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FOR

Technical Magazine



Department of Electronics & Instrumentation Engineering

KAKATIYA INSTITUTE OF TECHNOLOGY & SCIENCE

WARANGAL - 506015

(An Autonomous Institute under Kakatiya University, Warangal)

Vol. 8

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SCOPE

Technical Magazine

Electronics & Instrumentation Engineering



Department of Electronics & Instrumentation Engineering
KAKATIYA INSTITUTE OF TECHNOLOGY & SCIENCE
Warangal-506 015

(An Autonomous Institute under Kakatiya University, Warangal)

**DEPARTMENT OF ELECTRONICS & INSTRUMENTATION ENGINEERING
KAKATIYA INSITUTE OF TECHNOLOGY & SCIENCE: WARANGAL-15**

VISION

To provide quality education in Electronics & Instrumentation Engineering by nurturing the students with strong technical, analytical, practical skills and ethics to make them engineering professionals who cater to the societal needs with a high degree of integrity and social concern.

MISSION

1. To provide progressive and quality educational environment with the help of dedicated faculty and staff by fully utilizing the information technology aiming at continuous teaching and learning process.
2. To produce engineering graduates fit for employability with a competence to design, develop, invent and solve instrumentation engineering problems.
3. To make the students ethically strong by inculcating sense of brotherhood.
4. To make the students research oriented by providing latest technical knowledge and thus cater to the changing needs of industry and commerce.

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PREFACE

This magazine summarizes the current state of Electronics and Instrumentation Engineering, providing an arena for the student community to showcase their technical talents in a great way. Keeping in view of the present era of technological revolution in the field of Instrumentation Engineering, the students of E&IE department, KITS Warangal presents you **SCOPE**.

We acknowledge the essential contribution of the reviewers, whose efforts are deeply appreciated.

We feel that such technical magazine is very well required as it helps in updating the knowledge of future engineers.

The Department of E&IE is very much thankful to the Management for their continuous support and encouragement for making the Technical Magazine **SCOPE**.

Program Outcomes (POs)

1. **Engineering Knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
2. **Problem Analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences
3. **Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
4. **Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
5. **Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.
6. **The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
7. **Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
8. **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
9. **Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
10. **Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
11. **Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
12. **Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

PROGRAM SPECIFIC OUTCOMES (PSO's)

PSO1: An ability for immediate professional practice as an Electronics & Instrumentation Engineer.

PSO2: An ability to use fundamental knowledge to investigate new and emerging technologies leading to innovations in the field of Electronic & Instrumentation Engineering.

Mini Project Abstracts

Temperature Based Speed Control of Fan Using Arduino

ABSTRACT

Electricity availability has reached a juncture within the current situation. We must conserve energy so as to shield and safeguard our future. "One unit saved is one unit generated," as the slogan goes. The projects stand-alone automatic and speed controller that regulates the speed of an electrical fan supported our specifications. Thanks to the utilization of embedded technology, this closed loop feedback system is efficient and dependable.

The Arduino micro controller allows for more dynamic and rapid control. The system is more user-friendly due to the liquid crystal display (LCD). The level of fan speed and the temperature are shown on the LCD panel at identical time. This has small since it's made from only some parts, and it is used to control things like ovens, air conditioner and etc. The Arduinouno microcontroller, which controls all of the circuit's functions, is its beating heart. The LM35 temperature sensor detects temperature and transforms it to an electrical signal that's sent to the microcontroller. The 16x2-line LCD shows the temperature readings that are sensed and people that are set. To control the fan speed, the microcontroller drives a Transistor. A controlled 12V, 2A power source is utilized in this project. This project is convenient in process industries for conservation and controlling of Boilers temperature

**Mohammad Arshad
B17EI058**

A Practical Model of ECG Signal Feature Extraction

ABSTRACT

Human health is always compared to immense wealth to humanity. Fortunately, the evolution of technology is a boon for humankind. Today, we find various advancements in every possible domain around the world.

The same goes for the medical department or domain also. Considering the facts of the advancements, today, we are offered to study humans' biomedical signals.

One of the most common studies is ECG signals. ECG stands for ElectroCardio graphic. Generally, the doctors advise the patients to undergo the ECG test every three months or six months. The central idea of this test is to find any issues related to the Heart.

