Shell

Newsletter

Department of Computer Science & Engineering

Volume 5 | Issue 1 | December 2019

Vision and Mission of the Institute

Vision

- To be one of the premier Institutes of Engineering and Management Education in the country

Mission

- To provide Engineering and Management Education that meets the needs of human resources in the country
- To develop leadership qualities, team spirit and concern for environment in students

Objective

- To achieve educational goals as stated in the vision through the mission statements which depicts the distinctive characteristics of the Institution
- To make teaching-learning process an enjoyable pursuit for the students and teachers

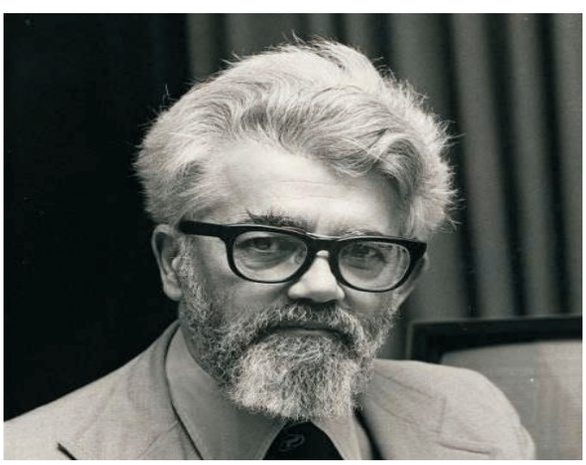
Vision and Mission of the Department

Vision

- To be a premier department for education in Computer Science and Engineering in the state of Karnataka, moulding students into professional engineers

Mission

- To provide teaching/ learning facilities in Computer Science and Engineering better than prescribed by University for easy adaptation to industry and higher learning
- Provide a platform for self-learning to meet the challenges of changing technology and inculcate team spirit and leadership qualities to succeed in professional career
- Comprehend the societal needs and environmental concerns in the field of Computer Science



This issue of

"Shell"

from the Department of Computer Science and Engineering is dedicated to ***John McCarthy*** *who was an American computer scientist and cognitive scientist. McCarthy was one of the founders of the discipline of artificial intelligence. He coined the term "artificial intelligence", developed the Lisp programming language family, significantly influenced the design of the ALGOL programming language, invented garbage collection. He received many accolades and honours, such as the 1971 Turing Award for his contributions to the topic of AI, the United States National Medal of Science, and the Kyoto Prize.*

Inside Shell ….

B.N.M. Institute of Technology

Vidyayāmruthamashnuthe

Approved by AICTE, Affiliated to VTU, Accredited as grade A Institution by NAAC.
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From The Editor's Desk,

Dear Readers,

It is indeed a great pleasure to introduce 'SHELL' volume 5, issue 1. It will take you down the lanes of the latest innovations and technological advancements happening around the world. It is a platform that exhibits the skills and innovative ideas. It is a mixture of interesting articles with some fun facts and a set of tricky quiz questions.

From being a reader to turning into an editor, we had an incredible experience with the team SHELL. We are happy to see such enthusiasm in the members of the college towards contributing to this magazine. It is this inclination to share knowledge, concern and special insight with people having common interest that has made this newsletter evidently readable.

I would like to take this opportunity to thank our Department of CSE on behalf of my team. I thank the tireless endeavors set forth by the team in making the Newsletter a success. I invite you to immerse yourself into the unfolding current science and technology.

Fatema Malu Bhai Wala
V CSE
Member, Editorial Team

Department Profile

The Department of Computer Science and Engineering started in the year 2001 is known for imparting quality education and carrying out cutting edge research. In addition to the strong UG programme, PG CSE programme and research facilities for M.Sc. (Engg) and Ph.D. courses are also offered. The Department has a well-equipped Research and Development Centre.

The Department has student chapters of Computer Society of India (CSI), IEEE (USA), the student branch of Institution of Engineers (IE) and Indian Society for Technical Education (ISTE). Hands on experience workshops, technical talks and industrial visits are organised in association with these professional bodies. The students are placed in leading IT companies with good pay packages. They also pursue higher studies in reputed universities across the globe.

