



E- FOCUS

COMPUTER SCIENCE & ENGINEERING

2016-17

M.I.E.T. ENGINEERING COLLEGE, TRICHY-7

DEPARTMENT OF CSE



Er . A. Mohamed Yunus

Chairman

M.I.E.T. Institutions.

Chairman's Message

Being the current world not a hasty track, the responsibility of creating a high-quality educational institution is challenging and embellished with a host of initiatives which validate them over an extended time span. Moreover, in a world where time and space are compacted, there is a massive defy for success which necessitates knowledge, which is current, pertinent and based on real experience. In this situation, the education plays a paramount role in moulding, shaping and preparing youngsters to face the challenges of the future world. We at M.I.E.T., motivate and empower our students to be enduring learners, critical thinkers and prolific members of an ever-changing global society. Also, the students are encouraged to channelize their potential in the pursuit of fineness in a holistic and student-centered environment.

Moreover, M.I.E.T strives hard to sensitize its students to the needs of the community and inculcate values like truthfulness, fortitude and acceptance of individual differences. I am confident that M.I.E.T will always be a bonfire of light guiding the fate of its students, while blistering kindness and compassion as it ascends high in its pursuit of academic excellence and accomplishment of our motto "Humanize, Equalize, Spiritualize".

To ensure the same, we have an excellent portfolio of industry professionals and academicians on our faculty, who provide a holistic view of the shades of engineering and managerial operations to our students. The students are prepared to enrich their careers by endowing them with the necessary talent and critical thinking to become self-directed learners and prolific citizens contributing positively to the society.



Dr.S.Guharaja
Principal
MIET Engineering College

Principal's Message

Our institution provides a balanced environment focused on shaping students into leaders of tomorrow by offering comprehensive education through a developmental approach. It strives to make the pursuit of excellence a way of life with enthusiastic students willing to learn, supportive parents and a dedicated professional staff members committed to provide the students with a quality education. M.I.E.T.' s growth and success result from its commitment to provide lifelong learning through courses that balance theory with practice and teach fundamentals in the context of how they can be applied in the real world.

Training and Placement cell functions as a highly effective professional development tool conformed to the educational requirements of the motivated engineers. The practice given by the faculty members helps the students to cultivate a strong and diverse pipeline of talent. The guidance of experienced and dedicated teachers enables the budding engineers from all communities to reach their aspirations and ambitions to secure a better future. I urge everyone to advance their career to become the Movers of Technology.



Dr.D.Yuvaraj
HOD/CSE

HOD's Message

M.I.E.T offers one of the best Computer Science programs in Tamil Nadu. We offer a breadth of knowledge covering the major areas in computer science such as computer networks, graphics, artificial intelligence, algorithms and complexity theory. As the Head of the Department, I feel privileged to be leading a talented group of dedicated staff, inspiring teachers, and prominent learners. Our students make fundamental contributions to knowledge across theoretical and applied areas of computer science. Our Department maintains strong ties with industry, research organizations, and the community at large.

EDITORIAL BOARD

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VISION AND MISSION OF THE INSTITUTION AND THE DEPARTMENT

Vision of the Institution

To be a center of excellence in Technical Education through Technical, Ethical and Professionals skills for meeting the diverse needs of the Society, in particular Muslim minority community and the Nation.

Mission of the Institution

- To impart Quality Education, Training and Research in the fields of Engineering and Technology.
- To provide a conducive learning environment that enables the students to achieve professional and personal growth.
- To expose the contemporary issues of society, ethical practices and to create environmental awareness.
- To provide the required infrastructural facilities for developing the professional and innovative skills.

Vision of the Department

To attain excellence in Computer Science and Engineering field so as to address societal problems through active research, maintaining ethical standards.

Mission of the Department

- M1. To empower with technical skills to solve the real time problems through interdisciplinary approach.
- M2. Expose to international ethical practices.
- M3. Provide personality development for an effective leader and individual member of a team.

WORKSHOP ON IOT MALWARE ATTACKS

Workshop on “IOT malware attacks” aims to impart technical and practical knowledge to students and future engineers. This workshop was an initiative of Department of Computer Engineering, M.I.E.T Engineering College, under the Guidance of Mr.D.Yuvaraj Head of the Department, to impart knowledge to the students regarding IOT malware attacks on 05.08.2016.

Er. A. Mohamed Yunus, Chairman, M.I.E.T Educational Institution presided over the function. Dr.S.Guharaja, Principal, M.I.E.T. Engineering College, Trichy and Mr.D.Yuvraj, Head of the Department, CSE felicitated the gathering.

It was an interactive workshop conduct by Mr.Vivek. He started the workshop with the Current trends IOT and its advantages and disadvantages. He explained them the benefits and changes it will bring to day-to-day activities and how it can benefit them irrespective of their branch and he discussed real life use cases on IoT application and makes the session really interactive by providing an opportunity to suggest a solution to real life scenario. Participants were indeed curious when they provided their mobile’s acceleration data to blue mix cloud and updating mobile orientation live.

He also demonstrated how it is possible to sense data at remote Location using IBM IoT platform and shared an idea how BLE device called Sensor Puck can sense and measure heartbeat and update the same information on android application. Feedback students was collected and it suggested that they welcomed this initiative and they are motivated to explore more dimension in this platform also they are willing to use this tools in their projects in future.

WEB DEVELOPMENT TOOLS

The Department of Computer Science and Engineering, MIET Engineering College has conducted a one day seminar on 27.09.16 Tuesday at 10.00 am. Dr.S.Guharaja, Principal, presided the seminar and Mr.D.Yuvaraj, Head of the Department, CSE welcomed the chief guest and the students. Ms.J.S.Anusha Priya, Technical Analyst, Centarus, Trichy handled the sessions on “Internet Programming”. She explained about importance of Dot net frame work architecture, Developing website, Console applications , Windows Forms applications , Windows Presentation Foundation applications ,Web applications ,Web services ,Windows services etc. The event was very successful and helpful for the students. S.Lavanya of second year & Z.Mohammed Gani, G.Sivanesan for third year gave the oral feedback about the session. Mrs.S.Shanmugapriya AP/CSE , proposed the vote of thanks.

CLOUD COMPUTING AND BIGDATA

The Department of Computer Science and Engineering, MIET Engineering College has conducted a one day seminar on 3-10-16 Monday at 10.00 am. Dr.S.Guharaja, Principal, presided the seminar and Mr.D.Yuvaraj, Head of the Department, CSE welcomed the chief guest and the students. Mr.T.Sivakumar, Gnenral Manager,SFITS Trichy handled the sessions on “Grid & Cloud Computing”. He explained about the various Grid & Cloud architecture, and its features, Applications. The event was very successful and helpful for the students. R.Preethi, R.Manivel, Z.Yasmin of third year gave the oral feedback about the session. Mrs.S.Shanmugapriya AP/CSE , proposed the vote of thanks.

