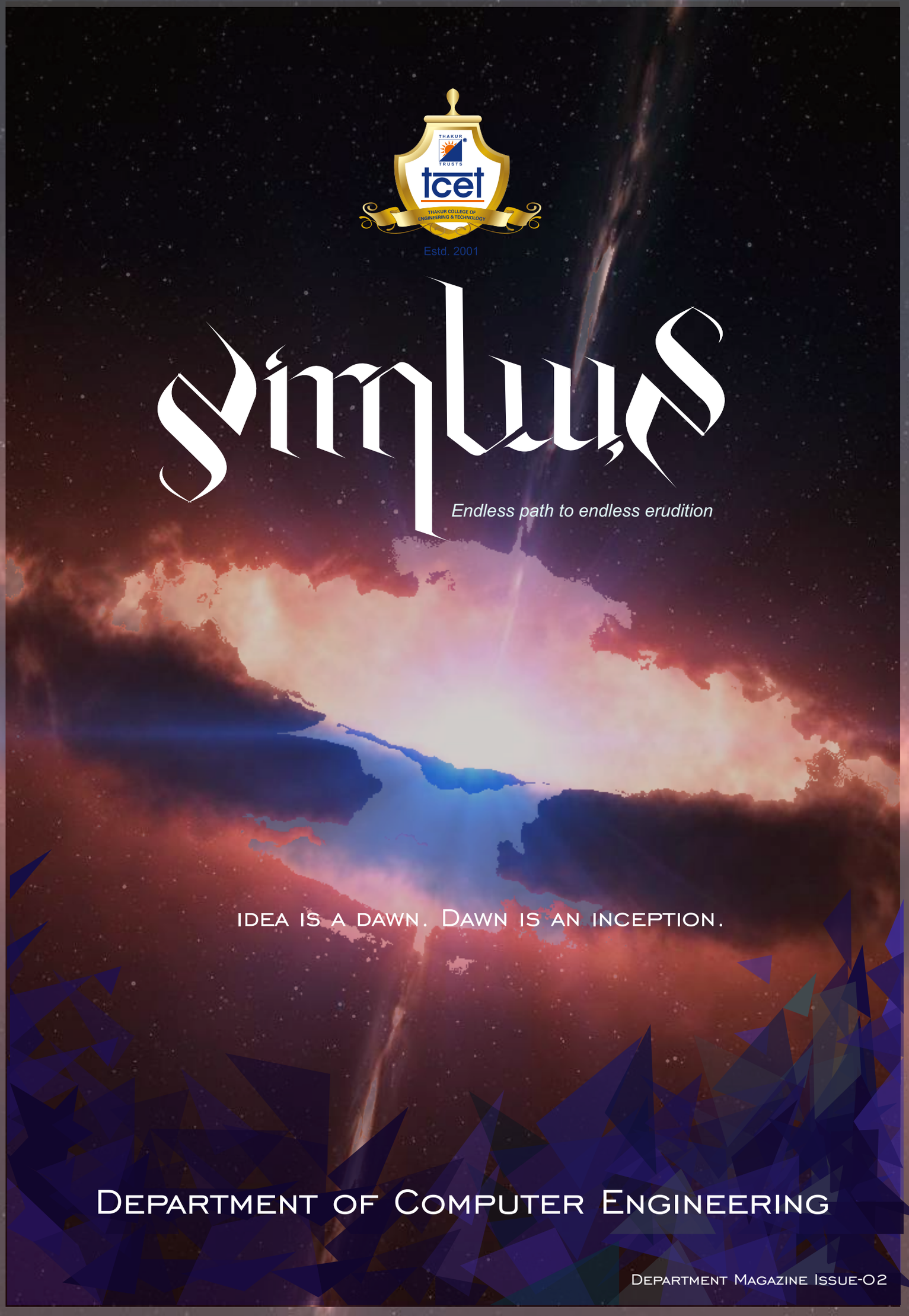
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Simplus
Endless path to endless erudition
IDEA IS A DAWN. DAWN IS AN INCEPTION.
Department of Computer Engineering
Department Magazine Issue-02

Computer Engineering Department

VISION

"To become a department of national relevance in the field of Computer Engineering."

MISSION

The Department of Computer Engineering is committed to nurture students with sound engineering knowledge in the field of computing through the effective use of modern tools with a focus on global employability by imbibing leadership qualities, ethical attitude, lifelong learning and social sensitivity.

PROGRAMME EDUCATIONAL OBJECTIVES (PEOs)

PEO 1: To attract and prepare learners to attain sound knowledge in the field of Computer Engineering.

1.1 To attract students by providing conducive academic environment and to enhance quality of students by rigorous monitoring and control.

1.2 To prepare learners with a sound foundation in mathematical, scientific and engineering fundamentals.

1.3 To prepare learners to use modern tools effectively for solving real life problems.

1.4 To equip learners with broad education relevant to field of computing in the global and social context.

PEO 2: **To prepare learners to attain need-based skills and competencies with a focus on futuristic needs at the national and international level.**

2.1 To ensure employability through need-based training spread over the entire course and meet contemporary local and global requirements.

2.2 To prepare learners for higher studies and life-long learning through active involvement in research oriented and industry-based projects.

PEO 3: **To prepare learners to become valued professionals and responsible citizens.**

3.1 To encourage and motivate students through well planned co-curricular and extra curricular activities for all-round personality development.

3.2 To inculcate professional and ethical attitude, leadership qualities and commitment to social responsibilities.

PROGRAMME OUTCOMES (Pos)

PO 1: Ability to perform academic activities and achieve the expected requirements by conforming to a pre-defined process as set by the institute and university.

PO 2: Ability to effectively apply knowledge of computing and mathematics to computer science problems.

PO 3: Ability and skills to effectively use state-of-the-art techniques and computing tools for analysis, design and implementation of computing systems which resolve real life problems.

PO 4: Ability to utilize multi-disciplinary knowledge across domains to effectively apply computer technology in a global and social environment.

PO 5: Ability to efficiently make use of additional training provided throughout the course, satisfying industry requirements and thereby becoming globally employable.

PO 6: Ability to successfully pursue professional development through lifelong learning.

PO 7: Ability to communicate effectively with both technical and non-technical audiences.

PO 8: Ability to become a versatile professional and function effectively as an individual and as a member of a team.

PO 9: Ability to understand professional, ethical, legal, security, and social issues and responsibilities.

Editorial Committee

Student Members

Silvia Fernandes (Batch-2015)
Sneha Shandilya (BE CMPN B)
Aniket Acharya(BE CMPN B)

Art Design

Bhalchandra Naik (TE CMPN A)
Aditya Munot (TE CMPN A)

Faculty Members

Dr. Rekha Sharma, HOD CMPN
Mrs. Shiwani Gupta, A.P. CMPN
Mr. Anand Khandare, A.P. CMPN
Ms. Harshala Yadav, A.P. CMPN
Mrs. Ashwini Patil, Proterm-Lecturer

Dean's Message

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

Nimbus 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 second issue of Nimbus . I am glad to see that they have lived up to the high standards they had set with the first edition and my best wishes to the students for a bright future.

Dr. R. R. Sedamkar

HOD's Message

Congratulations to the students and faculty associated to magazine committee for successfully publishing the second issue of departmental technical magazine Nimbus. Nimbus 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 Nimbus 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. Rekha Sharma

Faculty Incharge's message

This is the second issue of the CMPN department magazine. As the leader of the CMPN department magazine, Nimbus, 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. Nimbus 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 TCET, by the students of TCET itself.

Since the team was experienced, having worked on the first 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 first issue. 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 Nimbus team, for their commendable job.

I would also like to thank every member of the Nimbus 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.

Mr. Anand Khandare
AP-CMPN

Editorial

At the outset, on behalf of the entire Computer Engineering department and all the readers I extend my whole hearted gratitude to the honorable principal Dr. B. K. MISHRA, to our worthy Dean, Dr. R. R. SEDAMKAR, and also to our HOD CMPN Dr. REKHA SHARMA for their dynamic, inspirational, enthusiastic contribution and motivation towards our department also boosting our confidence for the consecutive publishing of second Issue of the Magazine Nimbus. This technical magazine named 'NIMBUS' signifies an emanation of knowledge. We received some of your encouraging feedback for our first edition on Latest trends in technology that has given us confidence to bring out more such theme based editions in the near future. Team 'Nimbus' will always remain indebted for the immense support and interest shown by you all.

Computer Science and Engineering is an ever-expanding field and the power what technology holds today is definitely beyond one's imagination rendering splendid set of ideas and therefore, the current issue in your hands is the second edition of the magazine themed as 'Idea is a dawn. Dawn is an Inception'. This edition is full of exciting new technologies; we have also included certain articles from the Industries. We have also covered important events and programs organized by the department of Computer Engineering in Thakur College of Engineering & Technology (TCET). Our endeavour with each edition is to update you on the latest trends of technologies coming up and flashing some light on the innovative minds of the youth today. Lastly, quoting my special thanks to Anand Khandare Sir for his support and guidance all along, the departmental faculty members and also to all my team members without whom this Issue wouldn't have been possible. We hope all the readers will enjoy this issue as much as we enjoyed creating it.

Silvia Fernandes
Lead Editor-Nimbus

A Note to my BE Students

Dear BE Students,

You will become engineering graduates the next year. You need to decide upon the path to be followed for your career in which you are interested. You may want to go for Industry, for higher studies or you may want to start up a company of your own. It should be decided by looking at your own interest and capabilities and market trends. Whatever path you choose, pursue it with full dedication and enthusiasm. Grab the opportunities in front of you and, utilize and improve your skills continuously. Your capabilities and skills should be reflected from your performance in academics and industry.

I would like to congratulate all the students who have been placed through campus recruitment process in various reputed companies. Your parents, teachers and you yourself have waited for this day. It is an important milestone in your lives. Your dreams have come true due to your hard work and efforts made by your parents and teachers. The time now has come to prove your talents in the industry.

As most of the students are placed in the reputed organization proving their talent as well as their capabilities, they now need to share their pool of knowledge with other students who are still awaiting placements. They should anticipate their shortcomings and explore their inner strength, seek guidance from the teachers and work hard towards improvement of their performance.

Students opting for higher studies should manage their academics along with their preparations for various entrance examinations. In the final year of graduate education you need to make a thorough analysis of your aptitude and work towards achieving your career objective.