The Department regularly organizes Faculty Development Programme, conferences and symposiums. Faculty members have expertise in various domains of computer science and engineering and are able to mentor and monitor students for betterment in life and good growth in technology. Faculties are involved in Campus Connect Programme of Infosys and they are reviewers of reputed National and International Journals and have chaired National and International Conferences.

In addition to academics, the Department is striving to upgrade students' skills with programmes like Skill Development Programme (SDP), Innovative Project Laboratory (IPL), T5, TW5, WP5, Experimental Learning Laboratory (ELL) and Engineering Exploration Laboratory (EEL) Programmes.

Hacking

Hacking generally refers to unauthorized intrusion into a computer or a network. The person engaged in hacking activities is known as a hacker. This hacker may alter the system or security features to accomplish a goal that differs from the original purpose of the system. Hacking can also refer to non-malicious activities, usually involving unusual or improvised alterations to equipment or processes.

Hackers employ a variety of techniques for hacking. The vulnerability scanner is one major technology which checks computers on networks for known weaknesses. The technique of password cracking is also widely used that involves the process of recovering passwords from data stored or transmitted by computer systems. The packet sniffer is another application that captures the data packets to view data and passwords in transit over networks. Besides, other approaches inculcated by the hackers are spoofing attack, root kit etc.

Hackers are usually skilled computer programmers with knowledge of computer security. Hackers are classified according to the intent of their actions. Ethical hacker symbolized as white hat are the ones who gain access to systems to fix the identified weaknesses.

Hackers symbolized as black hats, gain unauthorized access to computer systems for personal gains. A hacker who is in between ethical and black hat hackers are termed as grey hackers. He/she breaks into computer systems without authority with a view to identify weaknesses and reveal them to the system owner.

There are a few precautions to be taken to secure the computer integrity. The computer operating systems have built-in firewalls, software designed to create a barrier between your information and the outside world.

Firewalls prevent unauthorized access to your business network and alert you of any intrusion attempts. Using secure passwords is the most important way to prevent illegal intrusions onto your computer network. The more secure your passwords, the harder it is for a hacker to invade your system.

Computer viruses, keyloggers and Trojans are everywhere. Certain corporations employ hackers as part of their support staff. These legitimate hackers use their skills to find flaws in the company security system, thus preventing identity theft and other computer-related crimes.

Sri Lakshmi N
III CSE 'B'

AI That Makes Humans Immortal: VOICE CLONING

If thousands of years of human storytelling is anything to go by, waking up the dead is rarely a good idea. From ancient Greece to "Black Mirror," fiction tells us that there are potential means in summoning loved ones from the grave. The possibility of digitally interacting with someone from beyond the grave is no longer the stuff of science fiction.

Voice Cloning is radically a new voice copying technology developed by iSpeech. Our intelligent text-to-speech voice recording process now makes it possible for users to create a computer version of their voice for a fraction of cost and time.

The revolutionary iSpeech voice cloning software does not just generate human-sounding synthetic speech but offers realistic voice quality with inflections, emotions and unique speaking styles that may in many cases be indistinguishable from a natural speaker.

AI program builds upon the digital archive a person has left behind: emails, texts, tweets, and even snapchats. He feeds these into artificial neural networks, which are like model brains that understand language patterns and process new information.

This technology gives us a way to create bots that can understand a conversation either through voice or text and return a response based on the zillions of data and responses of a person that was trained to the machine which would replicate the person's presence after his death.

Engineers and computer programmers are getting closer to be able to resurrect any singer's voice for use in synthesized songs. Vocaloid team has announced that it has succeeded in building a library based on the voice of Hitoshi Ueki, a popular Japanese vocalist who died in 2007.

If you are an ardent fan of any celebrity who is dead, then this technology keeps your zeal and zest alive! This technology can make movies using the collaboration of synthetic voice with the digitally constructed face.

