



# PANIMALAR INSTITUTE OF TECHNOLOGY (JAISAKTHI EDUCATIONAL TRUST)

Department of Computer Science and Engineering

## Bits & Bytes '17



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## ABOUT THE COLLEGE

**Panimalar Institute of Technology** started by **Jaisakthi Educational Trust** focuses on disseminating knowledge coupled with discipline and ethics. It is a Christian Minority Institution and a self- financing engineering college with five streams viz. CSE, IT, ECE, EEE and MECH at present. This institution is affiliated to Anna University meets the guidelines of AICTE, New Delhi in all aspects. Among the five departments, CSE, IT, ECE and EEE departments are accredited by National Board of Accreditation (NBA), New Delhi. Our college is a combination of a world class infrastructure built upon the greatest faculty strength combined with a pictures environment to chisel the finest minds into the most capable future generations of India. It is located in Poonamallee, not far away from Chennai city limits.

Our institution is likely to expand its sphere in other facilities also. The institution takes care to impart updated and high quality technical education throughout the year. Special care is taken in the matter of students becoming qualified as well as competent to face the challenges of the leading corporates in the present world of tough competition. Every effort is taken to transform the students into well rounded personality with strong confidence and sound character making no compromise in perfection, morality, dedication and commitment.

**Students :** Our well-equipped Engineers

**Staff :** Our means

**Industry and Profession :** End users



# **INSTITUTE**

## **VISION**

An Institution of Excellence by imparting quality education and serve as a perennial source of technical manpower with dynamic professionalism and entrepreneurship having social responsibility for the progress of the society and nation.

## **MISSION**

Panimalar Institute of Technology will strive to emerge as an Institution of Excellence in the country by

- Providing state-of-the-art infrastructure facilities for designing and developing solutions for engineering problems.
- Imparting quality education and training through qualified, experienced and committed members of the faculty.
- Inculcating high moral values in the minds of the Students and transforming them into a well-rounded personality.
- Establishing Industry Institute interaction to make students ready for the industrial environment.
- Promoting research based projects/activities in the emerging areas of Engineering & Technology.

## **ABOUT THE DEPARTMENT**

The Department of Computer Science and Engineering was established in the year 2008 with well-equipped, spacious and state-of-the-art infrastructure. The department strives to impart best training to the students on Computer Science and Engineering. The department has dedicated and qualified faculties besides good infrastructure for computing. The department has world-class laboratories to serve the teaching and research needs of the faculties and students and also to experience learning with practical dimensions. Research at the department is nurtured through various sponsored and technical programmes and always been on a high growth path and to keep pace with the current technological trends. The department is an active member of the professional bodies like Computer Society of India (CSI), IEEE Computer Society (IEEECS) and ICT Academy of Tamilnadu (ICTACT). CSE department is fabulous in maintaining Industry Institute Interaction (III) with the aim of imparting Faculty Development Programmes, Short-Term Courses, Workshops, Certification Courses and Sponsored Projects at our campus. The major objectives of the department are to assist and contribute in the development of top quality professional engineers and technicians needed by the industries and other organizations.

- **Department of CSE creates new knowledge and opportunities to the students for learning through the process of research and enquiry.**
- **Department of CSE inculcates its students to recognize and value communication as the tool for creating new understanding, collaborating with others and furthering their own learning.**



## **DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING**

### **VISION**

To evolve as a Centre of Excellence in Computer Science and Engineering to compete with latest trends and also persistently strive to inculcate the requisite skills in research, innovation and entrepreneurship, making the budding engineers as competent professionals to take up any global challenge.

### **MISSION**

- To produce high-quality Computer Engineers with employable skills and professional standards by imparting theoretical and practical training.
- To collaborate with industry in pursuit of education and research, leading to the development of commercially-viable technologies.
- To develop an overall personality of the students by encouraging them to participate in co-curricular and extra-curricular activities.
- To train teachers capable of inspiring the next generation of engineers and researchers.
- To develop research interest among the student community.

**DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING****PROGRAM EDUCATIONAL OBJECTIVES (PEOs)****PEO-I:**

To excel in Computer Science and Engineering program to pursue their higher studies or succeed in their profession through quality education.

**PEO-II:**

To acquire knowledge in the latest technologies and innovations and an ability to identify, analyze and solve problems in computer engineering.

**PEO-III:**

To become recognized professional engineers with demonstrated commitment to life-long learning and continuous self-improvement in order to respond to the rapid pace of change in Computer Science Engineering.

**PEO-IV:**

To be capable of modeling, designing, implementing and verifying a computing system to meet specified requirements for the benefit of society.

**PEO-V:**

To possess critical thinking, communication skills, teamwork, leadership skills and ethical behavior necessary to function productively and professionally.



## DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

### PROGRAM OUTCOMES (POs)

*On completion of the B.E (CSE) degree the Computer science and Engineering graduates will be able to*

**PO1. Engineering Knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

**PO2. Problem Analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

**PO3. Design/Development of Solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

**PO4. Conduct Investigations of Complex Problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

**PO5. Modern Tool Usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

**PO6. The Engineer and Society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

**PO7. Environment and Sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

**PO8. Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

**PO9. Individual and Team Work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

**PO10. Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

**PO11. Project Management and Finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

**PO12. Life-Long Learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

**DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING****PROGRAM SPECIFIC OUTCOMES (PSOs)**

**PSO1:** An ability to apply knowledge of software development concepts to select and apply software development processes, programming paradigms, and architectural models appropriate to different applications.

**PSO2:** Familiarity with various programming languages and paradigms, with practical competence in atleast three languages and two paradigms.

**PSO3:** An ability to demonstrate knowledge in theoretical computer science and in related areas such as algorithm design, compiler design, artificial intelligence and information security.



**RIP. Dr. JEPPIAAR, M.A., B.L., Ph.D.,**  
**Founder & Chairman**

Our Founder & Chairman Late Dr. Jeppiaar, M.A., B.L., Ph.D., deserves the due homage of immortals for he lives and reigns in the hearts of many through his service by education.

He had a vision to offer quality based technical education to those who were deprived due to poverty, social status and many other such factors. He was committed to bring equality of opportunity despite a student coming from rural background.

Inspite of the college's success in terms of glory and money, his motive was not into making profit out of education instead; he has been the eye opener for many who lived in the darkness of illiteracy. His ardent desire was to give back to the society that nurtured him.

With his blessings we are happy to release this magazine **Bits and Bytes '17** from Department of Computer Science and Engineering for the academic year 2016-2017.

## MESSAGE FROM THE SECRETARY



**Dr. P. Chinnadurai, M.A., Ph.D.,  
Secretary and Correspondent  
Panimalar Institute of Technology**

I am very much honored and pleased that Department of Computer Science and Engineering has involved in many technical and other activities in building up the student career. Students from CSE department have brought laurels to the institute through their contributions in different activities like academic and research. I extend my hearty congratulations to the entire faculty and students of Department of Computer Science and Engineering for their enthusiasm and effort to achieve success.

## **MESSAGE FROM THE DIRECTOR**



**Mr. C. Sakthikumar, M.E.,  
Director, Panimalar Institute of Technology**

I am glad to note that the Department of CSE magazine for 2016-2017(Bits & Bytes '17) is being released shortly. Department magazine enables us to know the hidden talents among the student brought out through their articles. The magazine also gives a glimpse of the college to the public-at-large who are one of the stakeholders of the college.

