VOL. III

ENCYCLOPEDIA TECHNICA

K to O

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ENCYCLOPEDIA TECHNICA

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CHAPTERS

ENCYCLOPEDIA TECHNICA
DECEMBER 2013

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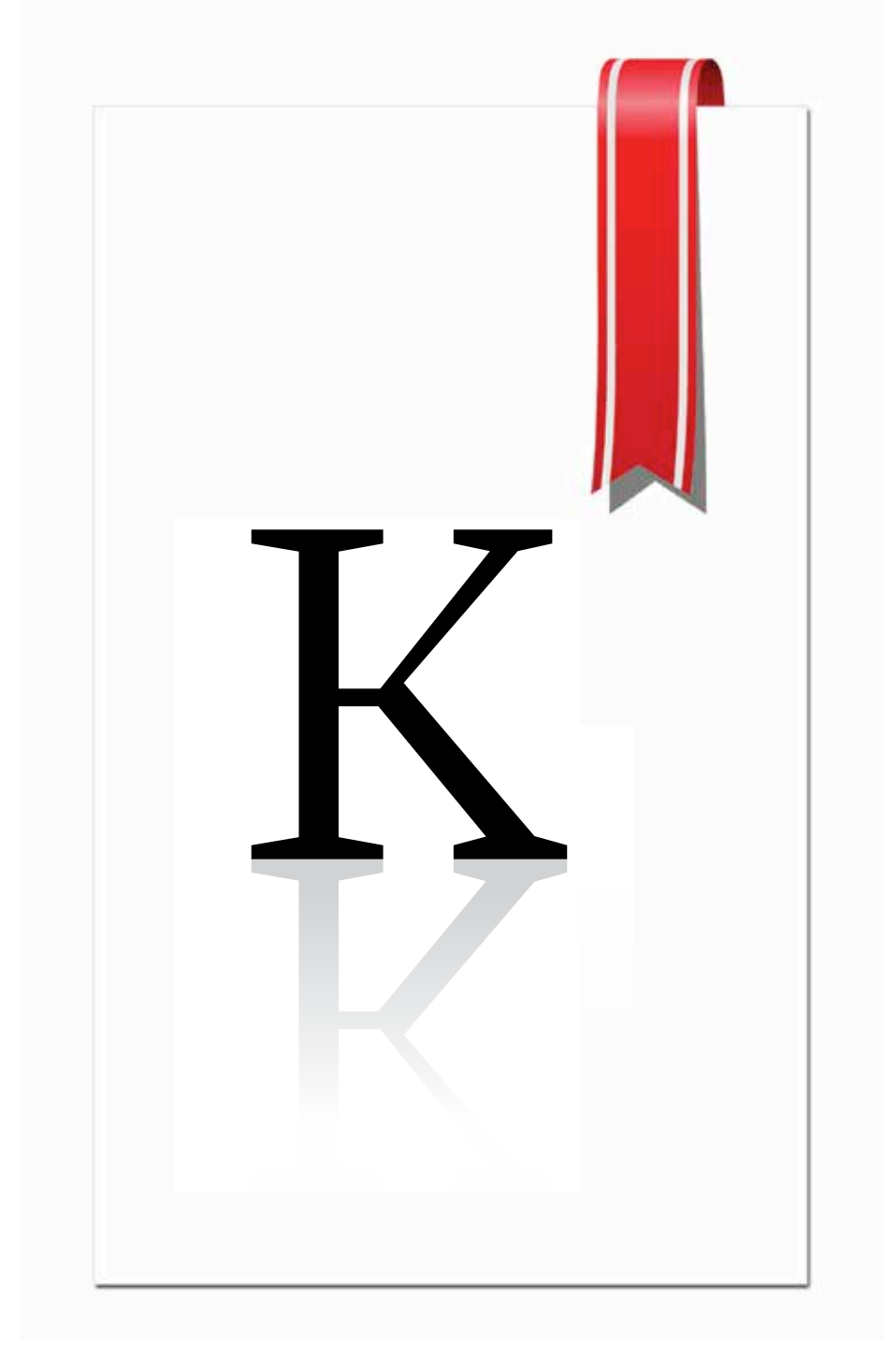
Introduction

The Encyclopedia Technica is now in its third edition. And with this issue we continue our tradition of bringing you distilled, bite-sized nuggets of information that you can digest easily. The previous editions of the booklets were very well received by you readers and suggestions (not to mention requests for the next edition) have been pouring in for the last six months. With this third part we carry on our mission to sift through the millions of tech terms and notable people out there to come up with a "must know" list – discarding what we think you already know, or don't need to know. At the same time we try to keep things interesting by giving you fun (and hopefully esoteric) bits of trivia to munch on.

While we make every effort to research facts and be as accurate as possible at the time of publishing, there are indeed some later developments that may at times unfold over time and negate what was published. For example in Vol II we said that when Facebook first started, its homepage contained Al Pacino's face dubbed as the "Facebook Guy". This was based on multiple sources including a Mashable article. However, soon after, a thread on Quora clarified that it was actually just a stock image from an early MS Office library. And that the face belonged to Peter Wolf, the lead singer of the J. Geils Band. These errors don't happen often but we appreciate alert readers who point them out. When we release the final digital collection on a special issue DVD down the line these will all be corrected.

Until then, we continue this quest to demystify technology for you one little term at a time. So without further ado, we give you the third edition of the Encyclopedia Technica... remember to write in to *editor@thinkdigit.com* and let us know your thoughts about this book, and what you would like more of in the next edition.



Kapow

Headquartered in Palo Alto, California, Kapow is a software company that provides an Application Program Interface (API) that migrates digital data in the cloud between different databases or applications. This API is called Katalyst and it acts as a cloud integrator automating the Extraction Transform Load (ETL) Process.

Kapow focuses on turning business process flows into immediate executable software automation code. They have created an immediate way to access data that lies behind applications with no APIs. These APIs are usually missing at the presentation, application and database layers, but Kapow's Katalyst easily overcomes this and gives applications a new generation advantage-self enabled automation and integration.

Their customers include Audi, Intel, Bank of America, Fiserv, Deutsche Telekom and other Fortune 500 companies.

Kaspersky Lab

Co-founded by Natalia Kaspersky and Eugene Kaspersky in 1997, Kaspersky Lab is a Russian multi-national security company. Headquartered in Moscow, it develops secure content management and threat management systems. Their offices span in over 200 countries with over 250,000 corporate clients, globally. Kaspersky Lab ranks 4th in the global ranking of antivirus vendors and 4th in Endpoint Security by the IDC. It is also the third largest vendor of IT security software in the world. One of the most important services that Kaspersky has to offer is a centralized management system that extends to the entire network. It is entirely platform-independent and completely scalable.

Kaya

Kaya is a freely distributed compiled programming language. It is free

under the GNU GPL and is statically-typed. This means that the compiler checks for consistent variable usage and reports errors before you run your program. An important feature of Kaya is that it uses type-interference. The types of variables are worked out by the compiler itself so there is no need for declaring local variables or typecasting. This type system allows development of complex data structures with very little code.

Kaya can also be used to develop highly secure web applications as it has many features and libraries that web developers can use. In addition to web development, Kaya's libraries can be used for database access, networking, image manipulation, cryptography, system interaction and data manipulation.

Kaya development is supported by Durham University Computing Society. It was designed by Edwin Brady in 2004 and named after the type of wood designed to make 'go boards'. It is a cross-platform software available for Windows, Linux and Mac Operating Systems.

KDE

KDE is a free software community that produces applications designed to run cross-platform (Linux, Windows, X OS and Solaris systems). It was founded in 1996 by Matthias Ettrich to improve the Unix Desktop's look and feel. It provides a modern graphical user interface to Unix workstations which are usually difficult for non tech savvy users to operate. It not only makes the desktop very user friendly for novice users, but also provides an application development framework for developers. This development framework complete with tools and documentation enables programmers to build robust applications easily, which contributes to the KDE itself. One such application is KOffice.

KDE is a play on the current Common Desktop Environment used by Unix the K was intended to stand for 'Kool'. That was dropped but the expanded version remained K Desktop Environment. Both the software and the source code have been made freely available to all.

Kdump

Kdump is a kexec-based crash dumping mechanism for Linux. Kexec is a fast boot mechanism that enables a system to reboot form a kernel that is already running. This way it doesn't have to pass through the bootloader stage again. The second kernel called the 'crash kernel' boots with very little memory and captures the crash image. Kdump consists of the recorded state of the working memory of a computer program at a specific instant. Generally this is when a program crash has occurred. In the event of a system crash, a memory image is created by Kdump which later helps determine the cause. A portion of system memory is required to be reserved for Kdump. Kdump is very reliable because the crash state is recorded by a freshly booted kernel. Most Linux systems recommend installation.

Kelvin

Kelvin is a temperature scale named after Lord Kelvin. It has an absolute zero beyond which temperatures do not exist. At OK (Zero Kelvin) molecular energy is minimum. OK is equal to -273.15 degrees Celsius.

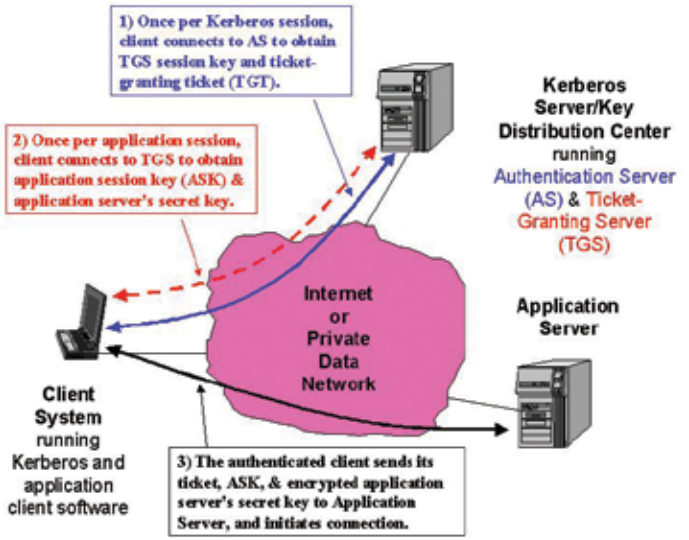
Lord Kelvin (William Thompson) was an engineer and physicist at Glasgow University. He published a paper called 'On an Absolute Thermometric Scale' where he stated the need of an 'absolute thermometric scale' where 'infinite cold' would be the scales null point. Thus the Kelvin temperature scale was proposed in 1848.

Unlike Fahrenheit and Celsius scales the Kelvin is not referred to as a degree and is the primary unit of measurement in the physical sciences.

Kerberos

The Kerberos protocol is a network authentication protocol. It was originally developed by Massachusetts Institute of Technology (MIT) in the 1980s, for a project called Athena. The code is freely available by MIT (under copyright permissions of course). Using secret key cryptography it provides robust authentication for client-server based applications.

Most security systems assume that attacks or malicious sources are



on the outside of their network so firewalls should suffice as a security mechanism. This is not the case. Many times some of the most severe network attacks are performed by perpetrators on the inside.

Kerberos allows nodes in a network to communicate after verifying their identity to one another in a secure manner. It insists on mutual authentication. Both parties must identify themselves to a common Authentication Server. It requires three components and derives its name from Cerberus the three-headed guard dog of Hades in Greek Mythology.

Kermit

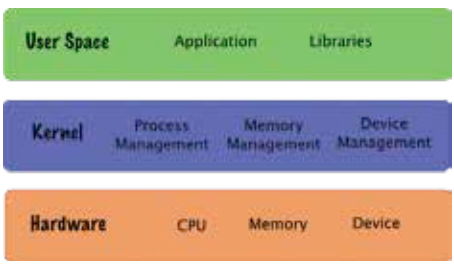
Kermit is a file transfer and management protocol and a set of cross platform communications software tools. It was developed by Columbia University in 1981. Kermit was Columbia's standard desktop connectivity software used by faculty, staff and students alike to connect

from desktop microcomputers, PCs, Macintoshes and UNIX stations to the central computing facilities.

Despite the backronym 'KL10 Error Free Reciprocal Microprocessor Interchange over TTY lines' created for trademark issues, Kermit was named after the Muppet character Kermit the Frog. Kermit is an open protocol, however some of the software and code is under the copyright of Columbia University.

Over the years the Kermit Project has grown into a worldwide cooperative nonprofit software development and distribution effort based at Columbia University. Notably, Kermit software has been used in the International Space Station, automation of the United States Post Office, the Green Revolution in Africa and the United Nation's relief mission to Bosnia.

Kernel



The kernel is the core of all computer operating systems. It is the first part of the Operating system that loads. It always remains in main memory. This requires it to be as small as possible. It forms a bridge between the applications and the hardware layer at which data processing is done.

The primary function of a kernel is resource management – making sure applications have access to required resources. These resources are the Central Processing Unit and the Input/Output devices like the keyboard, mouse etc. It also facilitates Inter Process Communication(IPC) by providing synchronization and communication methods.

There are two design approaches to Kernels- Monolithic and Microkernels. Monolithic Kernels execute all their code in the same kernel address space. Microkernels run most of their services in the same user space. Most Kernels are Hybrid - a mix of the two.

Kernel Panic

Kernel Panic is the action taken by a machine's operating system upon encountering a fatal error which it deems it cannot recover from. It is a

term mostly used by Unix systems. The Windows parallel of this phenominon is the 'Blue Screen of Death' or a 'Bug Check'.

During kernel panic the system outputs an error message to the console and dumps an image to disk. This is for the purpose of postmortem debugging by a system administrator or programmer. Then the kernel either waits for the system to be manually rebooted or reboots the system itself.

Kernel panic can happen as a result of a software bug in the OS or hardware failure. Even if the system is capable of continuing operation kernel panic is a way of minimizing security risks which could lead to data corruption.

Kerning

Kerning is the process of adjusting the white space between characters in order to achieve a more pleasing visual. Kerning, also called Mortising is done to make certain character combinations like WA, MW, TA, VA look better. Only sophisticated desktop publishing systems and word processors perform kerning.

The word kern originates from the French word 'Carne' which means projecting angle. Certain letters like T, V, W and Y need to be fitted closer to some lowercase and uppercase letters on the other side. Sometimes even a period or full stop (.) is required to be spaced closer to the last letter. All these conditions however depend on the language the font is to be used for. When these combinations don't occur kerning is not required. Non-proportional or monospaced fonts do not apply kerning.