Last but not the least, the acquired knowledge(technical and non-technical) on no account, should ever be used against the society or mankind.

Dr. Rekha Sharma
HOD-CMPN

Summary of Nimbus 2.0

During the inauguration of the 1st issue of technical magazine, Nimbus which was held in January, 2015 each and every member of our magazine committee were too excited to receive the feedback on all the efforts that were taken by us to initiate the 1st departmental magazine ever for Computer Engineering. We received positive feedback from our classmates, friends, from the faculty members of all other departments as well that boosted our confidence towards recreating Nimbus. I, being the lead editor somehow wanted Nimbus to have a completely new definition of what current technology is and in what way it can leave a positive mark on us. Thus, I was eager to have a second print of Nimbus to be launched and I discussed it out with the core members of the magazine committee to start working upon the same. Being inspired with the success of the 1st launch of the magazine we had two new members like Aniket Acharya and Shubham Rai who by themselves came up forward to show their interest in working towards the next issue of the magazine and so in total now we all were 10 members each trying hard to put forth some great ideas in the next print. The faculty lead of the magazine Mr. Anand Khandare is the one who made all of our ideas come true.

Our challenge was to make this edition better than the previous and update our readers with latest trends of technologies coming up. Our committee member Bhalchandra Naik an avid designer of the magazine came up with the suggestion of the theme of the magazine, "An Idea is a Dawn, Dawn is an Inception" which signifies the small beginnings all great things have, be it an major intellectual breakthrough or a lucrative entrepreneurship venture.

This time the aim was to collect best technical articles covering each class and division of Computer engineering branch. The articles collected are based on innovative trends like Internet of Things, Hadoop, Business process re-engineering along with some nontechnical articles like time management that impact our daily life. The faculty lead Mr. Anand Khandare brought in the idea of having articles written by various Industry personnel as well, this added a golden feather to the cap. We also covered all the important technical events and programs that were organized by the department of Computer Engineering in Thakur College of Engineering and Technology. The placement criteria and placements statistics for its previous academic years have also been included just to boost up the confidence of the newbies and make them aware of various companies that headway in our college. This issue includes 4 main sections namely: Alumni, Industries, Faculty, Students and Parents along with the achievements of Tcetians. Our main aim was to keep articles that were at most 5% plagiarised and not above that. Thus, we have examined each article against plagiarism at 3 different levels: Author level, Editorial level and Faculty level. The gems of our team Bhalchandra Naik and Aditya Munot have worked on publishing a website for the magazine and also Mr. Anand Khandare to bring in the idea of launching a mobile application of the magazine on Google Playstore through which the magazine is easily downloadable on your mobile phones and the articles can be read anytime and anywhere you go. We hope that all the readers will enjoy this issue as much as we have enjoyed creating it.

Members of
Nimbus 2.0 committee

Index

FACULTY

Biometrics: Future Scope

It is possible to confirm or establish an individual's identity 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 identity based on a physiological (face, fingerprints, hand geometry, iris, retinal, vein, DNA, ear print) or behavioral (handwriting, voice, keystroke) characteristic.

The need for biometrics can be found in government, military, and commercial applications example: workstations, network and domain access, single sign-on, application logon, data protection, remote access to resources, transaction security and web security.

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.

Biometric recognition can be done via verification/authentication (one-one) or identification (one-many).

The authentication process involves:

- Sensing
- Feature Extraction
- Pattern Matching
- Decision Making

Biometric traits are subject to:

- Noise in sensed data
- Intraclass variation
- Interclass similarity
- Non universality
- Spoof attacks

The above limitations can be overcome by using Multimodal Biometrics. Following fusion scenarios may be presented:

- Single biometric trait, multiple sensors (2D and 3D image of face)
- Single biometric trait, multiple classifiers (combine PCA, LDA, ICA for face or minutiae and texture based for fingerprint)
- Single biometric trait, multiple units (combine 2 or more fingers of single user or both irises)

- Multiple biometric traits (face, voice or face, fingerprint)

A particular biometric must possess following characteristics:

Universality (every individual must possess the biometric)

- Distinctiveness (unique to each individual)
- Permanence (invariant with time)
- Collectability (measurable)
- Acceptability
- Resistance to circumvention.

However, a human characteristic that possesses all these properties has not yet been identified. As a result, none of the existing unimodal biometric systems provides perfect recognition and there is a scope for improving the performance of these systems.

Characteristics like skin color, eye color, hair color, presence of beard, presence of moustache, height, weight, gait, keystroke, clothes color, tattoos, accessories, gender, ethnicity, age, height, weight and eye color though not unique and reliable, provide some information about the user. These characteristics are referred as "soft" biometric traits and can complement the identity information provided by the primary biometric identifiers. These are easier to capture from a distance and do not require cooperation from the subjects.

Although biometrics is a powerful tool against repudiation and has been widely deployed in various security systems, biometric characteristics are largely immutable, resulting 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 intentional, repeatable distortions of biometric signals based on non-invertible transforms or biometric salting which provide a comparison of biometric templates in the transformed domain. If a cancelable feature is compromised, the distortion characteristics are changed, and the same biometrics is mapped to a new template, which is used subsequently. The application of transforms provides irreversibility and un-link-ability of biometric templates, which prevents the use of same captured template for other applications.

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 biometric-dependent public information, which is applied to retrieve or generate keys, also referred to as helper data There are further challenges involved in biometric key generation primarily due to drastic acquisition variations in the representation of a biometric identifier and the imperfect nature of biometric feature extraction and matching algorithms.

Mrs. Shiwani Gupta
AP CMPN

Programming language Dictionary

A- Arithmetic 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 multi-paradim system programming language.

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

F- Module-oriented, compiled and numeric computer programming developed for scientific programming and scientific computation.

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- Interactive Data Language (IDL), is a programming language used for data analysis. It is popular in particular 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,platformed 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 multi-paradigm numerical computing environment and 4th generation programming language.

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

O- Oak is a programming language created by James Gosling in 1991 Sun Microsystems set-top box project.

P- Perl (Practical Extraction and Reporting 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 software environment for statistical computing and graphics.

S- Is a statistical 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 Software and in 2005 for Microsoft Windows.

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

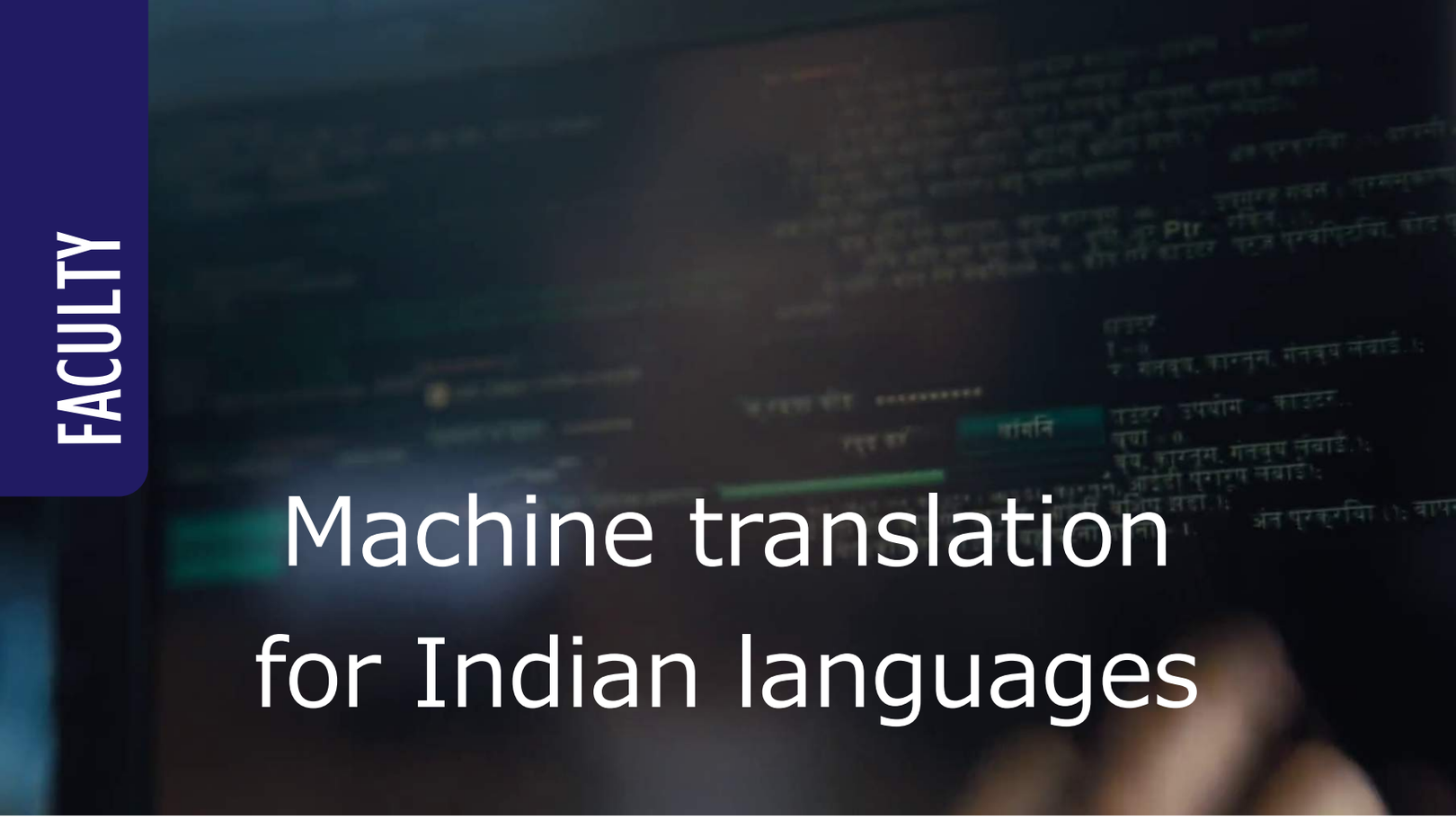
W- WATFIV developed at the University of waterloo is an implementation of the FORTRAN programming language.

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 notation is a formal specification language used for describing and modelling computing systems.

Mrs. Megharani Patil
& Mr. Anand Khandare
A.P CMPN



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 question is, if the digital systems can ever process natural languages. Natural Language Processing is a field which works in the same direction.

