
VELAMMAL COLLEGE OF ENGINEERING AND TECHNOLOGY

(Autonomous)


# EEE TECHMANIA'22

VOLUME 16 ISSUE 24 - MAY 2022

PRESENTED BY

DEPARTMENT OF ELECTRICAL AND ELECTRONIC ENGINEERING

# VCET

## VISION AND MISSION

### VISION :

To emerge and sustain as a center of excellence for technical and managerial education upholding social values.

### MISSION :

- Imparted with comprehensive, innovative and value-based education.
- Exposed to technical, managerial and soft skill resources with emphasis on research and professionalism.
- Inculcated with the need for a disciplined, happy, married and peaceful life.

# EEE DEPARTMENT

## VISION AND MISSION

### VISION :

To produce quality Electrical Engineers for industry and good citizens for society through excellence in technical education and research.

### MISSION :

- To empower graduates with sophisticated knowledge and technical skills.
- To explore, create and develop innovations in Electrical Engineering and Technology.
- To provide beneficial service to the rural, state, national and international communities.

### PROGRAM EDUCATIONAL OBJECTIVES:

1.Graduates will professionally be competent, excel in academics and solve wide range of problems in Electrical and Electronics Engineering field to serve the needs of Employers.

2. Graduates will engage in continuous professional development activities through Lifelong Learning to enhance technical knowledge and communication skills.

3. Graduates will excel in leadership quality and managerial capability which leads to Entrepreneur that bridge the gap between the advanced technology and the end users.

# MESSAGE FROM HEAD OF THE DEPARTMENT

*The student contributors to the TECHMANIA'22 -May Issue's creative efforts have produced a lot of joy and happiness, which is evident in this. The Department of EEE has always supported and guided the students in bringing out their talents. They stand as a witness to the monumental efforts taken by the management to make the college a center of excellence in education and research. It is great to find a considerable number of articles, poems and drawings that certainly prove that our students are adequately equipped and possess necessary skill sets to express their talent. Reading this magazine would definitely be an inspiration and motivation for all students to contribute even more to the Forthcoming issues. I hope that everyone would continue to give their full efforts to keep the momentum and continue to enhance the standards of the magazine*

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# GREAT MINDS:

## Ratan Naval Tata

Ratan Naval Tata (Ratan Ṭāṭā, born 28 December 1937) is an Indian-industrialist, philanthropist, and a former chairman of Tata Sons. He was the chairman of Tata Group, from 1990 to 2012, and again, as interim chairman, from October 2016 through February 2017, and continues to head its charitable trusts.

### Early life

Born in 1937, he is an heir of the Tata family, and son of Naval Tata who was later adopted by Ratanji Tata, son of Jamsetji Tata, the founder of Tata Group. He is an alumnus of the Cornell University College of Architecture and Harvard Business School through the Advanced Management Program that he completed in 1975.

## Ratan Tata in Bangladesh

During the 21 years he led the Tata Group, revenues grew over 40 times, and profit, over 50 times.Where sales of the group as a whole, overwhelmingly came from commodities when he took over, the majority sales came from brands when he exited. He boldly got Tata Tea to acquire Tetley, Tata Motors to acquire Jaguar Land Rover and Tata Steel to acquire Corus. All this turned Tata from a largely India-centric group into a global business, with over 65% revenues coming from operations and sales in over 100 countries.He conceptualised the Tata Nano car. In 2015, He explained in an interview for the Harvard Business School's Creating Emerging Markets project, the development of the Tata Nano was significant because it helped put cars at a price-point within reach of the average Indian consumer.Ratan Tata resigned his executive powers in the Tata group on 28 December 2012, upon turning 75 and Board of Directors and Legal division refused to appoint Cyrus Mistry as a successor of 44-year-old son of Pallonji Mistry of the Shapoorji Pallonji Group, the largest individual shareholder of the group and related by marriage.On 24 October 2016, Cyrus Mistry was removed as the chairman of Tata Sons and Ratan Tata was made interim chairman. The decision went through intense media scrutiny that made many scrutinize the root causes of the sudden removal, and the resultant crisis.

## Philanthropy

Tata is a supporter of education, medicine and rural development, and considered a leading philanthropist in India.Tata supported University of New South Wales Faculty of Engineering to develop capacitive deionization to provide improved water for challenged areas.Tata Hall at the University of California, San Diego (UC San Diego), opened in November 2018, houses facilities for the biological and physical sciences and is the home of the Tata Institute for Genetics and Society. The Tata Institute for Genetics and Society is a bi-national institution that coordinates research between UC San Diego and research operations in India to assist in societal and infrastructure development in the area of combating vector-borne diseases. Tata Hall is named in recognition of a generous $70 million gift from Tata Trusts.[citation needed] Tata Education and Development Trust, a philanthropic affiliate of Tata Group, endowed a $28million Tata Scholarship Fund that will allow Cornell University to provide financial aid to undergraduate students from India. The scholarship fund will support approximately 20 scholars at any given time and will ensure that the very best Indian students have access to Cornell, regardless of their financial circumstances.

## Personal life

In 2011, Ratan Tata stated, "I came close to getting married four times and each time I backed off in fear or for one reason or another." Ratan Tata stated recently that he loved one girl in Los Angeles while working there. As his family member was ill, he had to return to India but the parents of the girl didn't allow her to come to India with Tata. So, Tata stood by his commitment and never married.

## Honours and awards

Ratan Tata received the Padma Bhushan in 2000 and Padma Vibhushan in 2008, the third and second highest civilian honours awarded by the Government of India.[62] In 2021 he received the highest civilian award of Assam 'Assam Baibhav' for his exceptional contribution towards furthering cancer care in Assam.

M.Hirithick
IV YEAR EEE B

# SMART SOCCER BALL:

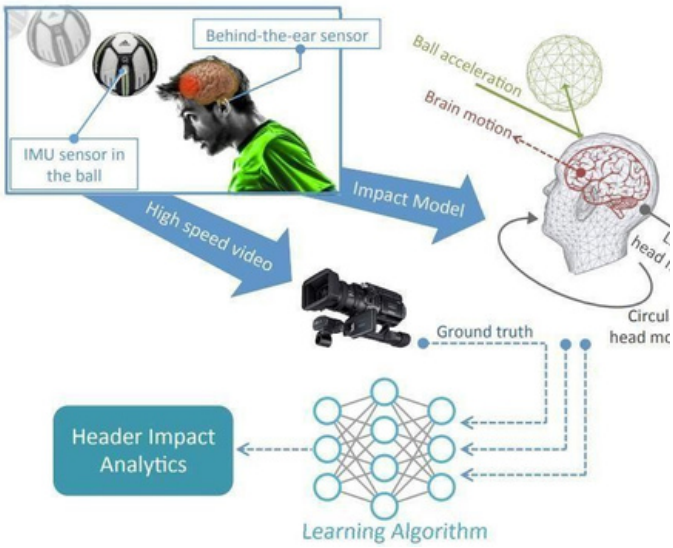
Soccer is the world'smost popular game with over 4 million registered players in the U.S.A. alone, according to FIFA, and countlessmore unregistered playersall over the world. The deliberate use of the head to control the ball is a necessaryskill for a successful player regardless of the position:defender, midfielder, or striker. Properheading technique requires body coordination and proper timing.