Kevin Systrom

Kevin Systrom is the cofounder and CEO of the photo sharing service Instagram. Instagram allows you to take photos, apply digital filters to them for a more quaint and Polaroid-like look and then share them on social networking sites. He is a software engineer and entrepreneur who graduated from Stanford in 2006. Kevin co-founded Instagram with Mike Krieg-

er in 2010 and sold it to Facebook for $1 billion in April 2012. Besides Instagram he has also developed Burbn which is an HTML-5 based location sharing service. He kick started his career as an Intern at Odeo the company which famously gave rise to Twitter. He also spent two years at Google where he worked on Gmail, Google Reader and finally on the Corporate Development Team. Systrom is believed to have an impressive net worth of $470 million making him one of the richest and most creative young entrepreneurs of the century

Keyhole Markup Language

Keyhole Markup Language (KML) is an XML based format for managing the display of 2D and 3D geospatial data. It was originally developed by Keyhole Inc. and then acquired by Google in 2004 for use with Google Earth.

KML can be used by scientists, students, educators for different purposes. Non profits use it to highlight problems and try and encourage change like in the Darfur Crisis. Detailed mappings of natural resources and trends can be described. Each KML file specifies a set of features and attributes like images, shapes, descriptions, timestamps etc. A latitude and longitude is compulsory. KML files can be created using the Google Earth interface or with raw XML editors.

Some of the applications that use KML are NASA WorldWind, Google Earth, Google Maps, AutoCAD, Adobe Photoshop and Yahoo! Pipes. There are tutorials as well as an interactive sampler for those who want to try out their KML code.

Keylogger

A keylogger is a computer program or a hardware device that records or logs the real time activity in the form of the keys they press. This logging is usually done without the knowledge of the person using the system. It can be done to monitor network usage by a business, to troubleshoot technical problems by IT organizations. Malicious uses of keyloggers on public computers is to obtain passwords and credit card information.

Keylogger software is easily and freely available on the Internet. Some software can even capture screenshots. This data is then transmitted over the network to a remote computer or web server.

Most often keyloggers are downloaded onto an individual's computer as part of larger malware package. To prevent this there are anti keyogging programs like Zemana Antilogger and CoDefender that work fairly effectively. Network loggers can also be used which alerts the user everytime the computer tries to make an unauthorized network connection.

Keystroke

Any action on a keyboard or equivalent input device is known as a keystroke that corresponds to the press and release of a key. It is sometimes used as a measure of software efficiency is. The fewer keystrokes required to perform a specific function the faster and more efficient theprogram is.

Sometimes instead of words per minute typing speeds are measured in keystrokes per minute/hour (KSPM/KSPH). This terminology of determining typing speeds is used as it focuses on rhythm rather than repetition.

Keystrokes are immutable i.e. they cannot be changed. Their very purpose is to be unique so that they can define high level action events. Keystroke dynamics or typing dynamics are as important. They are the detailed timing information of how a certain sequence of keystrokes is typed and released. This is considered as unique an identifier as a password or signature.

Keystroke Analysis

Also called Keystroke Dynamics or Typing Dynamics it is the detailed timing information about when a key is typed and released. The origin of

Keystroke Dynamics goes way back to World War II when messages were passed in Morse Code. Military Intelligence discovered that through a technique called 'The Fist of Sender' each individual had a unique way of keying in the 'dots' and 'dashes' which allowed them to differentiate between enemy and ally. Before that, in the 1860s, experienced telegraph operators were able to develop their own signature 'tapping rhythm' by which they could be identified.

'Dwell time' is the time for which a key was kept pressed. 'Flight time' is the time between two key presses i.e. between one key up and the next key down. Keystroke logging is used to detect this data. Keystroke Dynamics is now considered a behavioral Biometric as unique as a person's handwriting or signature.

Keyword

'Keyword' has two meanings. One is in database systems, web applications and text editing systems where it is an index entry that identifies a specific record or document. It is a word entered by the user which can be compared with a series of data using complex algorithms to yield the desired result.

The other use of 'Keyword' is in programming where it means a word that represents special meaning and is reserved by a program for certain predefined use only. Different languages define different rules for the use of keywords declared by them. In some languages like ALGOL, keywords cannot be used verbatim. They have to be marked or stropped somehow through quotes or special characters. In others like PostScript they can be redefined as per the programmer's requirement.

Khan Academy

A non-profit organization aimed at free education for anyone, anywhere. Khan Academy was founded by Salman Khan, a graduate from MIT and Harvard. It has the financial support of Bill and Melinda Gates, Google as well as other individuals and organizations. What started as Salman Khan tutoring his cousin with the help of Yahoo!'s doodle notepad, has now grown into a phenomenal learning and teaching tool available in a variety of languages intended for all age groups. The services offered include a video library with over 4000, automated exercises, continuous assessment of the student and peer-to-peer tutoring.

Over 244 million lessons have been delivered so far in subjects ranging from computer science, mathematics, finance, and physics to cosmology and astronomy. All their videos are available on YouTube as well as on their website. There are also tools for continuous progress tracking and practice exercises.

Khan Academy aims to be the world's first free first class virtual school where anyone can learn anything.

Kibibyte

A kibibyte is a unit of data storage equal to 1024 bytes of information. The binary prefix 'kibi' means 1024, so a kibibyte of information is equal to 1024 bytes. The unit symbol is KiB. This unit was established in 1999 by the IEC (International Electrotechnical Commission). It has been accepted by all major organizations. Designed to replace the SI standard of Kilobyte (103 =1000 bytes) it is approximately equal to the same.

'Kibi' got its name by combining 'Kilo' and 'Binary'. However despite support from International organizations the 'kibibyte' is still not popular with many and hence not often used.

Killer micro

Killer micro is a microprocessor based machine which tries to take over mini, mainframe or supercomputer turf. Massively Parallel Processors (MPP) are systems assembled from a larger number of lower perform-

ing microprocessors. These, it was believed were going to replace vector super computers built with bipolar technology and so were called killer micros. 'nCUBE' is one such parallel computing system.

The term Killer micro was taken from the title of a Eugene Brooks talk at Supercomputing in 1990, called 'The Attack of the Killer Micros' which, in turn, was chosen based on the movie 'The Attack of the Killer Tomatoes'.

Kindle

Kindle is an e-book reader produced by Amazon. It puts over a million books, magazines, articles, newspapers and more at your fingertips. Originally the Kindle was a just a handheld reader with a screen. It supports many free features including a basic web browser and music player. Today the Kindle app is popularly available and can be purchased and downloaded to any smartphone or tablet. Blackberry, Apple and Android all support Kindle. It is designed to support only Amazons own e-book format AZW and KF8 which are proprietary formats. Amazon's 'cloud' reader lets users purchase books from a web browser.

The kindle began as a basic handheld hardware and then went on to the Kindle DX line, Kindle Keyboard, Kindle Touch and Kindle Fire with color display.

The term 'Kindle' was coined by Michael Cronan and Karin Hibma as a metaphor for reading and the intellectual excitement brought on by it being akin to lighting a fire.

Kinect

Kinect is a motion sensing input device for the Xbox 360. It enables you to interact with the console without the use of a game controller. Instead it uses a more natural user interface with gestures and spoken commands. Kinect uses software technology developed by a company called Rare and range camera technology developed by PrimeSense. PrimeSense is an Israeli company that has developed a system called 'Light Coding', which can interpret gestures using an infrared projector and camera and

a movement detecting microchip.

Kinect was launched in North America, Europe, New Zealand, Singapore and Japan in November 2010. It consists of a horizontal bar that must be placed above or below the video display or game console.

In 2011, Microsoft released the Kinect SDK for Windows. This SDK allows developers to write Kinecting apps in C++/CLI,C# or Visual Basic .NET. The SDK was ranked 2nd in the' Top 10 Most Innovative Tech products of 2011'. Kinect also got the Guinness World record for the 'fastest selling consumer electronics device' beating Apple's iPad.

Kiosk

A Kiosk is a computer terminal designed for public access. It is usually meant for communication, commerce, entertainment or education purposes. Kiosks resemble telephone booths and are found in airports or hotel lobbies. The word Kiosk originated from the Turkish word köşk which means pavilion. Most kiosks come with prepackaged software designed for specific purposes like bill counters, navigation systems, coin hop-

pers, customer support or thermal printers.

Kiosks are designed for self service which means they need to be highly intuitive and people must be able to operate them without any outside instruction. The hardware and software must be designed accordingly.

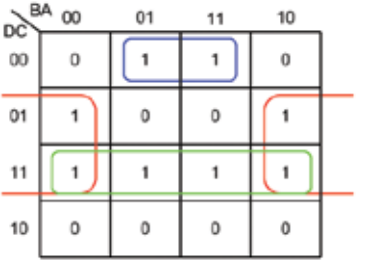
Surprisingly, the first kiosk was developed by a pre-med student at the University of Illinois in 1977. It was created on the PLATO computer system and accessible by a plasma touch screen device. Named the Plato hotline it allowed students to find movies, maps, directories, bus schedules, extracurricular activities and courses and was the first time many of the students actually used a computer.

Klout

Klout is an analytic website that has become a popular metric to gauge the online influence of a person, group or organization. It was co-founded by Joe Fernandez and Binh Tran. Klout helps you discover who you influence and what topics you are influential about. This is done by using data from various social media platforms specifically Twitter, Facebook, Google+, Foursquare, Wikipedia, LinkedIn and Instagram to create Klout scores for each Klout user profile. These Klout scores range from 0 to 100. The higher one's score the greater is their online social influence. The score is measured using data points from Twitter like flower and following count, retweets, other influential people who tweet you. The score is also measured by running a PageRank algorithm on the Wikipedia's graph to determine 'page importance' of a user if on Wikipedia. The average Klout Score is 40. Barack Obama has a Klout score of 99. The greater your ability to drive conversations and inspire social action, the higher is your Klout Score.

K-map

In 1953 Maurice Karnaugh introduced the K-Map or Karnaugh Map as a way to simplify Boolean algebra expressions. It was a refinement of the Veitch diagram. It is pictorial so one doesn't have to rely on Boolean algebra theorems and equation manipulation. It is a special version of a truth table which minimizes expressions having two to four variables.



The Boolean variables are mapped from a truth table to an NxN grid and arranged in Gray code. Each cell represents a combination of input conditions. Race conditions can be easily identified and eliminated. Karnaugh maps allow real world logic requirements to be implemented with a minimal number of physical logic gates. A sum of products expression is evaluated using an AND gate followed by an OR gate and a product of sums is evaluated using an OR gate followed by an AND gate. Karaugh Maps are often used in software design to simplify expressions.

Kojo

Kojo was primarily developed as a programming language by Lalit Pant a volunteer mathematics teacher at Him Jyoti School in India (Dehradun). It is an open source educational programming language and Int7egrated Development Environment (IDE) based on Scala. Kojo was developed with the intention of teaching children computer programming, interactive math, music, art and games in a fun way. It even has a virtual Math Lab with support for Algebra and Geometry and support for composition and playback of computer generated music. The fun and friendly graphical environment and its in-depth course matter make it an excellent all all-round development tool for children.

There is also an application you can download and install or run online to try out Kojo.

Kojo is a REPL(Read Evaluate Print Loop) for Scala programming which has features like Syntax Highlighting, Code Completion, AST Browsing, Customizable Classpath for Scala or Java, Object Inspection etc. It is an open source software, freely available under the GNU License.

Korn Shell

Korn Shell was developed by David Korn in 1980 at Bell Labs. It is a UNIX shell and contains many features of C shell in addition to being backward compatible with Bourne shell. It was written in C and initially released only in 1983. It is an interactive command language through which you

can access the UNIX system. It is cross-platform so works on any system it is implemented on. This is one of its major advantages. Programs written is Korn Shell also run much faster than those in Bourne shell or C shell. Once familiar with Bourne shell, Korn Shell requires very little relearning. It allows developers to add commands transparently as it incorporates the same syntax for built in as well as non built in commands.

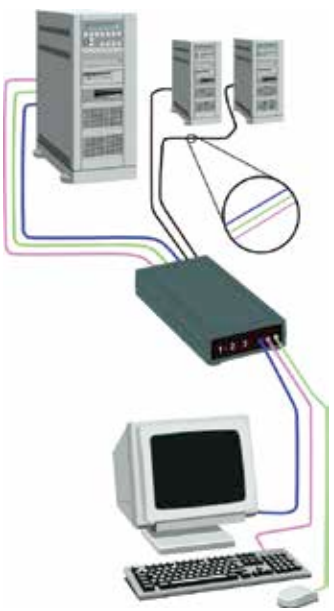
Until 2000, Korn shell remained the proprietary software of AT&T. Post-2000, it became an open source software.

Kruskal's Algorithm

A 'Greedy' Algorithm is one that locally selects the optimal or best choice. Kruskal's Algorithm is one such greedy algorithm. It finds the minimum spanning tree for a connected weighted graph. It was written in 1956 by Joseph Kruskal.

It assumes that every node in a graph is a tree. Once this is done, a setn of all the edges in the forest is created. While this set of edges is not empty and the forest (set of trees) is not yet spanning, it tries to form a tree that includes as many edges as possible with the minimum possible total weight.

An application of Kruskals algorithm is laying out electrical networks such that the cost of wiring is minimal and all the nodes are connected in such a way that there are no redundant wires. Cutting any could result in splitting the power grid. Another application is to generate high-quality and robust mazes for games.