My felicitation and congratulations to the editorial board for their meticulous work which is reflected in the pages of the magazine.



## MESSAGE FORM THE PRINCIPAL



**Dr. T. JAYANTHY, M.E., Ph.D.,  
Principal, Panimalar Institute of Technology**

I am very happy that Department of CSE is releasing a magazine named “Bits & Bytes '17” to commemorate technical publications of faculties and students for the academic year 2016-17.

The Department magazine is a forum which could aptly be used for recording events, fond memories and creative writing. I am sure that this magazine will be informative and resourceful.

I owe my hearty appreciations to Dr. V. Subedha, Professor & Head / Department of CSE and her team for their sincere efforts to make the release of this magazine a reality. I wish them “The Very Best” in all their future endeavors.

## MESSAGE FROM THE HEAD OF THE DEPARTMENT



**DR. V. SUBEDHA, M.Tech., Ph.D.,**  
**Professor & Head**

Dear Readers,

Greetings! Being the Editor, I feel privileged in presenting our department magazine "Bits & Bytes '17". It is designed to showcase the talents of our faculty members and students. With a sense of pride and satisfaction I would like to say that with the active support of the Management, Director, Principal, Faculty members and Students, the department magazine has come alive. I extend my thanks to the colleagues of my department for being a part of the editorial board. With all the efforts and contributions put in by the Faculty members and Students; I truly hope that the pages that follow will make some interesting reading.

## CEO TALK.....

### *“COCKROACH THEORY” - A beautiful way to understand LIFE...*

SUNDAR PICHAI'S

COCKROACH THEORY - A beautiful way to understand LIFE...

[INDIAN BORN (CHENNAI) GOOGLE CEO]



The cockroach theory for SELF-DEVELOPMENT: At a restaurant, a cockroach suddenly flew from somewhere and sat on a lady. She started screaming out of fear. With a panic-stricken face and trembling voice, she started jumping, with both her hands desperately trying to get rid of the cockroach. Her reaction was contagious, as everyone in her group also got panicky. The lady finally managed to push the cockroach away but ...it landed on another lady in the group. Now, it was the turn of the other lady in the group to continue the drama. The waiter rushed forward to their rescue. In the relay of throwing, the cockroach next fell upon the waiter.

The waiter stood firm, composed himself and observed the behaviour of the cockroach on his shirt. When he was confident enough, he grabbed it with his fingers and threw it out of the restaurant. Sipping my coffee and watching the amusement, the antenna of my mind picked up a few thoughts and started wondering, was the cockroach responsible for their histrionic behaviour? If so, then why was the waiter not disturbed? He handled it near to perfection, without any chaos.

It is not the cockroach, but the inability of those people to handle the disturbance caused by the cockroach, that disturbed the ladies. I realized that, it is not the shouting of my father or my boss or my wife that disturbs me, but it's my inability to handle the disturbances caused by their shouting that disturbs me. It's not the traffic jams on the road that disturbs me, but my inability to handle the disturbance caused by the traffic jam that disturbs me. More than the problem, it's my reaction to the problem that creates chaos in my life.

Lessons learnt from the story: I understood, I should not react in life. I should always respond. The women reacted, whereas the waiter responded. Reactions are always instinctive whereas responses are always well thought of.

A beautiful way to understand..LIFE. "Person who is HAPPY is not because everything is RIGHT in his Life. He is HAPPY because his ATTITUDE TOWARDS EVERYTHING in his Life is Right..!"

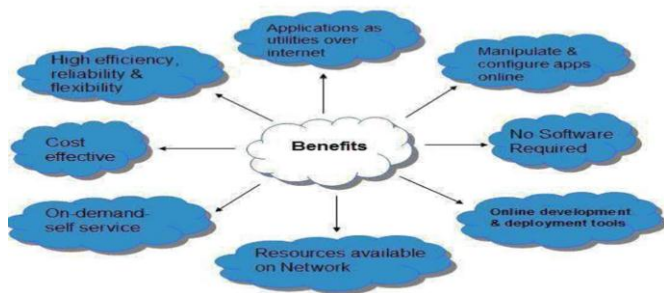


## BENEFITS OF CLOUD-BASED, PAPERLESS TECHNOLOGY

NIMALAN.G.D

II Year CSE

While a completely paperless approach might not be possible yet, the paperless technologies are already having significant impacts on the traditional businesses. A paperless environment is beneficial for both the company and the environment. Here are the most prominent ways about how cloud-based paperless technology is changing traditional businesses.



### Enhancing Data Security:

Regardless of their type, all businesses are conscious about the security and integrity of their confidential documents. Ensuring the maximum amount of privacy for these business documents is a critical determiner of developing a successful business. The traditional ways of handling documents are not capable of ensuring the reliable security for these documents. While the available options include locking the files in a cabinet, shredding them etc., these are definitely not full-proof approaches to data protection. If these documents are accessed on a regular basis, these security approaches can make the process more difficult, resulting with a reduced level of business productivity.

Creating a paperless environment is the perfect antidote to this kind of intriguing problems. As there will be no physical copies of your confidential business documents, there will be fewer chances of violating the document integrity.

The documents will be shared with your company personnel only, which mean no outsider will have access to your business documents. As an added layer of security, you can assign specific roles to your employees and set role-specific access to the critical files. By doing this, you can make sure that the confidential files are not shared with unnecessary people. Various cloud-based Document Management System (DMS) includes a smart feature called revision tracking. This feature constantly tracks the changes made in your files. You can review the changes, accept or reject them, or restore a previous version of the file.

### Reliable Document Repository:

Modern businesses need quick access to all the necessary information. This is critical when you need to make quick decisions. Unfortunately, the traditional paper-based system provides no easy way of finding the necessary information within seconds. Sorting through all the files and folders will definitely take some time. In case of larger companies, there will be a huge amount of documents. It will be a challenge to organize all these documents in a systematic way. Then, there is also the issue of document storage. You will need things like drawers, cabinets and electrical equipment like printer, copier etc. to create and store the documents. If you want to Keep multiple backups of your documents, the total expenses could easily become twice or thrice the original amount. You won't have to face any of these issues when using paperless technologies. Since paperless systems are totally devoid of papers, you don't have to worry about the best ways to manage your documents. It also reduces the necessity of any storage solutions. You can keep multiple backups at the fraction of the original cost. The paperless systems make it very easy to increase or decrease your virtual storage requirements.

One of the biggest advantages of using a cloud-based DMS is to enjoy a better and faster way of organizing your documents. When you have all your business documents uploaded to the cloud, you can find the necessary document with a few mouse clicks. Paperless technologies also make it a lot easier to collaborate and/or share various documents between groups of people.