The player hyper extendsthe neck, trunk, and hips with the arms out to providebalance. Forward flexionof the trunk generates power, and the neck flexes forward and contracts so that the forehead strikesthe ball. Based on measurements at soccer practice with a radar gun, rough estimate of ball speed for punts is 45 MPH, and drop kicks and goal kicks is 55 MPH.

Due to the large number of playersand the purposeful use of the head during play, traumatic brain injury to soccer players has been Olympic Sports Festival and found that over one half of men and overone third of women had a history of concussion. They estimated a 50% risk of concussion when playing at this level of competition for 10 years.

Boden et al estimated roughly 1 concussion per team per season based on their prospective 2-year data involvingAtlantic Coast Conference (ACC) collegiate soccer.

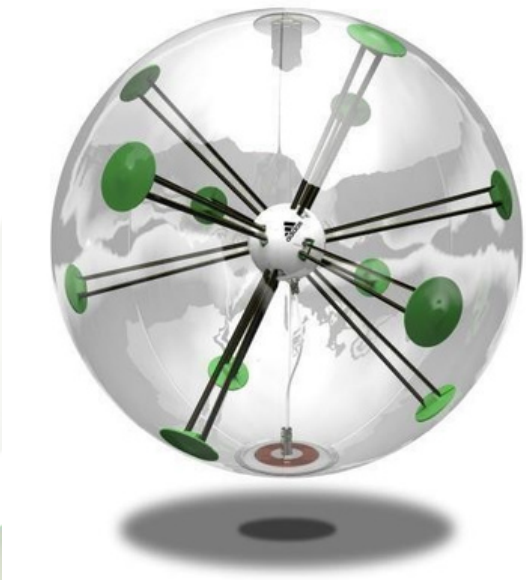
According to a recentlypublished study, playerswho headed a lot of balls, an average of 125 over two weeks, were three times more vulnerable to concussion than those who headed less than four in that time period. Considering the consequences of concussions and the concerns of players and their parents, there has been a significant interest in monitorsthat measure the force imparted to an athlete's head. When attempting to develop techniques for kinematic measurements during heading, Shewchenko et al chose intra-oral devices to measure linear as well as angular accelerations of the head in a laboratory, based on previousreports of the scalp decreasing impact force by up to 20 times.

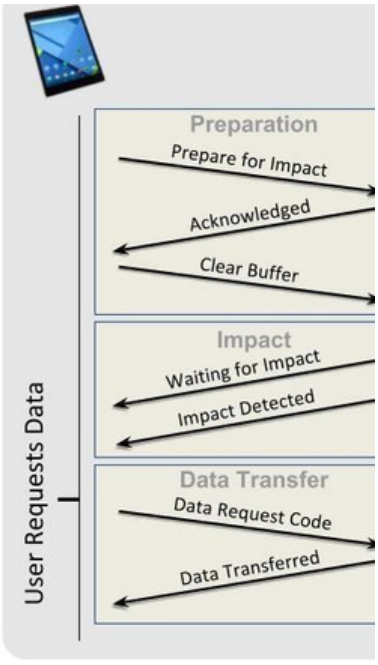



## ADIDAS MICOACHSOCCER BALL

While there is no smart soccerball that fits our vision perfectly, Adidas recentlyreleased the micoachsoccer ball.

It is a size 5 regulation weight soccer ball marketed for dead- ball kick training. Upon a kick, the companion app displays the speed, spin, and flight pattern of the ball. But, this information is inadequate for our purposeof studying header impacts. Therefore, we need to develop a new app to estimate the force of a headerimpact.

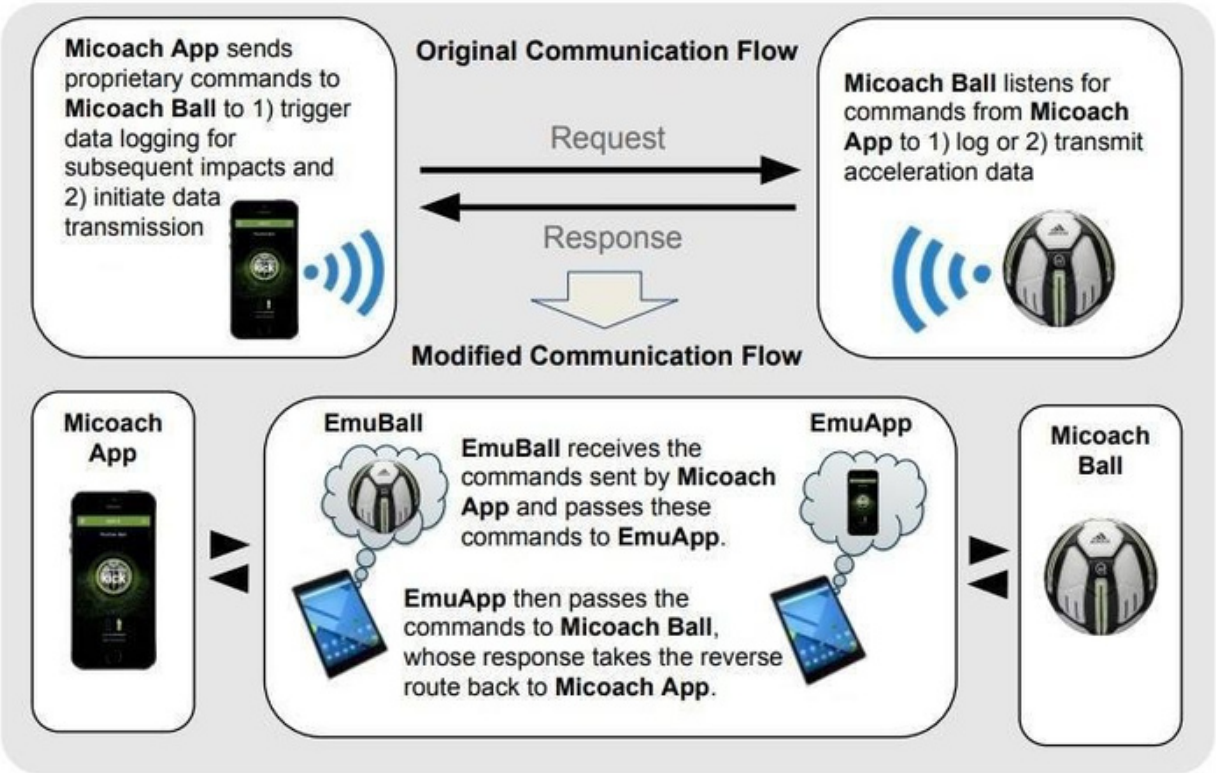




## Recording Headers

Given the current operationsequence of the smartball, that records kicks when the ball is stationary, an improvisation is needed to measure the impacts of headers. Once the app issues a prepare-to- kick command, the ball notifies the app the moment it has been kicked.

Next, insteadof requesting the accelerometer readings,the app issues another prepare-to-kick command, when the ball is midair. Then, the ball treats the header (or any other contact) as equivalent to kick and notifies the app. Now, the app requestsfor the accelerometer readings and derives the force of the headerimpact.



