K.L.N. College of Engineering

i'Storm

Department of Information Technology

SPECIAL INTEREST GROUP

LIVE WITH TECHNOLOGY

PRINCIPAL MESSAGE

It is a matter of great pride and satisfaction for KLN COLLEGE OF ENGINEERING to bring out the News Letter 'ISTORM' Released from the Department of Information Technology. The College has made tremendous progress in all areas-academic, non-academics, capacity building relevant to staff and students. The College has achieved another milestone in getting NBA (National Board of Accreditation).I am confident that this issue of Department News Letter will send a positive signal to the staff, students and the person who are interested in the Technical education and Technology based activities. A News Letter is like a mirror which reflects the clear picture of all sorts of activities undertaken by a Department and develops writing skills among students in particular and teaching faculty in general. I congratulate the Editorial Board of this News Letter who have played wonderful role in accomplishing the task in Record time. I express my deep sense of gratitude to Dr.N.Balaji, HOD/IT under whose guidance this Technical work has been undertaken and completed within the stipulated time. Also my heartfelt Congratulations to staff members and Students for their fruitful effort.With Best Wishes.

PRINCIPAL

Dr.A.V. RAMPRASAD

THE EDITOR'S DESK

It gives me immense pleasure to note that response to this newsletter of our department **i'STORM** has been overwhelming. The wide-spectrum of articles in different sections gives me a sense of pride that our students and professors possess creative potential and original thinking in ample measures. Each article is entertaining, interesting and absorbing. I applaud the contributors for their stimulated thoughts and varied hues in articles contributed by them. Commendable job has also been done by the Editorial Board in planning for and producing the Newsletter. My congratulations to the team who took the responsibility for the arduous task most effectively. I am hopeful that this small piece of technical work shall not only develop the taste for reading among students but also develop a sense belonging to the institution as well.

H.O.D (I.T)
Dr.N.Balaji

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ICON OF THE MONTH

KOPILLIL RADHAKRISHNAN

Introduction:

Koppillil Radhakrishnan is an Indian scientist, who served as the chairman of **Indian Space Research Organisation (ISRO)** between 2009 and 2014.He is also the chairman of the board of management, **Indian Institute of Space Science and Technology**. He has also served as the director of **Vikram Sarabhai Space Centre (VSSC), Thiruvananthapuram.** He is a life fellow of the Indian Geophysical Union and is also an accomplished **vocalist (Carnatic music)** and **Kathakali** artist. Radhakrishnan took charge as the Chairman of the Indian Space Research Organisation (ISRO) on 31 October 2009 succeeding **G. Madhavan Nair**.

Personal Life:

Radhakrishnan hails from **Irinjalakuda** in **Thrissur district**, Kerala. After his studies from Christ College, Irinjalakuda, he completed his B.Sc. degree in Electrical Engineering in 1970 from the **Government Engineering College, Thrissur**. He started his career in the **Indian Space Research Organisation (ISRO)** as an **Avionics** Engineer at the **Vikram Sarabhai Space Centre, Trivandrum,** in 1971.

While at ISRO, he joined the master's program in management at **Indian Institute of Management Bangalore.** He received his **master's degree in management in 1976**. In 2000, he obtained his doctorate from the **Indian Institute of Technology Kharagpur**. Radhakrishnan is a **Carnatic music** and **Kathakali** enthusiast. He has excelled in music, dance and other art forms during his educational period. He himself has given vocal stage performances.

Positions Held:

Radhakrishnan has held several key positions in ISRO and was one of the key people behind India's Chandrayaan-1 moon mission. He has held the following positions:

- Director, RRSSC (Regional Remote Sensing Service Centres) under the umbrella of National Natural Resources Management System (1989–1997).
- Director, BEA-ISRO (Budget and Economic Analysis) (1987–1997).
- National Mission Director, Integrated Mission for sustainable Development and a Deputy Director of the National Remote Sensing Agency (NRSA) (1997–2000).
- Project Director, Early Warning System for Tsunami and Storm Surges (2000–2005)
- Vice Chairman - Intergovernmental Oceanographic Commission (IOC) of UNESCO (2001–2005)
- Founding Chairman, Indian Ocean Global Ocean Observing System (IOGOOS) (2001–2006)
- Regional Coordinator, Indian Ocean for the International Argo Project (2001–2005)
- Director, National Remote Sensing Agency, Department of Space (2005–2008)
- Member of the Indian delegation to the United Nations Committee on the Peaceful Use of Outer Space (2006)
- Director, Vikram Sarabhai Space Centre, Thiruvanathapuram, India (2007–2009)
- Chairman, Indian Space Research Organisation, Bangalore, India (2009-2014).

Awards and Honors:

- 2014: Radhakrishnan received the Padma Bhushan Award for his contribution to Science and Engineering, especially in the field of Space Science and Technology.
- 2014: Named one of *Nature*'s ten "people who mattered" of 2014 on December 18, 2014, along with Maryam Mirzakhani, RadhikaNagpal, and others.

What ISRO Describes?

ISRO, which refers to Radhakrishnan as a 'Man of Steel' on its facebook page, describes him as an efficient engineer, magnificent manager, an impeccable institution builder and an inspiring leader who has "triumphantly led ISRO through many historic milestones in the last five years being at the helm of affairs".

ISRO's Mars Orbiter:

The tenure of Radhakrishnan as ISRO chief, secretary, Department of Space and Chairman, Space Commission was extended by four months in August this year till December 31, 2014 on "functional grounds and in public interest."