**Reducing the Overall Expense:**

Decreasing the operations cost is one of the main targets for any business. Among the various ways of doing this, going paperless is one of the fastest and most rewarding ways. When you are relying on papers for regular business operations, you are opting into several unnecessary expenses. First of all, there is the obvious cost of buying papers. Then, you need to buy printer and copier machines. You will need ink, toner and cartridge for the equipment. They also need regular maintenance. And if you are running large-scale operations, you may have to employ a full-time staff for the printing and copying purposes. Because paper-based system reduces your business efficiency, it is also increasing your operation expenses. As you can guess, going paperless takes care of all these issues. As the whole process will be virtual, you won't have to deal with paper anymore. That means no more paper, printing or copying equipment buying, energy bills or the maintenance expenses. While there is a fee for using the document management systems, it is very nominal compared to the traditional approach. As I have discussed above, paperless technologies will increase your overall efficiency. Going paperless also makes it a lot easier to share the same document with multiple individuals. Instead of making multiple copies of the physical document, you can share a link to the document and everyone can access the file from their laptop, computer or smartphone.

**Eco-friendly Business Approach:**

When you rely on a paper-based system, you naturally use a lot of paper.

According to one estimate, an average office worker in the USA uses about 10,000 pieces of paper every year. And the trend of paper usage is increasing at a significant process. Tree and fresh water are the two main ingredients of paper. Therefore, increasing paper usage means more use of these precious resources. If the current rate of paper consumption continues, we will lose all the rainforests within the next 100 years. The paper manufacturing process releases a lot of harmful substances, making it the third-most polluting manufacturing process in the USA and Canada. When you go paperless, you are actually eliminating all these harmful processes. When you factor in the paper carrying, distribution, printing, electricity usage etc., the effect is huge. By implementing a cloud-based DMS in your business, you can play your part in saving the environment.

**Automated Backups:**

Losing a necessary file could bring unnecessary complications in your life. Every Business follows some established rules in their daily operations. Losing access to a file or misfiling a document could be fatal to these kinds of setups. One way to avoid these problems is to keep multiple backups of the necessary documents. But as we have seen in the discussion above, keeping multiple backups of your physical documents bring additional issues like extra storage, paper and printing cost, data privacy etc. Can you guess the best solution to handle this kind of situation? If you said using a paperless technology, you are absolutely right. When using cloud services, you can easily keep multiple backups of your necessary business documents at little to no cost at all. What's more, some DMS automatically creates multiple backups of your uploaded files and store them in different servers.

**Seamless Integration:** In the modern age, businesses are making use of various latest tools and technologies.



When your business relies on the paper-based system, you can't establish a reliable communication channel with the modern tools.

You have to input the data manually and handle the outputs on your own. On the contrary, cloud-based document management systems feature complete integration with the modern business tools. Once you complete the basic configurations, these systems can provide the data input without any manual intervention and store the output for further inspection. In the future, paperless technologies are expected to get better at their communication with the other business tools. If you start the process now, you will be able to reap these future benefits without any delay.

### Bottom Line:

In order to remain competitive in the modern world, businesses need to adapt to the emerging technologies and reap the most benefits out of them. The paperless approach is one such technology with a significant impact on traditional businesses. Now that you know how cloud base paperless technologies are changing traditional businesses, you should take the necessary steps to implement these technologies in your business as soon as possible.

## THE INTELLIGENT CAR

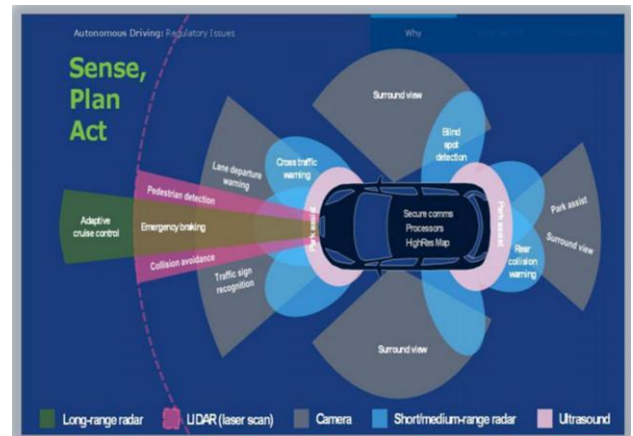
**VISHALI. S**  
III Year CSE

Many people's first experience with a driverless car is as a bystander. So part of our mission is transparency: making sure our vehicles can communicate intention to pedestrians.

A roof-mounted LED, a screen on the grille, or projecting laser onto the ground would allow that communication through words or even emoji. You can tell people when the car is in selfdriving mode by using a blue light. Even people who are colour-blind can see blue.



On the inside, we use artificial intelligence that allows the car to be powered by deep learning. We wanted to bypass the need to hard-code detection of specific features—such as lane markings, guardrails, bicyclists—and avoid creating a near-infinite number of “if, then, else” statements. This is too impractical to code when trying to account for the randomness.



And then there's the roughly two hours of commute time you gain back each day from your car driving itself. We think this will trigger the next big app boom. Thinking of the car as a computer platform, it will become your third living space. It's not just about getting from point A to point B. It's so much bigger than that. It's a huge platform play. As your car moves you from one place to another, you'll have a variety of infotainment options. Being in your car is starting to turn into a software enabler. It'll be like you're sitting inside your cell phone.

## FOCUS DRIVEN PEOPLE

THARANILS  
III Year CSE

An algorithm that analyses facial expressions and head movements could help doctors diagnose autism-like conditions and attention deficit hyperactivity disorder. There is no simple test for autism or ADHD, but clinicians usually observe someone's behaviour as part of the assessment. "These are frequently co-occurring conditions and the visual behaviours that come with them are similar," says Michel Valstar at the University Of Nottingham, UK.

His Team Used machine learning to identify some of these behaviours. The group captured video of 55 adults as they read and listened to stories and answered questions about them "People with autism do not always get the social and emotional subtleties," says Valstar.

The participants fell into four groups: people diagnosed with autism-like conditions, ADHD, both or neither. The system learned to spot differences between how the groups responded. For example, people with both conditions were less likely to raise their eyebrows when they saw surprising information.

The team also tracked head movement to gauge how much the volunteers' attention wandered. Using both measures, the system correctly identified people with ADHD or autism-like conditions 96 per cent of the time. Eric Taylor at King's College London welcomes the potential of this as a diagnostic tool for these conditions. But he says the best approach is still observing children in everyday surroundings. Algorithms won't take over from doctors any time soon, says Valstar. "We are creating diagnostic tools that will speed up the diagnosis in an existing practice, but we do not believe we can remove humans. Humans add ethics and moral values to the process."

## REASONS BEHIND HANGING OF YOUR SMART PHONE

UDAYANIDHI. A  
III Year CSE

Keep your  
Smartphone  
away from  
getting  
hanged



Almost all smartphones like Samsung, Nokia, Micromax gets hanged up frequently. There are number of reasons for mobile hanging and it is necessary to take precautions. Let us have a quick glance at some of the top 10 reasons for mobile hanging explained below:

- ✓ When you run several applications or tasks at a same time, then your mobile will automatically get hanged. Make sure to check one application at a time or else your mobile will get heat up and hanged.
- ✓ One of the major errors done by many people is that they install applications in phone memory instead of external memory. Generally, all applications, videos, photos have to be saved in the Memory card (SD card).
- ✓ If your mobile's internal memory (RAM) is full, then it may freeze at any point of time.
- ✓ Ensure to delete unnecessary applications, photos or videos.
- ✓ Keeping external memory full can also cause hanging of mobile phone. Once your memory gets full, it is advisable to transfer the data to your computer or laptop immediately.
- ✓ Manage your own files and remember to delete unnecessary files, clear cookies & cache and so on.
- ✓ Installing many applications can create hanging problems easily as the smartphone cannot support to all applications at a same time.
- ✓ One of the most common problems is people run heavy applications on low memory. This gradually enables your mobile to get hanged instantly.
- ✓ Mobile Phone that runs on proprietary operating systems can get hanged up often. This
- ✓ problem is caused due to overburdening of the processor.
- ✓ It is advice for the people to update the software regularly as it may establish hanging problems.