**HEADER IMPACTESTIMATION :**

As mentionedearlier, the smartball's accelerometer has a range of only ±4g. A comparison with an external sensor(range ±200g ) shows how this limitation creates plateaus in the smartballdata due to sensor saturation (Figure 5). Using a method similar to, we attempt to reconstruct missing peaks in the data but found that the truncations were too severe for accurate reconstruction, as a typical impact can easily exceed 100g – well above the 4g limit. Instead, we leverage ensuingreverberations of the ball's internalsensor after an impact and develop a method based on machinelearning. Specifically we use BayesianRidge Regression, which, similar to classical Ridge Regression, utilizes l2-norm regularization to addresspossible overfitting. Unlike Ridge Regression, the regularization parameteris estimated in the Bayesianformulation as part of the training process. Additionally, an Isolation Forest is used to detect anomalies in the data set and remove these outliers prior to trainingthe model. Using the experimental setup we collect100 impacts each for speeds of 20, 30, and 40 mph. Only impacts where the smartballcollides solidly with the dummy's head were recorded for these experiments.

## CONCLUSION

The increased awareness of the harmful effectson the brain incurred from heading the ball in soccer make impact monitoring devices essential. Existing intra- oral and head-mounted sensors inconvenience playersand may not be affordable for millions of amateur players. By illustrating the promise in using a smart soccer ball to measure the quantities from a head/ballimpact, we have taken a step towards eliminating the need for such devices and helping make impact monitoring available to all

K.SUJIRHA
IV YEAR EEE A

# TREES FOR SOLAR ENERGY

In the world the utilization of energy is increasing day by day and thereforewe required the renewable energy sources whichare pollution free and easily available like sun light. Sun light is utilized by solar panelsbut when we required an array of panels the land requirement also increases which arises as a problem.For solution of this problemand for getting more energywe use solar trees.

In these trees basically there are solar panels which are arranged in Fibonacci series for getting more energy and the requirement of the land is less. Becauseof less requirement these are easily installedand these can be used in straight lighting,home supplies and in industries etc. The sun light easily available so these are very beneficial there is no worry of availability of sun light in future because till the end of the world this is also available.

The reason why we call these trees as Solar Trees: The original trees are utilize the sun light and the minerals like water and making their own food and this process is called Photosynthesis.
Like original trees the solar trees utilize sun energy and produce the energy which is used by the people of the society.

**History of Solar Trees:**

In 1998 these are introduced first time as solar artwork on roads and public places.Then this technology is adopted as solar trees. In Europe these are used from many years.

In 2006 in Europe the energy consumption is 10%. 2000 billion kWh is used from solar trees and 2900 million ton carbon is eliminated. In October 2016 solar trees are used in Vienna,Austria. These are also used in Graz, Austria. Solar power: According the calculations made by scientists the sun gives 3.7*1026 watts of energy into the space and on the earth total amount of this energy is 5*10-10th parts is reached.

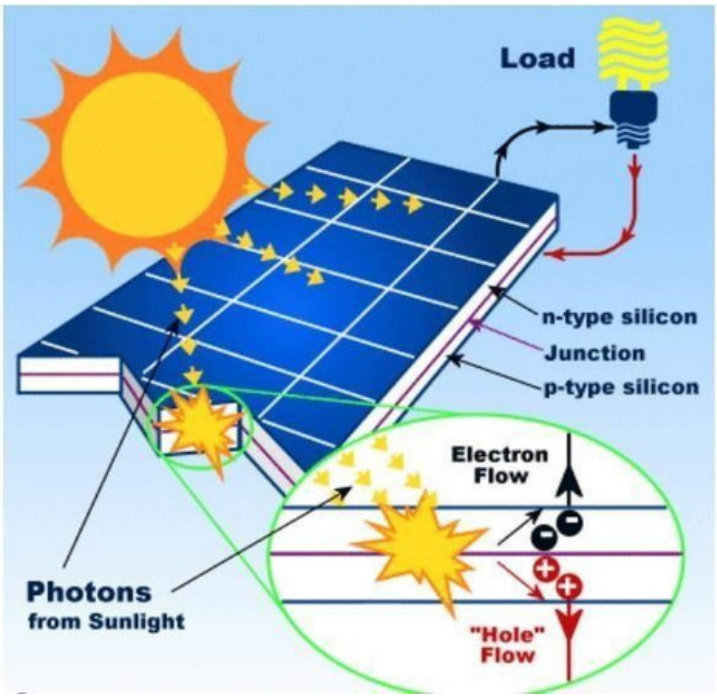
The energy grabbedby earth is 1.7*1017 watts and we can't utilize whole the energy till now. We utilized only small part of this energy. The radiation reached to the earth are of EM waves of wavelength of about 0.25-3 micros which can be utilized in many ways and also in solar cells and in solar trees by photovoltaic conversion.

The solar energy is also conversed by using nanowire solar cells. Thesecells are made of semiconductor material Indium phosphide– generally used as substrateof epitaxial InGaAs.This works likes and antenna that uses sun light and produce the energy. Nanowire crystals having the cylindrical structure with diameter of 10,000 part of a human wire. The nanowiresare developed for quantum computers. Their efficiency of utilizing the sun's radiationis more than the simple solar panels. The diameter of the nanowires are less than the wavelength of the rays of the sun it causes the resonance around the nanowire because of this the energy of sun is more concentrated and the more energy is produced or converted through the nanowire.

## Working of Solar Tree

Fluctuations which are comes in output are eliminated by the day night cycle and the weather shifts. The solar panels chargedduring the day. The LED's of solar tree in the panels are automatically on in the night and gets off in the morning.

This automated process is done by the sensors which are used in the solar panels.The storage of energy is a basic problem in these trees.



## Why better than traditional system:

Solar trees are better than the traditional system because they requires less land about 1% of the land while the simple solar arrays required more land. For example if we produce 2MW energy from array of solar panels the 10-12 area of the land is required but by using the solar tree we require only 1% means only 0.10-0.12 area of the land that's why these are better option for future. In flat solar panels the produced energy is 100% and in the Fibonacci series trees it is about 120% which is more and the time required is 50% less than the flat solar panels. The series and parallel combination of flat panels gives only 2.31 watts while the solartree gives 8.28kWhenergy.

## Comparison with Real Tree:

From the figures we can see that the solar trees works like the trees or more than trees. These also are pollution free and eliminate the gases like CO2 and other pollutants which are responsible for pollution.

## Future of Solar Tree in world and in India:

According all above facts we can conclude that the solar trees are need of the future because these are renewable sourcesof energy and in coming time these are became very popular because the requirement of land is less and sun light availabletill the future.In India the scientists of Central Mechanical Engineering Institute of Research(CSIR–CMERI) made a solar tree which can enlighten 5 houses at a time by usingonly 4 square feet of the land.

## Need of SolarTrees:

1.These uses less land.
2.2. The energyis more than the flatsolar panels.
3.3. It can utilize wind energy by using biomimcrytechnology.

## Advantages of Solar Trees:

1.Pollution free
2.Solution of future relatedenergy problems
3.People can save money
4.Less land required
5.Future energy source

## Applications of Solar Trees:

1.In house supplies
2.In industrial supplies
3.Decorative sculptures

Anandh.V
II YEAR EEE

# FIRE FIGHTING ROBOT

At present all the works of human beings are replaced by the robots. Generally roboticsare classified into service roboticsand industrial robotics.

Nowadays all fields are occupied by robotics including, hospitals, agriculture, defense, hazardous environment and office. The Robots are used where ever human does not do their work efficiently and safely such as handlingpoisonous and explosiveproducts in industries. The direction of the robotic vehicle and the spraying of water in the fire is controlled by the voice command. The communication betweenthe vehicle and humans are established throughController.

