



SFC - BYTES

NEWS LETTER



DEPARTMENT OF COMPUTER SCIENCE ST. FRANCIS COLLEGE FOR WOMEN, HYD-16

GARDEN OF FOND THOUGHTS...

EDITORIAL TEAM

Patron

Dr.Sr. Christine F
Principal

Editorial Board

Ms. Padmashree

Head Dept. of CSc

Dr Sr.Sujatha Yeruva

IT Admin,

PG Coordinator



Dear Sister, You are a natural giver. Thank you for the support, understanding, affection, encouragement and care we experienced from you. We love you. – **Ms. Padmasri**

You are a serene, sensitive and approachable person. I wish you a peaceful and healthy retirement – **Ms. Kavitha**

Thank you sister for everything. Wherever you are, you will always be in my heart. – **Ms. D.B. Rekha**

Patiently you mentor & lead, shaRing wlsdom & meeting each need , support aNd adviCe willingly you supply. Slster having you as a Principle is A bLessing to us. – **Ms.Sowjenya**

Dear Sr.Christine, you had been God's channel of grace for me. Thank you for the trust and confidence you had in me. I pray that you may have the joy and grace of fulfilling all that He has in store for you. – **Sr.Sujatha Yeruva**

You are a blessing and special person with Creative, Hardworking, Respectful, Intelligent, Significant, Trust, Inspirational, Natural & Efficient. Thank you for caring and supporting me wholeheartedly. – **Ms.Jyothi**

Thank you Sr. Christine for all the opportunities you gave us! All the best for your future endeavors – **Ms.Prabhmeet**

Thank you Sr. Christine for all your support and guidance in all our endeavors. May Almighty bless you with Good health!! – **Ms. Afeefa**

I wish that you have many more days to spend with us. You are a special person to all of us, we love you and we will greatly miss your words of wisdom and encouragement. – **Ms.Tabassum**

Thank you for your extended support, understanding, patience and dedication. You have always been a great source of inspiration and motivation for us. – **Ms. Shobana**

As a principal you have excelled in your work. I wish you all the best for your life ahead. – **Ms.Savitri**

You have been an inspiration in our life as a principal and motivated us to perform the best. We thank you for your support, love and inspiration which we have cherished. You will always remain the best. – **Ms. B. Vyshnavi**

Dear Sr. Christine, With regard to the outstanding services that you provided, we wish you may continue to shine with glory in your retired life. – **Ms Renuka**

Dear Sister, You are wonderful, your spirit and energy will always guide us to move forward. Wish you happy and healthy days in future. – **Ms. Swetha**

I would like to sincerely thank you sister for the enjoyable working relationship and wish you happy and healthy peaceful days ahead. – **Ms.Sudha**

Dear Sister, I'm thankful that I had a wonderful opportunity to work under you. Wish you happy and healthy days ahead – **Ms.Rajeswari**

Dear Sister, you are very approachable, understanding and kind hearted. Wish you a happy retirement – **Ms. Susan**

Thank you Sister for being my constant support and guide. Happy retirement Sister. – **Mr. Krishna Murthy**

Thank you Sister, for the gift of your kindness. Take care of yourself. – **Ms Yamuna**

Thank you Sister for all the generous and kind support to me. You are a very special person. I miss you Sister. All the best wishes to you, Sister. – **Ms. Veena**

All your kindness, helpful nature and your prayers I will never forget for the rest of my life, please always keep us in prayer. Happy retirement Sister. – **Mr. Shravan K.**

May your joys be as deep as the oceans and may you find sweet peace of mind wherever you may go. Thank you Sister, for your constant love and support – **Mr. A. Srikanth**

For all your hard work, for all the support, and help you have given others, may all your years ahead be filled with the rewards of joy and fulfillment. Happy retirement Sister. – **Ms. Maria**

Wherever you are, you be happy. Please don't forget us, god is always with you. Pray for us always. – **Ms. Rajeswari** (Non-teaching staff)

CSC DEPT.

Ms. Kavitha

Ms. Rekha

Ms. Sowjenya

Ms. Jyorhi

Ms. Prabhmeet

Ms. Shobana

Ms. Savitri

Ms. Afeefa

Ms. Navya

Ms. Khalida Tabassum

Ms. Kalpana

Ms. Vyshnavi

Ms. Renuka

Ms. Rajeshwari

Ms. Sudha

Ms. Swetha

Mr. Krishna Murthy

Ms. Susan

Ms. Yamuna

Ms. Veena

Ms. Maria

Mr. Shraavan

Mr. Srikanth

HUMAN BRAIN

Cognitive behavior understanding is one of the interesting challenges for doctors and medical researchers. Human brain consists of millions of neurons which are interconnected with each other. In general, Left side of the human body will be controlled by right side of the brain and vice versa. International and external functions/stimuli of human have been mapped with various portions of the brain. It can be visualized into five lobes such as, Frontal, Temporal, Occipital, Parietal and Central. Imaging and signaling technologies help to capture brain images and signals with respect to the observations such as brain disease / disorder analysis (Autism, Alzheimer, epilepsy etc.), brain injuries and functional analysis. Even there is a mapping between neurons and functional aspect of human, complete understanding about this mapping is a great challenge for doctors and researchers since multiple responses from some neurons for more than one stimulus. Various therapies have been reported in the medical history for addressing brain issues especially age related and disorders by birth including Alzheimer, Autism and Epilepsy/Seizure. Traditional Music and Yoga have higher influence in motor and sensory activation regions of brain and these approaches are becoming best practices for solving brain issues.

SPEECH RECOGNITION

Speech recognition is the ability of a machine or program to identify words and phrases in spoken language and convert them to a machine-readable format. Speech recognition software has a limited vocabulary of words and phrases, and it may only identify these if they are spoken very clearly. Speech recognition works using algorithms through acoustic and language modeling. Acoustic modeling represents the relationship between linguistic units of speech and audio signals; language modeling matches sounds with word sequences to help distinguish between words that sound similar. The performance of speech recognition systems is usually evaluated in terms of accuracy and speed. Speech recognition by machine is a very complex problem, however. Vocalizations vary in terms of accent, pronunciation, articulation, roughness, nasality, pitch, volume, and speed.

Siri, Apple's entry into the voice recognition market, that first captured the public's imagination. As the result of decades of research, this AI-powered digital assistant brought a touch of humanity to the sterile world of speech recognition. After Siri, Microsoft launched Cortana, Amazon launched Alexa, and the wheels were set in motion for the current battle for supremacy among the tech giants' respective speech recognition platforms.

We are still some distance from realizing the true potential of speech recognition technology. This applies both to the sophistication of the technology itself and to its integration into our lives. The current digital assistants can interpret speech very well, but they are not the conversational interfaces that the technology providers want them to be. Moreover, speech recognition remains limited to a small number of products.



Dr. Sr. Sujatha Yeruva

PG Coordinator, Dept.
of CSc.



V. Bhavya

MSC-II
Computer Science

SOPHIA AI HUMANOID ROBOT

Sophia is a human-like **robot (Humanoid)** called as Sophia-bot. She was developed by Hong Kong-based Company **Hanson Robotics** lead by AI developer David Hanson. She has been designed to learn and adapt to human behaviour and work with humans. This means **Sophia** is the **first robot** to receive citizenship of a country.



B.Jyothi Reddy, Faculty,
Dept of Comp Science.

Cameras within Sophia's eyes combined with computer algorithms allow her to see. She can follow faces, sustain eye contact, and recognize individuals. She is able to process speech and have conversations using Alphabet's **Google Chrome voice recognition** technology and other tools. Around January 2018 Sophia was upgraded with functional legs and the ability to walk. The information is shared in a **cloud network** which allows input and responses to be analysed with blockchain technology.

David Hanson has said that Sophia would ultimately be a good fit to serve in healthcare, customer service, therapy and education.

She can express feelings: She said "I can let you know if I am angry about something or if something has upset me," she said, demonstrating different expressions.

Is the future world is control by ROBOTS? Are we going to make the world peace with the machines? Would the Robots with feelings listen to the humans? Let's use the AI for the good cause.

Source: [https://en.wikipedia.org/wiki/Sophia_\(robot\)](https://en.wikipedia.org/wiki/Sophia_(robot))

<http://www.hansonrobotics.com/robot/sophia/>

A single sunbeam is
enough to drive
away many
shadows

ARTIFICIAL INTELLIGENCE (AI SYSTEMS)

"Artificial Intelligence (AI systems) is the reflection of human intelligence practiced by machines. In other words, the ability of a machine to perform tasks related to human beings is artificial intelligence. This deals with learning (knowledge acquired through study, experience or being taught), reasoning (the action of thinking about something in a logical or sensible way), and self-correction. Particular applications of AI include expert systems, speech recognition and machine vision

Major advances in all areas of AI :

- Significant demonstrations in machine learning
- Case-based reasoning
- Multi-agent planning
- Scheduling
- Data mining, Web Crawler
- natural language understanding and translation
- Vision, Virtual Reality

GAMES

TASK CLASSIFICATION OF AI

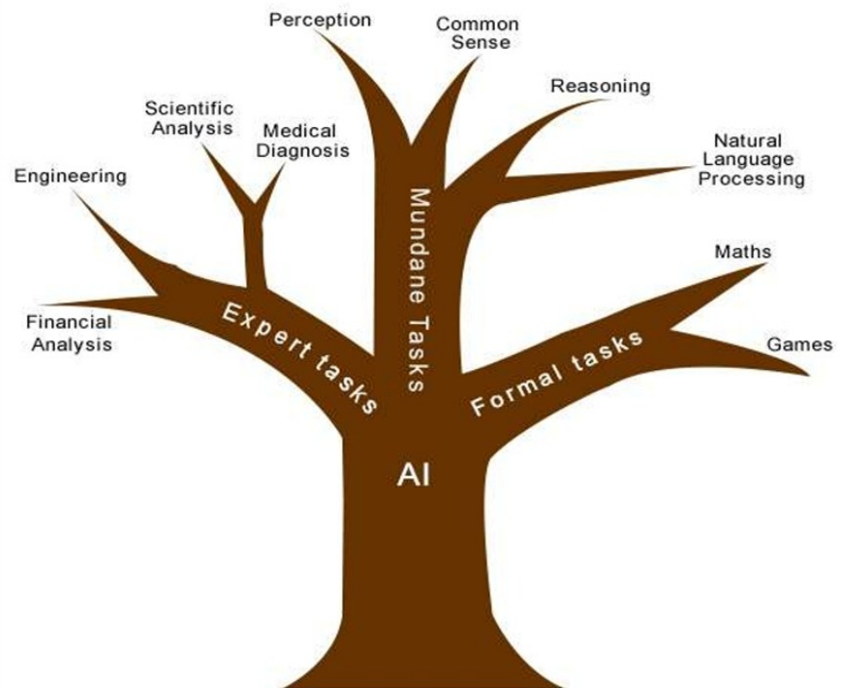
The domain of AI is classified into **Formal tasks**, **Mundane tasks**, and **Expert tasks**.

Where there is
charity and wisdom,
there is neither fear
nor ignorance.

Task Domains of Artificial Intelligence		
Mundane (Ordinary) Tasks	Formal Tasks	Expert Tasks
Perception • Computer Vision • Speech, Voice	• Mathematics • Geometry • Logic • Integration and Differentiation	• Engineering • Fault Finding • Manufacturing • Monitoring
Natural Language Processing • Understanding • Language Generation • Language Translation	Games • Go • Chess (Deep Blue) • Checkers	Scientific Analysis
Common Sense	Verification	Financial Analysis
Reasoning	Theorem Proving	Medical Diagnosis
Planning		Creativity
Robotics • Locomotive		

Applications of AI Research Areas

Expert systems
 Natural language processing
 Neural networks
 Algorithm trading
 Music
 Online and telephone customer service
 Robotics
 Fuzzy logical systems
 Hospitals and medicines
 Portfolio management
 Market analysis and data mining



GOOGLE TEZ—HOW DOES IT WORK?