INTERNET OF THINGS

Department of Computer Science and Engineering has organized a one day seminar on “Internet of Things” on 30-01-2017 (Monday) at college campus.

Er. A. Mohamed Yunus, Chairman, M.I.E.T. Educational Institutions preside over the function and delivered the special address. In his speech he asked to make use of the Guest Lecture.

The Chief Guest Mr.K.M.Muhammed Ilyas, Founder and CEO, Altsense-Chennai delivered a Lecture on “Internet of Things”. During the program he emphasized about the internetworking of physical devices like vehicles, buildings and other items embedded with electronics , software, sensors, actuators and network connectivity that enable these objects to collect and exchange data. He also insisted on the application of IOT in media, Environmental monitoring, Infrastructure management, Manufacturing, Energy management, Medical and healthcare, Building and home Automation, Transportation, Metropolitan scale deployments and consumer application.

Dr. S. Guharaja, Principal, M.I.E.T. Engineering College introduced and honoured the Chief Guest. The program was arranged by Mr.D.Yuvaraj, HOD/Department of the CSE.

The program started with the welcome address delivered by Mr.D.Yuvaraj HOD-CSE and Vote of Thanks was proposed by Mrs.S.Mohana, Assistant professor/ CSE.

MOBILE APP DEVELOPMENT

Value added course on **Mobile App Development** was conducted in Computer Science and Engineering department for IV year students. The course started on 1st July 2016 and end up with 11th July 2016(5.00 pm to 6.30 pm). The course was handled by Mr.Manohar, CEO, Greensoft Technologies. In this Value added course students learnt basic concepts of Mobile App Development. Trainer explained them app architecture, app components and app resources. He not only explained it analytically but also demonstrated by creating an app with the students. Even the students got a chance to experiment with their coding skills on Android Studio. Students felt that the value added session on Mobile App Development was very much handy for them and they got the basic idea of the Mobile App Development.

TISCA'17

(Triggering Innovation in Significant Computing Advancement)

The Department of Computer Science and Engineering & Information Technology, MIET Engineering College has conducted a “**National Level Technical Symposium – “TISCA’17”** on **24-02-2017 (Friday)**).

Er. A. Mohamed Yunus, Chairman, M.I.E.T Educational Institution presided over the function. **Dr.S.Guharaja**, Principal, M.I.E.T. Engineering College, Trichy felicitated the Gathering and **Dr.D.Yuvaraj**, Head of the Department, CSE presented the annual report. The Newsletter TISCA’17 was released in the grand occasion. Selvan.Mohamed Yasar, final year IT, student secretary welcomed the gathering and Selvan.S.H.Mohamed Farhan of III year CSE, Student secretary introduced the chief guest.

Mr.A.Manoharan, Deputy General Manager-Operations, Scientific publishing services (p) Ltd, Trichy delivered the Inaugural address. He specified other than the regular academic activities the students have to concentrate and improve their soft skills. Many events like The **Bug Buster (Debugging)**, Fact and Furious (Quiz), **Meme Creation, Mind Twister (Connexion)** were organized in which the students from various Engineering colleges participated actively. Models related with current era were created by the students of our College displayed in this symposium.

In connection with TISCA’17, for **paper presentation**, totally 52 papers were received from various Engineering colleges. Mr.A.,Manoharan, Deputy General Manager Operations, Scientific Publishing Services Private Ltd, and Dr.K.Geetha, Asso.Prof/CSE are the juries for the paper presentation session. The paper titled Internet of Things from Government College of Engineering, Srirangam won the first prize and the paper entitled Blue brain Technology from Sudharsan Engineering College won the second prize.

Selvan.K.Jamal Yaseen (IV/CSE) student chairman welcomed the gathering in evening session. The winners were honoured with prizes and certificates. Dr.A.Prabakaran Dean, Mr.Sahul Hamed PA to Chairman and Dr.D.Yuvaraj HOD/CSE distributed the prizes and Selvi.Rachel Debby (III/CSE) proposed the vote of thanks.

BEST PROJECT

The following projects were selected as a best project for the academic year 2016-2017.

1. **Jamal Yaseen K, Mohamed Sultan A, Mohamed Yusuf S.M** have done their project entitled **“An android app for specially able people “** under the guidance of Dr.K.Geetha.
2. **Nanthini.R.S, Parvin Sulthana Begam.B** has done their project entitled **“Efficient identification of currency and passage for visually impaired using android application”** under the guidance of B.Bazeer Ahamed.
3. **P.R.Krithika** has done her project entitled **“Dynamically passing one time password authentication using Multimedia”** under the guidance of B.Rama.
4. **Abdul Basith. M , Olivanan.C** have done their project entitled **“Double encryption splitting algorithm using ECC”** under the guidance of R.Venkatesan.
5. **Asmath Haseena. M, Bakiyalakshmi. A** have done their project entitled **“Behavioural biometrics integrated Smartphone for implicit authentication”** under the guidance of B.Rama

AN ANDROID APP FOR SPECIALLY ABLE PEOPLE

Jamal Yaseen K, Mohamed Sultan A, Mohamed Yusuf S.M

Deaf people normally use sign language in order to communicate with each other. In this communication system, deaf people are not able to represent their ideas or messages to other people which they want to say. In today's world technology has been developed very fast and presents each action in digital form then it may be in images or audio format. In order to make their life more advanced, application is needed to be developed so they can get opportunity to learn new thing and can get a chance to introduce with new technologies. Dumb people are usually deprived of normal communication with other people in the society. It has been observed that they find it really difficult at times to interact with normal people with their gestures, as only a very few of those are recognised by most people. Sign Language is the primary means of communication in the deaf and dumb community. In our technology initially, the Sign language is typed by the deaf person and dump on one end of communication side and which is later converted into sign videos on other end of communication side. The Speech-to-Sign and Sign-to-Speech technology are implemented. When the hearing party inputs voice or text, it will be converted into sign language video on the deaf end. By using this application deaf person can easily interact with normal person anywhere, and he can also use this application for mobile sign translation using Video Transmission.