This Roboticvehicle is involvedto rescue the human beings and extinguishing the fire where fire fighters are not able to enter into the fire accidental area. with the advent of technology, humans are replaced with robots in life-threatening situations. We aim to design a robot capableof detecting and suppressing fires. By designingand implementing an autonomous robot capable of detecting and extinguishing flames,disasters can be avoided with minimal risk to human life.

It gives exact concept of controlling a robot by a voice Command. Robotic vehicle is capable of understanding and synthesizing human Command for communication and performs required functions.

Few commands which have been used for operation of the robot are: GO, STOP,BACK, RIGHT, LEFT and for the operationof the pumping motor used are: OPEN and CLOSE. Voice control robots can be used for industrial and surveillance applications also it can be used for water sprinkling and cleaning purpose.

For fire detection it is using two sensors. One is temperature sensor and second is smoke detector. Vehicle is capable of controlling fire, avoiding obstacles. This Robotic vehicle can be used in dangerous operations during fire accidents where the possibility for service men to enter the fire prone areas is very less.

**The main objectives of this work are as follows**:

- Construction of speech based intelligent fire extinguisher vehicle system.
- Live images feedback throughwireless video camera.
- Obstacle detection capability
- Night vision capability

**Prevent small fires from gettingbigger**: Vehicle fires can start small but quickly overwhelm the car, especially if they encounter the fuel tank. This can be fatal to anyone still trapped inside the car—and even bystanders can be affected if the whole vehicle goes up in flames. Having a fire extinguisher handy can help yousmother fires before they have a chance to damage the car or injure passengers or passersby. This gives you valuable time to get injured passengers out of the car and to safety.

**Keep your vehicle as undamaged as possible:** Sometimes cars catch on fire, even without accidents or other apparent causes. If that happens, you'll be glad you had a fire extinguisher on hand. They can prevent the fire from worsening—you might be able to repair the vehicle if you catch it in time.

**Use it for other types of fires:** Of course, you're not limited to car fires when you carry an extinguisher. Having a fire extinguisher on hand means you'll have emergency supplies available if you notice a fire wherever you are: the office, the park, parkinglots and more. You never know when a spark will catch dry grass and turn into a big fire.

**Help others in need:** If you regularly go out of your way to help others, it's never a bad idea to carry a fire extinguisher with you.

**EXISTING SYSTEM:**

In Existing System the robot wasmade to the following:

- To detect fire
- Remote controller
- Unidirectional movement
- Buzzer

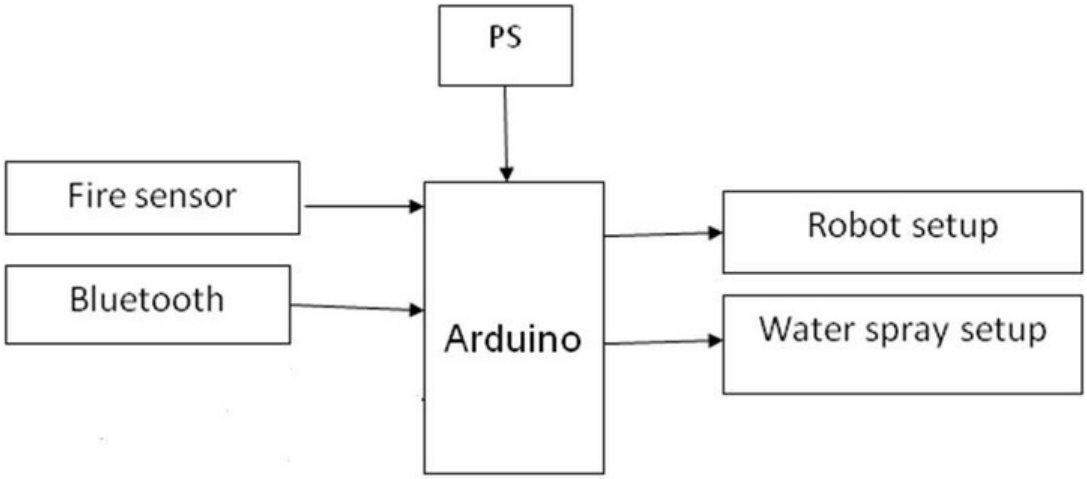
In the first system it was purely dedicated towards detecting fire using sensor like LM35 and Arduino Flame Sensors were used to detect the fire. It gave an advanced feature of using remote controlled fire operated robot to check the fire area but this had some disadvantages .

This robot was designed only to move in certain direction i.e. it can be made to move only in one direction. Atlas they added a buzzer to alert the people near them regarding fire accident.

In the existing system, we Detect the fire by connection the Fire sensor and Ultrasonic sensor. The information where collected in Arduino Uno borad.Dc motor and driver circuit used to move towards the fire place.The data then uploaded to the Cloud for further analysis.

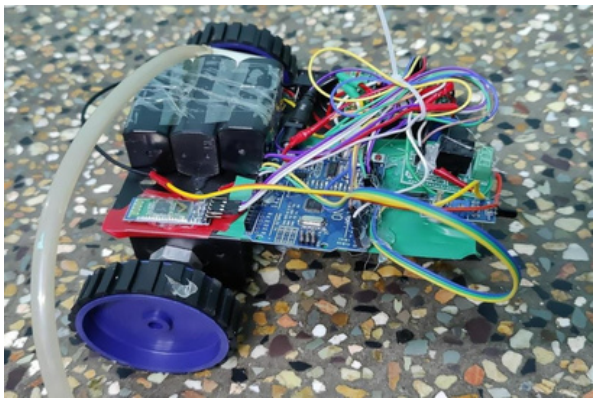
To develop a fire extinguisher vehicle system which works based on the voice commands of user.

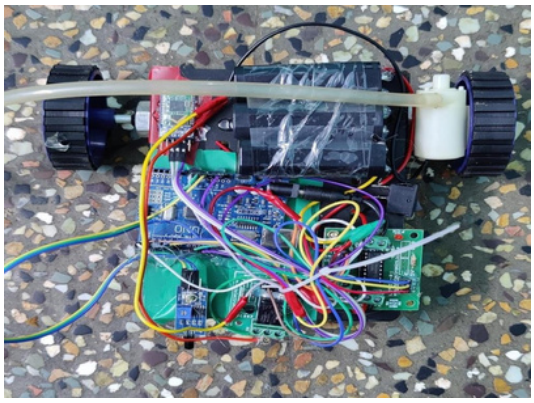
The purpose of using the IR sensor is to detect infrared radiation in itssurrounding environment. And pump motor is to carry the water and spray it to the destination. This whole system will act as a fire detector and fire extinguisher.




**Design and Workingof the Project**

Methodology and circuit diagram are the controlling contraptions of the whole structure are micro controllers. Discourse affirmation odule, remote handset modules, obstruction locator, light, water stream sprinkle, dc motors and bell are interfaced to micro controller. Right when the customer reinforced the voice summons to the speech affirmation module, the microcontroller interfaced to it examines the charge and sends material data of that request remotely using handset module. This data is gotten by the handset module on the mechanical vehicle and feds it to microcontroller which acts in like way on motors, pump and light. The vehicle is mounted with a camera which helps in review the live pictureson TV.