It's like the high-tech equivalent of putting together a scrapbook or writing letters for your kids to open when you pass away. Plus, it's less frightening to think of death when you know you won't vanish wholly into the void—but remain, in a sense, in the hearts and text conversations.

Swarnamalya M
V CSE 'B'

Libra: Why a big controversy?

"In terms of cryptocurrencies, I can say with certainty that they will come to a BAD ENDING."

~ Warren Buffett

We all know about Libra but why it has gained so much attention even before the launch, is my question. Why the leaders like Barren Buffett has to say this way about these technologies and much more. The first thing, to begin with, is what is Libra and its functioning.

Libra is a blockchain digital currency proposed by the American Social Media Company Facebook. The currency and network do not yet exist, and only a rudimentary experimental code has been released. The launch is planned to be in 2020. It has the potential of lowering transactional fees for consumers. Besides, it can also facilitate monetary transactions in an easier and faster way. These values can benefit not only consumers, but also Facebook and other social media sites, and other e-commerce firms. Libra, therefore, has the potential of catalysing a series of changes and innovations in banking and finance, and trade and commerce.

Here comes the real risks and dangers that are posed by Libra leading to such a big issue of discussion. These may be a few of them:

- Facebook: Facebook may have a big say in the running of Libra. Also, Facebook will be starting its digital wallet, Calibra, to help manage its customers' digital currencies. Hence it will have access to users' personal and financial data and be able to have a stronger influence on these users. Unfortunately, Facebook and many other social media firms are not well regarded for managing private data.
- Systems and Technology: Systems and technology behind managing Libra are largely unknown, unverifiable and untested. Proponents may argue that the system supporting Libra can be securely encrypted and therefore, digitally secured. Hackers probably must be working overtime right now to develop ways to exploit Libra under different scenarios.
- Consumers: Many of the users may have no or little knowledge about Libra, and its potential downsides. These consumers may not have adequate financial knowledge and skills to manage Libra and use it wisely. That will give regulators added concerns and impetus to monitor and regulate Libra closely.
- Financial Risks: Libra will most likely not offer interests on deposits, and it is pegged to a basket of major currencies. The Libra may not be a safe asset as the reserve that is backing it may largely be deposited in fractional reserve banks and its stability is reliant on those banks. For the time being lets remember the Latin term – "caveat emptor" which means 'Let the buyer be beware of....'.

Fatema Malu Bhai Wala
V CSE A

Space Internet

As we are nearing 2020, space and internet technology are converging at a rapid pace. SpaceX and OneWeb are expected to offer services in 2020, followed by Telesat and Amazon in 2022, their aim being "Connecting the unconnected".

Currently, 48% of the Arctic is without broadband coverage, where Arctic-footprint service provides "enough capacity to give fiber-like connectivity to thousands of homes, planes and boats, connecting millions across the Arctic."

LEO satellites that orbit between 300 and 2,000 km above the Earth's surface, increases proximity to Earth, establishing communication with just 20% latency delay of what is achieved via geostationary satellites, that orbit 36,000 km above the Earth's surface.

OneWeb, after testing for latency, speed, jitter and handover between two satellites, launched six Airbus satellites in February, showing throughout speeds of over 400 megabits per second and latency of 40 milliseconds.

Starlink is a satellite constellation being constructed by American company SpaceX to provide Satellite Internet Access.

The astronomical community claims that the number of visible satellites in betimes will outnumber visible stars, and since the Starlink satellites can autonomously change their orbit stars' brightness in both optical and radio wavelengths, will severely impact scientific observations.

Concerns have been raised about the indelible precariousness of space junk resulting from placing thousands of satellites in orbits above 1,000 km,

resulting in orbital decay.

According to NASA, there are 20,000 pieces of debris larger than a softball and 650,000 objects that are softball-to-fingernail size. With everything orbiting at 28,000 km/hr. even a fingernail-sized bit of debris could pack enough of a punch to damage a satellite or kill a space-walking astronaut.

The race to develop and launch LEO internet constellations will be a high-risk and high-return competition.

