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Inspirational Research Quotes

Imagination is more important than knowledge. Knowledge is limited. Imagination encircles the world.   -Albert Einstein

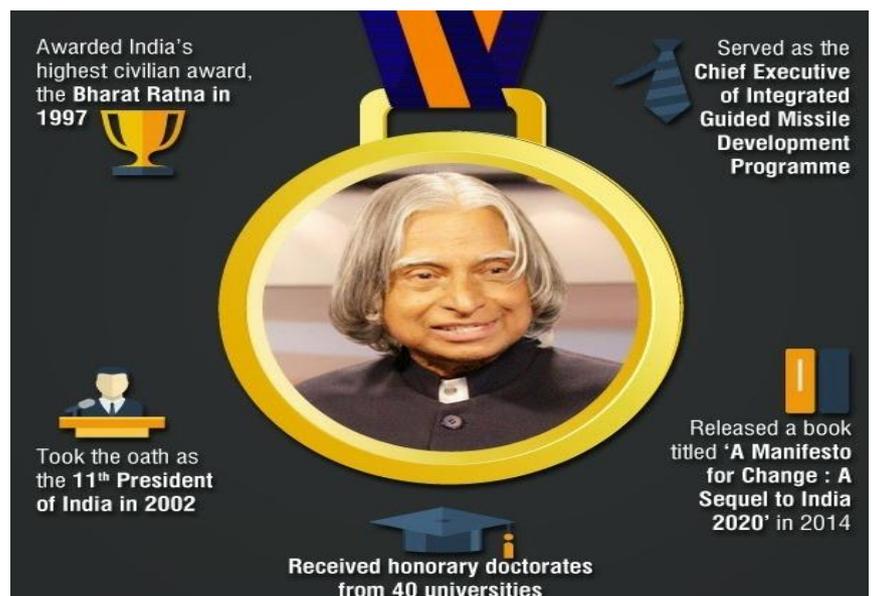Research; the quest for in-depth knowledge and wisdom.   – Lailah Gifty Akita

From the Editor's Desk…

'You have to dream before your dreams can come true', told A. P. J. Abdul Kalam , the greatest dreamer India has produced. He added : 'Dreams is not what you see in the sleep, It is the thing, which does not let you sleep'. Prolific words from a man, who hardly slept 5 hours in a day and who was dreaming 24 hours about a great India and it's happy people!

A completely practical person, he elaborated the method also. Imagine how this country should be after 20 years. Write down the ideas. Work with determination, with this blue print in your inner mind…

When R&D News enters the 3rd year of publication, we are overwhelmed by the power and determination to move forward with enthusiasm and confidence, dreams and innovations, but with an all pervading grief… Dr. Kalam is not with us now…

How a not-so-brilliant son from a middle class family, who were the traditional boat men ferrying people across the sea of happiness and miseries of life became the Anchor and First citizen of our great country to lead us to strength and prosperity is a new an inspiring history for all to cherish. He was a Colossus, who had a clear vision and imagination and capacity to lead and guide the nation to prosperity. We believed him, 1200 millions, speaking different languages, from different races, religions and communities, following different customs and value systems… and we really moved forward…

When we humbly dedicate our R&D efforts to the 'Dream of a Butterfly', we realize that we have to be better, smarter and more innovative and creative. We also realize that if we have to shine like Sun, first we have to burn like Sun… Let us also remember that when all birds find shelter during a rain, an Eagle avoids the rain by flying above the clouds…

R&D Cell funded projects (2015-16)

This year, 21 project proposals were submitted from various departments seeking R & D funding. Out of which, eight projects were approved for funding after review.

R & D Cell meet for evaluating and sanctioning fund for the projects

The following is the list of sanctioned projects:

1) Title of the project: Production of low temperatures using Peltier effect
Project team: 1. Md. Aslam Sohail (1604-12-736-023) 2.Md. Abdul Hafeez (1604-12-736-028) 3. Md. Hammad (1604-12-736-038) 4. Md. Firasat Ali Zahed (1604-13-736-040)
Project guide: Dr. M. Sowjanya, Asst. Prof., MED
Sanctioned amount: Rs.40,000/-

2) Title of the project: I. Solar powere Auto rickshaw (MED)
II. Design optimization and development of Solar Motorcycle

Project team I: 1. Shaik Rauhon Ahmed (1604-13-736-065) 2. Syed Qurram Zeeshan (1604-13-736-072) 3. Mohd. Ibrahim Ali (1604-13-736-078)
Project guide I: Prof. A. S. Reddy, Professor, MED

Project team II: 1. Syed Fareeduddin (1604-12-736-019) 2. Shaik Shafisuhail (1604-12-736-025) 3. Mohammed Khizar ahmed (1604-12-736-039)

Project guide II: Mrs. O. Hemalatha, Asst. Prof., MED
Sanctioned amount: Rs.60,000/-

3) Title of the project: Experimental Investigation of dynamic behaviour of structure using magneto-rheological fluid dampers
Project team: 1. Shuaib ur Rahman (1604-12-736-086) 2. Shaik Azeem (1604-12-736-088) 3. Krishna Chaitnaya (1604-12-736-081) 4. Deepak Reddy (1604-12-736-108)
Project guide: Mrs. G. Sailaja, Asst.Prof., MED
Sanctioned amount: Rs.40,000/-

4) Title of the project: Influence of degassing effect on quality of Aluminium alloy castings
Project team: 1. Md. Abdul Rahim Siddiqui (1604-13-736-004) 2. Nabeel Akber (1604-13-736-006) 3. Moin Afzal(1604-13-736-007) 4. Md. Saaduddin (1604-13-736-010)
Project guide: Mr. Viquar Mohiuddin, Assoc. Prof., MED
Sanctioned amount: Rs.38,575/-

5) Title of the project: Biodiesel Extraction – Phase 4
Project team: 1. Shaik Rauhon Ahmed (1604-13-736-065), Mohd. Misbahauddin Juniad (1604-13-736-098)
Project guide: Dr. M.G. V. Satyanarayana, Asst. Prof., Department of Chemistry
Sanctioned amount: Rs35,000/-

6) Title of the project: Automated Guided Vehicle
Project team: 1. Syed Fareeduddin (1604-12-736-019) 2. Mohd. Mukram (1604-12-736-048) 3. Qamar Pasha(1604-12-736-010) 4. Mohammed Imaduddin Siddique(1604-13-736-068) 5. Shaik Shafi suhail (1604-12-736-025) 6. Humair Ahmed (1604-12-735-022) 7. Samreen Sultana(1604-13-735-007) 8. Ghazala Anjum (1604-13-735-001) 9. Mohammed Haseeb (1604-13-739-029) 10. G. Vineeth (1604-13-735-047)
Project guides: Mr. Mohammed Arifuddin Sohel, Assoc. Prof., ECED 2. Mr. Ferhatullah Hussainy, Dean (Administration), MJCET
Sanctioned amount: Rs.30,440/-

7) Title of the project: Design, Analysis and Development of prototype 30 KVAR STATCOM
Project team and Project guides: 1. Mr. J. V. R. Vithal, Assoc. Prof., EED 2. Mr. K. Mohammed Rafi, Asst. Prof., EED
Sanctioned amount: Rs. 3,92,000/-

8) Title of the project: Smart Street Ligthing
Project team: 1. Narne Namratha Chowdary(1604-12-734-004) 2.Nimrah Sultana(1604-12-734-005) 3, Shazia Nikhath(1604-12-734-006)
Project guide: Mrs. Aijaz Fatima, Asso. Prof., EED
Sanctioned amount: Rs. 16,900/-

R&D CELL COMPLETED PROJECTS (2014-15)

PRESERVING INTERMITTENT DATA IN VANETS

Project team: 1. Mohammed Imran Khan(1604-11-733-094) 2. Momin Shoaib(1604-11-733-102) 3. Syed Abdul Aleem(1604-11-733-107)

Project guide: Mr. Mohd. Umar Farooq, Asst. Prof., CSED

Sanctioned amount: Rs.30,000/-

For efficient data dissemination over a network, the most commonly used solution is broadcasting the messages by flooding the data over the network. Issues concerned with flooding are redundant rebroadcasting of messages and collision leading to broadcast storm problem. This project proposes a strategy to overcome the broadcast storm problem in a Vanets using the bounding algorithm. Our analysis and simulation results illustrate better performance by a hybrid approach presented by combining the advantages of distance-based and counter-based schemes in terms of reachability and saving of rebroadcasting which performs efficiently.