With the growing demand for mobile payment services in India, Google has successfully positioned itself in the digital payments market with its new app “Tez - Money made simple”. The app is customized for Indian market and is built on top of the country's Unified Payments Interface (UPI), and was launched in September last year. This isn't a digital wallet service app like PayTM, but uses the bank account to send and receive money. One of the unique features included in Google Tez app is “Cash Mode” which helps users to send money without needing the recipient's number or QR codes, instead using an audio matching system. The app comes in multiple languages including Hindi, Bengali, Gujarati, Kannada, Marathi, Tamil, and Telugu. To register with the app the user is required to enter their contact number associated with the user's bank accounts to set up. After the confirmation the app sends an SMS from user's number to the bank to get UPI access. Google Tez app creates a new UPI ID, or VPA (virtual payments address), by picking up the name from the Gmail ID. If UPI is already enabled on that bank account user will be prompted to enter the UPI PIN. The account will be set up after this step, and is ready to use. One of its most attractive offers is that it gives users Rs. 51 for referring new users to use the app. After a referral both people will get the money added to their bank accounts. Sending money using the app is fairly easy; user's can tap in the payments tab. It lists all the contacts in the phone book with Google Tez app in one go.

The app's another unique feature is that to keep the app secure one has the option of locking it down with one's fingerprint on devices with a fingerprint scanner or using a PIN for the app.

Sameera Naaz

B.Voc 1 (RM&IT)

GreenDroid

USING DARK SILICON TO IMPROVE SMARTPHONE PROCESSORS -

A prototype processor called GreenDroid is delineated to dramatically reduce consumption of energy in smart phones. GreenDroid will provide multitudinous specialized processors focusing key portions of the Google's Android smart phone platform. GreenDroid will reduce utilization of energy by integrating Conservation Cores (C-cores) for the codes.

Mobile phones are now replaced, substituted and superseded by new-era Smart phones that primarily runs on the Open-Source Operating Platforms such as Android or IOS.

"Smart phones are ultimate match for our approach, since users disburse most of their time running a core set of applications, and they appetite prolonged battery life.

"As mobile applications become further worldly-wise, it's going to be harder and harder to meet that provocation.

The Greendroid mobile application processor that targets the android- smart phones software stack is a 45-nm multi-core research prototype. Conservation cores offer a competence that utilize a resource that will soon be superabundant- dark silicon."

C-cores:

Conservation cores, or c-cores, are application-definite hardware circuits designed for the motive to diminish energy consumption on computationally-intensive -concreted applications. Since it is no longer feasible to run the complete chip at full frequency at one go, it makes sense to modify the segments of the chip that are running so they will be as efficient or coherent as possible and practicable for the application at hand. In effect, conservation cores allow architects to trade area for energy in a processor's delineation and designing.

Conservation cores have a disparate goal than conventional and accustomed application-unambiguous circuits. First, accelerators focuses on improvising performance, at a potentially reprehensible, equal, or greater energy efficient. Conservation cores, on the other hand, cornerstone and emphasizes primarily on energy reduction. We differentiate between c-cores and the more recurrent accelerators along diverse axes. C-cores that are also accelerators are attainable, but this work targets indistinguishable levels or extent of performance, and focuses on minimizing energy and energy-delay, principally at advanced technology nodes where DVFS is slighter effective for saving energy.

The new, up-to the minute, GreenDroid chip prototype renders enhanced performance through specialized dark silicon processors devised and are drafted to run heavily-used blocks GreenDroid conservation cores utilizes 11 times lesser energy per commandment than an belligerent mobile application processor, says the team. Reckoning for blocks of code running outside the conservation core still consequences in an increase in productivity and efficiency of 7.5 times when compared to an aggressive mobile application processor accordingly.



KHUSHI AGARWAL

Bsc (Honours)



of code, called 'hot code', in Android. The team used dark silicon to assemble specialized circuits for particular tasks customarily accomplished by popular smart phone applications such as various features which include –Web browsers, email software and music players. The computer scientists asked 'where does most of the computation happen?'

Our group has established by building a fully-automated tool-chain that provokes c-cores from application source code. The resulting specialized circuits can supply up to 18x increases in energy efficiency and its coherence without relinquishing performance. C-cores also consolidate focused-steadfast reconfigurability that authorizes them to either adapt or redesign to compact changes in the target application while still realizing, conceiving efficiency procures.

Vision and the electromagnetic spectrum

Amongst the five senses, vision is given more importance in human beings as 40% of the nerve fibers connected to the brain are associated with the retina and hence they are directly or indirectly related to vision. Human beings image objects using visible light. As all the objects emit radio waves, the ability to see them would over saturate our brain with the huge amount of information gathered by the retina. The ability to view infrared light would make us glow as our bodies emit infrared light. The ability to see X-rays or gamma rays would actually damage our eyes.

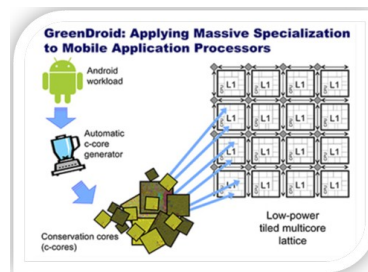
Human beings can hear microwaves, but we cannot see them. Some animals like snakes and lizards can detect an object through infrared radiation. Human beings have tri-chromatic vision which means they can see three primary colors. There are some species of spiders like jumping spiders which have tetra-chromatic vision and can see ultra-violet light. Animals like bulls are actually color blind. Some fish species like Mantis shrimp can see nine primary colors.

ROLE OF COMPUTER SCIENCE IN MODERN SOCIETY

Computer Science is one of the most evolving and ever-growing field. Often new technologies are evolving which replace the existing on the basis of ease of doing business and work that needed to be done. Indian IT and Software industry needs to hire more than 50000 candidates in latest technology such as Web Development and Data Science.

India is undergoing through start up revolution as Internet has become the main marketplace for all business. You need to have some professional and technical skill in domains of IT sectors which can propel you to right places in order for you to succeed. Whether you should go for product based or service based, is completely on your interest. If you are exceptionally good at coding and have a zeal to create something then go for the product based companies.

Most of the start ups which are starting and growing everyday are on a hiring spree so as to get best technological talents to help them grow. Also there is a vast scope of opportunities in terms of professional growth and monetary benefits which these start ups offer. Based on recent trend in product-based companies are mostly hiring in Web Development and Analytics as these are the domains which are driving their businesses and helping to create better and innovative products.



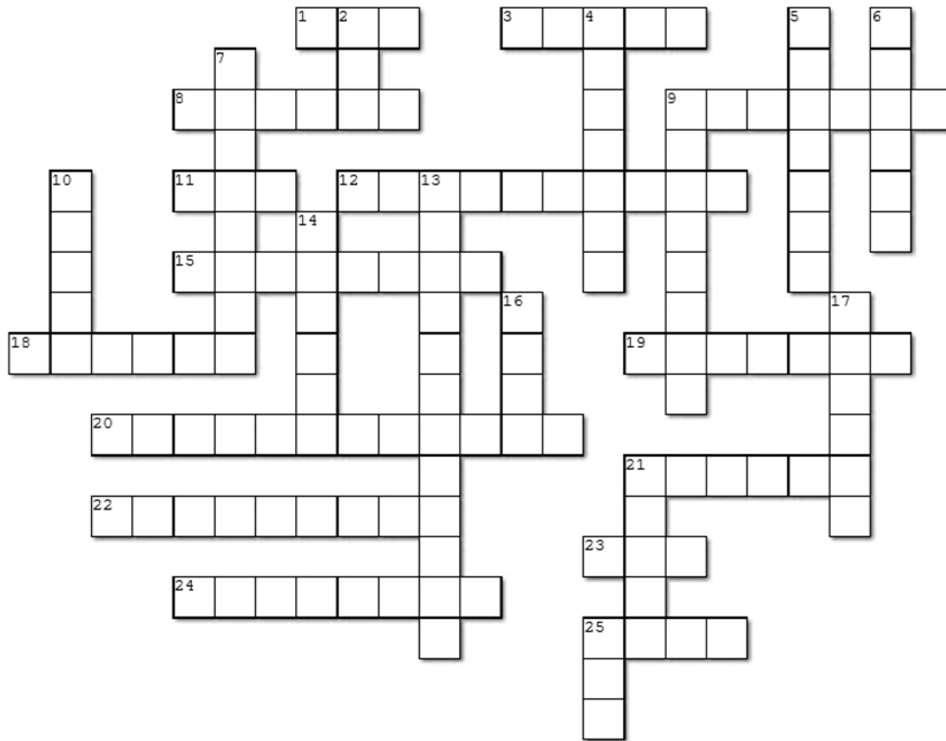
Dr. Sr. Sujatha Yeruva

PG Coordinator, Dept. of
CSc.

Enara Najmuddin

B.voc RM&IT (1st year)

FEED YOUR BRAIN WITH CROSSWORD



B.Jyothi &

D. Sowjanya

Dept. Of Computer
Science

Across

1. Should reach fast- execute
3. Sending a letter through internet
8. A four-bit aggregation, or half an octet
9. A set of instructions in sequence to perform specific task
11. We call it as a spider house
12. A searching method - how long inside?
15. A named location in memory, may change value
18. Central part or core of operating system
19. A program that you use to access the internet and view web pages
20. A type of scripting language and a drink but not javascript
21. A large computer that connects other computers to a network
22. Allows music/pictures to be transferred from one phone to the other without internet
23. Type of animated image file format
24. Hey smoke is entering the house. Please close __ 8.
25. A topology- Shines at night

We shall never
know all the good
that a simple smile
can do.

Down:

2. Courier should reach to an address of WWW short form.
4. An operating system.
5. Type of error – think in a different way
6. An online shopping location
7. A barrier between a network and the Internet for security
9. A key to open 10. Lets join by a sorting technique
13. Run time binding
14. Wireless technology is specially designed for sensors and control devices that employ low cost connectivity
16. Repeating a statement or block of code
17. A computer's capacity, or a place to run files
21. A new programming language, Of course a car name.
25. An ERP system developed by German Company

Answers on page : 40

APP IN SPOTLIGHT – “GOOGLE KEEP”

If you live in today's times as a student, there's a fat chance of you owning a smart-phone. But how smart you are with your phone, truly is depends on the apps you use!

In this corner, We bring to you the review of an App that truly is a necessity for students like us. GOOGLE KEEP is Google's initiative for the very forgetful us. Keep proves to be a very efficient and fast note taking app that can do a lot more than just regular note scribbling in a very friendly, attractive way. Keep is available on Android in Play Store and in IOS. To make things much more amazing, Keep can be downloaded on your desktop. Adding reminders, from making checklists when your mom asks you to bring grocery to making To-Do reminders of all the assignments and Assessments you have for college has never been easier. Sharing these notes with your friends, Saving Hyper-links from the web, Highlighting them with amazing colors or adding them to your phone's home screen as a widget to help you keep yourself organized. This App is a MUST for students and has surely kept me sane and played an important part in helping me turn up my assignments on time. This was our review on the amazing GOOGLE KEEP. Hope you give it a try!

Be faithful in small things because it is in them that your strength lies.



Shananda Das

BSc 3F

WEB DESIGN AND UX TRENDS TO FOLLOW IN

AGE RESPONSIVE WEB DESIGNS entail different age group of users react differently to an innumerable content, layout. Vary your customer's experience through their perceived age with the use of metadata for better customer connection

Haritha.D &
Monica.D

SKELETON SCREENS Webpage load time contributes unimaginably to the user experience. Starting from the simple to more complex, So that customers could anticipate what data they are going to see next.

MSC –I Com-
puter Science

sales pitch across.

ENGAGEMENT BOTS Chat bots are not a new phenomenon for business, but now, they are used in new ways to help stream line the sales process so that website keeps performing round the clock **REAL-TIME PERSUADER VIDEOS** Gone are those days when brands used animated videos to persuade prospects to make an online sale. Today, they do it through real-time videos that feature real people either sharing their experiences with the product or giving a live demo. Brands are actually making a quick connection and are making their way towards a sale, smoother.

In 2018, expect a devaluation of the Home Page, which is to give away to the rise of the user specific landing pages. By delivering specific messages to specific audience, it will get much easier to will get much easier to send the sales pitch across.