A healthy mindset persists for solving complex technological and geopolitical challenges, in any case.

Aishwarya R Bhat
V CSE 'A'

Obfuscation: Hack-Proof Coding

Coding is as addictive as gaming in this millennial era; every netizen wants to know what obfuscation is as it's a unique and interesting topic in the coding. Obfuscation, as it justifies its natural definition is "the practice of making something difficult to understand".

The programming obfuscation code is the deliberate act of creating a source or machine code that is difficult for humans to understand. Obfuscation code may involve encrypting some or all of the code, stripping out potentially revealing metadata, renaming useful class and variable names to meaningless labels or adding unused or meaningless code to a binary application.

Simply, an obfuscation code consists of meaningless variables and characters which are designed from the source code. Subsequently, the obfuscation code runs in the compiler and gives the expected output. For instance, if a coder wants to write a code executing an output message printing "hello world!", then obfuscation enables the person to encrypt the message which cannot be deciphered by the intruders. A tool called an obfuscator can be used to automatically convert straight-forward source code into a program that works the same way, but is much harder to read and understand.

What is the purpose of obfuscation coding technique?

Obfuscation helps to protect licensing mechanisms and unauthorized access, shrinking the size of the source code, and possibly shrinking the size of the executable code. For run-time interpreted languages, more commonly known as script and other older versions of BASIC, the programs execute faster and take lesser RAM if single-lettered variable names are used and if comments and blank characters are avoided.

However, the obfuscation technique facilitates unethical hackers to hide the malicious code leading to the surge of cybercrime activities. Also, obfuscation can make reading, writing, and reverse-engineering function difficult and time-consuming, making it nearly impossible.

Overall, obfuscation is a unique technique that can be employed on a wide range catering to all the fields productively. This is a potential game-changer that will bring about an exciting era soon.

B Tejashwini
III CSE 'B'

Microservices

Microservices also known as Microservice Architecture - is an architectural style that structures an application as a collection of loosely coupled services. In a microservices architecture, services are fine-grained, and the protocols are lightweight. The benefit of decomposing an application into different smaller services is that it makes the application easier to understand, develop, test, and become more resilient to architecture erosion.

A key step in defining a microservice architecture is figuring out how big an individual microservice must be. But the key decision hinges around how "clean" the service boundary can be. On the opposite side of the spectrum, it is considered as a bad practice to make the service too small, as then the runtime overhead and the operational complexity can overwhelm the benefits of the approach.

It is common for microservices architectures to be adopted for cloud-native applications, and applications using lightweight container deployment. With microservices, only the microservice supporting the function with resource constraints needs to be scaled out, thus providing resource and cost optimization benefits. Computer microservices can be implemented in different programming languages and might use different infrastructures that impact the whole system. The approach to choosing technologies

is different. In a service mesh, each service instance is paired with an instance of a reverse proxy server, called a service proxy, sidecar proxy, or sidecar.

The service proxies are responsible for communication with other service instances. The main job of a service proxy is to ensure traffic is routed to the right destination service or container and to apply security policies.

Vinay.C.M
V CSE 'B'

Google's Quantum Computer

In this fast and competitive generation, evolution is no more a surprise factor. It may just be a matter of minutes or days for a pop-up message to make all of us aware of new technology. Despite this unprecedented pace, Google managed to strike a step forward irrespective of any other competition as always. Google made a huge revelation on October 23, 2019, when it announced that it had reached something called "quantum supremacy. Super computers not being able to suffice the current demand for speed, quantum computer evolved recently, which Google claims that it needs only 200 seconds to solve a problem that would take the world's fastest supercomputer 10,000 years to figure out. This is what "quantum supremacy" means. It's when a quantum computer — one that runs on the laws of quantum physics as opposed to the classical computers we're familiar with (i.e. phones and laptops), which run on classical physics like Newton's laws of motion — does something that no conventional computer could do in a reasonable amount of time.