India made space history on September 24 when its low-cost Mars spacecraft was successfully placed in orbit around the red planet in its very first attempt, breaking into an elite club of three nations.

The Rs. 450-crore MOM Mangalyaan is the cheapest inter-planetary mission that, at just USD 74 million, costing less than the estimated USD 100 million budget of the sci-fi blockbuster "Gravity" and a tenth of NASA's Mars mission Maven, entered the Martian orbit on September 22.

European, American and Russian probes have managed to orbit or land on the planet, but after several attempts. MOM feat gave a boost to India's global standing in space.Mangalyaan was named among the best inventions of 2014 by TIME magazine which described it as a technological feat that will allow India to flex its "interplanetary muscles."

Sundar.M,
Third Year.

EMERGING TECHNOLOGIES

Sixth Sense: The Emerging Technology

Introduction:

Although miniaturized versions of computers help us to connect to the digital world even while we are travelling there aren't any device as of now which gives a direct link between the digital world and our physical interaction with the real world. Usually the information is stored traditionally on a paper or a digital storage device. Sixth sense technology helps to bridge this gap between tangible and non-tangible world. Sixth sense device is basically a wearable gestural interface that connects the physical world around us with digital information and lets us use natural hand gestures to interact with this information. The sixth sense technology was developed by Pranav Mistry, a PhD student in the Fluid Interfaces Group at the MIT Media Lab. The sixth sense technology has a Web 4.0 view of human and machine interactions. Sixth Sense integrates digital information into the physical world and its objects, making the entire world your computer. It can turn any surface into a touch-screen for computing, controlled by simple hand gestures. It is not a technology, which is aimed at changing human habits but causing computers and other machines to adapt to human needs. It also supports multi user and multi touch provisions. Sixth Sense device is a mini-projector coupled with a camera and a cell phone.

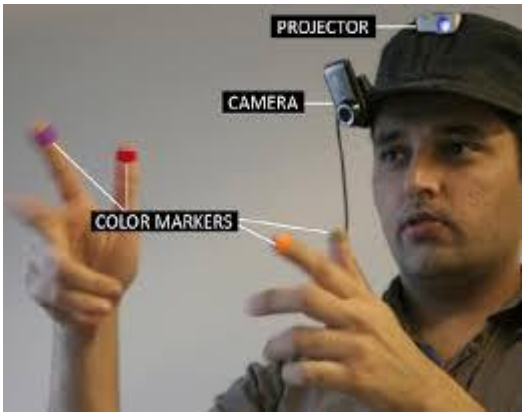
Construction and Workings:

The Sixth Sense prototype comprises a pocket projector a mirror and a camera contained in a pendant like, wearable device. Both the projector and the camera are connected to a mobile computing device in the user's pocket. The projector projects visual information enabling surfaces, walls and physical objects around us to be used as interfaces; while the camera recognizes and tracks user's hand gestures and physical objects using computer-vision based techniques. The software program processes the video stream data captured by the camera and tracks the locations of the colored markers at the tip of the user's fingers. The movements and arrangements of these fiducially are interpreted into gestures that act as interaction instructions

for the projected application interfaces. Sixth Sense supports multi-touch and multiuser interaction.

The Sixth Sense technology contains a pocket projector, a mirror and a camera contained in a head-mounted, handheld or pendant-like, wearable device. Both the projector and the camera are connected to a mobile computing device in the user's pocket. The projector projects visual information enabling surfaces, walls and physical objects around us to be used as interfaces; while the camera recognizes and tracks users' hand gestures and physical objects using computer-vision based techniques. The software program processes the video stream data captured by the camera and tracks the locations of the colored markers (visual tracking fiducials) at the tips of the user's fingers. The movements and arrangements of these fiducials are interpreted into gestures that act as interaction instructions for the projected application interfaces. Sixth Sense supports multi-touch and multi-user interaction.

Mann has described how the Sixth Sense apparatus can allow a body-worn computer to gestures. If the user attaches colored tape to his or her fingertips, of a color distinct from the background, the software can track the position of those fingers.



During a 2009 TED talk given by Professor Pattie Maes showed a video demonstrating a number of applications of the Sixth Sense system. Those applications include:

- Four colored cursors are controlled by four fingers wearing different colored markers in real time. The projector displays video feedback to the user on a vertical wall.
- The projector displaying a map on the wall, and the user controlling it using zoom and pan gestures.
- The user can make a frame gesture to instruct the camera take a picture. It is hinted that the photo will be automatically cropped to remove the user's hands.
- The system could project multiple photos on a wall, and the user could sort, re-size and organize them with gestures. This application was called Reality Window Manager (RWM) in Mann's head worn implementation of Sixth Sense.
- A number pad is projected onto the user's palm, and the user can dial a phone number by touching his palm with a finger. It was hinted that the system is able to pin point the location of the palm. It was also hinted the camera and projector are able to adjust themselves for surfaces that are not horizontal.
- The user can pick up a product in supermarket (e.g. a package of paper towels), and the system could display related information (e.g. the amount of bleach used) back on the product itself.
- The system can recognize any book picked up by the user and display Amazon rating on the book cover.
- As the user opens a book, the system can display additional information such as reader's comments.
- The system is able to recognize individual pages of a book and display annotation by the user's friend. This demo also hinted the system's ability to handle tilted surface.
- The system is able to recognize newspaper articles and project the most recent video on the news event on a blank region of the newspaper.
- The system is able to recognize people by their appearances and project a word cloud of related information retrieved from the internet on the person's body.
- The system is able to recognize a boarding pass and display related information such as flight delay and gate change.
- The user can draw a circle on his or her wrist, and the system will project a clock on it. Note this demo hinted at the ability to accurately detect the location of the wrist.