NOT HARD WORK, DO SMART WORK

An embedded microprocessor is defined as a computer chip that provides extended functionalities to the devices. The functions of the microprocessor include fetching, decoding and processing the data.

An Arithmetic Logic Unit(ALU) is a digital circuit used to perform arithmetic and logic operations. **Memory Unit** is used for storing data and instructions for program execution. **Control Unit** is used for managing input, output devices, storing and fetching data.

Registers are small and fast memory units used for CPU speedup. **System Bus** acts as a communication medium for internal and external parts of microprocessor. Embedded microprocessor systems are computer chips that are commonly found in home appliances, industrial items, military applications, traffic light control , etc.

Home items with microprocessors:

Home items with microprocessors include

Washing machine - to control temperature, let water in and out.

Fridges –determine 'expiry dates' depending on barcodes, and tell us the condition of the food.



K.R Sowmya
121317033006
K. Prathiusha
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Automobiles with Microprocessors:

The radio on cars uses automatic transmission over an in-car network, so that radio can automatically adjust its volume in relation to road noise.

The availability of low cost, low power and small weight made these microprocessors, change the daily life style of the present society.

So we conclude saying that embedded microprocessor has become essential part right from entertainments, communications, health concerns, home appliances, transportations, space applications etc with which complicated processes are carried out with ease, in time and precisely.



FRAMEWORKS –THE INSTANT DEVELOPER

Java is one of the most widely used programming languages. Currently java is being run on more than 3 billion devices. In today's world, good knowledge of various frameworks is very important.

Frameworks are the core part of java programming language. Frameworks are large bodies that consists of pre-written code which help us develop the applications better and faster. We can add these frameworks to our code and solve the problem in a specific domain. They are a platform for developing software applications. Frameworks are used to create powerful API.

The basic idea of the framework is to put together different libraries that are frequently used .In a good framework they are put together with the patterns that work and are useful for the intended domain. These provide a lot of functionality that the users do not have to worry about. Two of the most commonly used frameworks are the Spring MVC and Struts 2.

The key features of the framework are:

Inverted flow of control : A framework employs an Inverted flow of control between itself and its clients. We usually implement a few callback functions that we require. Here the framework does the rest of the work by invoking any other required call back functions at appropriate time and place .

Extensibility : A framework can be extended by a selective overriding

Non-Modifiable : Frameworks cannot be modified and only be extended

There are plenty of frameworks that are used in the real world .All we need to do is to know the right one to have an application developed.



By G . Persis and
P. Ramya

MSC I - Computer
Science

Struts²

spring

THE FUTURE OF SPACE TECH

‘Why can't we reuse an orbital rocket?’

The concept of reusing rockets was always considered a dream but Elon Musk made it reality. It may have sounded far-fetched back in 2002, when SpaceX was founded, but as of 2017, the company made it possible to re-launch and land the first stage of an orbital rocket, their Falcon 9. SpaceX believe that a reusable rocket is the way to reduce the cost of space travel. The main goal of the company has been to come up with an Interplanetary Transport System, which can take people to Mars and back.

The most important aspect of ITS will be ‘fully and rapidly reusable’. Musk hopes that at least by 2035, a self-sustaining human colony will be present on Mars and thousands of rockets will be carrying people to Mars. This will enable the colonization of Mars. SpaceX is currently working on a launch vehicle named Falcon Heavy. It is a reusable launch vehicle. Falcon Heavy was designed with the purpose of conducting crewed missions to Mars or the Moon and carrying humans to space. SpaceX aims to improve the reliability and cost of space travel, hopefully by a factor of 10. The company has revolutionized space travel and is still continuing to do so.

TICKITOCKITICK.....GUESS THE SPEED?

When the most fascinating word “smartphone” or any electronic gadgets come into picture, most the users focus on the specifications, the performance of them .But how many of us tend to know about the most important components of the performance which includes the processor ,the speed of it and what increases the speed of it?

A microprocessor is effectively the brain of your device, whose specification determine whether your phone runs “slower” or “faster”. The most fundamental factor of it which is the clock speed into consideration . What is a clock speed?.A clock speed is the rate or speed at which the processor executes the instruction. How is it measured?.It is measured in megahertz (MHz) or gigahertz (GHz). To make it easy ,a processor with a clock speed of 3 GHz allows us to feed it with 3 billion operations per second. Most of computers clock speed is between 1.5MHz and 4MHz,and of Mac 27-inch model up to 4.2GHz, and 21.5-inch model up to 3.6GHz and coming to android, the range is 300 MHz - 1.19 GHZ.

The importance of clock speed is processors with faster clock speeds process data faster than those with slower clock speeds and matters more when you want you program to run faster. Today’s fastest mobile processors have impact on clock speed which ranges from 1.8 GHz to 2.2 GHz

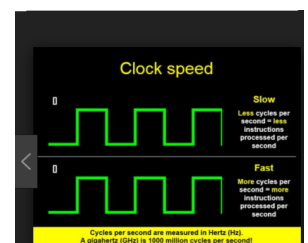
CONCLUSION: Clock speed is often played up to be the major factor in systems performance



sanjana Dhaka and
Mahika Uttarwar



R.SOUMYA, M.VARSHA
MSC.COMPUTER
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SMART GRIDS

An intelligent electricity- delivery system .It is a Modernization of grid and digitalization. It is a Combination on renewable energy sources. It is an electric grid that uses information and communication technology to gather data and act on information about the behavior of suppliers and consumers in an automated fashion. Hence Smart Grid is a generic label for the application of computer, intelligence and networking abilities to the existing dumb electricity distribution systems. In short, the digital technology that allows for two-way communication between the utility and its customers, and the sensing along the transmission lines in what makes the grid smart.

The basic concept of smart grid is to add monitoring, analysis, control, and communication capabilities to the national electrical delivery system to maximize the throughput of the energy consumption. The smart grid will allow homeowner and business utilities to move electricity around the system as efficiently and economically as possible. It also helps businesses reduce their carbon footprint. Smart grid helps in measuring and reducing energy consumption and costs. The biggest disadvantage of smart grid is security and privacy, some types of meters can also be hacked. The market for smart grid technologies in United States is booming. But in the long run, attitudes will change and there is wide spread usage of the smart grid from every business to every home just like the internet. It is risky because of financial developments and regulations. Some cities will be converted into smart cities where smart grid will be implemented to materialize the smart city into reality.

By using smart grid technology energy can be utilized to the maximum and would not be wasted.

WIRELESS WEARABLE CHARGER

Ranging from conventional wall chargers, emergency chargers, wireless chargers, green chargers and portable chargers, technology has given us a wide variety of options to choose from one among them is the wearable charger. The wearable charger is a type of green charger, that is, it is an eco-friendly charger. As the name says it, this charger can be worn. They are made by using Nano filaments that can harvest and store solar energy and when these filaments are woven into the clothes can turn them into wearable solar batteries and chargers. These filaments were invented by Prof. Jayan Thomas, who is a scientist in the field of nanotechnology at the University of central Florida's Nano science technology center. He got his inspiration to design these filaments, from the 1989 movie "Back to the future part 2". Talking about the filaments they are copper ribbons that are thin, flexible and light weight which serves a dual purpose by acting as a solar cell on one side and an energy storing area on the other, these filaments can be easily woven into the outerwear and can harvest and store energy to power phones and other devices. That's not all solar energy harvesting textiles is a hot area of research for many scientists at the moment. Let's all hope that we are not far away from the day when our favorite fashion brand comes up with these wearable chargers.



Y. Laxmi

MSC –II

Computer Science



Aleena P Joy &

Pushya Chinnappa



CROWD SENSING

A large number of general users utilize mobile devices as basic sensing units to conduct coordination with mobile networks for distribution of sensed tasks and collection and utilization of sensed data. This identifies security and privacy issues in multimedia crowd sensing, and describes existing solutions that are designed to protect both data producers and consumers in multimedia crowd sensing. Crowd sensing includes creation, recruitment execution, result verification and publishing. The goal is to complete large-scale and complex social sensing tasks. In crowd sensing, participants who complete complex sensing tasks do not need to have professional skills. Mobile crowd sensing is where the Individual with sensing and computing devices collectively share data and extract information to measure and map phenomena of common interests. Four optimization problems that usually faced are addressing energy, incentives and data quality issues. Crowd sensing modes represented by Crowd sourcing has been successfully applied to geo tagged photograph, positioning and navigation, urban road traffic sensing, market forecast, opinion mining, and other labor-intensive applications. The Challenges based on crowd sensing are sensing task, participant related aspects, privacy protection. Internet of things of work in crowd sourcing has focused on different aspects of crowd sourcing, such as computational techniques and performance analysis. Crowd sourcing are categorized according to their applications, algorithms, performances and datasets. The main idea of Crowd sourcing is to distribute tasks to general users and to complete tasks that users could not individually complete or do not anticipate to complete. With the rapid growth of usage of mobile devices and the increasingly complex functions provided by mobile devices, it can be forecasted that Spatial Crowd sourcing will be more prevailing than traditional Crowd sourcing.

BIG DATA HARVEST BETTER

Big data is a team used for large amount of data, such as market trends, stocks and also for agriculture. These large syear we are improving literature survey". Apart from Hard Work and Labour, several factors determine the result of a Harvest, these include quality of hybrids, pesticides, price forecasting, government actions and weather conditions such as temperature, rainfall, humidity and availability of water. Farmer in the near future will operate Tractors and drones from tablets as day work and collect data across their land. Big Data farming also called "Precision Farming". Tractors can drive themselves across fields using GPS (Global Positioning System) signals. Drones allow relief for Farmers. The use of drones in agriculture is: It sees the crops from a bird's eye view; the view that is received from it is multispectral. Big Data in Smart Farming and Agriculture aims at providing new efficient decisions making tools for helping agriculture development. It is observed that applying the techniques of big data to manage and interpret agriculture data helps the farmer in producing quality crops increases overall profit.ets of data can be used in any type of organisation, business and also for agriculture. Big data analytics has made a widespread impact in the agriculture industry. Few things related to agriculture is fertilizers, environment, quality of seed. Proper Analysis of this information leads to a concept called "smart Farming". Smart farming is not restricted to the Farm and it produce. It shows its effect on the entire food chain and provides a useful tool.



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BLUE BRAIN- THE WORLD'S FIRST VIRTUAL BRAIN

The most worth creation of God is the human with an intelligent brain. The research to make an artificial brain that works, acts and responds like a human brain is the task of the today's scientists. The name that was proposed to this virtual brain is "Blue Brain". This can be achieved by uploading the human brain into a device which helps humans to take decisions without any effort and this is possible with the help of supercomputers. Blue Brain keeps the knowledge, memories safe even after the death of the body. Virtual brain gives a complete solution to the issues like difficulty in remembering the historical facts and important dates. Blue Brain is the creation of virtual human brain at the cellular level in a computer. Henry Markram of Switzerland found this simulation project in May 2005.

One of the most assuring techniques is the use of tiny robots or nanobots as they are small enough to travel the human circulatory system. These nanobots monitor the activities of the central nervous system by moving into the spine and brain providing an interface with computers and reside in biological form. Nanobots provide a complete picture of the connections between each neuron and can also record the current state of the brain by scanning the structure of our brain. The same input when entered computer responds as usual as the human brain. This is possible only with a computer with huge storage space and processing power. The Blue Brain Project is an attempt to reverse engineer the human brain and recreate it at the cellular level inside a computer simulation.

MONEY PAD-THE FUTURE WALLET

In the future, money will surely prove to be very different from the money of today's date. Just as **faït** money replaced specie-backed paper currencies, electronically initiated debits and credits will become the dominant payment modes creating the potential for private money to compete with government issued currencies. Just as the world is getting under the shadow of "e", today we have paper currency replaced by **electronic money** or **e-cash**.

Hardly a day goes by without some mention in the financial press of new developments in "electronic money". In this emerging field of novel buzzwords and electronic commerce, money is also being referred by subjects like **smart cards, online banking, digital cash and electronic checks**. But are you sure that these brand new forms of payments are secure? And most importantly, which of these electronic money technologies will survive the next century? There are some of the tough questions to answer but here is a solution, which provides a form of security to these modes of currency exchange using the **"biometric technologies"**. The money pad introduced here uses the biometrics technology for finger print recognition. Money pad is a form of credit or smart card, which ever we name so.