EFFICIENT IDENTIFICATION OF CURRENCY AND PASSAGE FOR VISUALLY IMPAIRED USING ANDROID APPLICATION

Nanthini.R.S, Parvin Sulthana Begam.B

Good vision is a precious gift but unfortunately loss of vision is becoming common now a day. Blindness may result from a disease, injury or other conditions that limit vision and because of which Blind people confront a number of challenges every day. Thus, it becomes advantage for many deceivers who make use of those defects to betray them. Technology for the disable has made numerous advances over the recent years. This is a kind of application which will help the blind people who can get rid of those deceivers by recognizing the money value as well as reading the documents by themselves. Monetary transactions are integral part of our day to day activities, so currency recognition has become one of the active research areas at present

and it has vast potential applications. In this project, the proposed system is to recognize and classify the different currencies using computer vision. There are more than 200 different currencies used in different countries around the world. The technology of currency recognition aims to search and extract the visible as well as hidden marks on paper currency for efficient classification. The features are extracted based on color, texture and shape for four different currencies and they are classified using artificial neural network.

DYNAMICALLY PASSING ONETIME PASSWORD AUTHENTICATION USING MULTIMEDIA

P.R.Krithika

Textual passwords are the most common method used for authentication. But textual passwords are vulnerable to eavesdropping, dictionary attacks, social engineering and shoulder surfing. Graphical passwords are introduced as alternative techniques to textual passwords. Most of the graphical schemes are vulnerable to shoulder surfing. To address this problem, text can be combined with images or colors to generate session passwords for authentication. Session passwords can be used only once and every time a new password is generated. The two techniques are proposed to generate session passwords using text and colors which are resistant to shoulder surfing. These methods are suitable for Personal Digital Assistants. Personal Digital Assistants are being used by the people to store their personal and confidential information like passwords and PIN numbers. Authentication should be provided for the usage of these devices. Two new authentication schemes are proposed for PDAs. These schemes authenticate the user by session passwords. Session passwords are passwords that are used only once. Once the session is terminated, the session password is no longer useful. The session passwords provide better security against dictionary and brute force attacks as password changes for every session. The proposed authentication schemes use text and colors for generating session passwords.

DOUBLE ENCRYPTION SPLITTING ALGORITHM USING ECC

Abdul Basith. M , Olivanan.C

Encryption and Decryption of texts and messages have also been attempted. This project presents the implementation of ECC by first transforming the message into an affine point on the EC, and then applying the multiple algorithms for encrypting the message. This point lies on the elliptic curve. It implements the elliptic Curve cryptography (ECC) with 256-bit key size on a Linux-powered commodity computer, harnessing a desktop graphics processing unit (GPU) as a featured cryptographic accelerator. We demonstrate our experience in maximizing the computing power of Guess and also its capability to deliver such power to the tenants, which includes down-to-earth customization and optimization considering various hardware and software factors. An illustrated encryption/decryption involving the ASCII value of the characters constituting the message. AES is a variant of Rijndael which has a fixed block size of 128 bits, and a key size of 128, 192, or 256 bits. By contrast, the Rijndael specification per se is specified with block and key sizes that may be any multiple of 32 bits, both with a minimum of 128 and a maximum of 256 bits. RSA is an algorithm used by modern computers to encrypt and decrypt messages. It is an asymmetric cryptographic algorithm. Asymmetric means that there are two different keys. This is also called public key cryptography, because one of them can be given to everyone. We compare our proposed algorithm with AES and RSA algorithm and show that our algorithm is better due to the high degree of sophistication and complexity involved. It is almost infeasible to attempt a brute force attack. Public key schemes and key agreements are computation-expensive. Performing public key schemes with software may quickly saturate processors.

BEHAVIOURAL BIOMETRICS INTEGRATED SMARTPHONE FOR IMPLICIT AUTHENTICATION

Asmath Haseena.M, Bakiyalakshmi.A

Smart phones and tablets have become ubiquitous in our daily lives. Smartphone's in particular, have become more than personal assistants. These devices have provided new avenues for consumers to play, work and socialize whenever and where ever they want. Smartphone are small in size, so they are easy to handle and to slow and carry in user's pockets or purses. However, mobile devices are also susceptible to various problems. One of the greatest concerns is the possibility of breach in security and privacy if the device is seized by an outside party. It is possible that threats can come from friends as well as strangers. Due to the size of smart devices, they can be easily lost and may expose details of user's private lives. In addition, this might enable pervasive observation or imitation of one's movements and activities, such as sending messages to contacts, accessing private communication, shopping with a credit card, and relaying information about where one has been. It highlights the potential risks that occur when smart phones are stolen or seized, discussed the concept of continuous authentication, and analyzes current approaches and mechanisms of behavioral biometrics with respect to methodology, associated datasets and evaluation approaches.

ARTICLES

Why Is IoT a Security Risk?

IoT isn't inherently more dangerous than any other kind of technology. It doesn't suffer from inherently inferior security standards or firewalls, but there are a few vulnerabilities that, by the nature of IoT, make devices in its network a potential target.

For example, IoT devices tend to collect lots of data, which could make any shared networks a prime target for cybercriminals looking to exploit that information. Because these networks comprise many individual devices, it's easier than usual to find a rogue vulnerability and infiltrate the network from there. Plus, because users may find it easy to pick up, exchange, or jump between devices, the opportunity for a connection or management mistake may be greater.

Possible Solutions

So what solutions can we use to proactively prevent these vulnerabilities from being exploited?

1. Centralize and tightly control users. First, you need to know who on your staff is accessing what, when, and where. Instituting a centralized management server that allows you to manage users, licenses, passwords, and access can help you do this. Only allow users to access the devices they need to perform their own duties, and keep close tabs on who's using what. This will help you prevent a number of simple mistakes, and can also help you identify root causes in any potential breaches that unfold in your future.

2. Only purchase tested devices. There are hundreds of companies all racing to produce the best devices and software for the IoT era. On one hand, this is exciting because all that competition is spurring tremendous innovation. On the other, this is concerning because it means companies may be spending their efforts on getting devices to market, rather than making the best products they can. Do extensive research on all the IoT products you procure, and avoid buying anything in its first iteration. Pay attention to the brands with a history of secure and reliable performances, and don't take unnecessary risks.

3. Forbid or control personal and professional cross-pollination. Many companies now have a BYOD (bring your own device) policy, due to the ubiquity of personal laptops, tablets, and smart phones. In the age of IoT, however, this could be an increased liability. Using company devices on unsecured public networks could leave you vulnerable to attack, and any compromised device (including personal devices) that returns to your office's network could

cause a company-wide breach. You'll need to consider forbidding this type of cross-pollination, or otherwise stating very clearly what security precautions are to be followed.