METHODOLOGY
The projected idea is implemented in Omnet++ .The number of replica packets are abridged to much extent as uncovered in below results second copy packets and no duplicate packets in sent packets received packets and number of received broadcast. Different car following model, Number of Lanes and speed have taken into consideration. The metrics adopted to evaluate our projected system are Number of received broadcast, reachability and sent packet A state has been formed with twenty mobile nodes (vehicles in this case) and few road side units (RSU). The mobile nodes are moving at different speeds and we have prepared the nodes to broadcast the packets at the pace which is directly relative to the rate of their rpm. The scenario is configured so as to simulate the proposed road to vehicle protocol.

CONCLUSION
The simple packet flooding without a careful decision of a controlled rebroadcasting may produce an excessive redundancy of incoming packets, a greater channel contention, and a higher collision rate. This project presented a bounding algorithm to limit the influence of the problem of broadcast storm in vehicular ad hoc networks. Many protocols used in VANETs rely on the broadcasting capability, especially when performing a route discovery process.
To alleviate the broadcast storm problem various solution are already available. The most promising are the: counter-based, distance-based, and location-based schemes. Our work is a hybrid approach combining the advantages of distance-based and Vehicular attributes schemes in terms of reachability and saving of rebroadcasting without the overhead of equipping all nodes with GPS devices as required by the location-based scheme. The distance-based constraint on the nodes located above the threshold to avoid excessive rebroadcasting used.

This approach can be a candidate solution to satisfy two goals, namely high reachability and low redundancy shown by simulation. This proposal we are trying to devise its behaviour under many different topologies and mobility patterns for evaluation of the implementation and execution cost of the bounding algorithm on standard VANET routing protocols.

UNMANNED AERIAL VEHICLE

Project team: 1. Syed Mohammed Haroon(1604-11-735-102) 2. Shakaib Ahmed Sayeed(1604-11-735-092) 3. M A Kafeel(1604-11-735-103) 4. Syed Hamed Ali Junaid(1604-11-739-051)

Project guide: Dr. Mrs. Kaleem Fatima, Professor & Head, ECED

The aim of the project was to design and implement a flight controller for quadcopter by implementing control system algorithms on embedded platform comprising of various inertial measurement sensors and a microcontroller to control the various aspects of the flight dynamics of the system. An Unmanned Aerial Vehicle (UAV), commonly known as a drone and referred to as a Remotely Piloted Aircraft (RPA) by the International Civil Aviation Organization (ICAO), is an aircraft without a human pilot aboard. Its flight is controlled autonomously by onboard computers. They are usually deployed for military and special operation applications, but also used in a small but growing number of civil applications, such as policing and firefighting, and nonmilitary security work, such as surveillance of pipelines. With developments in fields like sensor fabrication and automation, designing UAVs with different characteristics is becoming easier.

MOTIVATION:

The motivation of the project was to design flexible system for unmanned aerial vehicles to provide an open platform for research and development to start in this area in the college so as to allow each upcoming batch of students to utilize the immense potential of further research, innovation and development in this area.

PROBLEM STATEMENT:

A Quadcopter is a dynamically unstable system. The sensors which used for position estimation are Accelerometer, Gyroscope, Magnetometer and Barometric pressure Sensor. Accelerometers are very dynamic and gyroscope tendency to drift, not returning to zero when the system returns to its original position. Magnetometer and Barometric pressure Sensor are prone to high frequency noise.

METHODOLOGY:

To effectively utilize these sensors necessary filtering techniques were used. The raw data was used to calculate the pitch, roll, yaw and altitude of the quadcopter. A closed loop control algorithm was used to make the quadcopter stable. The methods used were Complementary Filter to filter data from the sensors and a Two stage PID (Proportional Integral Derivative) controller providing rate and stablise control outputs to the propellers.

The coding of the project was done in Arduino IDE .Arduino IDE is an open-source physical computing platform based on a simple microcontroller board, and a development environment for writing software for the board. Arduino can be used to develop interactive objects, taking inputs from a variety of switches or sensors, and controlling a variety of lights, motors, and other physical outputs. The boards used were ATMega 2560 Arduino mega and Arduino UNO and sensors such as IMU 6050, GY 251 compass, BM 180 barometric pressure sensors etc.

Quadcopter

Results and Conclusion:

The team was successfully able to implement the system and fly the vehicle with the designed system. Stable flight indoors and outdoors was achieved with a filght time of 30 minutes, weight of 1.5kgs and payload capacity of 0.5kgs using a 3 Cell 5000mAh Li-Po battery.There are a lot of scopes in the project, for example, to add altitude hold system, automatic take off system, autonomous GPS waypoint navigation, etc. which can be taken up by the students for further development.

SIGN LANGUAGE RECOGNITION INTERFACE USING KINECT AND LEAP SENSORS

Project team: 1. Abdul Ahad Jafari(1604-11-735-021) 2. Mohammed Sohail Siddique(1604-11-735-022) 3. Abdur Rahman Bin Mohammed Faizullah(1604-11-735-027)

Project guide: Mrs. Nazeerunnisa, Sr. Asst.Prof., ECED

Sanctioned amount: Rs.40,000/-

Human-Computer Interaction (HCI) has become an increasingly important part of our daily lives. In the light of advancement into the field of HCI and contributing towards the betterment of humanity,Considerable effort has been put towards developing intelligent and natural interfaces between users and computer systems. The use of gestures as means to convey information is an important part of human communication.

The automatic recognition of gestures enriches Human–Computer Interaction by offering a natural and intuitive method of data input. With current advances in technology, we see a rapidly increasing availability, but also demand, for intuitive HCI. Devices are not only controlled by mouse and keyboard anymore, but we are now using gesture controlled devices in public areas and at our homes. In this work, we are interested in HCI that does not force users to touch a specific device or to wear special sensors, but that allows for unrestricted use.

Our Project is a system which takes inputs in the form of hand gestures and body positions and interprets them as different predefined messages and converts them into voice and gives output in the form of voice commands. The system can recognize up to five different body positions based on the relative position of twenty different skeletal joints from the data obtained from Kinect sensor and can also recognize fifteen different hand gestures using the data obtained from Leap motion controller. The system gives output in the form of voice commands by playing the pre recorded audio files. A huge advantage of our system does not require the user to wear any special gear like the gloves and wrist bands used in most gesture recognition methods, which adds to the ease of use.

This Project can be deployed at different public places like Libraries, Museums, banks, Restaurants and malls etc. Its Gesture recognition abilities will be especially helpful but not limited to people who are physically challenged like the speech impaired and deaf.