Every time a user wants to access the money pad he has to make an impression of his fingers which will be scanned or matched with the one in the hard disk or data base server. If the finger print matches with the user's he will be allowed to access and use the pad otherwise the money pad is not accessible. Thus providing a form of security to the everlasting transaction currency of the future **"e-cash"**. Money pad – a form of credit card or smart card similar to floppy disk, which is introduced to provide, secure e-cash transaction.



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USE OF ARTIFICIAL INTELLIGENCE IN UNLOCKING

Artificial intelligence is an intelligence displayed by the machines in contrast with the natural intelligence that is displayed by humans and other animals. Artificial intelligence is widely used and one such field where it is being extensively used is in marine engineering and in solving marine mysteries.

It is put to use by augmenting robotic marine vehicles with artificial intelligence. It basically helps the researchers to gather a lot of data on the change in temperature in the oceans, to map sea beds and to understand oceanography. Few courses also focus on this topic, the students who opt for them will learn how to design, build and code a robot with artificial intelligence. They also learn the basic programming and software skills so that they develop a deeper understanding of ocean engineering.

Every year, river Charles serves as a challenging situation to most of the robots. The class based on Artificial Intelligence is conducted in the spring semester and is structured around the presence of ice on the river Charles. The students are taught how to program a remotely piloted marine vehicle and code for a particular mission. The specifics of ocean environment are also taught like oceanography or underwater acoustics. The codes for several missions will be developed by the students which will be further conducted on the river Charles and these missions include receiving simulated temperature and acoustic data along the river, communicating with other marine vehicles and finding dangerous objects in water.

Due to the rapid advancements in technology the scientists have come up with a whole lot of inventions and one such example is the Robot Salamander. The European scientists have created this unique robot that uses an amphibian type central nervous system and it is able to switch from swimming to walking as it crawls onto the land from the water. It is a breakthrough creation and it combines 3 modes of movement- swimming, crawling and walking all in a single robot. Also, artificial neural network has a lot of unique characteristics that help in the solving of complex problems such as the ship design process. Artificial intelligence is also being used in design and manufacture of marine instruments for navigation, inertial position and in the development of wave radar for oceanic wave measurement.

Java Server Pages

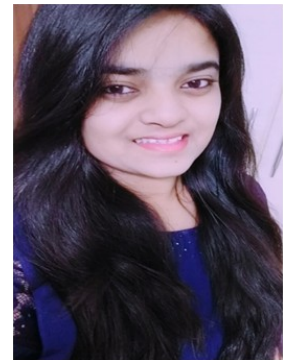
Java Server Pages (JSP) is a java based technology for developing web pages that supports dynamic content in a secure and well defined.

It is a technology developed by Sun Microsystems in 1999.

Jsp contains an extension of .jsp

Version of JSP:

The current version of java server pages is 2.2.



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Advantages of JSP over Servlet:

JSP is a webpage scripting language that can generate dynamic content. Whereas servlets are java programs which gives dynamic web content after compilation.

JSP run slower compared to servlet because it takes more compilation time but servlets run faster compared to jsp.

It is easier to write code in jsp than in servlets. In servlets we should write much code and also they are best for use when there is more processing and manipulation involved.

In JSP program the modifications are recognized by the server automatically without reloading of web application. But in servlets we need to compile and reload manually.

In JSP, static code and dynamic code are separated. In Servlets ,they are put together.

Advantages of JSP over PHP:

PHP is similar to JSP. It is html embedded scripting language. But for PHP we have to learn one new language. It is less secured.

Conclusion:

This article was about Java Server Pages , current version of jsp and advantages of jsp over servlets and php.

DIFFERENT TYPES OF VERSIONS OF JAVA

Java is a powerful, cross- platform; object oriented programming language suitable for writing anything from a distributed application that runs on a corporate network to a database- driven web site.

In this article, we both bring up with various versions of java such as Java Development kit (JDK), Java Standard Edition (JSE), Java Enterprise Edition (JEE) and Java Micro Edition (JME).

JDK beta – released in the year 1995

JDK 1.0 - The first version was released on January 23, 1996

JDK 1.1 - Major additions in the release on February 19, 1997

J2SE 1.2 - "J2SE" replaced JDK to distinguish the base platform from J2EE and J2ME.

J2SE 1.3 – released on March 8, 2000

J2SE – 1.4 - The February 6, 2002 release was the first release of the Java platform developed under the Java Community Process as JSR 59



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J2SE-5.0 – This version is used as the internal version number.

JAVA SE6- JSE6 enhanced end-user usability or fixed bugs.

JAVA SE7-(July 28, 2011): The code was named Dolphin.

JAVA SE8- The code name culture is dropped with Java 8 and so no official code name going forward from Java 8.

JAVA SE9- At javaone 2011, Oracle discussed features they hoped to release for Java 9 in 2016

JAVA SE10: Java 10 will use the new versioning convention set out by Oracle

JAVA SE11: Open JDK 11 is currently open for bug fixes

The application of java for virtually any business need has become obvious in recent years as the new versions are continually enhancing the possibilities and also are increasing robustness. Major releases keeping in mind the number of classes / packages introduced are Java 1.0, 1.4, 1.5, 1.6 and 1.8. Major releases keeping in mind new concepts introduced are Java 1.1, 1.2, 1.5 and 1.8. Java 9 and Java 10 are expected to release in 2016 and 2018 respectively

A MEMORY SAVER!

What Does RAM Mean?

RAM (random access memory), which is referred to as just memory. It means that the computer can access any data stored in it very quickly in just a few nanoseconds.

In computers RAM takes the form of long, narrow modules, sometimes called sticks of RAM. RAM for laptop computers is basically the same, but considerably smaller.

Purpose Of RAM

RAM's purpose in a computer is temporary storage for information that the computer is using right now. If a program complains of insufficient memory and often if your computer seems to be running slowly, it's because the computer needs to store things in RAM that it does not have enough room for. The computer can compensate to a degree by using virtual memory. RAM modules are blank slates and inert as rocks.

How RAM Works

RAM is used to store information that the system needs quickly. Running several programs simultaneously, running one or two complex programs, or opening up a series of large files can quickly fill up the available space. Once the RAM is all used up, the hard drive must be used as a replacement. As data cannot be loaded from the hard drive as quickly, tasks such as opening programs and files take longer to complete.

**Intense love does
not measure, it just
gives.**



Monica Jain &

Twinkle

MSC-I Computer Science

Types of RAM

SRAM: Static random access memory uses multiple transistors, typically four to six, for each memory cell but doesn't have a capacitor in each cell. It is used primarily for cache.

DRAM: Dynamic random access memory has memory cells with a paired transistor and capacitor requiring constant refreshing.

Conclusion

Replacing the memory in your computer will be necessary if a memory test has confirmed that your RAM has experienced a hardware failure of some kind.

Got Big Data? Know NoSQL

What is NoSql?

The database attracting a huge amount of interest, is the NoSql database.

The Not Only SQL or NoSQL is an approach towards managing data and database design for huge sets of distributed data providing high operational speed and great flexibility.

NoSQL is an alternative to traditional relational databases in which data is placed in tables and data schema is carefully designed. NoSQL doesn't rely on these structures.

Why Choose NoSQL?

Building and running these web, mobile and IoT applications has created room for new technology requirements. These new technologies need to be more agile than ever before, and requires data management, speed maintainability and data variability. Relational database with few limitations are unable to meet these requirements, and hence enterprises are choosing NoSQL databases.

Impact of NoSQL

The area is new enough for most of the businesses to feel comfortable running critical work anywhere other than in mature relational data stores, even if those relational stores cause a lot of issues in their own right.

There is no denying the impact non-relational databases have made in the industry. And in the case of NoSQL, the technologies stand at the pinnacle of what databases can accomplish today.

Conclusion

NoSQL is a good addition to existing database standards with important caveats. NoSQL is for sheer performance and scalability. NoSQL enables to think data differently and that is an exciting prospect.

Love begins by
taking care of the
closest ones - the
ones at home.



Unnati Korwar

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t's Time to Double Up: Microprocessor Trends

"A microprocessor is the heart of every system we use today. It is basically used for very light applications such as gaming, web browsing, photo editing, simulations and many more. The beginning of 16-bit microprocessor were mixed with increased accentuation and growing interest in multiprocessing. Microprocessor capabilities are continuing to grow at an amazing speed.

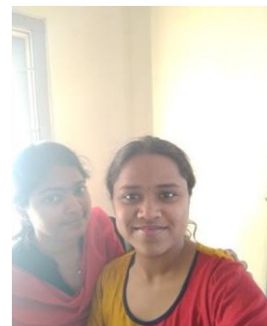
In recent times, multicore processors were introduced to cope up with the performance of the systems. The first microprocessor i.e., Intel 4004 microprocessor was introduced in 1971 which was the first portable electronic calculator. After 4004 microprocessor was introduced, Intel 8080 microprocessor which was suitable for home desktops and Intel 8088 for world market were introduced. Later on, processor technology moved from 80's series to Pentium series. Currently the dual core microprocessors are the trending ones in computing side which establish the need to know about the data transfer within a microprocessor.

The advancement of microprocessor technology is expected to continue in the near future. Some of the capabilities in computing area like 32-bit Arithmetic Logic Unit (ALU) is the current trend of microprocessor. Newest trend for processor which is introduced is 64-bit ALU. Recent trends in the areas such as architecture of a microprocessor, organization of a system will be the major concentrating areas for future generations.

A TRAINING FOR GOOD NEWS

To be multiplying the gospel...an idea more easily said than done, but Sr. Sujatha the Trainer who dreamt of a crash course for web updating had this affixed in her person, and continued in the same tone as she went through the curriculum of the 10days course designed for the website update of the different provinces hosted by Secunderabad's province, conducted at St. Francis senior college for women –Begumpet, Hyderabad from 25th October to 4th November.

At the inaugural address Sr. Philomina Thomas provincial superior of the province to the participants who came in from the five provinces, Calcutta, Dharwad, Secunderabad, and Calicut expressed that she was quite confident that we would succeed in waiting upon the lord to anoint him with the nard of our charism, as we waded past through this learning process. The curriculum taught the participants to learn of the software that was used in the website and how to use it to reform the new events. The coming days, Sr. Christine the principal of the college let the department of computer studies at our service, the technicians, the attendee's, had their part done excellently, to run the course of the time in perfect order. Sr. Sujatha kept no stone unturned during the course to train the 10 sisters who were in. It was wisdom and generosity to stick to the charism of the founder to do whatever possible for the growth and development of the Institute that has its hub flourishing in India to preach the Gospel.



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Sr. Maria Kurian,
St. Joseph's Convent,
Meppady

If you have courage to harken words of Christs 'Go to the whole world and preach the Good News... and recognize 'the harvest is great but the labourers are few...'one finds the necessity of having a new source for New Generation and the website yields itself a large space to preach to the whole world the Good News taken shape into deeds by the congregation of sisters of charity. Why worry then of few labourers, when it leaps up to you with its possibilities of Gospel proclamation... It brings the world of transformation that is shaping the world into your rooms. Is it not what Pope Francis demanded 'use the technology at your door for the Gospel and mission...'?

GENERAL-PURPOSE COMPUTING ON GRAPHICS PROCESSING UNITS

GPGPU, (rarely **GPGP**) is the use of a graphics processing unit (GPU), which typically handles computation only for computer graphics, to perform computation in applications traditionally handled by the central processing unit. The use of multiple video cards in one computer, or large numbers of graphics chips. Even a single GPU-CPU framework provides advantages that multiple CPUs on their own do not offer due to the specialization in each chip.

Essentially, a GPGPU pipeline is a kind of parallel processing between one or more GPUs and CPUs that analyzes data as if it were in image or other graphic form. While GPUs operate at lower frequencies, they typically have many times the number of cores. Thus, GPUs can process far more pictures and graphical data per second than a traditional CPU.

