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YOUR HANDY GUIDE TO
TECHNOLOGY TERMS

VOL. V

ENCYCLOPEDIA TECHNICA

U to Z

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DECEMBER 2014

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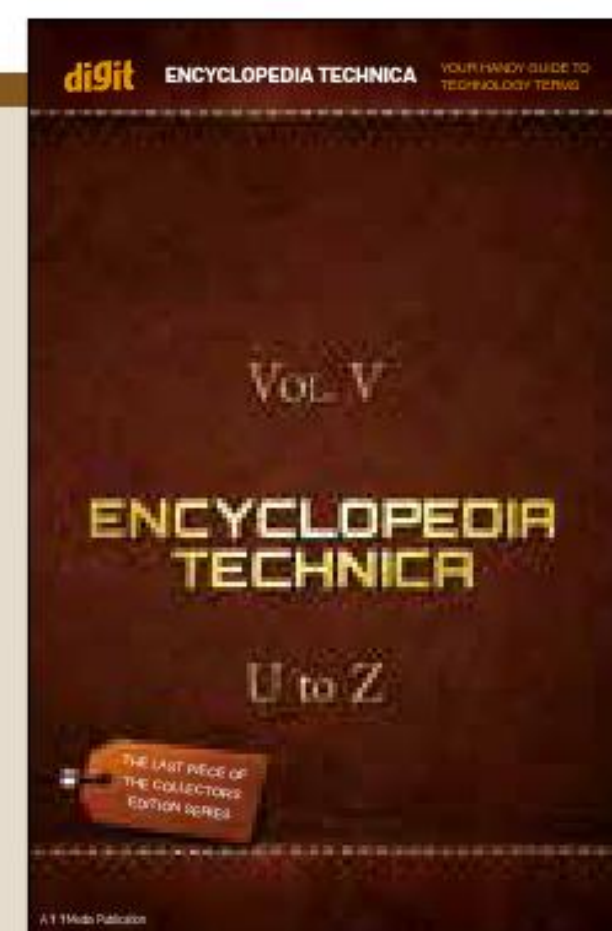
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Is this the end? Or the beginning?

Welcome to the fifth and final edition of the long running Encyclopedia Technica series of booklets. Our two year mission to explore the depths of technology, to seek out esoteric words, to boldly go where no geek has gone before, has finally come to it's logical conclusion. And what a journey it's been!

Along the way we learnt so many interesting things. In this edition too you'll be privy to such little tidbits. Take the case of Zynga – the world leader in wasting employee productivity. Did you know that it's a very dog friendly place? Or do you know what a Yottabyte is? It's a hell of a lot of storage capacity that's what it is. By some estimates, if 128 GB microSDXC cards were used to account for one YB of data, the volume would fill up half of the Great Pyramid of Giza. Sure, all of this information is all but a Google search away, but the question is, would you go seeking it? Would you have as much fun reading a dull boring wikipedia entry? We think not and this is where we come in.

Our mission to rid the world of technological ignorance seemingly comes to an end with the release of this last edition of our Encyclopedia Technica series of booklets. But is it really the end? No, we believe it's just the beginning. It is the beginning of a new awakening in the minds of every one of our enthusiastic collectors and readers.

Don't forget to drop us a line at editor@digit.in and tell us your thoughts about this book, and in case you have any suggestions on other booklet ideas we're all ears. 



U

The Undernet

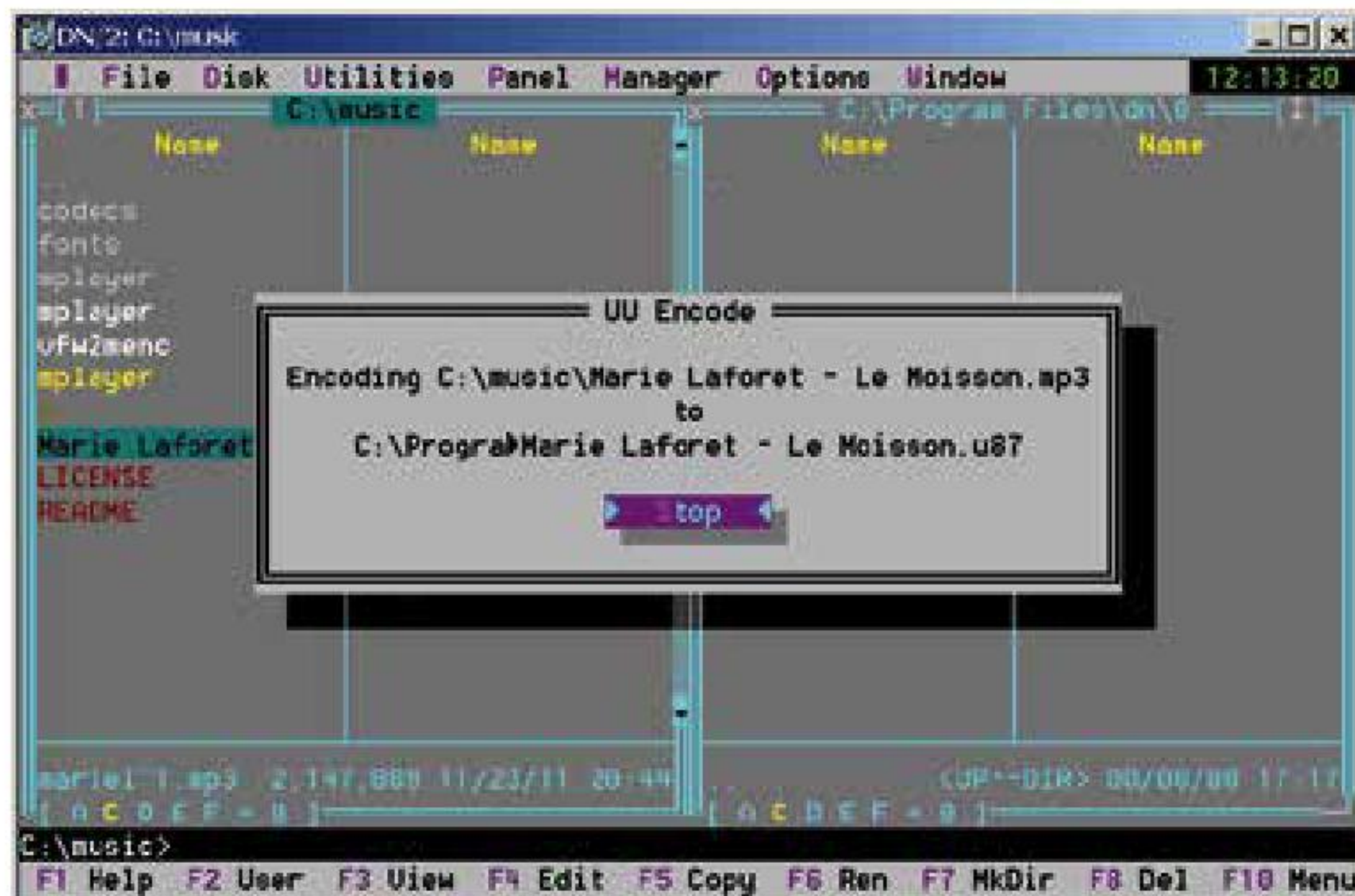
The Undernet is one of the oldest Internet Relay Chat networks in existence having been active since 1992. As of now it is the fourth largest publicly monitored network within the IRC system and uses over 19 servers to connect 35 countries and over 10,00,000 people every week across 100 channels. It is often confused with the “other” Undernet which is more commonly known as the Deep Web. In contrast to the IRC Undernet, the Deep Web Undernet is the majority of the Internet network system that



exists outside the indexed world of search engines. And although it is part of the World Wide Web it isn't open due to its dynamically created and database stored pages, which aren't reachable by search bots. It is estimated the Deep Web Undernet is possibly more than 5000 times the regular Internet that Google search engines scan. The only possible way to access this Undernet is via services like Tor, I2P or Freenet.

U/U Coding

Originally designed to facilitate data transmission over Unix systems, U/U Coding or Uuencoding (UNIX-to-UNIX encoding) algorithms allowed the conversion of binary files into a set of 7 bit ASCII characters suitable for Internet transfer. Put simply, U/U Coding is a form of binary-to-text encoding system. Later on, this system was adopted by other platforms such as Windows and Mac as well which allowed for the crea-



tion of one of the first email file attachment protocols. The uuencoding/ uudecoding programs were able to allow for the transferring of non-text files such as images and audio over the Internet. This facilitation led to the boom of the e-mail and usenet groups where people could post any binary file for sharing. Although uuencoding is still supported by most mailing systems it has given way to SMTP/MIME email standards. Head here to try encoding and decoding using Uuencoding and see how it works: <http://dgit.in/Uuencoding>

Uber

Rarely ever does any mobile app garner as much attention and have real world consequences as Uber has since it's inception in 2009. The ride-sharing service that now exists in over 45 countries and over 200 cities, including India, has created more controversy than you'd expect. The San Francisco based company provides a simple service which allows users to request rides via their app and dispatches the requests to drivers who are on the app's network. What's different here is that the prices



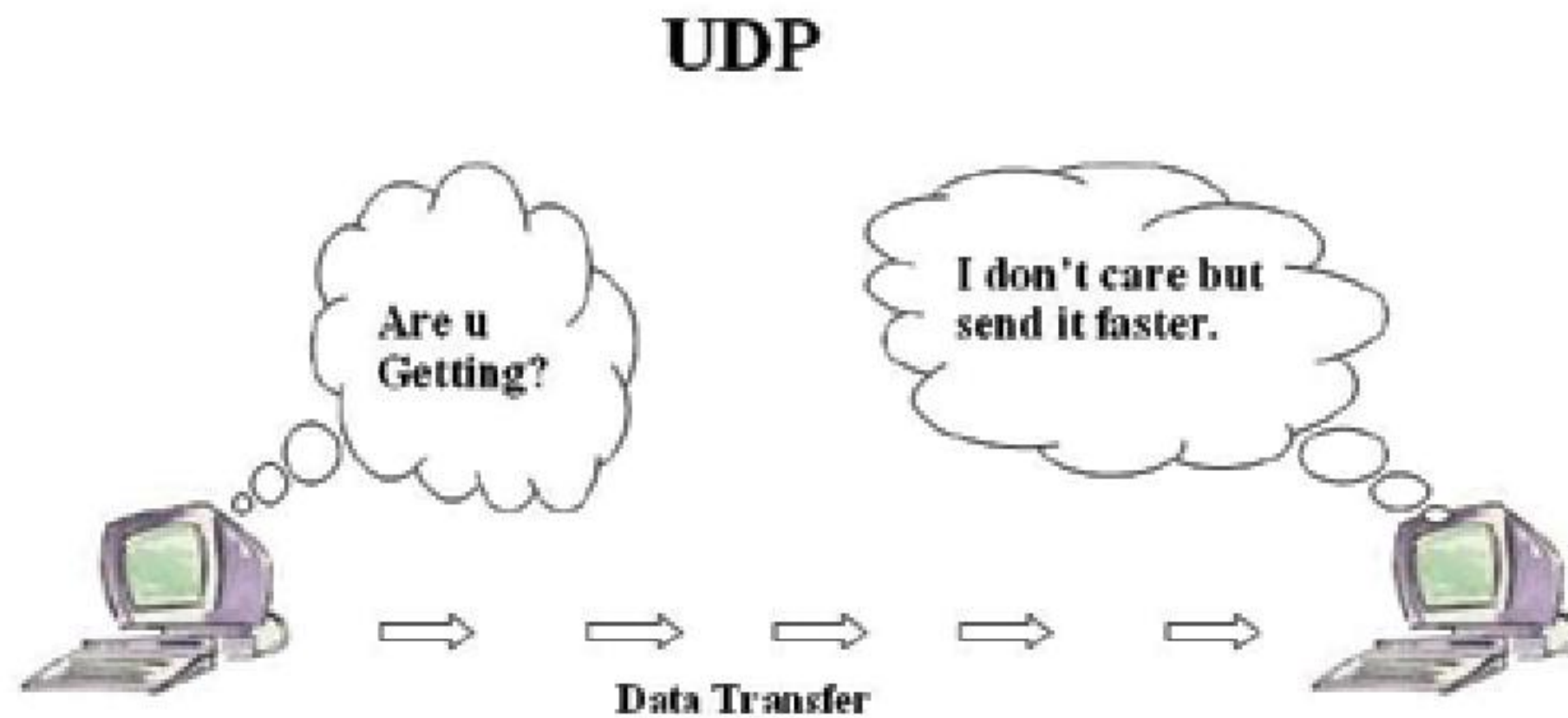
are decided by demand, resulting in lower prices for customers most of the time but atrociously high fares sometimes. The reaction of many to Uber's service the world over and has led to strikes from driver unions and lawsuits claiming wrongful death and civil discrimination. But as the company continues to grow, currently valued at USD 18 billion, and please its customers, we are seeing radical shifts in how Uber is dealt with by unions, governments and people alike marking a new phase of public transportation in the digital age.

Ubuntu/Utopic Unicorn

Ubuntu is a remarkably popular Debian based Linux operating system that has been around since 2004. For the last ten years it has embraced and promoted the open source philosophy especially since its name has been derived from the African philosophy of infusing open-ness with



human-ness. Now it is found on nearly all form factors such as tablets and smart TVs but remains mainly developed for the personal computer segment. The Ubuntu family is a big one with low-power OSes like Lubuntu and Xubuntu available freely along side their enterprise level versions like Ubuntu Business Desktop Remix. The latest version of Ubuntu codenamed Utopic Unicorn, was released in October 2014 with the next update codenamed Vivid Vervet already in the works.

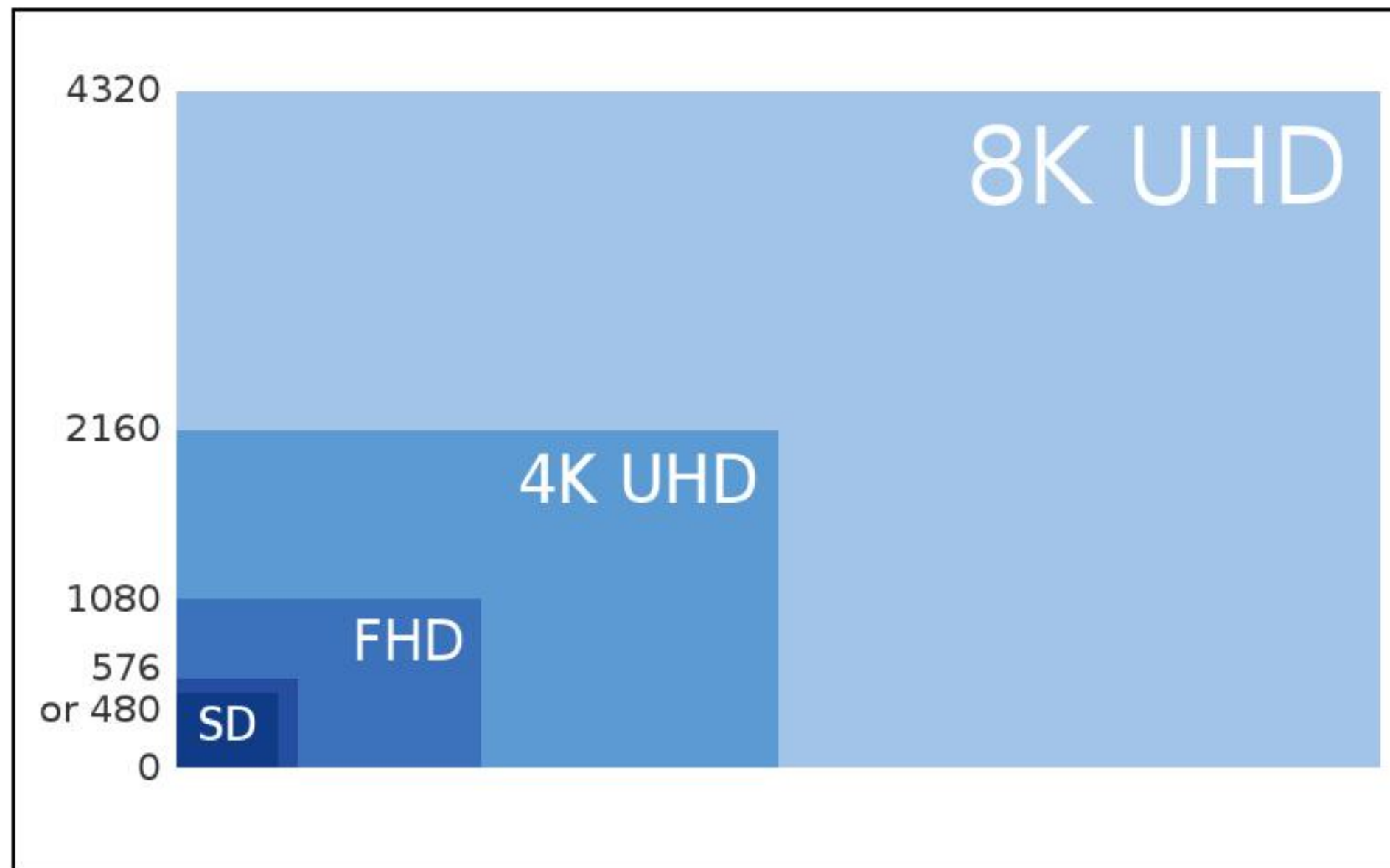


UDP or User Datagram Protocol

Designed in 1980, UDP or User Datagram Protocol is a sub-component of TCP/IP and is one of the main core components of the internet protocol suite. Like TCP, UDP also uses the Internet Protocol to transfer a datagram or data unit from one computer to another. UDP is used in place of TCP when the delivery doesn't need to be reliable and is therefore an alternative to TCP. Although lesser reliable, this protocol is surprisingly efficient and widely used for streaming audio and video files as well as Voice over IP and video conferencing due to the lacking availability of time in a live feed. Since there is no need for the retransmission of dropped data packets in a live broadcast media as in the case of video conferencing, the UDP protocol proves more efficient. As UDP doesn't provide sequencing of packets in their original order, application programs using UDP must make sure that the entire message has arrived in the right order. To save processing time while exchanging very small data units, network applications may prefer UDP over TCP. The TFTP or Trivial File Transfer Protocol uses UDP.

UHD - Ultra High Definition display

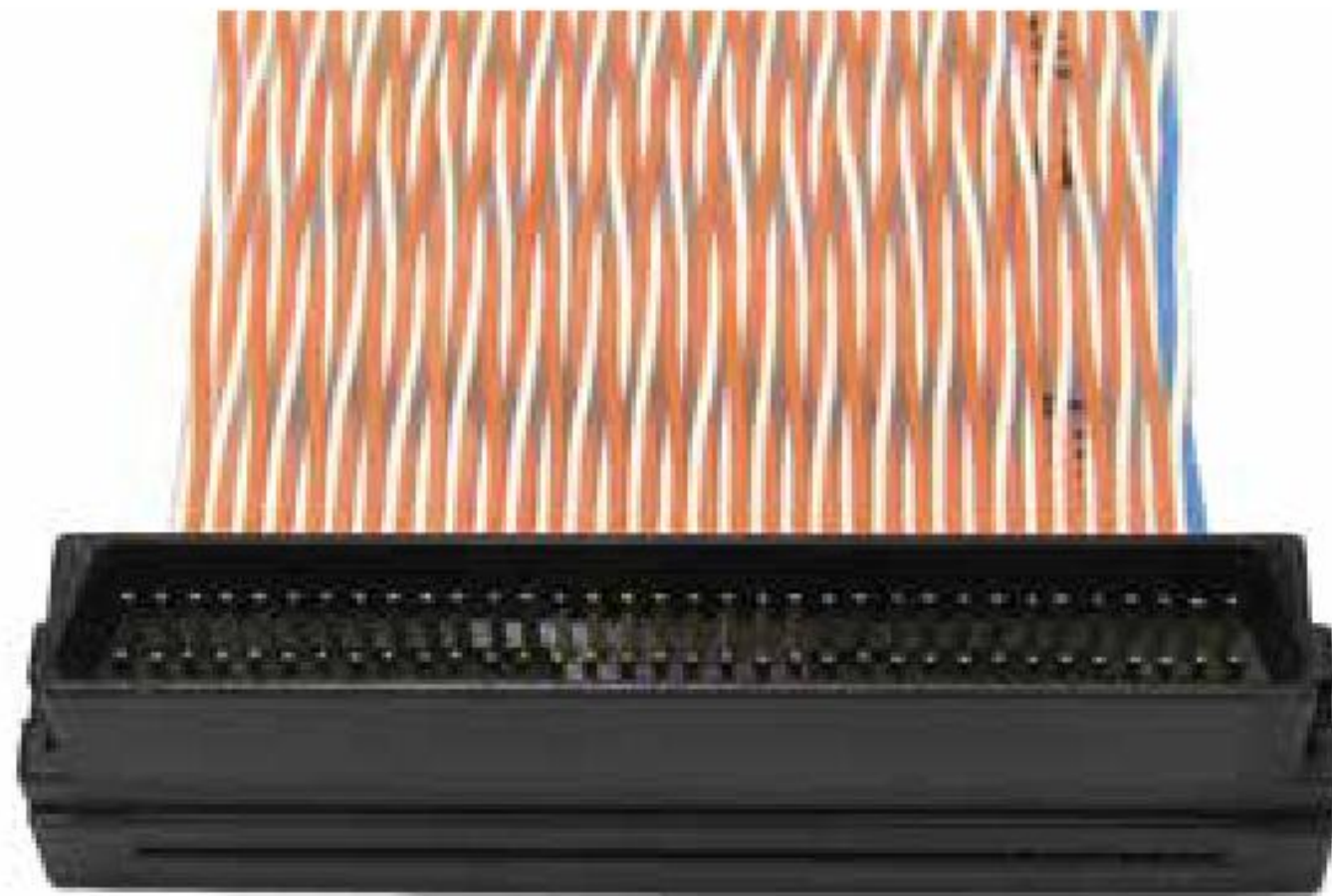
The FullHD display format has been knocked right out of the park with the arrival of UHD. Ultra-high-definition or UHD is a digital display format in which the horizontal screen resolution is 4000 pixels. 4K UHD for example has 3840 pixels vertically and 2160 pixels vertically while 8K UHD features 7680 pixels horizontally and 4320 pixels vertically with a mind-boggling total of 33,177,1600 pixels or 33.2



megapixels. A typical 4K UHD display has more than four times the pixels in a HDTV while an 8K UHD display has 16 times more pixels as compared to a HDTV. For a screen to qualify as UHD, it must at least have one digital input with a native resolution of 3840 x 2160 pixels with an aspect ratio of 16:9. UHD displays allow users to view and experience high-quality content which is rich in detail even on displays larger than 80 inches. The resolution cap for UHD TVs is currently at 8K which is the same as an IMAX screen at about 33.2 megapixels. But 8K is the next generation of resolution and requires over 20 terabytes of uncompressed storage for a standard two hour video.