We have proposed and executed Voice Controlled Intelligent Fire Extinguishing Robotic Vehicle. A fire extinguisher vehicle is a device which is used to extinguish or control fires often on critical situations. Based on the design principles and requirement, a prototype of the systemfor Voice Controlled Intelligent Fire Extinguishing Robotic Vehicle has been developed and implemented.

Anil.A
II YEAR EEE

# IoT BASED HOME AUTOMATION USING ARDUINO WITH CLOUD


Internet of things may be a growing network of everyday object-from industrial machine to client home appliances which will share data and complete tasks whereas you're busy with different activities. The most objective of this paper is to produce an outline of web of Things, architectures, and very important technologiesand their usages in our standard of living.This project presents the overall design of Home Automation System (HAS) with low cost and wireless system. It specifically focuses on the development of an IOT based home automation system that is able to control various components via internet or be automatically programmed to operate from ambient conditions. In this project, we design the development of a firmware for smart control which can successfully be automated minimizing human interaction to preserve the integrity within whole electrical devices in the home. We used Node MCU, a popular open source IOT platform, to execute the process of automation.

. The main controlsystem implements wireless technology to provide remote access from smart phone. We are using a cloud server-based communication that would add to the practicality of the project by enabling unrestricted access of the appliances to the user irrespective of the distance factor. We provided a data transmission network to create a stronger automation. The system intended to control electrical appliances and devices in house with relatively low cost design, user-friendly interface and ease of installation. The status of the appliance would be available, along with the control on an android platform. This system is designed to assist and provide support in order to 1fulfil the needs of elderly and disabled in home. Also, the smart home concept in the system improves the standard living at home.

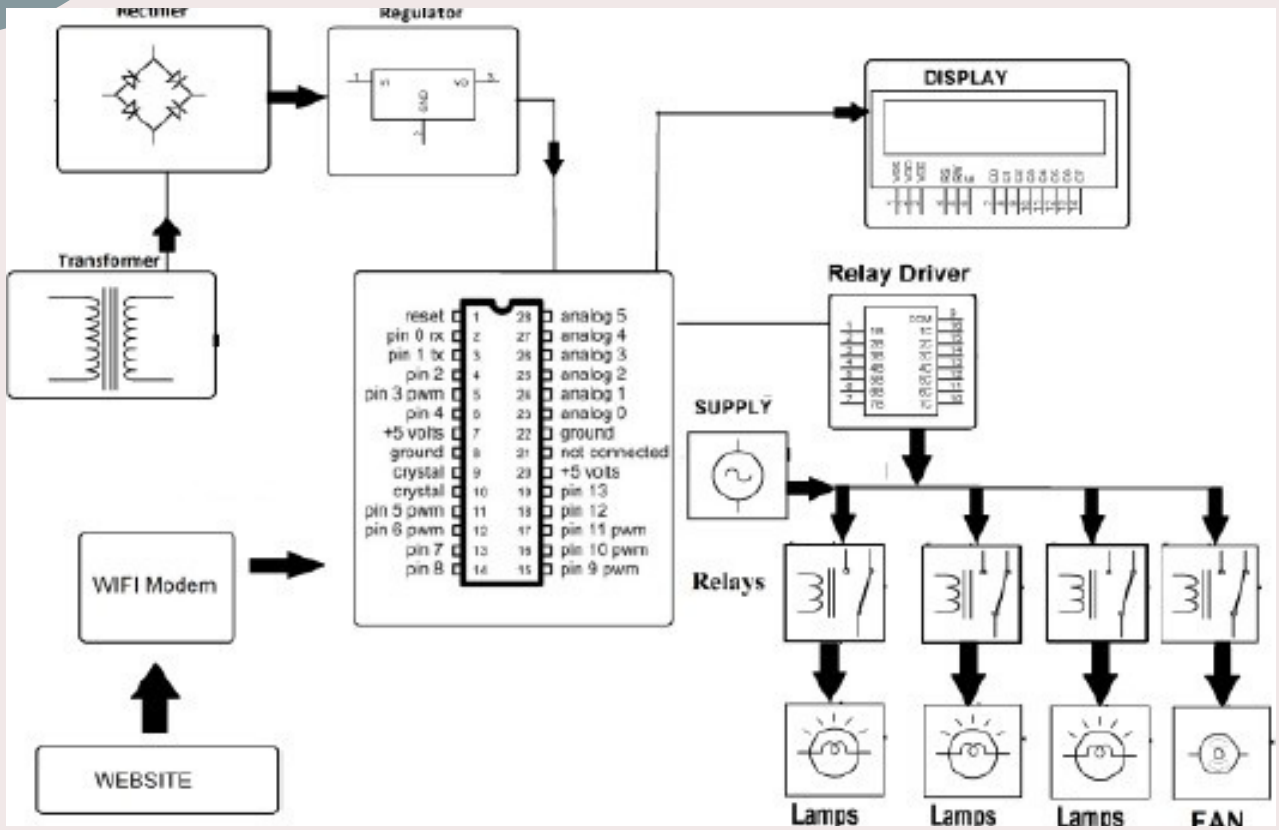
Internet of Things (IOT) is a concept where each device is assign to an IP address and throughthat IP address anyone makesthat device identifiable on internet. The mechanical and digital machines are provided with unique identifiers (UIDs) and the ability to transfer data over a network withoutrequiring human-to-human or human-to-computer interaction. Basically, it startedas the “Internet of Computers.” Research studies have forecast an explosive growthin the number of “things”or devices that will be connected to the Internet. The resulting networkis called the “Internet of Things” (IoT).The recent developments in technology which permit the use of wireless controlling environments like, Bluetooth and Wi-Fi that have enableddifferent devices to have capabilities of connecting with each other.

Due to the advancement of wireless technology, there are several different type of connections are introduced such as GSM, WIFI, and BT. Each of the connection has their own unique specifications and applications. Among the four popular wirelessconnections that often implemented in HAS project, WIFI is being chosen with its suitable capability. The capabilities of WIFI are more than enough to be implemented in the design. Also, most of the current laptop/notebook or Smartphone come with built-in WIFI adapter. It will indirectly reduce the cost of this system.

## EXISTING SYSTEM

The Existing system is the Home Automation with bluethooth module..Bluetooth Based Home Automation System Using Android and Arduino is design and implemented. In this research work a part of smart home technology which using Bluetooth in a mobile device is used, so it will cheap and efficient to use Bluetooth communication technology and controlled system is that the operating range is low but it can controlled from anywhere inside of home.

Home automation systems face four main challenges these are high cost of ownership, inflexibility, poor manageability, and difficulty achieving security. The main objectives of that research is to design and to implement a cheap and open source home automation system that is capable of controlling and automating most of the house appliance through an easy manageable web interface to run and maintain the home automation system.




