K.L.N. College of Information Technology

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Department of Information Technology

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DEPARTMENT OF INFORMATION TECHNOLOGY

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VIRTUAL TELEPATHY

P.Nithya
II M.Tech IT

Direct brain-to-brain communication has been demonstrated in humans located 5,000 miles apart via the Internet.

In a first-of-its-kind study, an international team of neuroscientists and robotics engineers have demonstrated the viability of direct brain-to-brain communication in humans. Recently published in *PLOS ONE,* the highly novel findings describe the successful transmission of information via the Internet between the intact scalps of two human subjects – located 5,000 miles apart.
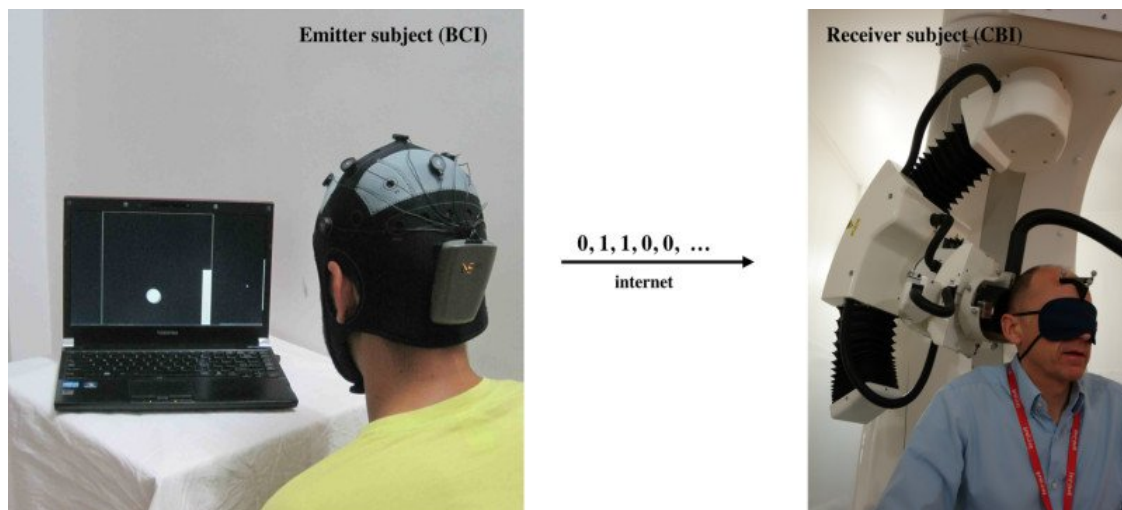
"We wanted to find out if one could communicate directly between two people by reading out the brain activity from one person and injecting brain activity into the second person, and do so across great physical distances by leveraging existing communication pathways," explains co-author Alvaro Pascual-Leone, PhD, Director of the Berenson-Allen Center for Noninvasive Brain Stimulation at Beth Israel Deaconess Medical Center (BIDMC) and Professor of Neurology at Harvard Medical School. "One such pathway is, of course, the Internet, so our question became, 'Could we develop an experiment that would bypass the talking or typing part of Internet and establish direct brain-to-brain communication between subjects located far away from each other in India and France?"

It turned out the answer was "yes."

In the neuroscientific equivalent of instant messaging, Pascual-Leone and his colleagues successfully transmitted the words "hola" and "ciao" in a computer-mediated brain-to-brain transmission, from a location in India to a location in France, using internet-linked electroencephalogram (EEG) and robot-assisted and image-guided transcranial magnetic stimulation (TMS) technologies.

Previous studies on EEG-based brain-computer interaction (BCI) have typically made use of communication between a human brain and computer. In these studies, electrodes attached to

a person's scalp record electrical currents in the brain as a person realises an action-thought, such as consciously thinking about moving the arm or leg. The computer then interprets that signal and translates it to a control output, such as a robot or wheelchair.

But, in this new study, the research team added a second human brain on the other end of the system. Four healthy participants, aged 28 to 50, participated in the study. One of the four subjects was assigned to the brain-computer interface (BCI) branch and was the sender of the words; the other three were assigned to the computer-brain interface (CBI) branch of the experiments and received the messages and had to understand them.