Being a multilingual Country where languages change after every 50 miles and 22 languages as official. The need for Machine Translation 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 translation, a field of Natural Language Processing has evolved in India. For a country like ours, it is important to have a system where communication becomes easy. However, it's relatively a new field in India, many projects under the government of India and other prominent institutes 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 translation system which will translate from one regional language to another.

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.

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 translation so that we can one day have a system which communicates in Natural Languages.

Ms. Shruti Mathur
AP CMPN

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 notice anyone else looking at the screen over your shoulder, you change tabs to Google.com and just stare at it until they leave). However, here are some, rather interesting facts about Google that you may not know.

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.

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.
Sometimes, the results are rather surprising.

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 notice that the numbers match up to the letters 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 Native 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 stick-figure drawing behind the second “o” in the word “Google”. To notify the Google users that the founders were “out of office” at the Burning Man festival 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 time people spend on its site might be Google. Google engineers are encouraged to spend about 20 percent of their work time on projects that interest them using a policy often called as Innovation Time Off.

Mr. Shailesh Sangle
CMPN dept.

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 innovative 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 frustrations, lack of opportunity to prove yourself, internal politics, 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 title, a big dream to chase, a particular spouse. Nothing wrong about it, especially considering needs of any single person does not remain static over their lifetime, but evolve to match their circumstances at the time. 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 settle for whatever the reality gives them.

Only one species is the exception to this rule. Some call it homo sapiens, other mentions 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 better, to positively and actively affect our reality.

And we do have plenty of excuses, most of them easily distinguishable 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 good-heartedness, the only description of all these excuses I can give is lame. No excuse is good enough to settle for the next best thing.

“But what if I fail?”

Oh, sure, you will, several times to be honest. In fact, it doesn't really matter. You fail, you draw conclusions, you evolve, you keep calm, you carry on. That's it. This is how the greatest inventions 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, Realistic, Timeboxed) goals, you could either magnify the goal tenfold, or decrease the time box ten times. 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 time (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 time (6 minutes), that's an entirely different story. Merely doing the same thing – walking – yet 10 times faster, is not an option. 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 ambitious - impossible to achieve using your regular mode of operation – goal, you've forced yourself to think outside the box. You've actually opened the window of opportunities.

It's the same with every single thing in our life. Thinking of a dream job, far beyond your seemingly achievable postings? 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”. Fantastic, now you know what to do to get there. I got to work with industry-best this way. Attempt, rejection, feedback, conclusion, improvement, another attempt 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 artificially?

See that someone over there, the popular one, which you'd dream would live with you 'happily ever after'? 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. Congratulations, Mr. Edison!

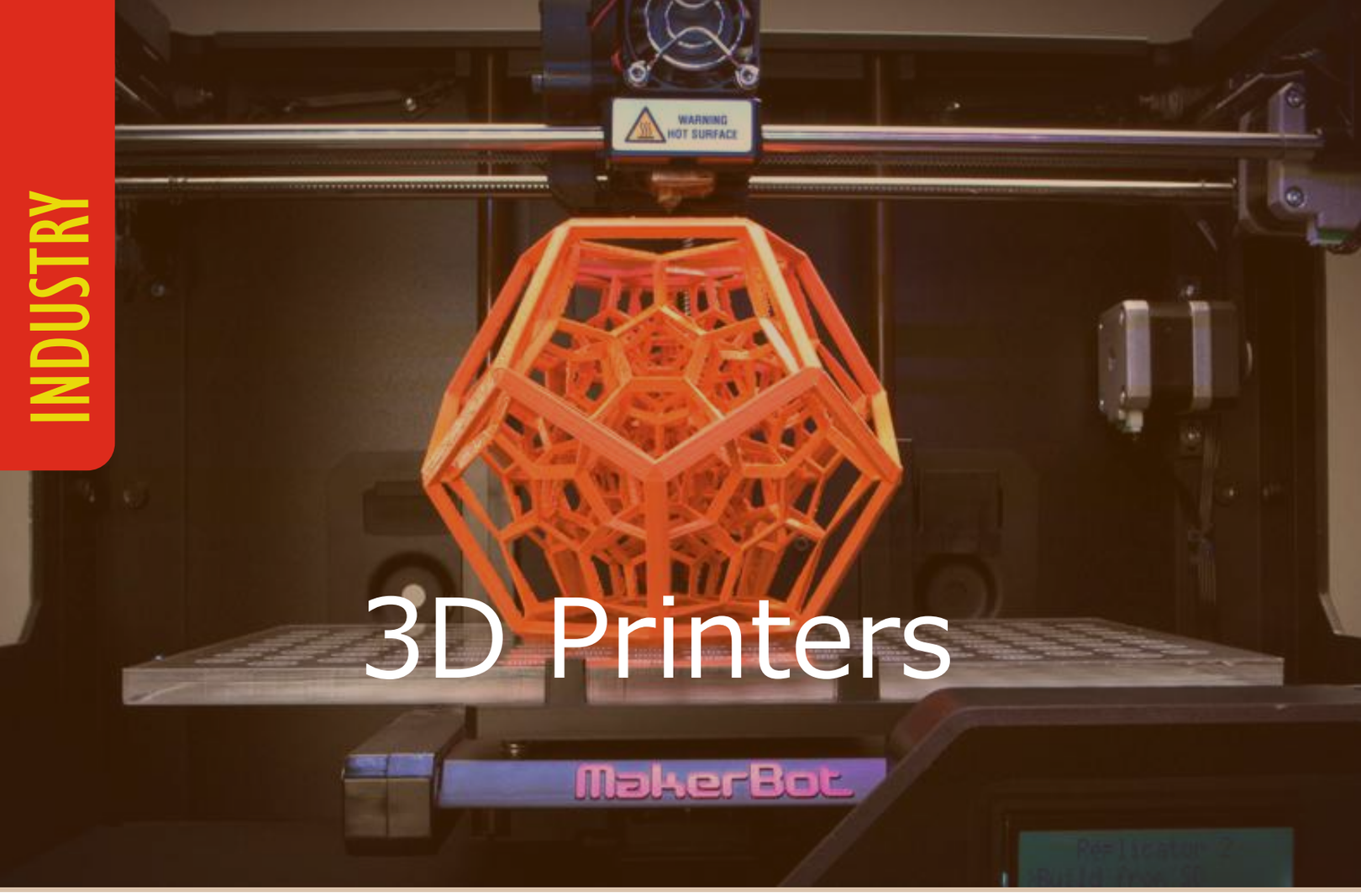
It is unnatural for any being to limit itself voluntarily. This is not how we change ourselves, how we change our reality, how we change the world. Whatever you do, aspire for the best. If you fail, learn from it, modify your approach, then do it again.

Blind persistence is a fantastic pathway to the exceptional mediocrity. Persistence in adapting 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 Positive
Passion is Power
Experience is Priceless
Be Persistent
Get the job done
Fighting for Something you believe in

Gopal Kharwat
Manager – Human Resource
Zycus Inc.



3D Printers

What is 3D Printing?
3D printing or additive manufacturing (AM) is the use of one of various processes to make a three-dimensional object. In 3D printing, primarily additive 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 printing from newscasters and journalists, astonished at what they've witnessed. 3D Printer is a machine, which can “print” using plastic, metal, nylon, and over a hundred other materials. It can be used for making nonsensical little models like the over-printed Yoda, yet it can also print manufacturing prototypes, end user products, legal guns, aircraft engine parts, innovative jewelry design and even human organs using a person's own cells.

This special printing method allows you to display 3-D models to customers that are fully functional and look very much like the real thing.

How 3D Printing 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 creation of a totally new object) or with the use of a 3D scanner (to copy an existing 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 printing, the software 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, resulting in one three dimensional object.

Methods and Technologies of 3D Printing:
Some methods use melting or softening material to produce the layers. Selective laser sintering (SLS) and Fused Filament Fabrication (FFF) are the most common technologies using this way of

printing. Another method of printing is to lay liquid materials that are cured with different technologies.
3-D Printing Advantages:

Shorter response times
Three-dimensional printing allows businesses to construct working models in just hours instead of days or weeks.

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

Superior Surface Finish
Certain three-dimensional printing methods enable the production of objects with excellent surface features. This makes it very easy to create construction models or prototypes for a wide variety of projects within many industries.

Durability
The objects obtained in many types of 3-D printing are quite long lasting and durable, as they do not absorb moisture or warp over time.

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

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

VISHVA 3D Printer process starts with importing an STL file of a model into a Pre-processing software. It operates in X, Y and Z axes, drawing the model one layer at a time. It works by melting filament material that is deposited, via a print head, a layer at a time, onto a build platform 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 Applications such as:
- Prototype model making
- Education
- Automation industries
- Design and Engineering
- Research
- Architecture model making
- Toy manufacturer etc.

Importance of 3D printer in Industries
Quality and speed are critical 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 production in the fastest time possible.

3D printing processes allow for mass customization the ability to personalize products according to individual needs and requirements. Even within the same build chamber, the nature of 3D printing means that numerous products can be manufactured at the same time according to the end-users requirements at no additional process cost.

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

3D Printer for Education
3D printing 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 printing is a revolutionary and innovative technology that can truly introduce new methods of learning and understanding concepts that traditional means can't. As the costs of the devices continue to come down and their applications increase, there is no doubt that this is an emerging technology that will become more common place, and more valuable, in education.

Why 3D Printer for Education?
- It provides teachers with 3 dimensional visual aids that they can use in their classroom particularly in illustrating a hard to grasp concept.
- 3D printer makes it easy for teachers to seize the interest of their students compared to just showing the pictorial representations of objects.
- It enhances hands-on learning and learning by doing. Using this prototyping technology, students will be able to produce realistic 3 dimensional mini-models (Great for engineering, architecture, and multi-media arts students).
- It provides more room for interactive class activities. 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 Printing has caught attention of educators who are looking into ways to incorporate it into the classrooms of colleges and even schools

- Biology students can study cross-sections of hearts or other organs.
- Chemistry students can print out complex molecules to study.
- Engineering students can print modified car or robot parts.
- Geography students can print out topography, population or demographics of an area.
- Graphic students can create prototypes of product designs.
- Food technology students can design molds and cookie cutter templates.
- Design and Engineering students can make prototypes of their creations.
- Architectural students can print new or existing designs.
- History classes can print artifacts for closer examination.