TECHNICAL APPROACH

The **hardware** used in this project are a **Kinect sensor** and a **Leap motion controller.**

Our project was done in three phases the first phase was to interface sensors and obtain data streams individually, the next phase was to design an algorithm for gesture recognition based on the data streams being obtained and develop an application based on the designed algorithm. The final phase was to integrate both sensors in a single application and make them work simultaneously.

Software: We have used Visual studio Express for desktop 2012 as our IDE (Integrated Development Environment) and OpenCV, Kinect for Windows SDK Version 1.8 and Leap motion SDK for windows version 2.2.1 as our dependencies.

FUTURE DEVELOPMENTS:

In the present system, we have pre-programmed the system to recognize certain gestures of interest. Thus, it is the programmer who decides which gestures to add into the gesture recognition library. An improvement to this can be the use of dynamic time warping techniques which enable the user to record any gesture of his interest and add new gestures to the gesture recognition library while the program is running and not only this the DTW technique also improves the accuracy of the system.

Project display

CONTROL OF WHEELCHAIR USING HAND GESTURES

Project team: 1. Syeda Tahoora Najam(1604-11-735-007) 2. Shaista Juhi(1604-11-735-011) 3. Sri Megha Vujjini(1604-11-735-003)

Project guide: 1. Mrs. B. Sucharitha, Asst. Prof., ECED. 2. Mr. Mohd. Ismail.B., Asst. Prof., EED.

Sanctioned amount: Rs.35,000/-

In this era where the technology and health care are fast growing, there are still considerable amounts of physically challenged and elderly who find it difficult to move around in their house. But often quadriplegics and tetraplegia people will find it uncomfortable or somewhat difficult to control the wheelchair manually and will go in search of an external aid. Thus there is a need for an improved method of navigation. One such method proposed here is the gesture based navigation in which simple hand gestures forms the input to the system which is processed, recognized and used for navigating the wheelchair. By this method, the user with disability will find it comfortable for indoor navigation and does not need an external aid.

It is planned to take a regular manual wheelchair and interface it with electronic and mechanical components to not only make it powered but to also make it available for those who cannot use the regular joystick/controller. The most economic approach is presented to recognize hand gestures through real time image processing algorithms via a single web camera which will give the input to a processor(beaglebone black) to process and thus making it mobile. The beaglebone black will give the commands which will control the motor drivers/relays and high torque motors which will be able to carry heavy weight.

TECHNOLOGY:

It does not involve any specific hardware for gesture inputs - a normal webcam with processors such as Beaglebone Black or Rasberry Pie or any Laptop can be used for gesture recognition. This system can be installed on any of these usable devices for gesture recognition. This provides flexibility to the user and the system is portable. a code is developed to detect and count the number of fingers in a real time video feed using python and Open CV libraries and interface the result to relays to control a wheelchair depending on the number of fingers being detected.

Controlling the motion of the wheel chair

- If number of fingers is one than stop.
- If number of fingers are two than move forward.
- If number of fingers are three than move backward.
- If number of fingers are four than move right.
- If number of fingers are five than move left.

FUTURE DEVELOPMENTS:

The present project is performing the basic operation of controlling the chair using hand gestures, the chair can be improved further by connecting LEDs so as to detect hand in night and by connecting infrared sensors so as to detect obstacle and stairs to avoid any accidents, thus improving safety. The most important feature that can be implemented in the chair is GPS mapping which will move the chair anywhere in the house without the user input.

Students with their project, prize and faculty

E- FOUNDRY TO ELIMINATE DEGASSING PROCESS

Project team: 1. Shaik Abdul Subhan(1604-11-736-044) 2. Mudassar Ansari(1604-11-736-041) 3. Syed Shahbaz Ahmed(1604-11-736-035) 4. Tayyab Ali Amer(1604-11-736-050) 5. Ms. Umrah Khan (1604-11-736-319) 6. Mohd. Yousuf Ali(1604-13-765-009) - M.E. (CAD/CAM)

Project guide: Mr. Mohd. Viquar Mohiuddin, Assoc. Prof., MED

Sanctioned amount: Rs.75,000/-

Casting defects in various types of aluminium alloy castings are highly variant and inconsistent. Defect porosity in aluminium occurs in one of three ways: hydrogen emerging from the liquid solution, shrinkage during solidification or, as is usually the case, by a combination of these effects.

Casting process has number of complex stages, one of the most important and complex stage of manufacture of casting is the formation of solid casting from or molten metal phase. When poured into mould cavity, the various complex transformations that occurs during the process including physical, chemical, metallurgical and geometric changes which influence on the quality and the cost of the final product of the casting. The casting process is essential solidification of liquid metal in the mould cavity such as a phase change from liquid to solid state, involves the phenomena like changes in fluidity, volumetric shrinkage, segregation evolving of gases absorbed and the size of the grains, which have profound influence on the quality of the final casting. Sand castings are used to manufacture complex shapes and complex castings are likely to have one or more defect. The presence of defects leads to casting rejections.

The problem faced by the foundry industry today is the rejection of castings containing defects caused by the atmospheric contamination of molten metal. The molten metal reacts with atmospheric gases and gets contaminated which results in the formation of porosity, blowholes, pin holes, voids like defects on solidification. This affects the decrease in the mechanical properties and density of the produced castings.

To remove the entrapped gases from the molten metal, any of the following degassing techniques is to be performed. The various degassing techniques are: Tablet degassing method, Argon gas degassing method, Ultrasonic degassing method, Reduced Pressure Test method, and Rotary degassing method. These methods do not purge all of the gases that have been entrapped in the molten metal. Every method has its own limitations, because of which the castings produced has some defects. In this work it is decided to get on to the root cause of atmospheric contamination and create a setup that encapsulates the molten metal and thereby preventing the atmospheric gases to come in contact with the molten metal, hence producing a defect free casting.

The setup consists of a closed induction furnace with a tapped hole which melts the metal and pours the molten metal directly into the mould which is placed beneath the furnace in alignment with the tapped hole therefore preventing the molten metal coming in contact with the atmosphere. The temperature of the molten metal is measured with the help of thermocouples and is displayed using Digital temperature indicator.

Final setup

AUTOMATION OF MIG WELDING TO MANUFACTURE MECHANICAL COMPONENTS

Project team: 1. Mohammed Abdul Haq(1604-11-736-005) 2. Syed Muazzam Ahmed(1604-11-736-006) 3. Karan Kumar Sadarangani(1604-11-736-007) 4. Mohammed Sohail Siddique(1604-11-735-022)

Project guide: Mr. Mohd. Viquar Mohiuddin, Assoc. Prof., MED

Sanctioned amount: Rs.73,450/-

The aim of the project is to design and fabricate a low-cost machine that can perform multiple Numerical Controlled tasks which can be used in automation of MIG Welding, Rapid prototyping, CNC milling, or any precise CNC machining operation.
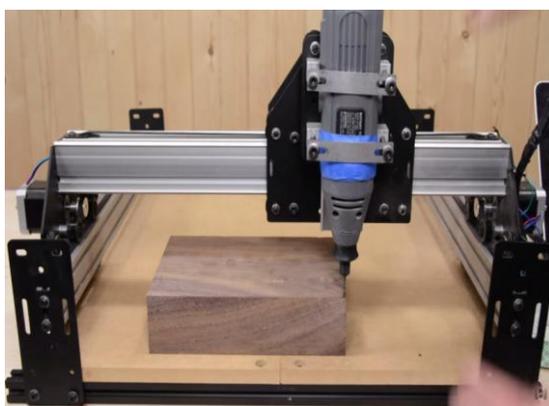
The advancement of technology and sophistication in the field of automation and robotics has revolutionized every field of life. Machines that offer greater efficiency combined with the precision of the robotic systems are minimizing human involvement in dangerous areas and eliminating the limitations that bind the human body and brain. Numerical control is the automation of machine tools that are operated by precisely programmed commands encoded on a storage medium, as opposed to controlled manually via hand wheels or levers, or mechanically automated via cams alone. Most numerical control today is computerized numerical control, in which computers play an integral part of the control.