## PROPOSED SYSTEM

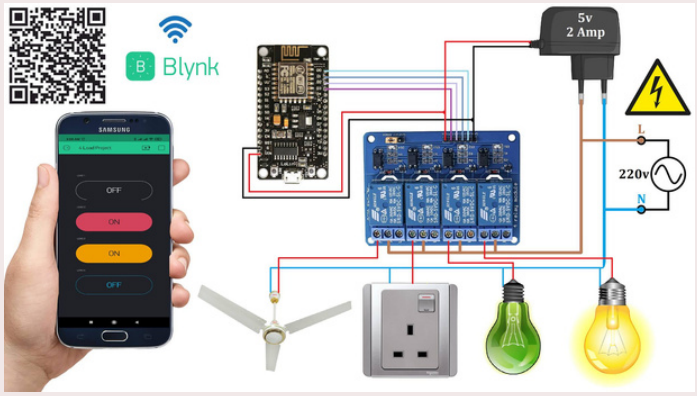
The proposed system is the Home Automation using wifi module with cloud technology.The proposed system is a distributed home automation system,consists of server,hardware interface modules. Server controls hardware one interface module,and can be easilyconfigured to handlemore hardware interface module.WiFi technology is selected to be the network infrastructure that connects server and hardware interface modules. WiFi is chosen to improve system security (by using secure WiFi connection), and to increase system mobility and scalability. Even if, user intends to add new hardware interface modules out of the coverage of central access point, repeaters or managed wireless LAN will perfectly solvethat problem.

When a transistor is used as driver circuit, it can withstand for high frequency signal. So a NPN transistor is used here as a driver circuit.When a transistor is used as a switch it is usuallyrequired to be brought alternatively in the saturation and in the cut-off conditions.

When in saturation condition, it should carry heavy current so that the voltage drop across it is as near to zero as possible and when in cutoff condition, it should carry almost no current so that it may be considered to be an open switch. It is found that the transistor does not respond instantaneously but takes a certaindefinite, though quite small, time in making a transition from one state to the other.

**RELAY CIRCUIT:**

Relays are switching devices. Switching devices are the heart of industrial electronic systems. When a relay is energized or activated, contacts are made or broken. They are used to control ac or dc power. They are used to control the sequence of eventsin the operation of a system such as an electronic heater, counter, welding circuits, X-ray equipment, measuring systems, alarm systems and telephony. Electromagnetic relays are forms of electromagnets in which the coil current produces a magnetic effect. It pulls or pushes flat soft iron armatures or strips carrying relay contacts. Several relay contactcan be operated to get several possible ON/OFF combinations.




The heart of the relay is the 'junction' of the contact points. The relay contact points may be flat, spherical, pointed and combination of all these. Flat contacts require more pressure for perfect contact closing. Half round contacts..

Relay contacts are made of silver and silver alloys in small power applications. For large relays, contacts are made up of copper. Certain relays use silver – palladium of platinum – ruthenium alloys for contacts. The special types mentioned above give long life, carry moderate currents and keep shape for long time.

To identify relay electromagnetism. When winding of insulted wire is made on soft iron rod and apply is given across its end then magnetic field develops around the rod and due to this magnetic field, magnetism also becomes magnet. In this way, can be said that on giving supply to the coil winded over a core, it becomes magnet. This magnet is known as electromagnet.

Relay is a device which can turn ON/OFF any external circuit in some special circumstances. The principal relay is a one pole 2 way switch. The difference is that simple switch is manual switch where asrelay is a automatic switch to some extent. It has a coil in it.

The project on IOT BASED HOME AUTOMATION SYSTEM USING ARDUINO WITH CLOUD is working fine, getting the parameter envisaged during the conceptual stage.

During the design, as well as during the construction, greater care has been put into avoid hiccups at the final stage. The PCB layouts were prepared with almost care to incorporate the circuits in a modular manner. The circuit is made as simple as to our knowledge. Also components were selected keepingin mind theiravailability and cost.

In the existing system wi-fi module is used, in our proposed system the wi-fi module is replaced with cloud system. In this project , all the home appliances are operated, further we have planned to operate surveillance system as well.

S.Birindha
II YEAR EEE

# WOMAN SAFETYSMART WRIST BAND:

Women all over the world are facing and even subjectedto unethical physicalharassment. Security for women is still a major issue as the number of crimes and harassment over women and girls is increasing day-by-day. In this age of technology, mobile phone is one of the gadgets that almost everyone like and uses to keep in touch with family and friends. All they need is a device that can be carriedeverywhere easily. This proposed projectdeals with a quick responding, cost protection system for an individual and especially for women using which a woman in anguish can call for help just with the press of a button on this smart gadget.Self Defense module for women safety is like a Smart Watch for Women safety. It has the ability to help women with technologies that are embeddedinto a compact device. It has the potential to help women with technologies that are embedded. It is specially designedfor women safetyand protection.

It has a control button that will be used by women to inform nearby police when they are in distress. This watch directlygets connected to the satellitethrough GPS when activated. Then the locationis transferred throughthe GSM, it also contains a shock mechanism to producenon-lethal electric shock in emergency situations to deter the attacker.

In this sense, the use of context-aware technology is an essentialaspect in these developments to perceive stimuli from the contextand react to it autonomously. An environment capable of recognizing the presence of people, and locating them .Activity context is the base to our technology to demonstrate all its potential. There are many approaches that propose electronic tele monitoring systemsaimed at trackingvictims and aggressors in order to reduce risk situations.

Though these approaches are based on locating and data transmission technologies such as GPS and GPRS.This module directly gets connected tothe satellite throughGPS when activated. Then the locationis transferred throughthe GSM and this deviceis also provided with a shock mechanism to produce non-lethal electric shock.

## BACKGROUND:

The existing systems available and surveyed can be categorized into three ways as follows:
Systems designedas a mobile application for the android mobilE. A notification is generated for successful delivermessage. Also user can select contact through voice based contact list and make a call. Note: The spokenkeyword converted into a text to comparewith the registered keyword.

## OBJECTIVES:

Self defenceand alert system for individuals to avoid crimes in alone or being in badlylit areas:

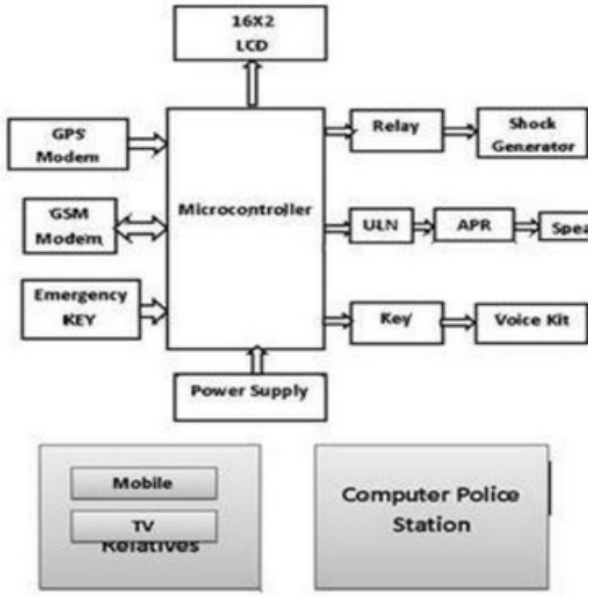
1.Implementation of a real time monitoring device can solve the problem to an extent.
2.The basic approachis to intimate instant location and a distress message to the cops and registered number like parents, friends, media, and women cell etc. so that unfortunate incidents would be averted and to providereal time evidencefor swift action against the perpetrators of crime againstwomen
3.Shock mechanism to produce non- lethal electricshock in emergencysituations to deter the attacker.