The Future of 3D Printing

This is a disruptive technology of mammoth proportions, with effects on energy use, waste, customization, product availability, art, medicine, construction, the sciences, and of course manufacturing. It will change the world as we know it.

It is predicted by some additive 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 corporations.

Amit Donda
& Vikas Natuskar
MudraTech

E-mail writing

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

An e-mail message is mainly divided into two sections, 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 identifies a website on the Internet. For example, consider the domain name www.yahoo.com. Here, .com is identified as the top-level domain. As the name specifies, the top-level domain represents the objectives of the website and categorizes the websites.

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

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

Domain Name	Description	Examples
.com	Used by websites of business organizations	www.ebay.com www.amazon.com
.edu	Used by websites of educational institutions, universities, and colleges	www.career.edu www.harvard.edu
.org	Used by websites of non-profit organizations	http://en.wikipedia.org www.mozilla.org
.net	Used by websites of network providers	www.asp.net www.whois.net
.gov	Used by websites of government organizations	www.mit.gov.in www.dotgov.gov
.mil	Used by websites of military organizations	www.nic.mil www.dtic.mil

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 mentioned 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 communication.

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 entire e-mail.

The body of e-mail can be divided into:
Opening: The opening of the e-mail is its introduction paragraph. In this paragraph, you acknowledge the recipient, introduce yourself or open a chain of communication.

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 time frames for the next communication, and conclude by sign off.

Guidelines for E-mail Writing
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. Often, recipients prioritize 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 times, 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 mention why it is important. The subject line should be like an informative headline. It should summarize the entire content of the e-mail.

Can be in form of a question: When you are writing an e-mail to receive an answer of a question quickly, you can just write the question 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 time we are going to meet?”

Use an appropriate greeting: Begin your e-mail with a greeting 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 wasting the recipient's time. In case, you want to write more, write it in a document and send it as an attachment.

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 information.

Use business English: Use formal language and use standard spelling, punctuation, and capitalization.

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

Proofread and check spellings before sending the e-mail: Proofread the e-mail to ensure that it contains the accurate message and is error free. For example, you are informing your colleagues the meeting time. The meeting time is 5 pm and you mention 6 pm in the e-mails.

Email Etiquettes
Follow the e-mail etiquette for writing an effective e-mail:

- Always read the complete e-mail before framing your reply.
- Write short sentences.
- Ensure that the grammar is correct.
- Keep the language simple and professional.
- e accurate while providing information.
- Avoid spelling mistakes.
- Provide a subject that summarizes the content of the entire mail.
- Maintain a positive tone.
- Introduce yourself and provide a proper sign-off.
- Check the size of the attachments before sending.

In addition, keep the following points in mind:

- Use fonts that are readable and easy to understand
- 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 Information) before the subject line.
- Avoid 'SHOUTING' that means do not write the complete e-mail in capital letters.
- Use bold/ italics/ underline for emphasizing text.
- Avoid sending spam mails. Spam mails are defined as unwanted e-mails that are sent to a large number of users specifically for advertising the products by unethical marketers.
- Avoid using chat language, acronyms, and emotions.
- Avoid humour, jokes, and sarcasm.

Do not send e-mails to discuss confidential matters such as disciplinary action, conflicts, and personal complaints about co-workers.

Mervin D'silva

Traditions of the Trade of in the IT 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 realization that we'll soon be out of our well protected college environment and fighting 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 transition, 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 article. 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.

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.

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. Sometimes, it feels like you're still sitting in your college lab performing one of your practices. The major difference is in the appreciation of concepts, you understood in college, but had second thoughts about their practical application. An enterprise level code stack is the best embodiment of Object Oriented Programming (OOP) concepts like Abstraction, 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 consideration to the software resources like memory and time 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 qualities which will stand you in good stead irrespective of the profile of your job. Remember your doing well and be accountable about the development

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 settled 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 function pointers and macros for example. As I already mentioned, the onus is on you to keep developing, keep progressing, keep gaining knowledge. Don't stay in your cocoons, safe and tidy in your comfort zones. Move out, interact with other people; people from other departments. Use lunch time 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 function 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 mentioned 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 pertinent 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. Cutting 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 functionality. 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 tidier than emailing updated files to each other and is worth the initial hassle of installation and learning the ways of the system.

That's that then. Hope this little discussion was worth your time 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:
Aptitude Test
Technical Interview
HR Interview

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

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

2. Prepare well in advance for the technical interview. The panel might ask you any questions 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 asked a question it's alright to pause and take a moment to collect your ideas.

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

I hope this helps you in getting the basic idea of how to go about preparing for campus placements. I wish you all the best. Do well. :)

Manjusha Ray
Batch-2013

Time - Management

Change your Time Management Philosophy Now! Streamline your Time.

Time is the most valuable resource and needs to be managed properly to utilize its full benefits. It has 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 time, even though we have full 24hrs in a day. This is due to lack of proper time management. Poor time management prevents you from completing your work on time, thereby causing you a lot of stress. By managing time properly, you can organize your work systematically and relieve yourself of stress caused by the overload of unfinished work. Most people consider time management as the simple concept of maintaining a diary and planning activities. However, besides maintaining a diary and planning activities, effective time management also helps you to schedule and prioritize your activities.

Time management helps you in several ways.

For example, it helps you to:

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

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

Avoid procrastination: Procrastination is the habit of putting 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: Delegation means transferring the initiative and authority to another person for performing a task. Delegation saves your time 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 time for doing tasks that require a higher skill level.

Learn to say “No”: People often make the mistake of saying 'yes' to everything they are asked to do without actually analyzing whether they have time to do it. You might find it difficult to refuse somebody's request for your time. However, you need to learn to decline their request politely, but firmly. Effectiveness 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 time. 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 tight schedule”.

Set up a routine: 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 time and energy. To avoid this problem, set a routine for doing certain things at a certain time daily and in defined time duration. Then stick to that routine everyday.

Divide large tasks: Large tasks should be broken into a series of small tasks. By creating 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 time effectively if you are not clear about your goals.

Time Stealers

For effective time management, you need to know which aspects of your personal management need improvement. Sometimes 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 times to avoid monotony of work, or maybe just because you think you will be able to pull it off without wasting time. However, each and every distraction from your schedule, costs you time and time stealers squeeze out time from your important scheduled projects, leaving you with lesser time and more work. This, in turn, can make you overworked and stressed. Some common time stealers are:

Personal e-mail: Do not use valuable work time to send and receive personal joke-sharing or other distracting e-mails. Sending and receiving personal e-mail messages during office hours exhibits poor work ethics and causes a lot of distraction from your scheduled work. Plan to check your e-mail two or three times a day only. Allot time 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 time. 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 particular time 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. Promotional or sales calls need not be returned.

Peers and colleagues wanting some files or report: Help your peers and colleagues understand that you are involved in a high priority project and are pressed for time. Give them a time at which they can get their questions and issues answered. In case the files required are urgent and serve as dependencies for the completion 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 distractions such as online shopping or browsing through interesting sites that are unrelated to your current project.

The Internet can be a huge distraction, while at the same time 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 timelines periodically.

Other projects: Sometimes 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 activity/idea and plan to do it at some other time. Getting up to work on the other project can be a way of

procrastinating.

Personal disorganization: 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 relatively clear of unessential materials before you start working. Schedule a cleaning time on your calendar.

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

Frequent tea/coffee/smoke break: Avoid frequent tea/coffee/smoke breaks. Frequent breaks hamper your focus and may be a sign of procrastination. 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 time and distort your professional image.

Meetings: When attending a meeting, keep a track of time. If you feel that your active participation is not required in the meeting, excuse and update yourself on the meeting later. If the meeting is regarding a new project discussion, you must let your boss know about the deadline of your current project and ask him whether the existing project or the new project should get precedence. Play safe and let your boss decide the priorities. Meetings without a proper agenda are a big wastage of time.

Overcoming Procrastination

Procrastination:
Procrastination 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 little time.

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

If you find yourself in any of the following mentioned situations, you can be sure that you are procrastinating:

- Your to-do list is filled with all routine tasks that you would do even if not listed.
- You read an e-mail more than once without starting 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.
- You are known in the office to help anybody and everybody at any time of the day or night.

Setting SMART Goals
To start managing time effectively, you need to set goals. When you have a destination, it is only then that you can figure out the best way to reach it. Without proper goal setting, you will fritter away your time on a confusion of conflicting priorities. General perception about goal setting is that it takes a lot of time. Moreover, people tend to think that when their goals are in their minds, why they should waste time in writing them over. But what people fail to understand is that the effort spent in writing their goals and planning how to achieve them strengthens their focus and confidence.

The five main characteristics 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 expectation of the person. This avoids misunderstanding about requirements and expectations. 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 motivation. 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 de-motivate you and cause you a lot of stress. People are best motivated 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 time bound. Having a time limit for the completion of a task ensures commitment and planning to achieve it.

Example, a goal such as “Create a presentation on goal setting in one hour” is a time bound goal, whereas a goal such as “Create a presentation on goal setting” is not a time bound goal.

Assigning Priorities to Activities

A priority consists of two elements, urgency and importance. To prioritize the activities on the basis of urgency and importance, you can use the time management grid.

The time management grid is a simple diagramming

The time management grid contains four quadrants:

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

technique that helps you choose which activities to prioritize and which to drop to make the most of your time and opportunities. All the activities in your to-do list can be listed in one of the quadrants in the time management grid.

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

Quadrant 2: This quadrant contains activities that are important but not urgent.It represents quality time. Although the activities here are important, and contribute to achieving the goals and priorities, 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 preparation of an important talk, or mentoring a key individual. Prayer time, family time, and personal relaxation/recreation are also part of Quadrant 2.

Quadrant 3: This quadrant contains activities that are not important but are urgent. It represents distractions because it contains activities 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 activities that are neither important nor urgent. It represents time wasters because the activities in this quadrant can be completely avoided and the time spent on these activities can be utilized for doing some productive work. At times, meetings 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 time management is the art of utilizing the available time in a productive and efficient manner. The best way to create time is to cut down on unproductive activities and tasks that do not contribute towards our goals in life. Maintaining an organized workplace helps in reducing the wastage of time. Procrastination leads to stress in the long term, therefore, it is better to make the effort without wasting time. Set goals with specific timelines. Create activity log and to-do lists. Create an action plan to manage time by incorporating goals, schedules, priorities and delegation. Last but not the least, reduce stress, enjoy the time, work precise and act wise!