Ultra SCSI

Also known as Fast 20, Ultra SCSI or Ultra Small Computer System Interface is a set of standard protocols mostly used by manufacturers of hard disk drives. This interface standard defines how physical connections and data transfer takes places between computers and other peripheral devices. Ultra SCSI is actually an extension of SCSI-2 and was proposed primarily because it doubled the transfer speed of Fast-SCSI while providing a speed of 20MBps on an 8-bit connection and 40MBps on a 16-bit Wide Ultra SCSI based connection. Basically, Ultra SCSI doubles the transfer rate independent of the bus width by applying Fast enhancements. What is more interesting however is that unlike its boring pronunciation as “ultra scuzzy” it was originally destined to



be pronounced as “ultra sexy” by its creator Larry Boucher - the pioneer in the field of bridge controllers. Ultra SCSI has since the 1990s been an integral part of any computer system from the largest supercomputers to the simplest home PC setups. The standard has evolved into a number of versions that can even support fibre connections with over 1600MB per second throughput at 16GHz clock speeds.

UN Laptop

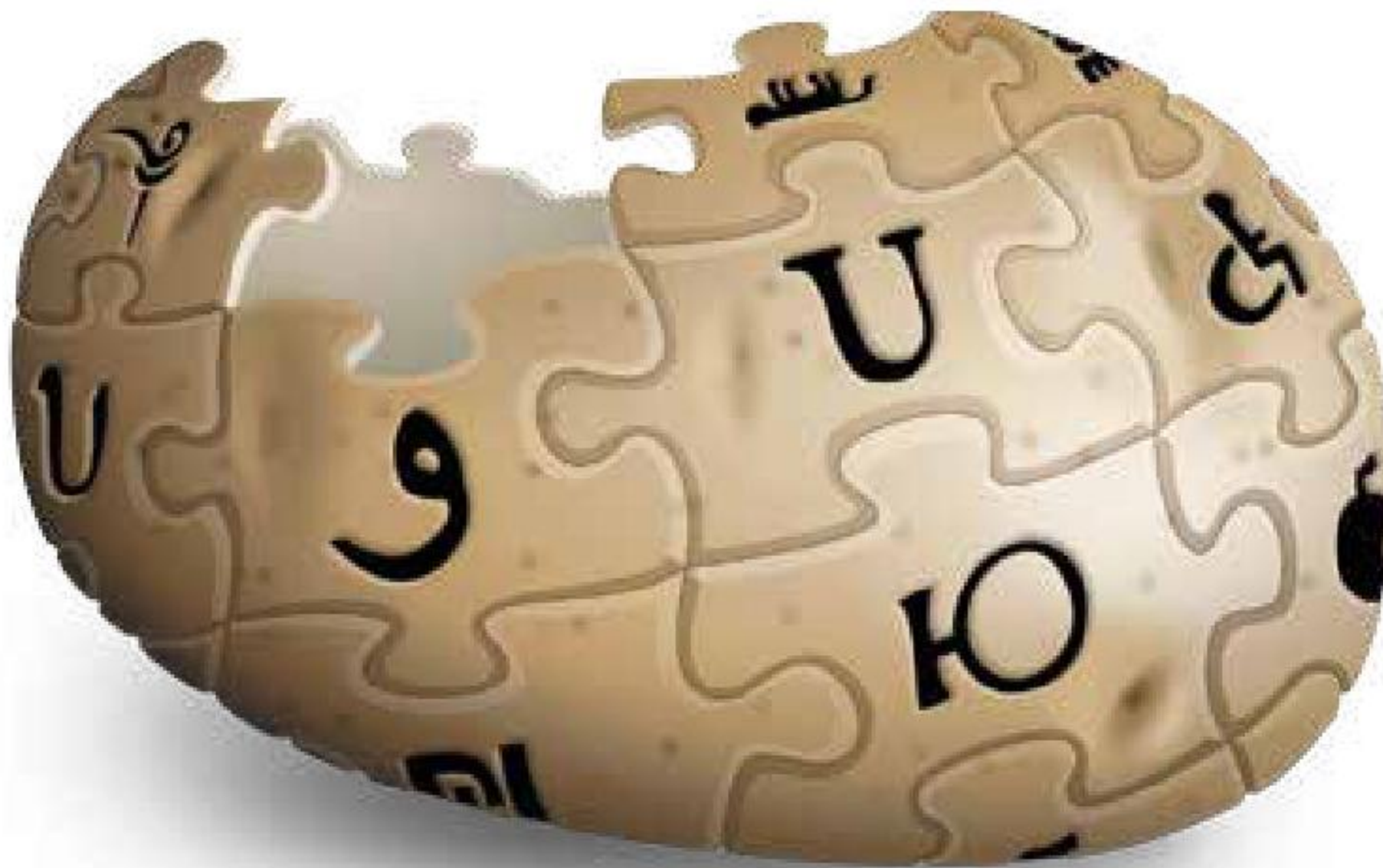
The United Nation’s Laptop program has been around for quite a while. Initially publicised in 2005, the goal was to create a sturdy, long lasting,



portable and educational mobile laptop for children in poorer nations. With the purpose of connecting children in need of education with the internet as well as giving them the opportunity to use technology, the price goal was set at USD 100 or roughly ₹6000. The program has continued to struggle to find good footing given the economic crash of 2008-09 and then the subsequent surge in tablet computing and cheaper mobile phones. The ongoing American implementation of the UN laptop program called One Laptop Per Child has faced international criticism and has almost been usurped by India's own Aakash tablet which costs only about half as much.

Uncyclopedia

Sometimes the internet gives its users a gift, Uncyclopedia is one such gift. Created in 2005 the Uncyclopedia website is a parody and satire version of the Wikipedia website. Claiming to be a “content-free encyclopedia” the website hosts over 30,700 articles on an assortment of subjects, nearly all of which lead to a good laugh. The writers on the website use parodic and satirical styles of writing to lampoon serious issues and highlight absurdities in taboo topics of discussion. The website, although mainly an entertainment source, has been viewed by the media as a provider of relevant perspectives on many controversial issues such as religious fundamentalism and politics. The website in its



uncyclopedic nature defines itself as a website “thought to have originated in 1860 as an American imperialist tool for global domination, is now a multi-national effort and is seen as the best of its kind by some” and believes it is “perceived as a waste of server space by its host, the evil Wikia Empire [Wikipedia]”.

Unfriend (Social Media)

Social media has changed everything; from the way we interact socially to how we use language to define our lives. Thanks to social networking services like Facebook, a new terminology has emerged that defines the actions of users. Unfriending someone is simply the act of removing a person or contact from your network so they no longer have the ability to connect with you on a social networking platform.

Unicode

Unicode and the Universal Character Set standard is the foundation on which the encoding, representation and text handling takes place within computing systems. The standard allows for script languages that have graphic written representations (graphemes) to be consistently and reliably encoded into computer systems using a unique numerical code point. This al-

lows for a separation between the written character’s encoding and its visual attributes like font and size, which are then handled by a browser or word processor. The importance of having a standardised system for language encoding has proven critical for the adoption of computing technologies in places where Latin scripts (such as English) aren’t prevalent. The multi-lingual character encoding allows for a unified computing framework where the characters of all world languages can be included. It has come a long way from being a 16 bits per character model to an uncapped character model. Unicode has even gone on to successfully encode dead and ancient languages like Egyptian hieroglyphs along with its standard of 1,10,000 unique characters in over a 100 scripts.



UNIVAC

The UNIVAC or the UNIVersal Automatic Computer was the second commercial and first commercially successful computer in the world. Designed by J. Presper Eckert and John Mauchly and built by Remington Rand company in 1951, it was initially conceptualised in 1948 for a budget of USD 169,000, which at 2014 dollar price would nearly be USD 2 million. The UNIVAC I went on to sell over 46 systems at the cost of USD



1 million per machine (USD 9.16 million in 2014) worldwide, breaking all previous records for commercial computers. The system was 25 x 50 feet long and was composed of 5,200 vacuum tubes, 18,000 crystal diodes and 300 relays which if added together made the UNIVAC I weigh in at nearly 13 metric tons while consuming 125kW and performing at about 1,905 operations per second at 2.25MHz bit rate. The memory inside was made of mercury filled acoustic delay lines that could hold 1,000 12 digit numbers on magnetic strips with 1MB of storage. This basically means that the whole of the UNIVAC system when recalculated with technological deflation would fit on the tip of a human finger and cost less than a dollar, wholesale.

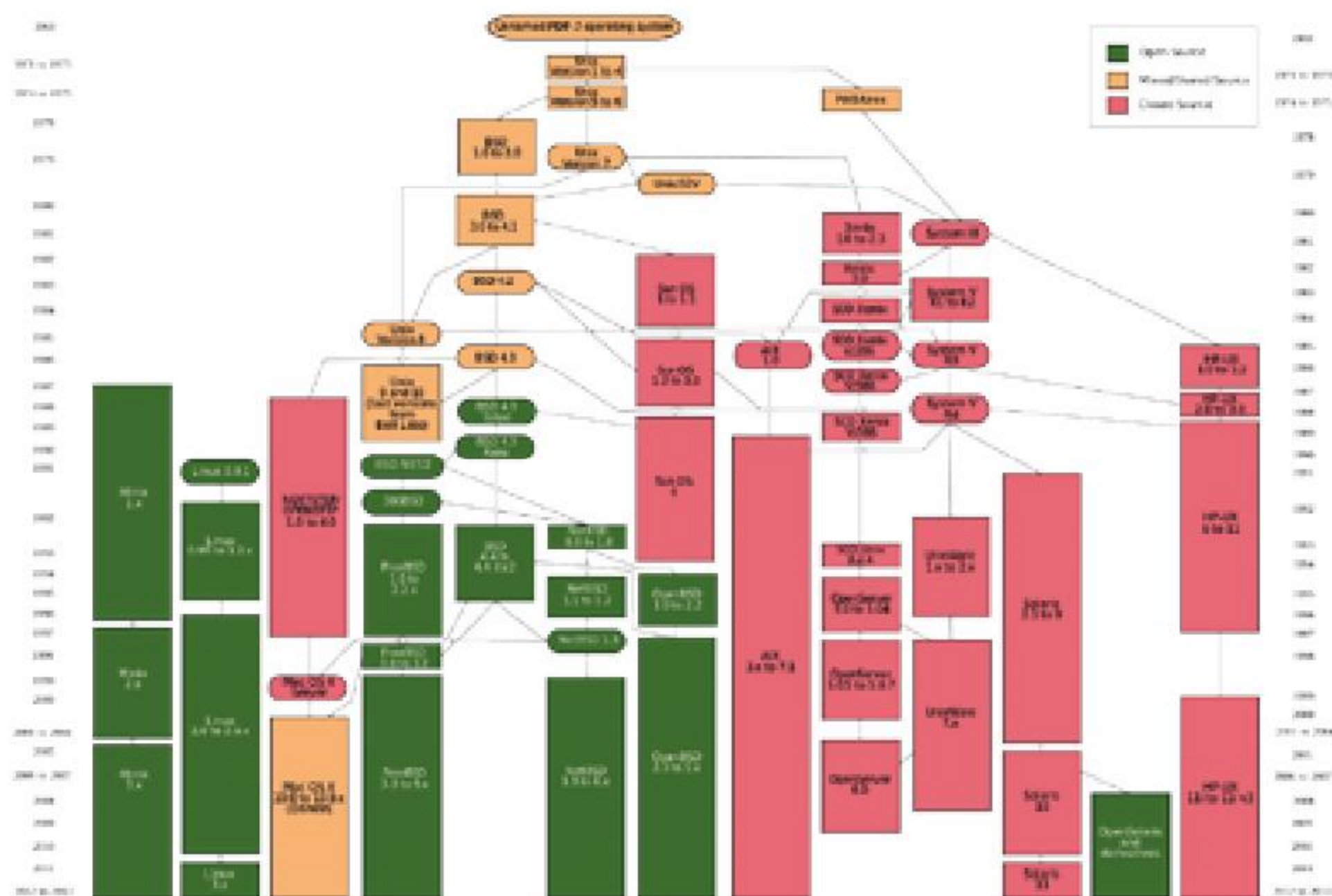
UniVerse/UniData

The UniVerse application although not commonly known remains one of the integral database management systems in existence. Considered

to be one of the most developer-friendly relational databases of its time, it was created by the Unidata Corporation in 1997 and was eventually acquired by IBM in 2001. It found a home on nearly every Unix and Windows based servers due to its specific function of embedding within the vertical software applications that were common in enterprise set ups. UniData was the core DBMS application with UniVerse as its system within which it could be worked on with rich GUI enhancements along with interfaces for JAVA and Active-X enabled tools with it's own BASIC programming environment. It was a key part of IBM's U2 product line and went on to sell over a million units. IBM sold off it's entire U2 portfolio to Rocket Software where UniVerse and UniData are part of the Rocket U2 p

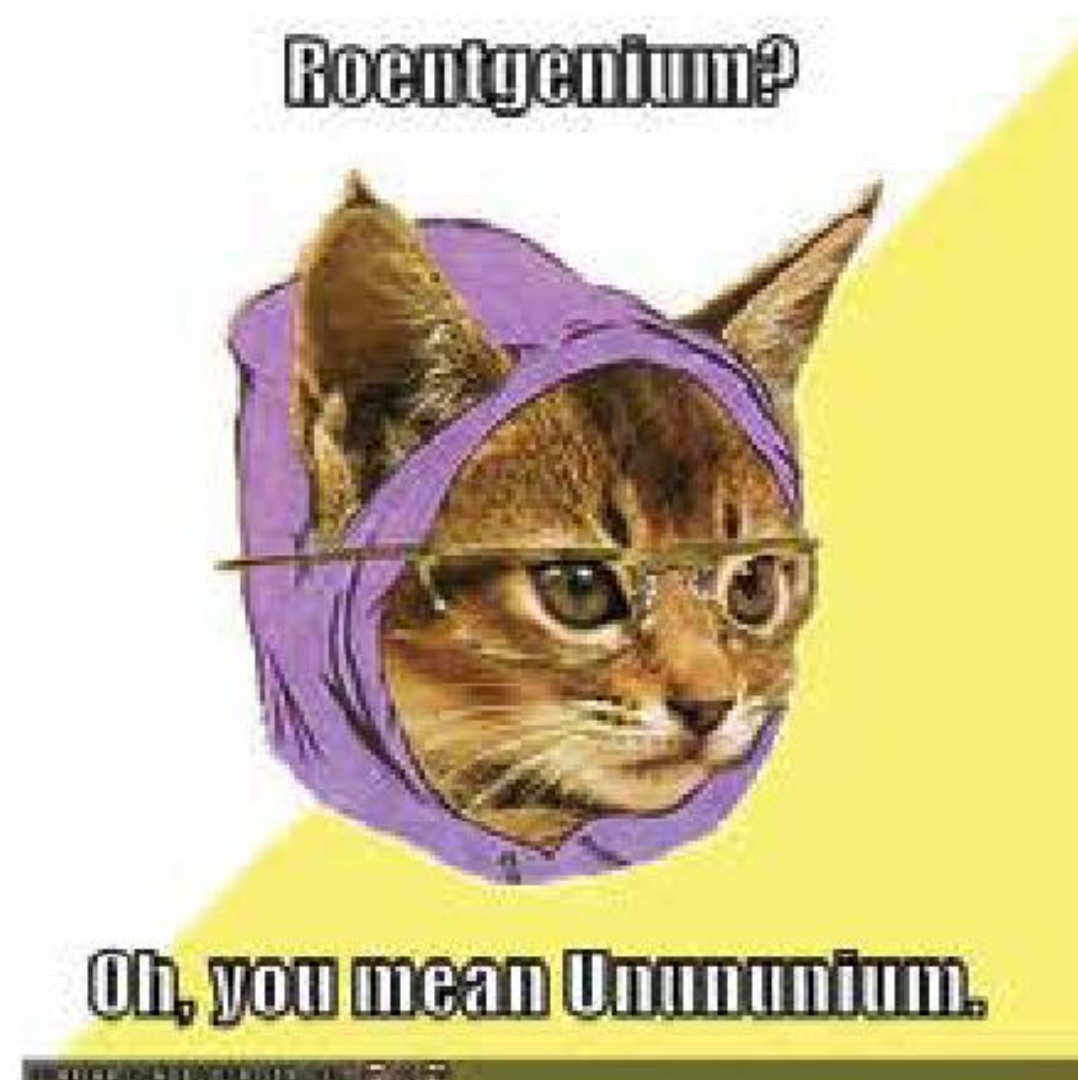
Unix

We can (and probably have) devoted a whole book's worth of information about Unix. After all it is the stronghold of the Unix philosophy and the birthplace of C programming. As one of the longest lasting and most fanatically driven operating system ever designed we consider it a cornerstone of computing. Originally designed at AT&T Bell Labs by Ken Thompson and Dennis Ritchie in 1969, it was first deployed in 1971 and originally named Unics to contrast it from Multics. The spelling changed



but the core modular design features remained making it an academic favourite. The early commercialisation of Unix is still seen in Apple's OS X machines, but its strength has come from its more open sourced versions, which were originally made popular by Linus Torvalds in 1991, with the release of the Linux kernel for free. Although "officially" Linux is considered a Unix-like operating system, the

features that made Unix a nerd favourite have been successfully replicated giving birth to a wide world of open source operating systems.

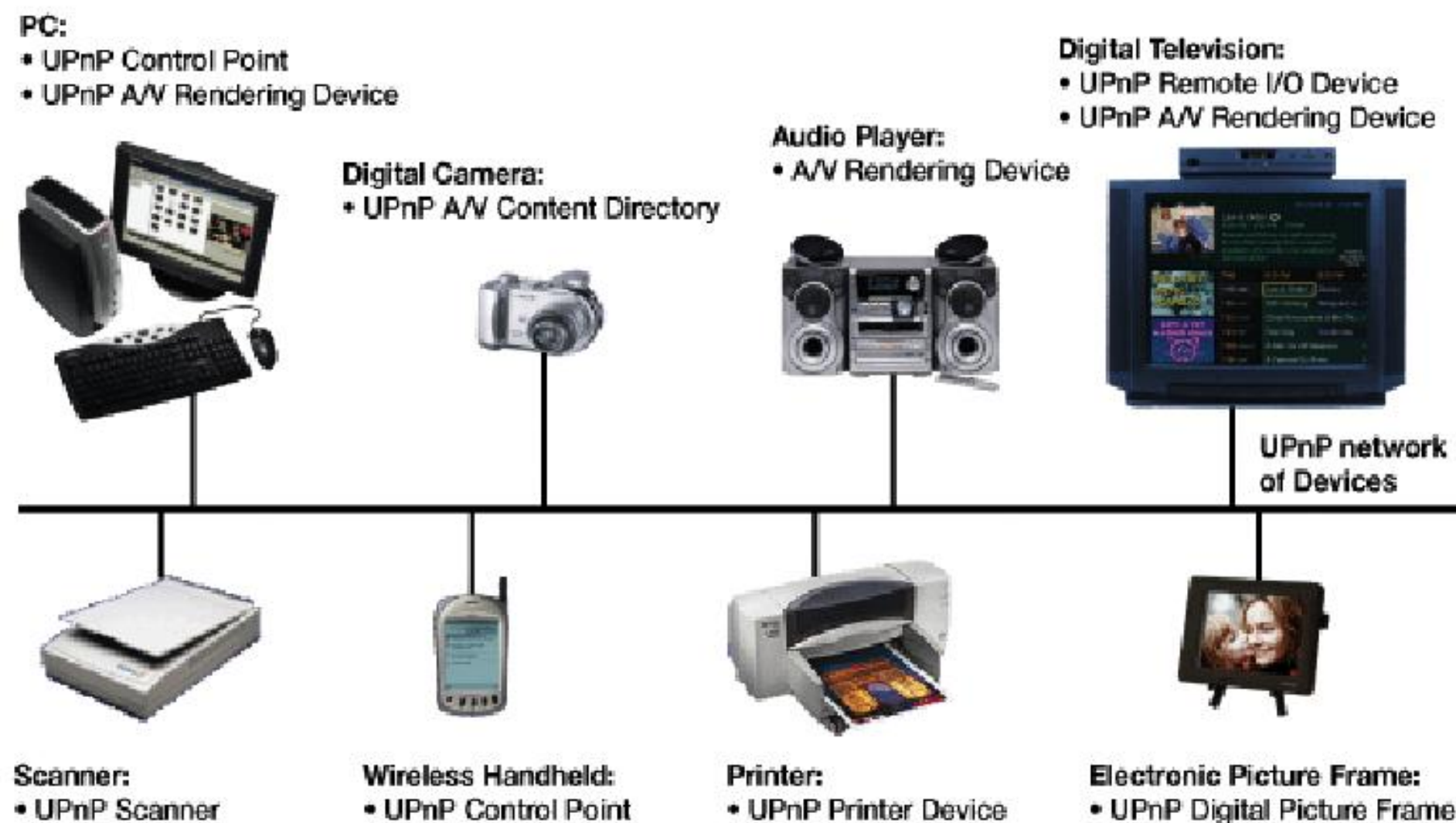


Ununium

Most people know Ununium as the affable nickname of the chemical element Roentgenium due to its atomic number 111 (pronounced "oon-oon-oon-e-um"). But few people know of the other Ununium which was a hypothetical operating system project begun by David Poirier of Canadian who wished to create the perfect OS. The goal of the Ununium project was to create an OS that gave complete programmer control to the user via an elegant user interface while maintaining communications between its components and rendering at maximum performance. The system was designed along a unique architecture that placed the kernel, systems programs and application software in the same address space with zero restrictions on which operating functions must remain in the memory of the system. The project successful created a Core module but fell off track soon afterwards. And even as admirable or foolish as the goal may have been, we still think it was created just so that more people would say the word oon-oon-oon-e-um.