## METHODOLOGY:

The system comprises of sections which describes a quick responding, cost protection system for an individual and especially for women using which a woman in distress can call for help just with the press of a button on this smart gadget. Self Defense System for women safety is like a Smart Watch for Women. It has the abilityto help women with technologies that are embedded into a compact device. The women wearing this device as a watch or band, in case of any harassment or when she finds that someone is going to harass,she presses a switch that is locatedon the watch or band or whenthe women has fallen the information aboutthe attack along with the body posture and location information is sent as SMS alert to a few predefined emergency numbers And soon help is on its way! The system will consist of embedded hardware and softwareco-designed for this dedicated application.

The system allows for knowing exact location of the individual, as soon as the trigger key on the belt is pressed. By providing the instant locationof the distressed victim to the police so that the incidentcould be preventedand the culprit apprehended. In case if the caretakerwants to know the presentlocation of the lady, he/she can do so by sending a SMS to the SIM number of the lady which contains a secret password.

## WORKING OF PROPOSED MODEL:




Aim of the proposed algorithm is to help women by the technologies that are embedded in it. Smart Watch for Women is specially designed for women safety.

When the supply is given the device will turn on.GPS and GSM connected to ATMEGA also start workingand it displays the current position of device. Then with the help of GPS the location (latitude and longitude) of the victim is detected and is displayed on the LCD. When the victim feels danger, he/shepresses the first emergency key, the kit displays emergency situation and voice kit is enabled.Now the victim gives voice command and it is recognized by the kit. If the voice command matches with the one stored in database then the appropriate action takes place. For exampleif POLICE gets the voicecommand given by the victim, then a text messageis sent to a number of police station and also an alarm is generated. Anotheremergency key is also providedin the kit and if it is pressed by the victim it generatesa electric shock of around 12 V DC which can give severe shock to the person who is trying to mistreat.

## RESULTS AND CONCLUSIONS:


The working of the proposed model can be dealt in steps as shown below:

**Step 1**: When the woman is in distress situation, she can press the emergency key which activates the self defensemodule.

**Step2:** The current location is captured by the GPS module and will be displayed on the LCD DISPLAY.

**Step 3:** Through GSM the emergency messageis sent to the near by police station, and also to relatives, friends by using the contactnumbers which are stored in the GSM.

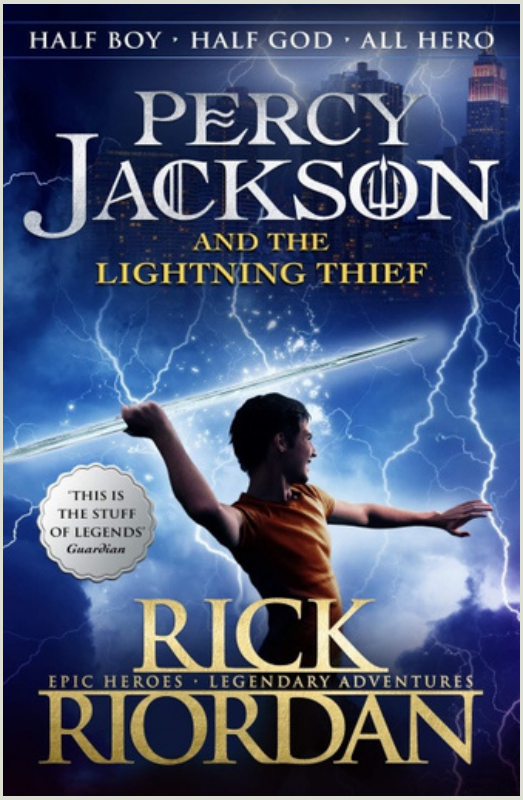
**Step 4:** Now the input data that is the voice of the person is stored. Then the data is transferred to the nearby police station.With the help of GPS and GSM the location of nearby police station is found out. The system is implemented with a Sim card which also helps to transfer the information.

## SCOPEOF FUTURE WORK:

As the technological changes or new requirement from user to enhance the functionality of product may requires new version to introduce. Although the System is complete and working efficiently, new modules which enhance the system functionality can be added without any major changes to the entire system. By keeping this ability of the product 1 mind, an incremental process model has been used to design and develop the system.

# BOOK REVIEW:

## PERCY JACKSON AND THE LIGHTNING THEIF:




### ABOUT THE BOOK

Rick Riordan's Percy Jackson series played a huge role in my love of Greek mythology – the modern take on heroes and myths make them easier for a young audience to understand, and there are plenty of Easter eggs for those who already know their myths. The Lightning Thief kicks off the series wonderfully, introducing a loveable cast of characters that will stay with you for a long time

Percy is a hero who's brave and loyal for all the right reasons – his love for his family, both blood and found, make him a genuine and lovable protagonist. He isn't the kind of hero who is unwilling dragged through his own story; he becomes immersed in this world along with the reader, and he quickly comes to love his fantastical new life and the people that come with it.

The supporting cast is just as strong and substantial: Annabeth is never reduced to a damsel-in-distress, and she's admired for her intelligence and strength rather than looks.

The quests the heroes must embark on throughout the series are direct parallels to Ancient Greek myths, but they feel fresh and new from the eyes of these young modern heroes. From the first novel, the plot is engaging and exciting, appealing to anyone who's ever felt like they didn't belong. Between all of the action, magic and riddles, it's a truly heart-warming story about finding friends who eventually become family, and houses that eventually become homes.

Riordan started the series as a way to help his dyslexic son feel like he could be a hero too; the series has become more progressive and inclusive as it goes along, reaching out to kids who struggle to see themselves in stories.If you enjoyed the Percy Jackson series, it only gets better from there. Heroes of Olympus takes place in the same world, followed by Trials of Apollo. For Egyptian mythology, there's The Kane Chronicles, and for Norse mythology, Magnus Chase and the Gods of Asgard. If that isn't enough for you, Riordan has also written some smaller books branching off from the Percy Jackson series.

# ABOUT THE AUTHOR

Richard Russell Riordan Junior born June 5, 1964 is an American author. He is known for writing the Percy Jackson & the Olympians series, about a teenager named Percy Jackson who discovers he is a son of the Greek god Poseidon. Riordan's books have been translated into forty-two languages and sold more than thirty million copies in the US. 20th Century Fox adapted the first two books of his Percy Jackson series as part of a series of films. His books have spawned related media, such as graphic novels and short story collections.

# IDIOMS AND PHRASES

# 1. Driving me up the wall

## MEANING:

This expression is used when something (or someone) is causing extreme exasperation and annoyance. A similar expression meaning the same thing is “driving me round the bend”.

## EXAMPLE:

“That constant drilling noise is driving me up the wall.”

## ORIGIN:

The saying evokes someone trying desperately to escape something by climbing up the walls. However, it’s unknown when it was first used.

# 2. Mad as a hatter

## MEANING:

"Mad as a hatter" refers to someone who is completely crazy. A similar expression is "mad as a March hare".

## EXAMPLE:

"You could ask him, but he's mad as a hatter."

## ORIGIN:

This is an interesting one. While "hatter" refers to Lewis Carroll's Mad Hatter character in Alice in Wonderland, the expression has its origins in the effects of the chronic mercury poisoning commonly experienced by 18th and 19th century hat manufacturers owing to the use of mercurous nitrate in felt hats. "Mad as a March hare" comes from the behaviour of hares during the breeding season, when they run and leap about the fields.

