



Idea is a Dan. Dan is on Inception

QIS Institute of Technology



College Vision & Mission

VISION

To be an institute of excellence imparting quality technical education, imbibing with high academic standards and research to meet the global technical needs and real time requirements.

MISSION

- •To develop the institute as a centre of excellence with state-of-the-art infrastructure.
- •To impart quality instruction and preparing the learners professionally deft, intellectually adept to meet the global-techno requirements.
- •To inculcate research aptitude with pragmatic perception and Social responsibility.

Editorial Committee

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Chairman's Message

VIBES is particularly important as it encourages the Faculty & students to share the knowledge they have acquired. Writing articles for the magazine uso improves the communication skills of the budding engineers. It is common knowledge that representation of an idea is as important as, if not more important, than the idea itself.

VIBES represents a cloud with a silver lining for the world of technology. It aims to inspire and nurture upcoming engineers to bring a revolution in this ever evolving world of technology. The magazine captures the current technological advancements.

To conclude I would like to congratulate the faculty and the students of the editorial team on bringing out the issue of VIBES. I am glad to see that they have lived up to the high standards they had set with the edition and my best wishes to the students for a bright future.

Sri.N.Nageswara Rao



Secretary & Correspondent Message

Congratulations to the students and faculty associated to magazine committee for successfully publishing the issue of technical magazine "VIBES". When is creating platform which provides an opportunity to the students and staff to express their original thoughts on technical topics.

The magazine plays an instrumental role in providing exposure to the students to develop written communication skills and command over the language. It is a step towards building professional and ethical attitude in them. The entire journey of creating VIBES is an outcome of rigorous effort made by students and faculty. Students not only gain the knowledge about the latest technological developments and advancements through reading and writing articles but they also develop verbal and written communication skills.

This issue has expanded its scope by introducing articles by major stakeholders. Apart from students and faculty, inputs have been collected from alumni, parents and industry experts.

On concluding note, I would like to thank all the stakeholders for their involvement and encouragement and wish all the best for their bright future.

Dr. N. Surya Kalyana Chakravarthy



Principal's message

This is the issue of the Technical magazine. As the leader of the QISIT, VIBES, this issue is particularly special to me as it was a challenge to not only live up to the standards set by the previous issue but also set new ones. VIBES is all about the technology that inspires students to do something, that leaves an everlasting mark on the world of technology. Thus it was our job to ensure inspiring technological developments are being brought to the students of QISIT, by the students of QISITitself.

Since the team was experienced, having worked on this issue of the magazine, they knew exactly what had to be done and how it had to be done. I think we were lucky that we retained all members from the team behind the previous issues. Everything from collection of articles right down to the final edits was more or less smooth sailing. I worked closely with the team to ensure everything was done according to a schedule. The work was performed in an organised, almost professional manner and credits to my entire Impulse team, for their commendable job.

I would also like to thank every member of the VIBES team, without whose contribution, this issue would not have been possible. I hope you enjoy reading this magazine as much as I enjoyed working towards its creation and more importantly I hope that the articles in this magazine inspire you.

> Dr. C.V.Subba Rao Principal





Industry Reflections







Achievements



Biometrics: Future Scope

It is possible to confirm or establish an individual's identy based on "who she is", rather than by "what she possesses" (e.g., an ID card, key) or "what she remembers" (e.g., a password, pin). Biometrics are automated methods of recognizing a person's identy based on a physiological (face, fingerprints, hand geometry, iris, renal, vein, DNA, ear print) or behavioral (handwring, voice, keystroke) characterisc.

The need for biometrics can be found in government, military, and commercial applica ons example: worksta ons, network and domain access, single sign-on, applicaon logon, data protecon, remote access to resources, transacon security and websecurity.

Biometric recogni on can be done via verifica on/authen ca on (one-one) or idenficaon (one-many).

The authencaon process involves:

- Ϋ́ Sensing
- Ÿ Feature Extracon
- Ÿ Pattern Matching
- Ÿ Decision Making

Biometric traits are subject to:

- Ÿ Noiseinsenseddata
- Ϋ́ Intraclass variaon Ϋ́

Interclass similarity Ÿ

Non universality

Ÿ Spoofa acks

The above limitaons can be overcome by using Mulmodal Biometrics. Following fusion scenarios may be presented:

- $\ddot{\text{Y}}$ Single biometric trait, mulple sensors (2D and 3D image of face)
- Single biometric trait, mulple classifiers (combine PCA, LDA, ICA for face or minuae and texture based for fingerprint)
- Single biometric trait, mulple units (combine 2 or more fingers of single user or both irises)

Biometric cryptosystems are designed to securely bind a digital key to a biometric or generate a digital key from a biometric to benefit from the strengths of both fields. Ÿ Mul ple biometric traits (face, voice or face, fingerprint)

A par cular biometric must possess following characteriscs:

Universality (every individual must possess the biometric)

- ŸDisncveness (unique to each individual)
- Ϋ́ Permanence(invariant with me)
- ŸCollectability (measurable)
- Ÿ Acceptability
- ŸResistance to circumvenon.

However, a human characterisc that possesses all these properes has not yet been idenfied. As a result, none of the exisng unimodal biometric systems provides perfect recogni on and there is a scope for improving the performance of these systems.

Characteris cs like skin color, eye color, hair color, presence of beard, presence of moustache, height, weight, gait, keystroke, clothes color, ta oos, accessories, gender, ethnicity, age, height, weight and eye color though not unique and reliable, provide some informaon about the user. These characteriscs are referred as "so" biometric traits and can complement the iden ty informaon provided by the primary biometric idenfiers. These are easier to capture from a distance and do not require cooperaon from the subjects.

Although biometrics is a powerful tool against repudiaon and has been widely deployed in various security systems, biometric characteriscs are largely immutable, resulng in permanent biometric compromise when a template is stolen. Thus, there is the need to improve public confidence and acceptance of biometrics.

This privacy concern can be overcome by following emerging technologies:

Cancelable biometrics consists of intenonal, repeatable distorons of biometric signals based on non-inverble t ransforms or biometric sal ng which provide a comparison of biometric templates in the transformed domain. If a cancelable feature is compromised, the distor on characteriscs are changed, and the same biometrics is mapped to a new template, which is used subsequently. The applicaon of transforms provides irreversibility and un-link-ability of biometric templates, which prevents the use of same captured template for other applicaons.

Biometric cryptosystems are designed to securely bind a digital key to a biometric or generate a digital key from a biometric to benefit from the strengths of both fields.

For example: Bio-Hash. It requires storage of biometricdependent public informaon, which is applied to retrieve or generate keys, also referred to as helper data There are further challenges involved in biometric key generaon primarily due to drasc acquisi on variaons in the representaon of a biometric idenfier and the imperfect nature of biometric feature extrac on and matching algorithms.

> Mr. T.V.Subrahmanyam AC- CSE



Programming language Dictionary

A-Arithmec language developed by Grace Hopper in 1951.

B – Bell labs is a programming language developed at Bell labs circa 1969.

C-General purpose computer programming language developed by Dennis Ritchie in 1969.

D - Object-oriented mul-paradim system programming language.

E - Object-oriented programming language for secure distributed compung, developed by Mark S Miller, Dan Bornsen, in 1997.

F- Module-oriented, compiled and numeric computer programming developed for scienfic programming and scienfic computaon.

G-Numerical Control(NC)programming language. It is used mainly in computer-aided manufacturing for controlling automated machine tools.

H- Hack is a programming language for the Hip Hop Virtual Machine(HHVM), created by Facebook as a dialect of PHP.

I- Interacve Data Language (IDL), is a programming language used for data analysis. It is popular in parcular areas of science, such as astronomy, atmospheric and medical imaging.

J-Java is a general-purpose computer programming language that is concurrent, class-based, object-oriented, pla ormed independent language.

K-Is a proprietary array processing language developed by Arthur Whitney and commercialized by Kx Systems.

L-Larry McAvoy, with extensive help from Jeffrey Hobbs, Oscar Bonilla.

M-MATLAB (matrix laboratory) is a mul-paradigm numerical compung environment and 4th generaon programming language.

N– Net Logo is an agent-based programming language designed foe logo programming.

P- Perl (Praccal Extracon and Reporng Language) is a family of high-level, general-purpose, interpreted, dynamic programming language.

Q- Proprietary array processing language developed by Arthur Whitneyand commercialized by Kx systems .

R- Programming language and soware environment for stascal compung and graphics.

amoniferroria formanna Q

S- Is a stascal programming language developed primarily by John Chambers Rick Becker and Allan Wilks of Bell laboratories.

T- Programming language is a dialect of the Scheme programming language developed in the early 1980s by Jonathan A. Rees, Kent M. Pitman, and Norman I.

U- Ubercode is a high level programming languagedeveloped by Ubercode Soware and in 2005 for Microso Windows.

V- VHDL (VHSIC Hardware Descripon Language) is a hardware descripon language used in electronic design automaon to describe digital and mixed-signals systems.

W- WATFIV developed at the University of waterloo is an implementaon of the FORTRAN programming language.

X- XBL (XML Binding Language) is an XML-based mark-up language used to declare the behaviour and look of XUL-widgets and XML elements.

Y- Yahoo Query Language (YQL) is an SQL like query language created by Yahoo as part of their Developer Network . YQL is designed to retrieve and manipulate data from single Web interface

Z- Z notaon is a formal specificaon language used for describing and modelling compung systems.

Mr. P.Ramesh Babu Asst.Prof



Machine translation for Indian languages

Think if a Computer could understand languages like Tamil, Marathi or Bengali, rather than C, C++ or Java. But for us the queson is, if the digital systems can ever process natural languages. Natural Language Processing is a field which works in the same direcon.

Being a mullingual Country where languages change a er every 50 miles and 22 languages as official. The need for Machine Translaon is much required. Changing the source language to a target language will become very easy as researchers from various fields working on different projects trying to make it happen. Machine translaon, a field of Natural Language Processing has evolved in India. For a country like ours, it is important to have a system where communicaon becomes easy. However, it's relavely a new field in India, many projects under the government of India and other prominent instutes have been undergoing. The emphasis has mainly been on the English to Indian Languages, but at the root level, it's required to have a translaon system which will translate from one regional language to another.

Indian languages have their own set of problems with the large character set in comparison with English language and to resolve the ambiguity. Hence the scope for researchers is to work in these two areas of machine translaon so that we can one day have a system which communicates in Natural Languages.

> Mr. S. Janagi Raman Asst.Prof

Changing the source language to a target language will become very easy as researchers from various fields working on different projects trying to make it happen.



7 Surprising Facts about Google

Here's a fact that everyone owning a piece of technology is aware of: Google is your number one search engine. Not only is it a portal to access everything you'd like to know, but it also acts as an amazing backup when your parents come to check up on you (don't give me that look, we know that whenever you noce anyone else looking at the screen over your shoulder, you change tabs to Google.com and just stare at it unl they leave). However, here are some, rather interesng facts about Google that you may not know.

FACT 01:

When you perform a Google search, the machine checks the Google index to determine the relevant search results to be displayed to you. The search engine considers 200 factors before displaying you the best results for your query. Google uses a special algorithm called the Googlebot to generate search results. When Google was founded in September 1998, it served around ten thousand search queries per day. Currently, there are more than 2 million Google searches per second.

Somemes, the results are rather surprising.

Google

voldemort is

voldemort is harry's father fanfiction voldemort is harry's grandfather fanfiction voldemort is like a teenage girl voldemort is going down

FACT 02:

Google owns a cluster of domains such as, Google.com, Gogle.com and Googlr .com which directs to Google.com, which is completely reasonable. However, Google also owns 466453.com. If you take a look at your telephone keypad, you will noce that the numbers match up to the le ers as so: 4 - GHI, 6 - MNO, 6 - MNO, 4 - GHI, 5 - JKL. 3 - DEF, thus making 466453 as Google. So, if on typing any of these knowingly or unknowingly, it doesn't take you to some strange page. Instead, you'll land up on Google.com only.

FACT 03:

When Google was founded in September 1998, it served ten thousand search queries per day. Currently, there are more than 2 million Google searches per second. The search engine finds a trillion unique URL's on the web. Crawls many billion sites a day and processes numerous searches every month.

FACT 04:

Google takes on the best projects that could change the world for millions of people. In 2012, Google introduced the Cherokee language in Gmail, which is the first Nave American Tribal language added to its list. As part of this effort, Google also added Cherokee to its recently launched virtual keyboards for Gmail.