ECG signals are nothing but the Heart's electrical signals during its contraction and expansion process. So, the study of ECG will indeed reveal the untruths of the Heart of the individual. Now coming back to the project idea, I will take a few raw ECG signals and extract the peaks in them. By doing so, I will extract the information related to lengths between the consecutive peaks and the relevant QRS peaks. Upon completing this essential task, the other process includes comparing the considered signals to that of reference signals of a healthy person.

One of the most common parameters calculated in this process is to find the heartbeat or the pulse from the considered signal. So, after finding the heartbeat, it is better to generalize the thoughts or the conclusions from the project.

**V S P BHAVYA SRI KHANDRIKA
B18EI002**

Fingerprint Based Door Unlock System Using Arduino

ABSTRACT

From prior occasions, security was and furthermore till now is an issue of worry in our families and in office, shops, and so on everybody has a dread of unapproved individual entering to their home or office without their insight. The typical entryway can be fitted with locks which are fit for breaking with the utilization of a substitute key. Options in contrast to this framework can be discovered like the secret word or example framework in the locks which again has the chance of getting uncovered and opening the lock. In this way, an answer for such issues can be by consolidating entryway lock with biometrics. Biometric check is any methods by which an individual can be interestingly recognized by assessing at least one distinctive natural characteristics, interesting identifiers incorporate fingerprints, hand calculation, ear cartilage math, retina and iris designs, voice waves, DNA, and marks. Here we will utilize finger impression for biometric check as it is something such which is novel to each person and the utilization of unique mark as the way to entryway locks can conquer the security issue of unapproved individuals intruding to our homes, shops, workplaces, and so forth by and large as delicacy in such key is preposterous. Likewise, this framework won't prompt issues like losing keys since we don't need conveying keys if this framework is utilized rather than customary locks. In this way, utilizing arduino we will attempt to execute the framework with highlights will build the security level

**BALAJI SHIVANI
B18EI003**

IOT Based Air Pollution Monitoring System using Arduino

ABSTRACT

Pollution levels have been increasing dramatically with many factors such as population growth, increased vehicle use, industrialization and urbanization leading to negative effects on people's health by directly affecting the lives of the people exposed to them. Through this project we are going to monitor harmful gases present in air and display over a internet server then we are going to use an buzzer when air quality level drops which means there is an release of harmful gases and it gives indication.

The Air quality value is being displayed on both LCD as well as web page so we can easily view it. In this project, you will able to monitor the level of pollution from wherever you need using your portable device

**A.NIVAS RAO
B18EIO04**

Laser Security Alarms

ABSTRACT

This project deals with a model of laser security alarm system design. Laser security systems used to be difficult to install and rarely available to anyone other than the super-rich.

There are dozens of different security systems on the market that utilize lasers and can effectively protect everything from small apartments and businesses to large areas of property. Laser security systems consist of two parts: a basic alarm unit and an infrared motion detector. Laser based security system is a type of security and alarm system that uses laser light and a light sensor. Why a laser to be used? It is known that a laser light goes through a long distance without any scattering effect (disturbing) and it is only visible at source and the destination point so it can be used as a mediator between source and destination but to analyse the source a sensor is needed, here LDR is used. In general alerting is sound effect and here buzzer acts as alerting. Its working: There is a laser diode that generates the laser beam which continuously strikes over the Light dependent resistor sensors. When any person crosses the path, it inhibits laser to reach LD Rand the sensor generate a low which is read by controller to power on the buzzer.

**T.JAYRA
B18EI006**

DOOR MONITORING SYSTEM USING REED SWITCH

ABSTRACT

Security, it is the state of being free from danger or threat. Security plays a major role in present society. For everyone and for every valuable object we look for security. Likewise a door monitoring system is made which is simple application for security purposes. It frequently screens the status of the door when it got opened and alerts with its actions like sounding an alarm sound, communicating via message. These actions can be performed by an Arduino connected to a reed switch which is controlled magnetically. This circuit helps us in providing information of someone opening the door and alerts us. With this we can protect our home and even private rooms containing valuable items. This circuit is simple and easily controllable. Each module work equal and autonomously by sharing computational asset. Consequently a minimal expense, open, auto configurable, secure and distantly controlled arrangement has been produced for brilliant home security framework.