Despite wearing the device during the presentation, Professor Maes did not give a live demonstration of the technology. During the talk, she had emphasized repeatedly that the Sixth Sense technology was a work in progress, however it was never clarified whether the video demos were showing real working prototypes or merely made-up examples for illustrating the concept.

Something More About the Device:

Now the most basic question is what the device is about and what is behind this device. All of us are aware of the five basic senses – seeing, feeling, smelling, tasting and hearing. But there is also another sense called the sixth sense. It is basically a connection to something greater than what their physical senses are able to perceive. To a layman, it would be something supernatural. Some might just consider it to be a superstition or something psychological. But

The invention of sixth sense technology has completely shocked the world. Although it is not widely known as of now but the time is not far when this technology will change our perception of the world. The device sees what we see but it lets out information that we want to know while viewing the object. It can project information on any surface, be it a wall, table or any other object and uses hand /arm movements to help us interact with the projected information. The device brings us closer to reality and assists us in making right decisions by providing the relevant information, thereby, making the entire world a computer.

The device has a huge number of applications. Firstly, it is portable and easily to carry as you can wear it in your neck. The drawing application lets user draw on any surface by observing the movement of index finger. Mapping can also be done anywhere with the features of zooming in or zooming out. The camera also helps user to take pictures of the scene he is viewing and later he can arrange them on any surface. That's not it. Some of the more practical uses are reading a newspaper. Imagine reading a newspaper and viewing videos instead of the photos in the paper. Or live sports updates while reading the Newspaper. The device can also tell you arrival, departure or Delay time of your air plane on your tickets. For book lovers it is nothing less than a blessing. Open any book and you will find the Amazon ratings of the book. To add to it, pick any page and the device gives additional information on the text, comments and lot more add on features.

While picking up any good at the grocery store, the user can get to know whether the product is ecofriendly or not. To know the time, all one has to do is to just gesture drawing circle on the wrist and there appears a wrist watch. The device serves the purpose of a computer plus saves time spent on searching information. Currently the prototype of the device costs around $350 to build.

The Inventor:

Pranav Mistry, 28 year old, of Indian origin is the mastermind behind the sixth sense technology. He invented 'Sixth Sense /WUW (Wear UR World) 'which is a wearable gestural , user friendly interface which links the physical world around us with digital information and uses hand gestures to interact with them. He is a PhD student at MIT and he won the 'Invention of the Year 2009'- by Popular Science.

Advantage:

- Cost Effective.
- Data access directly from the machines in real time.
- Mind map the idea anywhere.
- Open Source Software.
- Productive.

Conclusion and Future of the Device:

The device will soon be up for sale and will be available to the common public the device will cost around 350$ without the custom made PC. After sale the technology will create a revolution it will not only make our world digital but also make it simple. It will remove the tedious task of carrying our laptops our any other devices which are very heavy all we have to do is just

wear the device which is a pendant shaped. Its light and easy to carry and easy access to any information. The inventor is now trying to make out a 3-D interface with the help of thisdevice. And also defense companies are ready to buy it for defense purposes. The device is been modified to detect noise frequency so that when the device clip is attached to a paper it detect your finger place by a simple touch and the vibration of sound created on the paper.

Siva Kumar.S,
Third Year.

Cloud Computing

Cloud computing has experienced exponential growth over the last few years. As of December 2013, almost 60 percent of current small-to-medium businesses (SMB) use cloud services, and 72 percent of these businesses virtualize substantial portions of their servers. The growth is only expected to increase over the next few years. Here are just a few of the major current trends in the industry today.

7 Recent Technologies in Cloud Computing:

1. **Hybrid Clouds:**

   There has been an ongoing debate between the merits of public and private cloud models for quite some time now. Hybrid clouds feature an infrastructure that combines private cloud security with cost-effective, powerful and scalable public cloud attributes. IT executives get more choices for personalized solutions while big data advocates and security experts are still satisfied. As hybrid models become mainstream, more companies are likely to adopt this cloud deployment model and drop the old debate.

2. **Byod:**

   Since the vast majority of consumer electronics in the world are mobile devices, "bring your own device" is more relevant than ever in the world of cloud computing. End users are using their mobile devices to put more and more of their own data into personal cloud services for streaming, storage, and syncing. This means that IT departments must find the means to integrate personal cloud services for their employees in a BYOD environment with tools such as Mobile Device Management.

3. **Platform-As-A-Service: (PaaS).**

   PaaS solutions enable businesses to reduce their IT costs while increasing application development through more efficient testing and development methods. According to the International Data Corporation, a prominent analyst firm, by 2017 the PaaS market is anticipated to expand from $3.7 billion to $14 billion worldwide.

4. **Big Data Analytics:**

   Similar to the public and private cloud model debate, many organizations are realizing that it may be much simpler and more beneficial to combine big data analytics with cloud computing than to choose one over the other. The emergence, within the next few years, of big data analytics as a service will offer businesses of any size an easily attainable and scalable tool for competing in the global marketplace.

5. **Graphics As A Service:**

   Typically, running high-end graphics applications requires substantialhardware infrastructure investment. However, cloud computing is changing this reality. There are a number of new cloud-based graphics technologies from prominent graphics companies, including NVIDIA and AMD that allow end users to run high-end graphic design applications with a simple HTML5 web browser.