FACT 05:

On August 30, 1998 the concept of the Google Doodle was formed when company co-founders Larry Page and Sergey Brin placed a simple sck-figure drawing behind the second "o" in the word "Google". To nofy the Google users that the founders were "out of office" at the Burning Man fesval in the Nevada desert they made the first Google logo art.

FACT 06:

Google's search index is so huge (100 million gigabytes) in size that it would require about 100,000 one-terabyte personal drives to store the same amount of data.

FACT 07:

The only company with a clear goal to reduce the amount of me people spend on its site might be Google. Google engineers are encouraged to spend about 20 percent of their work me on projects that interest them using a policy oen called as Innovaon Time Off.

Mrs. K.Santhi Rani

Asst.Professor



Strive for "The Best"

With the startups like Housing.com, Flipkart, Zomato, Browserstack, etc climbing the ladders of success, We all want to work with the most innovave minds or rather have a startup of our own. May be working with an MNC and end up being the key/best performer. Well, there is always a flip side to it where you end up with just another job and start cribbing everything around you due to the frustraons, lack of opportunity to prove yourself, internal polics, not finding the best suited job. Etc etc...

There is only one way to be on the former side and that's only if you "Strive for THE BEST".

Everyone aspires for something different. Be it a specific job tle, a big dream to chase, a parcular spouse. Nothing wrong about it, especially considering needs of any single person does not remain stac over their lifeme, but evolve to match their circumstances at the me. Obvious, isn't it? Yet, some of our strives seem, well, unnatural at best. What do I mean?

If you imagine a tree, its history, the legend behind it, what do you see? It starts with a single stalk, then first leaf, then trunk manifests itself, then you get branches, with more and more leaves and even more branches. Environmental reality can and will affect the process. Winds will blow, shaping the tree in an awkwardly aerodynamic shape, allowing it to grow more easily. Every now and then, a fire will sweep the area – hopefully the tree will be big enough to sustain it. Mistletoe will prey on it, as will several insects, birds and other beings. What will the tree do about it?

Keep on growing. I've never heard of a tree – or any other living organism – to voluntarily stop growing. To decide 'it's big enough'. To sele for whatever the reality gives them.

Only one species is the excepon to this rule. Some call it homo sapiens, other menons the mankind, yet others are honest enough to simply look in the

mirror. Yes, we're this very special species. We voluntarily give up our chances to achieve something more, to become someone be er, to posively and acvely affect our reality.

And we do have plenty of excuses, most of them easily disnguishable by the word 'anyway'. "I couldn't have pulled it off anyway". "They would get there first anyway". "He would've declined me anyway". With all my goodheartedness, the only descripon of all these excuses I can give is lame. No excuse is good enough to sele for the next best thing.

"But what if I fail?"

Oh, sure, you will, several mes to be honest. In fact, it doesn't really ma er. You fail, you draw conclusions, you evolve, you keep calm, you carry on. That's it. This is how the greatest invenons are made. This is how people become genuinely happy in their life. This is how they die fulfilled, not grumbling, like the rest of us.

What does it take to get there? It's actually easier than you think. If we were to be all managerial and play with SMART (Specific, Measurable, Achievable, Realisc, Timeboxed) goals, you could either magnify the goal tenfold, or decrease the me box ten mes. Then figure out, what would be necessary to get there. And, while you might be worried it wouldn't get you anywhere, you'd actually be wrong. Let me give you an example.

Imagine I asked you to walk 3 kilometers (2 miles) in an hour. It's easy, for any healthy adult. If I ask you to do the same in 10 percent less me (54 minutes), it would've changed nothing. You'd just walk a bit faster. Move within the processes you already know, yet improve them slightly. Now, if I ask you to get reach the same distance in one-tenth of a me (6 minutes), that's an enrely different story. Merely doing the same thing – walking – yet 10 mes faster, is not an opon. It's actually physically impossible. What would you do then? If you're really fit, it is possible to do it on a bicycle. It's, obviously, easily achievable using any available car. It's nothing of a challenge if you can ride a motorbike.

Can you see what happened here? By simply taking on an extremely ambious - impossible to achieve using your regular mode of operaon – goal, you've forced yourself to think outside the box. You've actually opened the window of opportunies.

It's the same with every single thing in our life. Thinking of a dream job, far beyond your seemingly achievable posngs? Just file your resume. Worst case scenario, nothing will happen. Odds are, you'll receive some feedback—like "you do not have enough experience in the areas of A, B and C". Fantasc, now you know what to do to get there. I got to work with industry-best this way. A empt, rejecon, feedback, conclusion, improvement, another a empt leads to success. That's how it works. They say persistence is the key to success – and it might actually be. Why only 'might'? Because if you don't know how superstars think, you're likely to be amazingly persistent doing the wrong thing, the wrong way.

It's not only about career. See that fancy Porsche parked there? Is it something you'd really like, yet can't afford? Well, how do you know you can't? Do you know how much the car actually costs, what are the monthly payments and so on? If not, then why would you limit yourself arficially?

See that someone over there, the popular one, which you'd dream would live with you 'happily ever a er'? Why wouldn't you just come over and try? Sure, you can get rejected – but then you know what might not work on this kind of person. Lesson learnt.

Then, how about providing something new for the mankind, like shedding some light into their lives? You try it once, twice, thrice, fail, fail, fail. On one hand, it doesn't really look promising. On the other hand, you've just learned three ways how doing it wrong. Several hundred failures later, you've made it. Congratulaons, Mr. Edison!

It is unnatural for any being to limit itself voluntarily. This is not how we change ourselves, how we change our reality, how we change the world. Whatever you do, aspire for the best. If you fail, learn from it, modify your approach, then do it again.

Blind persistence is a fantas c pathway to the exceponal mediocrity. Persistence in adapng and striving to achieve the best can put you in the stars.

A small mantra of success by Donald Trump:

Focus on the Present	
Fail Forward	
Think big	
Do what you Love	
Stay Posive	
Passion is Power	
Experience is Priceless	
Be Persistent	
Get the job done	
Fighng for Something you believe in	

Gopal Kharwat Manager – Human Resource Zycus Inc.

3D Printers

What is 3D Prinng?

3D prinng or addive manufacturing (AM) is the use of one of various processes to make a three-dimensional object. In 3D prinng, primarily addive processes are used, in which successive layers of material are laid down under computer control. These objects can be of almost any shape or geometry, and are produced from a 3D model or other electronic data source. A 3D printer is a type of industrial robot.

You've heard of 3D prinng from newscasters and journalists, astonished at what they've witnessed. 3D Printer is a machine, which can "print" using plasc, metal, nylon, and over a hundred other materials. It can be used for making nonsensical lile models like the overprinted Yoda, yet it can also print manufacturing prototypes, end user products, legal guns, aircra engine parts, innovave jewelry design and even human organs using a person's own cells.

How 3D Prinng Works?

It all starts with making a virtual design of the object you want to create. This virtual design is made in a CAD (Computer Aided Design) file using a 3D modeling program (for the creaon of a totally new object) or with the use of a 3D scanner (to copy an exisng object). This scanner makes a 3D digital copy of an object and puts it into a 3D modeling program.

To prepare the digital file created in a 3D modeling program for prinng, the soware slices the final model into hundreds or thousands of horizontal layers. When this prepared file is uploaded in the 3D printer, the printer creates the object layer by layer. The 3D printer reads every slice (or 2D image) and proceeds to create the object blending each layer together with no sign of the layering visible, resulng in one three dimensional object.

Methods and Technologies of 3D Prinng: Some methods use melng or soening material to produce the layers. Selecve laser sintering (SLS) and Fused Filament Fabricaon (FFF) are the most common technologies using this way of

This special prinng method allows you to display 3-D models to customers that are fully funconal and look very much like the real thing. prinng. Another method of prinng is to lay liquid materials that are cured with different technologies. 3-D Prinng Advantages:

Shorter response mes

Three-dimensional prin ng allows businesses to construct working models in just hours instead of days or weeks.

Lower Cost Generang prototypes with 3D printers is much easier and cheaper than making molds.

Superior Surface Finish

Certain three-dimensional prinng methods enable the producon of objects with excellent surface features. This makes it very easy to create construc on models or prototypes for a wide variety of projects within many industries.

Durability

The objects obtained in many types of 3-D prinng are quite long lasng and durable, as they do not absorb moisture or warp over me.

Funconal Models

This special prinng method allows you to display 3-D models to customers that are fully funconal and look very much like the real thing. This enables you to demonstrate how a product operates in a straigh orward fashion, as opposed to a model that can be viewed only with computer assistance.

VISHVA 3D Printer builds concept models, func onal prototypes and end use parts in standard. It's the professional 3D printer based on FFF (Fused Filament Fabricaon) Technology. This Technology is clean, simple-to-use and office-friendly. Complex geometries that would otherwise be problemac become praccal and easy to understand with FFF Technology.

VISHVA 3D Printer process starts with imporng an STL file of a model into a Pre-processing soware. It operates in X, Y and Z axes, drawing the model one layer at a me. It works by melng filament material that is deposited, via a print head, a layer at a me, onto a build plaorm according to the 3D data supplied to the printer form SD card. Each layer hardens as it is deposited and bonds to the previous layer.

3D Printer Use for Various Applicaons such as:

- Ϋ́ Prototypemodelmaking
- Ÿ Educaon
- Ÿ Automaon industries
- Ÿ Designand Engineering
- Ÿ Research
- Ÿ Architecturemodelmaking
- Ϋ́ Toymanufacturer etc.

Importance of 3D printer in Industries

Quality and speed are crical to your product's success. As the pace of product development increases, industrial designers are pushing the envelope to bridge the gap from concept to producon in the fastest me possible.

3D prinng processes allow for mass customizaon the ability to personalize products according to individual needs and requirements. Even within the same build chamber, the nature of 3D prin ng means that numerous products can be manufactured at the same me according to the end-users requirements at no addional process cost.

Among automaon and architecture 3D prinng has become more and more popular over the last few years. Although a 3D printer is not to be expected in every Automaon/architecture office yet, that will change soon given the enormous rate of adopon in this field. They use desktop 3D prinng to research shapes in prac ce and to make scale models to convince prototype.

3D Printer for Educaon

3D prinng is a technology that allows users to turn any digital file into a three dimensional physical product. VISHVA 3D printer can be performed in the regular classroom well, i.e., during the lecture, do not make much noise while composing an object. It is also clean, durable and don't require intensive maintenance.

3-Dimensional prinng is a revoluonary and innovave technology that can truly introduce new methods of learning and understanding concepts that tradional means can't. As the costs of the devices connue to come down and their applicaons increase, there is no doubt that this is an emerging technology that will become more common place, and more valuable, in educaon.

Why 3D Printer for Educaon?

- Ÿ It provides teachers with 3 dimensional visual aids that they can use in their classroom parcularly in illustrang a hard to grasp concept.
- ÿ 3D printer makes it easy for teachers to seize the interest of their students compared to just showing the pictorial representaons of objects.
- İt enhances hands-on learning and learning by doing.
 Using this prototyping technology, students will be able to produce realisc 3 dimensional mini-models (Great for engineering, architecture, and mul media arts students).
- Ÿ It provides more room for interacve class acvies.
 In biology, for instance, teachers can create a 3D

model of the human heart, head, skeleton...etc to teach students about the human body.

3D Prinng has caught a enon of educators who are looking into ways to incorporate it into the classrooms of colleges and even schools

- Ÿ Biology students can study cross-secons of hearts or other organs.
- Chemistry students can print out complex molecules to study.
- Ϋ́ Engineering students can print modified car or robot parts.
- Ÿ Geography students can print out topography, populaon or demographics of an area.
- Ÿ Graphic students can create prototypes of product designs.
- Food technology students can design molds and cookie cuer templates.
- Ÿ Design and Engineering students can make prototypes of their creaons.
- Ÿ Architectural students can print new or exis ng designs.
- Ÿ History classes can print ar facts for closer examinaon.

The Future of 3D Prinng

This is a disrupve technology of mammoth proporons, with effects on energy use, waste, customizaon, product availability, art, medicine, construcon, the sciences, and of course manufacturing. It will change the world as we know it.

It is predicted by some addive manufacturing advocates that this technological development will change the nature of commerce, because end users will be able to do much of their own manufacturing rather than engaging in trade to buy products from other people and corporaons.