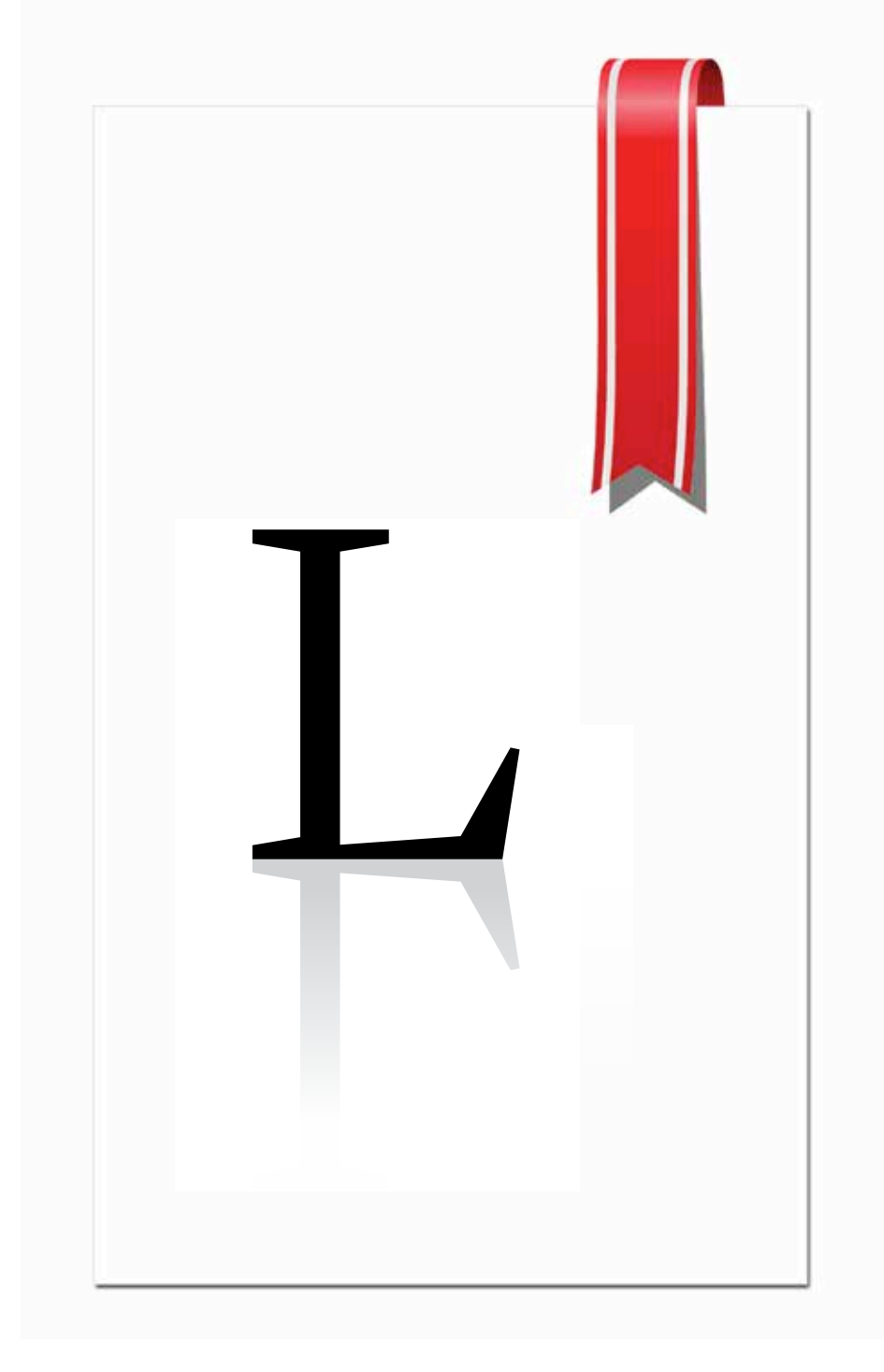
KVM Switch

A KVM Switch or a Keyboard Video Mouse Switch is a hardware device with which a user can control multiple machines at a time.

KVMs are used by those who have upgraded their home systems and do not want to buy an additional keyboard, mouse or monitor. They are

used as money saving techniques in small businesses where one person operates more than one machine. They are also used in server farms where servers are required to be periodically accessed.

Modern KVMs have the functionality of sharing USB ports and audio devices as well. Control can be enforced from up to 1000 feet away. While using a KVM it is important to simulate keyboard and mouse signals to each machine without interfering with CPU operations. KVM switches ensure high flexibility and reliability at minimal cost.



1337

'1337' or 'Leet', also known as eleet and leetspeak, is an alpha-numeric language which originated on bulletin board systems (BBS) in the 1980s. Hackers originally invented the encrypted language to bypass word filtering on mail servers and prevent their websites and newsgroups from being found by simple keyword searches. Back then only those with an elite status could access certain file folders, games, and V.I.P chatrooms. Words such as nOOb (newbie), wOOt (an expression of happiness) and pwned (a common misspelling of owned) are examples of leetspeak. Noticeably, numbers and symbols replace certain letters to form creative misspellings. The webcomic Megatokyo contains characters who speak leet.

Lag

In online gaming, 'lag' refers to reduced responsiveness between the action of players and the reaction of the server. This happens either due to a slow connection, an overabundance of users on the server or insufficient processing power in the client and/or server. First-person shooter games are highly affected by this slowdown since they're faster paced in contrast to lower paced strategy or turn-based games which are mostly unaffected by delays. High latency makes its presence evident by presenting issues such as graphics lag (your system's inability to produce enough frames per second caused by a not-so-powerful graphics card) or stutter lag (incorrect Windows and BIOS settings)

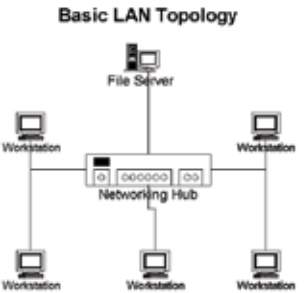
LAMP

'LAMP' is the acronym for Linux, Apache, MySQL and PHP. It's an Open Source web development and deployment platform that relies on Linux for its operating system, Apache for its web server, MySQL for its rela-

tional database management system and Perl, Python or PHP for the object-oriented scripting language. The term LAMP, sometimes referred to as a LAMP stack due to its four layers, was originally coined by Michael Kunze in the German magazine c't in 1998. Though the software were not designed to be used along with one another, their easy availability due to them being open source, lured developers time and again to the foursome. These days, they're included in nearly all Linux distributions by default.

LAN

A 'local area network' or 'LAN' is a group of computers in an office or home that are connected to each other and can communicate with each other. These connected devices share the resources of a single processor or server, which provides applications and data storage to multiple computer users. In an enterprise, a LAN server is managed on behalf of users and not directly by the users. Management includes set-up, services and administration of the server.



If you're an avid gamer, sooner or later you'll be introduced to the concept of a LAN Party, a social gathering of fun-seeking nerds who game all night to competing against each other. How's this more entertaining than playing by yourself? Well, playing multi-player games is much more fun when opponents being fragged are within hearing range of verbal abuse.

LARP (live action role playing)

Tired of listening to your folks' rants to get off the computer and go outside? Here's a great incentive to do it: LARPing. 'LARP' or 'live action role playing', as the name suggests, involves a group of players who participate in a make-believe game in the real world with a pre-decided set of rules, themes and ideology for a certain amount of time. Each participant assumes a particular character and acts out various scenarios at events.

This type of gaming will especially be to your liking if you have an imaginative bent of mind to design and run the game like an administrator, while the dramatic lot would be more attracted to the role-playing aspect with the advantage of developing and learning new skills over the course of the game.

Laser

Ever been to a laser light show and been astounded by how technologically advanced we've become? Light shows aren't the only thing we have to thank lasers for. A wide range of scientific, military, medical and commercial applications are in existence today only because the laser was invented in 1958.

'Laser', an acronym for Light Amplification by Stimulated Emission of Radiation, is a device that can produce a very strong light beam capable of being precisely focused. The intensity of the beam is amplified when the photons pass between two mirrors. The development of laser was based on the work of Albert Einstein in 1917 but it was only in May 1960 that Theodore Maiman demonstrated the first working laser.

last.fm

'Last.fm' is a music recommendation service and the world's largest online music catalogue. The downloadable Scrobbler helps you discover more music based on the songs you play. A 'scrobble' is a little note Scrobbler sends to Last.fm to let them know what song you're playing. This tool also gives you an insight into your own habits, e.g.

what kind of songs you listen to and how often, which songs you like the most, how much you've played an artist over a certain amount of time and which of your friends have similar tastes. Your scrobbles are compared with those of hordes of other last.fm users'. The site (founded in 2002) claims to have 75 billion scrobbles for its 640 million tracks!

Subscribers have the option to listen to Last.fm radio outside of the UK, US or Germany and view recent visitors to their profile pages.

LaTeX

'LaTeX' is a document mark-up language and document preparation system created using the TeX typesetting program. The program was created 35 years ago by Donald Knuth for typesetting documents. LaTeX is similar to SGML, XML and HTML in a number of ways, in that all you'll need is a text editor to write the TeX macro language – the only graphical user interface you'll be using since LaTeX documents are written in plain text. The output however will be in PDF format hence requiring a PDF viewer to view the output of the .tex file. The standard syntax used in LaTeX is a backslash (\) followed by a command and often a curly bracket ({}). In academia, specifically in the math environment, LaTeX is useful for displaying formulas, making tables, commutative diagrams, figures, aligned equations, cross references, labels and page layouts.

$$E = mc^2$$

$$m = \frac{m_0}{\sqrt{1 - \frac{v^2}{c^2}}}$$

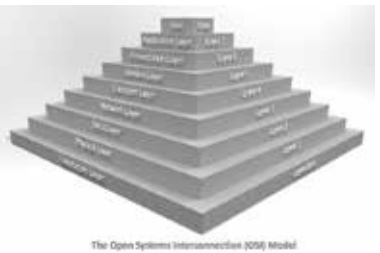
Launcher

'Launchers' lets users customize their home screens i.e. the phone's desktop, enabling them to launch mobile apps, make phone calls, and perform other tasks on their Android devices. Though launchers come in-built into Android OSes, you can find a bunch of them in the Google Play Store if the

default UI is not to your liking. So if you have HTC Incredible or Evo and you want to switch from the default Sense UI, you can always get an alternative launcher like Launcher Pro or ADWLauncher.

Among other things, these downloadable apps support homescreen transition effects, personalisable app drawers, drag-and-drop action buttons, folders interface, folder tiles, pinnable contact tiles and animated contacts.

Layer



The Open Systems Interconnection (OSI) Model

'Layer' is a computer programming term for the organisation of programming into separate functional components that interact sequentially and hierarchically with each layer usually having an interface only to the immediately above layer and immediately below layer. Programs can have any number of layers, e.g. TCP/IP are a set of two-layered programs that provide transport and network address functions for internet communication whereas the reference model, Open System Interconnection (OSI) for communication programs employs seven layers – each with a different function that ensures program-to-program communication between computers.

In graphics software such as Photoshop and many other digital imaging programs, layers refer to a component of complex images whereby each layer possesses transparency as specified by the designer. So you could have a text layer, another image layer, then another plain coloured background layer etc. This tool gives you the ability to manipulate each part of the image separately to see what the final outcome would look like and when happy with the result you can "flatten" the image to remove transparencies.

LCD

Just like LED and gas-plasma technologies, 'LCDs' allow displays to be much thinner than their cathode ray tube (CRT) counterpart. However, LCDs consume much less power than LED and gas-display displays because they work on the principle of blocking light rather than emitting it.

This is how the tech works. Ambient light illuminates the display which consists of two glass sheets of polarising material with a liquid crystal solution (hence the term Liquid-Crystal Display) between them. When an electric current passes through the liquid, it causes each crystal to either let light pass through the sheets or block it from passing, thus creating the images that we see on our televisions. This is true of all devices with LCD displays, ranging from simple calculators to full-color LCD televisions.

LED

'LED' (light-emitting diode) technology has become the standard for the back lighting of monitors and televisions and is used in many portable electronic devices (including your smartphones and tablets) as well. Despite having a different acronym, an LED (consisting of a semiconductor diode that glows when voltage is applied) TV is just a different type of LCD TV. The proper term to actually use is LED-backlit LCD TV. Devices employing this technology have been known to last for many years under conditions of normal use. Let's not forget the significant energy savings because of how little power they consume.

Apart from applications in consumer electronics, when the available hours of daylight is insufficient for plant growth, LED Grow Lights are used to extend the amount of time the plants receive light. The artificial light source aids in photosynthesis. Compared to other types of grow lights, LEDs for indoor plants consume much less electrical power and produce considerably less heat than incandescent or fluorescent lights.

This allows plants to go for longer periods without needing to be watered.

LEED

'Leadership in Energy and Environmental Design' or 'LEED' is US benchmark for the design, construction and operation of high-performance green buildings. LEED certification provides compelling proof that your building project is truly "green" and is performing as designed. The certification involves a rigorous and independent third-party verification process. In India, the certification is awarded by the Indian Green Building Council (IGBC). Among other things, LEED-certified buildings have lower operating costs and increased asset value due to energy and water efficiency. Though green buildings can cost more up front, the green value attached to them more than makes up for it as they're expected to make traditional buildings redundant in the future.

Legacy

'Legacy' is the adjective attached to software and hardware that are archaic (and sometimes obsolete) and only still around because many users still prefer them over upgraded versions. The word 'legacy' implies that the system is a thing of value, even if it provides more cost than benefit, and helps to justify not replacing or discarding it. Examples of legacy applications and hardware include Novell netware, Firefox's Bugzilla, floppy disks and 8086 microprocessors. Many banks rely on core systems built in the late 1970s and early 1980s.

Every time a bank customer makes a money transfer, the transaction passes through a legacy platform.

Changing legacy systems is often expensive. Since different parts have been implemented by different teams, there's no consistent programming style or up-to-date programming language used. File structures used may be incompatible and the system documentation is often out of date. However, modernisation will ensure that users of legacy operating systems won't have to confront the fact that they won't have security patches delivered to them.

Lenovo

Chinese multinational technology firm, Lenovo Group Limited, was founded in 1984 as Legend Holdings with just 11 computer scientists and $25,000 in cash. Lenovo as we know it today was only christened with its current name in 2003. It derives the first part of its name, 'Le' from Legend and 'novo' from the Latin word for new. It develops, manufactures and markets desktops and notebook personal computers, workstations, smartphones, tablets, servers, storage drives, IT management software and related services. The company has introduced many industry firsts including the ThinkPad series (originally an IBM product), one of the most silent notebook PCs around. From its line of consumer laptops, we liked the Yoga series whose keyboard folds all the way back to convert into a tablet PC.

Level up

A pre-determined number of experience points (XP) gained in a RPG or role-playing videogame bestows skills on a player allowing him to move on the character's next level in

the game. When he 'levels up', a player character can usually access new weaponry, perks, stats, tasks and places. Simple repetitive tasks such as fighting enemies or acquiring coins will, for example, take you to the next level. As levels increase, so do the number of XPs required to advance to the next stage. With each passing level, the character gets stronger with the possession of newer abilities and challenges too increase in difficulty.

LG Electronics

LG Electronics was once known as GoldStar Co. Ltd. (from its parent company LG Corp. formerly known as Lucky Goldstar), which was founded in 1958. LG also works with "Life's Good", the company's tagline. The consumer electronics company is the world's second largest television manufacturer (only preceded by Samsung Electronics) and was in the spotlight in 2012 for bringing out the world's first 3D Ultra HD TV with a 4K resolution.

LG didn't shy away from driving home the point that it was a world leader when it came to this technology. Who can forget LG's viral hidden camera prank using its crystal clear Ultra HD TV on prospective job candidates who were fooled into thinking that doomsday was unfurling right before their eyes. Not the first time though that the company has used a prank to promote its wares. Remember the ghost child in the elevator prank? Or the collapsing elevator floor prank? Yeah, LG did that.

Lifecasting (Sousveillance)

'Lifecasting', also known as sousveillance, is uninterrupted live footage of an individual's daily life, that's captured via wearable technology such as Google Glass and streamed directly to the internet via a predetermined website. A

person who does this is called a Glogger (cyborG LOGGER). The first person to do lifecasting was Steve Mann – more recently known for being intercepted and physically removed from a McDonald's in France for wearing a camera attached to a heads up display (HUD). Mann is currently working along with the company, Meta on a device that's been called "far more ambitious than the Google Glass HUD." We can hardly wait to see what they have in store for us.