6. **Identify Management And Protection:**

Security has always been a major concern with cloud computing. As more businesses move more information and data into cloud servers, this concern is more important than ever. It is anticipated that over the next year, there will be identity management solutions based on new cloud based security paradigms.

7. **Web-Powered Apps:**

As efficiency and scalability are among the primary benefits of cloud computing, then it only makes sense to start developing cloud-based applications that are compatible with multiple platforms. With cutting edge initiatives such as famous bringing new life to HTML via JavaScript, it will not be long before the Internet becomes the main platform for these applications.

Niranjana.B,
Second Year.

10 EMERGING TECHNOLOGIES FOR BIG DATA

Column-Oriented Databases:

Traditional, row-oriented databases are excellent for online transaction processing with high update speeds, but they fallshort on queryperformance as the data volumes grow and as data becomes more unstructured. Column-oriented databases store data with a focus on columns, instead of rows, allowing for huge data compression and very fast query times. The downside to these databases is that they will generally only allow batch updates, having a much slower update time than traditional models.

Schema-Less Databases, Or No Sql Databases:

There are several database types that fit into this category, such as key-value stores and document stores, which focus on the storage and retrieval of large volumes of unstructured, semi-structured, or even structured data. They achieve performance gains by doing away with some (or all) of the restrictions traditionally associated with conventional databases, such as read-write consistency, in exchange for scalability and distributed processing.

Mapreduce:

This is a programming paradigm that allows for massive job execution scalability against thousands of servers or clusters of servers. Any **MapReduce implementation consists of two tasks:**

The "Map" task, where an input dataset is converted into a different set of key/value pairs, or tuples;

The "Reduce" task, where several of the outputs of the "Map" task are combined to form a reduced set of tuples (hence the name).

Hadoop:

Hadoop is by far the most popular implementation of MapReduce, being an entirely open source platform for handling Big Data. It is flexible enough to be able to work with multiple data sources, either aggregating multiple sources of data in order to do large scale processing, or even reading data from a database in order to run processor-intensive machine learning jobs. It has several different applications, but one of the top use cases is for large volumes of constantly changing data, such as location-based data from weather or traffic sensors, web-based or social media data, or machine-to-machinetransactional data.

Hive:

Hive is a "SQL-like" bridge that allows conventional BI applications to run queries against a Hadoop cluster. It was developed originally by Facebook, but has been made open source for some time now, and it's a higher-level abstraction of the Hadoop framework that allows anyone to make queries against data stored in a Hadoop cluster just as if they were manipulating a conventional data store. It amplifies the reach of Hadoop, making it more familiar for BI users.

PIG:

PIG is another bridge that tries to bring Hadoop closer to the realities of developers and business users, similar to Hive. Unlike Hive, however, PIG consists of a "Perl-like" language that allows for query execution over data stored on a Hadoop cluster, instead of a "SQL-like" language. PIG was developed by Yahoo!, and, just like Hive, has also been made fully open source.

Wibidata:

WibiData is a combination of web analytics with Hadoop, being built on top of HBase, which is itself a database layer on top of Hadoop. It allows web sites to better explore and work with their user data, enabling real-time responses to user behavior, such as serving personalized content, recommendations and decisions.

Platfora:

Perhaps the greatest limitation of Hadoop is that it is a very low-level implementation of MapReduce, requiring extensive developer knowledge to operate. Between preparing, testing and running jobs, a full cycle can take hours, eliminating the interactivity that users enjoyed with conventional databases. PLATFORA is a platform that turns user's queries into Hadoop jobs automatically, thus creating an abstraction layer that anyone can exploit to simplify and organize datasets stored in Hadoop.

Storage Technologies:

As the data volumes grow, so does the need for efficient and effective storage techniques. The main evolutions in this space are related to data compression and storage virtualization.

Skytree:

SkyTree is a high-performance machine learning and data analytics platform focused specifically on handling Big Data. Machine learning, in turn, is an essential part of Big Data, since the massive data volumes make manual exploration, or even conventional automated exploration methods unfeasible or too expensive.

Siva Sankari.K,
Second Year.

NETWORK SECURITY

Introduction:

Network security consists of the provisions and policies adopted by a network administrator to prevent and monitor unauthorized access, misuse, modification, or denial of a computer network and network-accessible resources. Network security involves the authorization of access to data in a network, which is controlled by the network administrator. Users choose or are assigned an ID and password or other authenticating information that allows them access to information and programs within their authority. Network security covers a variety of computer networks, both public and private, that are used in everyday jobs conducting transactions and communications among businesses, government agencies and individuals. Networks can be private, such as within a company, and others which might be open to public access. Network security is involved in organizations, enterprises, and other types of institutions. It does as its title explains: It secures the network, as well as protecting and overseeing operations being done. The most common and simple way of protecting a network resource is by assigning it a unique name and a corresponding password.

Network Security Concepts:

Network security starts with authenticating, commonly with a username and a password. Since this requires just one detail authenticating the user name —i.e. the password— this is sometimes termed one-factor authentication. With two-factor authentication, something the user 'has' is also used (e.g. a security token or 'dongle',an ATM card, or a mobile phone); and with three-factor authentication, something the user 'is' is also used (e.g. a fingerprint or retinal scan).