## HOW TO RESOLVE HANGING ISSUE IN YOUR ANDROID PHONE?



### 1. Increase Memory by Deleting Unwanted Data

Do know that almost every website uses cache to increase the page speed of a website? Whenever you visited a website you phone automatically store which is also known as cookies and caches. These unwanted data will be stored in your phone memory which leads to decreasing the available memory for apps and other files. Go to setting>>Storage>>Click on the cache and click on the ok to clear caches.

### 2. Move Installed Application to the external memory

If you use too many apps of your smartphone then you can move few apps to the external memory. Moving applications to the external memory is the best way to empty the storage space of your phone. You can install applications directly in the external memory cards and you can set the external memory card as default memory. Go to setting>>storage>>Tap on the SD card Storage.

### 3. Use external memory to save Songs and other files

Too much use of phone memory is the main reason to got phone hang. To solve the hanging problem in your Android phone save your songs, videos and other data. You can move your files to the external memory and by selecting external memory as default memory helps to store photos and video which clicked by Camera. To make the external memory as default memory read second tip.

### 4. Factory reset options (Not Recommended)

I personally do not recommend this method because it is not familiar with most of the Android users. Factory reset is the last method to delete all unwanted files which comes from browsers, websites, Apps etc.

Factory reset deleted all files, apps, contacts, memos, so most of the android doesn't use this option. Secure Process of Factory Reset: Factory process may delete your personal data like contacts, memos so you users must need to follow the secure process before performing the factory reset option. Whenever you perform factory reset process never forgot to take Backup of all your files. You can move this backup files to the external SD card.

**5. Use Cloud Storage** Use Clout storage to store your files which you want to save for the future. Store only those files in your memory card which you needed every day and upload those files to the cloud storage which needed in the future.



## RANSOMWARE

**GOWTHAM KUMAR. J**

**III Year CSE**



The latest ransomware intrusion that targets Linux servers, dubbed "FairWare," may be a classic server hack designed to bilk money from victims with no intent to return stolen files after payment in bitcoins is made. Tech support site Bleeping Computer earlier this week reported the threat, based on server administrator comments on its forum. Other reports followed. The attack targets a Linux server, deletes the Web folder, and then demands a ransom payment of two bitcoins for return of the stolen files, according to BleepingComputer owner Lawrence Abrams.

The attackers apparently do not encrypt the files but may upload them to a server under their control, he noted.

Ransomware or Hack? Victims first learned about FairWare when they discovered their websites were down. When they logged onto their Linux servers, they discovered that the website folder had been removed. Victims found a note called READ\_ME.txt left in the /root/ folder, according to accounts on the forum. The note contains a link to a further ransom note on pastebin. The link connects to a note telling victims how to obtain their files.

The ransom note on pastebin directs victims to pay two bitcoins to the bitcoin address 1DggzWksE2Y6DUX5GcNvHHCCDUGPde8WNL within two weeks. After paying up, victims were to send an email to fairware@sigaint.org with the server IP address and BTC transaction ID.



The hackers then would provide the victims with access to their files and delete them from the hacker server. "I am not sure this attack qualifies as ransomware," observed Chenxi Wang, CSO at Twistlock.

"Even though a ransom demand was made, there is no evidence of an actual malware that infected a vulnerability on the host," she told LinuxInsider. "This is really more of a classic hack as opposed to a malware-based attack."

**No-Pay Strategy Supported:-** It appears that no money has been deposited into the digital wallet specified for ransom payments. It is possible that data has been taken, however, and it is also possible that the attackers will release it, Roberts said.

"As an aside, I do love the fact the ransomware chaps quoted the FBI in their letter. It's awesome to basically cut that argument off at the pass: Standard user/company 'the FBI will solve it' has just been nixed," he added. Ransomware is a growing concern to enterprises on all levels.

"It's important to first note that when dealing with ransomware, businesses should never pay the ransom," said Omer Bitton, vice president for research at enSilo. "Paying up motivates the threat actors to continue with the practice. Our advice: Stay vigilant for cyberthreats. Back up your data regularly. Share information on cyberattacks and best practices, and deploy technologies that can proactively protect against ransomware," he told LinuxInsider.

"The costs of good backups are far less than paying a ransom," Core Security's Kuzma pointed out. Who Is at Risk? At this point, it looks like workstations, laptops and desktops are unaffected by FairWare. That might not be the case for computers that host a publicly accessible Wordpress site, however, said Kuzma. Likely targets appear to be Web hosters with websites on Linux systems, said Greg Scott, owner of Infrsupport Corporation. That makes him a potential victim, since he hosts the website for an IT security educational book he authored on a Red Hat Fedora virtual machine.

The book, Bullseye Breach, is disguised as an international thriller about how Russian mobsters penetrate a large U.S. retailer named "Bullseye Stores" and steal millions of credit cards. In his fictional world, a few good guys come up with a way to fight back. Potential attackers might want his book website to go offline -- and in fact, somebody at a Russian IP Address did attack the site a few months ago, Scott said. "I stopped it by blocking it at my firewall," he said, noting that its only exposure to the Internet is incoming Web requests for that site.

Protection Tips FairWare targets mostly websites that are hosted on Linux servers. Unlike other ransomware, it usually deletes the website content from the server instead of encrypting the files, which can be less problematic, according to Idan Levin, CTO of Hexadite. "Most companies have a backup of their websites, so in most cases the victim can easily recover the website files if he was able to clean the ransomware from the server," he told LinuxInsider. "Linux desktops will probably not be affected by this ransomware since they are not running any website servers." Keeping the servers current with software upgrades and security patches is critical.

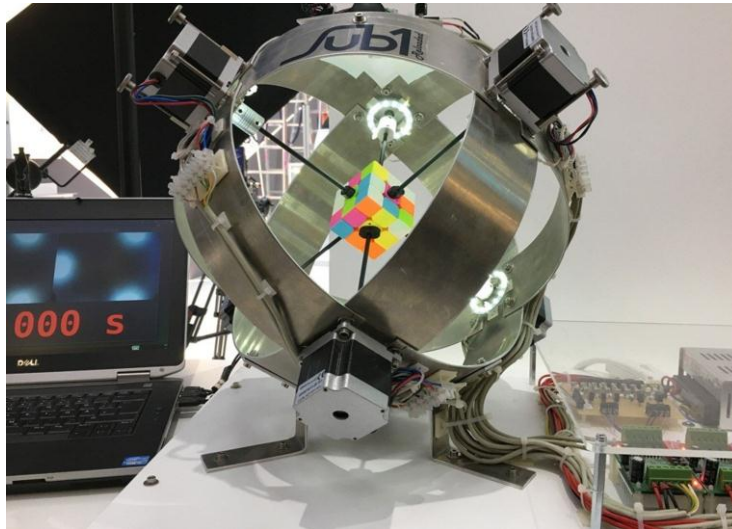
Although the FairWare infection methods remain a mystery, Levin suspects the attacker exploits server side vulnerabilities such as Shellshock or Heartbleed. "So I would suggest that people make sure their websites software is up to date and that they have an updated backup of their files," he said. Placing an orchestration and automation solution into play also would be advisable, Levin added. That would make it possible to stop the ransomware in seconds, before any major damage could be done.