> Amit Donda & Vikas Natuskar MudraTech



Domain Naming

E-mail has become an integral part in modern communicaon. It is a speedy form of electronic communicaon. Today, e-mails are used for both personal and for business communicaon. Thus, it can follow both formal and informal approach. However, when you write e-mails for business communicaon, it needs to be formal. Many people sll find it difficult to write e-mails professionally and thus I am stang some main points to signify on while wring an e-mail.

An e-mail message is mainly divided into two secons, the header and the body. The header contains the recipients' addresses, while the body comprises the main message that is read by the recipients. A domain name is an address in the textual format that uniquely idenfies a website on the Internet. For example, consider the domain name www.yahoo.com. Here, .com is idenfied as the top-level domain. As the name specifies, the top-level domain represents the objecves of the website and categorizes the websites.

The following table describes some top-level domain names, their descripon, and some examples.

Domain Name	D escriptio n	Examples
	Used by websites of business	www.ebay.com
. c o m	organizations	w w w .am azon.com
	Used by websites of educational	
edu	institutions, universities, and	w w w .career.edu
.eu u		w w w .harvard.edu

E-mail has become an integral part in modern communicaon. It is a speedy form of electronic communicaon. Today, emails are used for both personal and for business communicaon.

The header of e-mail contains the following fields:

To: You need to write the recipient/recipients' e-mail address in this field. The e-mail addresses menoned in this field are the primary recipient's. For example, natasha@yahoo.com.

Cc: It stands for carbon copy. In this field, you include the e-mail addresses of those persons who are not the primary recipients. However, you want to keep such recipients informed about this communicaon.

Bcc: It stands for blind carbon copy. In this field, you include e-mail addresses of those people who are not the primary recipients. However, you do not want the primary recipient to know that you have e-mailed the same message to other recipient.

Subject: Includes the subject of the e-mail where you specify the synopsis of the enre e-mail.

The body of e-mail can be divided into:

Opening: The opening of the e-mail is its introducon paragraph. In this paragraph, you acknowledge the recipient, introduce yourself or open a chain of communicaon.

For example, Respected Sir/Madam, Hi All, Dear Friend.

Detailing: The detailing is the actual content or body of the e-mail that consists\ of the main paragraph/ paragraphs where you express your ideas or messages.

Closing: The closing includes the conclusion or the summary of the e-mail. The concluding paragraph where you thank the recipient, add hyperlinks (if required), set me frames for the next communicaon, and conclude by sign off.

Guidelines for E-mail Wring

To ensure clarity in your business e-mails, adhere to the following guidelines:

Use an appropriate subject line: The recipient gets the first impression of your e-mail from the subject line. Oen, recipients priori ze reading an e-mail by reading its subject line.

Should not be blank: The subject line of the e-mail should not be blank. At mes, the recipient might delete the file, if the subject is missing. Moreover, the subject line makes the recipient think about the message.

Should be self explanatory: Recipients get confused when they receive e-mail with ambiguous subject line. For example: Important, please read. It does not menon why it is important. The subject line should be like an informa ve headline. It should summarize the enre

content of the e-mail.

Can be in form of a queson: When you are wring an email to receive an answer of a queson quickly, you can just write the queson in the subject line. However, this is applicable only when you know your recipient well such as between colleagues and friends. For example, "At what me we are going to meet?"

Use an appropriate greeng: Begin your e-mail with a gree ng such as Dear Natasha, Hi Bella, or Dear Sir/Madam.

Keep the message short and simple: E-mails should be short, maximum 4-5 paragraphs. It should be clear and concise. If you write unnecessarily long e-mails then you are wasng the recipient's me. In case, you want to write more, write it in a document and send it as an a achment.

Quote accurate data/facts: Ensure that you send the correct message. For example, you are sending e-mails to inform the growth percentage of the company and you make mistakes in the percentage. Therefore, the recipient gets the incorrect informaon.

Use business English: Use formal language and use standard spelling, punctuaon, and capitalizaon.

Use standard font and colour: Use fonts that are easily readable. Choose colour carefully. It should not create any distracon in recipient's eye.

Proofread and check spellings before sending the email: Proofread the e-mail to ensure that it contains the accurate message and is error free. For example, you are informing your colleagues the mee ng me. The meeng me is 5 pm and you menon 6 pm in the emails.

Email Eque es

Follow the e-mail eque e for wring an effecve e-mail:

- Always read the complete e-mail before framing your reply.
- Ϋ́ Writeshort sentences.
- Ÿ Ensurethatthegrammariscorrect.
- Ÿ Keepthelanguagesimpleand professional.
- Ÿ eaccurate while providing informaon.
- Ÿ Avoid spelling mistakes.
- Provide a subject that summarizes the content of the enre mail.
- Ÿ Maintainaposivetone.
- Ÿ Introduce yourself and provide a proper sign-off.
- Ÿ Checkthesize of the a achments before sending.

In addion, keep the following points in mind:

- $\ddot{\mathtt{Y}}$ Use fonts that are readable and easy to understand
- Ÿ Urgency of the message should be indicated in the subject line. If urgent, type Urgent. If it is not urgent then indicate FYI (For Your Informaon) before the subject line.
- Ÿ Avoid 'SHOUTING' that means do not write the complete e-mail in capital le ers.
- $\ddot{\mathtt{Y}}$ Usebold/italics/underline for emphasizing text.
- Ÿ Avoid sending spam mails. Spam mails are defined as unwanted e-mails that are sent to a large number of users specifically for adver sing the products by unethical marketers.
- Ϋ́ Avoid using chat language, acronyms, and emoons.
- Ÿ Avoid humour, jokes, and sarcasm.

Do not send e-mails to discuss confidenal ma ers such as disciplinary ac on, conflicts, and personal complaints about co-workers.

Mervin D'silva



Trade of Industry

With the final year of engineering already commenced, a job in the IT industry is very much on the horizon for the many of you pursuing placements. The realizaon that we'll soon be out of our well protected college environment and fighng it out on our own in the industry can elicit feelings of both excitement as well as apprehension. As someone who's only recently made this transion, I'll try and provide my two cents on your much awaited adventure, hoping to quell some of the anxiety while trying not to dampen any excitement.

So what are we precisely talking about today? As I've already provided an inkling, we're going to talk about what to expect and what not to as a freshman in the IT industry. Be warned though, this is by no means a comprehensive guide on the topic rather a small musing I could conjure when asked to share my experience in a brief arcle. Secondly, I'll be primarily looking at the issues from the POV of a programmer given that is what I do at Tejas Networks, Mumbai.

Ha! You are a programmer, so you're going to talk about programming?

Exactly, nice guess Sherlock! There's not a radical difference between programming in college and programming on the job. Somemes, it feels like you're sll sing in your college lab performing one of your pracces. The major difference is in the appreciaon of concepts, you understood in college, but had second thoughts about their praccal applicaon. An enterprise level code stack is the best embodiment of Object Oriented Programming (OOP) concepts like Abstracon, Polymorphism, and Inheritance to name a few. While programming in college meant accomplishing a task by hook or by crook, assignments on job require you to do the same while paying due consideraon to the soware resources like memory and me which are no longer infinite. So striving for the most efficient way to do a task, would always be appreciated in the industry.

That's nice for starters. What else should I be looking out for?

Every task you take up, make sure you know and learn as much as possible about it. As long as you deliver what is asked for, hardly anyone will bother about the level of understanding with which you carried the job out. Make sure you're the one who bothers about it. Responsibility and accountability are further qualies which will stand you in good stead irrespecve of the profile of your job. Remember your doing well and be accountable about the development Changing the source language to a target language will become very easy as researchers from various fields working on different projects trying to make it happen. and fixes you've been responsible for. Managers love nothing more than an employee assuming responsibility of his task and them not having to intervene and bother about it.

Is there more yet?

Yup, some final thoughts before we call it a day with a small discussion on one of the tools we use in the industry. Once you've seled into the job and grown familiar with the code base and the ways of working, it's really easy to stagnate. Be sure you're always learning something new, taking away something from every task/project you're assigned. Not ignoring that convoluted piece of code which involves funcon pointers and macros for example. As I already menoned, the onus is on you to keep developing, keep progressing, keep gaining knowledge. Don't stay in your cocoons, safe and dy in your comfort zones. Move out, interact with other people; people from other departments. Use lunch me chats get a sense of what's happening in the company. Catch hold of that sales guy, see what the customer support guys are upto, observe what funcon do everyone carry out and where do they fit in this big machine, i.e. your company.

Wow, that's probably a bit more advice than I bargained for. I guess we can finish off with that tool you menoned some way back?

Well, I guess it turned out a bit more long winded than what I hoped for. Anyways, moving on to the tool. I was actually asked to discuss any technology we employ in the industry. Now, given that I work in the Networking domain, I'm well disposed to discuss one of the networking technologies. But I won't, since it obviously won't be pernent to the majority of you guys who won't be doing anything related to networks. Instead I'll briefly make a point or two about a tool which all code based companies use. Cung the long story short, I am talking about the Versioning system, more specifically Git. Companies use versioning systems for a vast variety of reasons. It helps them keep track of changes being made to the overall code base and the people who make those changes (something we call 'blame' in Git.) It helps employees to keep a track of changes they've made and the files containing those changes. Enables easy reversal of changes in case they're now longer required or worse, they've broken some other funconality. Git and CVS are the most commonly used versioning systems out there in the market. I'd sincerely advise you guys to use one of them, preferably Git, to maintain your final year project code. You'll realize it's much more dier than emailing updated files to each other and is worth the inial hassle of installaon and learning the ways of the system.

That's that then. Hope this lile discussion was worth your me and helped ease some anxiety as I promised.

All the best for your future endeavors.

-Airaza Punjani R&D Engineer Tejas Networks India Ltd.



How to crack Campus placement Interviews

Most of the placements processes that take place on-campus follow the following steps: Aptude Test Technical Interview

HR Interview

Given below are some of ps that can help you crack these interviews and g placed through campus placements:

1. Most of the aptude tests consist of basic school level maths, logical and verbal quesons. You can pracce these quesons through various online websites such as indiabix.com or from books such as the RS Agarwal book. You might not need much pracce if you were good at maths in school.

2. Prepare well in advance for the technical interview. The panel might ask you any quesons from any of the subjects that you have studied since first year. Also make sure you know the syllabus of the subjects that you have in your current semester. Preparing for interviews/placements is no excuse to neglect your college studies.

3. During the interview, be calm. The company is here because they want to hire you as much as you want to be hired. When aske sequeson it's alright to pause and take a moment to collect your ideas.

4. In the HR interview, the panel will ask you be and weaknesses, your background, why the prepare such quesons in advance. It's not a your strengths and you sit and wonder what thos candidate should have evaluated themselves before esons about your strengths id hire you etc. You should sign if the panel asks about re while in front of them. The anyone else can.

I hope this helps you in geng the basic campus placements. I wish you all the best

ow to go about preparing for

Swathi Chava Batch-2014

Time - Management

ur Time Management Philosophy Now! Streamline your Time.

The is the next view is source and needs to be managed properly to ulize its fur beams, which been quoted that Time travels like an arrow, but according to me in this century I would slightly twist the quote and conclude that "Time travels faster than light". We complain that we run short of me, even though we have full 24hrs in a day. This is due to lack of proper me management. Poor me management prevents you from compleng your work on me, thereby causing you a lot of stress. By managing me properly, you can organize your work systemacally and relieve yourself of stress caused by the overload of unfinished work. Most people consider me management as the simple concept of maintaining a diary and planning ac vi es. However, besides maintaining a diary and planning acvies, effecve me management also helps you to schedule and priorize your acvies.

Time management helps you in several ways.

For example, it helps you to:

- Ÿ Plan each day efficiently.
- Ÿ Reduce stress.
- Ÿ Set and work towards achieving long-term goals.
- Ÿ Get rid of acvies which waste me.
- Ÿ Reduce me pressures.
- Ÿ Find me for creave thinking.
- Ÿ Find me to relax and enjoy life.

There are several techniques that you can use to manage me effectely. Some basic techniques for me management are:

Avoid procrasnaon: Procrasnaon is the habit of pung things

off for a later date. As a result, work piles up so high that any amount of effort does not seem to be enough to get it finished. To avoid this problem, resolve not to postpone what can be done today.

Delegate work appropriately: Delega on means transferring the iniave and authority to another person for performing a task. Delegaon saves your me and helps in developing the skills of subordinates. Do not do the tasks that your subordinates are supposed to do. Delegate as much as you can so that you can use your me for doing tasks that require a higher skill level.