UPnP - Universal Plug and Play

Universal Plug and Play or UPnP is a set of protocols used to enable hassle-free data transfer between different computing devices such as lap-



tops, mobiles and tablets over a network. The protocol was introduced in 1999 by the UPnP Forum which enabled the automatic discovery of connectable devices in an IP network. The Universal aspect allows for devices to discover and interface with each other, automatically allowing features such as streaming video over a network directly to the television. However, the use of UPnP extends far beyond computers and is also used to connect surveillance cameras, environmental controls in a building and any electronic controls in a closed system.

URL - Uniform Resource Locator

The Uniform Resource Locator or URL is another name for a web address on the HTTP system. It is composed of a specific string of characters which signify a particular resource or location on the internet. It is the instruction that helps web browsers seek out and display specific pages and content on the world wide web. The URL address can also be used to seek out and connect servers, email, databases and many other applications created with URL functionality. It was invented by the inventor of the World Wide Web - Sir Timothy Berners-Lee



or TimBL as a method by which browsers were given instruction on how to connect, where to connect and what to content to seek out using the HTTP protocol.

USB

The USB or Universal Serial Bus technology is now a part of commonplace parlance having lost its nerdy computer jargon status thanks to its immensely powerful utility. From laptops to alarm clocks, nearly everything is available with a USB option for either power or data transfer purposes. The USB hardware interface was created 1997 and has become the standard format for attaching peripherals like keyboards and hard disks. The data storage options accessible thanks to USB interfaces have them-



selves been a groundbreaking trend due to their ever increasing transfer speeds and smaller form factors. The current USB 3.1 version allows for up to 9,600Mb per second bandwidth. The interface has also found popularity as a power transfer medium that is compatible with computer systems such as USB powered lamps, coffee makers and even desktop refrigerators. Perfect for the long haul gaming (or work) sessions we all need.

US-CERT

The United States Computer Emergency Readiness Team is the so-called boogey man of crackers and black hat hackers everywhere. Created in

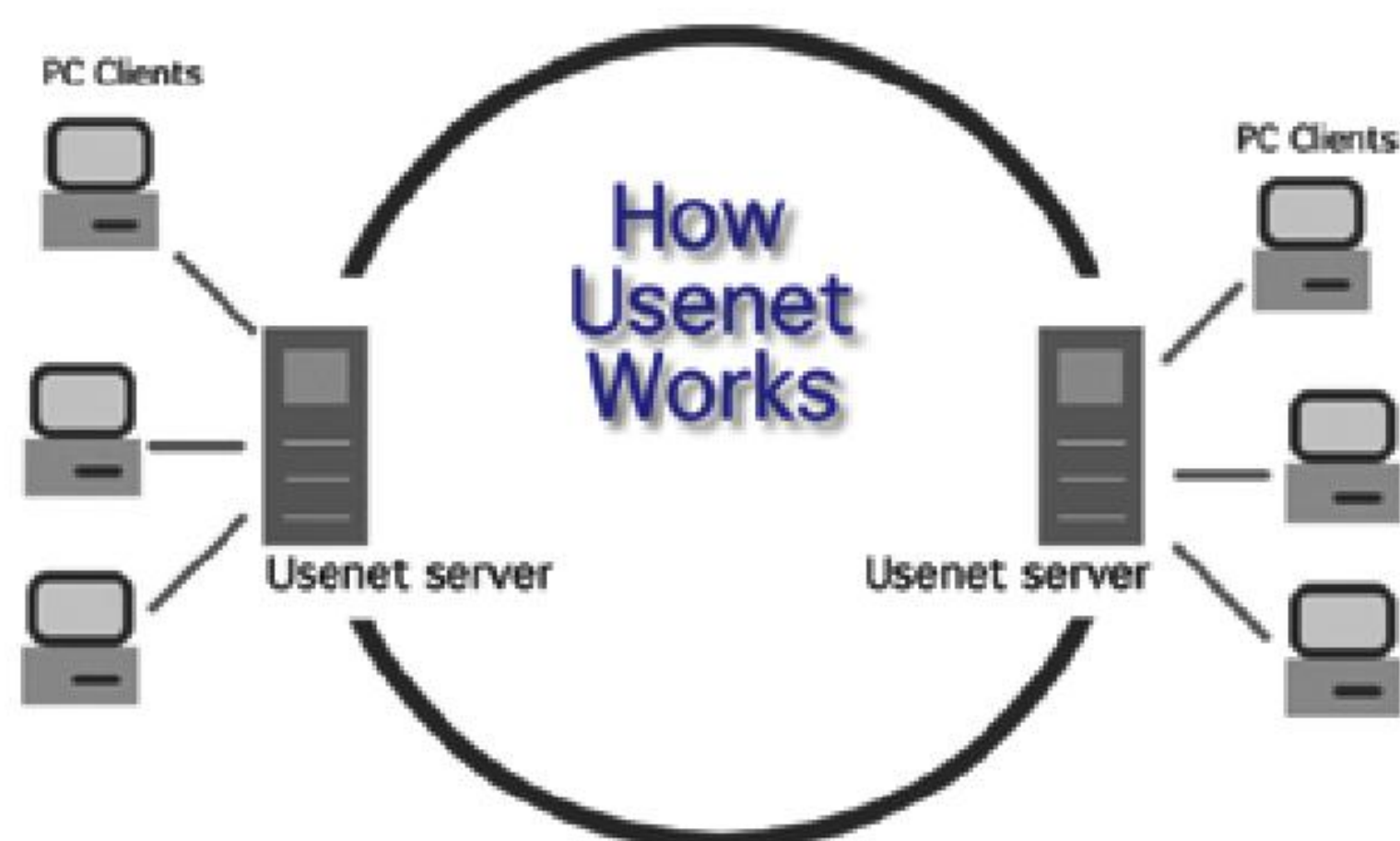
2003, the US-CERT is the cyber security division of the United States Department of Homeland Security with specific allocation to the National Cybersecurity and Communications Integration Center (NCCIC). The agency is tasked with the job of assessing and defending United States cyber assets both military and industrial. The US-CERT extends its control and monitoring facilities

across classified and civilian networks in order to track the emergence and growth of malicious programs. As a 24/7 defense agency it consumes and processes the ever growing population of programs on the internet and when detecting a threat, shifts towards neutralising the threat. But most of the time it's swatting away Chinese hackers attempting to blow up nuclear power plants. Or so it would appear in Die Hard 4.



Usenet

Usenet or the User Network is a publically accessible network on the internet that was one of the first social forums online. It was created by



Tom Truscott and Jim Ellison a simple and modest manner in 1979 as a notice or bulletin board between two Universities in North Carolina in the United States. Currently it is a gigantic forum of over 50,000 news-group bulletin boards that are operated and administered by volunteers. In the age of rich media websites this text-only service has seen a noticeable decline but it continues to be one of the most long lasting low end methods of seeking and receiving news about any particular subject via the internet.

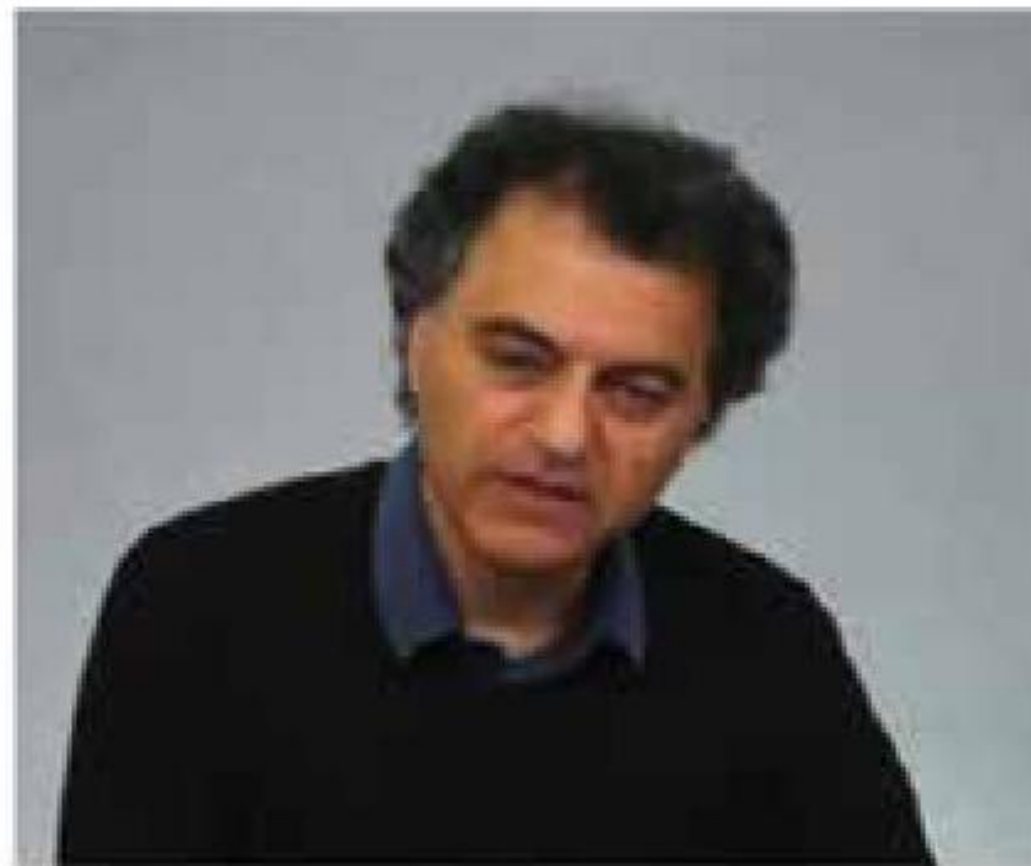
uTorrent

Almost everyone who uses the internet for... ahem...research, has heard of or used uTorrent. The massively popular BitTorrent client is distributed as a free software for Android, Linux, Windows and OS X platforms with over 130 million users worldwide. The program is notable for its extremely small size which is the inspiration for its name - where "u" stands for the Greek letter μ or mu meaning micro or very small. The application is functional and stable across a variety of platforms including older models and OS versions. Since its creation, uTorrent has become the primary BitTorrent client which was proven when in 2008 it enacted the IPv6 adoption protocols and witnessed a 1500 percent surge in IPv6 traffic for nearly a year.



Umesh Vazirani

Umesh Vazirani is one of the hidden stars of the modern age of computing. Within the field he is known as one of the founding fathers of the field of quantum computing. His origins however begin closer to home, with a B.Tech degree from IIT Delhi which led to his PhD from UC Berkeley in 1986. Since then his reputa-



tion was solidified with the publishing of this iconic 1993 research paper on quantum complexity theory which helped define a model for quantum Turing machines. He also described the algorithms for quantum Fourier transforms, which led to the creation of quantum algorithms for factoring integers by Peter Shor. Simply put, Umesh Vazirani really kicked into gear the theories that are bringing quantum computing closer to reality.

UUID - Universal Unique Identifier

The UUID or the Universal Unique Identifier is a standard by which software are identified. The identifier consists of a unique 128-bit number that is generated by numerous algorithms in order to identify hardware and softwares components. Given the large bit count of the generated numbers, it is highly improbable for two UUIDs to be the same. This immense variety allows for the creation and merging of product source IDs to a singular database without any significant risk of conflicting or duplication errors. In theory there is, at the very worst, only a one in 340,282,366,920,938,463,463,374,607,431,768,211,456 (3.4×10^{38}) chance that two UUIDs in a database would conflict, which means that after 100 years of creating 100 billion UUIDs per second we may find just one duplicate. Those are some safe odds.

USENIX

The USENIX Association or the Advanced Computing Systems Association is a non-profit members only group of technicians, scientist, engineers and systems experts from around the world. It was founded in 1975 with the name Unix Users Group but had to



USENIX - 1984 USENIX Summer Summit.

change it due to conflict from AT&T that held the trademark for Unix at the time. Over time USENIX, as it came to be known, grew beyond Unix and has become the bastion for developers and researchers in computing and operating systems. The organisations most public contributions are the sponsored workshops and conferences that they hold multiple times a year, such as the USENIX Summit, USENIX Security Symposium and

its bi monthly technical journal called ;login: magazine. The Summits have become symbolic of the need for a critical and forward looking approach to solving some of the more boring yet integral aspects of online systems such as systems administration and systems design and implementation. They also serve to educate and promote the lesser known but worthy individuals and institutions through the USENIX Lifetime Achievement Award.

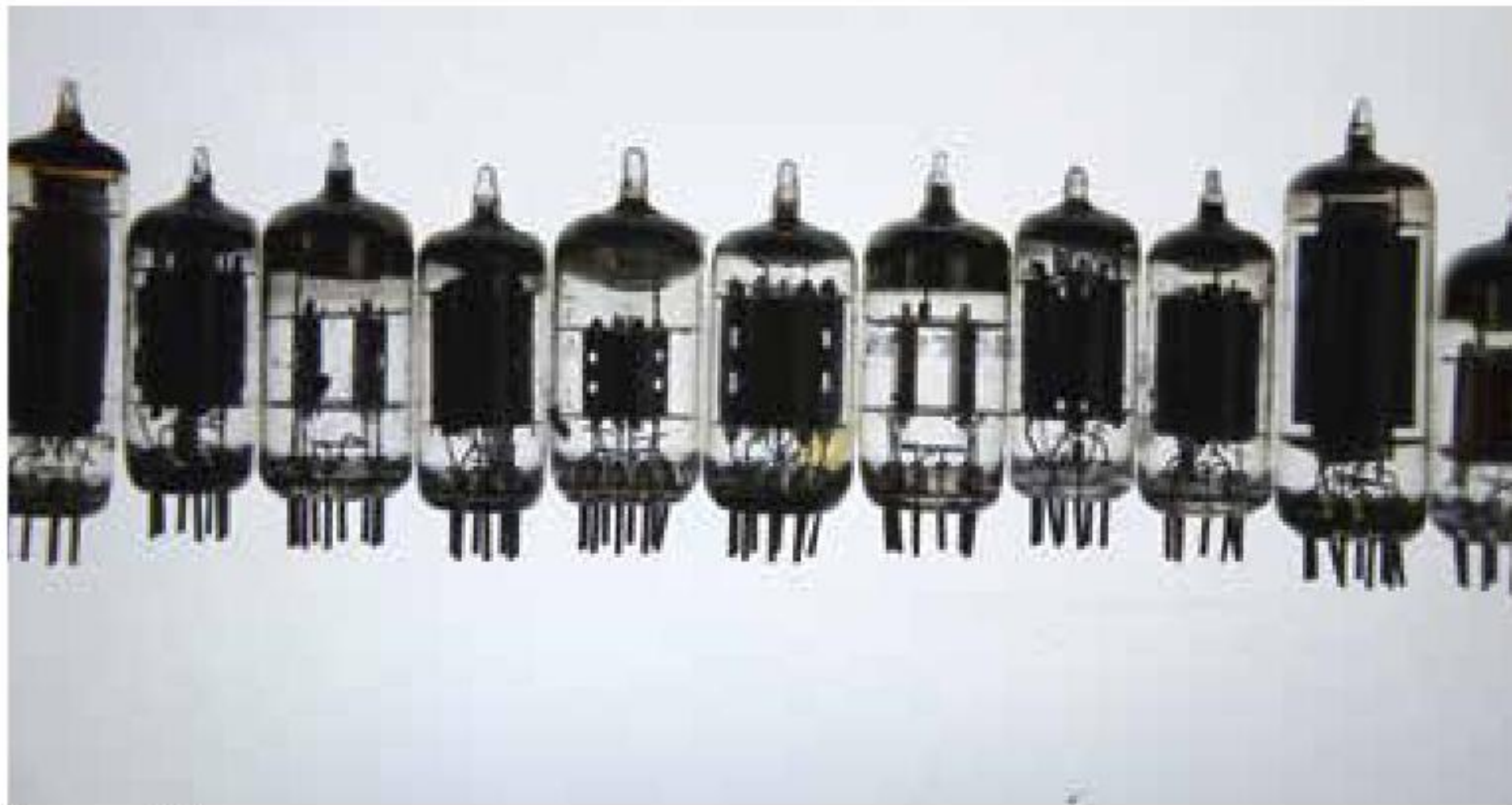


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Vacuum Tube

Developed in 1904 by John Ambrose Fleming, vacuum tubes to demonstrate the conversion of alternating current into direct current. A vacuum tube or an electron tube consists of an anode and a cathode in a chamber from which the air has been evacuated. When the cathode is heated, it lights up and starts emitting electrons. These electrons are attracted by the anode and a direct current is produced between the anode and cathode. Inventor, Lee de Forest improved this design by adding a control grid. This grid could either let the electrons pass through and reach the anode or get the electrons to be absorbed, effectively turning the vacuum tube into a switch.

The problem with older vacuum tubes was that they'd blow out easily and the only way to expect more life is to keep them glowing. With the



Vacuum Tubes.

control grid, the tubes could be switched on or off at will without killing the heating on the cathode. By arranging them in particular sequences, these tubes could be used to perform complex calculations. Fun fact, the ENIAC, the first electronic computer from 1946 had over 17,000 vacuum tubes. In 1954, when IBM decided to ditch vacuum tubes and use transistors, there were about 2000 transistors.

Valve

They gave us some of the best games in the universe and they've gone steam powered. Valve or Valve Corporation is a game developer/ game



Valve Corp.

distributor/game publisher based out of Bellevue, Washington. Established in 1996, they not only gave us games like the Half Life series, the Portal series and the Left 4 Dead series, they also came up with Source engine, the engine these games are based on.

In 2002, Valve announced Steam, a game distribution platform. As of September 2014, Steam has over 3,700 available games and over 75 million user accounts. In 2012, Valve announced that they were developing a console/PC hybrid called the Steam Machine. Running Steam OS with a Linux heart, set to release in 2015.

Vanilla

You would have heard this term being used when somebody is talking about Android or any Nexus device, and we may have felt a hankering



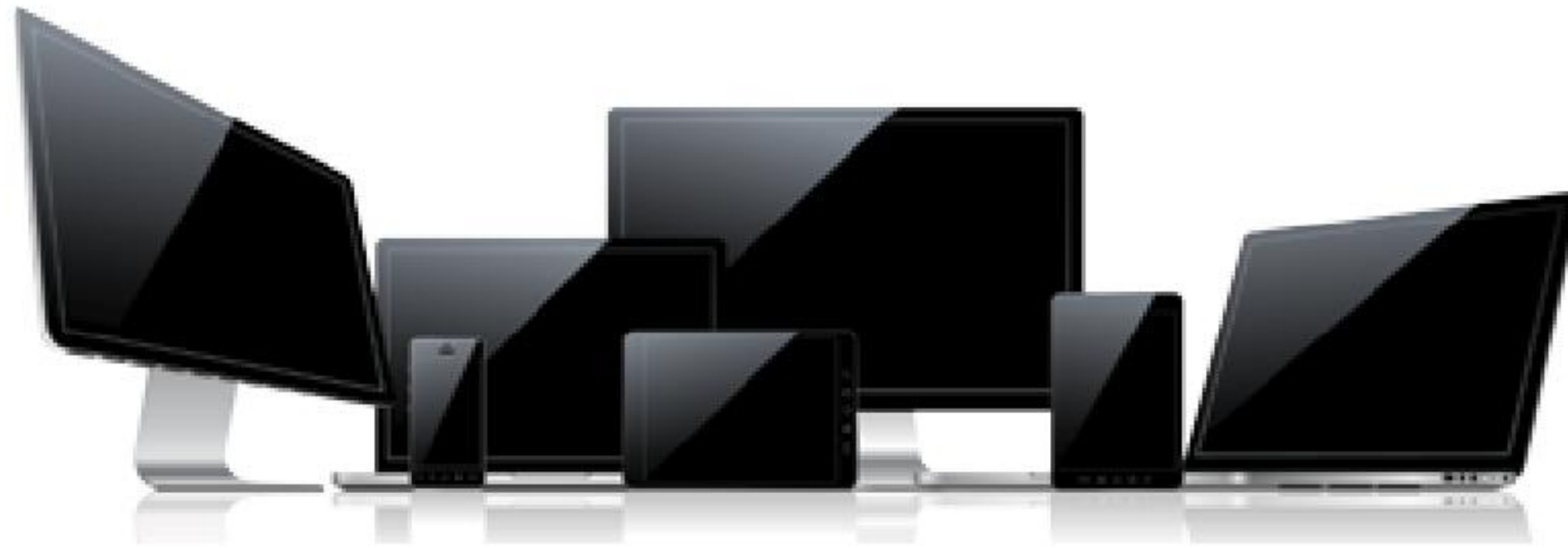
Nope, not this one.

for desserts whenever somebody mentioned plain vanilla ice cream sandwich (Android 4.0). Vanilla, of course, referred to the default, manufacturer developed version of Android without any add-ons or changes.