## NEW RECORD! ROBOT SOLVES RUBIK'S CUBE IN LESS THAN A SECOND

KALYYANASUNDAR. I

III Year CSE



Solving a Rubik's Cube is an impressive feat by itself, but now, a robot can do it in record time, cracking the 3D puzzle about 10 times faster than the human who holds the world record. In just over half of a second (0.637 seconds), the Sub1 Reloaded robot made each side of the Rubik's Cube show a single color.

This breaks the previous record of 0.887 seconds achieved by an earlier version of the same machine using a different processor. German technology company Infineon staged the record attempt at the Electronica trade fair in Munich this week, as a way to highlight its self-driving-car technology. The company provided one of the Sub1 Reloaded robot's microchips. [The 6 Strangest Robots Ever Created] "It takes tremendous computing power to solve such a highly complex puzzle with a machine," Infineon said in a statement. "In the case of 'Sub1 Reloaded,' the power for motor control was supplied by a microcontroller from Infineon's AURIX™ family, similar to the one used in driver assistance systems.

"Infineon said more than 43 quintillion combinations of the Rubik's Cube's colored squares are possible. That same number of cubes would cover Earth in 275 layers, resulting in an approximately 65.6-foot-high (20 meters) layer of Rubik's Cubes, the company added. The record-breaking attempt began with the press of a button. Sensor cameras on the machine had their shutters removed, and the computer was then able to detect how the cube was scrambled. The computing chip, or the "brain" of the machine as Infineon called it, then determined the fastest solution.

Commands to execute the solution were sent to six motor controlled arms. While every Rubik's Cube can be unscrambled with just 20 movements, Infineon's engineer Albert Beer did not design the computer to use the fewest moves. I

nstead, the company said the machine was programmed to achieve the best time, allowing the Sub1 Reloaded to take extra moves to reach its goal.

## HOW SMARTPHONES ARE REVOLUTIONIZING DIAGNOSTIC MEDICINE

MITHILAESH. J

IV Year CSE

**Detecting Eye Cancer in Newborns:**

When taking pictures, we usually come across the red eye problem. Many photo-editing and camera apps have the feature to reduce or remove red eye for you. So it didn't worry Bryan Shaw much when his wife showed him pictures of their son with one red eye and the other, milky white. A few months later, Noah was diagnosed with a rare eye cancer called retinoblastoma. Only 8000 children under the age of 5 have it each year, half of which succumb to it. The cancer develops as a tumor at the back of the eye, and reflects off as milky white in digital photos. The condition is called leukocoria or white-eye syndrome. Bryan found that the symptom had been showing up in Noah's baby photos since Noah was 12 days old, and his doctor told him if the cancer had been detected then, Noah would have been able to save his right eye – he is otherwise a very healthy and bright boy. Bryan has since teamed up with his son's doctors and published a paper on how digital photos can help catch the early onset of leukocoria in newborns.

**A Mobile Eye Care Clinic**

90% of the visually impaired (and blind) live in poor countries. Most have little to no access to medical aid or hospital care but Dr Andrew Bastawrous has a plan. He is using an app called Peek to help get eye problems diagnosed without the patient having to leave their homes.

Peek allows healthcare workers to visit folks living in rural areas and run check-ups on their eyesight. From running basic vision eye tests to scanning the affected eye with the smartphone camera, workers can take, and then transmit these images to eye specialists for a diagnosis. Information about the patient's identity and their location are logged in using the smartphone's GPS. When a problem is detected, the patient can be located using Google Map then retrieved and transferred for treatment at a health facility. The idea is being tested on 5000 people in Kenya to see if the process can deliver accurate results. If it works, this will provide a much cheaper alternative (only £300 per phone) and increased accessibility to eye care for millions of people.

**Battling Visual Impairment**

Another device is the NETRA, a \$2 clip-on eyepiece that you can attach to any smartphone. Together with EyeNetra, an app that can help detect farsightedness, nearsightedness, age-related blurriness, astigmatism, this combination can help detect refractive errors in the human eye. It helps determine if you need glasses, without the need of the regular heavy-duty equipment. The individual will look through the \$2 eye piece and will click on buttons to align patterns that he sees on the smartphone screen. The refractive error is determined by how many clicks the patient requires to align the patterns correctly. Like Peek, it is being field tested, but at a larger scale, in 14 countries. The team also has one called CATRA which helps detect cataracts in patients.



### Fundus Photography

The equipment required for fundus photography, where you take a photo of the interior of the eye, costs up to hundreds of thousands of dollars. However, it is necessary for ophthalmologists to check patients for eye problems. Well, at least it was. Researchers from the Massachusetts Eye and Ear Infirmary recently published a paper describing how they were able to take high-quality fundus images using an iPhone 4 or iPhone 5. Along with an app called FiLMiC pro, the researchers could combine an iPhone with a 20D lens and with or without a Koeppel lens to produce fundus images of a patient's eye even under less than optimum environment settings. The technique is an inexpensive alternative for ophthalmologists, and also easy to learn.

### Self-Check With Your Smartphone

The fact that more than 1 billion people have smartphones also opens up possibilities to use a smartphone and an app to monitor our conditions. Some of these apps were developed by researchers for the purpose of detecting specific diseases.

### Deteriorating Eyesight

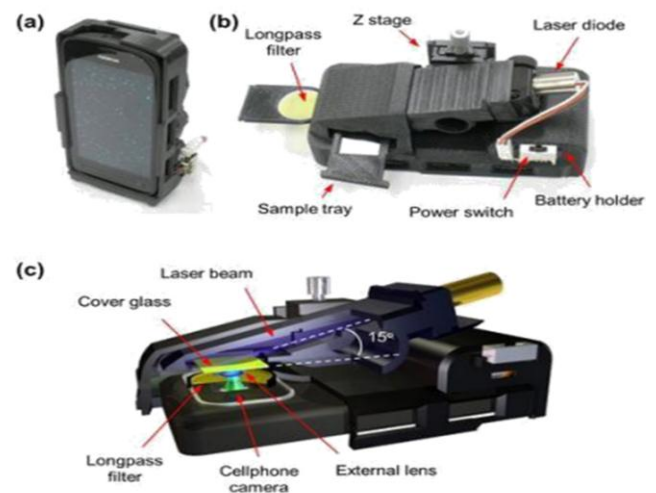
FDA-approved myVisionTrack is a monitoring app to help patients of degenerative eye diseases to track their conditions from home. The app allows patients to check their vision using "shape discrimination tests". The tests are deemed to be more accurate than Snellen Charts that are used in clinics and results from these tests can be relayed to their eye doctor via the app, without making a clinic appointment first.