Using EEG, the research team first translated the greetings "hola" and "ciao" into binary code, then emailed the results from India to France. There a computer-brain interface

transmitted the message to the receiver's brain through non-invasive brain stimulation. The subjects experienced this as phosphenes, flashes of light in their peripheral vision. The light appeared in numerical sequences that enabled the receiver to decode the information in the message, and while the subjects did not report feeling anything, they did correctly receive the greetings.

"By using advanced precision neurotechnologies including wireless EEG and robotised TMS, we were able to directly and noninvasively transmit a thought from one person to another, without them having to speak or write," says Pascual-Leone. "This in itself is a remarkable step in human communication, but being able to do so across a distance of thousands of miles is a critically important proof-of-principle for the development of brain-to-brain communications. We believe these experiments represent an important first step in exploring the feasibility of complementing or bypassing traditional language-based or motor-based communication."

INTEL ANNOUNCES THE FIRST 14 NANOMETRE PROCESSOR

C.Suhanyadevi
II M.Tech IT

At the Computex conference in Taipei, chipmaker Intel has revealed a fanless mobile PC reference design using the first of its next-generation 14nm "Broadwell" processors.

The 2 in 1 pictured here is a 12.5" screen that is just 7.2 mm thick with keyboard detached and weighs 670 grams. The Surface Pro 3 – for comparison – is 9.1 mm thick and weighs 800 grams. It includes a media dock that provides additional cooling for a burst of performance. The next-generation chip is purpose-built for 2 in 1s and will hit the market later in 2014. Called the Intel Core M, it will be the most energy-efficient Intel Core processor in the company's history with power usage cut by up to 45 percent, resulting in 60 percent less heat. The majority of designs based on this new chip are expected to be fanless, with up to 32 hours of battery life, offering both a lightning-fast tablet and razor-thin laptop.

Intel is also delivering innovation and performance for the most demanding PC users. During the conference, the company introduced its 4th generation Core i7 and i5 processor "K" SKU – the first from Intel to deliver four cores at up to 4 GHz base frequency. This desktop processor, built for enthusiasts, enables new levels of overclocking capability. Production shipments begin this month.

Intel also outlined progress towards a vision to deliver 3-D camera and voice recognition technologies to advance more natural, intuitive interaction with computing devices. The latest RealSense software development kit will be made available in the third quarter of 2014, providing opportunity for developers of all skill levels to create user interfaces.

Computer processors continue to get smaller, faster and cheaper thanks to Moore's Law – expanding the scale and potential for technology in everything from cloud computing and the Internet of Things, to mobile phones and wearable technology.

"The lines between technology categories are blurring as the era of integrated computing takes hold where form factor matters less than the experience delivered when all devices are connected to each other and to the cloud," said Renée James, Intel Corporation President. "Whether it's a smartphone, smart shirt, ultra-thin 2-in-1, or a new cloud service delivered to smart buildings outfitted with connected systems, together Intel and the Taiwan ecosystem have the opportunity to accelerate and deliver the value of a smart, seamlessly connected and integrated world of computing."

Shatterproof Screens to Protect Smartphones

Polymer scientists at the University of Akron in Ohio have developed a transparent electrode that could change the face of smartphones, literally, by making their displays shatterproof.

In a recently published paper, researchers show how a transparent layer of nanowire-based electrodes on a polymer surface could be extraordinarily tough and flexible, withstanding repeated scotch tape peeling and bending tests. This could revolutionise and replace conventional touchscreens, according to Yu Zhu, UA assistant professor of polymer science. Currently used coatings made of indium tin oxide (ITO) are more brittle, most likely to shatter, and increasingly costly to manufacture.
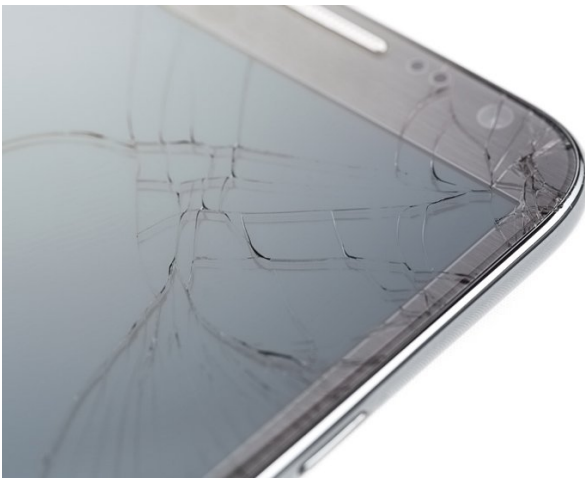
"These two pronounced factors drive the need to substitute ITO with a cost-effective and flexible conductive transparent film," Zhu says, adding that the new film provides the same degree of transparency as ITO, yet offers greater conductivity. The novel film retains its shape and functionality after tests in which it has been bent 1,000 times. Due to its flexibility, the transparent electrode can be fabricated in economical, mass-quantity rolls.