The same terminology applies to hardware too. While a motherboard made by Intel would be the vanilla motherboard, a motherboard made by a 3rd party manufacturer with Intel's chipset, would be a non-vanilla motherboard.

VDU

VDU stands for Visual Display Unit. What it does is, it converts electrical signals from a device, such as a computer and displays them as images. While VDU is commonly used in reference to old CRT monitors, in reality, it could refer to any display unit including projectors and flat screen



A fancy term for 'Monitor'.

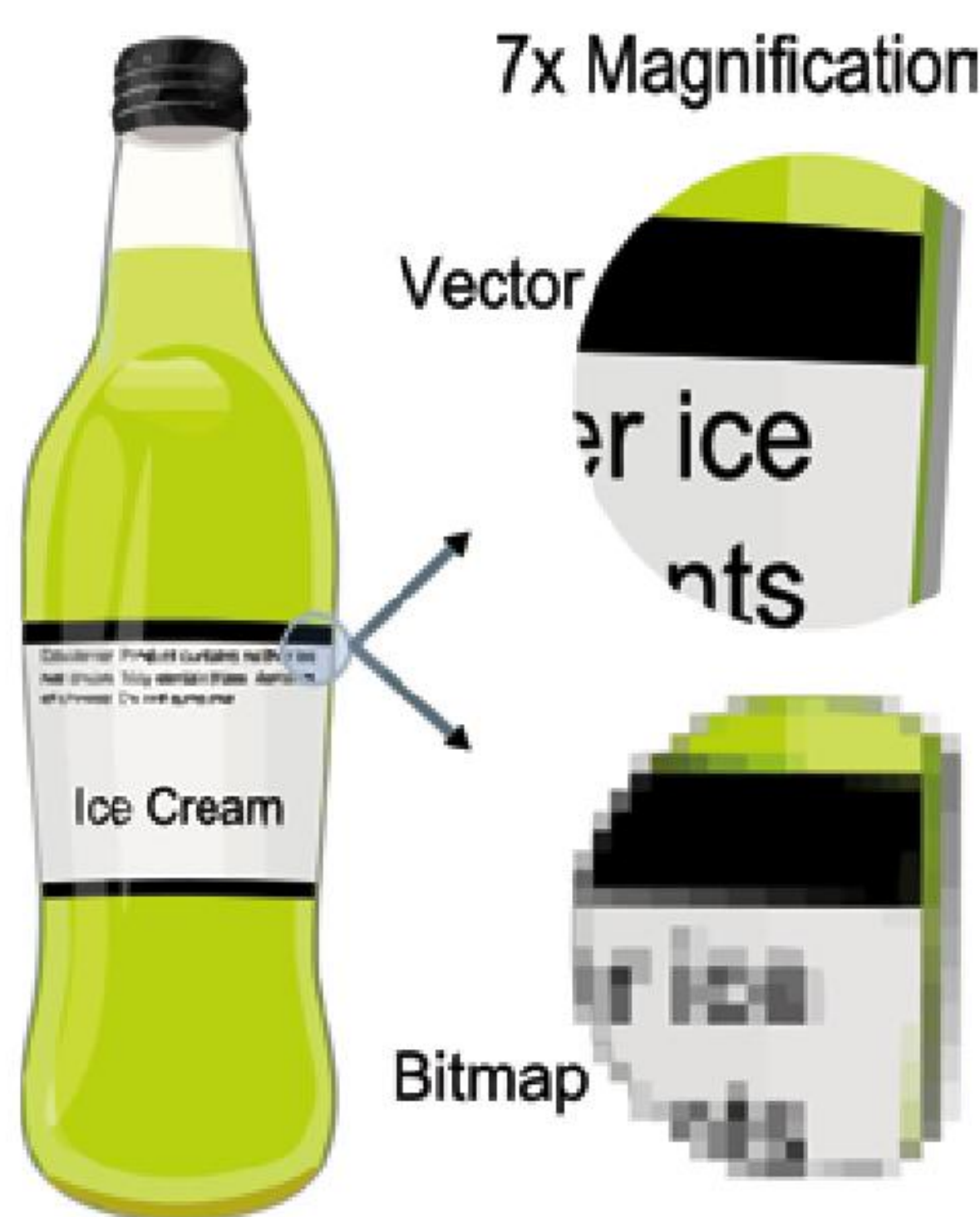
monitors. VDUs could either be separate components connected to the computer or could be a part of the design, not unlike the smartphones of today.

The earliest VDUs were an array of lightbulbs each corresponding to a particular register bit. By seeing if the bulbs were on or off, engineers could monitor the state of the computer and a new usage for the term was coined. By the 70s and 80s, personal computers could be hooked up to monochrome TVs and by the 90s monitors were 14 to 17-inch colour CRTs. Since the mid to late 00s LCDs and LEDs, once restricted to laptops have established themselves as the visual standard.

Vector Graphic

If you've used Corel Draw, Adobe Illustrator or Inkscape, you know what a vector image is. But for the others, let's start with pixels first. Photoshop

and Gimp are both pixel or raster based software. The pixel is the smallest element here and an insanely large number of them in different colours make up an image. The problem here is that scaling is only possible if you have an insanely large image. A vector on the other hand is made up of points and calculated lines. The cool thing about vectors is that they can be freely scaled up or down without any loss in quality. The only problem with vectors is



So that's what happens.

that they can never be as realistic as rasters. But, because they can be scaled up or down with ease, they're the go-to when it comes to logos and icons.

VGA

Short for Video Graphics Array, VGA is a video output hardware standard developed by IBM in 1987. Made up of 15 pins, a VGA connector would display images in the resolution of 640 x 480 with a refresh rate of 60 Hz. While only 16 colours could be displayed at this resolution, that number could be bumped up to 256 colours if you are willing to let the resolution drop to 320 x 200 pixels.

VGA was replaced by SVGA (Super Video Graphics Array), which would display images in resolution of 800 x



The 15 pin VGA connector.

600 pixels on 14 inch screens and 1200 x 1600 pixels on 20 inch monitors. They would present the images with a palette of 16 million colors.

Today, the SVGA, still known as VGA is being phased out by the DVI.

Video Card

The video card or the graphics card is an add-on card that allows display devices like monitors to be hooked up to a computer. If you look at video cards today, you'll see that they are either made by Nvidia or AMD. Together these companies have a duopoly (a monopoly, only with two people) and run the entire market.



At \$3000, it's doesn't get more extreme than this. Today.

A video card needs four things to work, a monitor, a GPU, video RAM and a motherboard. While the motherboard gives the GPU the power and the data, the GPU does some serious number crunching. The kind that'll put your accountant to shame and render the image. This is sent to the video RAM which can either send it to the monitor or store it till the need arises.

While video cards have been separate units all this while, the manufacturers Intel, Nvidia and AMD have come up with an integrated approach where both the CPU and the GPU are on the same die. The result is moderate performance and lower energy requirements.

VideoLAN

These are the good folks that gave us what could be the world's favorite media player, VLC. A student project at Ecole Centrale Paris, France, VLC stands for VideoLAN Client. VideoLAN's primary goal was to develop a software that would allow users to play videos and other media across a LAN. It was developed with a sister software VLS or VideoLAN Server. But because all the features of VLS have been merged with VLC, the former is no longer in use.

What made VLC an instant success was the fact that it was free, had most codecs built in and had an almost limitless array of features. Apart

from VLC, VideoLAN is also working on non-linear video editing software, encoders and streaming applications to name a few.



It's not just for VLC.

Vimeo

Before you scoff at this little video streaming platform and wonder when these guys are going to shut shop, let me ask you how you feel about Shreyas Talpade doing a god awful 'rap' on how he booked his bus tickets while you're trying to listen to a YouTube generated playlist of David Bowie tracks. How do you feel when it comes on just before each and every track in the playlist over and over again?

Now, how do you feel when I tell you that Vimeo is ad free. Or that random, spammy video or video of your competitors won't be pushed in the list of recommends? Sure, you end



YouTube for the elite?

up paying for setting up a pro account and there's a storage limit, but it seems like a small price to pay when you compare it to all the random videos that keep coming up all the time on other platforms.

Vine

What do you get when you take Instagram and replace the photos with videos, get rid of all the filters and merge it with Twitter? You get the latest big thing in social media, Vine. Launched in 2012 by Dom Hofmann, Rus Yuspov and Colin Kroll, Vine is platform where users can record six second video clips from their mobile phones and share them with the world by 'revining' them. The vines are all curated based on their themes and even has a loop count, telling you how many times a vine has been played.



The possibilities in under six seconds.

While it's nowhere nearly as big as Facebook or Twitter, it has it's own community and a wealth of innovative content spurred by the six second cap. From journalistic reports of the latest happenings in Syria to

six second TV commercials, to videos being sold as art, Vine is not only catching up, it's opening doorways too.

Vinod Dham, The 'Father of the Pentium Chip'.

What more can you say about a man who made history? After having worked with semi-conductors through most of his career, Vinod Dham joined Intel. In 1993, he introduced the Pentium chip to the world and carved out the path that would make Intel a household name.

Leaving Intel in '95, Dham started joined NexGen, a startup which was acquired by AMD. Here, Dham was the force behind the famous



'Pentium Killer', K6 chip. He has started a few more companies of his own, the most notable one being, Silicon Spice, which sold its VoIP chips to broadcom. Today, he is one of the richest investors in the Silicon Valley and is also one of the most influential people there. His latest venture, Indo US Venture Partners focuses on developing software talent in India.

Vint Cerf

This man is the recipient of a Turing Award, a National Med-

al of Technology, the Marconi Prize and the Presidential Medal of Freedom. What makes this man so awesome? He was one of the inventors of a pokey little service during his days at the United States Department of Defence Advanced Research Projects Agency or DARPA and it's only called the Internet.

To be perfectly honest, nobody really 'invented' the internet and Cerf didn't work on it alone. In collaboration with Robert Kahn, Cerf came up with the internet protocol suite which serves as the base the workings of the internet. At UCLA, Cerf was heavily involved in ARPANET, the predecessor to the internet. During that time, computers from the same network couldn't really communicate. Rules needed to be written for this and that is what Cerf wrote. While a telephone would have a specific cir-

cuit to ferry data back and forth, with Cerf's protocol, the data could be split into 'packets' and sent across via many circuits. When Cerf and Khan wrote the TCP/IP, together, they had 'fathered' the internet.

Viral

Remember how back in school, there'd be this one kid who'd get a cold and suddenly the entire class is coughing and sneezing?

Well, the reason why vi-

ral infections are feared is because they're easily shared. Share it with enough number of people and you've got an epidemic. If you do the same thing with a kind of content that's online, you've got something that's gone viral.

A viral video, for example is something that is either so good or so bad, that everybody wants to share it with the rest of the world. Viral videos have been around long before the birth of YouTube. They were forwarded via email and early ones include 'Dancing Baby', a video of a 3D animated baby doing a really funny dance. While the requirements for a video to go viral have changed since the late 2000s from a million views, to about five million in 3-5 day period.

Virtual Machine

A virtual machine is a program that you install which acts as a virtual computer. Imagine you have a computer with Windows 7. You can check out the preview release of Windows 10 us-



Vint Cerf



Now that's a good example

ing a virtual machine without going through the trouble of installing it on your machine and messing up files and customisations. Instead, you install it in a VM and delete it when you are done with it. Your original Windows 7 remains untouched. A VM runs your current OS or the 'host' and allows you to run a second OS, the 'guest' at the same time by providing virtual hardware.

All the virtual hardware is mapped to the original hardware present on your computer and the only thing that's going to stop you from putting up multiple VMs are the hardware capabilities of your computer. VMs really come in handy while working with programs that are only



To the OS, the VM is the Matrix.

compatible with outdated hardware or software. For example, the popular game, Grim Fandango won't really work too well on Windows 7. Windows XP on the other hand supports it just fine. By booting XP on a virtual machine and installing Grim Fandango, you can play this masterpiece without any hitches.

Virtual Reality

The term virtual refers to something that exists, but doesn't have a definite form or shape. It can also be used as one would use the words 'created' or 'simulated'. Thus, virtual reality is a computer generated simulation of reality. While most systems involve the use of just headsets, some also offer gloves that provide the user with tactile feedback of the things they interact with. While virtual reality has been used primarily for entertainment purposes, it is slowly finding use in combat training.



Step into a new world.

The fact that missions can be played repeatedly with minimum costs and zero casualties, is an important reason for the same.

Today, the biggest name in VR is Oculus. Their Rift, a VR headset has been taking the world by storm. So much that it was acquired by Facebook for \$2 billion.

Virus

A computer virus or simply, a virus is a computer program that rapidly replicates itself and affects files in such a manner so as to increase its spread. Viruses can spread via flash drives, email attachments, or may be present in files downloaded off the Internet. While some viruses are mostly harmless, over the years, viruses have been used more for evil than as a joke.

From maintaining keylogs to corrupting data, viruses can be pretty dangerous and in most cases, even the immediate source of the infection is unaware of what's going on.

The best way to keep your computer free of viruses is to be extra careful. But since it's virtually impossible to detect



Delete immediately before someone gets hurt!

the presence of a virus with the naked eye, a good anti-virus should do the trick. The first ever virus was named Brain and was created by brothers Amjad and Basit, from Lahore, Pakistan. It really didn't do much and merely slowed down the performance of the floppy drives it would infect.

Visual Basic

Visual Basic was Microsoft's answer to all the budding computer programmers to allow for rapid application development. Released in 1991 and written by

Alan Cooper, Visual Basic was used to develop GUIs by using an interface that allows users to draw their interface, drag and drop buttons and create events and triggers for each element.

Visual Basic launched a trend where an IDE is accompanied by easy GUI creation. Six different versions of Visual Basic were released before it was migrated to the .NET Framework. As Visual Basic .NET, six more versions have been introduced so far.



Vlog

When you maintain a log of your daily events on the web, it's called a web log or blog. When instead of typing your thoughts out, you look at



John and Hank Green a.k.a., vlogbrothers.

a camera and pour your heart out, you get a vlog or a video log. Vlogs have been around since the year 2000 when Adam Kontras posted a video chronicling his move to LA. This would become the longest running vlog in history. Vlogs today are the immensely popular on platforms like YouTube. Guys like Hank and John Green, a.k.a., vlogbrothers, Natalie Tran of communitychannel and Good Mythical Morning are all perfect examples of vlogs. Also, in the list of YouTube's 100 most popular channels, 17 are vlogs.

VoD

Short for Video on Demand, VoD is the future of broadcast visual entertainment. It does what it says and gives users access to videos when they want it as opposed to the scheduled programming on TV.



Video on Demand

can be streamed to the user either through a set top box or through the internet. The content could also be downloaded and viewed later, as seen in DVR set top boxes.

Video on Demand has been around since 1994. On an experimental basis, 250 homes and schools were given access to on demand content by the Cambridge Cable network. While the idea was well received, the project was closed due to lack of availability of content.

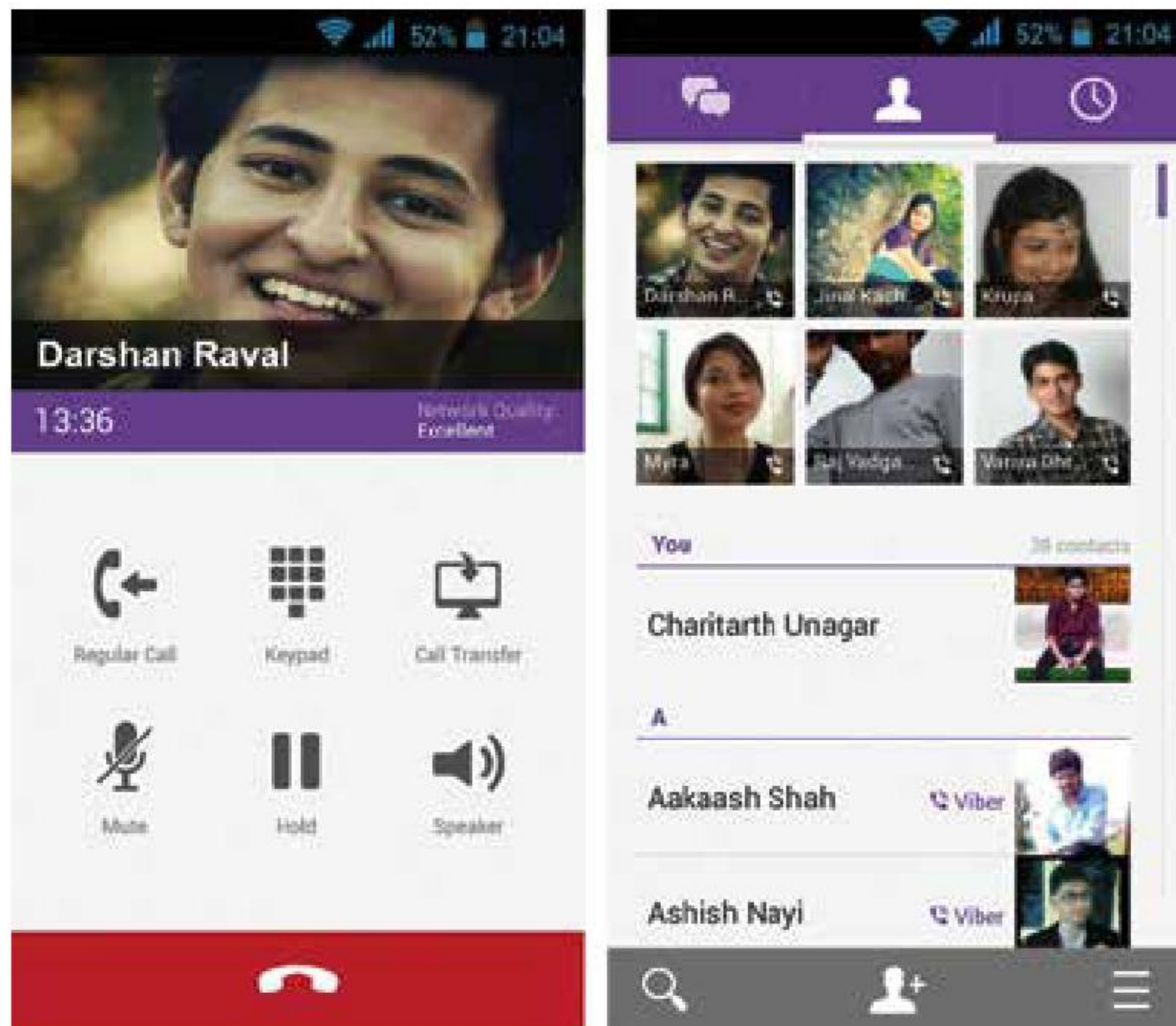
Video on demand has now evolved to take on the form of SVoD (Subscription Video on Demand) where users can stream content off the internet for a subscription fee. A good example of this model is Netflix. SVoD has now paved the way for the next step, AVoD or Advertising Video on Demand, where platforms like Hulu or Crackle allow you to stream videos on demand but also endure advertisements despite paying for a subscription.

VoIP

Ever made a call to your relative on Viber or Facebook messenger on your smartphone? Either way, you are taking advantage of a glorious piece of

technology known as VoIP or Voice over Internet Protocol. Here, the analogue signals of your speech are converted into digital signals. These signals are transmitted across the Internet and decoded as analogue signals.

While VoIP may seem like the best thing since sliced bread, it's rubbing telecom operators the wrong way. When your voice is converted into digital signals, they are also compressed so that they can be sent across huge distances, hence some loss in quality can be computed. Finally, your



How your remind your uncle about the chocolates.

VoIP call is entirely dependant on your internet connection. Unless you wish to dish out for the more expensive Wi-Fi connections and 3G and up, you're probably going to experience poor audio quality.