Computer processing idea in general for any layman would be in binary 0s and 1s, but in quantum computer, the major difference is in the processing where Quantum computers use quantum bits, or qubits, which can simultaneously be any combination of zero and one. Google's quantum computing chip, dubbed Sycamore, achieved its results using exactly 53 qubits. Sycamore aimed to randomly produce strings of 1's and 0's, one digit for each qubit, producing 253 -bit strings. Google researchers expect that quantum computers within a few years will fuel advancements in fields such as artificial intelligence, materials science, and chemistry. This emerging technology would take the world on its heels with an incredible impact of zeal and zest!

Amogha R. Chandra
V CSE 'A'

Robotic Process Automation

"The best way to predict the future is to invent it."

-Alan Key.

Robotic Process Automation, popularly known as RPA is the idiosyncratic combination of software with artificial intelligence and machine learning.

It is a technology that mimics the activity of a human being on a computer by automating repetitive and rule-based tasks that are perceived as monotonous, flat and tedious by employees.

RPA technology consists of software robots called "bots". RPA bots can log into applications, enter data, calculate and complete tasks and then log out.

Currently, practitioners divide RPA technologies into three broad categories:

- **Probots:** bots that follow simple, repeatable rules to process data.
- **Knowbots:** bots that search the internet to gather and store user-specified information.
- **Chatbots:** bots which are virtual agents which can respond to customer queries in real-time.

RPA evolved from three key technologies: Screen Scraping, Workflow automation and Artificial intelligence.

Screen scraping is the process of collecting screen display data from a legacy application so that the data can be displayed by a more modern user interface.

The workflow automation software eliminates the need for manual data entry and increases efficiency and accuracy.

The artificial intelligence involves emphasis on intelligent machines to perform tasks such as speech recognition, natural language and self-learning that normally require human arbitration and discernment.

Today RPA is particularly useful for organizations that have divergent and intricate systems that need to interact together fluidly.

If an electronic form from a human resource system is missing a zip code, traditional automation software would flag the form as having an exception and an employee would handle the exception by looking up the correct zip code and entering it on the form.

Once the form is complete, the employee might send it on payroll, so the information can be entered into the organizations payroll system.

With RPA technology, however, software that can adapt, self-learn and self-correct would handle the exception and interact with payroll system without human assistance.

RPA soon is going to have an impactful effect in tapping human resources to a greater extent.

Jahnavi C. H.
III CSE 'A'

Cloud AR/VR Streaming

AR is the most accessible reality technology as people can use their smartphones or tablets to run augmented reality applications. Augmented Reality may not be as exciting as a virtual reality roller coaster ride, but the technology is proving itself as a very useful tool in our everyday lives. AR apps use a phone camera to capture the real world; virtual objects are then overlaid, and users can see them on their smartphone screen. That's how common AR apps work, the best example being Pokemon Go.

Virtual Reality is a simulated experience that can be like or completely different from the real world. Applications of virtual reality can include entertainment and educational purposes.

The other, distinct types of VR style technology include augmented reality and mixed reality. AR/VR technology will become truly mainstream with the broad-scale adoption of 5G networks thanks to the convergence with the cloud and the incredibly fast, low latency data connection.

This combination will allow delivery of ultra-high resolution 4K or 8K viewing experience with a low motion-to-photon latency. In contrast to today, when content is typically downloaded and rendered on a device, with this new architecture it will be possible to stream pre-rendered video content to users on the move.

5G technology will deliver all these demands via its new network capabilities, providing a more reliable experience and ultra-low latency service through edge cloud technology.

For Cloud XR to realize its full potential, the industry must collaborate. To foster the widest possible cooperation, we have been working to create a forum with multiple global mobile operators, vendors and other players in the ecosystem to encourage all parties to collaborate on accelerating the delivery and deployment of 5G cloud-based XR services. Through this collaboration, we are set to take XR to the next level.

Sushma M. Hegde
V CSE 'B'

CIMON

Airbus along with IBM's AI Watson have developed the CIMON astronaut assistance system for the DLR Space Administration.

German astronaut Alexander Gerst talked with the artificially intelligent crew-assistant CIMON during a 90-minute experiment aboard the International Space Station (ISS).