"We expect this film to emerge on the market as a true ITO competitor," Zhu says. "The annoying problem of cracked smartphone screens may be solved once and for all with this flexible touchscreen."
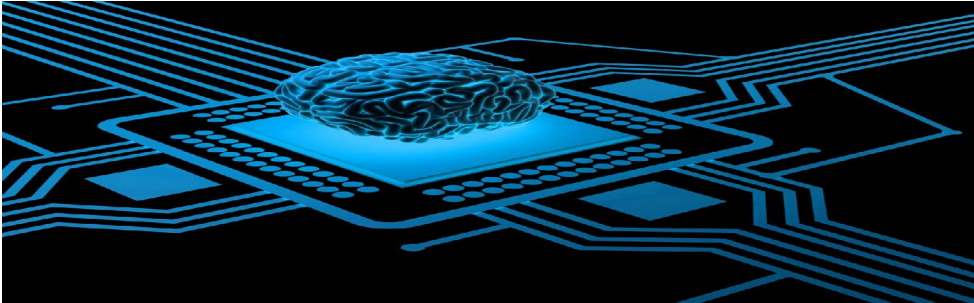
The findings are published by the American Chemical Society's journal *ACS Nano* in a study titled "A Tough and High-Performance Transparent Electrode from a Scalable and Transfer-Free Method".

BRAIN-LIKE SUPERCOMPUTER IN THE SIZE OF A POSTAGE STAMP

S.P.Sriranjani
II M.Tech IT

Scientists at IBM Research have created a neuromorphic (brain-like) computer chip, featuring 1 million programmable neurons and 256 million programmable synapses.

Previous studies on EEG-based brain-computer interaction (BCI) have typically made use of communication between a human brain and computer. In these studies, electrodes attached to a person's scalp record electrical currents in the brain as a person realises an action-thought, such as consciously thinking about moving the arm or leg. The computer then interprets that signal and translates it to a control output, such as a robot or wheelchair.

But, in this new study, the research team added a second human brain on the other end of the system. Four healthy participants, aged 28 to 50, participated in the study. One of the four subjects was assigned to the brain-computer interface (BCI) branch and was the sender of the words; the other three were assigned to the computer-brain interface (CBI) branch of the experiments and received the messages and had to understand them.

Using EEG, the research team first translated the greetings "hola" and "ciao" into binary code, then emailed the results from India to France. There a computer-brain interface transmitted the message to the receiver's brain through non-invasive brain stimulation. The subjects experienced this as phosphenes, flashes of light in their peripheral vision. The light appeared in numerical sequences that enabled the receiver to decode the information in the message, and while the subjects did not report feeling anything, they did correctly receive the greetings.

A second similar experiment was conducted between people in Spain and France, the end result being a total error rate of just 15 percent, 11 percent on the decoding end and five percent on the initial coding side.

"By using advanced precision neurotechnologies including wireless EEG and robotised TMS, we were able to directly and noninvasively transmit a thought from one person to another, without them having to speak or write," says Pascual-Leone. "This in itself is a remarkable step in human communication, but being able to do so across a distance of thousands of miles is a critically important proof-of-principle for the development of brain-to-brain communications. We believe these experiments represent an important first step in

exploring the feasibility of complementing or bypassing traditional language-based or motor-based communication."