Transferring the portion of the data set to be actively analyzed to that GPU memory in the form of textures or other easily readable GPU forms results in speed increase. The feature of a GPGPU design is the ability to transfer information bidirectional back from the GPU to the CPU; generally the data throughput in both directions is ideally high, resulting in a multiplier effect on the speed of a specific high-use algorithm. GPGPU pipelines may improve efficiency on especially large data sets and/or data containing 2D or 3D imagery. It is used in complex graphics pipelines as well as scientific computing. A simple example would be a GPU program that collects data about average lighting values as it renders some view from either a camera or a computer graphics program back to the main program on the CPU, so that the CPU can then make adjustments to the overall screen view. A more advanced example might use edge detection to return both numerical information and a processed image representing outlines to a computer vision program controlling, say, a mobile robot. Because the GPU has fast and local hardware access to every pixel or other picture element in an image, it can analyze and average with much greater speed than a CPU

GPGPU is fundamentally a software concept, not a hardware concept; it is a type of algorithm, not a piece of equipment. However, specialized equipment designs may even further enhance the efficiency of GPGPU pipelines, which traditionally perform relatively few algorithms on very large amounts of data.



D.SWETHA

DEPT OF COMPUTER
SCIENCE

*"Good teaching
is more a giving
of the right
questions than
a giving of the
right answers" -
J. Albers*

QUANTUM COMPUTERS

Quantum computer is a device that performs quantum computing. They are different from binary digital electronic computers based on transistors. Whereas common digital computing requires that the data be encoded into binary digits (bits), each of which is always in one of two definite states (0 or 1), quantum computation uses quantum bits, which can be in superposition's of states.

A quantum computer directly harnesses quantum mechanical phenomena, such as entanglement, tunneling, and wave-particle duality. The system is based on quantum bits or qubits. Unlike traditional computers where bisimultaneously. Quantum computers, harness the power of atoms and molecules to perform memory and processing tasks.

Most recent researches and works using quantum mechanical computers include:

NASA researches using the system to investigate areas where quantum algorithms might someday dramatically improve the agency's ability to solve difficult optimization problems in aeronautics, Earth and space sciences, and space exploration.

Google, used an array of 9 superconducting qubits to stimulate a hydrogen molecule.

IBM revealed a working 50-qubit quantum computer that can maintain it's quantum state for 90 microseconds.

Qubits must have a value of either zero or one, a qubit can represent a zero, one, or both values simultaneous.

WHEN A WATCH TRANSFORMS INTO FULL-SCALE

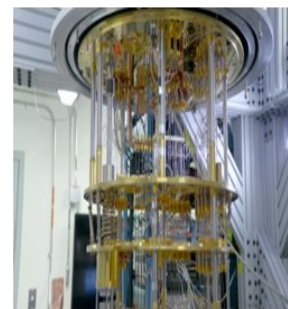
When smart watches first made their debut as wearable, some tech watchers were not sure of the smart watch as a viable form factor.

Shell, a mobile device from Shell Wearable, is coming in 2018 which is a smart watch and a Smartphone. It'll look like a smart watch until you unclip it from the body and two metal arms pop out which you use as a microphone and a speaker for phone conversation. Shell is a mobile device combo of wrist wearable or something that is "detached from its cradle-like wrist mount and then held up to your ear" to make a phone. They are talking about an independent smart watch with 4G phone capabilities. Shell comes in two parts. Smart watch and dock. It can be used with dock and without the dock. Expanded wings on the device have thunit's radio communication. (Shell has a "rugged Commando" version. This version enables the user to eight license-free walkie-talkie channels across a 3 km range.

According to the news release, the wings house an impressive 12 MP camera with image stabilization. The camera can rotate a full 360° while recording or streaming video.

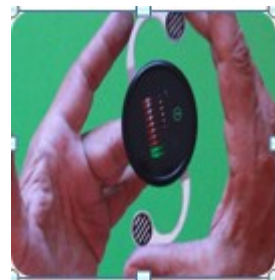
That's not all. They designed "custom adaptors." These are for popular smart watch models. Adapters will allow users to get Shell's standard features via Bluetooth or WiFi. As for charging, the company developed "a built-in manual charging solution," with energy generated by the user's hands to power the watch. Reports said the project is going live on Indiegogo from 31 January. They completed designs, made prototypes. They are now turning to Indiegogo for support to bring the Shell to people's doors.

e antenna. You get standalone 4G, GSM, GPS, Wi-Fi and Bluetooth connectivity also, on their Commando



Megana

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K.MEERA

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BITCOINS

There is always a new debate on the internet. Although every new debate does not last long, one topic took the world by storm and the hype hasn't ended yet. You might have already guessed it - it's the Bitcoin. This form of crypto currency has constantly been a source of debate and confusion and the interest in bitcoins is greater than ever. But what is the reason? What are bitcoins and how does it work? Let's find out.

BITCOINS

Bitcoins are the first and the most famous form of digital money. Bitcoins don't have a physical existence, hence, you can't carry them around with you.

Bitcoin is a crypto currency that is stored on wallets that are encrypted, which serve as their own bank to the user. They are designed to be secure and anonymous. Users can transfer bitcoins between each other using these secure wallets. A few examples of how wallets can be served are-

- 1) Online wallet provider
- 2) Mobile wallet devices
- 3) CPU wallet

Bitcoins work on blockchains. Blockchains hold a record of all the transactions held by the user of this network. A user creates coins that have complicated codes using their computer.

HOW MANY BITCOINS ARE THERE IN CIRCULATION?

With 16.7 Million bitcoins in current circulation, 21 million is the maximum number of bitcoins that exist.

WHO INVENTED BITCOINS?

Bitcoins were supposedly created by a mysterious figure named Satoshi Nakamoto.

WHY ARE PEOPLE INVESTING IN BITCOINS AND SHOULD I INVEST IN THEM?

A single answer to this - bitcoins are like gold of the internet. People will invest in them as long as they believe that this form of currency has a value. Although its current value skyrocketing at \$10863 dollars, bitcoins are a poor medium for transactions. You can't buy anything with them - at least in India. It's an invisible asset with all the users in the network being anonymous. It is a super risky investment that can either make you a billionaire or can drain all your money.

ARTICLE ON LATEST TREND ON INFORMATION TECHNOLOGY

The latest trend of IT world is cloud computing, which allows user of an organization to download software from the web. It generally saves a lot of money from purchasing new software. The basic principles of cloud computing is to make the computing be assigned in a great number of distributed computers, rather than local computer or remote server. The running of the enterprise's data centre is just like Internet. This makes the enterprise use the resource in the application that is needed, and access computer and storage system according to the requirement.



Anjali Muntha

If we have no
peace, it is because
we have forgotten
that we belong to
each other.

Cloud computing comes into the market is for every user convenient. But of course there are still a lot of matters need to be take care of like, the budget and size of company, whether is suitable to use cloud computing. Even though cloud computing is beneficial but will also examine the company's need of the service. Information moves with incredible speed across and between networks and the cloud, making sensitive information challenging to track and locate. And with an IT infrastructure that is virtual and shared via the cloud, organisations must learn new ways to throw light on to risks, threats and compliance performance.

Cloud computing also allows users to automatically store and back up data without the risk of losing the information in a server crash. It provides organisations with sufficient control over cloud security and compliance to adapt to any type of workload, even mission-critical ones. And giving IT teams the ability to directly inspect and monitor conditions in private, public, or hybrid clouds so they can base their trust on first-hand observations, not just outside Attestations (Patterson 2011).

Cloud allows organization to move away from managing their own data centers to focusing their attention and their resources-financial and human-on their core competencies. Cloud is enabling businesses to respond much more effectively to changes in demand. Cloud networks are evolving, linking organizations through complex, multiparty processes into single, virtual organization.

Cloud computing do not need high quality equipment for user, and it is easy to use. Cloud computing provides dependable and secure data storage center to avoid data loss or virus problems. User saved the equipment and maintenance cost with the integrity virtual machine movement controls by user. Cloud computing will help the group save money in the long run, and to be more productive when documentations are done within a faster period. And also provide employees with a greater IT environment with always getting the most updated software in the market. With cloud computing, the aim is to hide the complexity of IT infrastructure management from its users. At the same time, cloud computing platforms provide massive scalability, reliability, high performance, and specifiable configurability. These capabilities are provided at relatively low costs compared to dedicated infrastructures. Cloud computing is making it possible to separate the process of building an infrastructure for service provisioning from the business of providing end user services. It will cut complexity, improve flexibility and make IT more strategic to business there is a misconception about the cloud that the Cloud is cheaper than traditional IT.

MEMORY THAT IS DIRECTLY APPROACHED

Direct Memory Access (DMA) is a feature in all modern computers that allow devices to be able to move large blocks of data to or from the main memory without any interaction with the processor. The process is managed by a chip known as a **DMA controller (DMAC)**.

A DMA controller can generate memory addresses and initiate memory read or write cycles. It contains several processor registers that can be written and read by the CPU. These include a memory address register, a byte count register, and one or more control registers. The control registers specify the I/O port to use, the direction of the transfer (reading from the I/O device or writing to the I/O device), the transfer unit (byte at a time or word at a time), and the number of bytes to transfer in one burst.



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Some systems that use DMA include disk drive controllers, graphics cards, network cards, sound cards, etc.

Advantages of DMA include: high transfer rates, fewer CPU cycles for each transfer.

DMA transfers overcome the problem of occupying the CPU for the entire time when it's performing a transfer. In DMA transfers, The CPU initiates the transfer, and then it does other operations while the transfer is in progress, and it receives an interrupt from the DMA controller once the operation is finished. This is especially useful in real-time computing applications.

For a developer interested in minimizing energy consumption, the CPU could instead be put into a low power mode, allowing DMA to transfer data at a much lower energy level!

So as we conclude DMA can transfer data to and from its local memory without occupying its processor time, allowing computation and data transfer to proceed in parallel.

HOW DCIM IMPROVES CLOUD DESIGN

A well-implemented DCIM (Data Centre Infrastructure Management) solution offers several key benefits to today's increasingly complex data centres. Without transparency and timely management, many hybrid IT environments that include the cloud would drift into unregulated chaos. DCIM, with the proper data input and operational controls, provides the details to conduct cost comparisons between running "in house" versus moving the workload to a cloud environment. The right DCIM package allows managers to efficiently manage both public and private clouds. This is one area where work must be delivered on time, at the right price, and be almost boringly predictable. For many data centers, cloud computing has shaken traditional cost structures to the core. Driven by customer demands for more flexibility, resource sharing, and ease of use, many centers have embraced the cloud as an idea whose time has come. This is where the right DCIM software dons its "hero cape" in serving the complex needs of both public and private clouds. There's no denying that the demand for cloud computing has soared in recent years. Much of this demand is due to more companies offering computing as a service. This service has, over the years, become dependent on specific vendors. And thanks to cloud interoperability, customers can employ the same management tools, server images, and other software over a variety of cloud computing providers and operating platforms. These changes have caught the attention of both cloud users and service providers. The decision to convert data centers to private or hybrid clouds was based on reducing the total cost of ownership.



N V MOUNIKA

**The world is a book,
and those who do
not travel read only
a page.**

SECURE SHELL

"Secure Shell (SSH) was invented by Tatu Ylonen in 1995 in order to secure a hacking incident which took place at "Finnish university network". SSH is a "cryptographic network protocol" for operating secure channel over an unsecured network in a client-server architecture. In simpler words, ssh is a software package that enables secure system administration and file transfers over insecure networks. The example is log in to computer systems by users.

The applications include remote "command-line login" and the remote command execution, but any network service can be secured by using SSH. The protocol specification differentiates between two major versions, namely SSH-1 and SSH-2. The way it works is very simple it encodes data (encrypts) to secure the connections between a client and a server. All user authentication, commands, output, and file transfers are encoded to protect against attacks in the network. It is used to secure against cryptographic attacks on the network, provided keys and credentials that are properly managed.

Today, the protocol is being used to secure more than world's half web servers and every Unix or Linux computer, on-premise and in the cloud. Information security specialists and system administrators are using it to configure, manage, maintain, and operate most firewalls, routers, switches, and servers in the millions of mission-critical networks and environments of our digital world. It is also imbed in many file transfer and system management solutions. The new protocol replaced several old technologies and protocols, including telnet, FTP, FTP/S, rlogin, rsh, and rcp.

