



COLLEGE TECHNICAL MAGAZINE

DEPARTMENT OF SCIENCE AND

HUMANITIES

Issue 3 [May, 2024]

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FROM THE EDITORIAL DESK.....

Hello, it's time!

The publication of "TECHNICAL MAGAZINE" for this academic year fulfilled the Akshaya Editorial Board. It is an invaluable compilation of ACETians' achievements during this academic year as well as on their development, innovation, and use of cutting-edge technology. However, we feel that God's favors are precious and that this academic year has been full of success.

I am grateful to the Management, Principal and Heads of the department for their assistance in getting this important technical publication out on time. I express my gratitude to the entire student community for their prompt submission of the articles. I hope that we will be able to publish a magazine like this in the future as well, so that it represents the calibre of the Students Community at large.

The editorial board of Akshaya has put forth a lot of effort to give you a superior magazine. Prepare to display your enthusiasm...

MESSAGE FROM THE HEAD OF THE DEPARTMENT.....

It gives me immense pleasure to express my views on the release of a technical magazine. You will learn about the significant accomplishments that kids have made this year as you go through the pages. Besides, our budding talents have expressed their thoughts, ideas, hopes, aspirations and convictions. The Academic activity is continuously geared up and monitored to keep-up with emerging trends of technological development and innovations. The student writers' contributions to the publication has shown their intellectual insight.

I congratulate the editorial board and students for bringing this edition of Technical Magazine 23-24. Wish you all the best.....

Vision and Mission of the department

Vision

To produce competent Engineers and Scientists by imparting quality Education in Mathematics, Science and Communicative English to develop Research Capability, Employability, Entrepreneurship, Human and Ethical Values so as to meet the challenges in the technology driven society.

Mission

- DM 1 : To provide an academic environment that would help the students to acquire analytical and scientific knowledge through a teaching-learning exercise focusing fundamental concepts.
- DM 2 : To prepare the students for careers in industries and mould them to become an entrepreneur and as a leader.
- DM 3 : To sow the seeds of research in Engineering and Technology by providing facilities oriented towards applied science.

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OBSTACLE AVOIDING CAR

This discusses an ultrasonic sensor-controlled robot vehicle that can avoid obstacles. The robot is constructed with an ultrasonic sensor, and an Arduino microcontroller is used to operate it. Ultrasonic sensor mounted on the robot vehicle's front end. Through sensors that are attached to the robot, the sensor receives data from its surroundings. The sensor detects the obstruction and changes its course to choose a path devoid of obstacles. The sensor will send the data to the controller and is compared with the controller to decide the movement of the robot Wheel. The robot wheel's movement and direction will depend on the wheel encoder and an ultrasonic sensor for sensing. This vehicle is employed for obstacle detection and collision avoidance. We have programmed the controller to be used with ARDUINO SOFTWARE.

Bharath
Krifith Pavithran
Kalaiyaran
Sanjai
I-MECH

SMART ROOM TECHNOLOGY

The Internet of Things (IoT) is a concept where internet connectivity can exchange information with each other with objects around it. The essence of IoT is interconnected devices that produce and exchange observation data, facts, and other data, so that it is available to anyone. In this paper we present how the smart room model is designed using sensors and microcontrollers to automate the use of electronic devices and the security of a room using the concept of the Internet of Things. Implementation of the smart room concept from the results of this study, we hope that the concept in this smart room can be implemented and the automation process in this smart room can have a major impact on the efficiency of operational costs, especially electricity payments and improve home security because there is automatic control.

Samuel Prakash
Nathan
Vasanth.A
Sundara Kannan
I-MECH

VEHICLE SAFETY SYSTEM OF FOUR WHEELERS

Multiple passive safety systems such as helmet and seatbelt protection on two- and four-wheeled vehicles are one of the primary concerns in today's life. In this work, physical sensors have been embedded in the helmet and seat belt which will detect the human presence and control the ignition of the engine through a microcontroller. This system is connected to a microcontroller using a short-distance wireless module to transmit a signal to the receiver connected to the ignition system of the vehicle. Ignition in the engine takes place only if the sensor detects a human being wearing the helmet in two-wheelers or seatbelt in four-wheelers. It has an in-built lock system, placed near the engine which would inform the rider to wear the helmet for riding the two-wheeler or to the driver to wear the seatbelt for a four-wheeler. In case of accidents, these systems would prevent the driver from succumbing to injuries due to the absence of a helmet or the seatbelt. The helmet is wireless hardware, which is powered by a rechargeable battery. By using these systems in vehicles, the safety of the rider/driver can be improved by a great margin.