Silvia Fernandes
Batch-2015

ArcGIS

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

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

ArcGIS includes the following Windows desktop software:

- ArcReader, which allows one to view and query maps created using other ArcGIS products.
- ArcGIS for Desktop, which is licensed under three functionality levels.
- ArcGIS for Desktop Basic (formerly known as ArcView), this tool allows a person to view spatial data, create layered maps, and perform basic spatial analysis.
- ArcGIS for Desktop Standard (formerly known as ArcEditor), which in addition to the functionality of ArcView, includes advanced tools to manipulate shape files and geo-databases.
- ArcGIS for Desktop Advanced (formerly known as ArcInfo), which includes capabilities for manipulation of data, editing, and analysis.

Key features:-

- Conduct Spatial Analysis
- Manage Your Data More Efficiently
- Explore a World of Content
- Automate Advanced Workflows
- Easily Create Maps
- Start Geocoding
- Access Advanced Imagery
- 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 organization the ability to discover, use, make, and share maps from any device, anywhere, anytime.

Uttirna Das
Batch-2013

How to get into leading Entrepreneurship?

Entrepreneurship is the process of starting a business, a start-up company or other organization. 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 question is that does this really sum up the whole terminology or is there more to it?

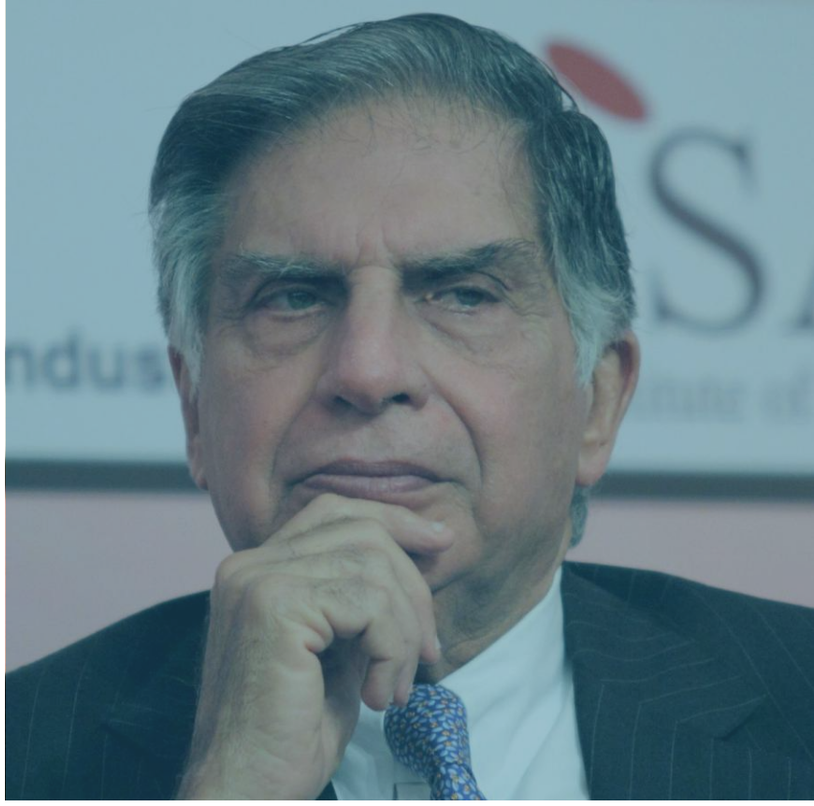
Whenever we use the term 'Entrepreneur' the first few things that strike our mind are the names of conglomerate heads, titans such as Steve Jobs, Ratan Tata, Sergey Brin - Larry Page, Mark Zuckerberg, Jeff Bezos, and many others. Steve Jobs is the symbol of uncompromising perfectionism, out of the box imagination and the ability to perceive the pulse of his customer base. He is also considered to be a marketing 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 instilled 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 domestic circles but also internationally. He had the fortitude to envision the development of the world's cheapest family car –The TATA Nano meeting 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 multi-billion dollar corporation that deals with web search engines and self-driving cars to delivering cost effective 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 administration 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 better place to live in. Mark Zuckerberg the self-confessed Harvard University drop out who became the youngest billionaire is the co-founder, chairman and chief executive officer of Facebook. Opposite to popular perceptions 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 better 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 motivation 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 notice how beds double the size of the original would cost proportionately 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 better sales. This is the classic example of an out of the box idea where companies and corporations in modern times too would offer their best selling products at competitive prices while greatly overpricing the rest of the products in their catalogue so as to lure a potential customer into buying that product – such as in gyms, by internet service providers, on e-commerce web portals etc.

From the above story and through an over-view of the personalities of various successful entrepreneurs we can now confidently answer our very first question 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 mentioned names not many have completed or yet, initiated a course in business administration and still they form the leading faces of our modern times.

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

One easy analogy to explain this could be that of Kings and Queens in previous times. In a way they too were entrepreneurs who ran kingdoms instead of corporations. 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 inspiration. An entrepreneur must lead by example through his/her policies, behaviour and attitude. The aura and charisma that often surrounds an entrepreneur and precedes his or her arrival are based on their past actions and form a precedent for others in the same institution 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 motivates one to work better. An entrepreneur may not necessarily be good with technical skills or finances but should definitely be adapt in their human relation 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 organization stands upon and act as an all-weather rudder in any boat that leads the corporation to safety during the time of crisis and to achieving their targets in the time of peace. This sometimes means taking harsh decisions for the well-being of the organization, decisions that may contradict your hopes and aspirations but never your beliefs and ethics. An entrepreneur must most definitely be a visionary and have a sense of fortitude taking decisions at every step that brings the enterprise closer to their goals and ideals. Steve Jobs for this very matter wasn't so much known for his technical skills as much as Steve Wozniaki but he was definitely a 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 till the tiniest of details. He was also a hard task master who was known for his violent bursts when things where not going as planned. 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 perspective from different scenarios and come up with decisions that are all well informed and relevant. The experience that comes with it helps in averting any incoming crisis or responding to a new one all-together. Taking active interest in that field by closely following the latest developments and trends helps an entrepreneur in knowing which direction the industry is taking and sometimes developing creative 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 organization must be treated and respected like family for it helps in inculcating respect, a work culture, loyalty and increased productivity.

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

Mayank Jain
Batch-2015

Windows 10 says Hello World!

Welcoming the Window of a new operating 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 foundation 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 button (though keeping the start menu look similar to Windows 8). Microsoft has changed dramatically since the launching of the Windows 7 that is, it has bought a Nokia (now the Microsoft Lumia) and had an overhaul of the whole Microsoft organization. Bringing in the upgraded Cortana from the mobile to the PC and also powerfully integrating it for a better user experience is the thing to be awaited for. With the new OS, Microsoft 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 Microsoft's new Edge rendering engine which isn't being included in IE in Windows 10 and packs some nifty extras.

Cortana pops up with supplementary information while you search the web, such as Yelp reviews and Bing Maps, directions 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 information while you surf the web, such as Yelp reviews and Bing Maps, directions, specially when you are viewing a restaurant website.

clutter-stripping Reading View, and allows you to stash articles 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 information, then use that information along with Bing powered cloud smarts to intelligently surfacing information you are looking for. Cortana also helps in the new Action Notification Center that will use better pop-ups to help the user. The user interface has also been improved by allowing multiple 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 section to visit the most frequently accessed files and applied to help users navigate better and save his precious time. 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 64-bit

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 optimal performance. Keeping the fingers crossed and hope to be filled with awe, this new piece of software will be available from 29th July 2015.

Anurag Singh
Batch-2015

Bridging the Digital Gap:
Project Loon

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 questions? Exactly! With time the concept of basic necessities 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 statistics only 40% of the population on earth enjoys internet facilities and about 60% of them are deprived of this all new fourth necessity of life.

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

Smartphones are gone from single-core to nowadays Octa-core. An SoC is an integrated circuit that integrates all components of electronic system into a single chip.

Project Loon by Google X serves as a prime solution to all your problems. The project uses high-altitude balloons placed in the stratosphere at an altitude 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 National Oceanic and Atmospheric Administration (NOAA) is collected and analyzed to maneuver the balloons by adjusting their altitude to float to a wind layer with the desired speed and direction. The signals travel through the balloon network from one balloon to another and further to the ground-base station 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 existing provisions with the gift of internet.

One of the most obvious avails of the project is the Availability of Information. Assuming all the mechanisms of the project are functioning 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. Information will be accessible to everyone irrespective of their location also in case of natural disasters when all the sources of information about that area are destroyed, project loon will serve as the only blessing.

The main problem with launching any hardware project is the certainty of eventual hardware failure. In most cases, the hardware is usually accessible and can be fixed. Loon balloon fails, it can either remain up in the air floating, making it difficult to bring down or

it might go down in unwanted areas. Both of these scenarios are a huge concern to the stability as well as the safety of people. Their lives might be affected by unwanted balloon landings. Another concern over this project is internet privacy since it gives Google more power over a wider range of consumer behavior. This information can become a security issue if it is shared with Government agencies.

This project is been currently tested in various parts of the world and if we keep our fingers crossed soon the entire world will be blessed with the internet facility because of Google's Project Loon.

WAIT FOR IT!

Mrinal Bageshwari
FE CMPN A

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 till the very end of this world. Even though he was not a soldier, but yet was a true hero. His work gave direction to the future of technology and considering our dependency on it, the future of the complete race. His benefaction in the form of his inventions led to some of the most famous technological paragons of our times. 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 battle with prostate cancer and ultimately, death. Posterity will always remember him as the father of modern computing. 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 writing about an unsung hero - Dennis MacAlistair Ritchie.

Posterity will always remember him as the father of modern computing. 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.

Surprised? I'm sure 99 percent of all people who read will be. Dennis M. Ritchie, Dennis Ritchie or simply 'DMR' as he was affectionately called by his workmates, was the devisor of the C programming language and the co-composer of the symphony that the UNIX operating system is. He died a week after Steve Jobs, with an affront void of media coverage. The list of devices, software, applications and services which run on the so called simplistic 'low level' language which he created and the operating 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

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 National 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 software 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 accumulating substantial riches. The UNIX operating system that he developed was open source and given to universities and anyone who would ask, so that people could assimilate and evolve his vision further. He helped port UNIX to different machines and platforms 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 derivatives and fall under the category of 'UNIX like' or 'UNIX based' operating 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 battled 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 contributions 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!