In modern CNC systems, end-to-end component design is highly automated using computer-aided design (CAD) and computer-aided manufacturing (CAM) programs. The programs produce a computer file that is interpreted to extract the commands needed to operate a particular machine via a post processor, and then loaded into the CNC machines for production. Since any particular component might require the use of a number of different tools – drills, saws, etc., modern machines often combine multiple tools into a single "cell". In other installations, a number of different machines are used with an external controller and human or robotic operators that move the component from machine to machine. In either case, the series of steps needed to produce any part is highly automated and produces a part that closely matches the original CAD design.
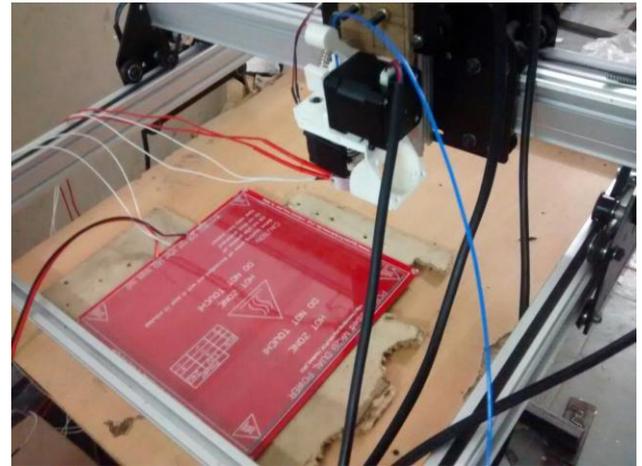
This project carries out designing and implementing a CNC machine for multiple purposes. Its operation requires a customized replaceable head. The head can accommodate any feasible tool onto and can perform operations required from it.

The multi-purpose usability of this machine can be utilized in applications like 3d printing, automation of MIG welding, milling of materials like wood and aluminum. This machine can be used by a range of end users from large industries to small industries and even by hobbyist or for household purposes subject to its dimensions In order to achieve this, a 3-axis motion machine is designed using Stepper Motors. The machine has the ability to move in precise co-ordinates in three axes i.e. X-axis, Y-axis and Z-axis. The structure is modeled in Solid Works and fabricated using aluminum extrusions, the stepper motors are controlled using Arduino mega.

The models of components to be manufactured are modeled using CAD software and are saved in .stl format. The model is sliced in layers and the G-codes are generated using slicing software. The machine is controlled using the host software which creates communication between the user computer and the electronic board on the machine. The machine has a replaceable head hub in which anything can be attached from MIG welding torch, milling spindle to a 3d-printing nozzle owing to its feasibility with the machine.

CNC Milling Setup

3D printing setup

TECHNO-ECONOMIC FEASIBILITY STUDY OF SOLAR POWER FOR THE PUMPING NEEDS OF SUES CAMPUS
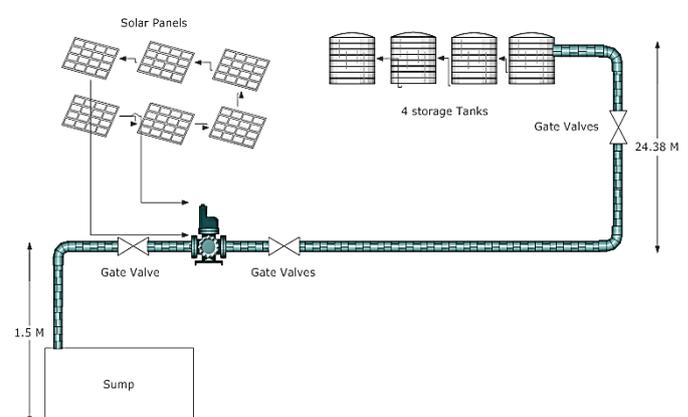
Project Team : 1.Achyuth Prakash(1604-11-736-028) 2. Anish Kumar Puri(1604-11-736-022) 3. Abhishek B(1604-11-736-109) 4. Akhil Goud(1604-11-736-112) 5. P. Bhagat Varma(1604-11-736-076)

Project guides: Mrs. Ishrat Meera Mirzana, Assoc. Prof., MED and Mr. Irfan Sadaq, Asst. Prof., MED

In the present work, design and fabrication of solar water pumping system using PV modules is presented for Hyderabad climate conditions at Muffakham Jah College of Engineering & Technology campus block -5. For this purpose the layout of the campus was considered.

After studying the layout of the campus, block -5 was selected for installing the solar pump and thus, a design plan was carried out as follows

Layout of the setup

After measuring the layout of the pump, sump, building and terrace we found the following information:

Amount of water to be pumped per day: 16m^3

Total vertical length: 28m

Total horizontal length: 32m

Height of building: 24.38m

Depth of sump: 1.524m

Length of day: 6 hours

Peak of insolation: 1000W/m^2

Frictional losses: 5% of total vertical height = 1.4m

Total dynamic head: 29.4m

The main purpose of break-even analysis is to determine the minimum output that must be exceeded in order to make profit. It also is a rough indicator of the earnings impact of a marketing activity. A solar electric (photovoltaic) power system allows to reduce the amount of electricity one buys or even sells its excess back to the utility. It also makes less vulnerable to future price increases, and reduces air pollution.

However such a system requires a substantial initial investment. The prices of a PV system depend primarily on its output peak power rating. That's why its cost is usually compared in terms of rupees per watt.

Currently, the installed costs of most complete residential PV systems vary from 4/- per kWh to 12/- per kWh before any financial incentives or tax credits. That includes the panels, inverters, wiring, hardware and labor. The actual number depends on the manufacturer, retailer, installer, as well as your system's configuration and equipment options. The per-kW rates are the highest for smaller systems (≤2 kW): 4.5/- per kWh in average. More than half of this amount is driven by the cost of PV panels. A battery based backup system costs about 20-30% more than a battery less one. With all the incentives it may take less than ten years to reach a breakeven point.

Solar panels and Solar Pump

A solar photovoltaic based water pumping system has been designed to install in the MJCET (SUES) Campus based on the design calculations performed during the course of the project. This system is capable of providing a daily average of 16m³ of water to fill 4 Storage tanks twice a day. The SPV system can play a significant role in achieving a green and clean environment.

MODELING AND DEVELOPMENT OF MAGNETO-RHEOLOGICAL FLUID CLUTCH

Project team: 1. Syed Mahmood Hasan(1604-11-736-009) 2. Syed Ehtesham Uddin(1604-11-736-010) 3. Rounak Ali Porbandarwalla(1604-11-736-020)

Project guide: Mrs. O. Hema Latha, Asst. Prof., MED

Sanctioned amount: Rs.40,000/-

The most common problem with conventional clutch is mechanical friction. The friction material on a clutch disc is very similar to the friction material on the pads of a disc brake, or the shoes of a drum brake after a while, it wears away. When most or all of the friction material is gone, the clutch will start to slip, and eventually it would not transmit any power from the engine to the wheels. The clutch only wears while the clutch disc and the flywheel are spinning at different speeds. When they are locked together, the friction material is held tightly against the flywheel, and the spin in synchronize. It is only when the clutch disk is slipping against the flywheel that wearing occurs. So if the driver slips the clutch a lot, they will wear out the clutch a

lot faster. Another problem sometimes associated with clutches is a worn throw out bearing. This problem is often characterized by a rumbling noise whenever the clutch engages. Mechanical friction will occur when the conventional clutch is used and will damage the pads of the clutch disc. By using the MR fluid clutch this problem does not occur. The input and the output shaft will be connected inside the MR fluid clutch. The engagement happens when the MR fluid is under magnetic field and changes to solid state and engages both the shafts. The clutch will not get the problem to slips because these MR fluids will always fill the area and will change into solid state when the magnetic field is created.