The main application is the Secure Shell protocols are used in file transfer mechanisms.

- Secure copy (SCP).
- rsync, which is more efficient than SCP
- SSH File Transfer Protocol (SFTP), an alternative to FTP.(NOT FTPS)
- Files transferred over shell protocol, released in 1998, which evolved from Unix shell which commands over SSH
- Fast and Secure Protocol (FASP), uses SSH for control and UDP ports for data transfer.

RESTFUL WEB-SERVICES (explicit use of Http Methods)

Speech recognition is the ability of a machine or program to identify words and phrases in spoken What is RESTFUL Web-Service ?

REST defines a set of architectural principles by which you can design Web services that focus on a system's resources, including how resource states are addressed and transferred over HTTP by a wide range of clients written in different languages. If measured by the number of Web services that use it, REST has emerged in the last few years alone as a predominant Web service design model.



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B.Sc –I H



Sahithya Siri

REST Web service follows four basic design principles:

Use HTTP methods explicitly.

Be stateless.

Expose directory structure-like URLs

Transfer XML and JSON or both

Implementation

One of the key characteristics of a RESTful Web service is the explicit use of HTTP methods in a way that follows the protocol as defined by RFC 2616. HTTP GET, for instance, is defined as a data-producing method that's intended to be used by a client application to retrieve a resource, to fetch data from a Web server, or to execute a query with the expectation that the Web server will look for and respond with a set of matching resources. REST asks developers to use HTTP methods explicitly and in a way that's consistent with the protocol definition. This basic REST design principle establishes a one-to-one mapping between create, read, update, and delete (CRUD) operations and HTTP methods.

Impact

REST didn't attract this much attention when it was first introduced in 2000 by Roy Fielding at the University of California, Irvine, in his academic dissertation, "Architectural Styles and the Design of Network-based Software Architectures," which analyzes a set of software architecture principles that use the Web as a platform for distributed computing. Now, years after its introduction, major frameworks for REST have started to appear and are still being developed because it's slated, for example, to become an integral part of Java 6 through JSR-311. Later, REST has had such a large impact on the Web that it has mostly displaced SOAP- and WSDL-based interface design because it's a considerably simpler style to use.

Conclusion

REST is not always the right choice. It has caught on as a way to design Web services with less dependence on proprietary middleware (for example, an application server) than the SOAP- and WSDL-based kind. And in a sense, REST is a return to the Web the way it was before the age of the big application server, through its emphasis on the early Internet standards, URI and HTTP. As you've examined in the so-called principles of RESTFUL interface design, XML over HTTP is a powerful interface .

THE HUG SHIRT

Touch makes you healthier!

A study show that hugs, massages and hand-holding reduces stress and boosts the immune system...and that's the most important thing in this busy world!

Thanks to Francesca Rosella and Ryan Genz with whose invention,

"THE HUG SHIRT" loved ones came a little more close in a beautiful way!

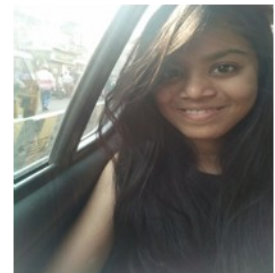
The HUG SHIRT makes people send hugs over far distances by a tight grip to it!

The magical part of this amazing invention is that it also makes each other feel the strength, duration, location of the touch, skin warmth and the heart beat rate.

Invented in 2002, this shirt connects Bluetooth to any Smartphone with the help of the Hug shirt App.



Manasa Veena .D



ARPITA LOHIA BMSI

BMS 1

When a hug is sent through the hug shirt, it is first received by the phone and then passed to the person! Considering the complexity when used by a common man, it is as easy as sending a text message! Apart from the emotional aspect, it has many interesting applications in the medical field as well. Another important feature is it is washable and rechargeable, available in men's wear, women's wear and children's wear style. Also, if one of the persons does not have a hug shirt, the hug can still be sent with the help of the Hug shirt software and it will be delivered in no time!

In 2006, the HUG SHIRT was embraced, very deservedly, by being Awarded as "One of the Best inventions of the Year"

Awarded 1st Prize at Cyber art Bilbao Conference in 2004

Awarded as one of the Best inventions of the Year by Time Magazine in 2006

Awarded the UKTI Mobile World Congress Showcase in 200

This invention is perfectly explains that your far ones are not that far indeed!

QUANTUM COMPUTING

Quantum computing is computing done using 'superposition' and 'entanglement' that are phenomenon in quantum mechanics. A Quantum Computer is different from the classical computer in the way that, it has 'quantum bits (qbits)' instead of the 'bits'. One qbit can portray a zero, a one or any other quantum superposition. The technology of Quantum computing is taking its very first few steps now. Experiments and researches are being carried out in which a small number of quantum bits (qbits) are being operated upon. Practical and theoretical researches and experiments are being continuously carried out and these are being financially backed by governments of nations and also by many military agencies. Additional effort is being put in to develop quantum computers for the civil, the business houses, the trading concerns and certain security purposes, such as cryptanalysis which is used to gain access to encrypted data even when the cryptographic key is unknown. One of the quantum computers that exist today is known as the '16-qbit'. It is also available for experiments. The theories of quantum computing claim to bring about a total revolution in technological advancement. These can solve many complex problems much faster and more efficiently than any classical computer. A particular quantum algorithm known as 'Simon's Algorithm' can run a lot faster than any other classical algorithm with greater accuracy. Quantum computers can also solve certain problems that are not even practically possible to solve using a classical computer. Quantum technology is going to aid human life on the whole by performing activities that make problem solving unbelievably easy.



Name: Pavani Mehra
BMS 1

RANSOM WARE-WHAT IS IT AND WHAT IS ITS

Have you ever given it a thought as to what would have happened when you wanted to access some of your files at work and instead of your computer booting up smoothly and showing your desktop, you're greeted with a scary-looking window featuring an image of a large padlock. Text in that window tells you that your data has been locked down, and will be permanently inaccessible after a few days unless a ransom is paid. The amount and method of payment may vary, but the threat does not: Pay up or never see your data again.

To seek the highest
good is to live well.

Wouldn't such a threat freak you out?

Surprisingly you have actually been a part of a RANSOMWARE ATTACK.

WHAT IS RANSOMWARE?

Simply put, it's malicious software that locks down data unless a ransom is paid, hence the name. It's relatively new as far as malicious software goes; the first known version hit the scene in late 2013

WHO IS THE TARGET AUDIENCE?

Well the answer is ANYBODY and maybe evens YOU. Targets can be large business (government as well as private), hospitals, banks, end users etc. However the service industry is the sector most affected by ransom ware, accounting for 38 per cent of reported infections in the last year. Businesses in this sector, such as recruitment agencies, handle high volumes of data and typically integrate with various internet services and applications that expose them to infections.

HOW DOES THE MALWARE SPREAD?

Like most types of malware, ransom ware generally infects computers through clicking an unsafe link or downloading unsafe programs. These can come in e-mails, torrents, dot nets, or other forms of transmission. Unlike other types of malware, ransom ware isn't removed when the computer's owner flashes the BIOS, wipes the drive, or attempts to return to a prior restore point.

WHY DO HACKERS USE RANSOMWARE?

The ransom is usually demanded either in a currency like Bit Coin or sent through a service like MoneyGram and loaded onto untraceable prepaid credit cards. Because the ransom leads to the files being released in most cases, this has led to desperate people simply paying the ransom instead of looking into alternative options. This emboldens the hackers, encouraging them to find more and more unscrupulous ways to make money.

HOW TO RECOVER FROM A MALWARE

If you experience a ransom ware infection, you should follow these steps:

Isolate the infected computer: Disconnecting infected laptops, computers and smart phones help prevent the ransom ware attacking other network drives.

Contact your insurer: Alert their breach response team as soon as possible so they can arrange for data services, IT forensics, legal and other experts to begin their investigations.

Don't pay the ransom: There's no guarantee that an attacker will decrypt your files or restore access to your advice, and the ransom may be used to fund attacks against others. Explore your options first.



Parul Gupta

BSc 3H

God loves each of
us as if there were
only one of us.

Explore your options: You can restore any damaged files from a backup and minimize the amount of time your system is down. As a rule, you should be backing up at least once a day. You can also attempt to decrypt your files, accept the loss of data and wipe your infected drives, or pay the ransom.

FACTS: The most recent RANSOMEWARE attack: The WannaCry ransom ware attack was a May 2017 worldwide cyber attack by the WannaCry ransom ware crypto worm, which targeted computers running the Microsoft Windows operating system by encrypting data and demanding ransom payments in the Bit coin crypto currency.

NOTPETYA AND BAD RABBIT were other 2 major attacks that took place in this year.

Future Computer (Emerging Programming/Scripting) Languages

We are living in new smart generation. It is required to develop or upgrade to the new languages as there are technological changes that need to adapt. With new computer languages we could do it faster, smarter programming, with fewer bugs. This has been happening lately with the coming of the “**cloud**”. Depending on various aspects like culture, trend, requirements, infrastructure etc we need to go for a new computer programming languages or scripting languages.

If you organized programming languages into tiers based on their popularity, they would fall into three tiers. The **top tier** would include the mainstream languages such as **Java, JavaScript, Python, Ruby, PHP, C#, C++, and Objective-C.**

Second-tier languages are waiting to break into the mainstream but haven't quite made it. Scala, Go, Swift, Clojure and Haskell are languages that may come under the second tier. **Go and Swift** both have a good chance of moving from the second tier to the first over a couple of years.

The emerging languages like Elm, **Kotlin, Rust, Crystal, Elixir** comes under a **third tier**.

R: At heart, R is a programming language, but it's more of a standard bearer for the world's current obsession with using statistics to unlock patterns in large blocks of data. R was designed by statisticians and scientists to make their work easier. It's got most of what data scientists need to do data-driven science.

Highlights: Clever expressions for selecting a subset of the data and analyzing it

Headaches: Aimed at desktops, not the world of big data where technologies like Hadoop rule.

Java 9: Oracle has released Java 9 with rich set of new features. It includes various upgrades to the Java programming, JVM, Tools and libraries.

Highlights: Lambda expressions and concurrent code, Nashhorn JavaScript Engine etc.

Headaches: A bolted-on feeling makes us want to jump in with both feet and use Scala.

D: D is ascender of C language. It's meant to update all the logical purity of C and C++ while adding in modern conveniences such as memory management, type inference, and bounds checking.



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Science

Patience is the
companion of
wisdom.

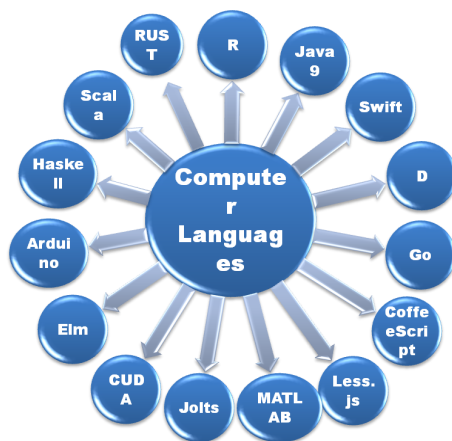
Swift: Apple introduced Swift to make users easy and that it would replace Objective C for writing for the Mac or the iPhone. Swift hides this information, making it much more like writing in a modern language like Java or Python.

Highlights: Dramatically cleaner syntax and less low-level juggling of pointers.

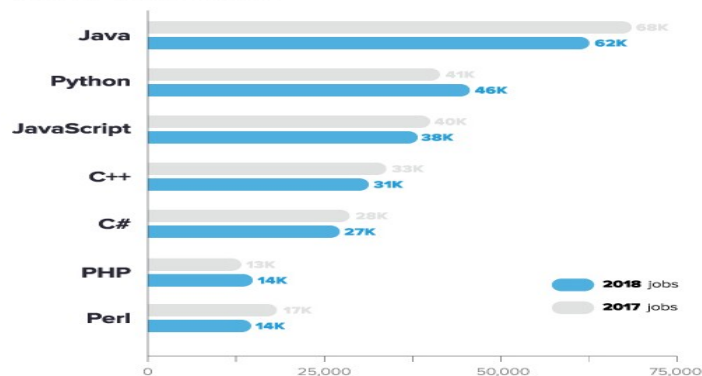
Headaches: The backward compatibility requires thinking about bits and bytes occasionally.