Divij Shah
FE CMPN B

BITCOINS

Can money be imaginary? Well the answer is BITCOINS. BITCOINS are the virtual currency which can be used for day to day transactions over the internet and as a substitute 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 transactions. The storage consists of time, date, participants and amount of every transaction. Each node (connection point) owns a full copy of the block chain. Each transaction is verified by BITCOINS miners on the basis of complex mathematical algorithms. The mathematical algorithms also make sure that each node agrees with the current state of the ledger and transactions in it, if anyone tries to corrupt the transactions, nodes will refuse to incorporate the transactions in the block chain.

BITCOINS mining is like a colossal lottery 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.

How to initiate transaction?

The transaction 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 transaction massage but the authenticity 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, transactions ,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 .

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 lottery 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 preventing any individual from gaining power to block certain transaction i.e. Mining make BITCOINS network secure as well as generating bitcoins. Now let's go technical, bitcoins mining, hardware uses Hashcash proof of work function. Proof of work is a method to ensure that information 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 exponentially difficult to reverse previous transactions because it will require recalculating proof of works of all blocks. Secondly, for new transactions miners need to include a block with mathematically proof of work, such proofs are hard to generate and depend upon hardware speed for calculations. 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 fluctuating every second the highest 1 bitcoin reached was in November 13 i.e. 1000 dollars.
- Germany is the only country who has given the official stamp of approval to bitcoins as private money.
- Currently 1 bitcoin =296. 5$=18000rs
- The one and the only bitcoin ATM is in Vancouver.

Pulkit Kedia
SE CMPN A

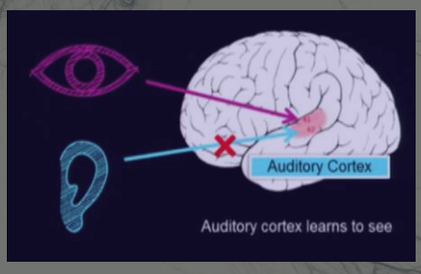
STUDENT

Artificial Intelligence: Neural networks

The idea behind J.A.R.V.I.S. in iron-man

How can a computer mimic a human brain? Well, the answer turns out pretty 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?

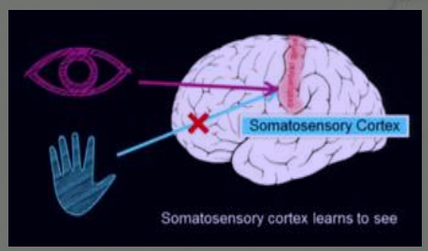
Our brain uses 'Auditory Cortex' which is connected to our ears to listen and to learn from it(Audiotory Cortex is shown in the Figure). This is the reason why you and I can learn by listening to sound.



Some Neuro-scientists did the following experiments:

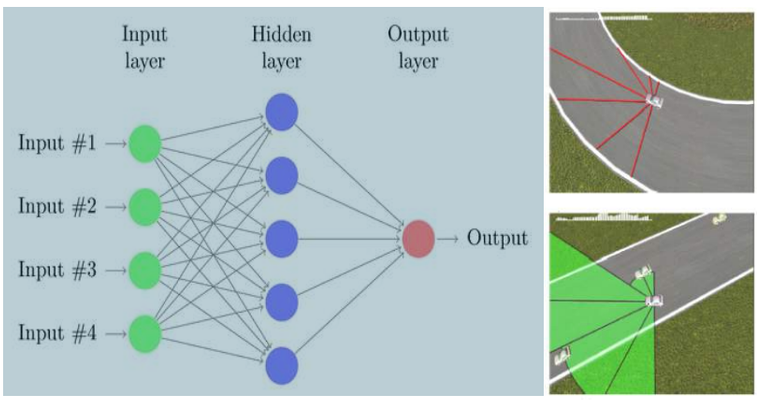
They removed the connection between the ears and Auditory Cortex and connected it to the eyes instead. They observed the same part of the brain was able to process vision which means it was able to see.

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 sensations in our body after a physical contact. In another experiment, the Neuro scientists removed the connection between hand and Somatosensory Cortex and connected it with eyes. It was observed the same piece of brain tissue was able to process vision which means it was able to see. There are many more experiments carried out by the Neuro scientists which suggest that the same part of brain tissue can process different information. This proves our assumption 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 article).

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 simulation 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 time 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 intuitive example of neural networks which can give you a better insight on neural networks. Engineers use a neuroevolution algorithm called NEAT (NeuroEvolution of Augmenting 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 situations. Here (on the left) are some examples of different sensor modalities that are used in both simulation and on a small four-wheeled robot. The linear algebra used is pretty simple which you can easily check out on the internet. The more the number of units in the hidden layer, the better (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 recognition (SIRI on iPhone), pattern recognition in codes, numbers, mathematical functions, handwriting recognition, etc. which use neural networks. There are unimaginable applications 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 left. 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 scientists that this could be the key to someday creating 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 interacting with us like just another human.

Gautam Sharma
SE CMPN B

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 application will be developed which will have the tie-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. After 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 (reconfirmation) for the final payment.

Imagine shopping without cash, it seems to be contradictory, but now not only you can think about it, but also experience it.

VERIFICATION OF PRODUCT LIST BY CUSTOMER

While receiving the message, the location of the shop, mall, etc. will be reflected on the receiver's end for the identification. After receiving the bill the customer will press “OK” for the payment transaction.

BILL RECEIVED BY THE CUSTOMER

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

TRANSFER OF MONEY

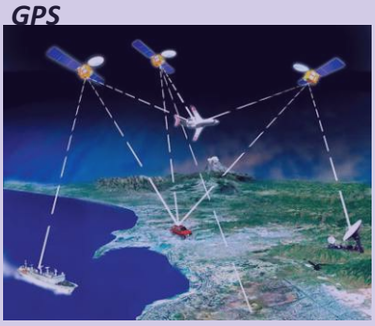
Why GPS?, if we don't have bank balance, then we can enter our parents or friends no. on the cashier's mobile phone along with our name and number succeeding the payment and through the location of the cashier and our details, parent or friend can know that who has done the payment to whom.

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

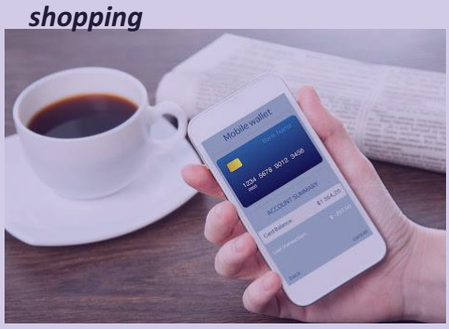
1. No Money

2.Give Parents Number.

3.Message Sending Through GPS



4.Parent recieving the message of shopping



Payment done if Parent presses OK

ADVANTAGES:

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

Vaiditya Chauhan
SE CMPN A

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 introduction 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-matter integration and a scarcity of qualified instructors. Yet there was also the question of purpose. With the rise of CD-ROMs over the 1990s, who wanted to toil over syntax typos and debugging problems by creating these applications oneself? This question 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 entirely unnecessary and others labeling it too difficult to teach and learn.

The Internet of Things is mainly concerned with the idea of increased machine-to-machine communication. It is built on the idea of cloud computing and networks of data gathering sensors.

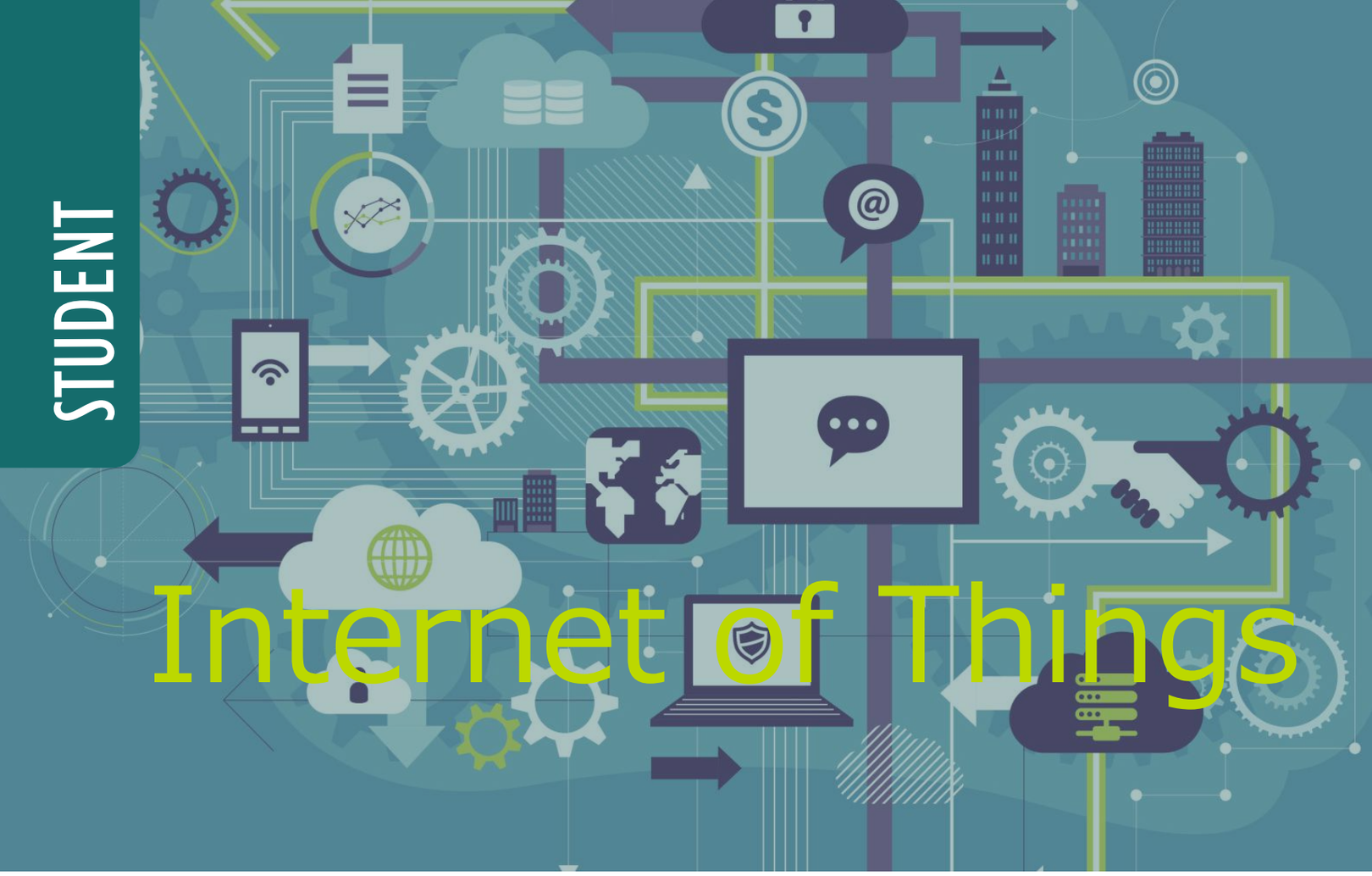
But this is changing. In the past five years, we've seen a new-found interest in bringing back learning and teaching programming at all levels. But it's digitally based youth cultures, not schools, leading this revival (Kafai & Peppler, 2011). Computers seem to be available everywhere, particularly outside the school, where children and youth are innovating with technology — often with handheld devices — to create their own interactive art projects ,video games, and even their own programmable clothes through electronic textiles. 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 connecting through technology. Schools may very well take a page from these informal association of creative production and networked participation. After all, despite this surge of interconnected youth communities, very few youth are using their smart devices — laptop, iPad, iPhone, or Droid — for something other than the mass consumption of commercial media. These digital natives may be able to technically manipulate the latest devices, but their capacity to wield such devices critically, creatively, and selectively is decidedly less potent.