In this project a Magneto rheological (MR) multi-plate torque transfer device or a clutch is developed. Design, Modeling, Analyzing, Manufacturing and control aspects are particularly emphasized.MR Fluid possesses the unique ability to undergo dramatic and nearly completely reversible changes in their rheological properties under the application of a magnetic field. These controllable fluids can serve as white, rapid interfaces between electronic controls and mechanical systems.

A torque transfer device is commonly used to transfer rotating energy between two mechanical components. Magneto rheological (MR) fluids are suspensions of micron-sized iron particles dispersed in non-polar liquids. On the application of magnetic field to the fluid there are reversible changes in rheological properties which are related to the increase in fluid strength by developing a yield stress.MR fluids can withstand higher torque and require lower voltage (and moderately large currents) to be activated.

MR Fluid Clutch

REAL AND REACTIVE POWER CONTROL OF A 3-Ø SELF EXCITED INDUCTION GENERATOR (3.5KW) USING UNIFIED POWER FLOW CONTROLLER

Project team: 1. Syed Irfan(1604-11-734-015) 2. E. Suhail(1604-11-734-017) 3. Ahmed Ziya(1604-11-734-019) **4.** Mohd Akram(1604-13-743-003) – M.E. (PES)

Project guide: Mr. K. Mahammad Rafi, Asst. Prof., EED

Sanctioned amount: Rs.28,800/-

Unified power Flow Controller (UPFC) Test Bench

Modern power systems are continuously being expanded and upgraded to cater the need of ever growing power demand. But, in recent years, difficulties have been faced in expanding the power generation and transmission systems. These problems have forced to look for new techniques, for improving the performance of the existing system. By connecting an unified power flow controller (UPFC) with series and shunt controllers the performance of distribution system can be improved. Two converters are connected back to back with a common DC link, function of converter 1 is to supply or absorb the real power demanded by converter 2 and converter 2 is used to inject voltage with controlled magnitude and phase angle.

Power quality issues are rising in importance particularly for highly integrated plants that are sensitive to distortions or voltage issues. Power quality problems will be originated in distribution networks. In maximum countries, there exist regulations on the distortion and unbalance that a consumer can inject to a distribution system. These regulations may require the installation of compensators/filters at consumer premises. In this work, the use of a shunt and series compensators to control real and reactive power are examined.

Unified power flow controller (UPFC) is most versatile Flexible AC Transmission System (FACTS) device due to its ability to control real and reactive power. Support for UPFC is provided by a dc capacitor. UPFC can control the real and reactive power independently at the point of common coupling by maintaining voltage profile in safer limits for the distribution line.

Work is carried out to Control (Real& Reactive Power) on an Isolated induction generator (3.5 kW) by using Arduino-DUE board (ATMEL ATSAM3X8EAU) & ATMEGA16. The experimental results demonstrate the performance of the Unified power Flow Controller (UPFC).

TECHNO ECONOMIC FEASIBILITY OF WATER MAIN SYSTEM IN SUES CAMPUS AND ITS AUTOMATION

Project team: 1. Yusra Fatima(1604-11-734-051) 2. Zubaid Ahmad(1604-11-734-052) 3. Shugufta Nazneen(1604-11-734-010) 4. Amatul Zainab(1604-11-739-001) 5. Azmt Banu(1604-11-739-005) 6. Mohammed Akram(1604-11-739-053)

Project guides: 1. Mr. Shaik Qadeer, Asso.Prof., EED 2. Mrs. Ajaz Fatima, Asso.Prof., EED

Santioned amount : Rs. 25,000/-

In the Energy saving schemes proposed, the basic idea is to complement the old existing pump running on grid that consume energy beyond expectation with the new generation devices that are smart in operation and saving. Solar panels are installed that would give enough energy to run a 2 HP pump and water level sensors are fixed on the over head tank for three different levels. These lower sensors detect the low water level and automatically switch on the pump running on solar power. Once the tank is filled, the higher sensor gets activated and switches off the solar pump. In case there is not enough solar energy available (rainy or cloudy days), and water level is low in overhead tanks, then the pumps switched to grid power , but the tank is not filled completely but is filled up till satisfactory water level till medium position sensor. Sending and receiving of the transmission data is done through wireless communication, so as to avoid the extra cables running. Features like accurate water level detection, Better Closed loop control, Effective timer control, Remote control for timing and feasibility of mode

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changing are introduced into the old Energy guzzlers. These are the conditions followed by the automation pumping system:

- To switch ON when water level is below 'L'.

- To switch OFF when water level is above 'H'.

- When unavailability of solar power, grid power is switched ON and gets automatically switched off when water reaches an intermediate level 'M'.

- From 5:00pm to 7:00am, even if the water level is below low point and unavailability of solar power, the grid power will not be turned ON.

Input from the three sensors are send to the Arduino transmitter.Based on the water level in tank the three sensors get on or off. This information is coded in the transmitter Arduino. Once the status of water in overhead tank is checked, transmitter sends the coded form of status to the receiver via Bluetooth. The receiver Arduino checks the status and also checks the availability of enough solar power. Based on these two conditions, following is commanded by the receiver Arduino.

1.If water level is low and solar supply is available , solar pump is turned on.LCD displays("Water level is low Solar pump is on") The pump continues running until the HIGH sensor gets on , indicating water level has reached the upper limit and tank is full. The pump gets turned off and LCD displays ("Water level = high , both the pumps are off")

2.If water level is low and there is no availability of solar supply , then grid pump is turned on and LCD displays("Water level is low, Grid pump is on") The pump continues running until the MID sensor gets on , indicating water level has reached a satisfactory level. The pump gets turned off and LCD displays ("Water level = mid , both the pumps are off"). Again Arduino checks for solar supply , if available solar pump gets turned on and water is filled up till high level.

3.Switching on and off and switching between solar and grid pump is done using two relays of rating 10A ,330V.

Power consumption analysis of the existing system :
- Installing energy meters at the supply
- Recording number of hours of operation per day
- Analyzing power losses

INTERNET EQUIPPED NOTICE BOARD. AN APPLICATION OF IT

Project team: 1. Uzma Nausheen Khanam(1604-11-739-002) 2. Sreenidhi Bussa(1604-11-739-007) 3. Mohammed Faizuddin(1604-11-739-034)

Project guide: Mr. Shaik Qadeer, Asso.Prof., EEED

Sanctioned amount: Rs.10,000/-

The project mainly focuses on transmission of textual data through a Wi-Fi connection by asynchronous serial communication .The data will be processed by an Arduino on the receivers' end. The data then will be displayed on the scrolling LED board. The messages can be changed only by the person who is connected to the network. And to connect to a network the user needs to get authorized by typing in a unique pass key. In addition to that address matching is done by the router and a unique IP is given to the receiver, so in case of number of receiver boards the message can be sent dedicatedly by using a unique IP assigned to the respective boards.

It is therefore possible to receive or decode the message collectively by more than one receiver which is connected to the internet via Wi-Fi through a shield. Hence we will be able to control the displays (which are connected to the internet using Arduino) from any part of campus in range of the WiFi router.