Lightweight

'Lightweight' is the term given to programs that don't consume a lot of computer resources such as memory, CPU usage and disk access. Programs such as LibreOffice, for instance, require more memory than, say, your average UNIX text editor and wouldn't be categorised as lightweight. The best way to gauge whether a program is lightweight is to install it on an old machine. If it works seamlessly, you have a winner. However, even if an application doesn't meet these criteria it still qualifies for the term if the software has just the required features but saves on other factors such as screen real.

The term lightweight is sometimes also applied to a protocol, device or anything that's relatively simpler, faster or has fewer parts than something else has. A good example here is Perl – it's generally easier to pick up and faster to write code in than the more capable but complex language such as C.

Likebaiting / Likejacking

A business gains visibility the more Facebook likes it can accrue. As a result, some resort to deceptive or even fraudulent means of generating large numbers of likes. While reputable brands use win-win approaches – posts that offer a

reward such as access to content or entry in a contest for a "like" – unscrupulous businesses employ malicious means such as trying to get the user to click on a specific area of their pages where the spam websites have hidden one or more Like buttons. On this page, the Like Button is always under the mouse, throughout the page. Another ploy is to post a contentious statement and ask viewers to "like" if they agree. This act of compelling Facebook users to click the Like button associated with a piece of content is called 'likebaiting'.

'Likejacking', on the other hand, is the technique of tricking users of a website into posting a Facebook status update for a site they didn't intentionally mean to like. Likejacking methods help spammers with fraudulent promotion of their brand or product, dissemination of viruses, social spam and hoaxes, and identity thefts.

LILO (Linux Loader)

LILO (LInux LOader) is one of many available bootloaders that you can choose from in lieu of the default bootloader that comes bundled with Linux distributions. The advantage LILO has over many bootloaders is that it isn't filesystem specific. This means that the operating system can exist on any filesystem (NTFS, EXT4, BTRFS, FAT32, HFS+, UFS, JFS, etc.) and still be initiated. The bootloader can handle upto 16 operating systems. LILO may also be installed on the partitions boot sector or the Master Boot Record (MBR). It's not hard to see why LILO was once the bootloader of choice for many Linux distros.

Lindows

'Lindows' OS, founded in August 2001 by Michael Robertson, was a commercial version of the Linux operating system, aimed at making the latter more home-user friendly (by looking exactly like Windows). At this point, you're probably wondering how Microsoft reacted to this idea. Not very well, apparently. In December 2001, Microsoft filed a lawsuit against Lin-

dows claiming that the name "Lindows" was a violation of its trademark "Windows." The court rejected its claim stating that the term "windows" was used several times before even by brands such as Apple and Xerox. In July 2004, Microsoft bought the Lindows trademark for USD 20 million settling out of court. Lindows was consequently named Linspire and ceased to exist in 2008 when it was bought out by Xandros.

Link

A 'link' is a clickable portion of text or image that directs you from one data set to the next. It's usually blue in colour and underlined, but the choice of colour and style can differ if the designer is following a certain colour theme. A group of highly interlinked websites (websites that allow you to visit any other website within that group without leaving the page you're on) is called a 'link farm'. Websites link to each other to increase the popularity of their respective web properties; but search engines usually ban them for spamming their indexes, thus lowering their PageRank scores. Another form of marketing is 'link baiting' wherein visitors are hooked in by attention-grabbing content that usually prompts them to share the link to that spectacular piece of information. Sometimes however, when users click on a link, they find that data on the page linked to has become permanently unavailable. This link is said to be dead and the phenomenon is known as 'link rot'.

LINQ

'Language-Integrated Query' (LINQ) is a set of features that extends powerful updating and query capabilities to the language syntax of C# and Visual Basic. As a Microsoft .NET Framework, LINQ is well disposed towards .NET languages, providing a single querying interface for a multitude of data sources.

It's easy to master due to its straightforward patterns and is said to be an improvement over SQL; however, it only takes on 95% of the querying brunt. For other tasks such as triggers and bulk inserts, SQL is required. The querying language was first featured in Microsoft's Cw (C omega) research project.

Linux

'Linux' is an Open Source version of the UNIX operating system. It evolved from a kernel created by Linus Torvalds, a university student disappointed with the MS-DOS OS that came bundled with his new personal computer. He was more taken by the powerful and stable UNIX that he'd been using on the computers at the University of Helsinki, but couldn't afford the expensive licensing fees for any of the commercial versions available back then. So he developed a clone of UNIX, writing the source code entirely from scratch. Since the Free Software Foundation considers Linux a variant of the GNU OS, initiated in 1983 by Richard Stallman, it prefers to call the operating system GNU/Linux.

Linux is an extraordinarily robust and versatile operating system, particularly as a network server, i.e. it is resistant to crashes, down time due to reboots and security breaches. It allows multiple simultaneous users and is highly flexible when it comes to configuration. Did you know, Android in wide use on mobile devices is built on the Linux kernel?

Li-ion

A lithium-ion battery (also called 'Li-ion battery' or 'LIB') is a type of rechargeable batteries. It is named so because the Lithium ions in it move from the anode to the cathode during discharge and back when charging. Its ability to be recharged differentiates it from most Lithium batteries that are not rechargeable. Unlike other rechargeable batteries though – despite being one of the most popular types of batteries in consumer electronics – Li-ion batteries can be hazardous since they're kept pressurized and contain a flammable electrolyte. They remain popular due to slow loss of charge, retaining most of their charge when not in use even after months of storage. Lithium-ion batteries can also operate at higher voltages than other rechargeables – immediately noticeable when you compare the approximately 3.7 volts for li-ion to 1.2 volts for NiMH or NiCd, saving you from the usage of multiple NiMH or NiCd cells when you could just use one li-ion battery.

LISP

'LISP' is a programming language that gets its name from 'LISt Processing' given that linked lists are one of LISP's USPs. Also, LISP source code is made up entirely of lists. It came into existence in 1958 and has been known as the favored programming language for artificial intelligence (AI) research ever since. IBM was one of the first few companies that showed an interest in AI in the 1950s. This is where John McCarthy who took up a summer position at the IBM Information Research Department picked up an interest in developing a list processing language for AI and consequently developed the basics behind Lisp at the 1956 Dartmouth Summer Research Project on Artificial Intelligence. By 1970, M.I.T.'s Artificial Intelligence Laboratory designed special purpose computers known as Lisp Machines especially to run LISP programs. LISP is the second-oldest high-level programming language only preceded by Fortran, which is older by a year.

LISP has been instrumental in the development of : AI robots, computer games (Craps, Connect-4, BlackJack), pattern recognition, air defense systems, implementation of real-time, embedded knowledge-based systems, list handling and processing, etc.

Liteware

'Liteware' is a version of free distributed software that includes fewer features or partially available features as compared to the full paid version. The aim is to give the user a sample of the look and feel of a product. This means that the visual interface, icons and components remain the same as the paid software, with the only difference being reduced functionality. As far as support and latest updates for the program are concerned, they're pretty limited. There's a bright side though. Like trial software, liteware generally doesn't have an expiration date.

And once you purchase the full version, the lite version will be upgraded, unlocked or replaced by the full version(s).

Loader

In computing, a 'loader' is that part of an OS responsible for loading programs, viz transferring data from offline memory storage (such as the hard disk) into the main internal storage (the RAM). So when you launch, say, Microsoft Office, the loader locates this program, reads the contents of the executable file containing the program instructions and prepares the executable file to run. Once this is done, the platform – be it Mac, Windows or Linux – initiates the program by passing control to the loaded program code. Loaders are absent from OSes in which code executes directly from ROM.

Localisation

'Localisation' (L10N – 'L' followed by 10 more letters and then 'N')) is the translation of software or websites into different languages or its adaption for a specific country or region without engineering changes. Regional differences and technical requirements of a target market are important considerations. Software localisation projects are often run in parallel to source product development to realise simultaneous ship-

ment of all language versions. In order to effectively localise software or websites, in addition to language differences (many languages take up to 30 percent more space than English!) engineers must take into account the differences in date, time (16:00 PM vs. 4:00 PM), addresses and currency formats, measuring units, paper sizes, fonts, default font selection, case differences, character sets, sorting, word separation and hyphena-

tion, local regulations, copyright issues, data protection, payment methods, currency conversion and taxes.

Location awareness / Location-based services

'Location awareness' is a feature incorporated into certain devices that allows information about a device's physical location to be sent to another user or application. While "devices" here covers mobiles and cameras, it can also refer to websites that request users' zip code to deliver targeted information. How is a device's location determined? Usually via GPS, cellular towers, the device's media access control (MAC) address on a Bluetooth or Wi-Fi network or on the internet by the user's IP address. The function is used by cameras that automatically tag the location of a picture, apps on smartphones and GPS navigation systems in vehicles.

A 'location-based service' (LBS) is a software application for an IP-capable mobile device that needs to know where the device is located. Location-based services can be query-based and provide you with on-the-go information such as the location of the nearest ATM, eatery, police station or hospital, tourist attractions, landmarks, petrol pumps and route options. Alternatively, they can be push-notification based, sending you coupons or information about discount, upcoming sales, etc if you happen to be within a specific geographical area. If you're worried about your privacy though, fret not, because by law, location-based services are permission-based. This means that you must opt in to the service in order to use it.

Log

A 'log' is an official record of events that occur or simply just facts. Historically, these record-keeping activities were limited to ships at sea and aircrafts. Today it covers documenting of events, which must be kept by all operating systems, software, web servers, etc. There are various kinds

of logs recorded into a log file such as system logs, error logs and IP logs. For instance, when you visit a website it may log your IP address, browser, OS version, screen resolution and so forth. This collection of data is called logging. It is how your PC knows how long it's been running. The records are maintained for various purposes such as statistics, backup and recovery.

Logic Bomb

A 'logic bomb', also called slag code, is programming code that's been inserted stealthily and intentionally, designed to execute (or "explode") under circumstances such as the lapse of a certain amount of time or the failure of a program user to respond to a program command. For example, a programmer may create a piece of code intended to be set off on a certain date (such as January 1st or Friday the 13th) deleting critical computer data. Although a logic bomb behaves like a virus it's in fact not one. While it's mostly used by companies to prevent data theft by employees or to take them off the system, the results can be devastating if used for malicious reasons by say, a peeved off ex-employee crippling a network of computers or leaking secret information.

Lossless

The term 'lossless' mostly refers to audio and is a type of compression using an algorithm that preserves the quality of the original sample. The term can be used for image files and video as well. The term is in contrast to 'lossy' data compression, which reduces the file size considerably but at the cost of sacrificing quality. A file compressed

using lossy compression may be one-tenth the size of the original, while lossless compression is unlikely to produce a file smaller than half of the original size. Note, however, that only certain types of data – graphics, audio and video – can tolerate lossy compression. FLAC, WAV, ALAC (Apple Lossless Audio Format) are considered lossless formats.

LPAR (Logical Partition)

At some point in your life, you may have run into an über geek boasting about having run both, Windows and Linux on one PC but you didn't bother to ask how. Well listen close. This is possible due to 'logical partition' or LPAR, a method by which you can host multiple operating systems. This process divides your computer's hardware resources in such a way that the processor, memory and storage for each virtual computing platform can function independently. E.g. Two LPARs can access memory from a common memory chip, provided that the ranges of addresses directly accessible to each don't overlap. The number of logical partitions that can be created depends on your system's processor model and resources available. Partitions are generally used to separate test and production environments.

LTE

LTE (Long Term Evolution) is a wireless broadband technology that supports roaming internet via cell phones and handheld devices. Since LTE offers significant improvements over older cellular communication standards such as GSM and UMTS, some refer to it (along with WiMax and HSPA+) as 4G technology. Based on experimental trials, LTE can support downloads at 300 Mbps or more. However, improving on the standard is LTE-Advanced (being called 5G by marketing professionals), which supports a theoretical maximum data rate of more than three times that of LTE – upto 1 Gbps.

While the lofty up front cost of bringing the next-gen wireless broad-

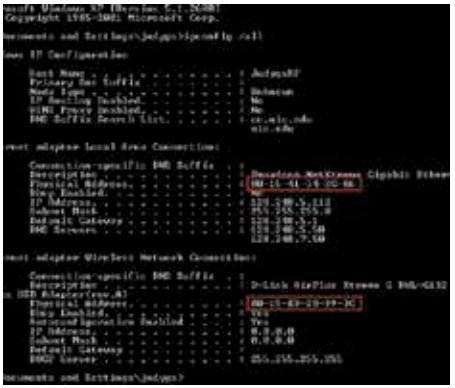
band tech to India by 2014 and dearth of cheap LTE-enabled mobile devices remain obstacles, the technology will definitely solve bandwidth challenges required for offerings such as remote education and healthcare in rural and semi-urban areas.

Luddite

A 'luddite' is any individual who refuses to adopt and incorporate technology into their lives either because they're afraid of it or are too slow to adapt to the introduction of complex, new technologies which continually evolve. Such people are said to have 'technostress' or 'technophobia' – the fear or dislike of advanced technology or complex devices, especially computers. The term 'luddite' caught on in 1811 when a group of industrial workers frustrated about textile machinery replacing them and taking away their livelihood adopted the name 'The Luddites' (after Ned Ludd, an 18th century Leicestershire employee, who destroyed industrial machinery) to protest against and demolish the machines.


M

MAC Address



A MAC Address is a 48 bit or 64 bit unique identifier or address associated with a network adapter. MAC is short for Media Access Control. The MAC address is used by the Media Access Control sub Layer of the Data Link Layer.

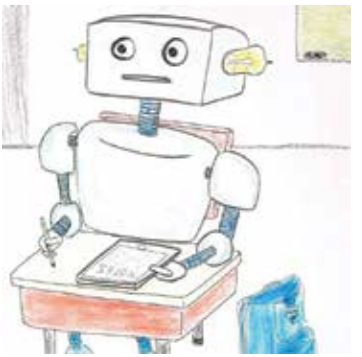
The computers IP address can change over time but the MAC Address will not. However using software a user can change his or her MAC address. Computers connected to the same TCP/IP local network can determine each other's MAC addresses. Using a protocol called ARP (Address Resolution Protocol) on a local network you can determine the MAC address from your IP address. The reverse can be done with RARP (Reverse Address Resolution Protocol). These protocols are used by system administrators to track people on the net in case of any suspicious or criminal activity.

Machine Code

Machine Code also called Machine Language is a series of instructions given directly to the Central Processing Unit to be executed. Every processor has its own Machine Code. Sometimes Machine Code may be common to a family of processors. This is because the instructions given are in a pattern of bits that depends on that particular processor's physical design and architecture. Each instruction in Machine code corresponds to a very specific task to be executed such as a jump, a load or an ALU(Arithmetic Logic Unit) operation. Programmers don't usually use Machine Code as

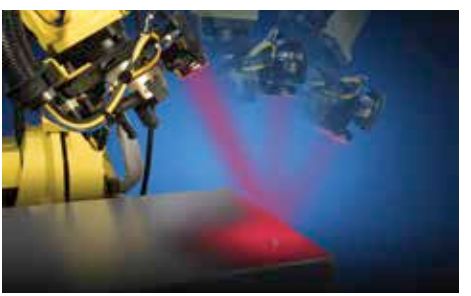
it differs from processor to processor and is not very readable. Most programs are written in higher level languages and then translated to machine code by compiler or linker or assembler. This makes them portable from device to device.