A New Data Transfer Record: 43 Terabits per Second

A team in Denmark has broken the world record for single fibre data transmission, achieving a transfer rate of 43 terabits per second over a distance of 41 miles (67 km). They also report a speed of 1 petabit (1000 terabits) when combining multiple lasers.
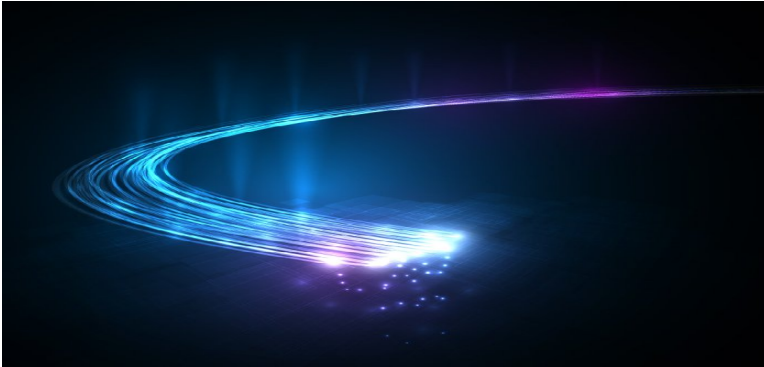
In 2009, a research group at the Technical University of Denmark (DTU) was the first to break the 1 terabit barrier for data transfer. Their record was shattered in 2011, when the Karlsruhe Institute of Technology in Germany achieved 26 terabits per second. Now, DTU have regained the title, demonstrating 43 terabits per second (Tbps) through a single optical fibre. This is fast enough to download a 1GB file in about 0.0002 seconds – or the entire contents of a 1TB hard drive in 0.2 seconds.

The Danish team's effort may seem almost excessive, to the point of comedy. However, current trends show that insanely fast transfer speeds like this will be necessary in the relatively near future. Like a digital explosion, the Internet continues to expand and grow exponentially – doubling in size every two years. Improvements in video quality and image resolution mean the amount of data appearing online is mushrooming to enormous proportions, while at the same time, billions more people are gaining access to the web.

This also requires energy which currently generates about two percent of CO_2 emissions. Therefore, it is essential to identify solutions for the Internet that make significant reductions in power consumption while simultaneously expanding the bandwidth.

DTU's researchers achieved their latest record by using a new type of optical fibre borrowed from the Japanese telecoms giant NNT. This type of fibre contains seven cores (glass threads) instead of the single core used in standard fibres, making it possible to transfer even more data. Despite the fact that it comprises seven cores, the new fibre does not take up any more space than the standard version.

As to when speeds in the tens of terabits range might be affordable to mainstream consumers, we reckon sometime in the 2030s.

HADOOP

M.M.Vidyashri
I M.Tech IT

Apache **Hadoop** is an open source software project that enables the distributed processing of large data sets across clusters of commodity servers. It is designed to scale up from a single server to thousands of machines, with a very high degree of fault tolerance. Rather than relying on high-end hardware, the resiliency of these clusters comes from the software's ability to detect and handle failures at the application layer.

High-level architecture :

Apache Hadoop has two pillars:

YARN - Yet Another Resource Negotiator (YARN) assigns CPU, memory, and storage to applications running on a Hadoop cluster. The first generation of Hadoop could only run MapReduce applications. YARN enables other application frameworks (like Spark) to run on Hadoop as well, which opens up a wealth of possibilities.
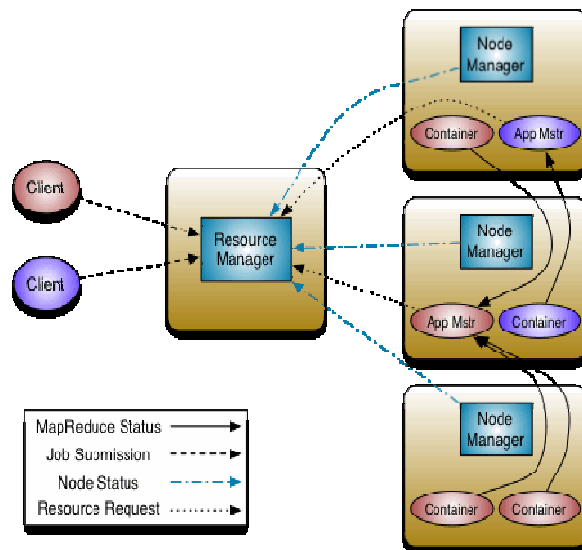
HDFS - Hadoop Distributed File System (HDFS) is a file system that spans all the nodes in a Hadoop cluster for data storage. It links together the file systems on many local nodes to make them into one big file system.