Volume

When it comes to computers, the term volume has two meanings. While the common man will identify the term in reference to how loud his music is playing, the nerd's thoughts would be on completely different waves.

di9it.in

The term volume also refers to a medium capable of storage. If 'New Volume (E:)' is flashing before your eyes, then welcome to the dork side. People often get drive, partition and volume mixed up. A volume doesn't



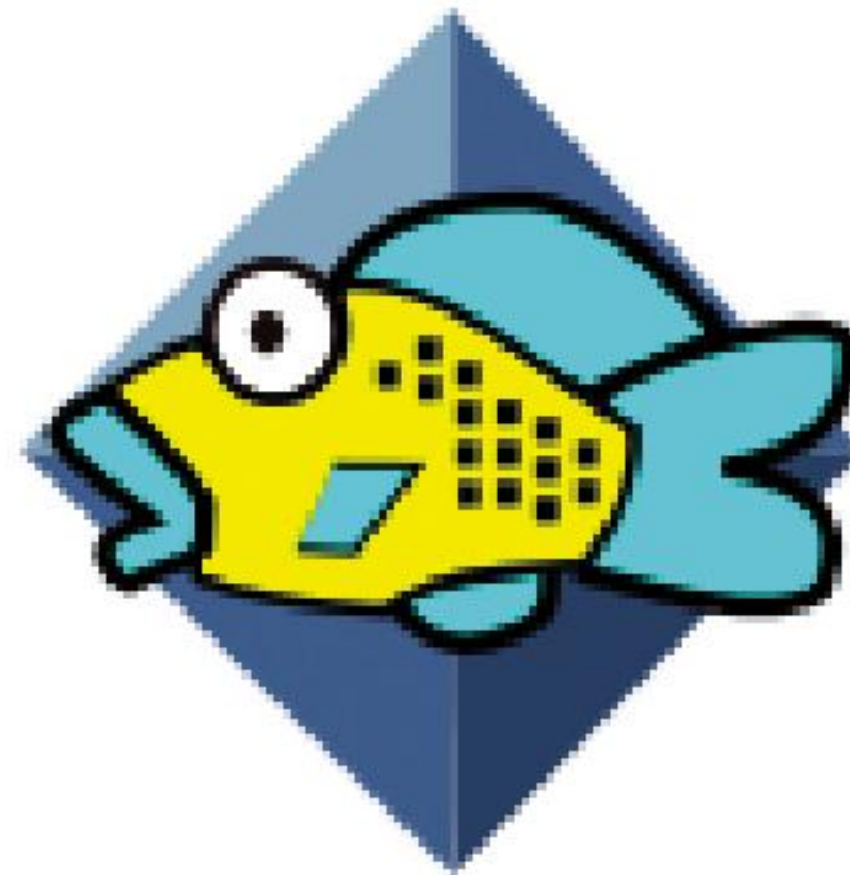
Always remember the difference.

necessarily have to be a separate drive. The drive is the actual storage device and volume is where your data is listed. It could be an SSD, an HDD or even a floppy disk.

If you're still confused, think E:/Study Material/Extra Notes/Anthropology. Your 'important' documents are in the volume 'E'.

Vorbis

Better known as Ogg Vorbis, Vorbis is a completely patent free, open source music compression and encoding system. Why is it here? Well, it's because somebody owns a patent for MP3. There's a lot of debate about who exactly, but the people at Vorbis and its parent, the Xiph.Org Foundation agree it's the Fraunhofer Society. Either way, as an artist that's the last thing you want to do is send a large faceless corporation money.



Time to make a move.

Secondly, with the death of the iPod classic, space is going to be a real problem. Fortunately, a track bounced as a vorbis file at a particular compression will provide the same quality as an MP3 file would and take up less space and you can make the most of your 64 GB limit.

VPN

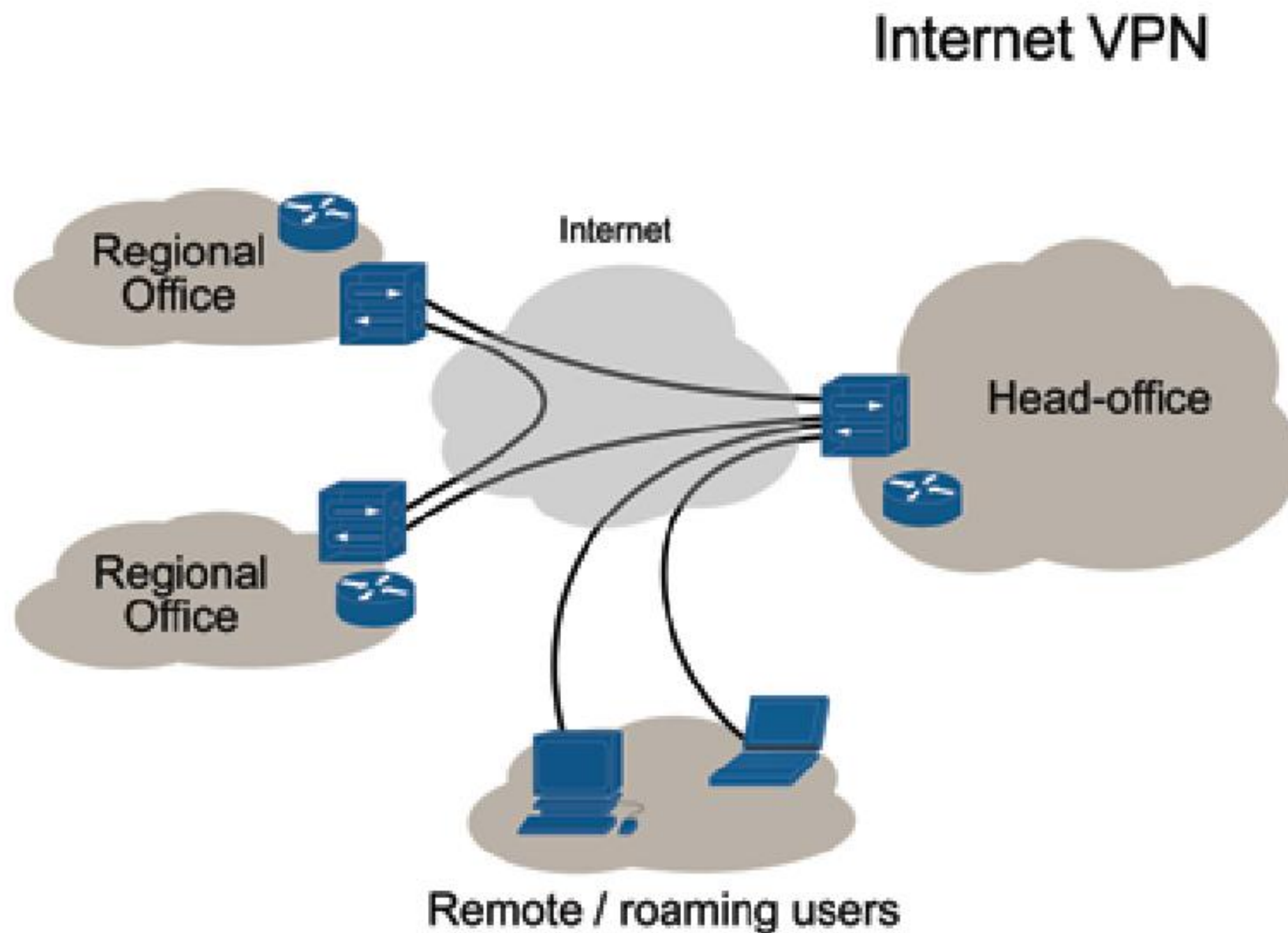
A VPN or a Virtual Private Network is how you normally connect to your office's Intranet. In a VPN, a public network like the internet is used to connect users to the organization's private network.

The need for a VPN arises when remote offices need to connect to the organization's intranet. You can either connecting to it can be done over

the internet. But the risk involved is that anybody could intercept this connection and steal your data. With a VPN, you have a safe and private connection to your intranet. Also, because VPNs are encrypted, the odds of anybody using your data for evil are further reduced.

VRAM

VRAM or Video Random Access Memory is the memory chip found on a video card. Acting as the buffer between the video card and the moni-



That's how it works.

tor, this chip is where the image data meant to be displayed is stored. What makes this type of RAM special is the fact that its dual ported. This means, it can not only refresh the image being displayed on the monitor, it can simultaneously allow the video card to write a new image on it. Thus, VRAM yields better graphics performance, but is also more expensive.

It's understood that a powerful graphics card has more memory because the VRAM also acts as a frame buffer. A super fast GPU can churn out hundredsof images before your computer can blink an eye. These images are stored in the VRAM and released at the appropriate time.



VRAM

A new type of VRAM developed by Samsung known as WRAM yields even better performance by processing larger blocks of video memory.

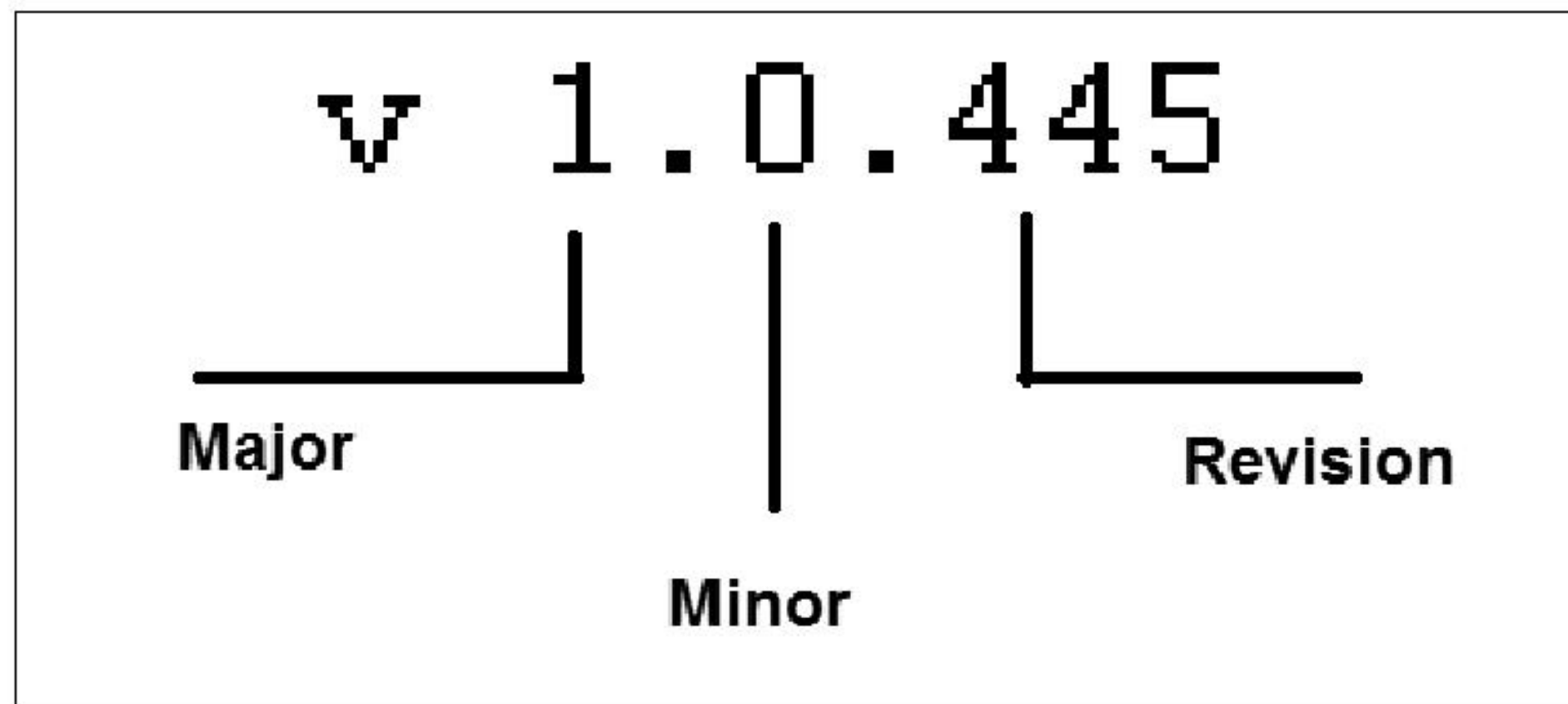
VTC

Short for Video Teleconferencing, VTC is where two or more groups from different locations are able to transmit video and audio signals simultaneously, both to and fro. With better compression, faster internet speeds and low setup cost, VTC has made inroads in businesses, education, medicine and media.



Hi everybody!

While video teleconferencing has been around since the 1930s with a couple of televisions, a couple of CCTVs and coaxial cables running in between, it was only in the 90's when better compression technologies that things actually started taking off.



That's how it's done.

v.XX

While this term may seem like it's straight from a Japanese sci-fi novel, v.XX merely refers to the version of a particular. Also known as software versioning, it's simply the assignment of unique numbers to a version of software that's different from its predecessor.

Normally, the very first number, or the major number isn't changed unless there are significant changes in the software. The next number, or the minor number is revised as more minor changes or fixes are made and finally, the third number or the revision number is changed as minor bug fixes are made.



W3C

The World Wide Web Consortium or the W3C is the international body that maintains the standards and protocols for the World Wide Web. It was founded in 1994 by Sir Timothy Berners-Lee to ensure a standardised protocol for the smooth operations of the Web and is held at the Computer Science and Artificial Intelligence Laboratory in MIT. The organisation has 18 offices around the world including India and is composed of over 400 organisation worldwide that involve thousands of members to work on “Activities” or projects that seek to improve the way the Web works. Some of the more



Dr. An Wang

commonly known contributions of the W3C to users has been the standardisation of foundational technologies and protocols such as URLs, CSS, SVG, P3P privacy, XML and HTML.

Wang Labs, named after its founder Dr. An Wang, was one of the most innovative early contributors to the computing industry. The company was founded in 1951 and went on to further the field of desktop computing with the creation of core memory. The company was a leader in the creation of calculators and word processors throughout the 1960s and specialised in enterprise level electronics. The company also introduced a digital word processor and mini-computers in the 1970s becoming the largest supplier of small enterprise grade computers and word processors in the world. It went on to develop imaging systems along with voice data networks but couldn't survive the tech boom of the 1990s. Its founder Dr. Wang passed away before the downfall of the company and was inducted into the National Inventors Hall of Fame, alongside Thomas Edison and Pasteur, for his creation of the pulse transfer device which allows for the use of magnetic cores in computer memory modules.

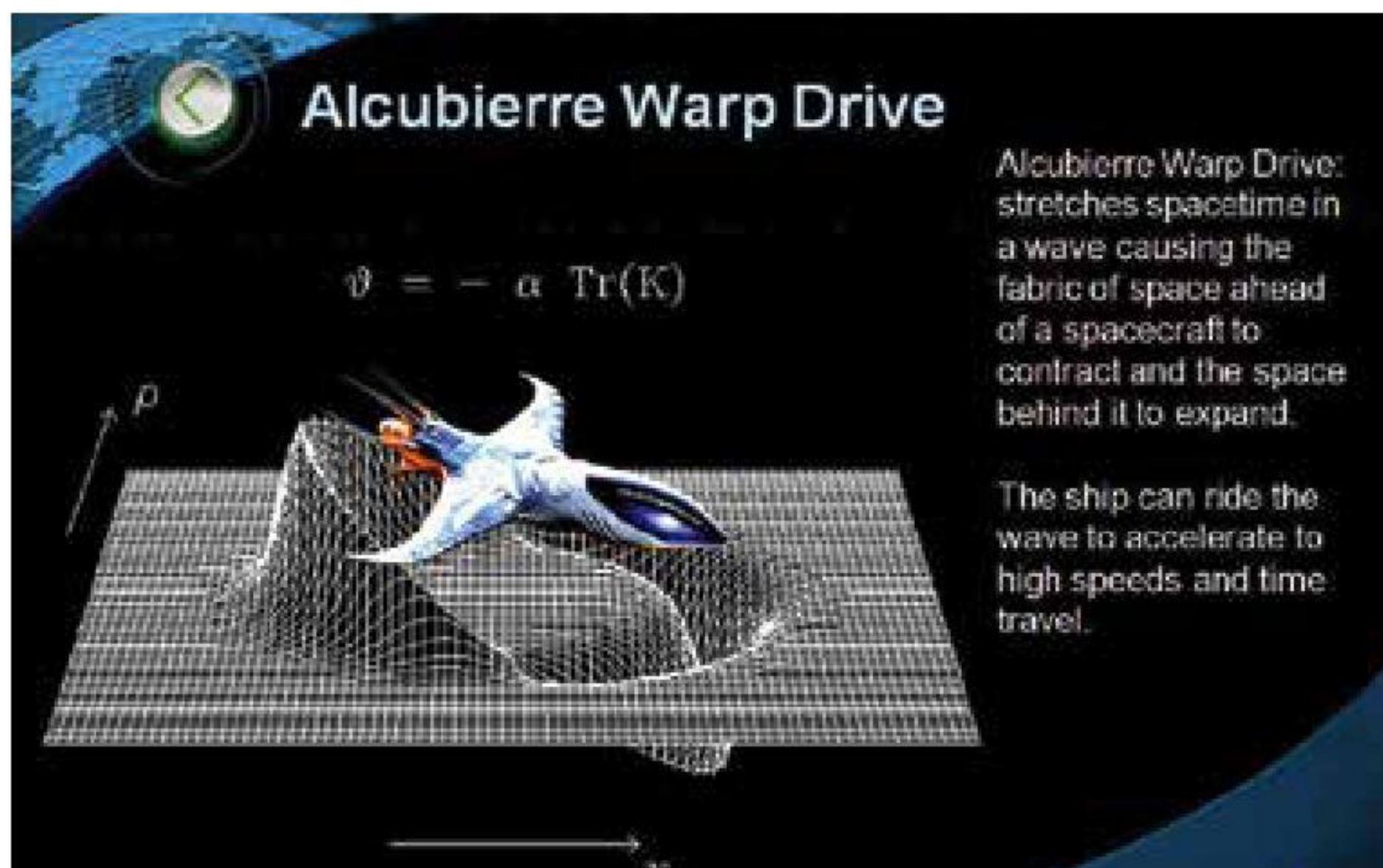
Warez

Some words in the Internet Age are rally cries while at the same time being dirty thoughts – warez falls somewhere between the two definitions. Warez is the name given to copyrighted works of digital programs that are distributed online without payment or royalty. In other words, all copyrighted material found online via piracy can be called warez. In the most innocent of forms warez is when two friends share files between themselves or a group based on similar interest or utility while in more sinister circles can include highly sensitive commercially valuable programs that are stolen and distributed before their official release. The thriving warez blackmarket is known as the “warez scene” or The Scene and is home to torrent sources that lead to illicit applications. These applications are known to sometimes play host to malicious programs that can in turn damage the downloading computer but in other case hold a treasure trove of highly priced softwares. Downloaders can try their luck.



Warp Drive

Sometimes it takes fiction for humans to take the impossible seriously.



The warp drive as it was popularised by the Star Trek science-fiction television series is one of these impossible technologies. The warp drive is a hypothetical faster-than-light propulsion system that would theoretically allow a spaceship to travel at speeds greater than the speed of light while avoiding the problem of time dilation. In a very real sense it is not an instantaneous jump between two points in space-time, rather a process by which vessels actually transverse space at extreme acceleration. In 1994, this fictional concept was given a real scientific basis in the form of the Alcubierre drive formulated by physicist Miguel Alcubierre. While this theory faces significant hurdles such as the massive amounts of energy required to achieve propulsion, it is worthwhile enough for NASA to invest time investigating it's potential, at least on a preliminary level.

Watson Computer

The IBM Watson computer is the most primed example of an artificial intelligent computer system capable of processing natural language. The machine was developed by IBM's DeepQA project from 2008 to 2011 to specifically compete on the American quiz show Jeopardy!, which requires players to pose their responses in the form of a question in response to clues. For this purpose, Watson was equipped with over four terabytes of information that encapsulated over 200 million pages of structured and unstructured information, including the whole of Wikipedia. The system competed against human competitors which were two



Way smarter than you

former winners of the show. The result was an almost predictable win for Watson who was able to win the USD 1 million for charity. This prompted IBM to develop the technology behind Watson for business and medical purposes in 2013 when it was launched in a cancer hospital advising nurses on treatments in lung cancer. And this is only the beginning.

WAV format

The WAV or Waveform Audio File Format is the native uncompressed digital audio format found in Windows operating systems that is also used by IBM. It is a variation of the Resource Interchange File Format standard that is used for storing audio bit-streams for PC machines. The files use the *.wav* file extension and are available in 8-bit or 16-bit samples with the highest rates of 44.1KHz which is at par with audio CD quality sound. The file format was initially released in 1991 as a joint product of

Microsoft and IBM with its most recent release in 2007. The file format was popular as it was used to record audio in professional settings for high quality output. The default encoding of WAV file is through uncompressed pulse code modulation or PCM but it is also compatible with compressed formats such as MP3. Interestingly, since the potential storage on WAV format extends between 1 Hz to 4.2 GHz with up to 65,535 channels, even non-audio data can be stored on these formats.