Machine Learning



Machine Learning is a subset of artificial intelligence and involves the study of systems that learn from data. Machine Learning is used to automate a lot of human tasks especially with data sets that are too big for the human mind to process efficiently. Algorithms condition these machines to 'think' i.e. to draw conclusions based on known data and patterns that have occurred before. Each result is added to the dataset that conclusions are drawn from. Thus machine learning evolves as new information is received and can adapt to changing conditions in any situation. The pool of data from which patterns have been established is called the "training set". There are two types of Machine Learning - Supervised (based on the training set) and Unsupervised (independent of the training set).

Machine Vision



Machine Vision is the ability of a computer to capture images and analyze their features. Analysis is done based on size, pixel density, blobs detected, shapes found etc. The results of this analysis is used in automation of many processes. Industries that focus on fields like security, surveillance, manufacturing, production use machine vision to a great extent.

The medical industry is investing a lot in machine vision for its use in surgical procedures to capture and process what a surgeon's eye cannot.

In security and surveillance machine vision is primarily used in tracking, processing huge workloads of data and hence cutting down the manpower requirement. Manufacturing and production industries use machine vision to develop high tech models and identify and rectify flaws before going into production. Robotic guidance and quality assurance are two important tasks that industries use machine vision for.

Macintosh

Macintosh was the first model of computers made by Apple Computers way back in 1984. It started the age of the personal computer with its user friendly Graphical User Interface that made it possible for novices to use a computer. Since this GUI was embedded in the Operating System all the applications looked similar. So once a user was familiar with one application the rest became quite easy to use as well. Apple Computers, now Apple Inc. was started by Steve Jobs and the first ever Macintosh was a model called 'Macintosh 128k', a bulky looking system with 128k of RAM and a mouse.

The first Mac shipped with MacWrite for word processing and MacPaint for graphics which created quite a bit of excitement amongst users. It was sold at $2500 which inflation adjusted is quite a price to pay for a computer.

Mainframe

A Mainframe is a very large and expensive computer which is capable of supporting a huge user base - hundreds, sometimes thousands of users. The latest and most advance ones can support up to 25,000 users spread over 26 miles. Mainframes are maintained by government and corporate organizations for operations such as bulk data processing, transaction processing and enterprise resource management. Mainframes support many programs simultaneously which is why they have immense in-

dustrial importance. In addition to that they are the most secure systems not susceptible to viruses or hackers. Which is why 70% of the data on the planet is stored on mainframes. Mainframes are huge and bulky and have a large number of IT personnel working on each one. Interestingly most of these personnel haven't even seen the mainframe they work on.

Malware

Malware is a broad term used to refer to any type of malicious software. These programs include viruses, worms, key logger software, spyware, adware, trojans, and anything which has been put on your system for harmful or tracking purposes. Malware is used for many purposes, some are spread just as pranks by first time hackers, others are used to steal sensitive information or propagate network attacks from the infected computer. Viruses spread to other programs on the system when the program that contains them is executed. Worms can spread across the entire network from a single system. Most people think they're safe from malware by installing an antivirus program or staying away from suspicious websites. However, technology is continuously evolving and despite antivirus programs and firewalls, malicious programmers are still able to find holes in security systems.

The latest in malware is called 'ransomware' where a program locks

all you files and data by encrypting them and denies you access until you pay the demanded ransom.

Marc Benioff

Benioff is the founder of salesforce.com in a mission to bring software functionality to the cloud and eradicate the need for enterprise software. This was outlined as his mission statement - 'The End of Software' when he started salesforce.com out of an apartment in San Francisco in 1999. Salesforce.com is a software-as-a-service provider best known for its CRM(Customer Relationship Management) product. It offers a variety of services from contact management to application building platforms to an HR performance management tool.

Salesforce.com was not the only company Benioff started. In high school he founded Liberty Software a company that developed games for microcomputers (namely the Atari system). He also worked in Oracle going from rookie to CEO in 3 years and making company history in the process. His technical and business prowess was such that in 2003 he was appointed as cochairman on the President's Information Technology Advisory Committee by George Bush himself.

Marissa Mayer

The daughter of an art teacher and an environmental lawyer, Marissa Mayer is currently the President and CEO of Yahoo! and one of the most powerful businesswomen in the world. She is a Stanford graduate where she completed her BS and MS with a specialization in artificial intelligence. While studying she also taught two undergraduate

courses for which she was given teaching awards. She received a doctorate by the Illinois Institute of Technology for her work in the field of 'search'.

Before she joined Yahoo! Marissa worked at Google where she was their first female engineer. She held key roles in developing the concepts of Google Search, Google Images, Google Maps, Google News, iGoogle, Gmail, Google Books, Google Product Search, GoogleToolbar.

In addition to being on the boards of Walmart, Yahoo! and Jawbone she is an active investor in upcoming technology companies like Minted, Square and Airtime. She also has a keen interest in non-profit Arts programmes like the New York City Ballet and the San Francisco Museum of Modern Art.

Mashup

A Mashup is a web development term for a web application or a web page that uses more than one source to create a new service. Open APIs of various sources allow for easy and seamless integration. Since developers do not have to build functions themselves it is also faster and allows for code reusability. Take for example a housing site that uses Google Maps. The integration of the two services provides a third unique service that generates real estate information based on price and location. The term 'mashup' has been borrowed from pop music where music and vocal tracks from different songs.

There are many types of Mashups like Business Mashups, Consumer Mashups and Data Mashups.

Some examples of popular Mashups are Trendsmap.com (combines Google and Twitter), SongDNA, Poligraft.com and Housingmaps.com.

Matlab

Matlab is a fourth generation programming language used as a numeric computing environment. It was developed by MathWorks and is an acronym for "Matrix Laboratory" as it allows for a series of matrix manipulations and algorithms. It also allows for interfacing with programs written in other

languages like C, C++, Fortran and Java. Matlab has many built in functions that speed up the coding process. It is especially useful for image processing applications. In the late 1970s a computer scientist at the University of New Mexico, Cleve Moler started developing Matlab. It quickly gained popularity and in 1984 Jack Little and Steve Bangert joined Moler to write Matlab in C and started MathWorks in 1984 to develop it further.

Matlab is cross platform but proprietary. Which basically means you have to buy it to use it. Despite this it has more than a million users owing to its performance.

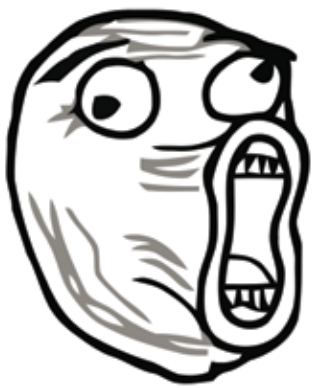
Maven

Maven is a build automation tool used mostly for Java projects. Maven is a Yiddish word which means 'accumulator of knowledge'. The Maven Project was developed by Jason van Zyl in 2002 and launched by the Apache Software Foundation. It was started in an attempt to simplify the build process in a project called the Jakarta Turbine project. Later it was extended to be used for all Java projects. Maven tried to ease the process of adding new features as well as to make the build process transparent. It can also be used to build projects in Ruby, C# and Scala amongst others. Maven projects are stored in a pom.xml file where pom stands for Project Object Model which is the way maven projects are configured.

It is used as a plugin for projects built in Eclipse, Netbeans etc.

Meme

Memes are any unit through which cultural information is spread. To most of us memes are those images that we see on the Internet and pass along. Those however are of only one variety – Internet Memes. They could be in the form of images, writing, speech or even gestures. The word Meme was based on the word mimeme – coined by Richard Dawkins for its similarity to a gene way back in 1976. Memes and genes are said to be similar in that their success and spread are through the process-



es of variation, mutation, inheritance and competition. The more popular a meme is i.e. the more it is propagates, the more likely it is to survive, mutate and spread much like genes.

There is even a field of study dedicated to Memes called Memetics.

Mercurial

Mercurial is a free, cross platform source control or version control management system. It is used to maintain a history of code changes to a project. Rather than saving different versions of your source code each time you modify it, cluttering your folders and causing confusion coders use Mercurial and leave the versioning control to it. This way more than one person can work on the same source code.

It handles projects of any size and each clone of the project on a users machine contains the entire history of the project. So tasks such as rolling back, analyzing code, making changes are all very easy.

Mercurial was released in November 2005 by Matt Mackall, written mostly in Python with a small part written in C for improved performance.

Mercurial also has plugins for various IDE (Integrated Development Environments) such as Eclipse and NetBeans.

Meta Search Engine

A meta search engine is a tool that takes a users request and simultaneously passes it to other search engines, aggregating the results before displaying them to the user. This saves a whole lot of time and energy of the user and returns a more varied and in-depth result. The Meta search engine was built on the assumption that a single search engine cannot scour the entire web and index it well enough to yield good results. The first meta search engine was developed in 1996 and was called mamma.

com as it was thought to be the mother of all search engines. Each meta search engine applies a different algorithm to compile their results in an efficient manner. They organize the results by popularity, relevance, date etc. All this is done in a virtual database as meta search engines never maintain databases of their own.

Metadata

Metadata, simply put, is data about data. It contains information about a certain item's content.

For example metadata of document data would be the author, the dates on which the document was created or modified, the size of the file etc. Similarly we have metadata for images, video files and spreadsheets. On the web metadata is very useful. Pages contain metadata about their contents, keywords linked to them. These are called 'metatags' and help in search engine accuracy. Metadata can be created manually or can be automated. Metadata is also used in 'traffic analysis' in networks. The Obama administration was recently under intense criticism for allowing the NSA (National Security Agency) to collect and store the online metadata of millions of internet users regardless of whether or not they were persons of interest to the government security agencies. This meta data contained a record of everything a user did online and was considered a serious breach of privacy.

Michael Dell

Michael Dell is best known as the CEO and founder of Dell Inc one of the world's leading sellers of personal computers. In addition to that he is also an industrialist, philanthropist, investor, author and one of the

world's richest businessmen.

Dell was born in 1965 and at the age of 8 applied to take a high school equivalency exam so that he could enter business early.

Michael and his wife Susan Dell have started the Michael and Susan Dell Foundation which focuses on many causes including family economic stability, childhood health and urban education. He also funded a new computer science building at his alma mater the University of Texas at Austin.

Microcomputer

A Microcomputer is a small computer with a microprocessor as its central processing unit. It is relatively inexpensive and designed for individual use. Early Microcomputers were sold as kits to be assembled by the user. These came with only 256 bytes of RAM. There were no input/output devices either except for switches and indicator lights.

Slowly devices were developed to have more RAM, Video Output and other advancements. Now the microcomputer has become synonymous with the personal computer (PC). So our everyday personal computer is actually a microcomputer.

Developments led to smaller and smaller devices with the same computing power. PDAs, notebooks, laptops, mobile phones, gaming consoles are all examples of microcomputers as well.

Microsoft

Microsoft is a software corporation founded by Bill Gates and Paul Allen on April 4th, 1975. The original location of the company was in Albuquerque, New Mexico but in 1976 they moved to their current location of Redmond, Washington. The name was a combination of 'microcomputer' and 'software' coined by Bill Gates in a letter to Paul Allen.

The first operating system Microsoft developed was Xenix. The first successful one was MS-DOS.

Microsoft's startup tune was created by musician Brian Eno and dubbed 'The Microsoft Sound'. Microsoft employees are called "Softies". Microsoft has split its stock 9 times. Splitting of stock is done when the share price becomes too high. It is regarded as one of the most successful corporations in the world having the net worth of a small country. In spite of that the 'softies' aren't one bit laid back. Microsoft files over 3000 patents a year for new inventions making it one of the top 5 patent owners in the US. New developments are kept highly secret with code names for each (Windows 7 was code named Vienna).

Middleware

Middleware is the 'software glue' that connects and mediates between two pre-written software applications. The middleware actually lies between the applications and the operating system and helps in communication between the two. This way it provides a layer of abstraction. With middleware developers do not have to worry about input/output and information parsing, and can rather focus on the core functionality of their applications.

An example of middleware is a game engine like Gamebryo or Renderware. They provide all the core functionality needed to develop a game application in a flexible and reusable platform. Thus games developed can be run on any platform whether it's a gaming console or a computer with few changes (if any) to the source code.

Android provides many middleware libraries and in combination

with its dalvik virtual machine, act as a middleware layer between application framework and the underlying Linux kernel. Applications can thus be developed device independent.

Without middleware a lot of additional coding would be required for each game; even more so if you wanted to port the game onto a different platform.

MIDI

MIDI is a protocol i.e. a set of instructions that tell an electronic device how to generate a certain sound.

MIDI is short for Musical Instrument Digital Interface and was standardized in 1983 by the MMA (MIDI Manufacturers Association). In 2012, Ikutaro Kakehashi and Dave Smith received a Technical Grammy Award for its development.

MIDI allows electronic musical instruments to connect with one another or sometimes for one instrument to control the other. Using a MIDI synthesizer people with no formal musical training can compose polished arrangements. MIDI allows for editing compositions and transcribing to sheet music.

There is a common misconception that MIDI is a file format. It is not. It is strictly a protocol. Standard MIDI File (SMF) is a file format that allows sequences to be saved and transported from system to system.

Minicomputer

A Minicomputer is a mid-range server designed for business applications which require the high performance of a mainframe system in terms of efficiency and speed. They are more powerful than personal computers and workstations, but smaller than super computers and mainframes. Hence they fall somewhat in the middle in terms of cost too. . The hard drive of a mini computer is very big ranging from 39TB-381TB. The primary operating system for a minicomputer is UNIX as it is faster and

more stable than other operating systems. Minicomputers are able to support between 4 to 200 computers on a network.

Minicomputers were initially an IBM design and emerged in the mid 1960s. Minicomputers are used in manufacturing process control, to control laboratory equipment and in telephone switching. The CAD (Computer Aided Design) industry was launched using minicomputers. Other similar industries which require smaller dedicated systems use minicomputers.

Minicomputers gave way to the development of microcomputers.

MIT

Founded in 1861 MIT (Massachusetts Institute of Technology) is the world's leading technological university. With a campus spread over 168 acres it has grown to specialize in the fields of biology, linguistics economy and management as well. MIT is the birthplace of budding entrepreneurs. As many as 25,800 active companies (like Bose, Intel, Dropbox) have been started by MIT alums employing a total of 3.3 million people worldwide. In fact the World Wide Web was both predicted and invented by MIT alums. The MIT campus is an impressive one and has its own nuclear reactor. All the buildings are connected to each other by an underground tunnel system. Besides academics MIT is also heavily into physical education with courses on archery, fencing and sailing.