### Kidney Damage / Diabetes:

Researchers at UCLA have built a device to detect albumin levels in a patient's urine. The device shines light at a urine sample mixed with fluorescent dye; a smartphone app processes the light to detect albumin concentration in urine then transfer the results to the doctors. The whole process takes only 5 minutes and can help diabetics and patients with kidney damage. The device can be produced for \$50-\$100 per unit.

### Urinary Diseases

A similar app called Uchek, lets you detect up to 25 different urinary diseases just by analyzing a picture taken of a color-coded strip soaked in a urine sample. The strips and guide to decipher the resultant colors go for \$20, while the app is only \$0.99. Aside from being able to detect diabetes, this system allow allows the detection of pre-eclampsia, urinary tract infections and many other conditions as well.



### Wrap Up

These are just a few of the apps that you can use at home, to detect early signs of a disease, or actively monitor the progression of an illness. While they are not to be replaced by an actual doctor or healthcare provider, they can help provide consistent data which could contribute to better, more timely treatment. Plus, owning a smartphone is now more than just about taking that epic selfie.

## QUIZ ON 'C'

GURU PREETHI S

II Year CSE

Q1. Which of the following Bitwise operators can be used efficiently to swap two numbers?

- (a) & (b) ^ (c) / (d) //

Q2. Which of the following will initialize the new memory to 0 ?

- (a) Malloc (b) Free (c) New (d) Delete

Q3. Which of the following standard C library converts a string to a long integer and reports any .leftover. numbers that could not be converted.

- (a) atol (b) atoi (c) stol (d) strtol

Q4. What do the 'c' and 'v' in argv stands for?

- (a) c- means argument control v- means argument vector  
 (b) c- means argument count v- means argument vertex  
 (c) c- means argument count v- means argument vector  
 (d) c- means argument configuration v- means argument visibility

Q5. Which standard library function will you use to find the last occurrence of a character in a string in C?

- (a) strnchar() (b) strchar() (c) strrchar()  
 (d) strrchr()

Q6. What will be the output of the program?

```
#include int main() { char far *near *ptr1; char far *far *ptr2; char far *huge *ptr3;
printf("%d, %d, %d\n", sizeof(ptr1), sizeof(ptr2), sizeof(ptr3)); return 0; }
```

- (a) 4, 4, 8 (b) 4, 4, 4 (c) 2, 4, 4  
 (d) 2, 4, 8

Q7. What will be the output of the program?

```
#include int main() { float a=0.7; if(a < 0.7)
printf("C\n"); else printf("C++\n"); return 0; }
```

- (a) C (b) C++ (c) Compile error  
 (d) None OF the Above

Q8. In the expression a=b=5 the order of Assignment is NOT decided by Associativity of operators

- (a) TRUE (b) FALSE  
 (c) Compile error (d) None of the above

Q9. What will be the output of the program ?

```
#include int main() { char p[] = "%d\n"; p[1] = 'c';
printf(p, 65); return 0; }
```

- (a) A (b) B (c) C (d) 65

Q10. In C, two integers can be swapped using minimum

- (a) 0 extra variable (b) 1 extra variable  
 (c) 2 extra variable (d) 3 extra variable

Answers:

- Q1. B  
 Q2. C  
 Q3. D  
 Q4. C  
 Q5. D  
 Q6. C  
 Q7. A  
 Q8. B  
 Q9. A  
 Q10. A



## AppBuzz

ARUN KUMAR R

II Year CSE

**Q1. Have you been to Delhi?**

- (a) Yes, I visited Delhi in 2008.
- (b) Yes, I have visited Delhi in 2008.
- (c) Yes, I have gone to Delhi in 2008.
- (d) All are correct

**Q2. Choose the antonyms of the following words.****CONCILIATE**

- (a) Provoke
- (b) replace
- (c) inform
- (d) Expose

**Q3. BEGK : ADFJ :: PSVY : ?**

- (a) ROUX
- (b) ORUX
- (c) LQUT
- (d) LOQT

**Q4. After driving professor Kumar to the museum she dropped him at his hotel.**

- (a) After being driven to the museum, Professor Kumar was dropped at his hotel.
- (b) Professor Kumar was being driven dropped at his hotel.
- (c) After she had driven Professor Kumar to the museum she had dropped him at his hotel.
- (d) After she was driven Professor Kumar to the museum she had dropped him at his hotel.

**Q5. Here are some words translated from an artificial language. hapllesh means cloudburst srenchoch means pinball resbosrench means ninepin Which word could mean "cloud nine"?**

- (a) Leshsrench
- (b) Ochhapl
- (c) Haploch
- (d) Haplesbo

**Q6. A can contains a mixture of two liquids A and B is the ratio 7 : 5. When 9 litres of mixture are drawn off and the can is filled with B, the ratio of A and B becomes 7 : 9. How many litres of liquid A was contained by the can initially?**

- (a) 10
- (b) 20
- (c) 21
- (d) 25

**Q7. The cost of Type 1 rice is Rs. 15 per kg and Type 2 rice is Rs. 20 per kg. If both Type 1 and Type 2 are mixed in the ratio of 2 : 3, then the price per kg of the mixed variety of rice is:**

- (a) Rs.18
- (b) Rs. 18.50
- (c) Rs. 19
- (d) Rs. 19.50

**Q8. A watch which gains 5 seconds in 3 minutes was set right at 7 a.m. In the afternoon of the same day, when the watch indicated quarter past 4 o'clock, the true time is:**

- (a) 59 7/12 min. past 3
- (b) 4 p.m.
- (c) 58 7/11 min. past 3
- (d) 2 3/11 min .past 4

**Q9. Find the one which does not belong to that group ?**

- (a) 3
- (b) 4
- (c) 5
- (d) 9

**Q10. Find the one which does not belong to that group ?**

- (a) PMS
- (b) ROU
- (c) GDJ
- (d) KIM

**Q11. The length of the bridge, which a train 130 meters long and travelling at 45 km/hr can cross in 30 seconds, is:**

- (a) 200m
- (b) 225m
- (c) 245m
- (d) 250m

**Q12. Find the principle on a certain sum of money at 5% per annum for 2 2/5 years if the amount being Rs.1120?**

- (a) Rs.1000
- (b) Rs.1100
- (c) Rs.1050
- (d) Rs.1200

**Q13. The average of first 10 even numbers is?**

- (a) 18
- (b) 22
- (c) 9
- (d) 11

**Q14. The average weight of 25 persons sitting in a boat had some value. A new person added to them whose weight was 46 kg only. Due to his arrival, the average weight of all the persons decreased by 5 kg. Find the average weight of first 25 persons?**

- (a) 55 kg
- (b) 62 kg
- (c) 56 kg
- (d) None

**Q15. A can run a kilometer race in 4 1/2 min while B can run same race in 5 min. How many meters start can A give B in a kilometer race, so that the race mat end in a dead heat?**

- (a) 150m
- (b) 125m
- (c) 130m
- (d) 100m

**Answers:**

- |              |               |
|--------------|---------------|
| <b>Q1. A</b> | <b>Q9. B</b>  |
| <b>Q2. A</b> | <b>Q10. D</b> |
| <b>Q3. B</b> | <b>Q11. C</b> |
| <b>Q4. A</b> | <b>Q12. A</b> |
| <b>Q5. D</b> | <b>Q13. D</b> |
| <b>Q6. C</b> | <b>Q14. D</b> |
| <b>Q7. A</b> | <b>Q15. D</b> |
| <b>Q8. B</b> |               |



**DIGITAL FORENSICS****Mr.K.SATYAMOORTHY, M.Tech.,****Assistant Professor, CSE**

Digital Forensics is the way toward revealing and translating electronic information. The objective of the procedure is to safeguard any confirmation in its most unique frame while playing out an organized examination by gathering, recognizing and approving the advanced data with the end goal of reproducing past occasions.