Shobana Kamatchi. B
Sri harini. S
Mitharsana. M
Veera Jothimani. K
I-MECH

TESLA ELECTRICITY

Wireless power transfer is the transmission of electrical energy from a power source to an electrical load without any conductive physical connection. Wireless electricity ensures that the cell phones, laptops, iPods, and other power electrical devices get charged on their own, with no need of plugging them that can prevent the sockets with all sorts of wires. Wireless power transfer is when the magnetic field is transferred over a short distance. The magnetic field is created using inductive coupling between coils of wire or electric fields using capacitive coupling between electrodes. The most common form of wireless power transmission is carried out using direct induction followed by resonant magnetic induction. The carrying fluxes that induce in the inductor can be captured by another inductive coil that can produce an induced flux between the receiver coils that are coupled to the primary coil. Since this technique uses a magnetic field to transfer the electrical energy, the flux that produces in the primary coil must be in high density with high frequency. Thus, the tesla coil is used as a transmitter to produce high voltage, high frequency and low alternating current in order to produce high density flux. In this work, a tesla coil is a main part of the transmitter component in wireless electricity apparatus and needs to be developed with a view to demonstrate how magnetic induction is coupled to perform a wireless power transfer. In addition, the construction of winding coils of the tesla coil would have great effects in order to provide electricity to supply a load without wires in distances. The advantages of the wireless electricity system would be completely eliminating existing wires for electrical appliances between power sources. With wireless electricity, the electrical system will be more secure as it will prevent users from electrocution of current and the power failure due to short circuit and fault or power loss on cable would never exist.

Prajin
Kavinkumar
Pongaleeshwaran
Rajakaviyarasan
I-MECH

LAVA LAMP

An interesting optical focusing effect occurred in the early heating phases of a simple model of a lava lamp that was constructed to demonstrate convection effects. During this early heating phase, the interface between the two immiscible liquids was found to form a surface of rotation with a conic cross section that acted as a mirror to produce an excellent image of the filament of the bulb within the lower liquid. The relevant features of the lamp construction are discussed briefly, and photographs of this focusing effect are shown. A simple analysis is presented that transforms the photographed cross section of the liquid interface into the true cross section by removing the effect of the cylindrical lens formed by the fluid-filled bottle, and the resulting cross section is then fitted to the shape of an ellipse. The possible cause for the shape of this liquid interface is discussed and compared and contrasted with the somewhat analogous situation of a stretched circular membrane that is subjected to different gas pressures on either side of the membrane.

Akila R
Arsiyavajila M
Deepa. M
Pavithra P
I-MECH

ANTI SLEEP DRIVING AWARE ALARM

In modern-times, owing to hectic schedules it becomes very difficult to remain active all the time. Imagine a situation where a person is driving home from work, dead tired after facing all the challenges of the day. The hands are on the wheel and foot on the pedal but suddenly start feeling drowsy, the eyes start shutting and the vision blurs and before it knows, then the person falls asleep. Falling asleep on the wheel can lead to serious consequences, there may be accidents and people may even lose their lives. This situation is much more common and hence, it is very important to counter this problem. So to address this issue, the Project Anti-Sleep Alarm for Drivers is introduced. This system alerts the Person falling asleep at the wheel thereby, avoiding accidents and saving lives. This system is useful especially for people who travel long distances and people who are driving late at night. The circuit is built using Arduino Nano, a switch, a Piezo buzzer, Micro Vibration Motor and an Eye blink sensor. Whenever the driver feels sleepy and asleep the eye blink sensor detects and the buzzer turns ON with a sound of an intermediate beep. When the driver comes back to his normal State eye blink sensor senses that and the buzzer turns OFF.