Moodle

Moodle is an acronym for Modular Object Oriented Dynamic Learning Environment. It is a Learning Management system which was designed to help educators create online interactive and collaborative courses. It is cross-platform, free and open source, and currently has a user base of 83,008 sites registered with it. Moodle was developed by Martin Dougiamas and is somewhat like a learning management system. It is believed students respond more enthusiastically to this approach and everything from assignment submission to testing is taken care of on it. Moodle is very flexible and developers can write new features using PHP the language that Moodle was written in. Due to the contribution of many such open source programmers Moodle has remained current and bug free ever since its inception in August 2002. It is used by colleges all over the world as a virtual learning tool.

Motherboard

A motherboard is a main printed circuit board (PCB) of a computer that connects all its parts together either directly or via cables. The CPU, sound cards, network cards, hard drives, optical drives, video cards are all connected to the motherboard. It is like the "back bone" of a computer.

The motherboard is also connected to a power supply and supplies appropriate DC voltages to the components on board. Peripheral devices like DVD players and memory card readers also get their power from the motherboard.

All communication between system components goes through the

motherboard.

Motherboards have a lifetime of approximately 15 years and are generally low maintenance with the only lookout being to check if the attached cooling fan remains dust free.

MUD

MUD (Multi User Dungeon) is a type of multiplayer text based online game. MUD based programs are educational, social or adventurous in nature. MUDs existed even before the Web, with players connecting through Telnet to a MUD based computer.

Most games are based on role play. When a user enters into a MUD virtual world he or she takes on a character or avatar. The person running the MUD is usually an advanced MUD player called a wizard or a dungeon master. The newer MUDs use virtual reality and the game is played in 3-D. However focus is on player interaction through text. Games may include combat, puzzles, magic, traps. Players usually type commands in a spoken language which are interpreted by the game as programmatic commands.

Popular MUD games are ZombieMUD, Sindome, NarutoMUD and Zork.

Multithreading

The ability of a program or an operating system to execute different threads i.e. parts of a program simultaneously is known as Multithreading. It is very important that these threads do not interfere with each other and that copies of the program are not made in order to process the requests of the threads.

Multithreading is useful in resource sharing when many threads require the same resource. When this happens they are queued up and each gets a certain amount of time with the resource. Multithreading makes maximum use of the CPU cutting down on idle time i.e. time during which the processor is unengaged with any task. Threads can be giv-

en different levels of importance which may decide their processor time and resource allocation. This is why Multithreading is also sometimes called 'time sharing'.

MySpace

MySpace is a social networking service which was wildly popular until the creation of Facebook. It was started in 2003 and is now owned by Justin Timberlake. MySpace feels like a website where aspiring musicians and bands promote their music and network with others. Since then it has grown to include a larger community and anyone over the age of 14 can sign up for free. Very much like Facebook with MySpace you can upload videos and photos, add friends and view their profiles, you can even create your own blog. However ever since Facebook came onto the scene MySpace has been on the decline. Layoffs have resulted in 85% of the staff losing their jobs and despite many efforts to repackage and redesign it, not much has changed. Facebook and Myspace have been in constant competition until 2010 when MySpace accepted defeat and has now changed its offerings to be like a complementary service to Facebook.

MySql

MySql is an open source, cross platform relational database management system. Its source code is publicly available under the GNU General Public License. It is commonly used with web applications and is the first choice for any PHP based web development. It is fast, reliable and easy to use – ideal for both large and small applications. MySql is named after one of the co founder's daughters - My.

SQL is short for Structured Query Language. MySql doesn't have any GUI so users have to resort to command line tools or download additional, special software that provides a friendly interface. MySQL is the

RDMS of choice for Facebook, Google, Twitter, Flickr, YouTube, Wikipedia and Joomla. It can even support small embedded applications making it highly scalable. MySQL is a multithreaded application written in C, C++ and can work with multiple CPUs if found on the executing server, making for more efficient execution of queries. MySQL has been around since May 1993 and its latest most stable release is 5.6.14 (Sept 2013).

Nagware

Nagware is any form of software or programming commonly bundled in with shareware programs that generally makes you pick up your keyboard and throw it at the nearest inanimate object. It is the screen which pops up after you used that software for thirty days, asking you to give them $$$ to continue. It is an operating system telling you that it is may not be genuine. It is a certain antivirus which will scream into you that the software needs to be updated when you are listening to a nice soothing track wearing headphones turned up to the highest volume.

Nanotechnology

The term nano technology was introduced by American engineer Eric Drexler when he wrote "Engines of Creation" in 1986. It refers to the engineering of functions at the molecular scale. Some scientists even believe that anything can be created using nanoparticles, similar to star trek's 'Replicators'. It has also been said that with nanotechnology steel can be produced which can be a 100 times stronger than traditional steel but six times lighter. While it may seem to be a far-fetched theory currently, smaller applications of it are already in place. A UK-based company offers a product called Activ Glass in which they have used nanotechnology. When ultra violet radiation from light hits this glass, nanoparticles become excited and break down and loosen dirt on the glass. When water is in contact with the glass, it spreads evenly across the glass. Effectively a self-cleaning glass.

Narrowcast

Well, the opposite of broadcast. Narrowcast means to send data to a specific list of recipients, as opposed to sending data to everyone through broadcast. If you have to sign in onto a website before entering, that is a form of the narrowcast model. Television uses a broadcast model as anyone with an antennae can receive the transmitted signals. A creepier translation of what narrowcasting means to an internet user is what you see when you search in Google. Because Google collects your browsing data and has an idea of who you are, it is able to show you advertisements specific to your needs. This is the narrowcast model of advertisement. If you are a 23 year old male with a beard and you are shown advertisements for Barbie dolls, that is probably broadcast advertisement, blatantly redundant in these times. Or narrowcast, depending on your browsing history. It's all right we don't judge.

Nash Equilibrium

Nash Equilibrium is a condition in a game or any other related situation containing more than one player where each player has picked an option considering the options picked by the other players and so can not gain by changing his decision in isolation. Coined by John Nash, who was innacurately depicted in 'A Beautiful Mind', the Nash equilibrium is a concept of game theory and can be illustrated in the 'Prisoner's Dilemma'.

Here two criminals A and B are caught. A is told that if he confesses the crime and B denies, A gets 1 year in jail while B gets 10 years. If A denies and B confesses, A gets 10 years while B gets 1 year. If both deny, both get only 2 years. If both confess, both get 3 years.

Now here A or B would not want to deny the crime, fearing that the other would confess and lead to him ending up with 10 years in jail, although if both deny they only get two years. Knowing what the other prisoner must also be thinking, the ideal situation is for both to confess. This is an example of a state of Nash Equilibrium.

National Security Agency

One of the largest US Intelligence Organisations, the NSA operates from the USA and in recent times has been heavily criticized for its mass-surveillance programs, revealed by Edward Snowden. The agency saw quite some criticism when it was revealed that it had access to all calls made by US citizens. Sneaky NSA, but that is really the tip of the iceberg. Its Prism software, a $20 million -a-year NSA surveillance program, offered the agency access to information on its targets from the servers of technology companies like : Google, Apple, Microsoft, Facebook, AOL, PalTalk and Yahoo. It is speculated the NSA and Britain's version of the NSA, the GHCQ, collaborated to access and spy on the internal networks of the Organization of Petroleum Exporting Countries and through this performed "man-in-the-middle" attacks that allowed them to install malware onto the target computers and gain administrative privileges for the network and access to file server.

Natural Language Processing

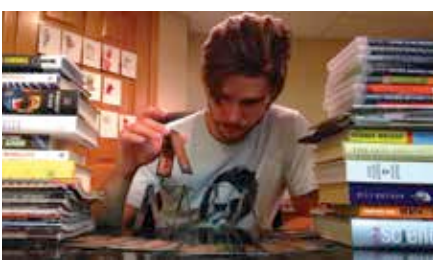
NLP is a branch of artificial intelligence that deals with the generation and analysis of language that human beings can use to interact with the computer in much the same way one person can interact with another using a natural human language, instead of computer language. Watson, an AI computer system created by IBM, has achieved quite a bit in this space. The computer thrashed contestants in American quiz show

'Jeopardy', and IBM is going to open up the computer to developers in 2014. But it was not without its faults. One of the questions on the show asked about a physical oddity of gymnast George Eyser. Logs showed that the computer immediately found a passage which said "George Eyser's left leg was made of wood." Unable to understand what the 'oddity' exactly was, Watson just replied 'leg'.

Near Field Communications

In 2004, Nokia ,Sony, and Phillip got together to establish a standard for Near Field Communications. NFC is, in its most basic form, a standard for very short-range radio transmission of just a few centimeters. Some NFC chips will only send or receive information if the requisite devices are in contact with each other. The advantage here is that this system renders redundant any system of carrying credit cards, access cards, or even 'bonus offers' at shops as all this data can be simply taken from the phone when it is in proximity to the appropriate device. Google has already come out with Google Wallet in a bid to replace the heavy load mostly sitting near your right cheek. You may have already heard of RFID in our earlier issues. NFC builds on this concept as it facilitates two-way communication.

Nerd



Well, didn't see this coming. A nerd is someone who likes to know more about something and likes to get it deeper into the details, sometimes even in a situation where it is not exactly socially the best thing to do. A nerd is someone who feels

a pang of pain when his chess match is disrupted as the person he is playing with has decided that the pieces could be more useful when thrown at each other. A nerd is a person who knows a particular item intricately, say the person knows exactly how many times Khaleesi in Game of Thrones is called Khaleesi, that person would be a Game of Thrones-nerd (or insane). A nerd is someone who gets offended when he is called a geek and proceeds to explain the difference. A geek, on the other hand, is someone who does not agree with the explanation of what a nerd is.

Nero

Initially released in 1997, Nero Burning Rom is an application used to write data to a disc. Nero supports the creation of various file systems and allows the creation of discs in different formats, such as ISO and UDF data discs, disk image files, audio CDs, DVD video discs, Blu-Ray discs, bootable discs, SecurDiscs, and AVCHD video discs. The nero application became so famous that the company which released it , Ahead Software, renamed itself to Nero.

Ever heard of 'Nero fiddled while Rome burned'? Roman Emperor Nero supposedly started the Great Fire of Rome in 64 AD which destroyed most of the city in order to clear land for his awesome posh complex. Hence the logo of Nero Burning Rom is an image of rome burning. Hence 'Nero Burning Rom' is actually 'Nero Burning Rome'. Ha! Take that conspiracy theorists.

Net-roots

Net-roots is any form of political or social upheaval which has been initiated, promoted, and conducted over the internet. Organisations and conventions have spawned on the same ideology, like Netroots Nations , a yearly convention where American activists meet and debate and then get drunk and miserable, thinking about the state of their country. One of the key premises in this sort of movement is that the people involved in the movement are spreading ideas through channels which they have control of, as opposed to say a television advertisement which will first go through rigorous channels thus diluting the message. There has been

quite a debate as to the effectiveness of net-roots. While some say feel that Obama's election was due to the help of netroots – based campaigning, there are an equal amount who feel that it did not do much at all. What is true however is that netroots had caused American senator George Allen's defeat in the mid-term elections in 2006, by way of an embarrassing video in which the senator was being racist. The 2006 elections have been seen as the year when the center of power shifted ever so slightly from traditional broadcasters to bottom-up activists through netroots.

Netscape

The reason for the existence of our beloved (but unfortunately superceded by Google Chrome) browser Firefox. Bear with us. When the netscape browser was launched in 1994, it was greeted with applause for its achievements and lauded for the pace of updates. Unfortunately, this did not last too long. With the launch of Windows 95, Microsoft introduced its new browser, Internet explorer, into the ring. While Netscape was initially technologically superior to the Internet explorer, it began to lose ground to the new browser mainly due to one reason – IE was free. This allowed it to sustain itself and by the time IE 4 was out, it was ahead of Netscape. In 1998, Netscape made its browser open source and Mozilla was the name given to the open-source development project. After some more ups and downs, the Firefox browser was launched by the Mozilla organization.

Network Attached Storage

NAS is a dedicated hard disk storage device that is attached to a local area network and assigned an IP address, which provides file-based data storage services to other devices on the network. Its advantage lies in the fact that since it is set up with its own net-

work address and is not vying for processor resources, it allows both application programming and files to be serviced faster. Plus since the system is much lighter than a traditional file server, it is less prone to a system crash or a system attack.

You can build your own NAS. The essentials required are software, maybe FreeNAS, an old computer you don't need anymore with atleast 4 GB RAM, and a fair amount of patience.

Nick Holonyak

The man behind the light emitting diode. It is because of Holonyak that we have a practical form of laser for the study of the eye, for cd players, also for our fiber-optic communication needs. Holonuak was also responsible for household dimmer light switches. A Bob Noyce had once argued with Holonyak about the merits of working on III-V semiconductors which Holonyak was psyched about. Holonyak went on to make a semiconductor laser that made longhaul fiber-optic communications possible, while Bob Noyce co-founded Intel. Win-win it seems.

In 2009, he was working on using transistor lasors to improve the speed of electronic communications with DARPA, or Defense Advanced Research Projects Agency. This development could lead to optical computers running around or even more than 50 times faster than current computers. Although he he has retired from the University of Illinois where he would teach, his colleagues presume that he would not stop his research.

Nikola Tesla

Nikola Tesla is known mostly for the promulgation of alternating current, along with his feud with Thomas Edison, the details of which we will not go into now. While there are some skeptics who argue that Tesla's scientific prowess has been blown out of proportion, his contribution to the following inventions, while possibly not to such large a scale, is yet

proof of a man who gave a lot to science; radio, X-rays, Radar, Cryogenic engineering, the transistor, and possibly even an early draft of wireless-electricity. Some of his work has been declared as 'classified' by the US government, leading to the idea that Tesla was also working on a type of 'death-beam'. We'd advise you to take that one with a fist of salt. Unfortunately, the man did not live a very happy life. He rarely slept, suffered from obsessive compulsive disorder, and died alone.

Nintendo

Nintendo is a Japanese consumer electronics company much loved for being the reason that Mario, Zelda, and Pokemon exist. From the Super Nintendo Entertainment System or SNES to the Nintendo Wii, and from the gameboy advance to the Nintendo DS, the company has a very impressive slew of gaming consoles up its sleeves. Some games, like Battletoads, Ghosts' N goblins, and Silver Surfer for the SNES had ramped up the difficulty so much that it inspired a term for an extremely difficult game – Nintendo Hard.

While Nintendo is known for its set of cuddly and family-friendly characters (Conker from Conker's bad Fur Day was kindof an anomaly), three games with, ahem, objectionable content managed to slip by its radar and could be played on the SNES. Developed by Hacker International, they were: Peek-a-boo Poker, Hot Slots, and Bubble Bath Babes.