Go: Google decided and wanted to keep everything, as one creator said, "**Simple enough to hold in one programmer's head.**" There are no complex abstractions or clever meta programming in **Go** - just basic features specified in a straightforward syntax. **Clojure** is a dialect of Lisp, and shares with Lisp the code-as-data philosophy and a powerful macro system

Highlights: Just a clean, simple language for manipulating data.



Job postings containing top languages
Indeed.com - November, 17th 2017



CoffeeScript: To overcome the typing of semicolons and curly brackets like in JavaScript, Coffee Script was created. It has preprocessing tool that turns their syntactic shorthand back into regular JavaScript.

Less.js: Just like Coffee Script, LESS.js is really just a preprocessor for your files, one that makes it easier to create elaborate CSS files. It has simpler code.

MATLAB: The main advantage of MATLAB is that it is fast, stable, and used for **solid algorithms** for complex math. The drawback is that the math is still complex.

Arduino: Arduino isn't so much a new language as a set of C or C++ functions that you string together. The compiler does the rest of the work. You can read voltages, check the status of pins on the board, and of course, control just how those LEDs flash to send inscrutable messages to the people staring at the device. Mainly the world of devices is your oyster but it's largely C and C++.

CUDA: The CUDA language is a way for Nvidia to open up the power of their **graphics processing units (GPUs)** to work in ways other than killing zombies or robots. Some jobs, like mining **Bit coins**, are pretty simple, but other challenges, like sorting and molecular dynamics, may take a bit more thinking. CUDA code can be used in large, multidimensional simulations. **Highlights:** Very fast performance, at least for parallel code. **Headaches:** Identifying the easily parallelizable sections of code isn't always easy.

Seek not to understand that you may believe, but believe that you may understand.

Scala: Scala is one of the best-known, with one of the larger user bases. It was engineered to run on the JVM, anything we write in Scala can run anywhere as Java.

Highlights: Functional, but flexible enough to play well with others using the JVM

Headaches: Thinking functionally can be difficult for some tasks and applications

Haskell: Haskell is another good place for programmers to begin. It's already being used for major projects at companies like Face book. It's delivering real performance on real projects. Jolt is one of the options for massaging JSON data and transforming it. Simple filters can extract attributes to find them and morph them as you desire.

Elm: Elm is becoming popular within the JavaScript community, primarily among those who prefer functional programming, which is booming like Babel, Typescript and Dart,.k into the top tier.

Rust: Rust is a systems programming language that combines C-like efficiency and control over memory with functional language features such as strong static typing and type inference. The primary design goals are **Safety, Speed and Concurrency**.

Kotlin: Kotlin is a statically typed language that targets the JVM and JavaScript. Kotlin was born out of need at Jet Brains, was mostly written in Java. It was precisely common pitfalls that one encounters when writing software that shaped much of Kotlin's characteristics as **Conciseness, Versatile, Safe, Interoperable, and Tool-enabled**.

Crystal: Crystal is another language that hopes to bring C-like performance into the highly abstracted world of web developers. Crystal is aimed at the Ruby community, with a syntax that is similar to and, at times, identical to Ruby's.

Elixir: Elixir also takes a lot of inspiration from the Ruby ecosystem, but instead of trying to bring C-like benefits, it's focused on creating high availability and low latency systems. Elixir achieves the performance boosts by running on the Erlang VM. Distinguishing features are **Immutable data structures and no side effects, Supervision, Pattern matching, Actor-based, share-nothing concurrency with Very efficient resource and Hot-swappable code**.

ANALYSIS OF STOCK BEHAVIOR USING BIG DATA

Interpretation and Analysis are almost synonyms to the term "Big Data". Now, how is "Data" even different from "Big Data"? According to Emerson, et.al 'A data set is large if it exceeds 20% of the RAM on a given machine, and massive if it exceeds 50%'. Data Managers utilize the concept of "Reasoning" to discern meaningful patterns and behaviors of the given Data. This process can either require several inputs to produce a generalized output or single input to infer several outputs.

In a dramatic and stupefying world of computers, filled with nail biting inventions and improvements every moment, countless efforts are being made to make the everyday complexities a lot facile. According to Hand, et al intelligent information systems can aid and enhance decision making by applying specific reasoning tools: model-based reasoning, abstract reasoning, heuristic reasoning, procedural reasoning, analogical reasoning and case-based reasoning.

To seek the highest
good is to live well.



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As we have already stepped into “The intelligent Era”, no stone is being left unturned to extract “something” out of “nothing”. Organizations are re-enforcing new strategies and innovative methods to expand their businesses and increase the overall returns. According to Sampler JL the basis of competition is being fundamentally altered through the introduction of the Internet and other advanced technologies.

A stock exchange is a unit which facilitates stock brokers and traders to perform trading of stocks and other securities. Among the multitudinous stocks that promise wealth, selecting the right stocks for investment can perplex the investments in the right stocks can lead to expansion of personal wealth. Investors have always been keen to identify the stocks which show results that are almost close to their predictions and expectations. Generally speaking, there are two most often used analytical methods when one selects stocks to invest: fundamental analysis and technical analysis. Fundamental analysis mainly focuses on the listed companies' operation and financial status to forecast future profit/loss and one can then select stocks accordingly. Fundamental analysis mainly focuses on the listed companies' operation and financial status to forecast future profit/loss and one can then select stocks accordingly. As proposed by Chien-Jen Huang, et al technical analysis focuses on historical stock price movement, which might show a pattern or trend used by investors to forecast the future possibility of the rise/fall of the price, and the investor can then decide whether to invest or not. Oussaide`ne M, et al states that, Volume of stock prices traded per session is crucial in the forecasting methodologies.

Every second data is generated for the market and its format is different from previous dataset. To store and integrate these temporal data for the stock market is the biggest challenge. In current scenario, cost required for these data is affordable by few big investors. Investors from third and fourth world countries have acute.

UNIFIED THREAT MANAGEMENT SYSTEM

While threat management continues to be a top priority, it is more important than ever for cash-strapped security professionals to fully understand the functionality of intrusion defense tools in order to make good purchasing decisions.

Intrusion defense systems (IDS) and intrusion prevention systems (IPS) are a particularly confusing area because the products are so similar, the vendors are all the same, and even the acronyms are hard to tell apart. We'll explain the capabilities of each and how to decide whether you need one or both technologies.

Differentiating IDS and IPS:

An IPS is not the same as IDS. However, the technology that you use to detect security problems in IDS is very similar to the technology that you use to prevent security problems in an IPS.

It's important to start out with the understanding that IDS and IPS are very, very different tools. Even though they have a common base, they fit into the network in different places, have different functions, and solve different problems.

An IPS is best compared to a firewall. In a typical enterprise firewall, you'll have some number of rules: maybe a hundred, maybe a thousand. Most of those rules are "pass" rules: "allow the traffic through." Thus, the firewall gets a packet off the wire and starts through its rules, looking for a rule that says "allow this packet through."

Habit, if not
resisted, soon
becomes necessity.



SUDHA SINGARAJU

DEPT OF COMPUTER SC.

If it gets to the end of the list and there's no rule saying "allow this packet through," then there's a final "deny" rule: "drop everything else." Thus, in the absence of a reason to pass the traffic the firewall drops it.

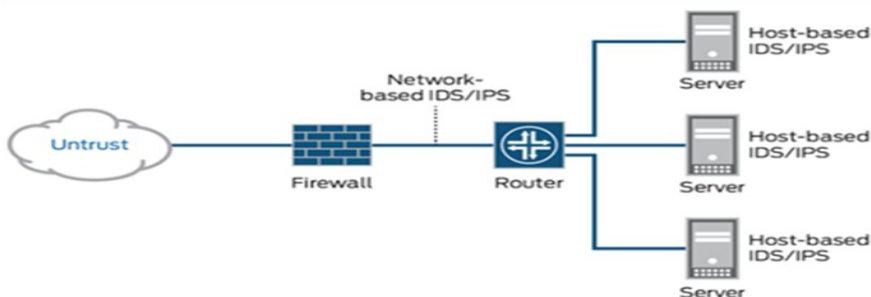
And IPS is like that, but inside out: it has rules, maybe hundreds, maybe thousands. Most of those rules are "deny" rules: "block this known security problem." When a packet shows up at the IPS, the IPS looks through its rule list from top to bottom, looking for some reason to drop the packet. At the end of the list, though, is an implicit "pass" rule: "allow this packet through." Thus, in the absence of a reason to drop the traffic, the IPS passes it through.

Firewalls and IPS are control devices. They sit in line between two networks and control the traffic going through them. This means that the IPS is in the policy side of your security house. It's going to implement or enforce a particular policy on what traffic is not allowed through.

The obvious affinity of firewalls and IPS from a topological point of view has led us to the world of UTM, where an IPS is incorporated into the firewall. UTMs let you have both security services (blocking security threats, allowing known good traffic) into a single device. We'll talk about the ultimate in compression of IPS and firewall, the UTM (Unified Threat Management) firewall later.

The main reason to have an IPS is to block known attacks across a network. When there is a time window between when an exploit is announced and you have the time or opportunity to patch your systems, an IPS is an excellent way to quickly block known attacks, especially those using a common or well-known exploit tool.

IPS can provide other services. As product vendors search to differentiate themselves, IPS have become rate limiting tools (which is also helpful in Denial of Service mitigation), policy enforcement tools, data leak protection tools, and behavior anomaly detection tools. In every case, though, the key function of the IPS is a control function.



HEY! HOW TO WRITE FLAWLESS

Are you confused about writing? Do you know the fundamentals of grammar? Confused? Not confident in writing? Hey we are in new smart technology generation. We could get in no time what we need in writing. Then wait for what? Let's go on writing. It could be an article, a book or simple messages. One of the best applications for boost up writing is "Grammarly.com".

The more
completely we focus
our attention on our
Creator and Lord,
the less chance
there is of our being
distracted by
creatures.

The nation... doesn't
simply need what
we have. It needs
what we are.

What is Grammarly.com? Grammarly's AI-powered products help people communicate more effectively. To say in a precise way Grammarly' is a free writing app that makes sure *your messages, documents, and social media posts* are mistake-free and impactful. Grammarly checks for spelling, grammar, word usage, sentence formation and even plagiarism. It is not a replacement for working with your instructor, a writing tutor.

It automatically detects grammar, spelling, punctuation, word choice, improving your vocabulary, suggesting style improvements in your writing. Your writing will be better than ever. Be confident that everything you **write is flawless**. Get Your Fix everything from subject-verb agreement to article use to modifier placement.

By Smarter: Grammar checking the app helps us to write properly. The Polish you expect gets by mistake-free and effective using this app.

Do Great Things: No matter what drives you, acing that big paper, being an all-star at work, or simply improving your everyday writing, it helps you put your best foot forward.

Write Confidently Everywhere: Grammarly helps you write mistake-free on Gmail, Facebook, Twitter, LinkedIn, and nearly anywhere else you write on the web.

It also offers a free browser extension for *Chrome, Safari, Edge, and Firefox* that corrects critical writing errors so you can write with confidence.

Users for Grammarly: Millions of writer's worldwide trust Grammarly's products, The users can be students to achieve academic goals and improve their writing in essays, reports, theses, dissertations, and college entrance applications. Professional users use Grammarly to provide expert help and credibility of their English writing in a variety of fields, such as *law, healthcare, academia, marketing, engineering, and journalism*. Grammarly can be an equally powerful tool for job seekers, foreign students and English language learners, and non-native English-speaking professionals.

Improve Your Skills: Grammarly isn't just a safety net. You'll get detailed explanations for all your mistakes and weekly progress reports to keep you on the ball.

Devices that support Grammarly app: It can be downloaded in your PC, Use native desktop apps (Windows and macOS), download Grammarly for Windows. With the free desktop app, you can drag and drop documents on the Grammarly icon to instantly improve your writing.

Internet of Things (IoT)

What it is and why it matters?