In this project the data is not send anonymously but send only after proper authorization. This enables us to prevent the unauthorized use of Led display board and only the person who has the pass code can have access to Led board. Main feature of the project is that we are using a Wi-Fi network by which we can control Led display board by any device equipped with a Wi-Fi option which is present in any part of the campus or block, condition is that user must have the respected pass code.

1. **Changing Messages**

   a. Switch on the display board .
   b. Switch on the WiFi of your device.
   c. Connect to the Network "Internet Equipped Notice Board" using the known passkey.
   d. Now open your Device's browser.
   e. Type in the web address to access web terminal.
   f. After the web terminal loads.
   g. Type in the message to be displayed and click Submit.
   h. Check the message.

2. **Troubleshooting**

In case the message doesn't change on the board after following above steps.

a) Install Arduino IDE on a Laptop.
b) Connect the USB cable of the Arduino (inside the box) to the Laptop.
c) Now open up the serial window from the Arduino and observe the real time running of the Process.
d) Simultaneously send messages through another device and see the running.
e) Observe the index which is interrupting with the working. (say 295)
f) Go back to the program and search for "*if (index ==6....*".
g)Add the terms " ***&& index!= 295***" inside the braces.

h)Verify and upload the sketch (program) into the Arduino.
i) Unplug the USB.
j) Recheck.

Student presenting R & D Project work at the conference

MAGNETICALLY LEVITATED WIND GENERATOR(CONTROL OF A VERTICAL AXIS LEVITATED WIND TURBINE)

Project team: 1. Shaema Siraj(1604-11-734-005) 2. Sumayya Nizam(1604-11-734-006) 3. S.Shazia Yousuf(1604-11-734-007)

Project guide: Mrs. Fabia Akbar, Associate Prof, EED

Sanctioned amount: Rs.20,000/-

In the crisis ridden energy sector the wind power is one of the viable sustainable sources of energy. The wind speeds in most of Indian zone is much lower than 4 m/s, especially in the cities, but the mechanical frictional resistance of the existing wind turbines are comparatively large in this output range, usually it can't start up when the wind speed is not enough. Magnetic levitation has the features of no mechanical contact, hence no friction, which minimizes the friction force thereby enabling the wind turbine to start up at low wind speeds.

This project proposes a vertical axis turbine and the novelty of levitation concept is introduced into the design. Its efficiency, cost and power output is better than its counterpart. It is expected that with the use of the levitated turbine design, the wind power generation can take place even at such low wind speeds as 1 m/s, thereby significantly increasing the output potential of wind farms. The type of design which is produced does not require any significant land for installation, as its can be easily incorporated on a rooftop. With magnetically levitated vertical axis wind turbine the cost is also significantly reduced. In this set a compact small size axial flux permanent magnet type generator is used, which has lower weight, low maintenance and is long lasting. The design of the Maglev based vertical axis wind turbine is effectively demonstrated in this project work.

Magnetically levitated Wind turbine

WIRELESS SURVEILLANCE ROBOT CONTROLLED VIA VOICE AND WITH FIRE ALERTING SYSTEM

Project team: 1. Sumaiya Nazneen(1604-11-737-064) 2. Maheen Ahmed(1604-11-737-082)

Project guide: Dr. Mrs. Uma N. Dulhare, Professor, ITD

Sanctioned amount: Rs.27,500/-

The advancement of technology and sophistication in the field of automation and robotics has revolutionized every field of life. Machines that offer greater efficiency combined with the precision of the robotic systems are minimizing human involvement in dangerous areas and eliminating the limitations that bind the human body and brain. Surveillance security robot provides safety like man. Surveillance is the monitoring of the behaviour, activities, or other changing information, usually of people for the purpose of influencing, managing, directing, or protecting, it is therefore an ambiguous practice.

The project aims in designing a "Voice Controlled Wireless Surveillance Robot with Fire Alerting System". This Robot helps in watching the premises of industries, institutions and alerting for industry related security risks. The robot is also capable of detecting fire. Once the fire is detected the robot sends the alert message to the given number for help. This message is sent by the GSM module which is interfaced with the microcontroller.

Wireless Surveillance Robot being demonstrated to Hon. Secretary Mr. Zafar Javeed

The controlling device of the whole system is a Microcontroller. Whenever the user feeds a speech command through phone connected to Bluetooth, the speech based application in Bluetooth accepts and transmits relevant data through the micro controller. The Microcontroller performs appropriate task related to the data received for the movement of the robot. The robot system is capable of alerting through buzzer for security risks like detection of fire. The Robot system also has a wireless video camera mounted on it which helps in watching the live images of robot surroundings in Laptop. The Microcontroller used in the project is programmed using Embedded C language.

This project can be extended by introducing Zigbee module, which can increase the range of wireless communication. It can also be used for detecting earthquakes by interfacing biometric sensor with microcontroller. By connecting bomb detector to the robot, we can send it to anywhere i.e. (battle field, forests, coal mines, to any place) by using our personal computer and we can able to detect the bomb at field, here sensor detects the bomb and gives information to micro controller and it gives the information to transceiver and it sends the information to the personal computer.

By connecting smoke sensor to the robot get the information related concentration of smoke or gases in respective field's i.e. (coal mines, dangerous zones, etc).

By connecting corresponding instruments to the robot can be used in agriculture for farming purpose. This robot can move either forward and backward and left and right depend upon our instructions so that some part of agriculture from pc only by using robot.

By connecting firing instrument and wireless camera to the robot we can FIRE the target from pc. Here by using camera , the opposite target can be seen and FIRE the target from personal computer by pressing selected button and   easily handle the situations like Mumbai terrorist's attack without loss of human life's .

BIODIESEL EXTRACTION – PHASE 3

Project team: 1. Shaik Rauhan Ahmed(1604-13-736-065) 2. Syed Imran(1604-13-736-067)

Project guide: 1. Dr. Satyanarayana M.G.V., Asst.Prof., Chemistry Dept.

Sanctioned amount: Rs.30,000/-

Biodiesel is being considered as one of the most promising alternative fuel in internal combustion engine as it is environmentally friendly and can be synthesized from edible and non-edible oils. It is derived from the Transesterification of vegetable oils and animal fats and consists of saturated and unsaturated long chain fatty acid.

Methodology Employed:

To carry out the project smoothly the methodology followed was a) Fabrication of the Microwave based Reactor b) Collection of waste cooking oils and purifying it c) Collected oil samples to be subjected to process of Transesterification in the newly fabricated Micro oven reactor d) Extraction of Biodiesel and other by-products e) Analysis and f) Diesel generator adapted to work as Biodiesel generator.
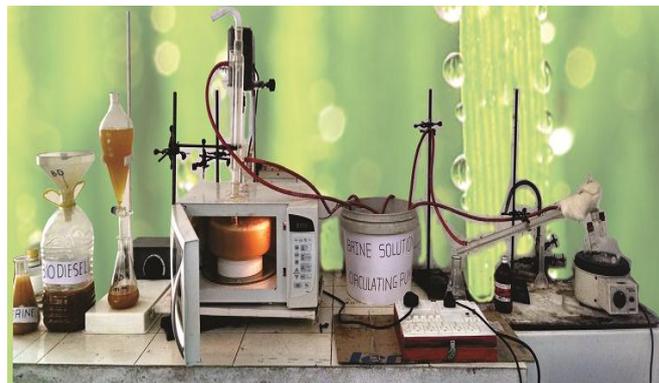
EXPERIMENTAL PROCEDURE:

The waste cooking oils are subjected to Transesterification; a chemical reaction, involving triglycerides and an alcohol of lower molecular weights using homogeneous or heterogeneous substance as catalyst to yield bio-diesel and glycerol using a fabricated micro-oven reactor. A catalyst is usually used to improve the reaction rate and yield. Sodium methoxide (CH_3ONa) is used as catalyst in our present work. Oil and alcohol ratio used here is 1:6. Because the reaction is reversible, excess alcohol is used to shift the equilibrium to the products side.