**KODAKANDLA SINDHUVYSHNAVI
B18EI007**

Ultrasonic Water Level Indicator & Controller using AVR Microcontroller

ABSTRACT

Ultrasonic level measurements are one of the best techniques used for continuous level measurement. In the project we are using HC SR04 to measure the level in water tank and AVR microcontroller to control it from overflow. Ultrasonic sensor module "HC SR04" uses a technique called "ECHO" which is something you get when sound reflects back after striking with a surface. The output signal of the sensor is proportional to the distance based on the echo. The output is processed using high level programming Language which is embedded into microcontroller Arduino Nano. The LCD displays the output .The motor is connected to output port of the microcontroller through 5v relay switch.

**S. Vaishnavi
B18EI010**

AUTOMATIC PLANT WATERING SYSTEM USING ARDUINO

ABSTRACT

There are various types of automatic watering systems that are sprinkler system, tube, nozzles and others. This project uses Arduino board, which consists of manual code. Normally, the plants need to be watered twice daily, morning and evening. So, the moisture sensor detects its moisture level and passes this to arduino.

People enjoy plants, their benefits and the feeling related to nurturing them. However, for most people it becomes challenging to keep them healthy and alive.

To accommodate this challenge, we have developed a prototype, which makes a plant more self-sufficient, watering itself from a large water tank and providing itself with artificial sunlight.

**P .MADHUMITHA
B18EI011**

Rain Detecting Alarm

ABSTRACT

Water is a basic unit of life. We must save water in every possible way and it is very important as we are already facing water scarcity. Rain detecting Alarm Project is easy to construct and also very helpful project in coming years that detects Rain and immediately triggers an alarm or buzzer. This project will alert if it rains so that we can take necessary steps for rain water harvesting and store water for later purposes. We can also increase the underground water levels using this technique. We used ic555 timer that is configured in A Stable mode that produces sound when rain drop falls on the surface of the rain sensor

SAI PRASANNA A
B18EI012

The Real-Time Model of Environment Inspecting System using Thingspeak Technique on IOT

ABSTRACT

The humidity and the temperature are extremely regular boundaries in the estimation at numerous places like homestead, clinics, ventures, and workplaces. In this task, I will send Temperature and Humidity sensor information to Thing speak utilizing Node MCU, DHT11. By this strategy we can screen our DHT11 sensor's temperature and humidity information over the web utilizing Thing Speak IOT server, and we can see the logged information and data in a graphical manner on the Thing Speak dashboard. Node MCU peruses the current temperature and humidity from DHT11 and sends the data to the Thing Speak server for real-time observation from anyplace over the plane

M.BHAVYA
B18EI013

Bit Plane Slicing using MATLAB

ABSTRACT

New proposed RLE compression calculations to pack gray scale pictures with bit plane slicing procedure to decrease the size of the encoded information by isolating the pictures into 8 binary levels, at that point utilize our changed RLE calculations to pack bit planes. Our adjusted calculations planned consummately to pack bit plane. These proposed techniques accomplished generally excellent compression proportion particularly with the MSB layer. Picture compressing address the issue of diminishing measure of information needed to address the picture while keeping the goal and nature of the reconstructed picture as near the first picture as could really be expected, or it is a cycle proposed to yield a minimal portrayal of a picture, their by decreasing the picture stockpiling or transmission prerequisites. Picture compression procedures decrease the quantity of pieces needed to address a picture by exploiting three essential information redundancies: the coding redundancy which is available when not exactly ideal works are utilized. The inter pixel redundancy results from connections between the pixels of picture. The objective of picture compression is to address a picture signal with the most modest number of potential pieces, along these lines accelerating transmission, limiting storage prerequisites, decreases the expense of information transmission, the blunders of transmission

**D.Jagadeesh Rao
B18EI014**

Vehicle Number Plate Detection using Matlab Image Processing

ABSTRACT

Number plates are used for identifying the vehicles all over the world. Basically now days cctv system is used for the security purpose and to monitoring. As many of the people are violating the rules it became necessary to monitor the human activity detection and tracking. Traffic control and owner of the vehicle identification has become a major problem in every country. It is difficult to identify the vehicle owner who violets the rules. The identification of number plate is difficult in the moving vehicle due to the speed of the vehicle. The surveillance captures the videos of such vehicles. Then the image is processed by using the image processing by using some of the algorithms and the number plate is identified. So that by using number plate they can find the vehicle owner.