Learn to say "No": People oen make the mistake of saying 'yes' to everything they are asked to do without actually analyzing whether they have me to do it. You might find it difficult to refuse somebody's request for your me. However, you need to learn to decline their request politely, but firmly. Effecveness at work depends on knowing what not to do. Over-commitment can cause you a lot of stress and can be harmful for your health. However, saying "no" might not be possible all the me. In such a case, you might try saying "I have other commitments..." or "I am sorry, even if I want to, I would not be able to squeeze it in my already ght schedule".

Set up a roune: People usually like to do things when and how they feel like doing them. Although, this gives them a lot of freedom, it wastes a lot of me and energy. To avoid this problem, set a roune for doing certain things at a certain me daily and in defined me duraon. Then sck to that roune everyday.

Divide large tasks: Large tasks should be broken into a series of small tasks. By creang small manageable tasks, the large task looks more achievable, thus reducing mental stress due to the enormity of the task. Also, it is easier to delegate smaller independent tasks to your team so that your workload is reduced and the work gets done.

Define goals: It is difficult to manage your me effecvely if you are not clear about your goals.

Time Stealers

For effecve me management, you need to know which

aspects of your personal management need improvement. Somemes you agree to take on things which have no benefit to you in the long run. You do it only to help a friend in need or at mes to avoid monotony of work, or maybe just because you think you will be able to pull it off without wasng me. However, each and every distracon from your schedule, costs you me and me stealers squeeze out me from your important scheduled projects, leaving you with lesser me and more work. This, in turn, can make you overworked and stressed. Some common me stealers are:

Personal e-mail: Do not use valuable work me to send and receive personal joke-sharing or other distracng emails. Sending and receiving personal e-mail messages during office hours exhibits poor work ethics and causes a lot of distracon from your scheduled work. Plan to check your e-mail two or three mes a day only. Allot me in your schedule for answering important email messages. Use a good spam filter to avoid junk mail and delete unnecessary emails to keep your inbox light. Archive project-related e-mails under the name of the project. This will help you find an important e-mail when required.

Telephone calls: Long telephone calls are a big wastage of me. Do not make or receive unofficial telephone calls during office hours. Use voice mail message to let people know you will return their call at a parcular me during the day.

Let people who answer the phone for you know that you cannot be interrupted during a defined working hours. Return the call if it is important. Promoonal or sales calls need not be returned.

Peers and colleagues wanng some files or report: Help your peers and colleagues understand that you are involved in a high priority project and are pressed for me. Give them a me at which they can get their quesons and issues answered. In case the files required are urgent and serve as dependencies for the compleon of another project, you must help. Set firm boundaries when people come to chat with no clear business purpose.

Internet browsing: Be careful about being drawn in by the Internet. Doing some research on the Internet can lead to distracons such as online shopping or browsing through interesng sites that are unrelated to your current project.

The Internet can be a huge distracon, while at the same me a necessity. Learn to draw a line between the two. Set an alarm to remind you to get back to your project work. You can also devise pop-ups on your computer to remind you about slipping melines periodically.

Other projects: Somemes when you are working on one project, you suddenly remember an important task or a new idea related to another project. In such a case, do not jump to the other project the moment you remember the task or get the idea. Instead, make a note of the acvity/idea and plan to do it at some other me. Geng up to work on the other project can be a way of

procrasnang.

Personal disorganiza on: Organize your workspace properly. A messy office can drain you of energy because you are never able to find things you need for your work at the right place. Make sure the place you are working is relavely clear of unessenal materials before you start working. Schedule a cleaning me on your calendar.

Longer meal mes: Avoid long lunch breaks. You just need me to eat and stretch before you come back to work. Too long a delay before resuming work may hamper your focus and add distracons.

Frequent tea/coffee/smoke break: Avoid frequent tea/coffee/smoke breaks. Frequent breaks hamper your focus and may be a sign of procrasnaon. Moreover, frequent breaks are a sign of poor work ethics.

Office/restroom gossip: Avoid office/restroom gossip as much as possible. Gossips only waste your me and distort your professional image.

Meengs: When a ending a meeng, keep a track of me. If you feel that your acve parcipaon is not required in the meeng, excuse and update yourself on the meeng later. If the meeng is regarding a new project discussion, you must let your boss know about the deadline of your current project and ask him whether the exisng project or the new project should get precedence. Play safe and let your boss decide the priories. Meengs without a proper agenda are a big wastage of me.

Overcoming Procrasnaon

Procrasnaon:

Procrasnaon can be very harmful. It tarnishes your professional image and also causes you a lot of stress by requiring you to do a lot of work in very lile me.

Realize that you are Procrasnang

If you are honest with yourself, you probably know when you are procrasnang. Although procrasnang as such is not bad. Many mes we put off certain tasks which are not that important, so that we may finish other more important tasks. This is actually good priorizing. For mes when you are not able to realize that you are procrasnang, there are some indicators.

If you find yourself in any of the following menoned situaons, you can be sure that you are procrasnang:

- Ÿ Your to-do list is filled with all roune tasks that you would do even if not listed.
- $\ddot{\rm Y}$ You read an e-mail more than once without starng

work on it or deciding when you are going to start work on it.

- As soon as you sit down to start a high-priority task, you want to have coffee first and check your email once again.
- An important item appears on your to-do list every day without being finished or even touched upon.
- Ÿ You are known in the office to help anybody and everybody at any me of the day or night.

Seng SMART Goals

To start managing me effecvely, you need to set goals.

When you have a desnaon, it is only then that you can figure out the best way to reach it. Without proper goal seng, you will frier away your me on a confusion of conflic ng priori es. General percep on about goal seng is that it takes a lot of me. Moreover, people tend to think that when their goals are in their minds, why they should waste me in wring them over. But what people fail to understand is that the effort spent in wring their goals and planning how to achieve them strengthens their focus and confidence.

The five main characteriscs of SMART goals in detail are:

Specific: Goals should be clear, specific, unambiguous, non-confusing, and non-vague. Goals should be clear enough to state the exact expectaon of the person. This avoids misunderstanding about requirements and expectaons. When a goal is vague, the result may not be in line with the requirements.

Measurable: Goals should be measurable and must also clearly state the reward of achievement of the goal. When you know what is expected, you can use the specific reward as a source of movaon. To improve your or your team's performance, set clear and measurable goals. Examples are "Reduce defects by 15%" or "Resolve customer complaints within 24 hours".

Achievable: Goals should be achievable. A goal should not be something that no one has ever been able to do before. A goal that you know you will surely fail to achieve will demovate you and cause you a lot of stress. People are best mo vated by challenging, but achievable goals. Example: "Write a 20 page white paper in three days" is achievable, however, a goal such as "Write a 20 page white paper in 10 minutes is not achievable".

Time bound: Goals should always be me bound. Having a me limit for the comple on of a task ensures commitment and planning to achieve it.

Example, a goal such as "Create a presentaon on goal seng in one hour" is a me bound goal, whereas a goal such as "Create a presentaon on goal seng" is not a me bound goal.

Assigning Priories to Acvies

A priority consists of two elements, urgency and importance. To priorize the acvies on the basis of urg ency and importance, you can use the me managementgrid.

The me management grid is a simple diagramming

The me management grid contains four quadrants:

Importance			
	Quadrant 1:	Quadrant 2:	
Urgency	Important and Urgent	Important but not Urgent	
	Quadrant 3:	Quadrant 4:	
	Not Important but Urgent	Not Important, Not Urgent	

technique that helps you choose which ac vi es to priorize and which to drop to make the most of your me and opportunies. All the acvies in your to-do list can be listed in one of the quadrants in the me management grid.

Quadrant 1: This quadrant contains acvies that are both important and urgent. It represents a fire fighng situaon because it contains acvies that need to be dealt with urgently.

Quadrant 2: This quadrant contains acvies that are important but not urgent. It represents quality me. Although the acvies here are important, and contribute to achieving the goals and priories, they do not have to be done right now. As a result, they can be scheduled when you can give quality thought to them.

A good example would be the preparaon of an important talk, or mentoring a key individual. Prayer me, family me, and personal relaxaon/recreaon are also part of Quadrant 2.

Quadrant 3: This quadrant contains acvies that are not important but are urgent. It represents distrac ons because it contains acvies that must be dealt with immediately, despite being unimportant. For example, when you answer an unwanted phone call, you have to interrupt whatever you were doing to answer it.

Quadrant 4: This quadrant contains acvies that are neither important nor urgent. It represents me wasters because the acvies in this quadrant can be completely avoided and the me spent on these acvies can be u lized for doing some produc ve work. At mes, meengs can also fall into this category if they do not achieve anything or you do not contribute to them. Time is your friend, treat it with care and avoid stress.

Thus, concluding this, I hereby state that me management is the art of ulizing the available me in a producve and efficient manner. The best way to create me is to cut down on unproducve acvies and tasks that do not contribute towards our goals in life. Maintaining an organized workplace helps in reducing the wastage of me. Procrasnaon leads to stress in the long term, therefore, it is be er to make the effort without wasng me. Set goals with specific melines. Create ac vity log and to-do lists. Create an ac on plan to manage me by incorporang goals, schedules, priories and delegaon. Last but not the least, reduce stress, enjoy the me, work precise and act wise!



ArcGIS

ArcGIS is a geographic informaon system (GIS) for working with maps and geographic informaon. It is used for creang and making use of maps; compiling the geographic data; analyzing the mapped informaon; sharing and discovering geographical informaon using maps and geographical informaon in a variety of range of applicaons; and managing geographical informaon in a database.

The system provides infrastructure for making maps and geographical informaon available within an organizaon, across a community, and freely on the Web.

ArcGIS includes the following Windows desktop soware:

- \ddot{Y} ArcReader, which allows one to view and query maps created using other ArcGIS products.
- Ÿ ArcGIS for Desktop, which is licensed under three funconality levels.
- Y ArcGIS for Desktop Basic (formerly known as ArcView), this tool allows a person to view spaal data, create layered maps, and perform basic spaal analysis.
- Y ArcGIS for Desktop Standard (formerly known as ArcEditor), which in addion to the funconality of ArcView, includes advanced tools to manipulate shape files and geodatabases.
- Y ArcGIS for Desktop Advanced (formerly known as ArcInfo), which includes capabilies for manipulaon of data, eding, and analysis.

Key features:-

IUNN

- Ÿ Conduct Spaal Analysis
- Ÿ Manage Your Data More Efficiently
- Ÿ Explore a World of Content
- Ÿ Automate Advanced Workflows
- Ÿ Easily Create Maps
- Ÿ Start Geocoding
- **Ÿ** Access Advanced Imagery
- Ÿ Give Your Clients What They Need

ArcGIS connects maps, apps, data, and people so you can make smarter, faster decisions. It gives everyone in your organizaon the ability to discover, use, make, and share maps from any device, anywhere, anyme.

Urna Das Batch-2013

How to get into leading Entrepreneurship?

Entrepreneurship is the process of starng a business, a start-up company or other organizaon. The entrepreneur develops a business plan, acquires the human and other required resources, and is fully responsible for its success or failure. Entrepreneurship operates within an entrepreneurship ecosystem. This my folks is the Wikipedia expression for an entrepreneur, but the real queson is that does this really sum up the whole terminology or is there more to it?

Whenever we use the term 'Entrepreneur' the first few things that strike our mind are the names of conglomerate heads, tans such as Steve Jobs, Ratan Tata, Sergey Brin - Larry Page, Mark Zuckerberg, Jeff Bezos, and many others. Steve Jobs is the symbol of uncompromising perfeconism, out of the box imaginaon and the ability to perceive the pulse of his customer base. He is also considered to be a markeng genius for the aura that he generates among the audience during the press release for any of his products. Ratan Tata on the other hand is widely regarded as someone who inslled corporate ethics and social values into his business empire at the highest level. During his tenure he was able to create brand value for the TATA brand of products for their quality not just in domesc circles but also internaonally. He had the fortude to envision the development of the world's cheapest family car –The TATA Nano meeng all quality and safety standards of its category. Ratan Tata is thought of in business circles as the chivalrous 'white knight', always leading by example. Sergey Brin and Larry Page co-founders of Google. Inc were PhD students at Stanford University when they were working on their own web search engine and now own a mul-billion dollar corporaon that deals with web search engines and self-driving cars to delivering cost effecve internet using hot air balloons and discovering ways to cure human diseases. They usually lay more emphasis on the technological aspects of the company and delegate the business and administraon parts to talented men like Eric Schmidt. Known for their out of the box and socially relevant ideas with the

aim of making the world a be er place to live in. Mark Zuckerberg the self-confessed Harvard University drop out who became the youngest billionaire is the cofounder, chairman and chief execu ve officer of Facebook. Opposite to popular percepons Mark is not your regular computer geek though a prodigy he definitely was. He was the captain of the school fencing team and regularly recites greek poetry in his Facebook conferences to illustrate facts.