4. Instill better personal security habits. The vast majority of hacks and breaches are attributable to human error. You might have chosen a weak password; you may have failed to change your passwords regularly; or you may have fallen for a phishing scheme (or similar attempt to steal your credentials or introduce malware to your device). Since the possibility for human error is going to multiply with each new connected device you add, you'll need to prevent this possibility by instilling your team with better ongoing security habits (and better knowledge of how breaches happen).

5. Keep your software up-to-date. It's a simple step, but an important one. Most software developers and device manufacturers are going to regularly release new updates as they discover the inevitable vulnerabilities of their work and repair them. Simply keeping your devices up-to-date can protect you from hundreds of potential threats.

Will these strategies be enough to completely secure your company's IoT devices? Certainly not. There's no such thing as a system, or even a device, that's totally hack-proof; all you can do is make yourself a more difficult target, and prevent the majority of attacks—not the totality of them.

by
B.Rama
AP/CSE

A Look at the Latest in Smart-Home Security and Automation

Four Trends to Keep an Eye On:

Millions of households have come to depend home security technology over the years to improve safety and the residents' peace of mind. According to InMyArea.com, more than 90 percent of burglars say they would target a different home if they saw signs of a security system in place.

The data also shows that homes without a security system are three times more likely to be burglarized. In recognition of the huge demand for home security solutions, many tech firms

have poured their smart-home R&D efforts into automated security solutions that are intuitive to use and cost-effective to maintain.

Traditional home security alarm systems had a sole purpose: make loud noise so that the people in the vicinity are alerted of an intruder. As the technology advanced, new systems were built that would send out a signal or a code to a central monitoring station informing them of the location of the alarm so that the police could be dispatched.

Unfortunately, traditional home security systems haven't been as effective or reliable as they ought to be. But new innovations in the smart home space have paved the way for exciting trends that are more effective and reliable than in the past.

1. Bigger Emphasis on Cyber security

Research suggests that we'll see a huge increase in the number of U.S. households that employ smart-home speakers and hubs over the next seven years. By one count, the penetration rate will increase from 23 million in 2018 to 34 million by 2025.

This will certainly nudge the smart home industry forward, but it'll may introduce a number of new cyber security risks into homes as well. As matters currently stand, IoT devices are overwhelmingly weak on cyber security.

A savvy hacker in the wrong place at the wrong time can gain access to smart lights, thermostats, and other devices. It's entirely possible that, left unprotected, smart-home speakers and hubs could become a viable entry point for cybercriminals -- the burglars of the 21st century.

This will necessitate a sharper response from tech companies on cyber security features.

2. AI-Based Visual Recognition

As artificial intelligence (AI) technology improves, we may expect significant advances in smart-home security authentication. Future security systems will move away from basic authentication practices (such as four-digit codes) and toward more secure alternatives.

Facial recognition, voice recognition, and fingerprints will become the wave of the future. They should make it nearly impossible for an intruder to enter your home undetected.

Security monitoring companies will also take advantage of smart-home hubs and video cameras to identify emergency calls swiftly and to detect the difference between an accidental alarm and a likely crime.

3. More Child-Friendly Features

In single-family households, as well as in households where two parents work full time, latchkey children can face the greatest threats. Parents either don't set the security system for fear of their children setting off false alarms, or the youngsters find it a challenge to play it safe because the systems are too complex.

Look for a greater emphasis on child-friendly features to evolve as the years pass.

4. Better Smart-Home Integration

At the moment, many smart-home features feel choppy and distinct. Though strides have been made in this area over the last couple of years, industry analysts expect there will be even greater integration in the coming months.

Gadgets will work better together to create a sophisticated and easily customized smart-home environment that's both safe and readily intuitive.

by

Dr.K.Geetha

Prof/CSE

SMART ENERGY METER MONITORING SYSTEM

INTRODUCTION

Electricity is one of the fundamental necessities of human beings, which is commonly used for domestic, industrial and agricultural purposes. Power theft is the biggest problem in recent days which causes lot of loss to electricity boards. In countries like India, these situations are more often. If we can prevent these thefts we can save lot of power. This is done using Smart Energy Meter (SEM). SEM is an electric device having energy meter chip for measuring the electric energy consumed and a wireless protocol for data communication. This project presents

a smart energy meter for an automatic metering and billing system. In this meter energy utilized and the corresponding amount will be displayed on the LCD continuously and communicated to the controlling base station. The feedback from the user helps in identifying the usages between authorized and unauthorized users which helps in controlling the power theft. Communication between user/household and substation is done using Zigbee.

OBJECTIVE

The main objective of the project is to store the amount of electricity usage and send the data to EB office by using GSM technology. GSM network is used for sending Short-Message-Service (SMS) to the local authorities regarding the theft cases. This meter can work as either prepaid or post-paid meter.

METHODOLOGY

The system replaces traditional meter reading methods and enables remote access of existing energy meter by the energy provider. Also they can monitor the meter readings regularly without the person visiting each house. Well we automate the system by allowing users to monitor energy meter readings over the internet. The energy meter is used with microcontroller system to monitor energy usage using a smart meter. This allows user to easily check the energy usage along with the cost charged online using a simple mobile application. Thus the energy meter monitoring system allows user to effectively monitor electricity meter readings and check the billing online with ease. Another specification for the consumers, to add the alert message for consumer those who forgets to pay the electricity bill during the particular time period.

WORKING OF SMART METER

The GSM communications network is used to transfer the electricity consumed data to the utility administration as well as to the customer when demanded. The Antenna attached on or near meter box, can be used for improvement of signal strength in GSM communication. Smart metering communication is centralized meter reading, so meter readers need not visit each customer residency for data collection. However, for testing and maintenance meters may need to observe occasionally. The main duty of Smart Energy Meter is to measure the meter reading and sends it to utility when demand as well as to consumer. The voltage and current sensors