This method is used to segment all the letters and numbers used in the number plate using bounding box method. After segmentation of alpha numeric's and characters on number plate then the template matching is recognized by numbers and characters

**SUSHMITHA VALUSA
B18EIO17**

Smart Irrigation using Nodemcu

ABSTRACT

The vast majority of the ranchers utilize enormous parts of cultivating area and it turns out to be exceptionally hard to reach and track each edge of huge terrains. At some point, there is a chance of lopsided water monetary misfortunes. Smart Irrigation system modules utilizing the latest IOT-based sensors & communication will be very much useful for efficient cultivation. The smart irrigation-based system module is one such innovation, which has pulled in the interest of numerous specialists in this emerging area. Recent developments are focused on smart irrigation systems and the development of modules for Controlled Environment Agriculture (CEA). An affordable and simple type of system module is developed by using Arduino-based modules for the irrigation controller system framework. These Arduino-based irrigation modules are helpful to manage different ecological factors like dampness, temperature, and measure of water needed by the harvests. Different sensors like water stream sensors and soil dampness sensors are used as part of the system module. Reports are gathered and analyzed by the Arduino-based controller for the standard estimations of various factors needed by harvest. In the proposed mini-project, Arduino based smart irrigation module will be developed and tested as part of project implementation. The proposed mini-project will be developed by using the sensors like Water flow sensor, Soil moisture sensor, Temperature sensor, and ESP8266 Wi-Fi Module.

DIVIJA MAHAVADI
B18EI019

Smart Digital Water Meter

ABSTRACT

In this speedy clipped life, water distributors and utilizes are required to launch a fresh water billing system which is additionally fruitful and comparatively speed. The error-free estimation of a consumer water usage is mandatory as it is the prime earning base for the authorities. Digital water meters are worn to estimate the volume of water utilized by populous and profit-oriented buildings that are given with water by a common water supply system. Thus by utilizing this we can keep supervision on the usage of water by different customers. In this, an automated water reading system has been sketched, implemented and executed. In this a GSM and Arduino based billing system is offered. It consists of flow sensor, PIC18F4550 microcontroller, LCD, GSM Module. When water flows through the flow sensor, electric pulses are caused which are transformed into volumetric flow using PIC18F4550. The LCD displays the readings which are conveyed automatically to the water authority as an SMS for billing purposes after a specified period. The proposed system guides for a continuous uncomplicated water provision and billing providing maximum convenience to customers and enhancement in water usage audit. The system is cost effective and provides automated water meter reading at high accuracy.

K. SINDHUJA
B18EI020

Barcode Reader Using Matlab

ABSTRACT

Barcode technology is playing a vital role in real-time aspects. In our daily life we come across many different types of code and applications are available. It is taking a part in keeping the important records of all items safe and secure in one place of sale and product services. On account of this, many ways are implemented to make the user easier for reading barcodes. Barcode reader is everlasting solution for improving performance. Here the system is designed in such a way that it reads the individual barcode and then it captures the barcode image there by it displays the related information. This type of technology can easily use by a common people, who don't show an interest to go a nearby place which has a facility of barcode scanners. The main aim of this project is to develop a barcode reader system by using graphic user interface (GUI) & image processing tool in Matlab.

V. MADHUMITHA
B18EI021

Bluetooth Control Car Using Arduino

ABSTRACT

The project point is to plan an android interface and compose program in to the arduino microchip. Arduino vehicle contains Arduino microcontroller with fundamental versatility highlights. An Arduino program contains guidelines interceding between android regulator and Arduino vehicle. Android regulator utilizes diverse versatile sensors to administer movement. Improper program in the arduino to interface with the android regulator must be made. The program has been effectively agreed through arduino IDE to the arduino and stacked in to it after legitimate checking of rationale to diminish any harm of equipment. We have an android application that will furnish client an interface to communicate with the Arduino fuelled vehicle. The interface is not difficult to utilize and give criticism from the arduino chip through the Bluetooth subsequent to offering guidance to arduino for different activities through interface by means of Bluetooth module.