What then is the role of programming in helping more productive use of technology? And what is the role of schools in introducing programming to a wider range of youth, particularly given schools' own failed attempts to teach coding in the past? How will schools address challenges of diversity and equity prevalent in computing culture? Given these questions facing education as well as the economic viability of this country, we must first understand what computational thinking is, how we can teach it, and why the computational participation of online communities and traditional schools together offers new opportunities to engage students.

Teaching Computational Thinking

So what could computational thinking look like in schools? How could we teach it? The definition of computational thinking as designing systems, solving problems, and understanding human behaviors admittedly provides quite a broad berth here. Several professional groups like the Computer Science Teachers Association and nonprofits like Shodor have developed academic standards and instructional activities to make computational thinking more accessible for education. 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.

Ravishankar Singh
SE CMPN B



Internet of Things

THE IDEA

When we hear people talk about “the next big thing”, what exactly do they talk about? Is it really innovative 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 time to Think Big! Think Different! The question is HOW??

The solution 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 communication. It is built on the idea of cloud computing and networks of data gathering sensors. It is mobile, virtual, and instantaneous connection; 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.”

The Internet of Things is mainly concerned with the idea of increased machine-to-machine communication. It is built on the idea of cloud computing and networks of data gathering sensors.

Now when we say people don't think big enough we mean they don't think creative. A lot of gossips and rumors have been heard on machine-to-machine communication (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 activity. It just follows the commands given to it. When we refer to making machines “smart”, we are not exactly referring to machine to machine communication. 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 connection of sensors and machines. It

comes from creative thinking!! In simple terms, the real value that the Internet of Things creates is a combination of gathering data and taking full advantage of it. The information gathered by all sensors in the worth holds worthless if there is no infrastructure to analyze it in real time. The sensors detect the required information correctly.

Simply, this concept is basically connecting 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, sometimes also called as Internet of Everything) is a network of physical objects or “things” embedded with electronics, sensors, software and connectivity to enable objects to exchange data with the manufacturer, operator and also with other connected devices based on the infrastructure of International Telecommunication Union's Global Standards Initiative.

By embedding short-range mobile transceivers into a wide array of additional gadgets and everyday items, allowing new techniques of communication between people and things, and also between things, the term 'Internet of Things' enabling new forms of communication 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 computing 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 Identification) as a method of communication. 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 communication 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 information system. It is becoming connected!

From any place, at any time, connectivity for anyone, we will now have connectivity for anything!

WHY INTERNET OF THINGS?

- Dynamic control of industry and daily life
- Improve the resource utilization ratio
- Better relationship between human and nature
- Forming an intellectual entity by integrating
- Human society and physical systems
- Universal transport & internetworking
- Accessibility & Usability
- Acts as technologies integrator
- Improved security
- Faster and better decision making
- New business opportunities and revenue streams

APPLICATIONS

- Media
- Environmental monitoring
- Infrastructure management
- Manufacturing
- Energy management
- Medical and healthcare systems
- Building and home automation
- Transportation
- Large scale deployments

Shraddha Dhumale
TE CMPN A

How to get an Internship

An internship is a short-term, hands-on, supervised work experience with a professional organization 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 partially paid (in the form of a stipend). Stipends are typically a fixed amount of money that is paid out on a regular basis. Usually, interns that are paid through stipends are paid on a monthly basis. Paid internships are common in professional fields including medicine, architecture, science, engineering, law, business and advertising.

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 location. It provides the capacity to gain job experience without the conventional requirement of being physically present in an office. The internship is conducted via virtual means, such as phone, email, and web communication. Virtual interns generally have the opportunity to work at their own pace.

Internship opportunities in India are career specific. College students often choose internships based on their branch of study at University. Students often see it as a way to develop their capabilities by practically 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 universities, 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 organization 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 multinational 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 stipend. Sometimes they might hire the student as a permanent employee stating that after completion of degree course that the student can join in that company as a software analyst if the course is Computer Engineering.

But the point is, What are the qualities 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, attitude, communication skills, and analytical 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 particular internship.

But sometimes in software industries the companies who have high aspirations like Microsoft, Google, Oracle etc. along with skills they also demand referrals. The applying candidate must have some connections with some employee of good rank for an internship. This is the procedure if the candidate is applying normally.

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

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 still 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 questions. Keep the answers brief, and address the interviewer's questions 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 questions asked should be answered honestly as and with firmness in attitude and voice because many a time's body language speaks up many things and finally the candidate is rejected. So it is better to practice it once before experiencing it.

But still no one knows what is there for tomorrow, success or failure. The only thing is “Don't give up”. Every rejection 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 opportunities 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”.

Sagnik Chakraborty
TE CMPN A

How to take Care of Your laptops battery

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

Power Management

So where do you start? Begin by visiting the Power Settings corner of your laptop.Many computers offer the ability to switch to an “Eco mode” that automatically adjust the way power is used (such as dimming your screen brightness) to conserve battery energy. Also pay attention to hibernation modes. Ideally, you want your laptop to enter into hibernation before the battery is totally drained – as well as during downtime when you won't be using the laptop for a while.

Discharging

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

The battery itself

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

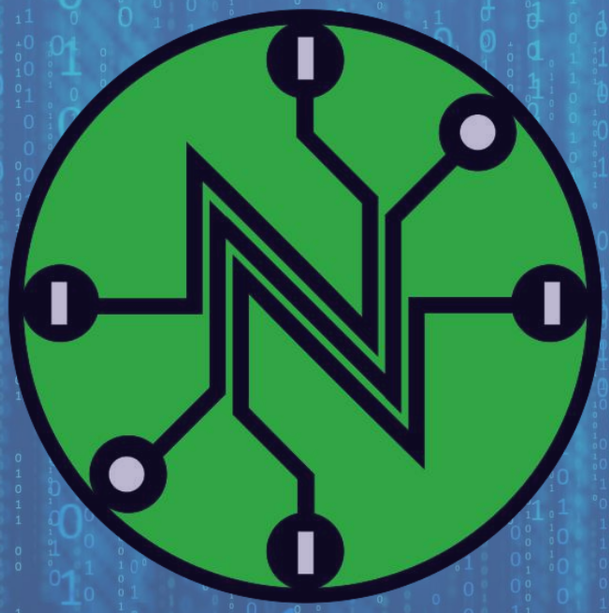
Avoid extreme temperatures

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

Cleaning

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

Sarvesh Singh
TE CMPN A



Net Neutrality

Internet is free source of getting information. It allows people to connect and exchange information freely. Many of us must be reading about this for the first time, 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 recommendation for Indian telecom.

Net neutrality means that the individual should be free to use all contents and applications equally, without Internet service providers(ISP) discriminating 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 whatt 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 international 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 international websites, you may have to pay a more. Or maybe there can be different connection 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 innovation 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 better video hosting site may not be able to do that.

What are public reaction to the concept of net neutrality?

People are trying on their part to oppose this concept by tweeting , by posting 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 national issue we all should bring to people's notice to oppose this concept and not to support it, for user's rights.

Harsh Shah
TE CMPN B

The Blue Brain Project

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

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

What is Blue Brain?

It is the name of the world's first virtual brain, which means a machine that can function entirely as a human brain. The scientists are in research to create an artificial brain that can think, respond, take decision and keep anything in the memory. After 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 simulations of human brain in this project are carried out on a Blue Gene supercomputer built by IBM. Hence the name "Blue Brain".

The scientists are in research to create an artificial brain that can think, respond, take decision and keep anything in the memory. After the death of the body the virtual brain can act as a man.

This is an attempt to reverse engineer the human brain and recreate it at the cellular level inside a computer simulation. The human brain can be mapped to the computer and referred later for reactions 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 realistic models of neurons and networks of neurons in the cerebral cortex. Such simulations scaling to

the size of a honey bee brain and rat brain have been obtained in accordance with the scheduled timeline. Human brain simulations will take nearly a decade more!

There are three main steps to building the virtual brain:

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

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

3) Visualisation of results- RTNeuron is the primary application used by the BBP for visualisation of neural simulations. The software was developed internally by the BBP team. It is written 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 better and faster development of brain disease treatments. Making decisions in the absence of a person, using the skills and intelligence of a person after death, understanding the activities of the animals, allowing the deaf to hear through direct nerve simulation 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.
- Scientific curiosity about consciousness and the human mind- the study of the conscious and subconscious mind.
- Integration of all neuroscientific research results worldwide- the different results and developments can be added and summed up to reach several important conclusions.
- Progress towards building thinking machines- This is the bottom up approach. This will help to ease the human time and efforts.