Once authenticated, a firewall enforces access policies such as what services are allowed to be accessed by the network users. Though effective to prevent unauthorized access, this component may fail to check potentially harmful content such as computer worms or Trojans being transmitted over the network. Anti-virus software or an Intrusion Prevention System (IPS) help detect and inhibit the action of such malware. An anomaly-based intrusion detection system may also monitor the network like wire shark traffic and may be logged for audit purposes and for later high-level analysis. Communication between two hosts using a network may be encrypted to maintain privacy.

Security Management:

Security management for networks is different for all kinds of situations. a home or small office may only require basic security while large businesses may require high-maintenance and advanced software and hardware to prevent malicious attacks from hacking and spamming.

Types of Attacks:

Networks are subject to attacks from malicious sources. Attacks can be from two categories:

"passive" when a network intruder intercepts data traveling through the network, and "active" in which an intruder initiates commands to disrupt the network's normal operation.

Passive Attacks:

- Wiretapping
- Port Scanner
- Idle scans

Active Attacks:

- Denial-of-service attack
- Spoofing
- Man in the middle
- ARP poisoning
- Smurf attack
- Buffer overflow
- Heap overflow
- Format string attack
- SQL injection
- Cyber-attack

Vandanasri.K.R,
Second Year.

RECENT TRENDS

WINDOWS 10

Microsoft already released the first look of windows10 operating system at San Francisco. Microsoft promised an OS that will be more intuitive for the millions of workers still on Windows 7 and older OSes. It will span all hardware from PCs to phones and try to address the ills that have dogged Windows 8.

Why Windows 10?

The natural name would have been Windows 9, but Microsoft is eager to suggest a break with the past. "We're not building an incremental product," said Terry Myerson, head of Microsoft's Operating Systems Group. Microsoft considered the name "Windows One," he said, to match products like OneNote and OneDrive and its "One Microsoft" business strategy. But he noted the name was snagged a long time ago, by a young Bill Gates. Perhaps Microsoft didn't like the idea of being numerically one step behind Apple's OS X. Whatever the reason, Windows 10 it will be.

"When you see the product in its fullness, I think you'll agree it's an appropriate name for the breadth of the product family that's coming," Myerson said.

What devices will it run on?

All of them. Microsoft demonstrated only the desktop version Tuesday, but Windows 10 will be for tablets, smartphones and embedded products, too.

Is there a start menu?

There is, and it tries to combine the familiarity of Windows 7 with the modern interface of Windows 8. That means the menu is split: On the left, apps are displayed in the familiar Windows 7 style, while on the right are more colorful "live tiles" that open the modern, Windows 8-style apps.
The start menu is customizable, so you can resize the tiles and move them around, and make the start menu tall and thin or long and flat.

Is there a Command Prompt?

You're kidding, right? Well, actually there is. Microsoft showed how it now supports shortcuts like CTRL+C and CTRL+V so you can paste in a directory listing from another app, for instance. Belfiore called it a "niche, geeky feature" but said he wanted to show the diverse range of users the OS is trying to support.

What car does it resemble?

Microsoft came up with a car analogy. It wants you to think of Windows 10 as a Tesla.

"Yesterday, they were driving a first-gen Prius, and when they got Windows 10 they didn't have to learn to drive something new, but it was as if we got them a Tesla," Myerson said.

"It will run on the broadest types of devices ever, from the smallest 'Internet of things' device to enterprise data centers worldwide,"Myerson said."Some of these devices have 4-inch screens, and some will have 80-inch screens. And some don't have any screen at all."

Will I still toggle between two distinct app environments?

Apparently not. In Windows 8, when you launch a modern-style app, it takes you into that modern UI, and when you launch a Win32-style app, it launches to the traditional desktop environment.
In Windows 10, "we don't want that duality," said

Joe Belfiore, a corporate vice president with the OS group. “We want users on PCs with mice and keyboards to have their familiar desktop UI—a task bar and a start menu. And regardless of how an app was written or distributed to your machine, it works the way you expect.”

So how does it look now?

If you launched one of the new-style apps in Windows 8, it filled the whole screen and there weren’t many options to resize it. With Windows 10, the familiar “windows” metaphor is back; you’ll be able to resize the new-style apps and drag them around the screen like an old Win32 app. Conversely, if you’re using an older Win32-style app, it will be able to “snap into place” and fill all the available screen space just like the modern apps.

What else is new?

Some users have been confused by the Windows 8 interface and can’t figure out what’s open on their screen or how to get back to an app. Windows 10 has a feature like OS X’s Mission Control that lets you zoom out and see everything that’s open on a PC, then select any app to enter it.

You can also have multiple desktop configurations open and switch between them. So if you have two apps on the screen for a particular task, sizedjust how you want them, and then you change to some other apps, you’ll be able to get back to those first apps easily without having to resize them again. You can navigate through several of these desktop displays at the bottom of the screen.

Will it still be touch-enabled?

Yes. “We’re not giving up on touch,” Belfiore said. That means you’ll still be able to use touch to do things like scroll and pinch-to-zoom on laptops.

There’s also a new feature, tentatively called “continuum,” for people using two-in-one PCs. When you detach the keyboard from a Windows 10 hybrid, it will ask if you want to go into tablet mode. If you say yes, the UI changes to better match a tablet. The app expands to full screen, for instance, and the start menu switches into a larger-icon mode.

When will it be released and How will it be priced?

The OS will launch around the middle of next year, after Microsoft’s Build conference. Before that, a select group of “Windows insiders” will receive a “technical preview build” for laptops and desktops on Wednesday this week, followed “soon after” by a preview for servers. Previews of other device categories will follow later.