This very simple story will help you conceptualize the essence of entrepreneurship and that of being an entrepreneur-

There was once a carpenter in a small town near Paris in medieval France. He used to build furniture and specialized in the making of beds and cupboards. Though he was not the only carpenter in that town for it was known for its carpentry all over Paris and in the lands beyond but his work with the scalp and the chisel were certainly be er than the rest. Yet for all his mastery and the quality of the work he would produce, people would throng to other shops for the prices they offered were much cheaper than his. This certainly affected his business and his movaon no doubt to say the least, and it would hurt him every night when he would go to bed, despite him giving everything into his work he was not able to reap any benefits. One fine night while grumbling over the same issue to himself, an idea struck him. The next day he started working on building bigger beds and cupboards for he would now sell them for more than double the price to his customers. Now whenever his customers would go over to his shop and gaze at his work with eyes full of amazement they couldn't help noce how beds double the size of the original would cost proporonately more while there was a slight decrease in the cost of his earlier products. While the quality was there for all to see, people would now buy more of his original beds as they could compare the prices with the larger models. This illusion that he created by the way he priced his goods helped him to a thriving business and be er sales. This is the classic example of an out of the box idea where companies and corporaons in modern mes too would offer their best selling products at compe ve prices while greatly overpricing the rest of the products in their catalogue so as to lure a potenal customer into buying that product – such as in gyms, by internet service providers, on ecommerce web portals etc.

From the above story and through an over-view of the personalies of various successful entrepreneurs we can now confidently answer our very first queson and say



Ratan Tata is thought of in business circles as the chivalrous 'white knight', always leading by example.

that there is more to an entrepreneur than just developing business plans and acquiring resources for they just form only one aspect of it. Of the above menoned names not many have completed or yet, iniated a course in business administraon and sll they form the leading faces of our modern mes.

So 'HOW DOES ONE REALLY GET INTO LEADING ENTREPRENEUSHIP?'-

One easy analogy to explain this could be that of Kings and Queens in previous mes. In a way they too were entrepreneurs who ran kingdoms instead of corporaons. In Hindi there is saying – "Jaisa Raja waisi Prajah" which translates to – the subjects of a kingdom are the mirror image of their king. A good King will always be wise, benevolent, just and would lead by example. Similarly in the modern corporate structure the employees would look up to the upper rungs of the management for guidance and inspiraon. An entrepreneur must lead by example through his/her policies, behaviour and atude. T he aura and charisma that o en surrounds an entrepreneur and precedes his or her arrival are based on their past acons and form a precedent for others in the same instuon to follow. Most entrepreneurs learn to balance life and work and don't let the two mix with each other as a happy personal life movates one to work be er. An entrepreneur may not necessarily be good with technical skills or finances but should definitely be adapt in their human relaon skills, knowing whom to trust or delegate the task with and how much trust to be vested into each person. Entrepreneurs form the base on which

the whole organizaon stands upon and act as an all-weather rudder in any boat that leads the corporaon to safety during the me of crisis and to achieving their targets in the me of peace. This somemes means taking harsh decisions for the wellbeing of the organizaon, decisions that may contradict your hopes and aspiraons but never your beliefs and ethics. An entrepreneur must most definitely be a visionary and have a sense of fortude taking decisions at every step that brings the enterprise closer to their goals and ideals. Steve Jobs for this very mager wasn't so much known for his technical skills as much as Steve Wozniaki but he was definitely а visionary who made mp3 players and smartphones popular laying huge amount of focus on developing elements and user interfaces to which humans could relate to down II the niest of details. He was also a hard task master who was known for his violent bursts when things where not going as p lanned. In short an entrepreneur is a puppet master who pulls the strings.

To be an entrepreneur in any field one must work their way from the ground-up in order to understand the business and the risks and problems that come with it. This allows the person to gain perspecve from different scenarios and come up with decisions that are all well informed and relevant. The experience that comes with it helps in averng any incoming crisis or responding to a new one all-together. Taking acve interest in that field by closely following the latest developments and trends helps an entrepreneur in knowing which direcon the industry is taking and somemes developing creave ideas that go against or away from this flow otherwise called as 'out of the box ideas'. Developing a good bonding with the people you work would also help you as an entrepreneur to get across ideas and to communicate and interact in ways which were earlier not possible. All members of any organiza on must be treated and respected like family for it helps in inculcang respect, a work culture, loyalty and increased producvity.

I hope you find this arcle very helpful and that it takes you one step closer in achieving your dream of becoming an entrepreneur.



Windows 10 says Hello World!

Welcoming the Window of a new operang system, the WINDOWS 10. Everyone is likely to wonder whether it will be like the Vista or the Windows 8? Will it be as successful as the XP or Windows 7. While it is true that Windows 8 and 8.1 did lay the foundaon for the upcoming new Windows 10, bringing in the new OS for the touch screen laptops and tablets, the Windows 10 does bring in some extraordinary features that is surely an upgrade from the Windows 8.1. While most of the users of Windows 8 complained of the full screen metro apps or the new START menu, the Windows 10 brings back the much loved START buon (though keeping the start menu look similar to Windows 8). Microso has changed dramacally since the launching of the Windows 7 that is, it has bought a Nokia (now the Microso Lumia) and had an overhaul of the whole Microso organizaon. Bringing in the upgraded Cortana from the mobile to the PC and also powerfully integrang it for a be er user experience is the thing to be awaited for. With the new OS, Microso has introduced the new web browser, code named the Project Spartan. Project Spartan, is a browser built from the ground up for speed, slickness, and trawling the modern web. Spartan uses Microso's new Edge rendering engine which isn't being included in IE in Windows 10 and packs some niv extras.

Cortana pops up with supplementary informaon while you search the web, such as Yelp reviews and Bing Maps, direcons when you're viewing a restaurant website. Digital inking tools let you easily mark up a website and share it with others. Finally, Spartan also includes an awesome

Cortana pops up with certain supplementary informaon while you surf the web, such as Yelp reviews and Bing Maps, direcons, specially when you are viewing a restaurant website. cluer-stripping Reading View, and allows you to stash arcles in the complementary Reading List app for later perusal. Coming back to Cortana, this new device assistant helps in faster and more efficient searches, it will want to access your personal informa on, th en use that informaon along with Bing powered cloud smarts to intelligently surfacing informaon you are looking for. Cortana also helps in the new Acon Noficaon Center that will use be er pop-ups to help the user. The user interface has also been improved by allowing mulple apps to be open in different parts of the screen as per user requirements (in Windows 8 we could only split it into two parts only, but here we can have more number of apps open simultaneously). Keeping in mind the popular demand, the metro apps now do not open in full screen mode, but in window mode allowing them to be resized. Windows 10 also brings in a new secon to visit the most frequently accessed files and applied to help users navigate be er and save his precious me. The users of Windows 7 and 8 (or 8.1) can avail their free copy of Windows 10 keeping in mind the basic system requirements of Processor: 1 GHz or faster processor or SoC (system on a chip).

RAM: 1 GB for 32-bit or 2 GB for 64bit

Hard disk space: 16 GB for 32-bit or 20 GB for 64-bit, Graphics: DirectX 9 or later with WDDM 1.0 driver. Some games and apps might require DirectX 10 or higher for opmal performance. Keeping the fingers crossed and hope to be filled with awe, this new piece of soware will be available from 29th July 2015.





Aficionado. Don't know what it means? Google it. Sewri fort. Not sure how to reach there? Use the GPS. In search of a new restaurant? Need content for your project? In need to get in touch with your friends? Book an online appointment, shop online just be Online. Isn't Internet the one and only answer to all these guesons? Exactly! With me the concept of basic necessies of life hovering over food, shelter and clothing has expanded to food, shelter, clothing and internet. Digital divide used to be the small gap between regions that have access to modern technology, and those that don't or have restricted access. But don't we see the gap enlarging? According to recent stascs only 40% of the populaon on earth enjoys internet facilies and about 60% of them are deprived of this all new fourth necessity of life.

Balloons in the sky providing you with Internet connecon right wherever and whenever you need it. Not too hard to imagine, is it? This is real!

Project Loon by Google X serves as a prime soluon to all your problems. The project uses high-altude balloons placed in the stratosphere at an altude of about 32 km to create an aerial wireless network with up to 3G-like speeds. The idea itself sounded so crazy that the makers of this device from google decided to give it an unusual name. Wind data from the Naonal Oceanic and Atmospheric Administraon (NOAA) is collected and analyzed to maneuver the balloons by adjusng their altude to float to a wind layer with the desired speed and direcon. The signals travel through the balloon network from one balloon to another and further to the ground-base staon which is connected to an Internet service provider. Further these signals are shoot onto the global internet thereby engendering a way to serve remote and rural areas poorly served by exisng provisions with the gi of internet.

One of the most obvious avails of the project is the Availability of Informaon. Assuming all the mechanisms of the project are funconing as planned, every single person who has access to some device that has Wi-Fi access would be able to search for almost any form of media online. Informaon will be accessible to everyone irrespecve of their locaon also in case of natural disasters when all the sources of informaon about that

Dennis MacAlistair Ritchie – The unsung hero

During the month of October in the year 2011 a luminary died, though his bequest will live on and inspire people II the very end of this world. Even though he was not a soldier, but yet was a true hero. His work gave direcon to the future of technology and considering our dependency on it, the future of the complete race. His benefacon in the form of his invenons led to some of the most famous technological paragons of our mes. I'm sure none of us have been eluded from the mania that was created in the form of iPhone, iOS and Mac OS X. But he was human at the end. The legend failed his bale with prostate cancer and ulmately, death. Posterity will always remember him as the father of modern compung. This man was an iceberg that hid from the common people, but the roots of whose work tap into the very depths of the technical universe. I am wri ng about an unsung hero - Dennis MacAlistair Ritchie.

Surprised? I'm sure 99 percent of all people who read will be. Dennis M. Ritchie, Dennis Ritchie or simply 'DMR' as he was affeconately called by his workmates, was the devisor of the C programming language and the co-composer of the symphony that the UNIX operang system is. He died a week a er Steve Jobs, with an affront void of media coverage. The list of devices, soware, applicaons and services which run on the so called simplisc 'low level' language which he created and the operang system which he helped build and so here is an image to name a few :

Ritchie joined Bell Labs in 1967 and the rest, as they say, is History. For his unparalleled offerings in the field of technology he was awarded

Posterity will always remember him as the father of modern compung. This man was an iceberg that hid from the common people, but the roots of whose work tap into the very depths of the technical universe. Ritchie joined Bell Labs in 1967 and the rest, as they say, is History. For his unparalleled offerings in the field of technology he was awarded the Turing Award in 1983, the IEEE Richard W. Hamming Medal in 1990, the Fellowship of the Computer History Museum in 1997, the Naonal Medal of Technology in 1991, and the Japan Prize in 2011. The C programming language today has its own family of languages which encompass C++, C# and even JAVA! Together they subjugate a colossal 60% market share of the soware industry in the world.

Every major player in today's computer market thrives on what DMR created. The trailblazer did not believe in acquiring stardom or accumulang substanal riches. The UNIX operang system that he developed was open source and given to universies and anyone who would ask, so that people could assimilate and evolve his vision further. He helped port UNIX to different machines and pla orms which now exist in the likes of HP-UX, IBM AIX and Oracle Solaris. Apart from these the Mac OS X, Linux, Android and iOS and even MS-DOS are also UNIX derivaves and fall under the category of 'UNIX like' or 'UNIX based' operang systems. Just like the stones of the Ram Setu float with the very name of Shri Ram, every fiber of Internet vibrates with the name of DMR, as does every PC, MAC, smartphone and tablet.

During the last years of his life, DMR baled with prostate cancer and heart disease. He was a bachelor all his life and on 12th October 2011, was found dead in his New Jersey home where he lived alone. He was 70 years old.

Had he been given a chance to write his last computer program, I am sure it would have been this,

```
#include <stdio.h>
  void main()
  {
   printf("goodbye, world\n");
}
```

I do not undermine or in any way wish to underplay the contribuons made by Steve Jobs. But, if Jobs is a luminary in the computer world, then Dennis MacAlistair Ritchie is its God.