M. Sai Karthik
B18EI022

Smart LPG Gas Leakage Detector

ABSTRACT

LPG gas is most commonly used in our households; the usage of LPG has become a very necessary commodity in every person's life. We have seen leakage of the gas in the past and even now which led to many accidents, it is also dangerous if we inhale where there is a risk of losing our lives and also if its level increases it may explode.

To reduce the gas leakage accidents, this IOT project is designed to detect the leakage and intimate the person. The gas sensor MQ-6 is used to sense the gas leak from the cylinder. The MQ-6 detects the LPG and butane gases. It is connected to the Node MCU (ESP8266) which is programmed to pass the message directly to the smart phone of the user through cloud.

A buzzer is also installed to the circuit so that it gives an immediate alarm to the people inside the home which helps us to turn off the cylinder and prevents the cylinder from exploding.

**N. Krishna Priya
B18EI023**

Social Distance Alert System

ABSTRACT

Arduino based social distancing alarm system meant for Covid-19 pandemic or similar disease outbreak. Maintaining the right system for social or physical distancing is not always feasible. When we are outside, we forget to maintain the distance as soon as we get involved in our daily work. This novel circuit alerts you if you come too close to someone either from the front, back, right, or left direction. A cap fitted with four ultrasonic distance sensors connected to Arduino Uno senses the minimum safe distance and alerts you through a buzzer and we also include the touch less hand sanitizer, user can get the sanitizer without human touch.

**HIMA SAI PRATYUSH RAO VELDI
B18EI026**

Density Base Traffic Controlling System

ABSTRACT

Arduino is an open-source computer hardware and software company, project and user community that designs and manufactures microcontroller-based kits for building digital devices and interactive objects that can sense and control the physical world.

The project is designed to develop a density based dynamic traffic signal system. The signal timing changes automatically ion sensing the traffic density at the junction. Traffic congestion is a severe problem in many major cities across the world and it has become a nightmare for the commuters in these cities. Conventional traffic light system is based on fixed time concept allotted to each side of the junction which cannot be varied as per varying traffic density. Junction timings allotted are fixed. Sometimes higher traffic density at one side of the junction demands longer green time as compared to standard allotted time.

The proposed project using an Arduino Uno interfaced with sensors, changes the junction timing automatically to accommodate movement of vehicles smoothly avoiding unnecessary waiting time at the junction. The sensors used in this project are Infrared Proximity sensors in line of sight configuration across the loads to detect the density at the traffic signal. The density of the vehicles is measured in a number of zones based on which timings are allotted accordingly. Further the project can be enhanced by synchronizing all the traffic junctions in the city by establishing a network among them. The network can be wired or wireless. This synchronization will greatly help in reducing traffic congestion.

Diddi Nithish Kumar
B18EI027

Digital Temperature Sensor

ABSTRACT

Temperature sensors are generally utilized in electronic gear to show the temperature. You can see the advanced clock showing the room temperature esteem. It is because of the temperature sensor installed in it. In this undertaking, I will tell you the best way to plan a Digital Temperature Sensor Circuit. All the while, I will clarify circuit utilizing Arduino and LM35 temperature sensor to make an Arduino advanced temperature sensor Temperature sensor LM35 is associated with the Arduino through the simple info pins. A0 pin of the Arduino fills in as the stock voltage hotspot for LM35 and A2 pin of the Arduino fills in as the ground. Arduino peruses the voltage yield of the LM35 through the simple info pin

VINEETH SAMINDLA
BI8EI032

Pull Pin Alarm Circuit

ABSTRACT

The following Mini project report gives a detailed solution for the pick pocketing, phone snatching or purse snatching from our pockets which happen without our knowledge, the society is now and then facing a major issue with such things where we sometimes don't get our valuables back even after giving a police complaint, and sometimes we ourselves leave this matter thinking it's a waste of time. The below discussed project thus helps us get our knowledge on to the valuables while getting snatched which prevents the loss of our valuables and even makes the snatcher get caught. The main objective of the pull pin alarm is to avoid the hefting of goods. Now-a-days purse snatching or bag snatching has become a problem due to which we are losing our money and other valuable things. Especially during journey this has become a major problem. This pull pin alarm helps us to get alerted when anyone picks our pockets or bags, the arrangement is made in such a way that the alarm contains a pin which is connected to the pocket at one end and connected to the alarm on another end.