RESULTS AND CONCLUSIONS

The maximum yield of bio-diesel made from Waste cooking oil under conventional heating was 85% but by microwave heating is 90%. Time required for transesterification reaction reduced for 60 minutes by conventional method to 15 minutes in microwave heating. Properties have improved. The Engine was running smoothly with the use of Bio-Diesel. The Bio-Diesel was added in the Diesel-Blend resulted in better   performance and reduced smoke. The ability to combine the biodiesel with petroleum diesel is easy and does not require any complex machinery, it can be done manually. Blends of 20% biodiesel with 80% petroleum diesel can be used in unmodified diesel engines.

Experimental Process for bio diesel production from waste cooking oil.

Biodiesel project demonstration in ADSOPHOS 2015

A VEHICLE MONITORING SYSTEM USING CAN PROTOCOL

Project Team: Syed Aquib Ahmed, Md Lubiad (EIE)

Project Guide: Mr Mohammed Ismail.B., Asst professor, EED

The project aims at designing a vehicle system which helps in monitoring the real time parameters of a automobile using CAN protocol. This system helps in achieving effective communication between transmitter and receiver modules using multiple sensors to monitor parameters like engine temperature, fuel tank level indicator, speed of the vehicle through vehicle speedometer.

The project developed here is a cost effective solution for digital driving interface with a semi-autonomous vehicle improving the driver-vehicle interaction with increase in safety. The designed system uses a PIC Microcontroller based data acquisition system that uses in built ADC to gather data from analog sensors to digital format and visualize them to the vehicle driver through a LCD display.

The communication module used here is an embedded network bus CAN, which has efficient data transfer. Experimental data with a prototype is obtained for various vehicle parameters like vehicle speed, engine temperature and fuel level in the tank which are compatible with a real time system
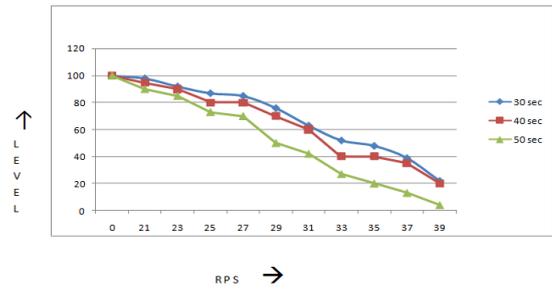
The proposed high speed CAN bus system solves the problem of automotive system applications. With PIC as the main controller, it makes full use of the high performance of PIC, high speed reduction of CAN bus communication control networks and instrument control so as to achieve full sharing of data between nodes and enhance their collaborative work. This system features efficient data transfer among different nodes in the practical application for a vehicle
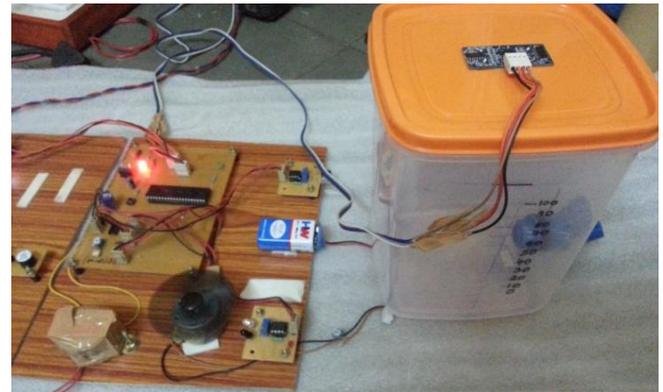
EXPERIMENTAL RESULTS

The experimental results are obtained by the sensors connected to the prototype. In prototype Engine speed is taken as a fan connected to a 12 V Dc motor whose speed is monitored by its number of rotations per second. A level tank is calibrated with respect to the maximum & minimum speed of fan.

Fig 1 and Fig 2 shows the photographs of Master & Slave sections of the prototype respectively. Fig 3 shows the photograph of output display with reading of Level, Speed & Temperature.

Paper has been published in "International Journal of Advanced Research in Computer and Communication Engineering" Volume 4 issue 11 November 2015.

Plot of Results Data

Fig 1 Master Section of the Prototype

Fig 2 Slave Section of the Prototype

Fig 3 LCD Display showing Level,RPS & Temperature

SAE BAJA 2015

The SAEINDIA BAJA is a premier design and fabrication competition for the aspiring engineers of India. The competition requires engineering students throughout the country to conceptualize and fabricate a fully functional and market class All-Terrain-Vehicle while following rigorous standards and parameters. In 2015 edition, team MJCET participated not only following the stringent rules of the competition but also adhering to the team motto of INNOVATE, IMPLEMENT, LEAD. Thus, our ATV "EL-FATEH", was created.

The car was built using extensive student fabricated assemblies and sub-assemblies. Components like the chassis, knuckles, hubs, body panels, gear shifting mechanism have been fabricated in-house, while the brake components, steering rack and suspension have been sourced from the market after careful research. The design, specifications like turning radius, braking distance, impact resistance etc. have all been calculated by the team itself.

The car uses a 305cc Briggs and Stratton engine putting out 19.5Nm of torque which is mated to an Alfa Mahindra

transmission. EL-FATEH features a first of its kind mechanical paddle shifting mechanism which aimed at not only smoother shifts but also ease of driving. The car has a wheel base of 1340mm, track width of 1321mm, weighs 270kg, covers 100 ft. in 4.03 seconds, has a mean turning radius of 5m and a comes to a standstill from maximum speed in a distance of 4 feet.

The car was put through its paces at the NATRIP Testing Track - NATRIX, Pithampur, Indore at the Mahindra BAJA SAIENDIA event taken place during 19th to 22nd February 2015. The competition was divided into Dynamic Events like Endurance Race, Hill Climb Test, Acceleration and Braking Tests etc. and Static events like Technical Inspection, Business Plan Presentation, Design and Cost Evaluation etc.

The Team was headed by captain Mohd. Abdul Haq, vice captains Abdullah Zakria and Mohd. Abdul Rahman, vehicle was driven by Syed Furkhan Ali.

The Project was under the guidance of Mr. D. Srinivas Rao and Mr. Mohd. Viquar Mohiuddin, Faculty Advisors, SAEINDIA MJCET Chapter. Team MJCET was chief sponsored by The Sultan-ul-Uloom Educational Society and is co-sponsored by Piping Zone, TechNova, Pitstop and Chariot Constellation.

Students demonstrating All terrain Vehicle to Chairman SUES, Janab Khan Lateef Khan and Hon. Secretary, SUES, Janab Zafar Javeed

ROBOCON 2015

Muffakham Jah College of Engineering and Technology (MJCET) stood 3th in the country and was also awarded the 'Best Design and Aesthetics' robot at the Asia Pacific Broadcasting Union Robotics Contest (ABU Robocon) 2015

held at Maharashtra Institute of Technology, Pune. A theme is released every year by the host country which has to be followed by all the participants from all the nations. This year's theme, released by Indonesia, was 'Robominton' which required the 105

participating teams from all over India to make two bots which would act like a badminton doubles team. Each team is required to make two bots which would act like a badminton doubles team, in line with 'Robominton' - a theme for the competition that was proposed by Indonesia this year. It took 8 months to develop the robot that uses pneumatic pistons and Bluetooth interfacing to collaborate with its operator and is designed adhering to the competition rule book. MJCET has been a forerunner in the field of Robotics and have been taking part in this contest for over 6 years. The team has held places in the top 15 for the last 4 years.