Weighing about 5 kilogram (11 lbs. on Earth), the 3D-printed robot designed jointly by the German space agency DLR, Airbus and IBM works similarly to Apple's virtual assistant Siri or Amazon's Alexa. CIMON doesn't process commands itself, but instead communicates with a ground-based cloud computer — IBM's natural-language-processing computer Watson.

'If CIMON is asked a question or addressed, the Watson AI firstly converts this audio signal into text, which is understood, or interpreted, by the AI,' explained IBM project lead Matthias Biniok in the statement. "IBM Watson not only understands content in context, [but] it can also understand the intention behind it." CIMON is connected to the ISS Wi-Fi network that transmits data via satellite connections to the ground. CIMON is rather a first step, designed to test what future human-robot interaction in space might look like.

"CIMON is a technology demonstration of what a future AI-based assistant on the International Space Station or on a future, longer-term exploration mission would look like," Trovatello said. "In the future, an astronaut could ask CIMON to show a procedure for a certain experiment, and CIMON would do that."

The spherical robot has a large screen at the centre that either features a simple, friendly, cartoon-like face or displays required information for experiments and repairs. With its ability to float around and receive spoken commands, CIMON could save astronauts a lot of time during experiments and help them perform more efficiently, officials said.

Mrudula K
V CSE 'A'

Departmental Activities

CSIR-4PI Industrial Visit

Industrial visit to CSIR-4PI was organised under "The Institute of Engineers, India (IEI)" students' chapter on 16th October 2019. Sixty two students along with two faculty members Mrs. Kavita V Horadi and Mrs. Prarthana T V had participated in the industrial visit to their unit at Bengaluru. Mr. Prabhu, Senior Technical Officer-2, HPC, CSIR-4PI greeted the students and introduced the company. The talk was about Computers, Supercomputers, High Performance Computers (HPC) and parallel processing involved in high-performance computers. The discussion ended up by providing the inputs on internship and the project work opportunities that can be carried out under various Scientists in different domains and how the students can approach, apply and make use of such opportunities. Students were taken to the Data Centers to gain practical experience on Super Computers.

Workshop on Circuit Prototyping

A workshop on circuit prototyping under CSI-BNMIT student branch on 25th and 26th October 2019. 59 students actively participated in it. The resource person, Mr. Kotresh M, an experienced trainer and currently the Director of Indian Tech-Keys. Mr. Kotresh introduced the working of Analog Circuits, PCB Technology, Schematic Design Practice, Foot Print Design, Foot Print Transfer and Etching. He also gave a practical demonstration of PCB Drilling, Info Layer, Component Placement, Soldering, Unit Testing, Circuit Integration, and Product Testing. The students were able to design and develop a PCB board for wireless controlling systems, industrial automation, and sensor-based products.

ISTE Events

On 31st October 2019, Dr. Deepak Poola, Cloud Architect, IBM, Global Technology Services (GTS) Labs, Bangalore delivered a talk on 'Career Know How-An Insider Perspective'. After the talk, certificates were distributed to FCD holders.

On 28th August 2019, Dr. Shridhar G. Domanal, Architect - Full Stack Developer, IBM, Global Technology Services (GTS) Labs, Bangalore, delivered a talk on 'Cloud Assisted Real-time Methods for Autonomy'.

IBM Workshop

Industrial visit to IBM, Green Data Centre (GDC), Bengaluru was organized under "The Institute of Engineers, India (IEI)" students' chapter on 13th September 2019. At the boardroom, Ms. Latha R., Program Leader - Special Projects and Talent Initiatives IBM Cloud welcomed all the students and introduced her. She initiated the talk on "Entrepreneurship- How IBM and Govt. can support the Society?". Students interacted during the session and got exposure on "The Role of the Entrepreneur in the Development of the Society". Mr. Mekala V. Reddy opened young minds on the job search process and concluded the session. Students could interact with the industry leaders of IBM - Mr. Vivek Doraswamy, Mr. Kollipara M. Kumar and Mr. Rajeev Palanki.