Hadoop Distributed File System (HDFS) is the core technology for the efficient scale out storage layer, and is designed to run across low-cost commodity hardware. Apache Hadoop is the pre-requisite for Enterprise Hadoop as it provides the resource management and pluggable architecture for enabling a wide variety of data access methods to operate on data stored in Hadoop with predictable performance and service levels.

Hadoop is supplemented by an ecosystem of Apache projects, such as Pig, Hive and Zookeeper, that extend the value of Hadoop and improves its usability.

HDFS Architecture
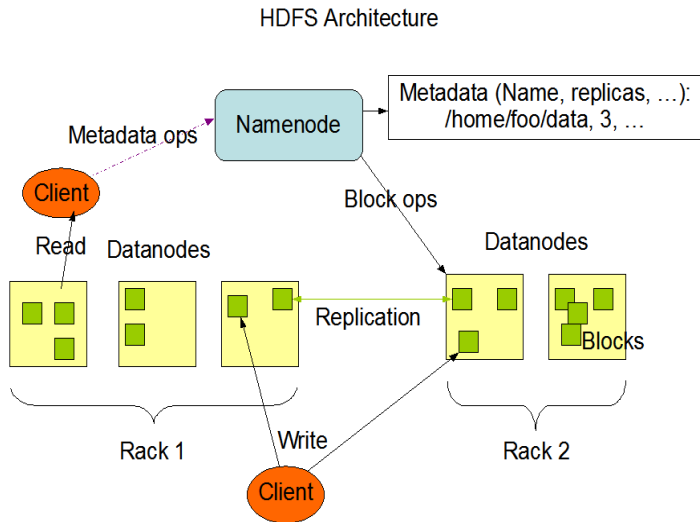
Apache Hive is the most widely adopted data access technology, though there are many specialized engines. For instance, Apache Pig provides scripting capabilities, Apache Storm offers real-time processing, Apache HBase offers columnar NoSQL storage and Apache Accumulo offers cell-level access control. All of these engines can work across one set of data and resources thanks to YARN. YARN also provides flexibility for new and emerging data access methods, for instance Search and programming frameworks such as Cascading.

Hadoop enables a computing solution that is:

Scalable– New nodes can be added as needed, and added without needing to change data formats, how data is loaded, how jobs are written, or the applications on top.

Cost effective– Hadoop brings massively parallel computing to commodity servers. The result is a sizeable decrease in the cost per terabyte of storage, which in turn makes it affordable to model all your data.

Flexible– Hadoop is schema-less, and can absorb any type of data, structured or not, from any number of sources. Data from multiple sources can be joined and aggregated in arbitrary ways enabling deeper analyses than any one system can provide.

Fault tolerant– When you lose a node, the system redirects work to another location of the data and continues processing without missing a fright beat.

ANDROID WEAR WATCHFACE DRESSES UP YOUR WEARABLE LIKE AN APPLE WATCH

D.Abirami
I M.Tech IT

Less than a week from Apple's huge Apple Watch announcement and already lines are being drawn: Apple Watch vs. Android Wear. It seems like smartwatches will also come down to a matter of choosing sides, but one Android Wear watchface tries to pull the two opposing timepieces together.

UhrArt, creators of an Android Wear watchfaces app WearFaces, created a smartwatch design eerily similar to Apple's home screen. Through a free download, the design is available (in square and round versions) for any Android Wear smartwatch. Here's what UhrArt has to say:

So there is this big company, let's call it PEAR industries, which will release that awesome new product in 2015. They always tell how cool and innovative they are. So I decided, that it would be nice if we show the people following this company how cool our shiny products can be ;)

We've already fawned over mock-ups of what a round Apple Watch would've looked like, and now with the help of UhrArt (and a Moto 360) you can actually have one...kind of. Obviously, this watchface is really just window dressing. Since Android smartwatches don't come with the Apple's Digital Crown, this downloadable design is just for show. Even if it's just pure cosmetics, it's another example of a growing library of creative Android Wear watchfaces, which is quickly becoming one of the platform's most appealing features.