Robocon MJCET team with their momento, certificate and the athletic Robo

PUBLICATIONS AND AWARDS

The following is the list of paper publications and awards won by the faculty and students as a result of the sanctioned R & D Projects for the year 2014-15.

1. The project titled **"Control of Wheelchair using Hand Gestures"** guided by Mrs. B. Sucharitha, Asst. Prof., ECED won **first prize** in Anveshana 2016, the State Level Science and Engineering Fair conducted by Agastya International Foundation in partnership with Synopsis.

2. Unmanned Aerial Vehicle and Gesture & Activity Recognition for Physically Challenged projects won the innovative project awards in the "ADBUL KALAM INNOVATION DAY - 2015" (AKID) on 6th May, 2015 conducted by the IEEE chapters of MJCET.

3. .The Paper titled "**Design and FE Analysis of Magneto-rheological Fluid (MRF) Clutch for Automotive Applications"** by Mrs. Hemalatha, Asst. Prof., MED, was presented and published in an International Conference at MREC i.e ICETSTEM 2015.

4. The project titled **"Internet Equipped Notice Board - An application of IT"** guided by Mr. Shaik Qadeer, Asso. Prof., EED was presented as a paper in international conference on Signal processing and communication, SPC 2015.

5. The project titled "**Biodiesel Extraction - Phase 3**" guided by Dr. Satyanarayana, Asst. Prof., Chemistry published the following papers (a) **"**Application of Microwave Radiation Technique In Production of Biodiesel To Enhance The Properties And Economization of Biodiesel**",** in International Journal of Advanced Technology in Engineering & Science (b) "Improving the Extraction yield of Biodiesel by using fabricated Micro-oven**",** in Emerging Trends in Mechanical Engineering, and (c) **"**A New Radiation Range For Extracting Biodiesel From Waste Cooking Oil" at National Conference on "Role of Science & Technology in Environmental Protection", by NCRSTEP – 2015, which won 2nd prize.

Ph.D. Research Center Activities

1. In Mechanical engineering department Ph.D research center, five students are utilizing the research facility smart fluid vibration damper under the supervision of Dr. N. Seetharamaiah, Prof., MED, MJCET.

Smart Fluid Vibration Damper set up of MED

2. In ECE department Ph.D research center, two students are utilizing the research facilities of ECED under the supervision of Dr. Kaleem Fatima, Prof. & Head, ECED, MJCET.

Research Facility of ECED

INDUSTRY INSTITUTE INTERACTION

1. Mr. Ravindra, Microsoft Training Program manager, visited MJCET for an orientation program briefed the students about Certification programs and training modules offered by Microsoft Training Academy.
2. A one day course under Industry institute interaction with Mr Sanjeeva Reddy Scientist D, RCI DRDO Kanchanbagh Hyderabad on 31st October 2015 was organised , coordinated by Md Ismail , Sr Asst Prof., EED for B.E-4/4 EIE Students.

ADBUL KALAM INNOVATION DAY

The ECE Deartment MJCET introduced "ADBUL KALAM INNOVATION DAY" (AKID) in the year 2014-15. As part of this program, innovative ideas are invited from the students and the BEST INNOVATIVE IDEA will be awarded a cash prize. This is in keeping tune with the Vision of ECE Department, which facilitates research and innovation in the field of ECE. The department also encourages research based projects and THE THREE BEST final year Projects which are innovative and have originality will be awarded "The INNOVATIVE Project Award" as part of this DAY. This is proposed to induce originality and encourage the students to think out of the box.

Prof. S.P.Singh,of MGIT being felicitated by Dr. Basheer Ahmed   Innovation day Awards being presented to the students

The ECE Deartment in collaboration with IEEE CAS Society of IEEE Student Branch MJCET celebrated it's first "ADBUL KALAM INNOVATION DAY - 2015" (AKID) on 6th May, 2015. Prof. S.P.Singh, Professor and Head of ECE Dept, MGIT, was invited as the external Judge and the Guest of Honour. The Advisor cum Director was the chief Guest for the event.

The first event was "The INNOVATIVE Project Award", in which 13 teams belonging to Final Year ECE Department registered for the Award and showcased their final year projects to the external invited Judge from 10.0 am. The contesting teams gave presentation highlighting the innovative aspect of their projects and their contribution to the project. The13 projects presented in this event covered various fields like Analog VLSI, Digital VLSI, Embedded Systems, Digital Signal Processing and Digital Image Processing. Students were judged based on the innovation aspect, presentation skills and thesis.

Three BEST Projects were Awarded a cash Prize of Rs. 6000/- in the award ceremony held at 5.0 pm tomorrow. The winners were 1. Unmanned Aerial Vehicle 2. Gesture and Activity Recognition for Physically Challenged 3. Residue Number System based CIC decimation filter.

The second event was "Best Innovative Idea Contest", in which students were asked to submit a report on a practically feasible and innovative idea related to electronics and communication field. About 18 entries were received, out of which, 2 were shortlisted for the final round, where the student had to give a presentation on their idea. The winner was decided based on the innovation aspect and presentation skills.

At the conclusion, the students were addressed by Dr. Kaleem Fatima, Dr. Basheer Ahmed, Advisor-cum-Director, MJCET, and also by Prof. S.P.Singh. Prof. Arifuddin Sohel presented the vote of thanks.

EWB -MJCET Won the Best Chapter Award at EWB-India All chapters Meet	EWB -MJCET Won the New Project Challenge Award at EWB-India All chapters Meet

NEWS BITS

Muffakham Jah college of Engineering and Technology is in the process of inclusion of inclusion of college under section 2(f)/ 12(B) of the UGC Act 1956.

Civil Engineering Department has applied for recognition as Ph.D research center from Osmania University. The CSED is going to apply for recognition as Ph.D research center from O.U.

Mrs. O. Hemalatha, Asst. Prof., MED MJCET under the guidance of Dr. N. Seetharamaiah, Prof., MED MJCET will be applying for patent for Magneto Rheological Fluid Clutch.

Engineers Without Borders - MJCET student chapter has signed an Memorandum of understanding with University of Connecticut (UCONN), USA for knowledge transfer and project collaborations .

Centre for Innovative Computing (CIC)

- CIC is established to enable MJCET's Tie up with IT Giants like IBM, Microsoft, SAP, Oracle for enhancing employability of students

- Will be used for conducting IIT – MHRD funded workshops

Facilities at CIC are

- 60 All in one Computers (Intel i5 core, 8GB RAM, 1 TB Hard Disk)

- Overhead Epson Projector (EB945H, 3000 Lumens), with Motorized Screen, and Bosch Audio System

- Modern Tailor-made Furniture

- 3 x 2 T Capacity LG Air conditioners

Inauguration of "Centre for Innovative Computing (CIC)"

Janab Khan Lateef Mohammed Khan Sahab, Honorable Chairman, SUES, Inaugurating "Centre for Innovative Computing" on 15-Sep-2015 at MJCET

The Microsoft Technology Associate (MTA) certificates and the training certificate issued by the training company were distributed to the students and faculty on 09-Feb-2016 by Mr. Zafar Javeed , Hon. Secretary – SUES.

MJCET is planning to collaborate with **"Telangana Academy for Skill and Knowledge (TASK)"** an initiative of Government of Telangana to enhance the Employability Quotient (EQ) in the youth. Further, the college is planning to start **"Incubation Center"** and initiate **"Start-ups"** in the campus so that the companies can establish their R&D divisions and provide practical exposure to the students.