Ishmita Kaur
BE CMPN A

Analyzing Social Media

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

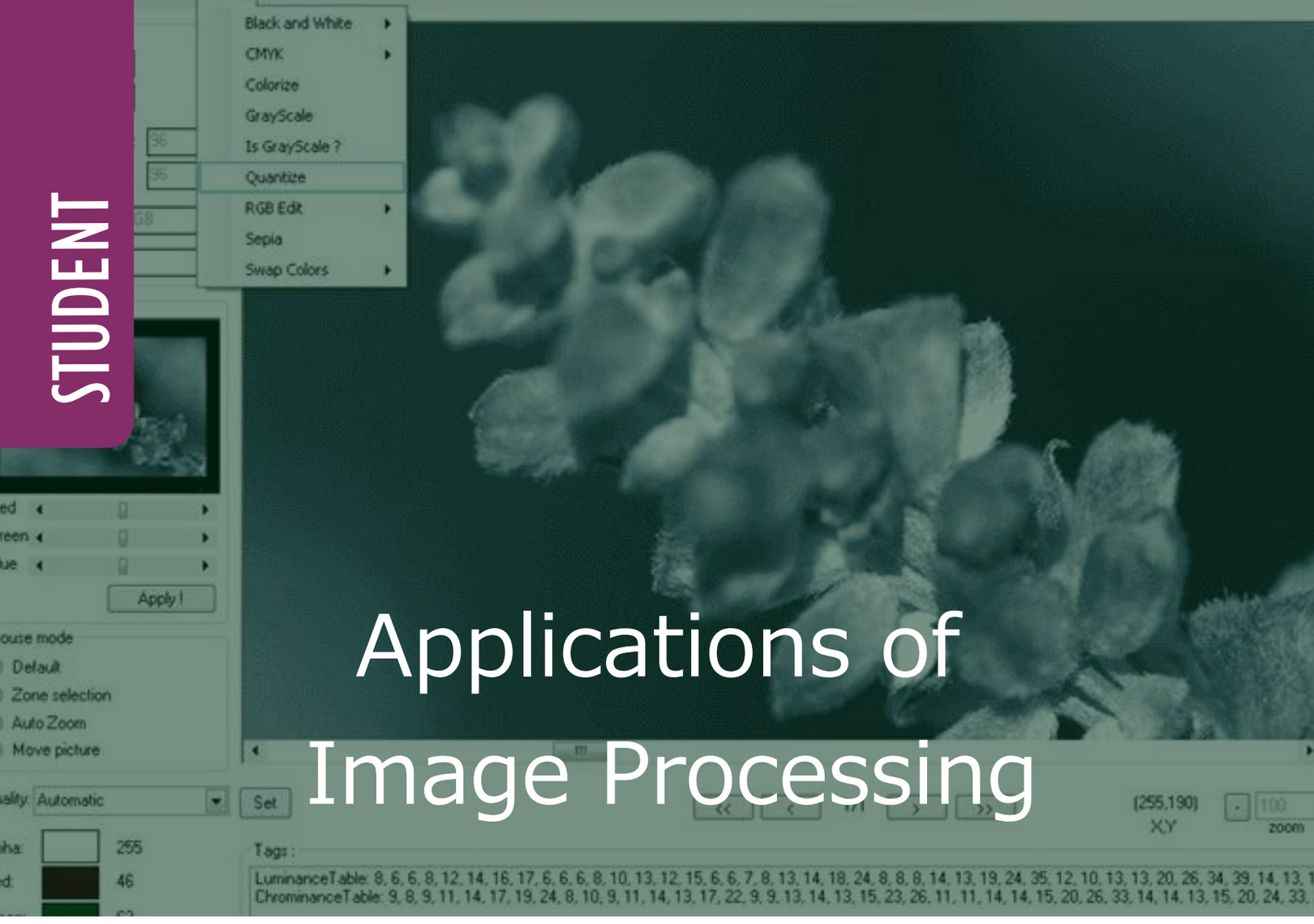
Per day, hundreds of Millions of users share their emotions, thoughts, feelings and opinions on social networking sites. The vast textual information available on these sites is one of the major sources for mining people's opinions and emotions

The two terms sentiment analysis or opinion mining can be used interchangeably. However, some researchers stated that both these expressions have slightly different notions. Opinion mining extracts and analyses people's opinion about an entity while sentiment analysis identifies the sentiment expressed in a text then analyses it. Therefore, Sentiment analysis aims to automate the task of finding opinions, identifying the sentiments they express, and then classifying the sentiment polarity. People's opinion plays a crucial role in decision making in various domains. In the real world, organizations and businesses want to find their consumer feedback about their product or services. In recent years, sentiment analysis applications have spread through many domains from recommendation systems, Ad placements, and trend prediction to healthcare and politics. Recent years witnessed the explosive growth of social media (like blogs, reviews, forums, comments and postings on social networking sites) on the web. Nowadays the organizations 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 identify the relevant sites and extract the opinions on them. Therefore, there is need of automated sentiment analysis. Most of the organizations are using their own analysis tools to find the opinions of the consumers.

Machine learning based and lexicon based approaches are widely used for sentiment analysis by computer scientists and engineers. Few research studies have combined these two approaches to get relatively better performance. The machine learning approach uses different classification techniques like Naive Bayes, Maximum Entropy and Support Vector Machine for classifying text. The Lexicon based approach uses a sentiment dictionary with opinion words and match them with the data to determine polarity whether it is positive or negative. 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 sentiment. Future opinion-mining systems need wider, broader and deeper knowledge bases. The sentiment analysis techniques must be combined with reasoning methods that are more deeply inspired by human thought and psychology. This will lead to a better understanding of natural language opinions and will more efficiently bridge the gap between unstructured information and structured machine process able data.

Ashwini Patil
ME CMPN



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 operations on it, in order to get an enhanced image or to extract useful information 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. Importing an image using an optical scanner or by digital photography.
2. Analyzing and manipulating the image which includes data compression and image enhancement and spotting patterns 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:

- Visualization – Here the objects are observed that are not visible.
- Image sharpening and restoration - To create a better image.
- Image retrieval - obtain for the image of interest.
- Measurement of pattern – Measures various objects in an image.
- Image Recognition – Distinguish the objects in an image.

Rcadia, a start-up in Israel, has come up with its trademark image processing technology to detect fatty 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 mentioned below:

- Image sharpening and restoration
- Medical field
- Remote sensing
- Transmission and encoding
- Machine/Robot vision
- Colour processing
- Pattern recognition
- Video processing
- 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 start-up in Israel, has come up with its trademark image processing technology to detect fatty 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 autism decipher body language. Inbuilt grain-sized cameras capture images of faces and use software to analyze and compare the various facial expressions (like confusion, anger, agreement) with the known expressions in a database.

The recognized information is then relayed to users through attached headphones. "Human beings tend to process visual information faster and more accurately than text. A picture after 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 Imaginestics. Using object recognition, Imagenistics 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 opportunities are mushrooming rapidly and a field mainly for research oriented work to be taken.

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

Deepti Chavan
ME CMPN

PARENT

Increase the Effectiveness of *CRM* Software

In today's world many organizations have started implementing CRM (Customer Relationship Management) as a part of their plan. But effectively the results produced by these softwares are not up to the expectations of the organization. There are some practices that need to be followed to get the maximum out of the CRM product.

In today's world many organizations have started implementing CRM (Customer Relationship 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.

Determine Organization'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 Software if you decide who your target audience is, external versus internal clients. Also the CRM software changes according to the demand of the organization like you may start by wanting to develop customer information systems and then move on to delivery of new products to existing clients.

Get a CRM Plan

It is always suggested to use a CRM software that follows a balanced approach towards people and technology within the organization. When developing your plan, think in terms of strategic capability rather than focusing on one static 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 software capabilities. Ensure that the CRM software you choose meets your needs, and don't structure your plan around software capabilities and limitations.

Train the End Users

In depth training is necessary to make the most of any software. 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 software fits into the overall CRM plan, and help users understand why they are inputting the information that the system requires. Such training can potentially reduce the chances of errors. Also allowing the full usage of software rather than just maintaining the information of customers.

Manage the Quality of Document the you obtain

CRM software is only as useful as the quality of the data it receives. The presence of duplicate entries can cause embarrassment as multiple sales agents contact the same person, and inaccurate data can impede the sales process and annoy existing 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 quantity of the data generated about individuals. At the very least, you should have a last name, budget and contact details, and more information will only improve the performance of the software.

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

CRM software cannot function in isolation, and requires a proper definition and a complete CRM strategy. Choose software to meet the needs of this plan, and train employees on the use of the software.

Rajvir Karotia
(Parent- BE CMPN A)

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 implementing 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 hitting the market are:

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

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 information helpful.

Sanjay Vishwakarma
(Guardian- SE CMPN B)

Smartphones are gone from single-core to nowadays Octa-core. An SoC is an integrated circuit that integrates all components of electronic system into a single chip.

Achivements

Mayank Thanvi &
Shivam Sharma
SE CMPN B

Secured 1st Position certificate of Quadcopter Competition in zonal round of Robotryst-2015 at M.H Saboo Siddik College of Engineering

Manish Yadav BE CMPN B
Vedant Khandelwal TE CMPN A
Bhalchandra Naik TE CMPN A

were finalists at E-yantra national level robotics competition held at IIT Bombay

Manish Singh
TE CMPN B

1st in Intra College Coding Competition - "SparkCode"

Manish Singh, TE CMPN B
Akash Shah & Parag Bhadoria, BE CMPN A

Oracle certified JAVA programmer.

Avinash Poptani
BE CMPN A

Semi finalists in inter-college basketball

Rohil Singh
SE CMPN B

2nd in Great Coding Challenge (zephyr 2014)
2nd in Intra College Coding Competition - "SparkCode"

Vedant Khandelwal &
Aakash Vaishnav
TE CMPN

3rd in Intra College Coding Competition - "SparkCode"

Meghna Amin, BE CMPN A
Sagar Waghela, BE CMPN B

Toppers of Semester 6

Darshak Mehta
BE CMPN A

Summer Intern at HackerEarth

Shubham Vishwakarma,
SE CMPN B
Tanvi Sanzgiri, SE CMPN B

Scored 10.0 in Semester 2 examinations

Shradha Dhumale
TE CMPN A

1st rank in Semester 4

Aishwarya Verma
TE CMPN B

Got 2nd place in Poster Making Competition in SN Udaan, 2015.

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-The Editorial Team
Nimbus 2.0