Wearable Computing

For years the trends in technology have been towards user centred design and miniaturization of form factors. The inevitable convergence of these two aspects is what is making the current period of personal technology most exciting since it gives birth to wearable computing. Whether we consider even the Sony Walkman as a proto-version of this technological trend, today it is undeniably becoming a rapidly actualised reality with personal cell phones, biometric wrist bands and even simple MP3 players all coming closer to our natural selves. With parallel developments



Wearable computing is the next level of the PC's evolution

in the field of medical research we are seeing an emergence of computers that will monitor and regulate internal functions of the body such as the heart or brain. As the cosmetic and vital aspects of human life fall deeper under the purview of intimacy, we can see that wearable technologies may not remain only on our clothes or skin but move deeper too. In knowing such a possible future we should all pause and ask ourselves where do we draw the line.

Web 3.0 or Semantic Web

Web 3.0 or the Semantic Web as it is known is a collaborative movement initiated by the W3C to initiate a new standard in web development. The new protocols seek to further the inclusion of semantic content from web pages which would help restructure the scattered World Wide Web network into a more precise Web of data. The W3C believes that the new Semantic Web framework could allow data to be shared and recycled across applications without any boundaries of personal or enterprise. The protocol has already seen proof-of-concept through the use of semantic data analysis on social



networking sites and medical research programs. While the implementation of Web 3.0 still faces serious challenges it is broadly considered the next evolutionary step of how the World Wide Web needs to move towards to become more effective in the face of near infinite content.

WhatsApp

WhatsApp is a globally popular instant messaging application that was created for smartphones in 2009 by Brian Acton and Jan Koum. The app is compatible on every smart-phone platform and has become one of the main alternatives to SMS text messages due to its cheaper cost. The app is free to download

and uses the Internet to transmit and receive messages, since the data usage on these messages is negligible even on data plans the cost of use are non-existent. The service was acquired by Facebook in early 2014 for USD 19 billion despite having no clear revenue stream and is expected to remain anonymous under Facebook's ownership. The app has so far garnered over 600 million users worldwide with India alone having more than 70 million active users. For the future, WhatsApp has made no clear plan but it is closely working with Mark Zuckerberg's Internet.org vision to ensure basic Internet services to everyone across the world. In more commercial aspects, WhatsApp is expected to launch and sell its own brand of smartphones which seems to be the main way it will generate revenue. But for now WhatsApp is free and is planning to remain so.



Whisper app

Whisper is an ever increasingly popular anonymous social sharing app that allows users to post personal messages anonymously to a group of people. The people in the network don't have to disclose their identities and can remain anonymous readers and writers.

The main content of the app is the disclosures of intimate and private thoughts that can't be shared on public social networking platforms such as Facebook or Twitter. To this



effect, Whisper has proven popular due to its therapeutic value but also as a medium to share controversial ideas. On the negative side Whisper is also used in localised settings such as schools for bullying purposes as people can invoke the real names of people to make derogatory statements about them without being traced. This two way sword has made the app both a subject for praise and criticism by the online community.

WiDi

WiDi is the name for the Wireless Display technology developed by Intel which allows users to stream media files wirelessly from a computer device to their high definition television displays.

This facility requires that all engaged hardware be equipped with the right tools to execute this transfer. Intel's WiDi supports full HD video with surround sound quality audio with very low latency during transfers thereby becoming an alternative to HDMI connections, without any wires. WiDi was originally ported on Intel Core laptops as early as 2012 and required televisions to have a compatible WiDi adaptor to receive the data stream from the laptops. To-

day the Intel Wireless Display 3.5 also supports the Miracast standard, similar to Chromecast, which allows for a direct router free connection between devices similar to Bluetooth for high-speed data transfer and media streaming.



Wi-Fi

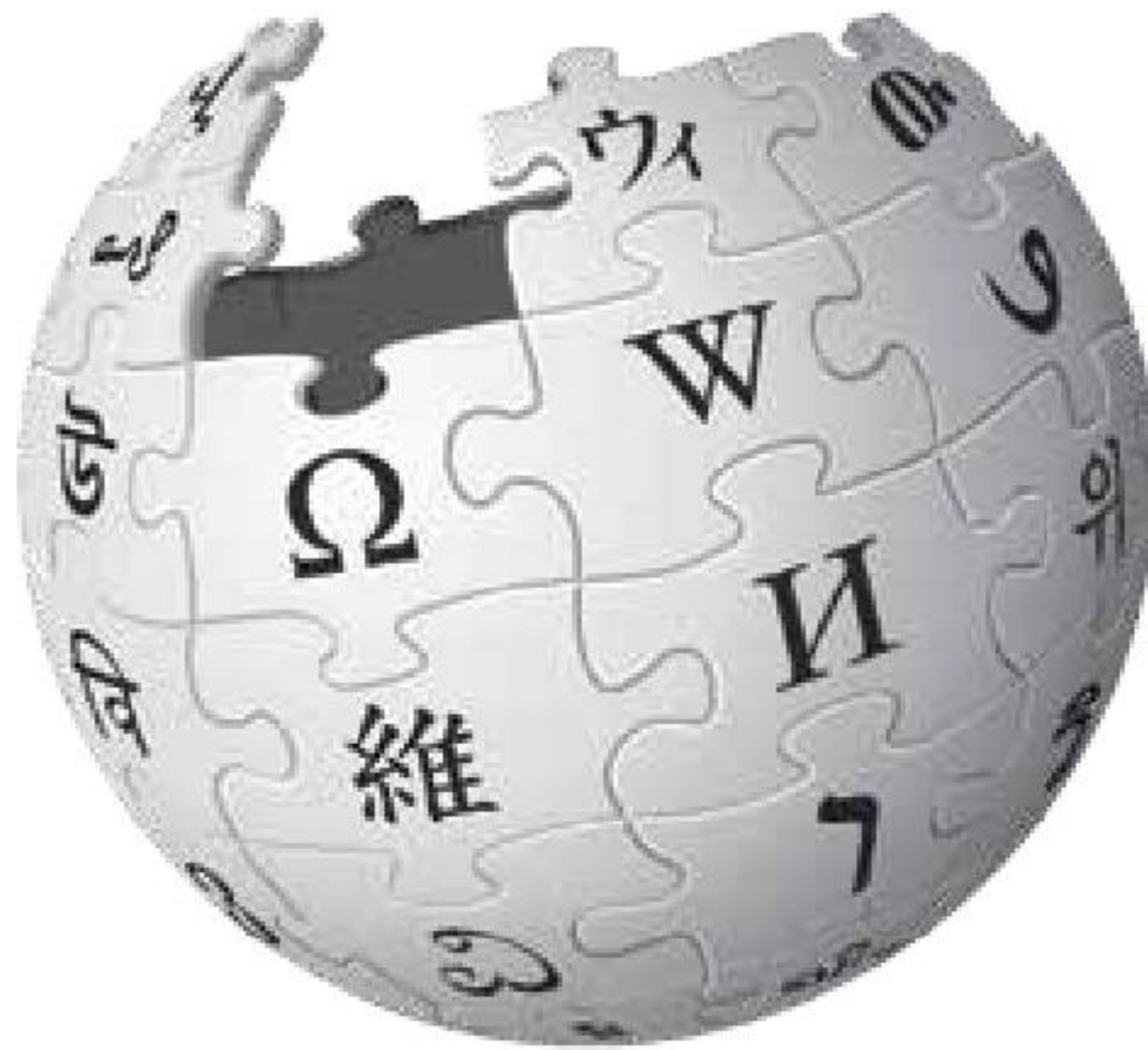
Wi-Fi is the name given to the IEEE 802.11b Direct Sequence technology interface that allows for wireless local area networks or WLANs. This wireless LAN technology was initially created in 1971 based on an Ultra High Frequency wireless packet network system prior to the creation of the Ethernet system. The modern version of Wi-Fi was commercially used in 1991 under the name WaveLAN with the first official protocol of the 802.11 version being released in 1997. At the time it provided nearly 2Mbit per second speeds but was soon standardised to the 802.11b



protocol at 11 Mbit per second speed. Currently we use the 802.11n version that is about to give way to the 802.11ac protocol. Surprisingly the legal patent for Wi-Fi rests with an Australian organisation known as the Australian Commonwealth Scientific and Industrial Research Organisation who invented the original patent while searching for exploding mini-black holes. They failed in that endeavour but have gone on to earn over one billion dollars in royalties from products who use the trademark Wi-Fi. So not a complete failure.

Wikipedia

Wikipedia is for all practical purposes the world's largest encyclopedia, depending on how you define encyclopedia. The Wikipedia website endeavours to provide free access to free content with the assistance of its self-regulating editorial community and writers. The site was founded in 2001 by Jimmy Wales and Larry Sangers, and now has over 4.6 million articles



in English with more articles in 286 other editions. The site also hosts over 23 million registered users, 73,000 active editors, has had over 18 billion pageviews and over 500 million unique visitors every month. The website allows almost everyone to create or edit a Wikipedia article. This has been the root cause for criticism against Wikipedia since it doesn't use expert writers or have close direct scrutiny of the information that is published on the website. The reliable logic behind discovering inaccuracies is based on the assumption that of the many viewers those that disagree or know better will rectify the error. However this has created an inexperienced yet well meaning volunteer team that attempts to address as many of the articles on the website but with their ever increasing number verification isn't always possible. So while Wikipedia may be a great source of basic information it doesn't help in hard core research.

Winamp (RIP)

Winamp was an immensely popular media player software that was designed by Nullsoft and released in 1997. Since version 2.0 the application was categorized as freemium with features such as audio plugins, skins, music virtualisation tools, playlists etc. being paid

content. The first version of Winamp was part of the first wave of digital MP3 music and as a result was very popular with over 3 million downloads in 1997. Within the next three years the application had over 25 million registered users and was bought by AOL in 1999 for USD 80 million in stock. The last release of Winamp was in 2013 a few months before it was planned to be killed off by AOL. Eventually AOL sold Nullsoft and Winamp to Belgian online radio aggregator Radionomy for an estimated USD 5-10 million. After a near demise Winamp now lays in waiting ready to come back and kick the llama's ass.

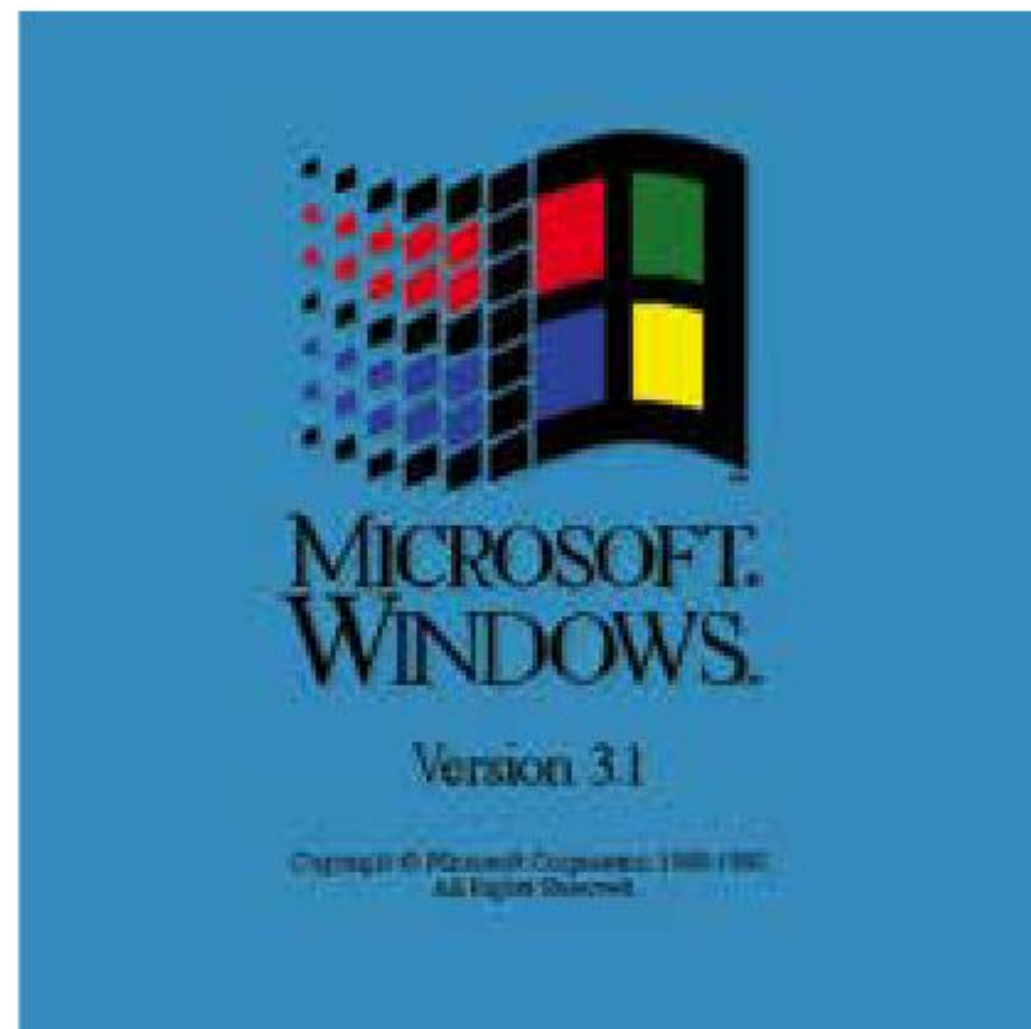


WINAMP®

Windows

Windows is perhaps the world's least popular architecture feature turned in to the most successful technology product ever. Microsoft's Windows operating system is the most widespread of all platforms across numerous devices such as tablets and mobile phones. But it began as a humble desktop operating system designed to primarily run on x86-based computers. The

appeal of the Windows OS was its graphical user interface and desktop work environment where users could relate more intuitively with their digital content. Since its launch in 1985 with Windows 1.0 it has spawned an empire which has garnered praise, abuse, ridiculous revenues and

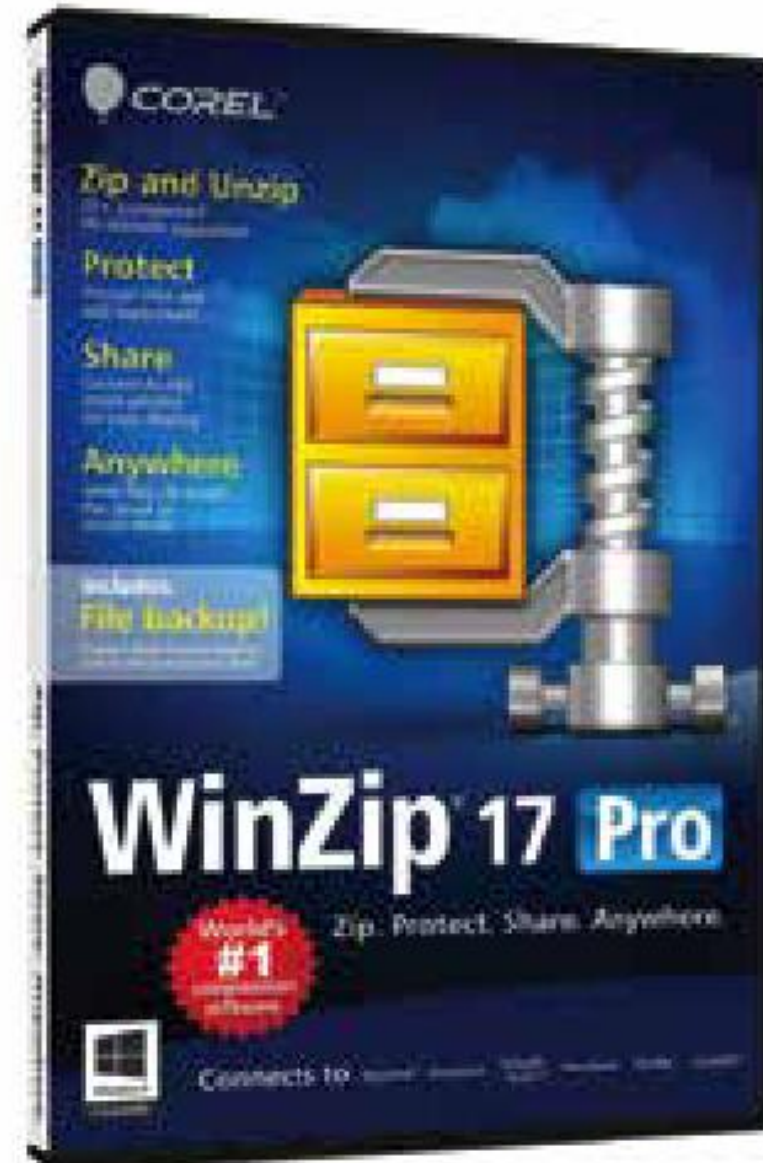


perhaps even greater distrust. Loved and hated by people in equal measure it is the single most recognisable face of personal computing on this planet. Its latest version of Windows 8.1 is pre-loaded on most consumer level computers and even gaming platforms like the XBox One.

WinZip

WinZip is one of the world's most popular file archival and compression softwares. It was developed by Nico Mak Computing to create archives in the Zip file format. It is still distributed as a shareware product with a free 30 days evaluation period. The very first version of WinZip was released in 1991 and within three years was a best-selling computer program on the Windows system. Its later versions also include advanced 128-bit and 256-bit AES encryption features. The inbuilt compression features of the archival software

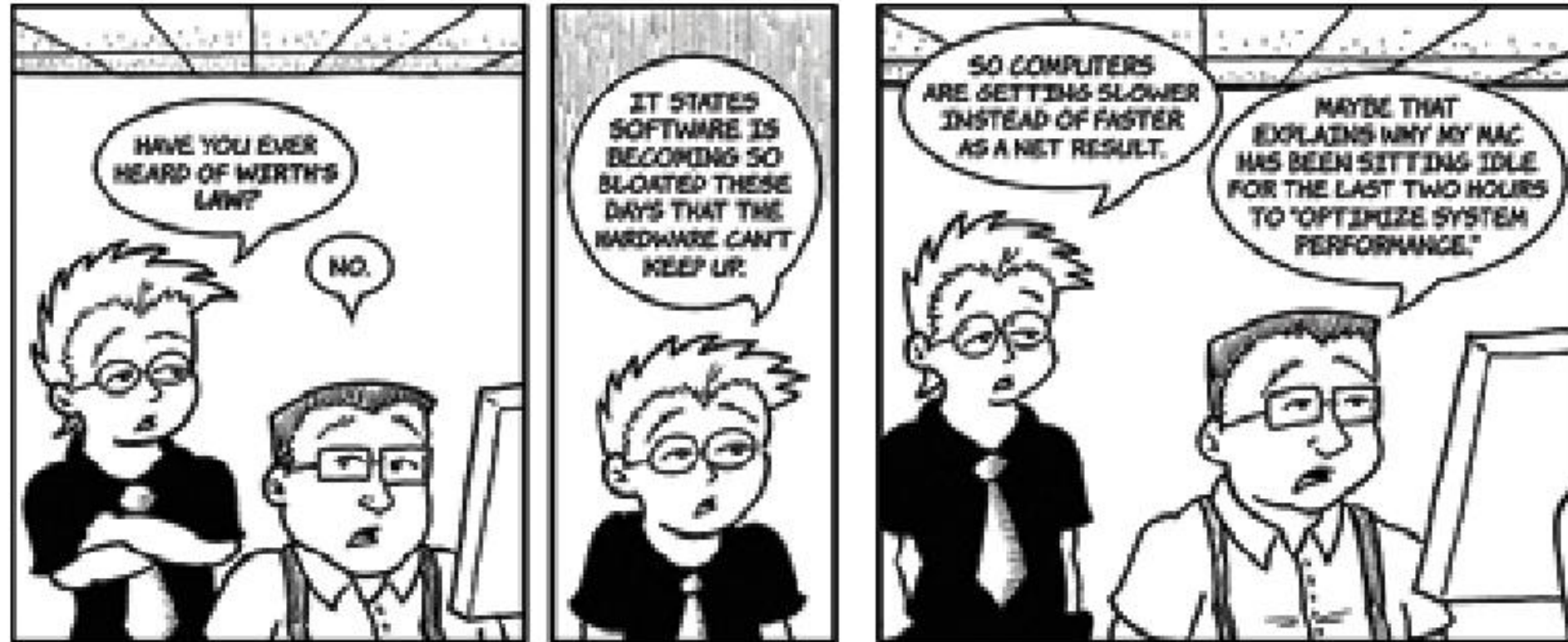
made is a must-have during the early days of the Internet. In 2006, the Corel Corporation bought WinZip for USD 69 million and gained its 150 million users worldwide. The latest versions of WinZip are made available in both free to use and premium modes, mainly for enterprise customers. Its other features also allow for online shared storage, social media compatibility, image editing, PDF conversions, watermarking and contextual toolbars. The latest release of WinZip 18 has newer and more advanced Xz compression as well as features like WinZip Express and cloud backup options.



Wirth's Law

In 1995, Swiss computer scientist Nicklaus Wirth proposed the adage "Software slows down faster than hardware speeds up". The programming language pioneer Wirth was referring to the phenomenon of software bloating in modern computer applications and operating systems. He observed that even though the CPU clock speeds have increased thousands of times since the early computers of the 1970s, the applica-

tions have been seen to operate at slower speeds than in the early periods. Wirth's Law looks at the stagnating or declining net difference between increased speeds of computers and the time it takes them to accomplish actual work. An example of this phenomenon is in the case of photo edit-



ing softwares, which may render an image 50 times faster than they did before, but they do so on hardware that is thousands of times faster than it was before. In this manner software tends to outgrow hardware by a great margin thereby reducing the overall growth in productivity of computing machines. Nicklaus Wirth wasn't the first to state this observation and it has been rephrased by many others including Bill Gates and Larry Page in other ways.