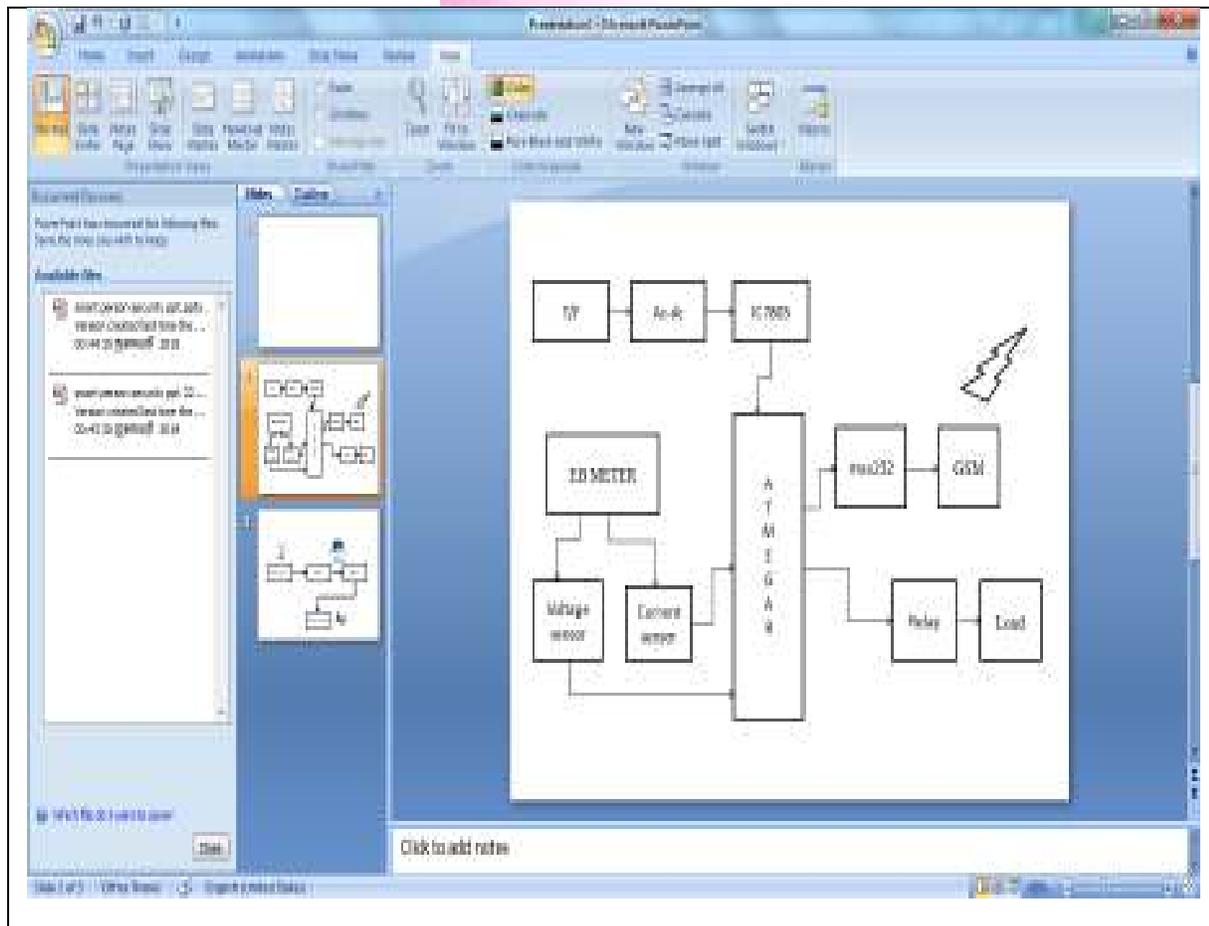
measures the RMS values of voltage and current and feed them to microcontroller, where calculations for active and reactive power are performed. In Smart Energy Meter the sensors are used to measure the voltage and current instead of current and voltage transformers. The reading from Utility administration SMS is being received by smart energy meter programmable interface and the action is performed by the meter according to provided information. A major feature of Smart Energy Meter is that utility company can cut off and reconnect the connection of energy of any user with the help of SMS without sending the person to perform the task manually. It can be utilized in case when the utility company needs to disconnect a consumer due to non-payment of bills or some other reasons. Another major feature of Smart energy meter is that it gives alarm when the consumer load is exceeding the upper limit for which he got the utility connection. In case consumer does not reduce his load meter automatically cut off the consumer connection. GSM communications network is used to transfer the electricity consumed data to the utility administration as well as to the customer when demanded. Antenna, attached on or near meter box, can be used for improvement of signal strength in GSM communication.

COMPONENTS

This GSM based load control energy meter reading system has following components,

- Microcontroller
- GSM
- Voltage sensor
- Current sensor
- Load
- Relay
- Max 232
- IoT module

MICROCONTROLLER CONNECTED WITH GSM:



CONCLUSION:

The project presents a smart energy meter for an automatic metering and billing system, which is used to store the amount of electricity usage and send the data to EB office by using GSM technology.

by
J.S. Nataraj & M.Iniyavan

II CSE

A Local Metric for Defocus Blur Detection Based on CNN Feature Learning

ABSTRACT

Defocus blur detection is an important and challenging task in computer vision and digital imaging fields. Previous work on defocus blur detection has put a lot of effort into designing local sharpness metric maps. This paper presents a simple yet effective method to automatically obtain the local metric map for defocus blur detection, which based on the feature learning of multiple convolutional neural networks (ConvNets). The ConvNets automatically learn the most locally relevant features at the super-pixel level of the image in a supervised manner. By extracting convolution kernels from the trained neural network structures and processing it with principal component analysis, we can automatically obtain the local sharpness metric by reshaping the principal component vector. Meanwhile, an effective iterative updating mechanism is proposed to refine the defocus blur detection result from coarse to fine by exploiting the intrinsic peculiarity of the hyperbolic tangent function. The experimental results demonstrate that our proposed method consistently performed better than previous state-of-the-art methods.