Atharsan. T
Thoufeeq Rahman. A
Manoj kumar .S
-I ECE

ANTI LASER ALARM

This project deals with a model of laser security alarm system design laser security system used to be difficult to install and rarely available to anyone other than the super rich now there are dozens of a different security system on the market .that utilize lasers and can effectively protect everything from small apartment and business to large areas of properties most home 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 long distance without any disturbing effect and it is only visible at source and the destination point so it can be used as mediator between source and destination but to analysis the source a sensor is need here the use of LDR is applicable just analysis is not enough alternating should be done in general alert in sound effect so here buzzer act as alerting making use of this a laser security system is designed its working there is laser diode that generates the laser beam which continuously strikes over the sensors when any person crosses the path it inhibits laser to reach LDR and the sensor generate a low which is ready by controller to power on the buzzer.

Meganathan
Asvinkumar
Thanushkumar
-I ECE

FIRE DETECTOR

Most of the fire detection is performed by sensor-based systems which have perceived the temperature and smoke by themselves and utilized in various types of industry after combining with the fuzzy theory. Generally this kind of methodology is useful for many spots of fire occurrences. However, it could not satisfy the requirement of accuracy and reliability in some environments. For example, large spaced factories, common areas of electric power facilities, and communication facilities are vulnerable to the sensing accuracy and too expensive to cover the entire place. Thus, fire might spread widely over the spots and be hard to extinguish even though those sensors detect the fire. For the more it could be worse in the area that causes high temperature, humidity, dust, vibrations. In this study, we tried to improve the problems by using camera image processing instead of sensors. We designed the prototyped system and implemented it after suggesting some type of fire detection algorithm.

K.Dinesh
M.Gokul
A.M.Dharanish
M.Kiruthickrosan
-I EEE

SMOKE DETECTOR

This paper is titled Design and Analysis of electro-mechanical Smoke Detector Alarms. Fire/Smoke alarm is a device that is installed in an industry or a building to detect the presence of a fire accident. Smoke detector alarm system is designed to detect the unwanted presence of fire by monitoring environmental changes associated with combustion. Smoke detector alarm systems are intended to notify the building occupants to evacuate in the event of a fire or other emergency, report the event to an off-premises location in order to summon emergency services, and to prepare the structure and associated systems to control the spread of fire and smoke. The device is constructed using a micro-controller and an electro-mechanical smoke sensor. The smoke sensor is used as the smoke detector while the micro-controller is configured as an AF oscillator for sounding an alarm via a buzzer.

K.Ajay
S,Bharath
B.Haripandiyan
R.Abijith
-I CSE

OBSTACLE AVOIDING ROBOT

The project is designed to build an obstacle avoidance robotic vehicle using ultrasonic sensors for its movement. A microcontroller (ATmega328) is used to achieve the desired operation. A robot is a machine that can perform tasks automatically or with guidance. The project proposes a robotic vehicle that has an intelligence built in it such that it directs itself whenever an obstacle comes in its path. This robotic vehicle is built using a microcontroller of the AT mega 328 family. An ultrasonic sensor is used to detect any obstacle ahead of it and sends a command to the microcontroller. Depending on the input signal received, the microcontroller redirects the robot to move in an alternate direction by actuating the motors which are interfaced to it through a motor driver. Some of the project is built with the IR sensors and has its own application so in our project those applications are not compatible so we are using ultrasonic sensors.

S.Harikrishnan
P.Unnikrishnan
V.Abhishek
S.Aditya Sriram
-I CSE

SCRIBBLER ROBOT

We explore the “reality gap” between experiments with a physical Scribbler robot and experiments with a simulated Scribbler robot. In particular, we try to identify and eliminate the causes of differences between the physical and simulated implementations. Our experiments use the evolutionary algorithm NEAT with both objective and novelty fitness metrics with the ultimate goal of the robot’s path covering its given environment. We do not succeed at fully eliminating the reality gap, but we find that the gap can be reduced by matching the simulation and real implementation as much as possible in setup, calibrating the path length, and adding noise to the simulated sensors. We also explore whether coverage in a noisy environment (such as the physical world) is a deceptive task. We hypothesize that the remaining gap can be attributed to the oversimplification of the robot geometry in our simulation, and to more complex noise and physics in the real world than the simulation. Identifying the extent of the reality gap can inform future work with this simulation, as well as suggesting that in some research we cannot rely too heavily on simulation alone as results may not be realistic. That is, while using simple simulations is useful in generating hypotheses and performing some types of research, they may not reliably reflect the results of the experiment with a physical robot.

