstract enough to avoid cluttering, making them especially appealing for 3D vector fields. Flow visualization is an experimental means of examining the flow patterns around a body or over its surface. The flow is "visualized" by introducing dye, smoke or pigment into the flow in the area under investigation. The primary advantage of such a method is its ability to provide a description of the flow over a model without a complicated data reduction and analysis. Smoke-flow visualization (described by Bradshaw, 1970 and Rae and Pope 1984) involves the injection of streams of vapour in to the flow. The vapor follows filament lines (lines made up of all the fluid particles passing through the injection points) in steady flow the filament lines are identical to stream lines.

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RF ANTENNA INTO SMART RF ANTENNA USING IOT

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ABSTRACT

This paper aims to convert the RF Antenna used in the GSM/WCDMA/LTE communication into a smart RF antenna using IoT and thereby aims to achieve cost effective method to control the radiation pattern of RF waves in order to provide better quality signal in wireless communication. The proposed method makes the normal RF antenna compliant for IoT and it controls the electrical tilt fed to the RF Antenna through Internet. This smart system is also capable of obtaining the required RF radiation pattern through the Mobile App using Bluetooth communication from Smart Mobile. The experimental results prove that system is cost effective and a noteworthy development in the telecommunication sector.

Keywords: RF Antenna Control, Arduino, BTS, GSM, IoT and MQTT.


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