Vignesh.R,
Third Year.

GREEN SCREEN

Green screen technology is the basis of the effects seen in everything from the latest Hollywood blockbusters to the weather forecast. The idea is simple. If you shoot a video with a single coloured backdrop (blue or green is often used) Pinnacle Studio allows you to make that colour transparent - replacing it with anyother video clip, graphic or still image.

With green screen, it's simple to superimpose anything or anyone intoany shot. You can transport yourself to the moon, appear in your favorite film, or make a presentation along with all the relevant facts and figures...

The principal subject is filmed or photographed against a backgroundconsisting of a single color or a relatively narrowrange of colors, usually blue or green because these colors are considered to be the furthest away from skin tone. The portions of the video which match the preselected color are replaced by the alternate background video. This process is commonly known as "keying", "keying out" or simply a "key".

Siva Karan.G,
Second Year.

RASPBERRY PI

What is it?

The Raspberry Pi is a low cost, credit-card sized computer developed in the UK by the Raspberry Pi Foundation with the intention of promoting the teaching of basic computer science in schools. Simply said to be a tool for embedding. It can be easily programmed to run a system or machinery.

Where to Buy?

If you want to buy a Raspberry Pi- kit you can get it from their official site www.raspberrypi.org or from online shopping

sites like amazon, eBay etc., It cost vary from Rs. 2,000-5000 based on different models (i.e., versions).

What it does?

It plugs into a computer monitor or TV, anduses a standard keyboard and mouse. It is a capable little device that enables people of all ages to explore computing, and to learn how to program in languages like Scratch and Python. It's capable of doing everything you'd expect a desktop computer to do, from browsing the internet and playing high-definition video, to making spreadsheets, word-processing, and playing games.

What's more, the Raspberry Pi has the ability to interact with the outside world, and has been used in a wide array of digital maker projects, from music machines and parent detectors to weather stations and tweeting birdhouses with infra-red cameras.

It's Skeleton:

The Raspberry Pi is based on the Broadcom BCM2835 system on a chip (SoC), which includes an ARM1176JZF-S700 MHz processor, Video Core IV GPU, and was originally shipped with 256 megabytes of RAM, later upgraded (Model B & Model B+) to 512 MB. The system has Secure Digital (SD) or MicroSD (Model A+ and B+) sockets for boot media and persistent storage.

Working Platform:

The Raspberry Pi primarily uses Linux kernel-based operating systems. The current release supports of several popular versions of Linux, including Ubuntu. It is not possible to run Windows on the Raspberry Pi.

Programming Language:

Tools are available for Python as the main programming language, with support for BBC BASIC (via the RISC OS image or the Brandy Basic clone for Linux), C, C++, Java, Perl and Ruby.

Where to learn its basics?

www.raspberrypi.org helps beginners to use the Raspberry Pi as basic and also as a games console, workstation and as a general computer for everyday use.

Sample Project:

Ladder Game:

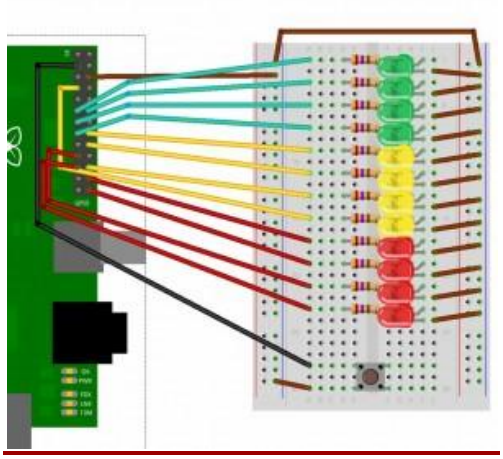
This is a fun game that can quite easily be created with a Pi, a breadboard, some LEDs, resistors and jumper leads.

The aim of the game is to climb out of a well using a ladder. There is a flashing LED representing your position on the ladder, and by pressing the button, you move up the ladder. However, you can only move when the LED is on. If you push the button to try to move up when the LED is off, then you slide back down to the bottom again! The hard part is that the led flashes less and less the higher you get up the ladder, making it easier to keep the button pushed for too long when near the top, causing you to slide back down again. Additionally, if you don't move by pushing the button then eventually you start to slide down anyway! Sounds like fun? Give it a go!

You will need:

12 x LEDs (4 x Red, 4 x Yellow and 4 x Green)
12 x 270Ω resistors
1 x PTM button

Wire up the circuit as per the diagram below:



In LXTerminal type, one line at a time:

```
mkdir ~/ladder
cd ~/ladder
cc -o ladder -Wall -
I/usr/local/include -
```

```
L/usr/local/lib ladder.c -
lwiringPi -lm
sudo ./ladder
```

You may think why I have added a program unnecessarily, the thought is I just want to show how simple this system can be used in real-time.

Vishnu Prasad.S,
Third Year.