# 3. Head in the clouds

## MEANING:

Used to describe someone who is not being realistic, the expression “head in the clouds” suggests that the person isn’t grounded in reality and is prone to flights of fancy. The opposite expression would be something like “down to earth”, meaning someone who is practical and realistic.

## EXAMPLES:

“He’s not right for this role, he has his head in the clouds.”

## ORIGIN:

In use since the mid-1600s, the origins of this expression are unclear beyond the obvious imagery of someone who is a bit of a fantasist (having one’s head in the clouds is clearly impossible – or at least it was in the days before aviation!).

# 4.Once in a blue moon

## MEANING:

The phrase refers to something that happens very infrequently.

## EXAMPLE:

“I only see him once in a blue moon.”

## ORIGIN:

Confusingly, a blue moon doesn’t refer to the actual colour of the moon; it refers to when we see a full moon twice in one month. This happens every two to three years. It’s thought that the word “blue” may have come from the now obsolete word “belewe”, which meant “to betray”; the “betrayer moon” was an additional spring full moon that would mean people would have to fast for an extra month during Lent. The saying in its present meaning is first recorded in 1821.

# 5.Pot calling the kettle black

## MEANING:

We use this expression to refer to someone who criticises someone else, for something they they themselves are guilty of.

## EXAMPLES:

“You’re greedy.” “Pot calling the kettle black?”

## ORIGIN:

First used in the literature of the 1600s – notably Don Quixote by Cervantes – this expression has its origins in the Medieval kitchen, when both pots and kettles were made from sturdy cast iron and both would get black with soot from the open fire.

By,
NAGANATH.P
II YEAR EEE

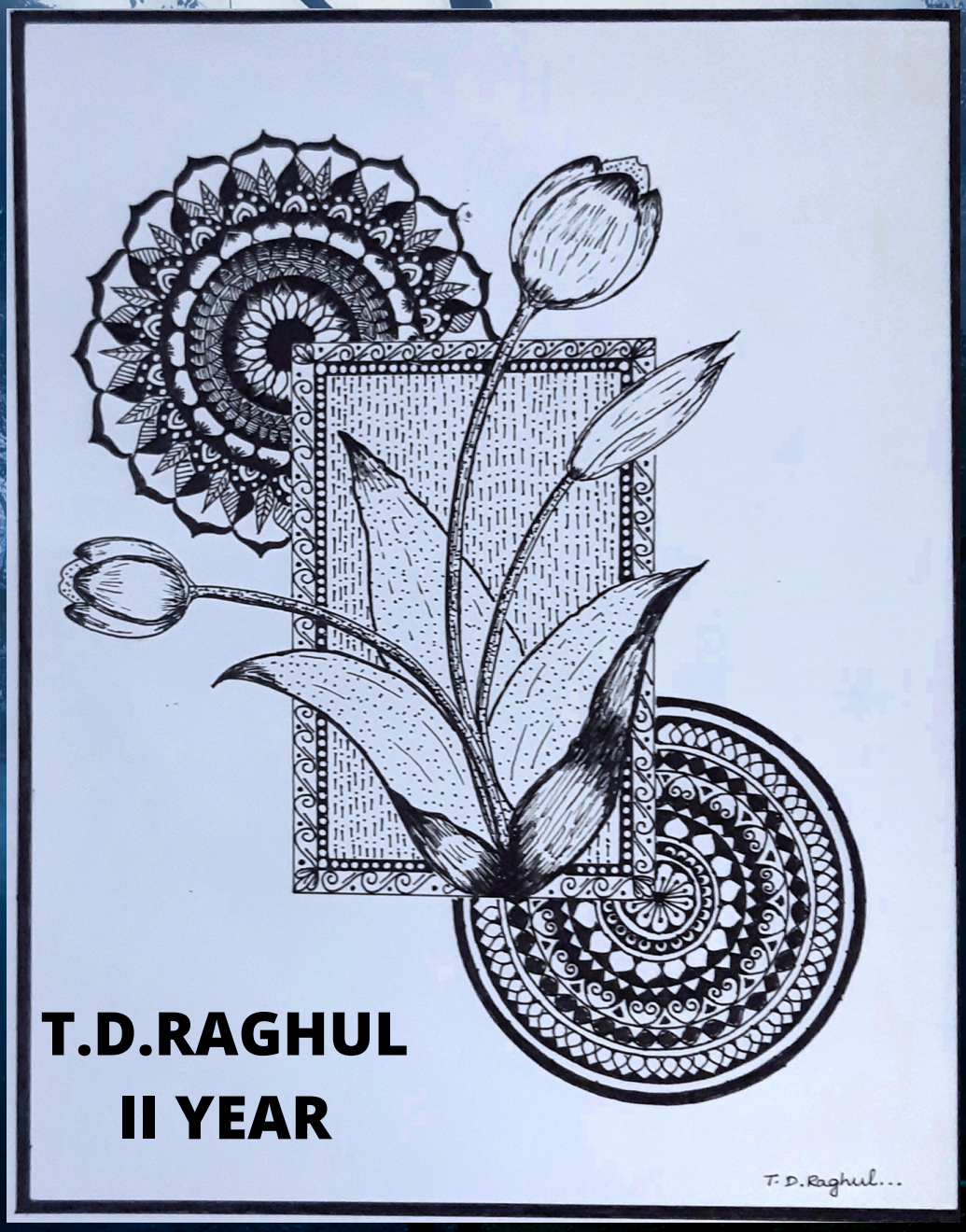
# MY DEAREST AMMA

POEM

MY DEAREST AMMA!
YOU CARRIED ME WITH IN YOU
YOU TOLD ME EVERY NIGHT THAT....
THERE IS A HEAVENLY WORLD , WAITING....
FOR ME TO BEHOLD IT AND FEEL IT'S BEAUTY.
MONTHS PASSED....
YOU TOOK ME INTO YOUR ARMS FINALLY!
NOURISHED ME WITH ALL YOUR LOVE
MY DEAREST AMMMA! AS YOU SAID .
I SAW LOT OF AWW STRUCK SHADES, OF THIS BIG BLUE DUST.
YEARS PASSED.....
YOU GOT YOUR GREY HAIRS AND I GOT MY HEART ACHES& BETRAYALS,
FROM THIS BIG CHAOTIC MASS.
WHEN THERE WAS DARKNESS AND COLD,
ENDURING FROM THE PAIN OF SOLITARY.
YOU TOOK ME ALL AGAIN INTO YOUR ARMS AND TOLD ME,
WE WILL WALK THIS THROUGH TOGETHER,
AND DRIFT AWAY FROM THIS SORROW, TO ESCAPE FROM THIS UPSIDE DOWN.
TO FIND ALL THE BRIGHTEST PLACES THAT YOU TOLD ME IN YOUR LULLABY
AND MY "Wonder Woman " YOU DID IT! TO ALL THE MOTHERS! ‘’IN ALL THE MULTIVERSES THE LOVE OF YOUR'S REMAINS ETERNAL

R.JEVAPRATHA
1 YEAR EEE

# ARTWORKS



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# M.DIVYA DHARSHINI

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M.DIVYA
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**Inspiration is like a spark. It can light the whole city. One frail lady with strong conviction has motivated thousands of others to have good education and be proud citizens. One Velammal has kindled the spirit of Thousands of Velammalians.**

VELAMMAL COLLEGE OF ENGINEERING AND TECHNOLOGY
(AUTONOMOUS)

DEPARTMENT OF EEE