BIG DATA

G.Udaya Ganeshwari
I M.Tech IT

Big data is an all-encompassing term for any collection of data sets so large and complex that it becomes difficult to process using on-hand data management tools or traditional data processing applications. Big data usually includes data sets with sizes beyond the ability of commonly used software tools to capture, curate, manage, and process the data within a tolerable elapsed time.

Big data is difficult to work with using most relational database management systems and desktop statistics and visualization packages, requiring instead "massively parallel software running on tens, hundreds, or even thousands of servers".

Characteristics:

Volume – The quantity of data that is generated is very important in this context.It is the size of the data which determines the value and potential of the data under consideration and whether it can actually be considered as Big Data or not.

Variety - Big Data belongs to is also a very essential fact that needs to be known by the data analysts.This helps the people, who are closely analyzing the data and are associated with it, to effectively use the data to their advantage and thus upholding the importance of the Big Data.

Velocity - The term 'velocity' in this context refers to the speed of generation of data or how fast the data is generated and processed to meet the demands and the challenges which lie ahead in the path of growth and development.

Variability - This is a factor which can be a problem for those who are analyse the data. This refers to the inconsistency which can be shown by the data at times, thus hampering the process of being able to handle and manage the data effectively.

Big Data Batch Processing

Complexity - Data management can become a very complex process,especially when large volumes of data come from multiple sources.These data need to be linked,connected

and correlated in order to be able to grasp the information that is supposed to be conveyed by these data.

Programming with Big Data in R (pbdR) is a series of R packages and an environment for statistical computing with Big Data by using high-performance statistical computation.[2] The pbdR uses the same programming language as R with S3/S4 classes and methods which is used among statisticians and data miners for developing statistical software.

Structured, semi-structured and/or unstructured data is stored and distributed across multiple servers.The Distributed Parallel architecture distributes data across multiple processing units and parallel processing units provide data much faster, by improving processing speeds.

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6G TECHNOLOGY

P.Sharmiya
I M.Tech IT

6G Internet is communications technology company that offers wireless internet access with 6G Air fibre technology in the United Kingdom.The company garnered media attention when they introduced 6G broadband services by rolling out its Air Fibre network that transmits and receives internet through the air. 6G Internet claims to deliver speed of up to 10Mbit/s to 300Mbit/s to residential users with their radio technology by 6G line.
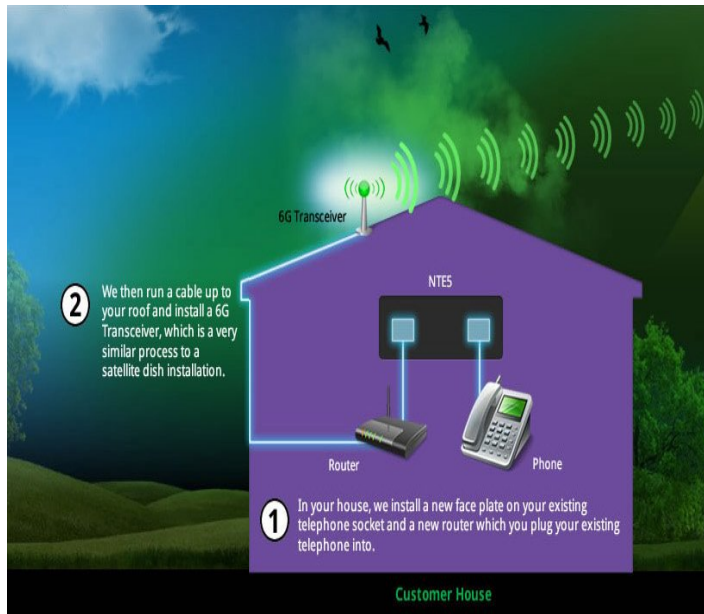
Technology

6G uses air fibre, delivered through the air that allows to receive broadband connections similar to radio technology. It is a combination of radio frequencies and standards to deliver service to end users in through their radio distribution and access network. At the access layer they use the 5.8 GHz Band C light licensed frequency and use a combination of 802.11n and 802.11ac standards to deliver services to end users. The radio technology is supported by fibre network that transmits high speed internet regardless of your distance from the exchange.

What is 6G Air Fibre?