STUDENT'S CORNER

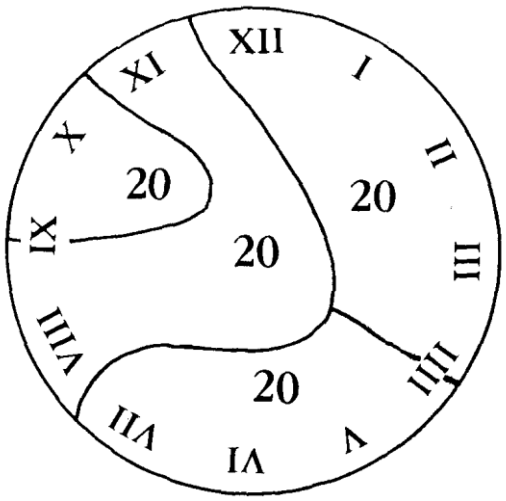
PUZZLES

1. **There is a number which is very peculiar. This number is three times the sum of its digits. Can you find the number?**

   Ans: the number is 27, 2+7=9, 9 X 3 =27

2. **A clock with the hours round the face in Roman block numbers, as illustrated in the sketch fell down and the dial broke into 4 parts. The numerals in each part in every case summed to a total of 20.**
   Can you show how the four parts of the clock face was broken?

Ans:

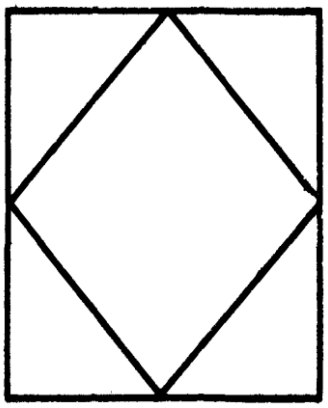


3. **There is a number, the second digit of which is smaller than its first digit by 4, and if the number was divided by the digits' sum, the quotient would be 7.**
   Can you find the number?

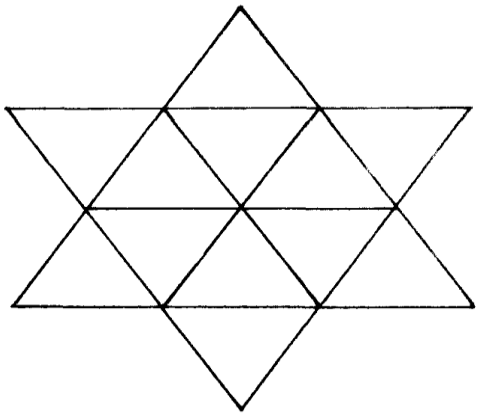
   Ans: the number is 84.

4. **Can you make 2 squares and 4 right-angled triangles using only 8 straight lines?**

   Ans:



5. **How many triangles, of any size, are there in this star?**



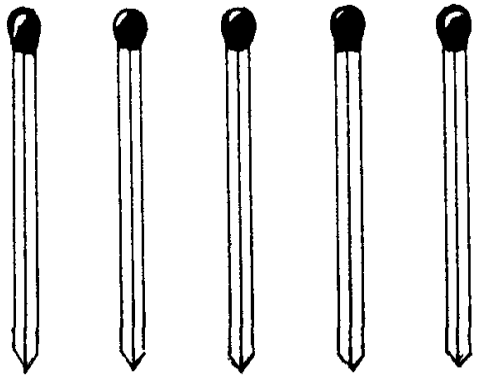
Ans: 20 triangles

6. We have 3 containers which hold 19, 13 and 7 ounces of liquid respectively. The 19 ounce container is empty but the 13 and 17 ounces containers are full. How can we measure out 10 ounces by using only the 3 above mentioned containers?

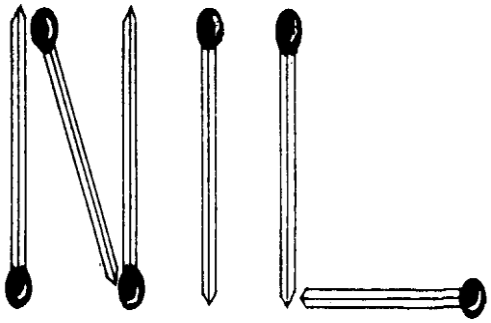
The following would be the procedure in chart form:

	19 Ounces	*13 Ounces*	*7 Ounces*
	0	13	7
Step 1	7	13	0
Step 2	19	1	0
Step 3	12	1	7
Step 4	12	8	0
Step 5	5	8	7
Step 6	5	13	2
Step 7	18	0	2
Step 8	18	2	0
Step 9	11	2	7
Step 10	11	9	0
Step 11	4	9	7
Step 12	4	13	3
Step 13	17	0	3
Step 14	17	3	0
Step 15	10	3	7

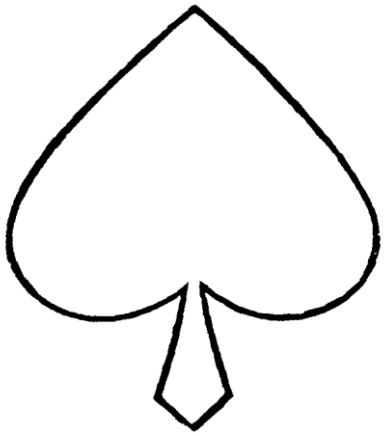
6. Shown in the sketch are six matches. Can you rearrange them to make nothing?

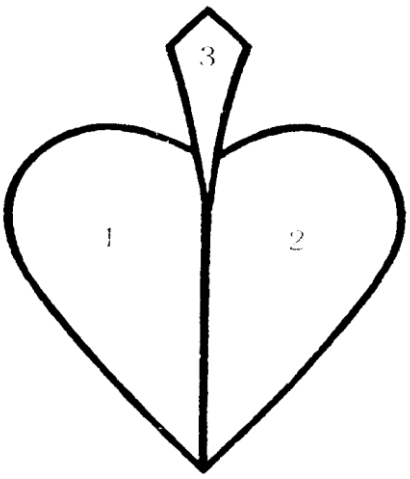


Ans:

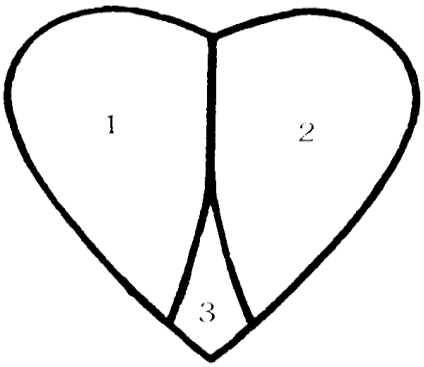


7. Here is a spade: Can you cut the spade into three pieces that will fit together and form a heart?
Remember, no part of the material should be wasted.