Workshop on Application Development using Microservices Architecture

A workshop on application development using Microservices Architecture was conducted under the CSI-BNMIT student chapter on 20th and 21st September 2019. Fifty eight students participated. The resource person Mr. Prashanth Raghu is a senior backend Engineer from Signeasy Technologies. He introduced Microservices and conducted hands-on sessions on API development using REST framework, Microservices Development using Flask, SQLAlchemy, logging and JWT. He conducts the workshop on Application development using Microservices Architecture. During the workshop, students learned the use of the Flask Web Framework using Python. The students developed a monolithic application code of creating and decoding real-time JSON Web tokens (JWT).

Biz-Tech Quiz

1. Who is the father of personal computer?
   a. Charles Babbage
   b. Allen Turing
   c. Edward Robert
   d. Donald Knuth

2. Street view: Google :: Street side: ?

3. Its use was proposed by Chris Messina in a 2007 tweet, decried by twitter as “a thing for nerds”. It eventually spread throughout the platform. Messina suggested that this can be used by “lay” users to search for contents and relevant updates. Hence it was developed by Twitter. What is it?

4. Approximately, how much data exists in the digital universe today?
5. "X" is cofounder of "Y" and creator of JavaScript. ID X and Y.
6. What kind of malware is designed to take advantage of the security hole before it is known ?
7. What technology makes it possible to make telephone calls over the Internet?
8. Which was the first search engine over the internet?
9. What was the first computer virus known as?
10. Who is the founder of Bluetooth ?

ANSWERS

1)Edward Robert 2)Microsoft 3)HashTag 4)2.7 zettabytes 5)Mozilla Foundation, Brendan Eich
6)Zero-day exploit 7)VoIP 8)Archie 9)Creeper virus 10)Ericsson

Raksha R & Ranjith V
III CSE B

Did You Know ?

- The first computer Mouse was invented by Douglas Engelbart and it was carved from wood in 1964!!
- The name Google was created accidently. It was originally thought that it should be named googol!!
- If you want to type faster use the DVORAK KEYBOARD. QWERTY makes you slower!!
- HP, Google, Apple, Microsoft were all started in garage!!
- A computer user blinks 7 times a minute which is one-third the rate a normal man blinks!!
- Fear of being without a mobile phone is known as Nomophobia.
- The very first logo of Apple was Newton sitting under a tree with an apple about to hit his head!!
- If you were to have your photo taken from world's first camera, then you got to sit still for 8 hour!!
- Ubuntu is a most popular distribution of Linux. The name Ubuntu was derived from Africa which means "I am because of you"!!
- During the first five presentations of iPhone, Steve Jobs had to frequently switch phones behind. Otherwise it would run out of RAM and crash!!
- Apple has a "smoking" ban regarding their computers which means if you smoke while using the Apple computer then you are violating the warranty!!
- Although GPS is free to use for the entire world, it actually costs $2 million for it to operate. This money comes from the tax revenue of America.
- 92% of the World's currency is digital!!
- Russia built a computer that ran on water in 1936!!
- The father of information technology is Claude Shannon who invented a digital circuit that lets us access the internet today. He did this when he was 21 year old!!

- Google handles almost 1 billion search queries everyday releasing almost 200 tons of carbon- di- oxide!!
- IBM announced the first 1 GB hard drive worth $40,000 in 1980!!
- The first ever alarm clock invented could ring only 1 time a day; at 4 O' clock in the morning!!
- You have Phantom Vibration Syndrome when you think your phone is vibrating but it isn't!!

Rashmita Barick
III CSE B

Techno Trends

- **To the moon and back on 4KB RAM**

  Forty-five years ago, NASA astronauts travelled to the moon with far less power than an iPhone.

- **$800 Worth Apple shares in its Beginning is Worth $60 Billion Today**

  The third co-founder of Apple sold his 10% share after 12 days for $800 And an additional pay-out of $1,500, his shares could be worth today around $60 billion …!