Wolfram Alpha

Wolfram Alpha is a computational answer engine developed by Stephen Wolfram in order to provide statistical and factual query results. Unlike a traditional search engine like Google, the Wolfram Alpha engine cross references search queries for fixed results that conform to the various disciplines of academic study. The website was launched in 2009 rooted in statistical and mathematical databases which gave precise factual results for keywords. The source databases of Wolfram Alpha are based in knowledge texts such as the CIA Handbook, Catalogue of Life and the Chambers Biographical Dictionary. Since the engine seeks out computational responses the queries are best phrased in a clear and variable driven manner – such as “How old was Jawaharlal Nehru when he died?” The program is able to identify the key parameters such as “how old”, “jawaharlal nehru” and “died” to give a precise answer of 74 years 6 months and 13 days by cross-referencing the data about the first Prime



Minister and interpreting the meaning of the question. The service is even more exceptional when working with quantified mathematical or scientific data due to the carefully and expertly curated datasets that cover all aspects of the sciences. This makes searching and solving difficult equations simple and fast.

WordPress

WordPress is one of the world's most popular and widely used blogging platforms. The free to use open source tool comes along with a content management system that functions as a WYSIWYG design interface for blog style websites and pages. The platform was first released in 2003 and has gone on to create over 23 percent of the top 10 million websites in the world. At present the service hosts over 60 million websites and rising both in free and paid segments. The service is also compatible across all web browsers and mobile device platforms which allow rich features such as website analytics, media management, RSS service, comments, moderation and much more. The professional service from WordPress is also used by major business such as TechCrunch who run their news aggregation platform on WordPress CMS systems. The currently active version of WordPress is called Benny and is expected to be updated by the end of 2014.



World Wide Web

The World Wide Web or W3 or the Web as it is commonly known is the system of interlinked hypertext documents (or webpages) that can be accessed via the Internet. The Web



interface on a web browser application allows for a rich media environment where audio, video, images and text can be displayed to the user. The Web was created by Sir Timothy Berners-Lee and Robert Cailliau in a paper proposal in 1989, with the first website being made by Berners-Lee in December of 1990. The original proposal of the Web was two fold – one to allow read only content and an automatic notification

of new materials. While the first of these two was accomplished within months and grew for years after, the latter goal of users being notified when personally specific content would become available took years with the advent of wiki, RSS and Web 2.0.

Worm programs

Worm programs are autonomous computer programs that are considered malicious and categorise as malware. The title for such programs



was taken from the 1975 John Brunner novel called The Shockwave Rider where the idea of a destructive worm program is discussed. The basic purpose of any worm program is to destructively replicate itself throughout a machine or a network of machines within a network. The primary mode of damage by the worm is from its replication process which can occur at exponential rates consuming the internal storage

and memory of the machines or by simply disrupting the network bandwidth. The worm program can also be used in conjunction with a Trojan program that converts the zero-patience computer into a zombie and executes pre-programmed tasks. In more benign cases an “ethical worm” can command idle computers to dedicate their processing power to a remote workload as well, without causing any serious disruption but that is rarely the case.

WYSIWYG Editor

WYSIWYG is an acronym for “What You See Is What You Get” for editing softwares on computers. Programs that utilise the WYSIWYG format allow content, text and images, to be edited, repositioned and enhanced on screen, as a representation of the actual final print version of the project. The use of WYSIWYG is widespread in most modern editing tools, including Web pages, books, newspapers, documents, computer-aided design structures, 3D printing and slide presentations. The first successful WYSIWYG program was invented by Xerox PARC in 1974



called Bravo and was used to prepare documents with text formatting. Today the whole of the publishing sector, including mobile app SDKs and HTML editors, rely on WYSIWYG based editors to create rich content files quickly and efficiently. The publishing industry relies on QuarkXpress and Adobe InDesign for most of its printing needs, while webpage designers make use of Adobe's Dreamweaver programs amongst others. Even image editing and design programs such as GIMP and Adobe Photoshop function on the same parameters allowing for virtual design for real production.



X

x86

x86 refers to Intel's most successful line of processors, those ending in 86 like the 80186, 80286, 80386 and 80486 processors. Between the mid-1980s and the early 1990s, the famous 286, 386, and 486 processors found in PC's were all 32-bit processors and hence their architecture came to be denoted as x86 owing to the last two numbers of the processor series. Your 64-bit Windows has a 'Program Files (x86)' folder on your hard drive which stores run 32-bit applications also.

XBOX

The Xbox is a video game brand created and owned by Microsoft, which has the latest entry in its family in the form of the Xbox One. Rivalling Sony's Playstation brand, while the Xbox has had a slew of exclusive games which have always served to push up its sales, Halo and Gears of War namely, there is one Xbox 360 experience which no one would like to experience- and that is the aptly nicknamed Red Ring of Death. Three flashing red lights around the Xbox 360 power button indicated that

your console needs service, or to some that they made the wrong choice.

The launch of the Xbox One was itself dripping in controversies. Firstly the company had announced that there would be some sort of mandatory 24 hour internet check in, which would render the console useless to anyone who does not have internet at home, and then stated that used games could not be played in another Xbox One. They wisened up though after the backlash and changed the policies.



Sworn enemy of the PS3

XDA-developers

XDA-developers is a website which caters to a community which loves

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tinkering operating systems and devices. Originally meant as a small discussion room for developers and primarily regarding HTC phones and the Windows Mobile operating systems, it has now become a go-to destination for discussions among end-users as well, covering phones, tablets, across a wide range of operating systems. XDA currently also covers smartwatches, and has video content.

The XDA forums community is also the base for roots and phone improvement tutorials for a variety of operating systems.



The official meeting place of phone tinkerers around the world

Xenomorph

The dreaded , and awfully cool, creatures from the Alien series. Created by H.R. Giger in an attempt to make men all over the world uncom-



Not a pretty sight

fortable, the xenomorph was created using a blend of artistic ingenuity and sexual sadism. After bursting out of an egg, the now small slimy looking creature attaches itself to the throat of the victim, and forces its seed down the throat. After a few bouts of morning sickness, the baby xenomorph bursts out of the poor victim's chest, to live its life of killing space adventurers and trying to kill Sigourney Weaver. To add to the sexual references, shredded condoms were used to create tendons of the beast's jaws.

And if a barbed tail which can impale those pesky Predators was not enough, the creators decided that the xenomorph would house a highly corrosive acid which eats through steel and obviously flesh and bone. So even if you have a kick-ass shotgun and the alien plops itself right in front of your face, shooting it will throw acid all over the place and kill you while also destroying whats around you. Unpleasant. And so cool.

Xerox

A company which has been around for so long and whose very name is synonymous in India when one thinks of photocopying, Xerox rose to prominence with the launch of its plain paper photocopier in 1959. What grew out of Xerox was even bigger than itself though. The Palo Alto Research Centre, or PARC, a division of the company, ended up involved in a few major breakthroughs which make the computer what it is today. These include the Ethernet, laser printing, and arguably a graphical user interface which included to-day's mouse.

Using all these inventions, Xerox built its own desktop setup called the Xerox Star in 1981, but managed to sell only about 25,000 of the \$16,000 priced machines and was termed a commercial failure. A few years later Apple launched the Macintosh. In 1988, Apple filed a suit against Microsoft saying that the company had copied its GUI. At this time Xerox felt that Apple,



Providing an alternative to writing notes since 1959

in its supposed friendly visits to the PARC labs, had actually lifted ideas clean from PARC and so filed a suit against Apple, the logic being that if Apple could say that its GUI was copyrightable and has been copied by Microsoft, Xerox could in turn say that Apple copied Xerox. Xerox's case was dismissed unfortunately, which is one of the reasons Xerox is criticised for not being capable of monetising its inventions intelligently.

xFire

Started in 2003, xFire is freeware instant messaging service for gamers, also doubling as a game server browser currently available for Microsoft Windows. While the software does not excel in each specific task of launching games, voice messaging, finding servers, downloading files managing in-game screenshots, part of the software's appeal lies in the package of all these utilities.

The company initially ran Ultimate Arena, a Web site hosting on-line tournaments. For \$3, a player got into a 1,000-person game with a grand prize of around \$1,000. Customers however preferred to play with friends rather than strangers then, and so Ultimate Arena was transformed into into Xfire.

Currently, according to the website, 30 million users use the service.

Xiaomi

Known for making people sit tense and motionless in front of their com-



Awesome phone, or government spy?

puter waiting to click on the buy button on e-commerce website Flipkart, hoping that they would be lucky enough to own the Xiaomi Mi3, and clicking it a second later to hear that the sale is already over, Xiaomi is a Chinese electronics company which shot to fame in India when it sold 20,000 Mi3 smartphones in under 4 seconds.

After beating Samsung and Lenovo's market share in China, the Xiaomi entered emerging markets like India where evidently the company is making a huge wave. After the success of the Mi3, the lower-end Redmi 1s too sold in around 4.2 seconds. But it has not been without any snags. The Indian Armed Forces in October, had warned its personnel and their family members to stay away from the phone because it takes personal data and sends it to its servers back in China. Xiaomi has said to have rectified the issue.

xkcd

XKCD is a much praised webcomic created by former NASA roboticist Randall Munroe, which bears the disclaimer at the bottom of the webpage 'this comic occasionally contains strong language (which may



Witty caption not required

be unsuitable for children), unusual humor (which may be unsuitable for adults), and advanced mathematics (which may be unsuitable for liberal-arts majors).' XKCD combines programming references split

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with pop culture to twisted mathematical theorems and sometimes pure slapstick. In case there is a concern among our sensitive readers that a former NASA member now wastes his time writing webcomics, you shall be pleased to know that he introduced a section in his website called 'What If?' which, in an as methodological and clear way possible, answers questions like the plausibility of replicating a jetpack by shooting AK47's into the ground and moving up because of the force generated, or for how long would the human race survive if were to all take up cannibalism. Pertinent questions.

XLR

The XLR connector is an electrical connector circular in design which has between 3 and 7 pins, and is primarily found on professional audio, video, and stage lighting equipment. Invented by James Cannon and for this reason inventively called Cannon Plug earlier, they are available in male and female variants in both cable and chassis mounting designs. XLR connectors differ in one way from RCA connectors, or the red and white stereo audio wires we see connected to our televisions, as the female XLR connectors are designed such so that the earth pin makes contact first, and then the other two do. In this way, one can insert and remove XLR connectors in live equipment without any external signals.



"Ha!" says XLR to the RCA connectors

X-Men

One of the main culprit's for teenage boys attempting to grow sidelocks and hold knives between their fingers with menacing looks, the X-Men are Marvel's merry mutants introduced in 1963, who constantly battle hate received by them from their more human counterparts, when they are not getting into long winded battles with arch enemy Magneto and other such baddies.

The original team of X-Men was made of Cyclops, Jean Grey, Beast, Angel and Iceman. Notice that there was no Wolverine. He did not ap-



Wolverine is still miffed he wasn't in the original team

pear in the comics for another 12 years after the publication of the first issue, and was initially just another of a slew of characters introduced to bring in presumably some sort of cultural diversity to the team.

The series has often been termed by fans as an allegory for racial tensions in the US. When proposition 8 was introduced in California, effectively barring same-sex marriage, Marvel released a story called 'Proposition 8' where one of the antagonistic characters threatens to regulate marital and reproductive rights of mutants.

XML

XML, or extensible markup language, is a way to create common information formats which allows for compatibility on different applications and different devices.

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XHTML or eXtensible HyperText Markup Language is a family of XML markup language which extend versions of HTML and is defined by stricter rules providing it more flexibility. XML language has no pre-defined tags allowing the author to create his or her own, and hence is 'extensible', unlike HTML. Microsoft's Channel Definition format, or CDF format, which allows the user to create a file that defines a Web channel, simply a preselected Web site or group of related Web sites which is updated periodically as the information changes, uses the XML format.

The RSS format used for frequently updated news, videos, blog entries, along with ePub, which is a free and open electronic-book standard which allows publishers to use the same format in house and for distribution and sale, are examples of formats based on XML.

XNA

Microsoft XNA is a set of tools with a managed runtime environment provided by Microsoft for developing video games especially lightweight games and was the main platform for the the Xbox Live Indie games marketplace, which is currently seeing the last of its days to a series of issues.

Microsoft also announced that the platform would not be compatible with Windows 8 marketplace Metro, signaling dark times for it.

The main one doing the rounds was that Microsoft wanted to keep the indie market place separate from its ACTUAL Xbox Live marketplace, so the nice big games stay away from the regulars. Another place where



Fez: Totally worth it though

it went wrong was that the indie market place ranked its games by unit sales, and not the revenue the games generated from sales. Another complaint was that all the games needed to be coded in C# , which made development very limited. While Bastion, made using XNA, received quite a bit of praise, FEZ, the critically acclaimed indie platformer created by Designer Phil Fish , was supposedly stuck in development hell for as long as it was due partly to the XNA.

XP (Gaming)

Experience points are the treats which game creators throw at the gamer to show him that the mundane activity he just did was in fact not an utter waste of time and will eventually lead to the growth of the character. Used more traditionally in role playing games, the player can achieve them usually by slaying enemies, performing tasks, or in some games by merely progressing in the story. Depending on the game, the players statistics of strength, defence , speed, or whatever else caught the writer's fancy, may improve, once enough experience points are accumulated in what is called a 'level up'. In some games accumulation of enough points allows the player to either improve or acquire specific abilities.

Generally once a level up is acquired, the player will need to acquire more experience points to reach the next level. Certain games level up the enemies as well when the player levels up, ensuring that a mismatch in strength is not too great. While this may seem misplaced, considering



Skyrim - where getting your ass kicked can level you up

that the mere incentive to grow stronger is absent as the enemies grow stronger too, it in fact promotes that the player should grow smartly and strategically, and that killing some poor rats again and again will not lead to any substantial gains.

XP (Windows)

After 12 years, on April 2014 Microsoft ceased support for its longest running operating system Windows XP, while of course the longest-running tag can be attributed to the hate for the next OS they launched Windows Vista. Proof of the love for the operating system, and of course coupled with financial and technical constraints, can be seen by unwillingness of companies to move on, forcing Microsoft to eventually state that they would provide antimalware signatures and engine for Windows XP users through July 14, 2015.

After a long journey from the late 1990s, after shelving two products --the Neptune and Oddysey-- which became slightly obsolete with the launch of Windows Millenium, and then to Whistler and then finally deciding on XP in February 5, 2001, Windows XP came in with a vastly redesigned user interface and, what one can understand could be a pain to some, was the first version of Windows to use product activation to stop pesky software piracy.

Not everything was smooth for Windows XP though. Among some controversies regarding no support for Bluetooth or USB 2.0, which were



Such bliss we find in nostalgia

later added probably after Microsoft realized that they did not want to aim to annoy each and every single person who would use it, the saddest one is the least heard one. In 2001, Microsoft had demonstrated tablets running its new Windows XP operating system, which admittedly had the disadvantage that they could run only for two hours but were still pretty cool. No one noticed.

X-ray

X-Rays are another invention which a scientist stumbled upon, and later received a nobel prize for. Aptly named X-Rays, because they were 'unknown' rays, Wilhelm Conrad Roentgen got the shock of his life when he saw green light emitting from a little experiment of his casting weird shadows. He then did the most natural thing of calling his wife over and keeping her hand on a photographic plate and saw to his, and presumably her surprise, an outline of her hand with the wedding ring.

X-rays are now used to detect bone disorders, scan airport luggage, inspect artefacts or sculptures for damages,

Roentgen was not exactly the favourite among the scientists though. He reportedly was vague when teaching his students and would flit from concept to concept leaving them scratching their heads. But as if to make up for that, he did not apply for a patent on his invention and died almost broke. Sigh

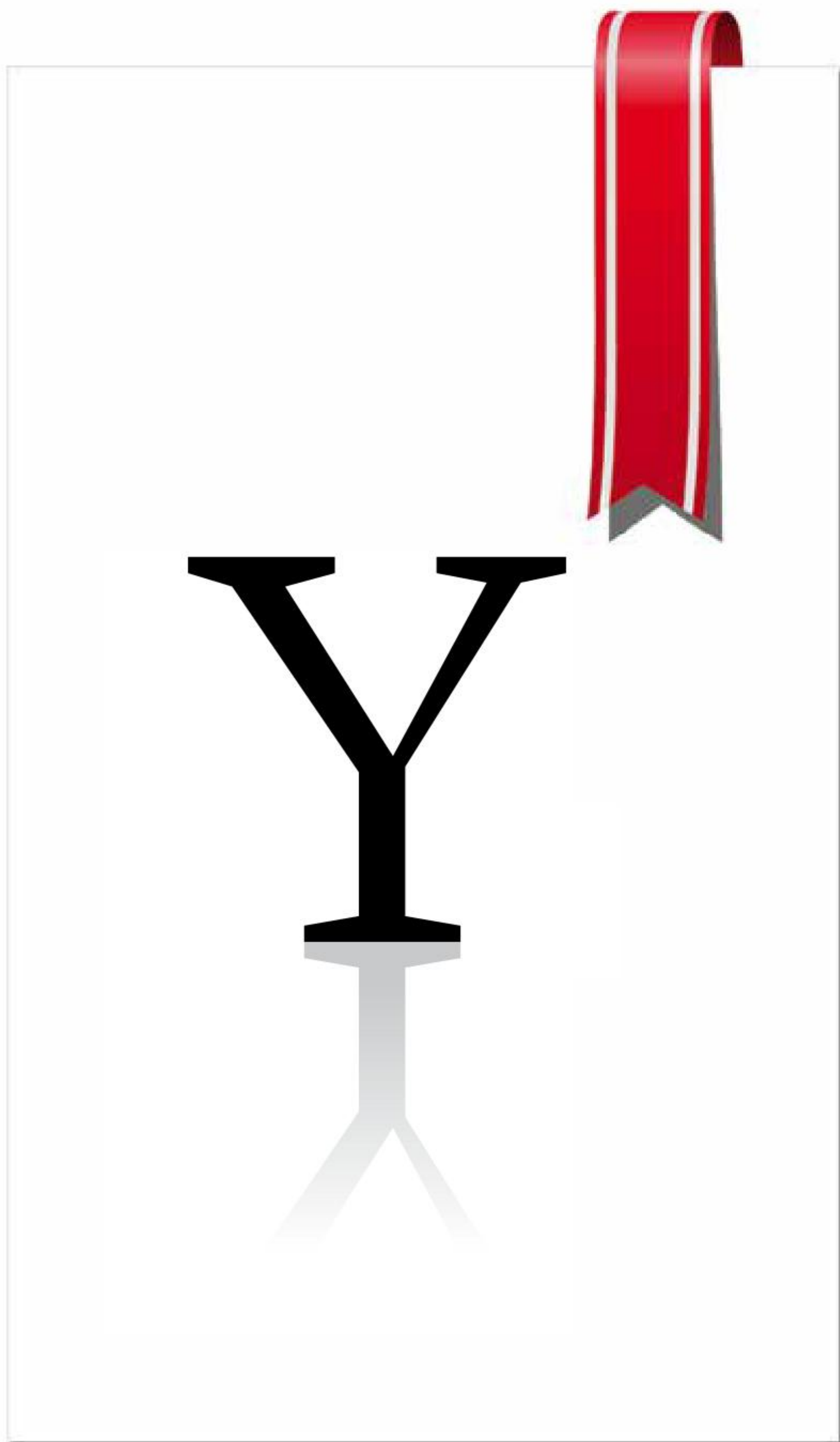


Anything for science!

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X-Window

The X-Window System (X11) is an open source, cross platform, client-server computer software system developed in 1984 by a collaboration between Stanford University and MIT, that provides a graphical user interface in a distributed network environment and is used primarily on Unix variants. Using X-Windows, or X, one can write a device independent graphical and windowing software that can be easily ported from one machine to another machine. Before X, every manufacturer had to have its own proprietary windowing system. With X one can even run the program on one machine and have the results displayed on another.



Y2K

The Y2K , or the year 2000 problem, was an anticipated bug which was expected to ruin all electronic items when Jan 1, 2000 arrives. The problem was due to the fact that all computers at that point, while rolling over to the next year, only changed the last two digits. So 1980 easily became 1981 and was merely recorded as 81. Now the problem was that when the last two digits become 00 for 2000, the various computers will record



What doomsayers thought would happen

the date as 1900, and chaos will ensue. Governments issued warnings. People built shelters and discussed what they will do on the final day. People were panicking.

Turns out, it was not such a big deal. There was enough warning for organizations to upgrade their computer systems.

YACC

So every program that is capable of receiving input has a defined input language which it can understand. The problem with these default visual input facilities is that they are limited, cumbersome, and can sometimes be downright counter intuitive. So YACC, or Yet Another Compiler Compiler, give the user a much more convenient tool which can be used to describe this input to the computer program. The Yacc user can then define the structures of the input, along with which code needs to be pulled up as each such structure is recognized. Using YACC, the user

can specify his desired input in terms of individual input characters, or even as numbers and names. The user-supplied routine may also handle features which are more complex in terms of language, such as comment and continuation conventions, which would be generally difficult to place within grammatical rules.

Yacc is written in portable C. In addition to compilers for C, APL, Pascal, RATFOR, Yacc has also been used for less typical languages, including a phototypesetter language, several desk calculator languages, a document retrieval system, and a Fortran debugging system.