N. Rithik
B18EI033

Rain Detector using 555 Timers

ABSTRACT

Downpour Alarm was basic application yet exceptionally helpful task that distinguishes the Rain and consequently triggers an alert or bell. Water was the fundamental element. Saving it is very important. With a goal we can make a few activities for downpour water gathering as well as can save the downpour water for utilizing it later. Subsequently this alarm assumes a significant part in different enterprises, for example, water system field, home computerization, cars and in remote correspondence. Mostly, water sensor is the fundamental part in this circuit, where we can get it or we can make it ourselves just by taking piece of Bakelite board and aluminium wire. Care to be taken that no spaces between the wire and board. What's more, the other significant segments of the circuit are 555 Timer IC, NPN Transistor BC547. Utilizing more proper downpour sensor we can make exact mechanization downpour detecting framework by adding microcontroller-based framework, we can execute some security highlights for back bone of Indians.

THARUN KUMAR MOTTU
B18EI034

Medicine Reminder using Arduino

ABSTRACT

Our project is to build a medication box designed for people who frequently consume medicines and the prescription of their medication is very lengthy since it is tough to care taker give medicine to the patients every single time. And aged patients who suffer from problems of forgetting their medication at exact time disturbs their health, and for those having permanent diseases like diabetes, BP and who have severe breathing problem etc. Now-a-days these problems have become regular and we are seeing so many people around us are suffering from these problems. Thus based on these two problems, we made medication boxes which take care of these issues by setting up time table for endorsed meds. The current date and time will be saved in the REAL TIME CLOCK and the notification will be saved in EEPROM. As a result, exactly at the of taking the medication, it gives us a notification sound and 5 lights will start blinking. Therefore, he/she will come to know the particular box from which he/she has to take the medicine. Capsules are already added in the system which he/she must consume at a particular moment of time. It has the superiority to sense whether the patient has consumed the tablets or not. And an additional quality is that it also senses if the patient postpones their medication by just opening and closing the box. In contrast to various products existing in marketplace are capable to produce noise at a single point of time and then it stops. As a result, final output provides speedy recovery of one's physical condition by means of this beneficial system

**REENA.A
B18EI035**

Text Teleporter

ABSTRACT

Nowadays it is very important for us to send files and texts through our devices but most of us will be using cables to get this work done. With our project called "Text Teleported" is a device, which is used for sending the text through one device to another Device (in this case a phone and a computer) without any intermediate sources such as cables. We know that how annoying it is seeing few cables running throughout our workspace, by using this technology we can use it to send files wirelessly. And by using cables we can use them within the length of the wire but by this text teleported we can send the text within in the range of the Bluetooth which is much greater than cables. In this project, we are using Bluetooth wireless technology to send the text through our phone to computer, which is a very simple communication system. The text sending device in this project is phone and the receiving device is computer which is connected to our text teleported and that will be connected to Bluetooth through our phone. In this project we are using HC-05 Bluetooth module which have a range of 10m which means we can connect to the device within the range of 10m and send the text within that distance and for the main board we choose Arduino micro which houses with the micro-controller ATmega32U4. This gives us the advantage of changing device anytime and it will make us easy for to copy text from phone to computer.

**S. USHASRI
B18EI036**

Smart Blind Stick

ABSTRACT

The existence of outwardly weakened individuals has consistently been hazardous. They consistently rely upon others. As we are aware of how innovation has helped us from various perspectives in our lives, it can even assist an incapacitated individual carry on with a typical life. An individual can move incapacity through mechanical Innovation. This project is about developing a smart stick for visually impaired people. Using this smart stick, an outwardly weakened individual can stroll without anybody's assistance. The smart stick detects the obstacle before the individual and gives him a reaction with a notice sound through buzzer. Through this, the visually impaired individual can be mindful about the hindrances before him. The Arduino is programmed in a manner that when we supply power to the Arduino, it conveys a LOW to HIGH messages to Ultrasonic sensor. The ultrasonic sensor will send a Ultrasonic wave utilizing the ultrasonic transmitter of the sensor. These ultrasonic waves travel through air and on slamming into an obstacle, get reflected back. The Arduino will play the ringer of buzzer. It is planned in such manner that it doesn't cost a lot and making it simpler for individuals to plan it at home. As it utilizes just a single ultrasonic sensor it doesn't have careful precision. For better exactness and help we can add a few ultrasonic sensors to the circuit.