The evidentiary way of digital forensics science requires thorough norms to face round of questioning in court. Subsequently, there have been endeavors by associations like the National Institute of Standards and Technology, which distributed the "Guide for Integrating Forensic Techniques into Incident Responses".

Compared with traditional forensic science, digital forensics postures huge difficulties. Data on a PC framework can be changed without a follow, the size of information that must be examined is unfathomable, and the assortment of information sorts is gigantic. Similarly as a conventional scientific examiner must be set up to break down any sort of spread or part, regardless of the source, an advanced specialist must have the capacity to comprehend any information that may be found on any gadget anyplace on the planet—an exceptionally troublesome recommendation. Digital Forensics examinations have an assortment of uses.

The most widely recognized is to bolster or discredit a theory before criminal or common (as a major aspect of the electronic revelation handle) courts. Forensics may likewise include in the private part, for example, amid inward corporate examinations or interruption examination (a master test into the nature and degree of an unapproved organize interruption).

Today PCs are ubiquitous to the point that the gathering and utilization of advanced proof has turned into a typical piece of numerous criminal and civil investigations. Suspects in murder cases routinely have their tablets and PDAs inspected for proving proof. Corporate case is likewise ruled by electronic disclosure of implicating material. The second class of digital forensics cases is those in which the crime was inherently one including PC frameworks, for example, hacking. In these cases, specialists are regularly hampered by the specialized complexity of the frameworks and the monstrous measure of confirmation to investigate.

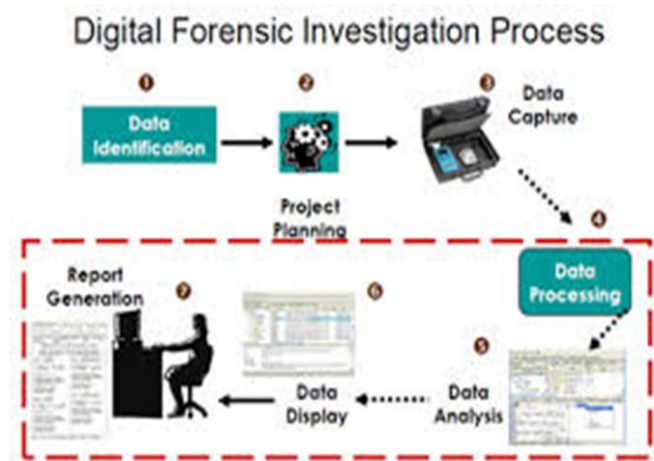
Advanced forensics depends on the instruments and procedures that can be connected similarly to suspects, casualties, and spectators. A mobile phone found on a dead body without recognizable proof would more likely than not be subjected to examination, yet so would a telephone dropped amid a house robbery. How the examination is performed is along these lines more a matter of lawful issues than innovative ones.

Allocated files are ones that can be seen through the document framework and whose substance under ordinary conditions won't be incidentally overwritten by the working framework. The word allocated alludes to the plate areas in which the record's substance is put away, which are devoted to this specific document and can't be appointed to others.

Numerous digital forensics instruments permit the inspector to see allocated files introduced in a circle picture without using the PC's local working framework, which keeps up measurable respectability of the proof.

Even when photos and video can be recovered from a subject's computer or cell phone, another question to consider is whether the imagery is real. Image processing advances have made it possible to find some kinds of artifacts that indicate tampering or wholesale synthesis. Light reflections, highlights, and shadows also can be closely examined to reveal that different objects in a single "photograph" actually were assembled from images that were in slightly different physical environments.

Digital Forensics Investigation Process begins with identifying the data present in the devices found. Proper planning must be done for capturing the data without modifications. Analyze the captured data for evidence about the crime. Finally generate the report about whether the crime is done by the criminal or not.



Digital Forensics is the part of investigation process—whereas in the past it was mainly a tool for assisting in convictions. Cell phones might be furnished with "self-destruct" applications that wipe their information in the event that they get a specific content, so it is presently standard practice to store phones in a protected metal box, called a Faraday pen, which squares radio waves.

In any case, numerous cell phones will "overlook" their put away memory if left off for a really long time, so the Faraday confines must be furnished with electrical extensions and cell telephone chargers. Since some low-end cell phones have exclusive attachments, police must seize chargers also. In any case, a few phones will wipe their information in the event that they can't call home, while others will scramble their information with calculations too capable for law implementation to translate. Without developing fundamentally new tools and capabilities, forensics experts will face increasing difficulty and cost along with ever-expanding data size and system complexity. Thus today's digital detectives are in an arms race not just with criminals, but also with the developers of tomorrow's computer systems.

Digital Forensics Tools are SANS SIFT, ProDiscover, Volatility, Sleuth Kit, FTK Imager, CAINE, Free Hex Editor Neo, Bulk\_extractor, DEFT. The SANS Investigative Forensic Toolkit (SIFT) is a Ubuntu based Live CD which incorporates every one of the instruments you have to direct a top to bottom legal or occurrence reaction examination. It underpins examination of Expert Witness Format (E01), Advanced Forensic Format (AFF), and RAW (dd) confirm groups. Filter incorporates apparatuses, for example, log2timeline for creating a course of events from framework logs, Scalpel for information document cutting, Rifiuti for inspecting the reuse receptacle, and parts more. ProDiscover Basic is a straightforward advanced scientific examination instrument that permits you to picture, investigate and give an account of confirmation found on a drive. When you include a scientific picture you can see the information by substance or by taking a gander at the groups that hold the information. You can likewise scan for information utilizing the Search hub in view of the criteria you determine. Volatility is a memory forensics framework for episode reaction and malware analysis that allows you to extract digital artifacts from volatile memory (RAM) dumps.

## The Pick Out For Pretty Crime Project

Mrs. M. Therasa, M.E.,  
Assistant Professor, CSE

A computer vision system has been developed that detects suspicious behavior in CCTV footage as it happens. The system can then alert CCTV operators to intervene, and save the footage in case it is needed for evidence. Researchers involved in the P-REACT project, which is the work of a consortium of European companies and organizations and is partly funded by a grant from the European Commission, say the surveillance technology could help catch criminals in the act and relieve police of “digital evidence overload” by highlighting video clips most likely to be relevant to investigations.

“If a camera at a gas station picks up suspicious activity, the video footage will be sent to the cloud, people at the gas station will be alerted, and nearby cameras will be told to look out for the criminals too,” says project coordinator Juan Arraiza at Vicomtech, a research foundation in San Sebastian, Spain.

P-REACT tracks people’s movements to work out whether they’re simply walking along a street, for instance, or doing something dodgy. Its algorithms have been trained on sample scenes of people fighting, chasing someone or snatching a bag. They had to be finely tuned to identify these activities: hugging can look a lot like fighting, for example, while running can be mistaken for giving chase.