- **The International Agency for Research on Cancer (IARC) Classifies 5G may cause cancer.**

  It says that radio frequency electromagnetic fields (WIFI) with bandwidth over 500 GHz is carcinogenic to humans.

- **TSMC Starts Construction of 3nm Fab Construction.**

  Taiwan Semiconductor Manufacturing Company claims that it can construct a 3nm fabricated chip. Probably, the thinnest in the world.

- **Saving Rainforests with Old Cell Phones.**

  The start-up “Rainforest connection” is taking an initiative of protecting rainforests by using recycled smartphones to detect illegal logging activities by devising a system where smartphones are placed in trees which stay charged via solar cells.

- **3D printer can print half a yard in an hour.**

  A 3D printer named HARP (High Area Rapid Printing) can print large objects at high speeds in a relatively small space. Scientists say that they can print an object, the same size of a human adult within a few hours.

- **Nano-particles will give you superhuman night vision.**

  The scientists have developed what they call 'ocular injectable photoreceptor' which help in night vision.

- **A press-on sticker can someday monitor your health...!**

  Researchers have created a new solution that's more like a stick-on tattoo. It is all about placing sticker sensors where the anticipated activity is taking place.

- **Graphene coated spider's silk could catch a falling plane ...!**

  Spraying spiders with atom thick graphene or carbon nanotubes infuses their webs with unprecedented super strength enough to catch a flying plane from sky.

Dhavin K and Deepthi K N
III CSE A

Student Achievements

Technical

- Kshama G of III Semester secured 4th place in Quadcopter Racing Championship, New Delhi.
- Namitha G and Raksha H of VII Semester received a certificate of appreciation for participating in IEEE TENCON-2019, organized by IEEE Kerala section for presenting the paper titled – "Action Based Video Summarization".
- Niharika A J, Shubham Mishra, Yash Prakash, Shreyas Gujjar Shivajirao of VII Semester received the Best Technical Research Team award from Old Dominion University for Summer Research Workshop – 2019.
- Niharika A J, Shubham Mishra, Yash Prakash, Shreyas Gujjar Shivajirao of VII Semester have bagged a certificate for Best Software Development team for Summer Coding Challenge – 2019.

Cultural

BNMIT was placed in 3rd position among 102 participated colleges in State level VTU Youth Festival held at SDM College of Engineering, Dharwad from 6th to 9th November 2019.

- Srinidhi H R of VII Semester bagged GOLD medal in Percussion (Mridangam).
- Mathangi S of VII Semester has GOLD medal in Elocution.
- Dyuthi Sanjeev of VII Semester, Adithi Nadig of III Semester, Anirudha U N of I Semester and team have bagged GOLD medal in Indian Group song.
- Janardhan S of V Semester bagged SILVER medal in Non-Percussion (Violin).
- Vishnu R Acharya of V Semester, Srinidhi H R of VII Semester and team bagged BRONZE in Skit.

Sports

- Heena of III Semester and Vishnu R Acharya of V Semester have secured 6th position and qualified to inter-zone in VTU inter-collegiate Inter zone Chess (M&W) competition 2019.
- Monisha.G of VII semester has won 3 medals - Bronze Medal in 400 Mts Individual Medley, Silver Medal in 200 Mts Butterfly and Bronze Medal in 200 Mts Individual Medley in VTU inter-collegiate Single zone Swimming (M&W) competition 2019.

IPL – Summer 2019

- Shruthi M, Preethi V and R Narendranath Reddy of IV Semester received The Best Project Award and cash prize of Rs.5000 along with the certificates for their project "GREEN HOUSE AUTOMATION"
- Akash Anand, Akash Kunwar and Akshay Anand of IV Semester received Rs.2000 as cash prize with certificates for their project "BOOK BAZAAR".

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- Ms. Swarnamalya M - V B
- Ms. Deepthi K N - III A
- Mr. Dhavin K - III A
- Ms. Raksha R - III B
- Mr. Ranjith V - III B

For any suggestion and articles, kindly mail to: bnmcsenl2018@gmail.com