A. Tej Prakash
C. Sai bhargav
A.T.NagaTrinadh
-I CSE

WATER LEVEL INDICATOR

Water tank overflow is a typical issue that results in water waste. There are a variety of alternatives, such as ball valves that automatically shut off the water flow when the tank is full. However, as an electronics geek, wouldn't you prefer an electronic solution? So, here's a simple and useful day that will show you how to build a circuit that will detect the water level and sound an alarm when the water tank is full or reaches a predetermined level. Water level indicator is a new method of detecting water level that employs cutting-edge technologies such as sensors and Arduino. The project's main goal is to calculate the water level at any given time and, if necessary, to sound the buzzer. Today, a water level indicator is routinely used to detect the level of any water tank or container. The circuit is straightforward, cost-effective, and adaptable. It is used to turn on the motor pump when the water level in the tank drops below the lowest level and to know when to turn off the pump when the circuit detects that the tank is full. The circuit included three LED lights, each of which indicated a different level of water. When the water level reaches its maximum, the circuit sounds an alarm, signalling that the tank is full.

Devadharshini.R
Eniya.V
Monolisha.S
-I ECE

LASER SECURITY ALARM

Security is a most important factor today. Technology develops day by day in the world. The crime gang also improves their technology to perform their operation. So technology of security should be modern with time to protect the crime works. We decided to make a security project as our project. In this project we have used laser light to cover a large area. We know laser light goes through long distances without scattering effect. It's also visible only at source and incident point, otherwise invisible. These two properties help us to build up a modern security system, which may be named "laser security". When any person or object crosses the laser line the security alarm will ring and also the focus light will "on" to focus on the entrance of an unauthorized person. LASER-Ray goes through long distances without scattering effect and the Ray is almost invisible. Only the radiation point and incident point is visible. So by this security project we can make an invisible boundary of a sensitive area. There are two parts of the system. One is the transmitter and the other is the receiver. The transmitter part is built with a LASER radiator, a pair of dry cell batteries, an on-off switch and a stand to hold it. The receiver side, there is a focusing LDR (Light dependent Resistor) sensor to sense the LASER continuously. The LDR sensor also holds a stand and is connected with the main driver circuit. The circuit has two parts. One is filtered by the signal of the discontinuity ray and the other is by the alarm circuit. When anybody crosses the invisible ray the main circuit senses the discontinuity by the sensor and turns on the alarm circuit. If once the alarm circuit is on it will still ring until you push the reset button. There are two options for ringing. One is the duration of ringing depending on the preset timer and another is reset manually. Any option can be set by the DPDT switch. If anybody wants to bind a sensitive area with a single ray he has to use a mirror at every corner to reflect it. The system was built with low cost and high performance. The power consumption of the system is very low.

Abdul Hafeez M H
Buvin A
Udhaya Prakash M
Pravinkumar P G
-I ECE

HEARTBEAT DETECTOR

This Project presents a prototype for the monitoring of Heartbeat rate. A Heart Beat (HB) sensor is being developed for acquainting the input signals using Light Dependent Resistance (LDR) and Light Emitting Diode (LED). It senses the heartbeat of a person and converts it in the form of electrical signals and pulses. The signals are amplified using a signal conditioning circuit and processed by a controller. The frequency of the signal depends on the heartbeat rate, this lays down the basic principle of the HB measuring system. The user needs to put his/her finger in the HB sensor for acquiring the input signals. Although a number of methods have been proposed and implemented in this domain, the proposed system in this text provides a simpler and robust method for measuring the heart rate. The proposed system is being implemented on the hardware and also simulated in Proteus ISIS 7.10 to prove its effectiveness. The proposed model is much more precise, straightforward and cheaper than other heartbeat rate measuring systems. This work has tried to make an easy and stout system for the monitoring of heartbeat.