I'm not saying take any praise away from Steve Jobs in any way, but give some credit where credit is due!

B.Kavya *IV CSE-B*



BITCOINS

Can money be imaginary? Well the answer is BITCOINS. BITCOINS are the virtual currency which can be used for day to day transacons over the internet and as a substute for physical currency. It was invented by Satoshi Natamoko in 2008. However it remains a mystery who Satoshi Natamoko really is, talking about BITCOINS, it is best described as the first decentralized virtual currency. As it is a currency growing over the internet no government or IMF has the power to control or shun it. As long as the user mines BITCOINS the currency grows.

How does it work?

BITCOINS use block chains to store the transacons. The storage consists of me, date, parcipants and amount of every transacon. Each node (connecon point) owns a full copy of the block chain. Each transacon is verified by BITCOINS miners on the basis of complex mathemacal algorithms. The mathemacal algorithms also make sure that each node agrees with the current state of the ledger and transacons in it, if anyone tries to corrupt the transacons, nodes will refuse to incorporate the transacons in the block chain.

How to iniate transacon?

The transacon gets commenced with the help of keys; the public and private key .Basically when you send BITCOINS to your friend every node which receives the massage will update their copy of the ledger and then pass along the transacon massage but the authencity of massage is checked with digital signature i.e, a password .the private key is used to create the signature. You can look it as the private key being the true password and signature that proves that you have a password .Public keys are address ,compare it to email address i.e, it is to be shared by the sender or receiver for public and private keys you need to have a wallet .Just like a wallet for physical currency wallet can hold your public and private keys, transacons ,BITCOIN etc .Talking about wallets u get a variety of them cold wallets refers to offline wallet and is more secure as compare to hot (on line) wallets .Wait a minutes there are also physical wallets called as paper wallets you can store these wallets in a safety deposit box along with other valuable .

BITCOINS mining is like a colossal loery where you compete with your mining, hardware with tons of people on the net. The faster the hardware, the faster the number of tries per second more the chances of winning.

What is Bitcoin Mining?

This is the most important part of BITCOINS. Just like gold mining you can mine BITCOINS obviously not by pickaxe. The minor needs to solve a complex math problem to discover a block for which he has made a BITCOINS. BITCOINS mining is like a colossal lo ery where you compete with your mining, hardware with tons of people on the net. The faster the hardware, the faster the number of tries per second more the chances of winning.

In the big picture it protects the neutrality of network by prevenng any individual from gaining power to block certain transacon i.e. Mining make BITCOINS network secure as well as genera ng bitcoins. Now let's go technical, bitcoins mining, hardware uses Hashcash proof of work funcon. Proof of work is a method to ensure that informaon was difficult to be made. The proof of work is also designed to depend on previous blocks to force a chronological order in block chain. This makes it exponenally difficult to reverse previous transacons because it will require recalculang proof of works of all blocks. Secondly, for new transacons miners need to include a block with mathemacally proof of work, such proofs are hard to generate and depend upon hardware speed for calcula ons. Also, each block needs to be discovered in ten minutes, making it quite a difficult task.

FACTS

- Number of Bitcoins are finite, which account to 21 million bitcoins
- BITCOIN value keeps on fluctuang every second the highest 1 bitcoin reached was in November 13 i.e. 1000 dollars.
- Ÿ Germany is the only country who has given the official stamp of approval to bitcoins as private money.
- ÿ Currently1bitcoin =296.5\$=18000rs
- Ÿ The one and the only bitcoin ATM is in Vancouver.

Haritha IV ECE-A



NHUNS

Artificial Intelligence: Neural networks

How can a computer mimic a human brain? Well, the answer turns out prey simple. Our brain is made of membranes of Neurons which are also called the brain cells. Each neuron uses electrical signals to communicate with other neurons (which is shown in the figure below). So, by using only electrical signals, neurons can help brain do even the most complex tasks. But the brain, uses only one algorithm to process any kind of data or do any kind of task. Unbelievable, right?

Our brain uses 'Auditory Cortex' which is connected to our ears to listen and to learn from it(Audiotory Cortex is shown in the Figure). This is the reason why you and I can learn by listening to sound.

Some Neuro-sciensts did the following experiments:

They removed the connecon between the ears and Auditory Cortex and connected it to the eyes instead. They observed the same part of the brain was able to process vision which means it was able to see.

This means the same part can hear when connected to ears and can see when connected to the eyes.

Somatosensory Cortex', as the name implies, is responsible for feeling sensaons in our body a er a physical contact. In another experiment, the Neuro sciensts removed the connecon between hand and Somatosensory Cortex and connected it with eyes. It was observed the same piece of brain ssue was able to process vision which means it was able to see. There are many more experiments carried out by the Neuro sciensts which suggest that the same part of brain ssue can process different informa on. This proves our assumpon that the brain, uses only one algorithm can do all the complicated tasks that we do daily (like how you are learning by reading this arcle).

Now, let us come to the part which shows how a machine can mimic a human brain. This is the key idea behind neural network.



Q1. Now what is a neural network?

A neural network is a simulaon of the algorithm, that the brain uses to process any kind of data. It has an input layer, one or more hidden layers and an output layer. In machine learning and deep learning problems, a neural network is one of the most widely used algorithms which is used to process data that helps a machine learn different things (like a human brain) without being programmed explicitly. This is how YouTube recommends your videos. As the me passes, it learns to recognize the type of videos you watch regularly. The same network can process any kind of data.

Let me share a more intuive example of neural networks which can give you a be er insight on neural networks. Engineers use a neuroevoluon algorithm called NEAT (NeuroEvoluon of Augmenng Technologies).to evolve networks that convert either sonar, laser rangefinder, or CCD camera input into a warning signal. How is this done? Well, it is not as complicated as it seems to be in the first place. The CCD camera's image (screenshot of the video taken in every second) is sent as an input to the Neural Network every second. Then the network uses linear algebra to compute the hidden layer (which you can see in the above network architecture). Then the network again uses linear algebra to compute the output layer which is the warning signal if an accident is about to occur. The red lines in the image show that vehicle is on track whereas green lines show an accident is about to occur. The warning signal is then provided to the driver, with the goal of helping them avoid dangerous situaons. Here (on the le) are some examples of different sensor modali es that are used in both simulaon and on a small four-wheeled robot. The linear algebra used is prey simple which you can easily check out on the internet. The more the number of units in the hidden layer, the be er (and much more efficient)



is your neural network. This is just a simple example that uses neural network. There are more complicated problems in the world like the autopilot system, autonomous cars, speech recognion (SIRI on iPhone), pa ern recognion in codes, numbers, mathemacal func ons, handwri ng recogni on, etc. which use neural networks. There are unimaginable applicaons of it even in the field of astrophysics as some of the astronomers use it to find structure in planetary systems like stars, asteroids, Milky Way etc. An example of this is on the le. Obviously, there is much more to neural networks as we have only seen a simple idea behind it. It is predicted by a bunch of deep learning sciensts that this could be the key to someday crea ng truly intelligent systems like J.A.R.V.I.S, which is smarter than us, can process any form of data by watching us, hearing us, learning from our behavior and interacng with us like just another human.



NHOUS

Payment without Cash

Imagine shopping without cash, it seems to be contradictory, but now not only you can think about it, but also experience it. "UNIFIED PAYMENT INFRASTRUCTURE". In this concept firstly along with the basic details provide your mobile no. and aadhar card no. to the bank in which you have an account. Now an applicaon will be developed which will have the e-up with the bank. The app needs to be installed in the mobile of the cashier of the place you have visited, and in your mobile too. Now, while billing, cashier will add all the products purchased, total it and then ask for your phone no. that you have registered in the bank. Aer entering the no., that whole bill will sent to the mobile phone whose no. was entered and the customer can now check the bill, verify the amount and press 'OK' twice (reconfirmaon) for the final payment.

VERIFICATION OF PRODUCT LIST BY CUSTOMER

While receiving the message, the locaon of the shop, mall, etc. will be reflected on the receiver's end for the idenficaon. Aer receiving the bill the customer will press "OK" for the payment transacon.

BILL RECEIVED BY THE CUSTOMER

This will deduct the bill amount from our bank account and adding to the cashier's account, further deleng the number from the mobile of the cashier for avoiding its misuse.

TRANSFER OF MONEY

Why GPS?, if we don't have bank balance, then we can enter our parents or friends no. on the cashier's mobile phone along with our name and number succeeding the payment and through the locaon of the cashier and our details, parent or friend can know that who has done the payment to whom. Imagine shopping without cash, it seems to be contradictory, but now not only you can think about it, but also experience it.

DIAGRAMMATICALLY THE PAYMENT PROCESS BY THIRD PARTY IS SHOWN ON THE NEXT PAGE:

1. No Money

2. Give Parents Number.

3.Message Sending Through GPS 4. Parent recieving the message of shopping

Payment done if Parent presses OK

ADVANTAGES:

- Ÿ No need of carrying wallet (i.e. cash, credit/debit cards).
- \ddot{Y} We can shop even we don't have cash, using the cell. no. of parent or friend.
- $\ddot{\text{Y}}~$ Reducing the chance of misusing ATM PIN, as we are not using credit/debit cards.
- $\ddot{\text{Y}}$ All the transacon records will saved in the database.

P.Chandana *II IT*

Computer Programming Goes Back to School

We are witnessing a remarkable comeback of computer programming in schools. In the 1980s, many schools featured Basic, Logo, or Pascal programming, computer labs that students typically visited once a week as an introducon to programming. But, by the mid-1990s, schools had largely turned away from programming. In large part, such decline came from a lack of subject-ma er integraon and a scarcity of qualified instructors. Yet there was also the queson of purpose. With the rise of CD-ROMs over the 1990s, who wanted to toil over syntax typos and debugging problems by creang these applicaons oneself? This queson alone, seemingly negated the need to learn programming in school, compounded by the delirium generated by the Internet. Schools started teaching students how to best surf the web rather than how to dive into it and understand how it actually works. Schools largely forgot about programming, some deeming it enrely unnecessary and others labeling it too difficult to teach and learn.

But this is changing. In the past five years, we've seen a new-found interest in bringing back learning and teaching programming at all levels. But it's digitally based youth cultures, not schools, leading this revival (Kafai & Peppler, 2011). Computers seem to be available everywhere, parcularly outside the school, where children and youth are innovang with technology - oen with handheld devices - to create their own interacve art projects ,video games, and even their own programmable clothes through electronic texles. What's more, the same computers on which they create these items connect them to wider networks of other young users who share common interests and a similar commitment to connecing through technology. Schools may very well take a page from these informal associaon of creave producon and networked par cipaon. Aer all, despite this surge of interconnected youth communies, very few youth are using their smart devices — laptop, iPad, iPhone, or Droid — for something other than the mass consumpon of commercial media. These digital naves may be able to technically manipulate the latest devices, but their capacity to wield such devices crically, creavely, and selecvely is decidedly less potent.

The Internet of Things is mainly concerned with the idea of increased machine-to-machine communicaon. It is built on the idea of cloud compung and networks of data gathering sensors. What then is the role of programming in helping more producve use of technology? And what is the role of schools in introducing programming to a wider range of youth, parcularly given schools' own failed a empts to teach coding in the past? How will schools address challenges of diversity and equity prevalent in compung culture? Given these quesons facing educaon as well as the economic viability of this country, we must first understand what computaonal thinking is, how we can teach it, and why the computaonal parcipa on of online communi es and tradi onal schools together offers new opportunies to engage students.

Teaching Computaonal Thinking

So what could computaonal thinking look like in schools? How could we teach it? The definion of computaonal thinking as designing systems, solving problems, and understanding human behaviors admiedly provides quite a broad berth here. Several professional groups like the Computer Science Teachers Associa on and nonprofits like Shodor have developed academic standards and instruc onal ac vi es to make computaonal thinking more accessible for educaon. Programming has invariably played a role in all proposed curricula. Yet while programming figures prominently, no single programming language is deemed best by all proponents. Whether the language is Java/Java Script, Python, C/C++, HTML or introductory languages like Scratch and Alice, teaching the underlying concepts conveyed by the language - not the language itself.

> Sathivck IV CE



Internet of Things

THE IDEA

When we hear people talk about "the next big thing", what exactly do they talk about? Is it really innovave thinking? People fail to think big! It's not that they don't imagine, it's that they don't observe. Most of the ideas that turn into big things are around us. The future that you dream is always within sight, and you don't need to imagine what's already there in place. It's the me to Think Big! Think Different! The queson is HOW??