Yahoo!

Known to most as the poor-man's Google, Yahoo is an international corporation known for its web portal, search engine, and its mail service. Founded by Jerry Yang and David Filo in 1994, the name stood for 'Yet Another Hierarchical officious Oracle', where hierarchical referred to the layout of Yahoo's database, and officious the office



Not exactly what Semel must have felt when he saw Google soar

workers who would use Yahoo while on the internet at work. Another more believable story is that Filo's college girlfriend called him Yahoo for his rural Southerner behavior.

The exclamation mark was placed there as another company called Yahoo owned the trademark of the name.

In 2006, Yahoo search engine was criticized for showing explicit results even when the safe search feature was turned on.

In 2002, Yahoo! Missed an opportunity to buy Google for \$5 billion, as the then CEO Terry Semel felt that \$3 billion was a good enough price and did not want to bid higher. We feel his pain.

Yak Shaving

The process of doing certain seemingly insignificant tasks which are not strictly related to the work one wants done but after a probable lengthy



Possibly their only positive contribution to society

sequence of activities would probably contribute to the final desired output. For example, say you need to solve some math problems in a notebook but you realize that your notebook is full so you decide to go out and buy one. Trouble is, that shirt you are wearing you just realized has a huge tear in the back because of which you have to find yourself another shirt. You move to open your cupboard to find this other shirt only to realize that it has been locked and you cannot find the key. Inspired by a Ren and Stimpy Episode, looking for that key would be what we call 'Yak Shaving'. Development teams often have to carry out a number of tasks that seem insignificant before a project can proceed to its next milestone. For example, gathering requirements from both the internal and external parties, validating requirements to determine which objectives should be assigned priority, ensuring that the correct objectives are assigned priority, and reviewing requirements to suggest improvements and change before a project is finalised.

Yammer

Originally developed as an internal communication system for genealogy website Geni, Yammer is a freemium enterprise social network-

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ing service that was launched in 2008 and sold to Microsoft in 2011 for \$1.2 billion. This sort of 'Facebook for business' is used for internal communications for organizations. Access to a Yammer network is determined by a user's Internet domain so that only individuals with appropriate email addresses may join their respective networks.



The facebook of 'corporate types'

Unlike Facebook, using hashtags in Yammer actually serve a purpose. The service picks up hashtagged posts through its search bar very conveniently. With an app for the iOs, Blackberry, Android, and the Windows phone of course, in 2010 the service was used by 80% of the top 500 public companies in the US.

The layout of the service is also pretty similar to Facebook. New posts appear in the newsfeed, and drop down menus allow sharing posts within specific groups. The company claims that usage of Yammer has reduced emails received by companies by around 40%.

Y-Combinator

It is a startup funding firm which aims at funding a firm at its very inception stage. It was named the top startup incubator and accelerator by Forbes, and best known for the number of technology-based start ups it had helped take off the ground. What the organisation does is that it pumps in around \$120,000 into new companies twice a year, with the most recent number being 85. After having received this blessing, the startups then move to Silicon Valley for 3 months, during which the organisation works with them to get the company into the best possible shape and refine their pitch to investors. Finally, each cycle culminates in Demo Day, when the startups present their companies to a carefully selected group.

Yelp

Initially an unsuccessful email-based referral service, Yelp.com publishes crowd-sourced reviews on local businesses. Yelp also trains small organisations to appropriately reply to reviews, and not, for example, to yell at them and hope they like the business after that. The organisation also hosts events for reviewers and provides data like hours of operation about businesses. As Yelp's presence grew, the practise of rival competitors and irrationally irate customers writing fake reviews surfaced. What also surfaced was astrosurfing, the practice of pretending to be an extremely happy customer when in fact you are a suited up employee of the same organisation. The website has a special algorithm which can find out if the review is real or not. Yelp has also been called "one of the most important sites on the Internet."



Where whining can actually do some good

Yosemite

Named after the Yosemite National Park, the OS X Yosemite is the eleventh major release of OS X, Apple Inc.'s desktop and server operating system for Macintosh computers. Yosemite changed the user interface of



the operating system, most of its graphics inspired by iOS 7, maintaining the look of the OS X interface. With Notification Center and a better Spotlight search, the interface had a flatter visual appearance. But however pretty Yosemite looked, issues surfaced. The Safari web browser, for example sends search terms to Apple unless the function is separately disabled. It has been claimed that many other components of the operating system send data to Apple by default. All the Macintosh products that are capable of running OS X Mavericks are supported by Yosemite.

Yottabyte

A yottabyte is a measure of theoretical storage capacity of around a million trillion megabytes, or 1 YB. According to some estimates, if 128 GB microSDC cards were used to account for one YB of data, the volume would fill up half of the Great Pyramid of Giza. How much would a data centre holding this much data cost? \$100 trillion. While that may look like an impossible amount, one terbyte of storage capacity cost around \$193 million in 1980. It now costs around so \$70.

After the problem of Yottabyte, the problem of what bigger sizes will be called arises. Words doing the rounds are brontobyte, (no not the mark left behind by a dinosaur bite) which would be a thousand yottabytes, and geopbyte which would be a thousand brontobytes, and the awfully appropriate 'hellabyte' which stands for 'a hell of a lot of bytes'

YouTube

The largest video sharing website currently, YouTube was started by three former employees of PayPal and in 2006 was brought out by Google. The idea for YouTube developed when two of the founders had difficulty in sharing videos from a dinner party. More than 100 hours of video are uploaded to YouTube every minute and more than 1 billion unique users visiting the website every month.

Since YouTube has to deal with copyright issues everyday, the site uses what it calls Content ID. Videos uploaded to YouTube are scanned against a database of files that have been submitted to the site by the content owners. If a video matches a certain submitted content, be it in its



Meeting ground of cat lovers from all around the world

music or its video, the content owners have the option of blocking it, making money off it, or being cool and letting it play.

Currently, Justin Bieber's Baby seems to be at the top of the viewed list – a whopping 1.1 billion views, which just proves that any publicity is good publicity.

Yves Baher

Chief Creative Officer of the wearable technology company Jawbone, and Co-founder and Chief Creative Officer of August, creators of the first Smart Lock, Swiss Designer and entrepreneur Yves Bahar is known for his reinvention of commercial goods with sustainability, aesthetics, and



Swiss designer, entrepreneur,
and scarf-wearer

even social good. Baher was the chief industrial designer for the XO laptop designed as a rugged, economic educational tool for children across the world. Baher's fusebox firm also created Kernel, a palm-sized amulet that can read blood, saliva, urine, and breath and transmit data back to a medical center. His latest and possibly funkiest creation is the Juno, a genome testing device which looks more like a music dock. A button press ejects a tray, which can accept an organic sample, and over the course of a few hours,

use a mix of chemicals and heat to perform a DNA fingerprinting test on the sample. It can even test the sample for genetic diseases, and even compatibility of different seeds in different climates.



Z

Zaphod Beeblebrox

Known as the Worst Dressed Sentient Being in the Known Universe, Zaphod was a fictional character in the Hitchhikers Guide to The Galaxy Series, a comedy science fiction series created by Douglas Adams.

Zaphod's purpose was to distract the public from the actual rulers of the world. Zaphod is a two headed, three handed, President of the Galaxy whose direct ancestors are also his direct descendants due to an accident with a contraceptive and a time machine. A few reasons why the character was so loved was his ability to spew lines like, "If there's anything more important than my ego around, I want it caught and shot now." and "If I ever meet myself, I'll hit myself so hard I won't know what's hit me."



Douglas Adams, the brains behind the two heads

Zbot

Zbot, or Zeus is a malware toolkit that allows an attacker to build his own Trojan Horse and infiltrate the computers of hapless internet browsers. It shot to fame in 2006 as the one-stop for criminals seeking to steal online bank credentials

Reportedly, in 2010 one could buy Zeus to carry out nefarious activities for around \$3,000, or around \$10,000 if your needs are more specific.



The manliest malware known to man

Once the Trojan infects a machine, it lies low until the user enters

a site which requires him to fill out a form. The Zbot trojan creates a %windir%\system32\wsnpoe folder in which it places two files, video.dll and audio.dll which are used to store information stolen from the infected system, as well as an encrypted configuration file which the trojan downloads from a predefined location. The scariest feature of Zeus is that staying clear from a random pop up is not enough to keep you safe- Zeus allows criminals to add fields to forms at the browser level which would look indistinguishable from the real entries.

If you think your antiviruses are going to save you, well be warned. According to a report by security vendor Trusteer, 77% of the PCs infected with Zeus Trojans have up-to-date anti-virus software.

Zelda

The Legend of Zelda is an action adventure video game series which gripped the hearts of gamers everywhere through its combination of plot, puzzles, and action, and is widely regarded as one of Nintendo's biggest hits. Before we move ahead we must emphasize that the boy in green we see in the game is not Zelda, but Link. Zelda is the name of an important princess in the game. The series might not have existed if creator Shigeru Miyamoto would not have gotten lost in the woods near his house, stumbled onto a cave, and with seemingly already honed gaming logic, ventured into it to see how it would be. Miyamoto wanted to recreate that experience.



Peter Pan ready to save some legendary princesses

Zelda was also almost a dungeon creation sim. Thankfully Miyamoto must have realised that he could do a better job than all of us put together. Oh and Link was shamelessly inspired by Peter Pan.

Zoetrope

Invented in 1834 by William George Horner, the zoetrope was an early and seminal form of motion picture projector. A drum containing a set of still images was turned in a circular fashion to create the illusion of motion. The word was derived from the Greek word *zoo* for animal life and



The retro youtube

trope meaning things that turn. The zoetrope works on the principle that the human retina retains an image for about 1/10th of a second. In effect if a new image appears within that short time window, we would see it as a continuous flow. Another factor which serves to help the poor guy turning the zoetrope over and over hoping that someone sees something moving in it, is what is called the Phi phenomenon, the promise that the mind always strives to understand and relate any sequence of images.

Zerg Rush

Originating from the hugely popular real time strategy game StarCraft, a Zerg Rush is a term used to describe the move of defeating a strong opponent with an overwhelmingly large number of disposable units. From the classes available in the game which were Terran (humans), Protoss (humanoids) or Zerg (insectoids), Zergs were notorious for the ability to

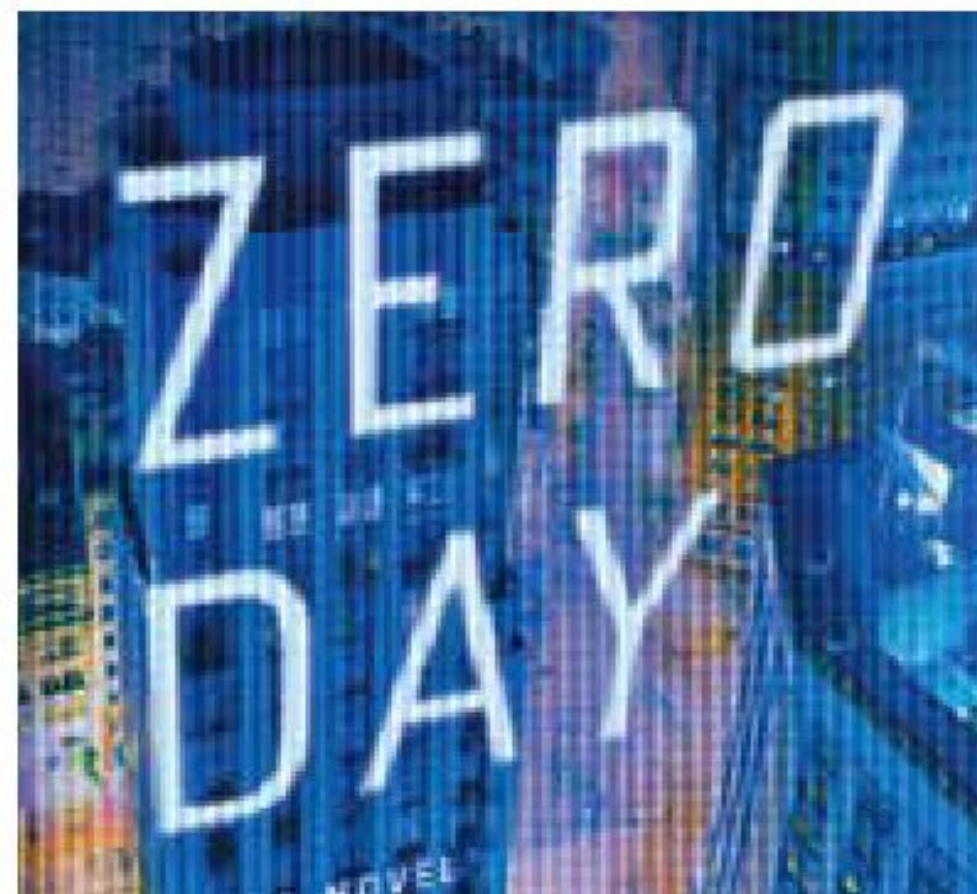


An example of a Zerg Rush that one wouldn't mind being a victim of

produce a massive number of units very quickly and destroy the opponents with sheer numbers. The tactic may be used by a player to unsettle resource gathering or the setting up of units by the opposing players as stronger units traditionally take longer to build, while sacrificing on possible longer term growth. The move would dampen so may online games that some players took to the rule of setting a time buffer only after which zerg rushes were permissible.

Zero-Day Attack

A zero-day attack is an attack on a computer application or operating system the very same time the vulnerability gets known, hence before the programmer has time to fix it. So once the vulnerability is known an action-film esque mad typing-hacking scene ensues with the software pro-



grammer on his desk and the attacker on his to see who will emerge victorious. Once a patch is released it ceases to be a 'zero day exploit'.

Uses of zero day attacks can include infiltrating malware, spyware or allowing unwanted access to sensitive user information.

The definition of what could be a zero-day differs as it is difficult to find out exactly when the attackers found out about the vulnerability. While some estimates peg the period as 10 months, Microsoft had in 2008 confirmed that there was a vulnerability in Windows Explorer which surfaced in 2001.

Zero-TV

Zero -TV is a category for homes that prefer to get their viewing desires fulfilled by means other than cable or satellite television. Out of this category of homes, around 37% watch content through their computers, 16% stream the content to their television, 8% through smartphones



and 6% through tablets. Around 48% of these households subscribe to streaming services such as Hulu or NetFlix. But despite there being more than 5 million Zero-TV homes in the US, this still only constitutes a measly 5% of total market share of paid content. Because of this, companies are funding their own original programming to beat cable-satellite television and the results of these endeavours have been more than welcomed by the public. House of Cards, Netflix's exclusive show is an example of this. High Maintenance, Vimeo's first attempt to fund its own programming, about a weed-delivery guy who interacts with clients across New York City is another.

ZIF

A ZIF socket is a type of socket that has been designed such that it requires very little force to insert something into it, here the object being a pin grid array chip. The chip can be simply dropped into the hole of the socket, and the user can pull a lever to lock the chip in place. The lever moves the top plate of the assembly, and pushes the pins into their con-



Just slide it in...

tacts. Because of their funky mechanism, the socket can be much more expensive than a regular one. Many of you component geeks will recognize this mechanism from AMD processors.

Zombie Computer

So a zombie computer is not a computer which in inappropriate instances yells 'CPUUUUUU' but in fact a computer that has been taken over by some other party without the owner's permission, or even worse, their knowledge. This computer will then become part of a botnet, or a gang of other zombie computers which will follow commands from one source. The zombie lords, or hackers as we traditionally call them, will



The same thing, except replace the human with a PC

perform orchestrated denial of service attacks where a large number of zombie computers overwhelm a website and cause it to crash. So how do you know if your computer has been bit? Frequent crashing, unexplained sent e-mails, an unnatural loss of hard disk space, sudden closing of your web browser, unusually high CPU utilisation, are all possible signs. Before you pull out your shotgun, upgrade your antivirus, install rootkit detection software, or in the worst case, wipe your hard disk clean. Unlike 'real' zombies, there is hope.

Zoning

Zoning is a gaming strategy involving intentionally keeping a fixed distance on your opponent, and reading their style. The distance maintained by the player allows him or her to stay clear of attacks and quickly take advantage of a hole in the opponents defence.

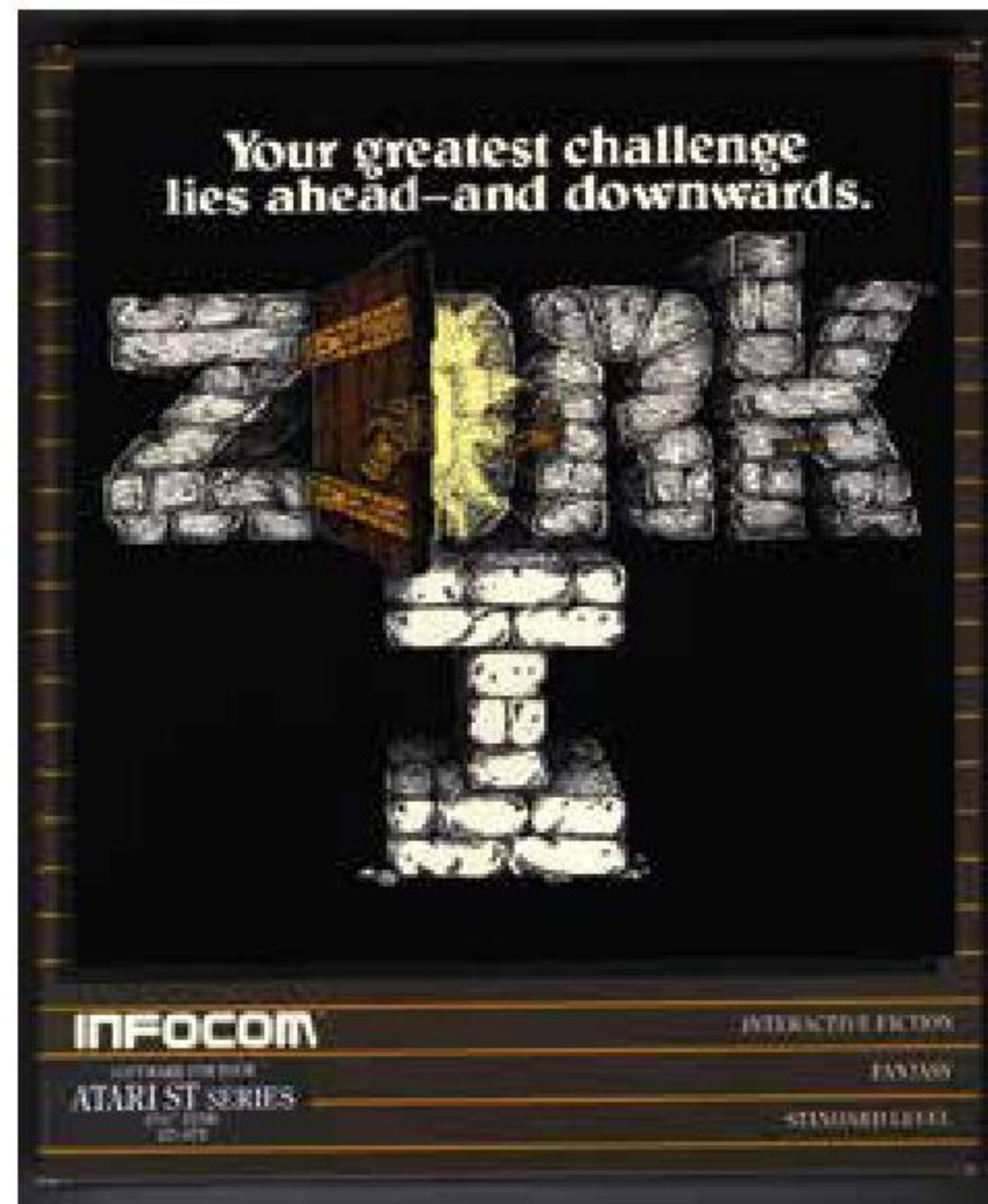
More specifically in fighting games, Zoning Characters or Keepaway Characters control space in the arena by using long range attacks, and keep their opponents away from them. These Zoning Characters play a defensive game and attempt to get their opponent to break their defence stance, which results in a frustrated opponent who will eventually end up opening themselves up to barrages of attacks and damage much easier.



Deathstroke, a character infamous for zoning

Zork

Zork is one of the earliest interactive fiction games where the player plays as an unnamed adventurer who has to traverse the ruins of an 'ancient empire' and return with 'wealth and adventure', or to those more experienced in text adventure games, frustration. While it was not the first text adventure made, the creating company Infocom was the largest interactive fiction producing company, and Zork stood out from the rest and as a seminal piece because it understood language nuances. So, for example, it was no longer 'hit crab', the program understood 'attack crab with basher'.



The senior citizen gamer's 'good old days'

Zynga

Best known for destroying friendships through the most destructive weapon known to man – farmville requests – Zynga is a provider of social



The most sinister, manipulative game known to man

game services founded in July 2007. Zynga develops games that work on platforms such as Apple iOS and Android and on the Web through its website, Zynga.com, and through social networking websites like Facebook, Google+, and Tencent QQ. Zynga states its mission as “connecting the world through games”.

The company is obsessed with dogs, but we could not bring ourselves to make fun of it since the company was named after the CEO Mark Pincus’ dog, who is in doggie heaven right now. Posters of the dog wallpaper cover almost every wall of its offices. If that was not enough, every day at Zynga is bring your dog to work day.



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