Dharshana.S
Nathiya.A
Uthami .D
Janaki.B
-I ECE

AUTOMATIC PLANT IRRIGATION SYSTEM

Watering the plant is the most important cultural practice and one of the labour intensive tasks in daily greenhouse operation. Watering systems ease the burden of getting water to plants when they need it. Knowing when and how much to water are two important aspects of the watering process. To make the gardener work easily, an automatic plant watering system is created. There are various types of automatic watering systems, such as sprinkler systems, tubes, nozzles and others. This system uses a sprinkler system because it can water the plants located in the pots. This project uses an Arduino board, which consists of an ATmega328 Microcontroller. It is programmed in such a way that it will sense the moisture level of the plants and supply the water when required. This type of system is often used for general plant care, as part of caring for small and large gardens. Normally, the plants need to be watered twice daily, morning and evening. So, the microcontroller has to be coded to water the plants in the garden or farms about two times per day. 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. The pro-To type reports the status of its current conditions and also reminds the user to refill the water tank. The system automation is designed to be assistive to the user. We hope that through this prototype people will enjoy having plants without the challenges related to absent or forgetfulness.

V.Devasumitha
R.Architha
N.Dhayalini
G.Durgadevi
-I ECE

SMART IRRIGATION SYSTEMS

The project presents the use of correct soil moisture sensors which helps to ease out the pain to monitor and keep records about the changes in soil moisture. Using the Arduino Mega microcontroller with Light-Dependent Resistor sensor, moisture sensor, and temperature sensor, the temperature is measured and analyzed. The soil for a certain duration provides information related to the moisture status of the soil. The Arduino Mega will collect and process the data received from the Sensors. When a threshold moisture level of the soil is reached, the water will supply accordingly. This is essential because water must be provided to the plant at a particular time for a good yield. This project is highly used for farmers, Nursery professionals by eradicating traditional or manual methods of irrigation systems.

K.Akshaya
D.Bhoomika
M.Harinisha
R.Harshavarthini
-I ECE

SMART PARKING SYSTEM

This project deals with an effective way of finding empty spaces and managing the number of vehicles moving in and out in complex multi storeyed parking structures by detecting a vehicle using IR sensors and thus providing feedback. The fully automated smart car parking system is rudimental and does not require heavy lines of code nor expensive equipment. It is a simple circuit built for the exact need of purpose. This automated system is used to find the vacancy in parking spaces available and navigate the driver to reach the desired space using visuals and in an effective manner, thus reducing search time. This system is required for malls, multi-storey parking structures, IT hubs and parking facilities. This makes sure the requirement of labour is insubstantial.

Ramkumar.K
Meiram.R
Karthik Mukesh.S
Ramamoorthy.K
-I CSE

MAGNETIC FIELD EFFECTIVE CURRENT

In the absence of magnetic monopoles in the universe, the true nature of magnetic force and magnetic field is revealed. It is found that asymmetric nature of electric field is responsible to produce the asymmetric electric force on charged particles, consequently a charged particle follows a curved path. Therefore, it seems that the charged particle is acting under two forces, one is the effective electric force and the other is an apparent force which is always perpendicular to the velocity of the particle. The apparent force can be the true nature of magnetic force. In electromagnetic (EM) waves, the apparent force is proportional to the frequency of the EM waves. As the apparent force is the true nature of magnetic force, the magnetic force increases with frequency of EM waves. Further, it is found that there is a phase difference of 90 degrees in electric field waves and magnetic field waves in EM waves.

Subasri.G.V
Keerthana.G
Pavithra.V
Ramya.A
-I CSE

SMART DUSTBIN

The main objective of the project is to design a smart dustbin which will help in keeping our environment clean and also eco friendly. We are inspired by the Swachh Bharat Mission. Nowadays technologies are getting smarter day-by-day so, as to clean the environment we are designing a smart dustbin by using Arduino. This smart dustbin management system is built on the microcontroller based system having ultrasonic sensors on the dustbin. If dustbin is not maintained than these can cause an unhealthy environment and can cause pollute that affect our health. In this proposed technology we have designed a smart dustbin using ARDUINO UNO, along with ultrasonic sensor, servo motor, and battery jumper wire. After all hardware and software connection, now Smart Dustbin program will be run. Dustbin lid will when someone comes near at some range than wait for user to put garbage and close it. It's properly running or not. For social it will help toward health and hygiene, for business for we try to make it affordable to many as many possible. So that normal people to rich people can take benefit from it. (PDF) SMART DUSTBIN USING ARDUINO.