**SAFA MAHER
B18EI039**

A Smart Dustbin using Arduino

ABSTRACT

Urbanization has tremendously increased in the recent decades. At a similar stage here is an expansion in waste management. Waste management has been a significant issue to be thought of. The primary goal of undertaking is to plan a shrewd dustbin which will help in keeping our current circumstance clean and furthermore eco-accommodating. This proposition is an approach to accomplish this great aim. In this project the smart dustbin is based on a microcontroller-based stage Arduino Uno board which is interfaced with the Servo engine and ultrasonic sensor. Ultrasonic sensor is put at the highest point of the dustbin which will gauge the height of the dustbin. The edge height is set at a specific level. Arduino will be customized so that when somebody comes before dustbin the servo engine will come in real life and open the cover for the individual to place the waste material into the dustbin. When these brilliant containers are carried out for a huge scope, by supplanting our conventional receptacles present today, waste can be overseen productively as it evades pointless lumping of squanders on side of the road. Foul smell from these spoiled burns through that stay untreated for quite a while frame, because of carelessness of specialists and lack of regard of public may prompt long haul issues. Rearing of bugs and mosquitoes can establish disturbance around advancing messy climate. This may even reason unpleasant infections.

**ARSHIYA JABEEN
B18EI042**

RFID Smart Lock System

ABSTRACT

The Arduino based RFID lock system is very useful device which do not need any contact with the lock system and it is more secure than any other door lock systems. RFID means Radio Frequency Identification.

There are many advantages of Arduino based RFID lock systems. It is also an easy task to build the device by just programming code and uploading it to Arduino. It is not only easy to built it but also cost of making is less. Now days there are modern solutions for every problem, in the same way the lock systems are also having updated designs which makes our life more comfortable. RFID key cards are used in many hotels and also offices.

It is not only the easy way to lock and unlock the door but also it is the safest way. The equipments required for RFID smart lock are RFID module ,12V solenoid lock ,5V to 12V converter ,DC socket and 5V adapter. The RFID card has a chip in it which is having a certain frequency and reader in the lock system will read the frequency. When the frequency signal is received the door lock will be opened.

**B.DHARMENDR A
B18EI052**

Fire Alaram Using 555 Timer IC

ABSTRACT

A panic alarm circuit is used to send an emergency signal immediately to the people in nearby location to call for help or to alert them. This can also be done using 555 IC Timer at a very less prize component.

The IC we use in this project is 555 IC timer, which will check the change in temperature and sounds the buzzer. The main component in the circuit is Thermistor, which is used as to detect the fire.

Thermistor is temperature reading resistor, where its resistance changes according to the temperature, its resistance increases with the decreases in temperature and its resistance increases with the decreases in temperature. I have arranged the circuit with three important components; they are Thermister, NPN Transistor & 555 Timer IC. We will learn more interesting circuits in this Project.

**M.AUGUSTEEN
B18EI053**

Online Hospital Appointment Booking

ABSTRACT

Booking an appointment through the website which set up online communication between a doctor and a patient. Here the website helps us to ask their doubts about the problem and they can get health tips through online. In this system the doctors and patients are saving their time with online booking while sitting in home they can book their appointment. The main purpose of this website is to store your details for a long time and with the less memory. Basically the project describes us how to manage the better services to the patients and clients without any disturbances. There are some unique advantages to the website that are receiving messages from doctors, receiving health tips and the major one is the better communication between doctors and patients.

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Visitors Counter Using Arduino UNO

ABSTRACT

Visitor counters is a project that counts the no. of Persons/people within the hall. When a person enters the hall/space the count is incremented by one by one and by that the total count of people in the hall will be displayed in the LCD screen.

The secure count over an outsized no. of visitors is formed by microcontroller which is employed. The signals which got by the IR sensor are stored in ROM. The project gives the count of the visitors coming to the hall and also light up with the visitors entered.

This Visitor counter is essentially required in many places such as secured places where count for visitors is needed by the administrator. There is no end of count to enter a corporation, but it is helpful to know the amount of persons at a place.

The amount of people includes sharing human auditors to standard manually that tallies the people who enter by a place. This will be easily and readily available in the market.

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