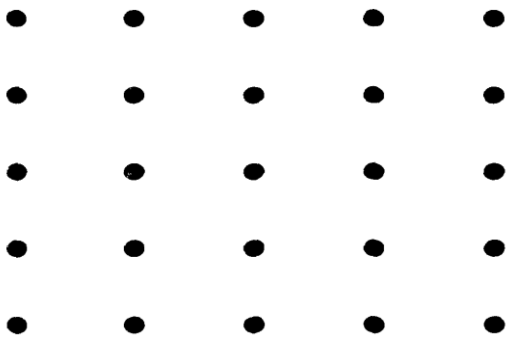




Ans:



8. Twenty-five dots are arranged in a square formation in 5 rows of 5, as shown in the sketch:

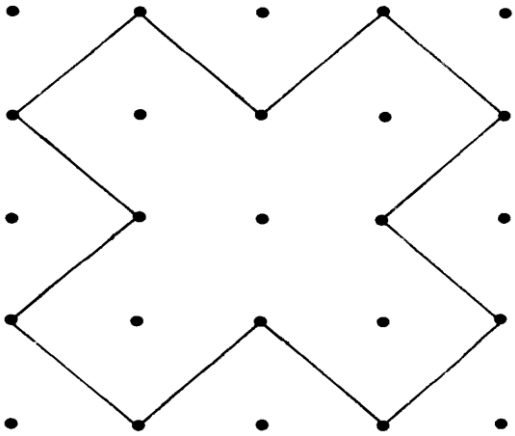


9. How can you make a total of 1000 by using sixteen 4's?

Ans: 444+444+44+44+4+4+4+4+4+4

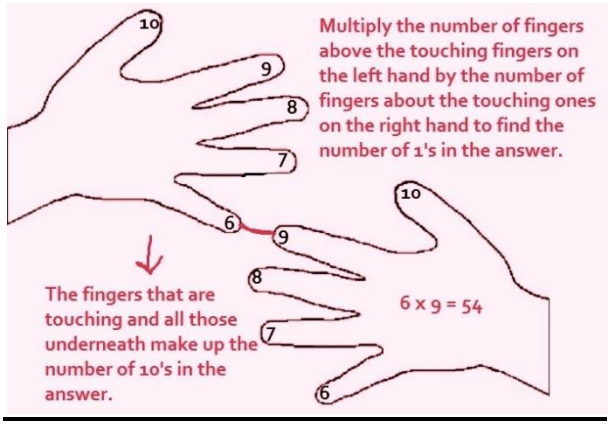
10. Can you connect 12 of these dots with straight lines to form a perfect cross which has five dots inside it and 8 dots outside?

Ans:



Priyadarshini.R,
Third Year.

MATH SHORTCUT



Siva Karan.G,
Second Year.

PLACEMENT DETAILS

FINAL-YEAR(2011-2015)STUDENTS PLACED IN COGNIZANT TECHNOLOGY SOLUTIONS

	K.Lavanya	(115004)
	K.R. Meenashri	(115017)
	P.N.S. Swasthika	(115019)
	Ahalya.A	(115022)
	RathnavelVija	115037

FINAL-YEAR(2011-2015)STUDENTS PLACED IN IBM:

	J. Dimple Bhandari	(115007)
	O.R.S.Preethi	(115008)
	K. Yogitha	(115011)
	V. SundaraPandian	(115014)
	C.HanishmaFernando	(115023)
	J. Lavanya	(115101)
	T.N. Abinaya	(115105)
	S.Kirthika	(115304)
	V.J. Prasanna	(115122)

FINAL-YEAR(2011-2015)STUDENTS PLACED IN MIND TREE:

	K.J. Soniyashri	(115112)
	B.Aishwarya	(115030)
	P.Jayamurugan	(115016)
	S.Yogeswari	(115005)

BULLETINS

GUEST LECTURE ON C-PROGRAMMING LANGUAGE:

Mr.P.Suresh,Assistant Professor of CSE Department from Sethu Institute Of Technology has given guest lecture in "C" programming language on 14.11.2014 and 15.11.2014. This program was conducted for the first year students of KLNCE IT department. This program was conducted to enrich the student`s knowledge on "C" programming language.

SEMINAR FOR TAMIL MEDIUM STUDENTS:

Mr.Alagu Raja from Thiagarajar College of Engineering, Tirupparankundram has conducted an awareness program for tamil medium students of first year saying that they can also shine in their life. This program was conducted on 01.12.2014.

FOUNDER'S DAY CELEBRATION:

A memento was given to Mrs.T.V.Suganthi, Head Mistress of Sourashtra girls Hr. Sec. School, Maduraiby Dr.P.GaneshKumar Of IT department on 02.01.2015.

Founder's day celebration

Suggestions and Feedback Contact:
klnceitsig@gmail.com