The soluon is 'The buzz surrounding the Internet of Things'.

What is the buzz? The Internet of Things is mainly concerned with the idea of increased machine-to-machine communicaon. It is built on the idea of cloud compung and networks of data gathering sensors. It is mobile, virtual, and instantaneous connecon; and it has also been said that it is going to make everything in our lives, whatever we think of, from streetlights to seaports "smart."

Now when we say people don't think big enough we mean they don't think creave. A lot of gossips and rumors have been heard on machine-to-machine communicaon (M2M), that means, devices talking to like devices, just like humans talking to each other. But is it really possible? A machine is a tool, an instrument. It is something that is physically doing some acvity. It just follows the commands given to it. When we refer to making machines "smart", we are not exactly referring to machine to machine communicaon. It has a broader idea. We are talking about sensors!

A sensor is a device, not a machine. It does not work in a way as the machine does. It measures and evaluates the data. In short, it gathers data. The Internet of Things comes together with the connecon of sensors and machines. It

The Internet of Things is mainly concerned with the idea of increased machine-to-machine communicaon. It is built on the idea of cloud compung and networks of data gathering sensors. comes from creave thinking!! In simple terms, the real value that the Internet of Things creates is a combinaon of gathering data and taking full advantage of it. The informaon gathered by all sensors in the worth holds worthless if there is no infrastructure to analyze it in real me. The sensors detect the required informa on correctly.

Simply, this concept is basically connecng any devices with an on and off switch to the Internet and also to each other. This will include everything from cell phones, washing machines, coffee makers, headphones, wearable devices, lamps and almost anything and everything else you can think of. This also applies to components of machines, such as a jet engine of an airplane or a drill of an oil rig.

WHAT IS INTERNET OF THINGS??

The Internet of Things(IoT, somemes also called as Internet of Everything) is a network of physical objects or "things" embedded with electronics, sensors, soware and connecvity to enable objects to exchange data with t he manufacturer, operator and also with other connected devices based on the infrastructure of Interna onal Telecommunica on Union's Global Standards Iniave.

By embedding short-range mobile transceivers into a wide array of addional gadgets and everyday items, allowing new techniques of communicaon between people and things, and also between things, the term 'Internet of Things' enabling new forms of communicaon between people and things, and between things themselves, the term "Internet of Things" depicts various technologies and research disciplines that enables the Internet to reach out to the real world of physical objects.

The Internet of Things is a compu ng concept that portrays a future where day-to-day physical objects will be connected to the Internet and be able to recognize themselves to other devices. The term is closely associated with RFID (Radio Frequency Idenficaon) as a method of communicaon. It may also include other sensor technologies, wireless technologies or QR codes.

The IoT is important as an object that can represent itself digitally becomes something greater that the object by itself. Now no longer the object just relates to us, but it is connected to the surrounding objects and database data. This will result in communicaon between objects. When many objects act in unison, they are known as having 'ambient intelligence'.

Most of us think about being connected in terms of computers , smartphones, tablets , and many such

electronic devices. IoT describes a world wherein anything angd everything can be connected and communicate with each other in an intelligent fashion. In other words, with Internet of Things, the physical world is becoming one big informaon system. It is becoming connected!

From any place, at any me, connecvity for anyone, we will now have connecvity for anything!

WHY INTERNET OF THINGS?

- Ÿ Dynamiccontrol of industry and daily life
- Ÿ Improvetheresourceulizaon rao
- Ÿ Be er relaonship between human and nature
- Ÿ Formingan intellectual enty by integrang
- Ÿ Human society and physical systems
- Ÿ Universaltransport & internetworking
- Ÿ Accessibility & Usability
- Ÿ Actsas technologies integrator
- Ÿ Improved security
- Ÿ Fasterand be erdecision making
- Ÿ Newbusiness opportunies and revenue streams

APPLICATIONS

- Ÿ Media
- Ÿ Environmental monitoring
- Ÿ Infrastructure management
- Ÿ Manufacturing
- Ÿ Energymanagement
- Ÿ Medical and healthcare systems
- Ÿ Building and home automaon
- Ÿ Transportaon
- ŸLargescaleLargescale

Surendar Reddy II IT



How to get an Internship

An internship is a short-term, hands-on, supervised work experience with a professional organizaon that's designed to increase a student's knowledge of a professional career field.

Internship can be done on any field based on interest as well as professional experience. It basically widens the horizons of our learning. Whatever we learn in an internship we can use the knowledge as well as impart it in real life works.

Internships exist in a wide variety of industries and firms. An internship may be paid, unpaid, or parally paid (in the form of a spend). Spends are typically a fixed amount of money that is paid out on a regular basis. Usually, interns that are paid through spends are paid on a monthly basis. Paid internships are common in professional fields including medicine, architecture, science, engineering, law, business and adversing.

Another type of internship growing in popularity is the virtual internship, in which the intern works remotely and is not physically present at the job loca on. It provides the capacity to gain job experience without the conven onal requirement of being physically present in an office. The internship is conducted via virtual means, such as phone, email, and web communicaon. Virtual interns generally have the opportunity to work at their own pace.

Internship opportunies in India are career specific. College students oen choose internships based on their branch of study at University. Students oen see it as a way to develop their capabilies by praccally applying the academic elements of their degree and as an opportunity to learn about the work environment. Most of the students apply for internships during their summer and winter breaks. In some universies, internship during the college breaks is compulsory and a part of the curriculum. Moreover, many engineering college students also term their training period in the certain industrial organizaon as an internship. We have heard many students and career experts talking about internships. But do we know how to get an internship in a good mulnaonal company?

While applying for an internship, many companies state their terms that they will pay the student based on performance. This criterion is nothing but the skills and efforts which the firm is searching for. If the style of work, the results and outcomes of the work are quite impressive to them then they might pay the student a certain amount as a spend. Somemes they might hire the student as a permanent employee stang that a er compleon of degree course that the student can join in that company as a soware analyst if the course is Computer Engineering.

But the point is, What are the qualies that the internship employers, as well as the recruiters, search for in any student in today's world?

They look for confidence, culture fit, knowledge, manners, atude, communicaon skills, and analycal skills, last but not the least decision-making ability with honesty.

If a candidate has these skills then he/she is a perfect candidate for that parcular internship.

But somemes in soware industries the companies who have high aspiraons like Microso, Google, Oracle etc. along with skills they also demand referrals. The applying candidate must have some connec ons with some employee of good rank for an internship. This is the procedure if the candidate is applying normally.

Another method is geng the internship through various coding contests. If the candidate wins such type of contests he/she is given an internship along with a good spend.

But suppose the candidate has managed to get an interview for the internship he/she is halfway there. So next step would be to give the interview properly. While the interview puts less pressure on the physical appearance, it is sll a very important step in the process of landing that internship. The most important thing to be remembered for a phone interview is not to interrupt. Wait for an opening. Listen and respond to the quesons. Keep the answers brief, and address the interviewer's quesons without launching an in-depth tale of your life story.

In case of In-person interviews it is necessary to dress the part, so knowing what kind of dress code is required for the industry you're interviewing for is crucial. The quesons asked should be answered honestly as and with firmness in atude and voice because many a me's body language speaks up many things and finally the candidate is rejected. So it is be er to pracce it once before experiencing it.

But sll no one knows what is there for tomorrow, success or failure. The only thing is "Don't give up". Every rejec on is a new opportunity to look for a new opportunity. And always believe you're not going to get every internship you apply for. You're going to receive a lot of "Sorry, we've chosen someone else's and even more opportunies will pass without a response at all. Never be discouraged. To get an internship, you have to be a special breed of persistent. Hence, the aim should be "Keep on Trying".

> M.Anuja IV ECE



How to take Care of Your laptops battery

We've all been there. You're in a meeng, or on the road, or in a classroom, and you find, to your horror, that your laptop is nearly dead. But with the right praces, stretch your ba ery at that very moment.

Power Management

So where do you start? Begin by vising the Power Sengs corner of your laptop. Many computers offer the ability to switch to an "Eco mode" that automacally adjust the way power is used (such as dimming your screen brightness) to conserve ba ery energy. Also pay a enon to hibernaon modes. Ideally, you want your laptop to enter into hibernaon before the ba ery is totally drained – as well as during downme when you won't be using the laptop for a while.

Discharging

You don't need to totally discharge a baery and let it die to somehow reboot it – this is a dangerous prace that's very hard on your baery. It is a smart idea, however, to do a healthier baery discharge a couple mes a year. Let your baery energy grow low (without booming it — aim for around 5 percent) and then fully recharge it, all in one go. This maintenance helps calibrate the baery gauge.

The ba ery itself

So the best thing you can do for your ba ery is charge when it reaches 40 percent, and unplug it when it goes past 80 percent. Obviously this means applying a lile OCD to when you plug and unplug your charger, but your ba ery will thank you in the long term by lasng longer.

Avoid extreme temperatures

Cold temperatures usually aren't a problem, and storing a baery in a cool place is recommended, but don't leave your laptop in freezing temperatures, ever. Too much cold can kill the baery permanently.

Cleaning

Most people just let their laptop ba ery sit, snug inside the laptop, doing its job. But it's a good idea to take your ba ery out from me to me and show it a lile love. Every few months, detach your ba ery and give it a careful wipe with a so cloth – get rid of any dust, and make sure the contact points are especially clean.

Rizwana III CSE-B



Internet is free source of geng informaon. It allows people to connect and exchange informaon freely. Many of us must be reading about this for the first me, for the rest they must have heard it but not sure, what it is actually related to?

WHAT'S NET NEUTRALITY?

Net neutrality is one of the biggest issue debated globally by the telecom regulators and TRAI is also in the process of finalising what will be a landmark recommendaon for Indian telecom.

Net neutrality means that the individual should be free to use all contents and applicaons equally, without Internet service providers(ISP) discriminang against specific online services or websites. In other words, it is the principle that the ISP that connects you to the internet does not get to control wha you do on the internet.

In most of the countries there are rules to prevent internet service providers from interfering with how the user makes use of the internet. For example we pay for the internet to ISP, we can use it however we see fit and the ISP has nothing to do with how we use it.

What will happen if there is no net neutrality? ISPs will have the full control of internet traffic so that they can derive profit from it. For example some ISPs believe that they can earn more by charging separately for some services like Youtube by giving a reason that

Without net neurality, the internet as we know it will not exist. Instead of free access, there could be "package plans" for consumers. To access internaonal websites, you may have to pay a more. Without net neurality, the internet as we know it will not exist. Instead of free access, there could be "package plans" for consumers. For example, if you pay Rs 500, you will only be able to access websites based in India. To access internaonal websites, you may have to pay a more. Or maybe there can be different connecon speed for different type of content, depending on how much you are paying for the service and what "add-on package" you have bought.

Lack of net neutrality, will also spell doom for innovaon on the web. It is possible that ISPs will charge web companies to enable faster access to their websites. Those who don't pay may see that their websites will open slowly. This means bigger companies like Google will be able to pay more to make access to Youtube or Google+ faster for web users but a startup that wants to create a different and be er video hosng site may not be able to do that.

What are public reac on to the concept of net neutrality?

People are trying on their part to oppose this concept by tweeng , by pos ng status on social networking or blogging. Some held conference to make people aware of this cruel step of ISP. There were also strikes carried out by people for net neutrality.

Since this topic has become a naonal issue we all should bring to people's noce to oppose this concept and not to support it, for user's rights.

> Mallikarjun III IT



The Blue Brain Project

One of the most noteworthy ongoing projects is the Project Blue Brain. This revoluonary finding has the potenal to shape the future to enormous extents.

IBM in partnership with sciensts at Ecole Polytechnique Federal De Lausanne's (EPFL) Brain and Mind Instute, will begin simulang the brain's biological system. It was founded by Henry Markram at the EPFL in May 2005 and is expected to near compleon around 2023.

What is Blue Brain?

It is the name of the world's first virtual brain, which means a machine that can funcon enrely as a human brain. The sciensts are in research to create an arficial brain that can think, respond, take decision and keep anything in the memory. Aer the death of the body the virtual brain can act as a man. Therefore, we will never lose the intelligence, knowledge, personality, feelings and memories of the person. The simulaons of human brain in this project are carried out on a Blue Gene supercomputer built by IBM. Hence the name "Blue Brain".