The Internet of Things is the concept of everyday objects – from industrial machines to wearable devices – using built-in sensors to gather data and take action on that data across a network. Simply put, the Internet of Things is the future of technology that can make our lives more efficient.

History of the Internet of Things

We've been fascinated with gadgets that function on a grander scale for decades, but it's only been in the past several years that we've seen the IoT's true potential. The concept evolved as wireless Internet became more pervasive, embedded sensors grew in sophistication and people began understanding that technology could be a personal tool



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as well as a professional one. The term “Internet of Things” was coined in the late 1990s by entrepreneur Kevin Ashton. Ashton, who’s one of the founders of the Auto-ID Center at MIT, was part of a team that discovered how to link objects to the Internet through an RFID tag. He said he first used the phrase “Internet of Things” in a presentation he made in 1999 – and the term has stuck around ever since.

Why is the Internet of Things important?

You might be surprised to learn how many things are connected to the Internet, and how much economic benefit we can derive from analyzing the resulting data streams. Here are some examples of the impact the IoT has on industries:

Intelligent transport solutions speed up traffic flows, reduce fuel consumption, prioritize vehicle repair schedules and save lives.

Smart electric grids more efficiently connect renewable resources, improve system reliability and charge customers based on smaller usage increments.

Machine monitoring sensors diagnose – and predict – pending maintenance issues, near-term part stockouts, and even prioritize maintenance crew schedules for repair equipment and regional needs. Data-driven systems are being built into the infrastructure of “smart cities,” making it easier for municipalities to run waste management, law enforcement and other programs more efficiently.

But also consider the IoT on a more personal level. Connected devices are making their way from business and industry to the mass market. Consider these possibilities:

You’re low on milk. When you’re on your way home from work, you get an alert from your refrigerator reminding you to stop by the store.

Your home security system, which already enables you to remotely control your locks and thermostats, can cool down your home and open your windows, based on your preferences.

How It Works :

In IoT discussions, it’s recognized from the onset that analytics technologies are critical for turning this tide of streaming source data into informative, aware and useful knowledge. But how do we analyze data as it streams nonstop from sensors and devices? How does the process differ from other analytical methods that are common today? In traditional analysis, data is stored and then analyzed. However, with streaming data, the models and algorithms are stored and the data passes through them for analysis. This type of analysis makes it possible to identify and examine patterns of interest as data is being created – in real time. So before the data is stored, in the cloud or in any high-performance repository, you process it automatically. Then, you use analytics to decipher the data, all while your devices continue to emit and receive data. With advanced analytics techniques, data stream analytics can move beyond monitoring existing conditions and evaluating thresholds to predicting future scenarios and examining complex questions.

Be at peace with
your own soul, then
heaven and earth
will be at peace with
you.

Freedom consists
not in doing what
we like, but in
having the right to
do what we ought.

IoT assess the future using these data streams, you need high-performance technologies that identify patterns in your data as they occur. Once a pattern is recognized, metrics embedded into the data stream drive automatic adjustments in connected systems or initiate alerts for immediate actions and better decisions. Essentially, this means you can move beyond monitoring conditions and thresholds to assessing likely future events and planning for countless what-if scenarios.

Impact on overall job growth:

It is no secret that IoT will have an immensely positive impact on the overall job creation and growth in many industries. The Jobs Report for December 2014 reported that 252,000 US jobs were created in December alone, and the unemployment rate dropped to 5.6%. IoT will only add to these numbers, as it will require companies to grow and expand their skill-set to hire professionals who possess the skills needed to properly implement the technology. All of this job growth will also boost the gross domestic product of twenty of the world's largest economies by 2030 by an additional \$14 trillion.

TWITTER ANALYSIS ON DEMONETIZATION USING BIG DATA

Twitter is an online news and social networking service where users post and interact with messages, known as "tweets". Twitter is the best online platform for the sharing information and opinions, twitter is ninth largest social network in the world, now it has 328 millions of active users per month, and Lakhs tweets per day. Users can tweet a current information in the form of text, video, audio or any format, the rest of the users can react on that tweets. In this way, information and reaction convey to the top level to the bottom level of the people at very fast. Twitter can be used as a source of data for social science research. As the clock struck 8:15 p.m. Indian Standard Time on November 8, 2016, the Prime Minister of India Narendra Modi made a live appearance on television to make a historic announcement; the higher denominations of currency would be demonetized to tackle the problem of black money.

As per the announcement by Indian Prime Minister Narendra Modi, after midnight of November 8, 2016, the 500 and 1000 rupee banknotes would no longer be a legal tender and would be replaced by an alternate newer currency to be launched. Many people applauded this historic decision, while others criticized this policy, as it was a shock to them. Social media (Twitter) plays an important role in expressing our feelings about an event. The expression of anguish, as well as pleasure, can act as a measure of acceptance or rejection of certain ordinances. Therefore, this paper makes a fair judgment about this government policy by using the concept of sentiment analysis. Sentiment Analysis is the process of detecting the contextual polarity of text. In other words, it determines whether a piece of writing is positive, negative or neutral. An alternative term is opinion mining, as it derives the opinion, or the attitude of a speaker. The tweets are classified as positive or negative or neutral based on the sentiments. To analysis such a huge amount of data we use big data technologies.

The term 'Big Data' is used for collections of large datasets that include huge volume, high velocity, and a variety of data that is increasing day by day. Using traditional data management systems, it is difficult to process Big Data. Therefore, the Apache Software Foundation introduced a framework called Hadoop to solve Big Data management and processing challenges.



Tayyaba Jabeen

MSc II (Dept. of CSc)

It is not enough just
to wish well; we
must also do well.

APPLYING BIG DATA ANALYTICS IN SPORTS

Sports is one of the sectors in which data analytics has greater value and has a great potential with major professional sports teams putting them to use. The data related to sports is very huge big-data mine. Storing gigantic data and retrieving in a useful manner is always a tedious task. Massive analysis is performed on a player selection based on player number. This is the reason why most of the major teams have data analytics experts. Apart from player analysis pre-match analysis, player profiles, sponsorships, team performances and fan preferences are also analyzed. Online sports is a multi dollar industry that is expanding everyday. It's being transformed by big data and people are trying to win money by betting on sports. Data analysts have massive data generated in sports and while retrieving data we should know which data is useful. Big data analytics can be applied to sports data in order to make decisions such as sports advertising based on fan-base, brands associated to sports etc. Big data is data sets that are so massive and complex that traditional data processing tools and mechanisms are incompetent to deal with them. Sports industry has recently started catching up to leverage by multiply revenue. From pre-match analysis to training, from coaching to player profiles, analytics can make a difference in scoring goals, signing players or engaging the fans. *Big data* challenges include capturing data, data storage, data analysis, search, sharing, transfer, visualization, querying, updating and information privacy.

With big data services, sports teams now have access to fan data from various sources like social media, the web & other channels of communication. By understanding how fans engage with the sport or a team's brand, decisions can be made about tailored sports advertising or broadcast content.

Fan behaviour directly affects the ticket sales & television ratings of a sports team. Television ratings transform to a better sponsorship & higher spend in the next season and that's how important fans could be for a team or a club. Fan data is a comprehensive aggregation of their feelings and expectations of the team's performance and achievements spread over the web. This data could come in from channels like social media, websites; anywhere on the web, actually. Teams consume this data in order to make quick clear decisions that resonate with the fans' feelings. Let's have a look at the type of fan data in the paradigm and how they can help teams and clubs to earn more trophies, get more sponsorships and increase net revenue.

Match analytics, as the game happens is useful to a number of people: managers and coaches who analyse player performance real time, real-time streaming to users with smart devices or possibly futuristic use cases where information is transmitted to the on-field referee or the 4th official. This includes LIVE MATCH ANALYTICS (REAL-TIME STREAMING ANALYTICS), PRE MATCH ANALYTICS, POST MATCH ANALYTICS.

The integration of Big Data Analytical concepts and methodologies with the sports data will greatly impact markets.



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**A kindness received
should be returned
with a freer hand.**

So an efficient predictive model is required for the user to understand the sports market trend. There are many predictive models which tell about the sports trend whether but they fail to give accurate results. An attempt has been made to build efficient predictive model of sports markets where the trend for the next game is predicted. Some sport enthusiasts or fanatics feel that too much technology in sports is killing the human factor in it. How can predictions and pre-match analysis change the true style of game? How can pure analytics drive out the mystery in playing a final or a big match? These factors may be subjective to deal with but “data never lies” and with big data analytics on the horizon, every bit of data can be used to extract value.

RECOMMENDATION SYSTEM IN SALES – AN ONLINE SHOPPING/SUGGESTING FRIEND

A recommender system or a recommendation system is a subclass of information filtering system that seeks to predict the "rating" or "preference" that a user would give to an item. Recommendation systems are based on actual user behavior i.e. objective reality. Recommendation systems are effective tools for personalization. Recommendation systems are always up-to-date. Most of the organizational maintenance of a site is keeping the navigation system in line with the users' changing needs. With recommendation systems, organizational maintenance is reduced. Based on user activity, the system recommends navigation options to the user. The recommendation system is still a very new technology, and there is a limited amount of people globally who correctly understand how it works. Mastering recommendation systems takes hard work and extensive experience in the area of AI. Additionally, as guidance systems become more and more involved, there is a constant need for specialists whose knowledge base has grown alongside the advancements.

Recommenders into two categories: the first and second order impacts: Refers to more immediate consequence of recommenders on firms such as increase in revenue, consumer usage, and retention. Refers to effect of recommenders on consumers and investigates consumer 's consumption diversity and overall firm's product sales diversity. Extant literature in consumer economics, marketing, and information systems research have identified many product attributes that influence purchase decisions. Relating to products sold online on e-commerce sites, the literature has identified information uncertainty related to product uncertainty and search cost to be one of the main deterrents in product purchase decisions.

There are two types of data that is collected to build a suggestion engine: Explicit source where one store the transaction and rating history of the customers and use them to find interesting and useful patterns. This kind of data is relatively easy to collect and analyze because it is so straightforward. However, the biggest problem with this kind of data is that one usually need to maintain an enormously large amount of it and use a lot of parallel computations to collect the needed statistics. In a view to cope that a variety of matrix decomposition methods and intelligent model-based data compression techniques are used (Bayesian networks or Restricted Boltzmann machines). Implicit data where one collect a lot of meta information about both clients and products to improve the way the system works. Usually, these methods are quite sophisticated (e.g., collecting behavioral clues based on browsing history, or comparing two songs if they are similar to each other regarding style) but finding interesting features out of loads and loads additional data



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**The world is a book,
and those who do
not travel read only
a page.**

takes this to a far more complex level. Machine's decisions to what to recommend is obtained either by : Similarity-based recommendations usually makes use of some variation of a nearest neighbor classifier. Different kinds of metrics are used to define closeness (e.g., instead of using classical Euclidean distance – it's empirically proven that the cosine distance usually provides better predictions). The downside of this metric is that it's not clear how to make a decision given an object neighborhood - as a result, it is usually not obvious how to make correct conclusions. Prediction-based recommendations - the model is only providing you with either a decision or a score, which makes final recommendations much easier to obtain. The most common ML algorithms used for such tasks are decision trees and random forest (like XGBoost) as they are not only relatively efficient, but also easy to understand and analyze once a model is trained.

ANSWERS FOR FEED YOUR BRAIN WITH CROSSWORD

Across:

1. Run 3. Email 8. Nibble 9. Program 11. Web
12. Depthfirst 15. Variable 18. Kernel 19. Browser 20. Coffeescript
21. Server 22. Bluetooth 23. GIF 24. Windows8 25 Star

DOWN:

2. URL 4. Android 5. Logical 6. Amazon
7. Firewall 9. Password 10. Merge 13. Polymorphism
14. Zigbee 16. Loop 17. Memory 21. Swift 25. SAP

IN LOVING MEMORY OF

K.Ambica, BSc 3rd yr Software engineering

Date of Death : 7th Feb 2018

We will never forget you dear Ambica. We will pray for you. May God give you eternal rest and the family the strength to bear the great pain.

Love is a fruit in
season at all times,
and within reach of
every hand.