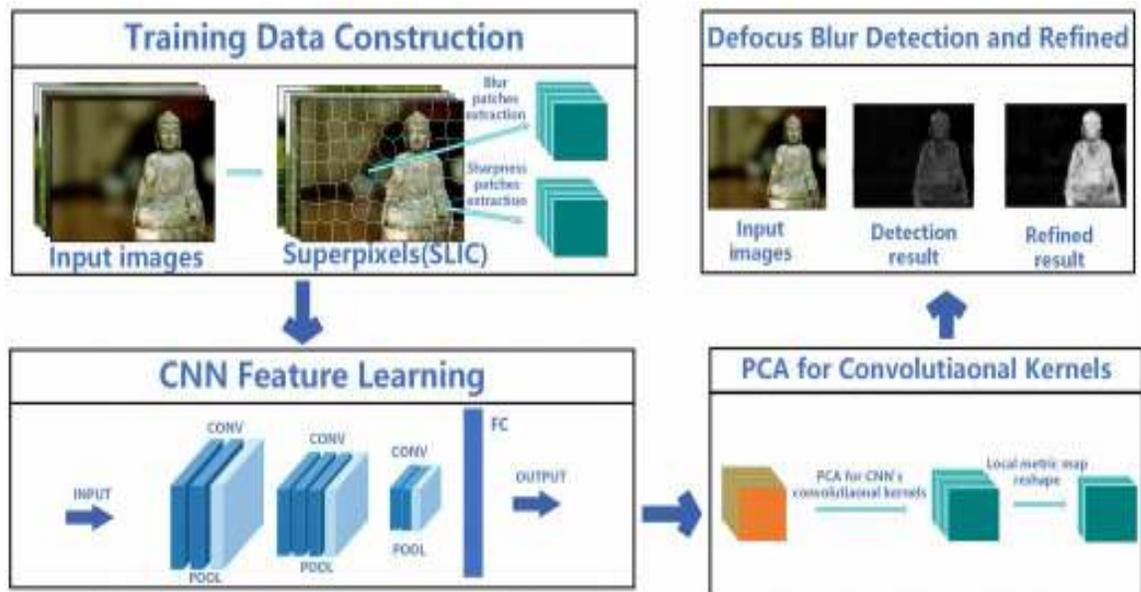
INTRODUCTION

DEFOCUS blur is an extremely common phenomenon in digital images and is the result of an out-of-focus optical imaging system. Every optical imaging system has a limited depth of field (DOF). The DOF refers to the distance around the image plane for which the camera is focused. When the camera focuses on the object plane in the image formation process and background is outside that plane or beyond the DOF distance, defocus blur occurs in the resulting image. In digital photography, defocus blur plays an important role in selecting relevant scene information. It can directly attract the attention of the viewer and can emphasize the main subject by making the foreground and background blurry. However, the blurry background restricts the detailed information of the scene, which may suppress computational image understanding and scene interpretation. Hence, blur algorithms are applied to detect the partially blurry image so that post processing or restoration algorithms can be applied. Automatic detection of blurred image regions is an important and challenging task in computer vision and

digital imaging fields. Typically, the most current image deblurring methods use a blur kernel to fit the original image. The local metrics are efficient and accurately split the defocus image into blurred and non-blurred regions.

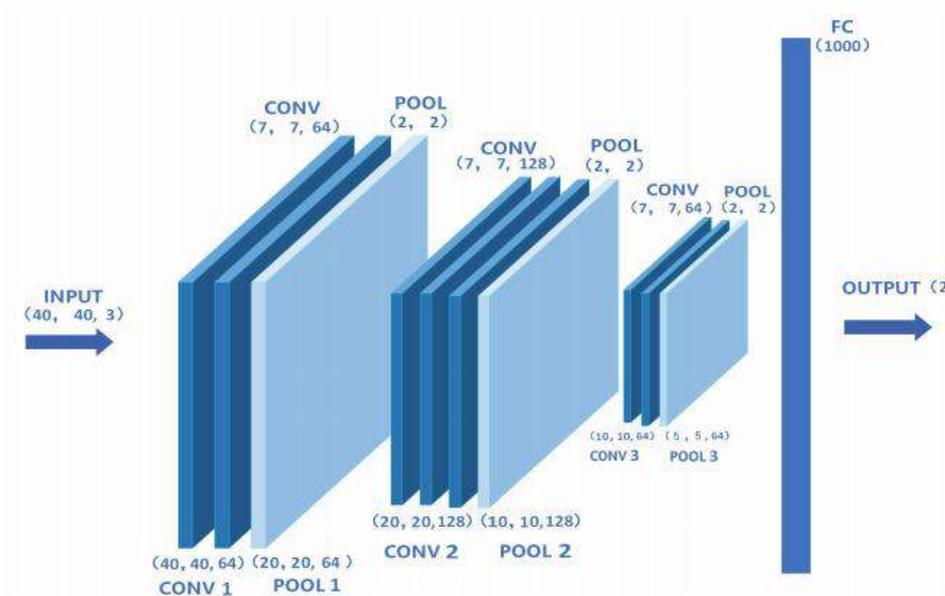
METHODOLOGY

For a single defocus blur image, we will detect and localize the blur region precisely at the pixel level. Local metrics like an energy response function determine the label of each pixel, which may have a large response to pixels in the unblurred region. Hence, it can efficient and accurately split the defocus image into blurred and non-blurred regions. In this paper, we also employ that strategy to detect the blurry image, and a simple yet effective framework is suggested, which based on the feature extracting of ConvNets. Therefore, we train the ConvNets architecture to learn the image features.



The ConvNets trained database is constructed by extracting equal-sized patches around desired points of interest in the blurry or non-blurry region. For the local patches extraction, we first extract super-pixels by clustering the homogeneous pixels. Afterward, a patch is extracted by centering a $\Gamma_s \times \Gamma_s$ window at the centroid of each super-pixel. According to the accompanying hand-segmented ground-truth images, we determine the category of patches by

applying a threshold to the ratio of blurred or sharp regions that occupy the entire patch area, which means that there are two types of patches that are extracted, one is extracted from the defocus images as training data, and the other is extracted from the ground-truth images to determine the label of the patches that extracted from the defocus images.



After the convolutional neural network structure is trained, we extract the convolution kernel from it. Each convolution kernel is reshaped into a column, all the convolution kernels are concatenated into a matrix, and then PCA is used to extract the principal components of the matrix. Finally, we reshape the principal component vector that has the maximum explained variance ratio.

CONCLUSION

In this paper, I have proposed a novel yet effective algorithm to address the challenging problem of defocus blur detection from a single image by applying a local sharpness metric, which obtains from the CNN-based of feature learning in the blur and non-blur image regions. Meanwhile, a novel iterative updating mechanism is proposed to refine the defocus blur detection result from coarse to the fine by exploiting the intrinsic peculiarity of hyperbolic

tangent function. Experiments show that our algorithm achieves state-of-the-art performance on defocus blurred image detection.

by

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Final Year/ CSE

JAN AUSHADHI APP

INTRODUCTION

Over the years, India has developed a strong capability in producing quality branded and generic medicines in most of the therapeutic categories, evolving from nearly Rs.1,500 crores industry in 1980 to a more than Rs 1,19,000 crores industry in 2012. However, although these medicines are reasonably priced, as compared to the prices of their equivalent medicines in most other countries, yet a large population of poor people in the country finds it difficult to afford the more expensive branded category of medicines. Accordingly, 'ensuring availability of quality medicines at affordable prices to all', has been a key objective of the Government.

Generic medicines are one of the hot topics of discussions and deliberations in India nowadays because of their lower prices. According to the United States Food and Drug Administration, "A generic drug is identical or bioequivalent to a brand name drug in dosage form, safety, strength, route of administration, quality, performance characteristics and intended use". Generic drugs have been known to minimize the health-care costs. According to Cameron et al. study, generic drugs may reduce the costs for an individual country in the range 9%–89%. Many governments in the world are encouraging the use of generic drugs.