Yes you can still get them. Online. For amounts ranging from 6,400 rupees to 76,000 rupees.

Nokia

The Finnish mobile behemoth is currently experiencing a slow and painful slow down thanks to the Apple and Android phones. From manufacturing paper, rubber, generating electricity, producing cables, tyres, footwear, personal computers, chemicals, and military communications and equipment, Nokia saw a slew of changes before it cut off everything else to focus solely on its telecommunications business, and thus introduced us to the indestructible Nokia 3310, a phone which legends still speak of.

Nokia was also one of the first players to recognize that a gaming console and a mobile phone can be warped into one resulting in one of their well-known disasters the N-Gage, built in an effort to rival the Gameboy Advance. We don't think we need to finish that story.

From creating arguably one of the most recognizable phones to being bought by Microsoft earlier this year, Nokia has certainly travelled a most interesting path.

Non repudiation

Non-repudiation is a method of guaranteeing proof of message transmission between the transmitter of the message and the receiver of the message. Non repudiation can be obtained through the use of digital signatures or confirmation services like the message transfer agent which can create a sort of digital receipt indicating that the messages were transmitted, and finally timestamps which can prove that a document existed at a particular time. But it has its flaws. If you receive a mail in which you are harassed, but the receiver denies sending the mail, you can't really do much as non-repudiation yet cannot give proof of the link from the human being to the computer.

Northbridge

The Northbridge is a chip on a motherboard that was used previously to 'bridge' the central processing unit (CPU) to the primary components which are memory, the PCI bus, Level 2 cache, and accelerated graphics port or the AGP etc. The Northbridge would be connected to the Southbridge which would handle the input/ouput functions of the chipset. The different functions were spread out into the CPU, northbridge and

southbridge due to difficulty in integrating all the required components onto one single chip. AMD was the first to integrate the functions of the north bridge chip onto the CPU die in 2011, and thus snuffing out the need for a northbridge to perform these functions. Intel's "Sandy Bridge" processors soon followed which feature full integration of northbridge functions onto the CPU chip, along with processor cores, memory controller and graphics processing unit (GPU).

'Not invented here' syndrome

When Thomas Edison hired Nikola Tesla to assist him in solving the problems he was facing with DC current, he didn't expect Tesla to give him the solution as a sort of slap in the face – AC current. Tesla told Edison that the answer lay in alternating current–already patented by another company-where high-voltage energy could be transmitted over long distances using lower current allowing a much more efficient delivery system. To this Edison said no, like any reasonable man would, and then went onto a public frenzy to attack AC current, going even to the lengths of electrocuting topsy the elephant (no we are not joking) on a stage using AC current to prove that his version was better.

That, is a dramatic example of the 'not invented here' syndrome, the syndrome where both developers and organizations reject appropriate external solutions to software development problems in favour of internally developed solutions. The other side of the coin here is that when you are working with a good set of programmers – everyone else's code will seem unreliable. The team at

Excel is said to have been an ardent follower of this philosophy in the 1980s, and now is the highest rated spreadsheet software.

Novell

Novell is an American software and services company which played an important part in bringing Local Area Network into existence. During the 1990s, Novell reigned over the business of connecting systems with its Netware server Operating system. Netware 1 through to Netware 4 kept building on the previous models, but hit a roadblock as the amount of work required for it made it unfeasible. Enter Windows NT, which was quite basic as compared to Netware 4, but made adding server functionality easier and cheaper.

Novell was also responsible for 'SNIPES', a maze game in which you control a creature that destroys things called, snipes. It was the first network program written for the PC. To justify the creation of the game, the supposed Father of Networking Drew Major said "The only games were some lame BASIC-language games such as Donkey, written by Bill Gates, where you were driving down the road and had to jump from lane to lane to avoid hitting donkeys.

NPC

Non-playable characters are characters in a game who the player can't control and who are generally neutral or friendly to the player. These may not refer to villains, as usually NPCs are characters who have a certain blend of personality, character

development, and their importance to the plot, with the basic NPC having none of these. They may walk up and down the same street forever with no ambitions to move elsewhere, they may give you quests as side-missions to your campaign, and in some cases they may even join you, among other things. Examples are – the dog in half life 2, the merchant in Resident Evil 4, Professor Oak from Pokemon, and even the referee from any FIFA game.

NSFW

The boon of office goers who manage to sneak in some quality procrastination at work before filing data or whatever it is people do when they work. NSFW stands for Not Safe For Work and is a huge warning sign that the link you are going to click is going to lead you to a picture or video of a) porn/nudity b) violence c) drugs d)various combinations of the above, with the most apprehension generally around point a. This is important as most organizations will not give leeway for even accidental access to such sites, resulting in the employee being reprimanded or even fired.

An important point to note though is how the definition of NSFW changes when there is nobody around.

NVIDIA

With its horns in a never-ending lockup with AMD, NVidia Corporation is one of the bigger companies in the graphics market. The founders of the company had a dream – to develop a microprocessor that would be able to power full motion video and stereo sound in PCs, and

have surpassed that ever since with its systems used in personal computers, mobile phones, and even cars . The company is also the common link between the Xbox and the PS3- it powered both the consoles with its own graphic chip.Unfortunately or fortunately, the PS4 didn't see the Nvidia chip as the NVidia guys did not like the price at which Sony wanted to make the deal. AMD got it instead.

In January, NVidia realized that it could not rely on chips for PCs, especially with a slowdown in sales of personal computers, and on July 31 released the Nvidia Shield, a portable gaming console which runs on Android.

Nymwars

When Google introduced Google Plus in 2011, it came with a rather unpleasant requisite. An algorithm was implemented that identified from the names of accounts what it felt were pseudonyms and suspended their accounts. This led to the suspension of author and journalist Violet Blue's account, who is a real person, and also of an account in the name of Skud. Skud was a real name and he was an employee at Google.

The battle against the forceful adoption of a 'real name' in lieu of a pseudonym was called the Nymwars. The year of Google Plus's launch was also dubbed Nymwars Year Zero.The online community raged. Famous personalities were being blocked, and in some cases pseudonyms were allowed for some accounts with Google providing no clear reason as to why some names were allright when some weren't. Google eventually made the policy a recommendation instead of a mandate, a move which was met with further skepticism as to the vagueness with which it was implemented.

Nyquist

Sound must be converted to electrical energy before it can be tugged and pulled on the computer as acoustic energy. The analog signal has to be represented in a digital format, and this is done by sampling input signals a predefined number of times. Nyquist's law, named after

Harry Nyquist, states that to accurately represent this signal, the analog sampling rate must be two times the maximum analog frequency to extract the bandwidth information. In a presumed ode to the engineer, or to the law, 'Nyquist', a C++ program based on Lisp, was written intended to be used as a complete programming language for audio synthesis and analysis, with support for MIDI, audio recording and playback, file I/O, object-oriented programming, profiling, debugging.

Object Oriented Programming

Coined by Alan Kay, OOP or Object Oriented Programming is a programming language model organized around objects rather than 'actions' and data rather than logic. It combines data structures with functions to create reusable objects. Object-oriented programming is exactly that – programming oriented around objects. The challenge in programming was always seen as arriving at the logic, and not defining the data – OOP however, takes the view that what we really care about are the objects we want to manipulate rather than the logic required to manipulate them. Now, objects could range from Human Beings (described by Name, Address etc.) right down to gadgets on a desktop (buttons and scroll bars etc.). In OOP, one can simply create a new object that inherits many of its features from existing objects, thus making it easier to modify than procedural programming techniques. Simula was the first Object Oriented Programming Language. Some of the more popular OOp languages today are Java, Python, C++, VB etc.

OCR

Let's say you wanted to digitize an article or a letter, and share it on the internet. You could either then spend hours retyping the whole thing, or you could scan the required material and convert it into text using an Optical Character Recognition Software, or in short, an OCR. When a piece of paper is scanned it is stored as an image, and an OCR system or software translates the images into something the computer can read (for eg. ASCII code). Early versions of the technology needed one font to be worked on at a given point of time, but now OCR systems have become quite advanced and can easily identify most fonts with good accuracy, but they still face some difficulty with handwritten

text. The potential of OCR is tremendous - with a lot of businesses relying on printed or handwritten data, digitizing these would ensure that they would be safe in terms of storage, and that a lot of time would be saved on searching for the required paragraph of a given document.

OEM

OEM stands for Original Equipment Manufacturer, and is quite a confusing term which can have two meanings. Originally, an OEM was a company that supplied the manufactured equipment to other companies that resold or incorporated the equipment into another product, and reselling it under their brand name. However, in recent times, OEMs are used to refer to companies that acquire a product or component and incorporate it and sell it under their brand name, thus making it sort of a misnomer, since the company selling it aren't really the manufacturers. OEM software is ordinary software bought in bulk by the OEM and preinstalled on new machines. OEM software cannot legally be sold separately from a computer.

Office suite

A related group of programs for a personal computer that are used to automate common office tasks. An office suite usually comprises of a word-processor, spreadsheet software, database software, presentation software, email and other such programs. The components are typically sold together and can interact with each other. Though there are a number of office suites available, such as Libreoffice or Openoffice, the term office is almost used synonymously with Microsoft's productivity suite MS Office. Introduced by Microsoft way back in 1989, it now boasts of a user base of more than a billion people. The latest version of MS Office in use in MS Office 2013 released for both the Windows and the OS X platforms.

OHM 2013

OHM 2013 was an outdoor hacker conference that took place in the Netherlands from July 31st to August 4, 2013. The initials in OHM stand for Observe. Hack. Make. The non-commercial community run event saw around 3000 volunteers taking part in the festival while organising it themselves. The event is part of a now 24 year tradition, where every 4 years, a major outdoor Dutch hacker conference is organised in the Netherlands. Way back in 1989, GHP (Galactic Hacker Party) started the motion, and it was since followed by HEU (Hacking at the End of the Universe – 1993), HIP (Hacking in Progress -'97), HAL (Hackers At Large – 2001), WTH (What the Hack - '05), HAR (Hacking At Random – 2009) leading to OHM 2013. The camps are mainly known for playing host to a wide array of knowledgeable minds filled with energy and ideas that they want to share with other likeminded people.

Ole Johan Dahl

We've mentioned that SIMULA was the first ever Object Oriented Programming Language created under OOP. Ole Johan Dahl was the man responsible for its creation. Dahl, widely accepted as Norway's greatest computer scientist, is considered to be one of the fathers of Object Oriented Programming, along with Kristen Nygaard. The duo produced the initial ideas for OOP in the 1960s as part of Simula I and Simula 67

languages. Through these simulation programming languages, Dahl and Nygaard stand out in programming history as the first to develop the concepts of class, subclass, inheritance etc. – all key aspects of OOP. The Object Oriented Programming that Dahl was so pivotal in developing is what has become so prevalent in the software development world, including languages such as C++ and Java. The recognition of Dahl together with Nygaard as the founders of OOP were established through two prestigious awards that they received during their final years. In 2001, they were awarded the IEEE 'John Von Neumann medal' and in 2002, they were given the A.M. Turing Award by the ACM, both for introducing the underlying concepts fundamental to Object Oriented Programming. Later in the same year, in mid-2002, Dahl died after a long battle with Lymphatic cancer.

OLED

OLED stands for Organic Light Emitting Diode is a display technology based on the use of an organic substance, usually a polymer, as the semiconductor material used in light- emitting diodes (LEDs). They can be used without backlighting, and hence display a brilliant picture on a much thinner screen that weighs less compared to other display technologies. And though OLEDs are considered the next step to LCDs, what is surprising to know, is that this technology has been in the making for quite some time now. The first diode device was reportedly discovered at Eastman Kodak way back in 1987, and has since been refined by many other companies. Compared to LCDs, OLEDs are easier to manufacture, cheaper to build and brighter to view. Another huge benefit is that since there is no requirement of a backlight to function, the OLEDs consume far less power than other prominent display technologies. OLEDs are now commonplace and used in devices such as TV screens, computer monitors, mobile phones, handheld game consoles and PDAs. More exciting prospects such as FOLED (Flexible Organic

Light Emitting Diode), and lighted transparent car roofs have been coming up in recent times, thanks to the development in OLED technology.

Oliver Selfridge

Oliver Selfridge is considered to be one of the greatest computer scientists in history. Called "The Father of Machine Perception", Oliver Selfridge was a pioneer of artificial intelligence. In 1956, Selfridge along with some of his colleagues from Dartmouth held the first ever public meeting on Artificial Intelligence, and this responsible for coining the term. The concept of AI, that a digital or mechanical brain might be created which would be able to learn from its experiences, is a topic of great interest even today. His early work consisted of important papers on neural networks, pattern recognition and machine learning. His 1959 paper, 'Pandemonium: a paradigm for learning' is considered a classic in the field of AI. Infact, pandemonium was such a successful model of pattern recognition that it has since been adopted for use in cognitive psychology. In 1968, Robert Taylor and J.C.R. Licklider – both computer giants in their own right – referred to an early description of a computerised personal assistant as OLIVER (Online Interactive Vicarious Expediter and Responder) in honour of Selfridge also served as the chair of the Data Security Panel of the NSA, and as chief scientist for telecommunications company GTE, before retiring in '93. Fun fact about Oliver Selfridge include that he was also a children's book author, and that his grandfather, Harry Gordon Selfridge, was the founder of high end department store chain – Selfridges & Co.

OMG

If you didn't just go OMG looking at this entry, you've been living in a cave – Lol jk (Laughing Out Loud, Just Kidding). If you aren't introduced to internetspeak yet, OMG stands for Oh My God, Oh My Gosh or Oh My Goodness – a common abbreviation used all kinds of communica-

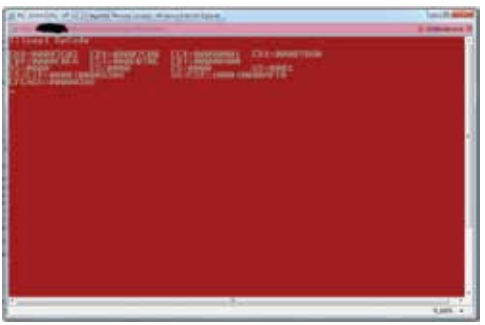
tion – internet, SMS and internet messaging. It might be quite tough to believe – but the origin of the acronym OMG dates way back to 1917. Surely, the creator did not know that what he had created would be a part of a greater phenomenon that had engulfed the world, and not in a way that he/she would have liked. SMS language or textese has become the norm for communicating across various platforms, and it has impacted people so much so that it is constantly being used outside its original platform, and IRL (In Real Life). No wonder it is the topic of several debates, with purists claiming that it has a detrimental effect on literature and literacy in general. The people who speak textese though claim that the purpose of language was to be able to communicate your message across, and if SMS language was succeeding in doing that, there was no issue at hand. Well whichever side of the fence you're on, IMHO (In My Humble Opinion) you definitely need to know your acronyms.