Gopi P
Rohith G
Kishore Priyadharsan J
Vignesh J
-I ECE

LASER HOUSE PROTECTOR

Security is a most important factor today. Technology develops day by day in the world. The crime gang also improves their technology to perform their operation. So technology of security should be modern with time to protect against crimes. We decided to make a security project as our project. In this project we have used laser light to cover a large area. We know laser light goes through long distances without scattering effect. It's also visible only at source and incident point, otherwise invisible. These two properties help us to build up a modern security system, which may be named "laser security". When any person or object crosses the laser line the security alarm will ring and also the focus light will "on" to focus on the entrance of an unauthorized person. LASER-Ray goes through long distances without scattering effect and the Ray is almost invisible. Only the radiation point and incident point is visible. So by this security project we can make an invisible boundary of a sensitive area. There are two parts of the system. One is the transmitter and the other is the receiver. The transmitter part is built with a LASER radiator, a pair of dry cell batteries, an on-off switch and a stand to hold it. The receiver side, there is a focusing LDR (Light dependent Resistor) sensor to sense the LASER continuously. The LDR sensor also holds a stand and is connected with the main driver circuit. The circuit has two parts. One is filtered by the signal of the discontinuity ray and the other is by the alarm circuit. When anybody crosses the invisible ray the main circuit senses the discontinuity by the sensor and turns on the alarm circuit. If once the alarm circuit is on it will still ring until you push the reset button. There are two options for ringing. One is the duration of ringing depending on the preset timer and another is reset manually. Any option can be set by the DPDT switch. If anybody wants to bind a sensitive area with a single ray he has to use a mirror at every corner to reflect it. The system was built with low cost and high performance. The power consumption of the system is very low.

Silambarasan P
Mohanprasath S
Lokesh V
Dharmesh G
-I ECE

PEOPLE COUNTING DEVICE

People counting systems aim at automatically estimating the number of people indoor and outdoor places. They are widely used in the retail environment; determining conversion ratio, advertising and promotional evaluations. And they can be used for transportation management systems and video surveillance. This paper presents a model of estimating the number of people in several scenarios at campuses based on face detection. Several considerations for counting people at campuses are illustrated in this paper, and experimental results of the developed method are explained and shown preliminary results. Moreover, it investigated the possible importance of people counting in the scenarios where potential learners are watching a bulletin board and are captured via a single camera.

Preethi Shree Poorna R
Kaviya V
Harini S
Abinaya S
-I ECE

VOICE CONTROLLED LAMP

This project presents the general concept of the Smart lighting system, which was initially developed with the aim of helping the physically disabled. More importantly, this machine is capable of delivering help and support to address the needs of individuals with disabilities at home. This project was broken down into two stages. The primary section was devoted to developing a detailed understanding of the most common and diffused concepts for home automation. During this process, I intended to acquire a bit of in depth-awareness of a number of companies involved in this field, their capacities, drawbacks, and potential growth areas of the existing home automation systems. It has been a little challenging to learn information. The explanation for that is that most of the items included in this analysis are protected commercially. The second step offers my own input in the form of a concept, a smart lighting device, and it has the potential to work as a smart home system. My design is called a "Smart lighting

system" and mainly controlled by the processing of voice commands. I contend that this approach should be accessible to people with disabilities and those with reduced mobility. Besides that, the hardware used for developing and installing the device is always available and has a fair price tag. In my opinion, the most sophisticated device is a smartphone which is already owned by the future customer in most situations.