The first tests of P-REACT were run last year in a carefully controlled environment, with actors playing the roles of petty criminals. In this idealised set-up the system reacted flawlessly, catching every play-acted crime – though it is likely to have more difficulty in a real-world scenario where scenes are less predictable. The technology was presented at the International Conference on Imaging for Crime Detection and Prevention in November, with more extensive field trials planned for the future.

Meanwhile, aspects of the technology are already being rolled into tools for use by police. Dublin-based company Kinesense is developing products that will give police access to CCTV clips selected by the P-REACT system. “One of the biggest challenges police face is digital evidence overload,” says chief technology officer Mark Sugrue. “P-REACT solves this by letting the camera send only important clips.”

Sean Gaines at Vicomtech says P-REACT could also help prevent profiling based on race or age, as the system only analyses movement and is not subject to the conscious or unconscious biases that might influence a CCTV operator’s decisions. “Our algorithms do not take appearance into account, only actions matter,” he says.

Teo de Campos at the University of Brazil says that systems like P-REACT are a useful tool that “helps the operator in a surveillance room to focus on relevant cameras or even in relevant regions of images”. Similar systems are probably already in use in some places, he says, but the details are often kept secret.

However, although systems like P-REACT can help pick out unusual behaviour, Marcos Nieto at Vicomtech emphasizes that they can’t actually tell if an act is criminal. That particular job should be “left for the human beings”.

## ALUMNI TALK



***Sivaranjani Sundar (2012 to 2016)***  
***CSS Corporation***

Hello everyone,

In every one's life college days are indelible thing to remember back where we have started another JUNCTURE in our life after schooling where we will start to think about our carrier.

I have successfully completed my Under graduate degree B.E computer science and Engineering in Panimalar Institute of Technology where I have learned a lot. Panimalar is the best college where we got good lab facilities and excellent teachers who indoctrinates student in a right way. "A teacher takes a Hand, opens a mind and touches a heart".

In our college, they not only provide good education(Enlightening Experience) and practical knowledge also they have provided good transport facilities, Food facilities, good infrastructure. Since "Infrastructure is the paths of human endeavour"!

Finally, coming to the Recruitment process where we start our carrier, there is always a good start in Panimalar College while comparing to other colleges. I got placed in well reputed Company and pursuing my job as an Network Engineer. I should thank my college since they provided me a good opportunity in my life to start my carrier path.

Last line about my college they walked me through they taught us about the Attitude and to survive the world with the best qualities that every person should have in their life. And at the end of the day we realized our onus in our life. Sometimes some things in life are hard to follow or accept but at the end they are more essential and plays a vital role in our life.

Thank you so much. I should thank each staff and my HOD , Managers who have provided me a Good opportunity in my life. Also got many friends who are there are for me always.



**Praveena G (2012 to 2016)**  
**Programme Analyst Trainee**  
**Cognizant Technology Solutions**

This college has also given me many opportunities for my talents. I had chances to perform in our college sports day and have also won the Individual Championship for Girls. That was one of the best moments of my college life. All our staffs congratulated me and encouraged me. Basically I don't like wasting time so I started drawing simple pictures during my leisure time at college which actually led to a lot of innovativeness and creative thinking. That was the time I came to know I could draw so well. All our staffs stood by my side and were a great strength towards my creativity. There are also various competitions like wealth out of waste and idly eating competitions where students can enjoy and come up with various ideas.

Our college also gives a lot of training for campus interview. We will have aptitude test being conducted every Wednesdays which is actually very helpful for each and every student. But just like others I also didn't give importance to those tests and faced them lethargically. But as days were nearing I came to know about the seriousness of the tests and started learning. At that time I thought I must have studied earlier. I didn't have time to exercise on many topics in apps and that led to the disqualification in apps round in Infosys.

Later I had to work very hard to get through 1st round. Infosys was the first company I attended and since I was disqualified I lost hope. Even at that time all our faculties were very helpful. They were continuously giving hope to all those who lost in Infosys.

The next was Wipro, in which I was able to clear apps round, but unfortunately I was not able to clear technical. Then came Cognizant, in which I cleared all 3 rounds with GOD's grace and staff's prayers





**PJ Kemanth (2012 to 2016)**  
**Junior Product Specialist**  
**Cognizant Technology Solutions**

I can positively say Panimalar Institute of Technology has made me a better person. It has helped me develop a positive attitude towards my studies and discover more about myself.

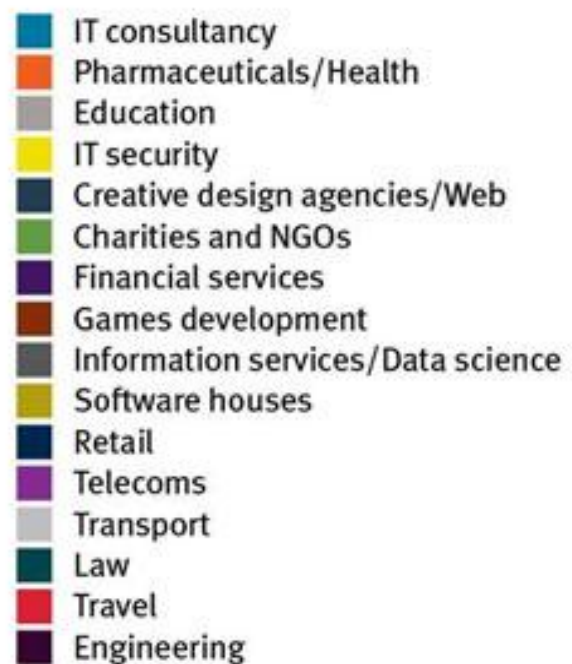
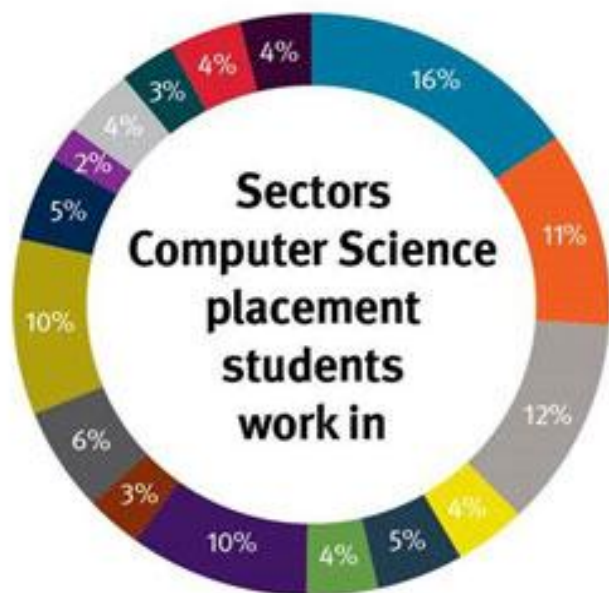
I think the facilities, environment and the resources here are much better than any other Institutions. It's a big change from a school. I felt more at home here. It is also a better learning environment. The library and the classrooms are more functional.

The facilities and food at the Campus is impeccable and the variety of services available made me always feel much supported. The faculty and staff at this institution are very good they provided me with lot of opportunities.



*What Can You Do With This Degree?*

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