This is an a empt to reverse engineer the human brain and recreate it at the cellular level inside a computer simulaon. The human brain can be mapped to the computer and referred later for reacons and decisions. The research involves studying slices of the brain using microscopes and patch clamp electrodes. Data is collected about different neuron types, which is used to build biologically realisc models of neurons and networks of neurons in the cerebral cortex. Such simulaons scaling to The sciensts are in research to create an arficial brain that can think, respond, take decision and keep anything in the memory. Aer the death of the body the virtual brain can act as a man. the size of a honey bee brain and rat brain have been obtained in accordance with the scheduled meline. Human brain simulaons will take nearly a decade more!

There are three main steps to building the virtual brain:

1) Data acquision- involves taking brain slices, placing them under a microscope and measuring the shape and electrical acvity of individual neurons.

2) Simulaon- The simulaon step involves synthesising virtual cells using the algorithms that were found to describe real neurons. The algorithms and parameters are adjusted for the age, species, and disease stage of the animal being simulated.

3) Visualisa on of results- RTNeuron is the primary applicaon used by the BBP for visualisaon of neural simulaons. The soware was developed internally by the BBP team. It is wrien in C++ and OpenGL.

What is the importance of this project?

One of the major goals of the project are to gain a complete understanding of the brain and to enable be er and faster development of brain disease treatments. Making decisions in the absence of a person, using the skills and intelligence of a person a er death, understanding the acvies of the animals, allowing the deaf to hear through direct nerve simulaon are few of the things that can be achieved. The most important factors that lead to the development of this project are:

- Brain disease treatments- There are about 560 brain diseases. The success of this project can help cure diseases like Parkinson's, Alzheimers.
- Scienfic curiosity about consciousness and the human mind- the study of the conscious and subconscious mind.
- Integra on of all neuroscien fic research results worldwide- the different results and developments can be added and summed up to reach several important conclusions.
- Ÿ Progress towards building thinking machines- This is the boom up approach. This will help to ease the human me and efforts.

Ch.Neelima IV ME



Analyzing Social

Nowadays, online social network becomes a popular mean of people's social interac on. The social networking sites become ubiquitous and important component of an individual's life. Per day, hundreds of Millions of users share their emoons, thoughts, feelings and opinions on social networking sites. The vast textual informaon available on these sites is one of the major sources for mining people's opinions and emoons, which will help to make be er decisions in different domains. Opinion mining and senment analysis is the automated and computaonal study of recognizing emoons and detecng polarity. These two fields use data mining and natural language processing (NLP) techniques to extract the knowledge from the source of informaon available on World Wide Web.

The two terms senment analysis or opinion mining can be used interchangeably. However, some researchers stated that both these expressions have slightly different noons. Opinion mining extracts and analyses people's opinion about an enty while senment analysis idenfies the senment expressed in a text then analyses it. Therefore, Senment analysis aims to automate the task of finding opinions, idenfying the senments they express, and then classifying the senment polarity. People's opinion plays a crucial role in decision making in various domains. In the real world, organizaons and businesses want to find their consumer feedback about their product or services. In recent years, senment analysis applicaons have spread through many domains from recommendaon systems, Ad placements, and trend predicon to healthcare and polics. Recent years witnessed the explosive growth of social media (like blogs, reviews, forums, comments and posngs on social networking sites) on the web. Nowadays the organizaons are not dependent on opinion polls, surveys and focus groups due to the huge amount of data available publicly. The task of mining opinion is formidable due to the need to check the individual web sites. It is very difficult, for a human reader to idenfy the relevant sites and extract the opinions on them. Therefore, there is need of automated senment analysis. Most of the organizaons are using their own analysis tools to find the opinions of the consumers.

Per day, hundreds of Millions of users share their emoons, thoughts, feelings and opinions on social networking sites. The vast textual informaon available on these sites is one of the major sources for mining people's opinions and emoons Machine learning based and lexicon based approaches are widely used for senment analysis by computer scien sts and engineers. Few research studies have combined these two approaches to get relavely be er performance. The machine learning approach uses different classifica on techniques like Naive Bayes, Maximum Entropy and Support Vector Machine for classifying text. The Lexicon based approach uses a senment diconary with opinion words and match them with the data to determine polarity whether it is posive or negave. The hybrid approach combines the machine learning and lexicon based techniques to overcome their individual drawbacks and benefit from each other's merit.

Recent approaches able to seize the conceptual rules that administer the senment. Future opinion-mining systems need wider, broader and deeper knowledge bases. The senment analysis techniques must be combined with reasoning methods that are more deeply inspired by human thought and psychology. This will lead to a be er understanding of natural language opinions and will more efficiently bridge the gap between unstructured informaon and structured machine process able data.

> B.Rajesh IV CSE-B



Applications of Image Processing

In image processing basically an image is studied by using various ways in order to convert an image into digital form so we can perform some operaons on it, in order to get an enhanced image or to extract useful informaon from it. Here, in which the input is an image, like photograph and output may be an image or traits associated with that image. Usually Image Processing system treats an image as a two dimensional signal while applying already set signal processing methods for it.

Image processing basically includes the following three steps.

- 1. Imporng an image using an opcal scanner or by digital photography.
- 2. Analyzing and manipulang the image which includes data compression and image enhancement and spong pa erns that are not visible to human eyes like satellite photographs.
- 3. Output is the last stage in which result can be a changed image or report that is based on image analysis.

The purpose of image processing is divided into five groups & they are as follows:

- \ddot{Y} Visualizaon Here the objects are observed that are not visible.
- Ÿ Imagesharpening and restoraon To create a be er image.
- $\ddot{\mathrm{Y}}$ Image retrieval obtain for the image of interest.
- Ÿ Measurement of pa ern Measures various objects in an image.
- \ddot{Y} Image Recognion Disnguish the objects in an image.

Rcadia, a start-up in Israel, has come up with its trademark image processing technology to detect fay hard plaques in the arteries and help doctors determine whether surgery is needed or not. Some of the fields in which digital image processing is widely used are menoned below:

- Ÿ Imagesharpening and restoraon
- Ÿ Medicalfield
- Ÿ Remotesensing
- Ÿ Transmission and encoding
- Ÿ Machine/Robot vision
- Ÿ Colour processing
- Ÿ Pa ern recognion
- Ÿ Videoprocessing
- Ϋ́ Microscopic Imaging

How image processing will make a change in the future?

Like the daVinci system the medical robots, that allow doctors to remotely perform delicate diagnoses and surgeries by "seeing" extremely high quality 3-D images of what they couldn't have seen otherwise. Rcadia, a startup in Israel, has come up with its trademark image processing technology to detect fay hard plaques in the arteries and help doctors determine whether surgery is needed or not.

So-called 'Social X-ray' glasses are being developed to help those suffering from ausm decipher body language. Inbuilt grain-sized cameras capture images of faces and use soware to analyze and compare the various facial expressions (like confusion, anger, agreement) with the known expressions in a database.

The recognized informaon is then relayed to users through a ached headphones. "Human beings tend to process visual informaon faster and more accurately than text. A picture a er all can speak thousand words. Image processing will move the world, just how the text search did last decade," says Nainesh Rathore who is the CEO of Imagines cs. Using object recogni on, Imageniscs has come up with a unique visual search engine for complicated industrial products which are hard to describe in words to connect buyers and sellers in the industrial workplace.

Image Processing is a field wherein job opportunies are mushrooming rapidly and a field mainly for research oriented work to be taken.

Image Processing is a field wherein job opportunies are mushrooming rapidly and a field mainly for research oriented work to be taken.

> Mohan Sai II CSE-B



Increase the Effectiveness of CRM Software

In today's world many organizaons have started implemenng CRM (Customer Relaonship Management) as a part of their plan. But effecvely the results produced by these sowares are not up to the expectaons of the organizaon. There are some pracces that need to be followed to get the maximum out of the CRM product.

Determine Organizaon's requirements

The most important thing is to check what actually is CRM, as it means different meanings to different departments. It helps to improve the usage of CRM Soware if you decide who your target audience is, external versus internal clients. Also the CRM so ware changes according to the demand of the organizaon like you may start by wanng to develop customer informaon systems and then move on to delivery of new products to exisng clients.

Get a CRM Plan

It is always suggested to use a CRM soware that follows a balanced approach towards people and technology within the organizaon. When developing your plan, think in terms of strategic capability rather than focusing on one stac strategy. This provides immense flexibility in terms of industry and marketplace such that there is no need to develop altogether a new plan around the soware capabilies. Ensure that the CRM soware you choose meets your needs, and don't structure your plan around soware capabilies and limitaons.

Train the End Users

In depth training is necessary to make the most of any soware. While using the CRM is quite easy to make the most of it, but it is tough as well to make the most out of it. Emphasize how the soware fits into the overall CRM plan, and help users understand why they are inpung the informaon that the system requires. Such training can potenally reduce the chances of errors. Also allowing the full usage of soware rather than just maintaining the informaon of customers.

In today's world many organizaons have started implemenng CRM (Customer Relaonship Management) as a part of their plan.While using the CRM is quite easy to make the most of it, but it is tough as well to make the most out of it.

Manage the Quality of Document the you obtain

CRM soware is only as useful as the quality of the data it receives. The presence of duplicate entries can cause embarrassment as mulple sales agents contact the same person, and inaccurate data can impede the sales process and annoy exisng customers.

Quality of data can be defined in terms of completeness and accuracy.Completeness id the amount of complete data that is generated per customer.It also depends upon the quanty of the data generated about individuals. At the very least, you should have a last name, budget and contact details, and more informaon will only improve the performance of the soware.

Duplicate data can be idenfied in most CRM systems by performing a smart duplicate scanning check; otherwise, it should be done manually on a regular basis. In addion, you want to assign a person to be responsible for the accuracy of newly acquired data.

CRM soware cannot funcon in isolaon, and requires a proper definion and a complete CRM strategy. Choose so ware to meet the needs of this plan, and train employees on the use of the soware.

Raja Rao (Parent)



What is SOC's?

There were days when mobiles where luxury. Due to high demand int he market it led the manufactures to produce new CPU. Smart phones are gone from single-core to nowadays Octa-core. SoC stands for System on Chip it is the most common term in the industry.

What exactly is SoC?

An SoC is an integrated circuit that integrates all components of electronic system into a single chip.Rather than implemenng all the components seperately like CPU, GPU etc to make it compact manufacturers can implement the SoC and gain the benefits of it.

The two main manufacturing heads in the market are Nvidia and Qualcomm. And now Intel is also trying to estabilish in this field. All this SoC have a common component that is ARM.

You must know what is ARM.

ARM is a 32-bit microprocessor originally created by Acorn Computers in 1987. Since then, ARM has been the preferred microchip by any and all companies looking for a cheap and low powered chip. Since ARM devices are licenseable all companies like Samsung and Apple choose the predefined design and design it according to their requirement. But what Qualcomm does is that it constructs its own custom CPU's rather than going with the crowd.

ARM most popular devices are ARMv7, Cortex A8 etc.

Future Prospects :

SoC manufacturers are using 32-bit SoC architecture (ARMv7) these days. But recently with Apple launching its iphone 5s with a 64-bit CPU which allow sthw manufacturers to use more than 4 GB RAM.

Three major SoC with 64-bit hing the market are:

Qualcomm Snapdragon 610 and 615: The new Snapdragon 610 and 615 chipsets are 64-bit quad core and octa core respectely.

Nvidia Tegra K1: The biggest advancement Tegra 4 is the inclusion of a Kepler based GPU with staggering 192 shaders.

Mediatek Mt6732: It features four Cortex-A53 CPUs capable of running up to 1.5 Ghz.It will also sport the new Mali-T760 GPU.

I think you'll find this informaon helpful.

single chip.

Smartphones are gone from

integrates all components of

single-core to nowadays Octa-core. An SoC is an

integrated circuit that

electronic system into a

Satyanaraya (Guardian)

QIS students visit **Visakhapatnam Steel Plant**



OUR BURRAU Ongole: As reary as 77 third year stu-dents (ECE) of Q18 College of Engi-norring and Toolsnotogy, Ongole visited Visakinspetrum Sool Plant as part of industrial our, institute secretary and correspondent. N Barywindyan Chain ward bit am Nidamannet Schue-tional Society provident N Nigeosram

TANS TINDIA "In a Departure (4)

The officials of the plant dwifted all doubts related by Aken. Principal Dr CV Subba Ray and other faculty new-liged the industrial tous.

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ANS®INDIA Mon. 03 September 2018



Swachh Bharath activity by our students



Blood Donation Camp organized by our students



Inter district youth exchange program





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> -The Editorial Team Impulse