AravaSukanyaSravanthi
Harshavarthini S
Hemavarshini S
Nanthini P
-I ECE

TASER RING

Powerful, simple, and easy to handle when a weapon is needed to be used. The taser ring is a high volt stun self-weapon that anyone can use to stay safe. The durable rubber coated outer body fits comfortably around a single finger but allows for a firm hand grip in your palm when walking or jogging when you need to be ready to protect yourself. This model electric taser ring is rechargeable with a built-in battery. The charging system is a USB, so it can be charged with any standard USB Port on a computer or with a USB to AC wall adapter. This model knuckle stun gun does one thing, and one thing well. It's a mini stun gun designed to help stop attacks as a personal self defense weapon. The taser ring stun weapon is a great choice for compact personal self defense for women or men. The well-built taser offers simplicity with advanced technology that is designed to last and work when you need to. The universal charging system can be charged in any USB port and the charge indicator light turns from red to green letting you know that the weapon is fully charged and ready to use.

R.Subash
P.Sharveshwaran
M.Vishnu
S.Nirmal Gautam
-I AIDS

AUTOMATED VISITOR COUNTER

This paper is “Automated light controller with visitor counter system” is a reliable circuit that is controlling the room lights with count the number of visitors or persons in the room. When someone enters the room, the counter will be incremented and the light in the room will be switched ON and when any one leaves or comes out of the room then the counter is decremented. The light will be switched OFF until all the persons or visitors leave from the room. The number of persons or visitors inside the room is displayed on the LCD display. The microcontroller does this work. It receives the signals from the IR sensors, and this signal is operated under the control of source code which is stored in the microcontroller. Microcontrollers at mega 328 continuously monitor the Infrared sensor. When any object passes in front of the IR sensor signal is sent to the microcontroller.

Siddarth Girish
Akash.T
K.Saikumar
S.Chittesh
-I AIDS

MOBILE CONTROLLED ROBOT

The mobile controlled robot basically aimed at eliminating the limitations of rang. The locomotion of robots in different directions can be controlled and manoeuvred by pressing the assigned keys on the phone. The robot is controlled by a mobile phone that makes a call to another mobile phone attached to the robot. In this course of call if any button on the controller mobile phone is pressed, a tone corresponding to the button pressed is heard at the other end. This tone is called the DTMF (Dual Tone Multi Frequency) tone. The robot perceives this DTMF tone with the help of a phone stacked to the robot. This tone is processed by an AT89C51 microcontroller with the help of a MT8870 DTMF decoder. The microcontroller then transmits a signal to the motor’s driver ICs to operate the motors and the motor starts moving.

G.Rishithasree
C.Jyothimai
K.Reethuchowdary
S.Sathvika
-I AIDS

AIR MONITORING DEVICE

This paper deals with measuring Air Quality using MQ135 sensor along with Carbon Monoxide CO using MQ7 sensor. Measuring Air Quality is an important element for bringing a lot of awareness in the people to take care of the future generations a healthier life. Based on this, the Government of India has already taken certain measures to ban 'Single Stroke' and 'Two Stroke' Engine based motorcycles which are emitting high pollution comparatively. We are trying to implement the same system using IoT platforms like Thing speak or Cayenne, we can bring awareness to every individual about the harm we are doing to our environment. Already, New Delhi is remarked as the most polluted city in the world recording Air Quality above 300 PPM. We have corrected the other papers where they have wrongly calibrated the sensor and wrongly projected the PPM values. We have also used the easiest platform like Thing speak and set the dashboard to the public so that everyone can come to know the Air Quality at the location where the system is installed. Also, we have reduced the cost of components used in comparison with the papers referred.

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RAIN ALARM PROJECT

Rain alarm project is a simple but very useful project which detects the rain and automatically triggers the alarm or buzzer. The sensor acts like a simple switch where the switch closes when it rains and is normally open when the rain stops. As water is a basic need in everyone's life. Saving the water and proper usage is very important. This project will trigger the alarm when it rains so we can make some actions for rain water harvesting and also to save the rain water for using it later for agriculture in fields. It is used in automobiles when the detector detects the rain it will automatically activate the windshield wipers of the vehicles. It can also be used in households for harvesting the rain water and increasing ground water storage instead of flowing it into drainage. So, the main purpose of this project is to prevent the material from rain, which can be used in automobiles and in many other purposes. It is an easy and simple reliable circuit which can be constructed at a low cost.

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