This regard, the "Jan Aushadhi (People's Medicine) Scheme" (JAS) was launched by the Government of India in 2008 to make low priced quality medicines available for the people through dedicated stores. There were only 1008 JAS available in the country by March 2017, which are definitely not enough to meet the medicine – demands of the whole country. Therefore, it is important to know whether the current JAS are working well or not and whether the shop owners have any hurdle while running the shop. For creating an awareness of generic

medicines and this type of shops among the people of our country, we are decided to develop the mobile application which is very helpful for the people.

OBJECTIVE:

With the aim of making generic medicines more accessible and available to the public at large and to the poor in particular, the following steps are being taken under the scheme:

- Make quality the hallmark of medicine availability in the country, by ensuring, access to quality medicines through the Central Public Sector Undertaking (CPSU) supplies.
- More than 500 medicines will be available under the scheme.
- The medicines will be tested by the National Accreditation Board for Testing and Calibration Laboratories (NABL).
- Extend coverage of quality generic medicines under the budget to redefine the treatment cost per person. The budget outlay for Jan Aushadhi stores is around Rs.35 crores.
- To make generic drugs available to every strata of the society; the poor as well as the rich.
- This campaign will not be restricted to Public Health System. The Private Sector will also be encouraged to participate with zeal and conviction for maximum coverage to the most remote locations in India.
- Create an awareness drive among the people about the generic medicines and their potency in spite of their lower prices.
- Encourage doctors to prescribe unbranded generic medicines.

By developing a mobile application for this scheme will really helpful to the people. This application will provide all the available details of the pharmaceutical.

HCUE Software:

- They are all using the software named **hCue** for their billing purpose.
- Over 90% of independent healthcare providers like Doctors & Pharmacists in emerging economies have small capital budgets to spend on technology or marketing like their corporate counterparts. Neither is they software wizards. Using **hCue**, they want to make their accounts and stocks in control.

- Sufficient and regular supply of the drugs was one of the important recommendations which further strengthen the fact that there is improper supply of the drugs.

WORK PLAN:

- Our plan is to develop an application that gives all data about the Jan Aushadhi Shops.
- It will help the customers to check whether the required medicines are available in their nearby Jan Aushadhi shop.
- We can also check the availability of medicines in numbers.
- This application also helps to know about the price of all existing medicines.
- Also, it includes the location of all Jan Aushadhi Shops for customer convenience.
- The medicine's combination names also provided in this application for both customers and shop owners expediency.

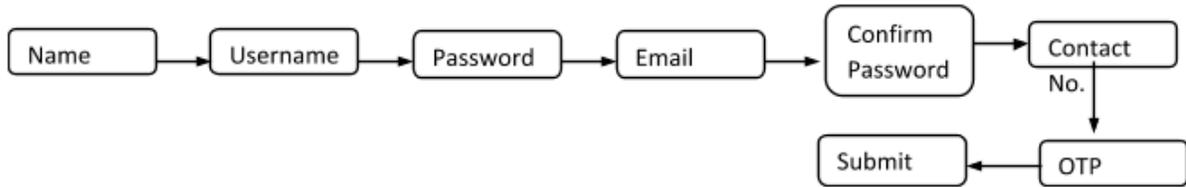
PROPOSAL WORK:

FOR END USER:

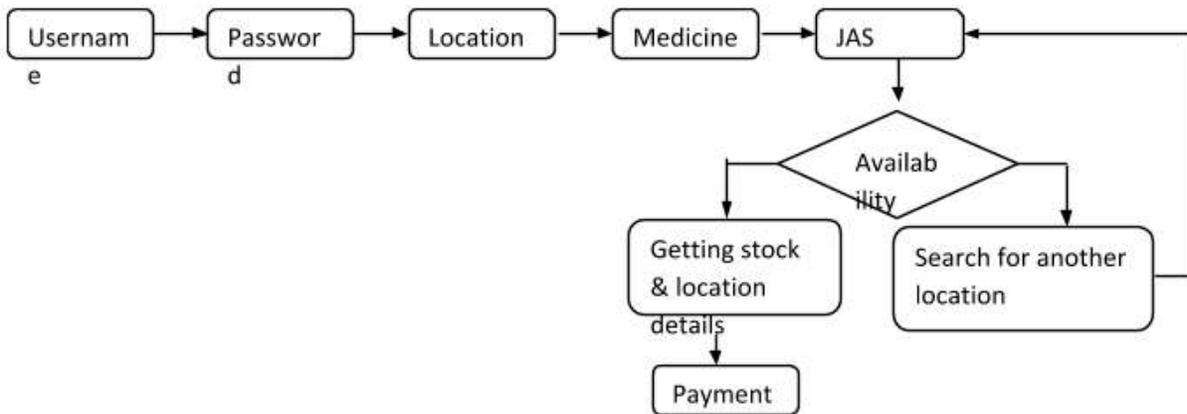
- There is a registration form where the user can register their details for new customers.
- In the register form itself, the location of the particular user is placed. This will help to find the neighboring shops.
- After registration, the user can find the nearby shops and gather their preferred medicine's availability.
- If that medicine is not available in the nearby shops, then the application can provide the availability and stock details in nearby shops.
- Then the medicine can be gained by online transaction.
- This way of buying medicines also improve the idea of **Digital India**.
- The following flow chart helps to know about the registration steps in detail.
- It includes, entering customer details such as Name, Username, Password, Email Id, Contact Number.

- After giving this detail, we will send an OTP number for verification purpose.
- Then, the user can utilize our app for reference.

Customer Registration:



Customer Login:



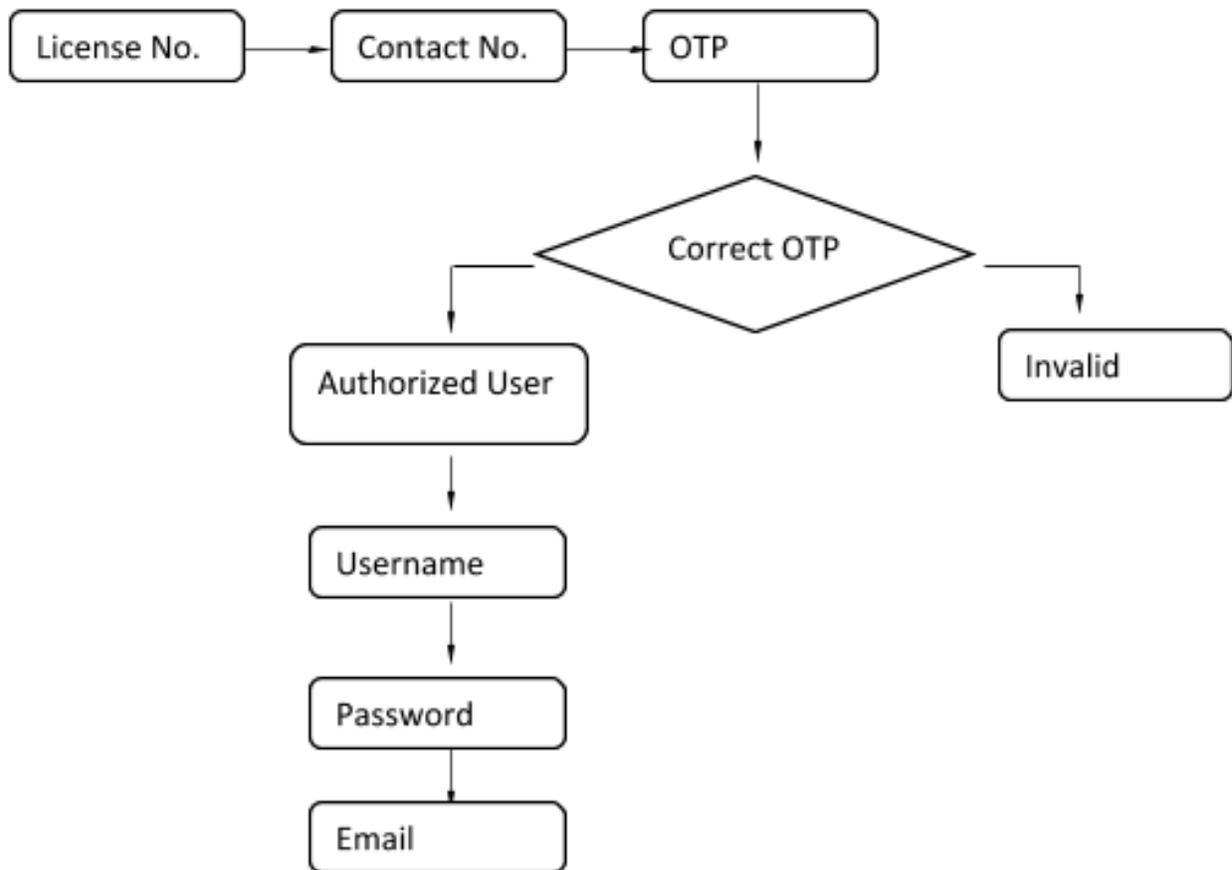
FOR SERVICE PROVIDERS:

- There is a registration form where the user can register their details for new customers.
- They should also include their license number for authentication purpose.
- Using this application, the service providers can maintain their stock details.
- The following flow chart will provide the details of the service provider registration.

Service Provider Login:



Service Provider Registration:



CONCLUSION & FUTURE WORK:

Thus, our project implementation reduces the searching trouble of the people who is the customer of Jan Aushadhi Shop. Our future proposal is to provide the requested medicines of the customers by door delivery.

by
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WOMEN EMPOWERMENT

Women Empowerment means emancipation of women from the vicious grips of social, economical, political, caste and gender based discrimination. It means granting women the freedom to make life choices. Women Empowerment does not mean “**deifying women**” rather it means replacing patriarchy with parity. In this regard, there are various facets of women empowerment.

Swami Vivekananda said “**There is no chance for the welfare of the world unless the condition of women is improved. It is not possible for a bird to fly on only one wing**”.

The welfare schemes such as swadhar (1995), swayam siddha (2001) etc., for developing the power of women.

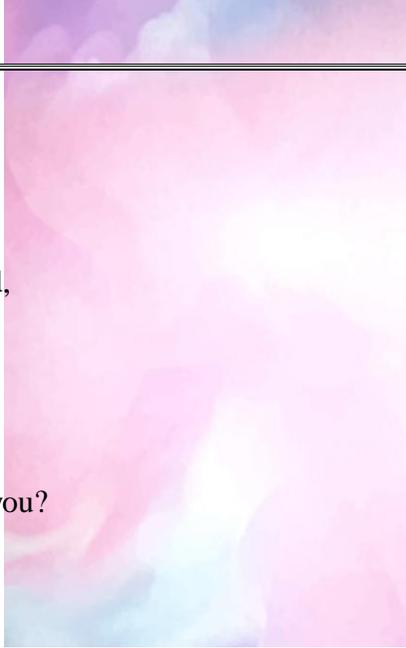
In the process of empowerment, women should consider their strengths and weakness and move forward to unfold their own potential to achieve their goals through self development. In our country, empowering women through enterprise development has become an integral part of our development efforts due to three important advantage entrepreneurs, economic growth and social stability.

by
G. Durka Devi
II CSE

TRY, TRY AGAIN

This is a lesson you should heed,
If at first you don't succeed,
Try, try again;
Then your courage should appear, For if you will preserve,
You will conquer, never fear Try, try again;
Once or twice, though you should fail,
If you would at last prevail,
Try, try again
If we strive, 'tis no disgrace
Though we do not win the race;
What should you do in the case?
Try, try again;

If you find your task is hard,
Time will bring you your reward,
Try, try again;
All that other folks can do,
Why, with patience, should not you?
Only keep this rule in view:
Try, try again.



by
R.Iswarya
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LIFE

Life is like a way
Your way.....
Your path is only for you
You can walk with many people
But nobody will walk for you
So make your own way (Success)
with your own mind.

by
M.Iniyavan
II CSE A

THE REAL SUCCESS IS!!!

My progress is not just a

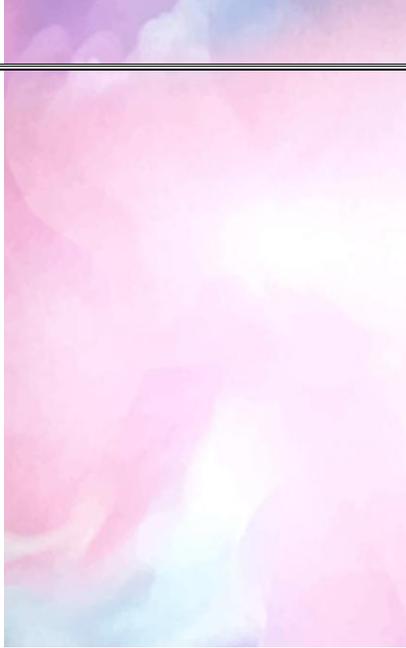
success !!!

The real achievement is

happiness are the

Improvement of those who

are in too....



by

J.S.Nataraj

II CSE A

GALLERY



Releasing Newsletter in TISCA'17



Principal and HOD presented the Memento to the Chief Guest



Students collecting their certificates



Police Training Programme for the Police Trainers



Seminar on IOT



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