Onion Routing

Privacy and anonymity have always been the major concerns related to internet usage. And in all honesty, no matter what you do, you are never completely anonymous on the internet – it is all about how tough it is to trace back to you. This is where Onion routing comes into the picture. In this technique, originally developed by the U.S. Navy, packets are sent through a network of randomly selected proxy servers before being delivered to their final destination, while encrypting these data packets at every step. Only at the end of this chain does your data become decrypted and sent to the final destination. This multiple layering of encryption makes it difficult to trace your information back to you, and also makes it difficult for your ISP to read the data packets since they are decrypted. Thus, onion routing has become popular amongst users vary of prying eyes – either of big corporations, or of their own ISP, when they want to bypass sites

being blocked. TOR (The Onion Router) is perhaps the most popular network using onion routing. The name Onion routing comes from the fact that each router removes a layer of encryption to uncover routing instructions and then sends the message to the next router where this is repeated – just like the peeling of an onion.

Op Code



An Op code is a number or a code that instructs the computer on the task it is supposed to perform. It is the first byte of an instruction. Computers do not understand our language, and for it to be able to perform the task that we've specified, it needs to convert our instruction into a code (machine code) that it can understand, and op codes do exactly that. The format of the op code is laid out in the ISA (Instruction Set Architecture) of the processor. Op codes work along with operands (data on which the operation should act), and every processor has its own set of op codes defined in its architecture. An illegal op code, is an instruction to the CPU that hasn't been documented by the manufacturer and still has an effect, resulting in strange effects. These effects combine functions of the CPU that weren't meant to be combined, and hence, mostly produce useless or undesirable effects. However, few effects were actually pretty useful, and exploited in computer games and the likes.

Open architecture

Architecture whose specifications are public is called open architecture. These specifications could mean standards, or privately designed architectures whose specifications are made public by the designers. This enables adding, upgrading and swapping components in a particular architecture system. Therefore, in open architecture, the idea is that any cable, jack, patch cord, regardless of manufacturer should be able to work together according to the specified design without loss of perfor-

mance. Whereas a closed architecture means that all the components are designed and assembled by the same manufacturer and done so, so as to optimise the performance of the entire system. The debate over which is better, is quite similar to the PC vs. Mac war, with PCs being customisable in terms of components, and Macs coming as one proprietary unit that is supposedly built for optimised performance.

OpenGL

Silicon Graphics Inc. (SGI) was a company founded in 1981, and specialised in 3D computer graphics and developed hardware and software for the same. In 1992, SGI cleaned up IRIS GL, their existing graphic library, and released it to the public as OpenGL, a cross-platform standardized API for real-time computer graphics. Prior to OpenGL, a company typically had to rewrite the graphics part of an application for each OS platform and according to the graphics hardware as. With OpenGL, however, an application can create the same effects in any OS using any graphics adapter adhering to OpenGL standards. How does it work? When programmers write OpenGL code, they are running commands that each execute a drawing action or create a special effect etc. Thus, through hundreds and thousands of OpenGL code, programmers can create 3D worlds. Developing an application using the OpenGL API involves no cost – Microsoft even offers OpenGL libraries for free download in its Windows systems. OpenGL is widely used in CAD, virtual reality, scientific visualisation, flight simulation and of course, video games.

Open Source Software

Unlike in proprietary software, Open source software, is widely acknowledged to be any program whose source code is made available for use and modification by users, developers and hackers. The source in 'Open Source' is short for Source code. These projects are often developed as a community rather than an organisation, because of which the phrase 'Open source community' is used to describe the developers of an Open source software project.

However, not just access to the source code, but the distribution of open source software includes criteria such as free redistribution, no discrimination, and licensing applicable to all users among others. Open source software is usually free to download and use, because of which the question might arise as to how they end up making any money at all. These projects are often funded by donors with an interest in the project, by user donations, or through advertisements. Since, there is no technical support available for open source software, as compared to proprietary software, developers also generate revenue by selling documentation and help manuals for the software. Most projects, however, are funded by no more than a collective desire of developers to create a great program.

The Open source project has received a great boost thanks to the success of projects such as Linux, Firefox and OpenOffice.

Opera

The second oldest browser that is currently in use, Opera is a free of charge internet browser that is secure, fast and jam-packed with features. Developed by Opera software, it has always been known for being the first to introduce new revolutionary features, such as tabbed browsing, mouse gestures, and speed dial. Even though the mobile counterpart of the browser, 'Opera mini', is doing much better relatively, the computer version of this browser is definitely a force to reckon with. It gives stiff competition to the other popular browsers in terms of speed and security. What sets Opera ahead of its competition is that it boasts of arguably the most customizable interface amongst all the browsers. Opera mini, as of October

2013, is the world's second most popular mobile web browser. Opera is the only commercial web browser available for the Nintendo DS, DSi and Wii gaming systems. It runs on a variety of Operating Systems and is the only one that still supports MS Windows 2000.

Operating System (OS)

The foundation - the software that communicates with the computer at the most basic level. It enables the computer hardware to communicate and operate with the computer software. All the programs that we run, called applications, make use of the Operating System to function as they are supposed to. It provides a default interface to the user when no applications are running. Without an OS, you would need to write about ten times as much code to get the same results as you would with an OS. Operating Systems can be found on almost all of the devices that contain a computer – from cell phones to supercomputers to video game consoles. Examples of popular operating Systems include MS- DOS, Microsoft Windows, Android, iOS, Linux etc.

Opportunity

Opportunity was the name given to the Mars rover that NASA launched on the 7th of July, 2003. Opportunity, and its twin rover, Spirit, got their names from a 9 year old orphan who won a naming contest NASA held. The Mars exploration rovers were launched in 2003 on a 456 million Km mission. The objectives of the mission were mainly to get an overview of the geological features on mars – distribution and composition of minerals, processes that have shaped the local terrain, evaluate and characterize the various rocks and minerals etc. – all with the primary focus on finding clues to the existence of water

on the planet. The exploration rovers along with all their instruments combined cost approximately 800 million$. The rover Opportunity, has functioned way past its expiry date of 90 sols (martian days) or 9 years, 206 earth days, and still remains active having covered more than 20 miles. Though its twin Spirit got deactivated and lost communication in 2010, Opportunity kept going. It has survived dust storms and other major setbacks such as being stuck in sand, and continues to discover new rocks and craters on mars, and has also found extramartian meteorites such as Meridiani Planum. It is the longest running Mars rover to have been launched so far, and now gives company to Curiosity, the Mars rover launched in 2011.

Optical media

Optical media could refer to the storage of data on an optically readable medium. In this type of storage, data is recorded by making marks in a pattern that can be read with the aid of light, often a laser beam assembly. The most common types of optical media are Blu-Ray, CDs and DVDs. These are in turn read by Optical drives, such as CD-ROM drives, DVD-ROM drives. Blu-Ray drives are called thus because of the blue laser used to read the disc. Also, examples which are not directly related to computers are microforms. These are basically any forms – film or paper – containing documents in a micro reproducible form for transmission, storage and reading. A camera film roll is probably the most popular example of a microform. Optical media have succeeded the magnetic forms of storage such as floppy disks and have many advantages over them. They last at least 6 to 7 times a long as floppy disks do, and can store up to 6GB of data, compared to the 1.44 MB of a floppy disk.

Oracle

One of the largest independent software companies that specialize in software for information management, Oracle Corporation is an American multinational computer technology corporation headquartered in Redwood City, California, United States. Started by Larry Elison, Bob Miner and Ed Oates, the company is mainly known for developing and marketing its 'object-relational database management system' known as 'The Oracle Database', commonly referred to as Oracle RDBMS, or simply as Oracle. It was the first company to develop a 100% internet-enabled enterprise software. It was also the first to implement that software across its entire product range, also providing education, and support services to go along with the products. Fun fact: the name 'Oracle' comes from the code-name of a CIA-funded project Elison had worked on previously.

Orkut

Well for most Indians, Orkut was the precursor to bigger and better (?) things, namely Facebook. But, Orkut was indeed our introduction to the Social Networking world. Orkut is a Social networking website that is owned and operated by Google. The service is primarily aimed at helping users meet new and old friends and maintaining existing relationships. The website was named after its creater, and Google employee, Orkut Büyükkökten. Google continued to keep Orkut alive, even with the introduction of their other Social networking Site 'Google +'. This was primarily because Orkut catered to a large user base in countries such as Brazil and India. Around 60% of its users came from Brazil, leading to Google shifting Orkut headquarters from California, to the Brazilian city of Belo Horizonte. As with all Social networking sites, Orkut wasn't shy of its fair share of controversies. Orkut has had its fair share of run-ins with various governments thanks to issues such as privacy, security and that of spreading hatred. Orkut still exists, though for the most part, only in our memories.

OS X

OS X is the first UNIX based Operating system developed by Apple. The X in the name is for the Roman numeral 10, as it is the tenth version of the Mac OS that Apple had released. Mac OS has been Apple's primary operating system since 1984, and the final release of the 'classic' Mac OS was the Mac OS 9 in 1999. The Mac OS family being backward compatible, OS X supported an emulated version 9 until version 10.5. Initially released in 2001, it comes preloaded on all Macs since 2002. Although OS X looks similar to the Macintosh operating system, it has been completely rewritten from ground up and is more compatible with the much larger wintel (Windows & Intel) market. Prior to OS X 10.9, the major releases were named after big cats – for example OS X 10.8 was named 'Mountail Lion'. But, this was dropped for Californian landmarks from the next version on, with OS X 10.9 being named 'Mavericks'.

Osborne 1

Widely accepted as the world's first portable computer, Osborne 1 was introduced in 1981 by the Osborne Computer Corporation, and was named after its founder – Adam Osborne. It included a monitor, disk drives and all components. It has a very small built – in screen (8.75 x 6.6 cm which could only display 52 characters in a line), and the small screen was so chosen to keep the overall system as small as possible, but as it ended up weighing approximately 11 kg anyway, it probably wouldn't have made much of a difference to increase the monitor size. It consists of a detachable full size keyboard with a numpad, two built-in floppy disk drives, and runs the

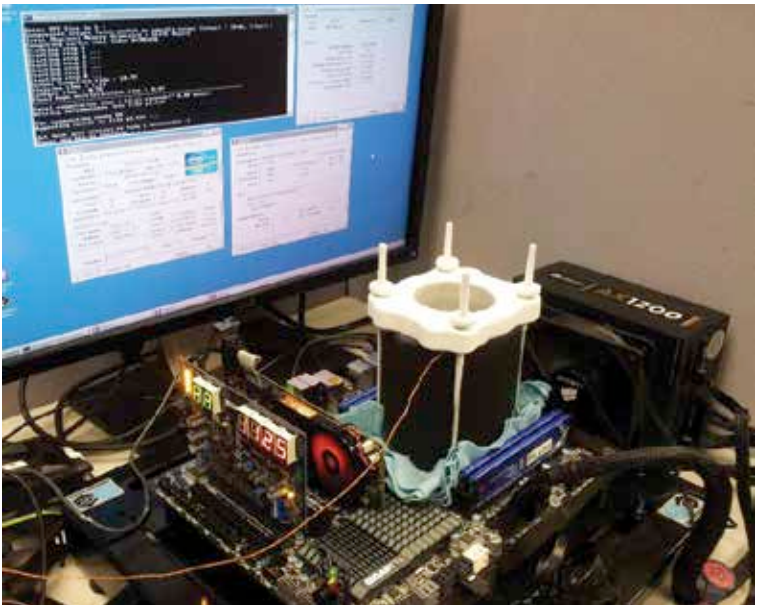
CP/M Operating system, the most popular OS at that time. Considering that the software bundle that came with the computer itself cost around 1500$ at that time, the price tag of 1750$ was viewed as a huge bargain. In the first eight months since its announcement, the company sold 11000 units, and in 1982, over 125000 units were sold. In what is now famously known as the 'Osborne Effect', the sales of the Osborne 1 dropped rapidly after they prematurely announced that superior machines such as Osborne Executive and Osborne Vixen were in production. The people didn't buy the Osborne 1 anymore, and waited for the 'Vixen' instead, and in the meantime the company went bankrupt owing to the lack of sales.

Overflow

Overflow is an error caused when a computer attempts to handle a number that is too large for it. As in, for each program, there is a well-defined range of values that a given register or storage location can store or represent. So when it so happens that a calculation produces a result that is much greater in magnitude than what this data storage location can handle, an overflow error occurs. Overflow errors are a very common cause of software failures, and are usually hard to discover or debug. Data type overflows are the errors caused due to assignment of data types to registers. A stack overflow error occurs when a programs attempts to access memory beyond a stack's bounds. Every program has some memory allocated to a stack that stores internal data and is also used to keep track of return addressing. So while storing return addresses as well as variables, if the stack runs out of memory, stack overflow occurs. The most common cause of stack overflow is infinite looping or infinite recursion. Stack overflow is also the inspiration for the name of one of the world's largest computer programming Q'n'A sites.

Overclock

Sometimes abbreviated as OC, Overclocking is a method of making a computer component run faster than the manufacturer-specified speed by resetting it. This could mean tampering with the dip switches, the firmware updates or the CMOS settings. This allows the users to get a performance boost, and is often done to improve the performance of an old computer or try and adapt to the requirements posed by new software. Sometimes, gamers even overclock new equipment so that they can extract maximum performance from them. Processors are most often



overclocked, but other components such as motherboards, graphic cards, and RAMS are also overclocked often as per requirement. It might seem all hunky dory at first, but then overclocking comes with its fair share of risks. Overclocking almost definitely voids your warranty, and if not done by advanced users, carries a high risk of producing random computer errors, or even damaging and destroying the components.

Owling

Owling, as a legal term, was a common term used for the smuggling of sheep. But no, when we at Digit talk about Owling, we're talking about something even more ridiculous than that. If you are a devotee of almighty 9gag, then you're already familiar with what we're talking about. Owling is a social media fad that involves a person squatting and staring far away, eyes locked in a wise, faraway gaze – like an owl. Then the person uploads his/her picture and shares it across the internet. Owling though, was not the first of its kind. It became a craze only in 2011, whereas its big daddy, planking, came about way earlier than that. Planking involves lying down, like a plank, in areas where you usually wouldn't lie down, as a plank. What started as a game invented by two bored school

kids in 1997, went on to become an internet rage in 2009, when people started uploading their planking pictures and they went viral. However, as with most fads, these are very short lived, and lead to a new one within no time – explaining the number of fads that have aroused including 'Horsemanning', 'Batmanning', 'Hadoukening', 'Vadering', 'Teapotting', 'Springing' and the latest trend 'Milking' to name a few. It's all pretty nonsensical really.

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