6G Internet is pioneering a new communications technology: Air Fibre is a signal delivered through the air allowing you to receive your broadband connection using radio-style technologies rather than typical old underground wiring. The result is faster, more secure and direct.
A 6G transceiver installed on the rooftop of your house sends your request to connect to the internet through the air to your local transmitter, which could be on a nearby lamp post or tall building, therefore not relying on underground cables or a protracted journey over wires, to a congested local exchange.

The local transmitter then communicates with the 6G Central Hub, 15 of which are located across the UK, which sends your request to our National Fibre Network.
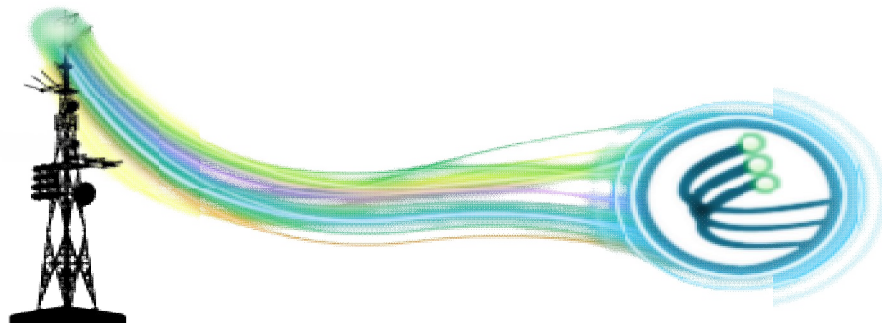
6G Internet uses a combination of the latest in radio and fibre optic technologies.

We deliver the internet through the air, which means we don't have to rely on old copper cables or base our speeds on how far you live from the exchange

The latest radio technology can boast speeds up to 1GB, so by taking these high speed milliwave signals and redirecting them into a high speed, high capacity fibre optic network we can provide the UK's fastest internet speeds.
This network capacity is built to support 300Mbps internet connections as standard whereas other providers using the BT infrastructure are trying to support 20Mbps ADSL and 40Mbps fibre connections by evolving the network that was built to support a tiny 2Mbps ADSL connection

6G has the benefit of building a brand new network encompassing the latest technologies so we do not suffer from any of the legacy issues that other providers do. Unlike underground road wiring and overground pole wiring, 6G is easy and cost-effective to implement, maintain and upgrade

3D-PRINTING

K.Radhika
IV B.Tech IT

Introduction:

3D printing or additive manufacturing is a process of making three dimensional solid objects from a digital file. The creation of a 3D printed object is achieved using additive processes. In an additive process an object is created by laying down successive layers of material until the entire object is created. Each of these layers can be seen as a thinly sliced horizontal cross-section of the eventual object.

Working Of 3d-Printing:

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

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

Applications:

Applications include design visualization, prototyping/CAD, metal casting, architecture, education, geospatial, healthcare and entertainment/retail.

Other applications would include reconstructing fossils in paleontology, replicating ancient and priceless artifacts in archaeology, reconstructing bones and body parts in forensic pathology and reconstructing heavily damaged evidence acquired from crime scene investigations.

In 2007 the use of 3D printing technology for artistic expression was suggested. Artists have been using 3D printers in various ways.

As of 2010 3D printing technology was being studied by biotechnology firms and academia for possible use in tissue engineering applications where organs and body parts are built using inkjet techniques. Layers of living cells are deposited onto a gel medium and slowly built up to form three dimensional structures. Several terms have been used to refer to this field of research like: organ printing, bio-printing, and computer-aided tissue engineering.

Industrial Printing:

Especially manufacturers have long used these printers in their design process to create prototypes for traditional manufacturing and research purposes. Using 3D printers for these purposes is called **rapid prototyping**.

Besides rapid prototyping, 3D printing is also used for **rapid manufacturing**. Rapid manufacturing is a new method of manufacturing where companies are using 3D printers for short run custom manufacturing. In this way of manufacturing the printed objects are not prototypes but the actual end user product. Here you can expect more availability of personally customized products.

Future:

It is predicted by some additive manufacturing advocates that this technological development will change the nature of commerce, because end users will be able to do much of their own manufacturing rather than engaging in trade to buy products from other people and corporations.
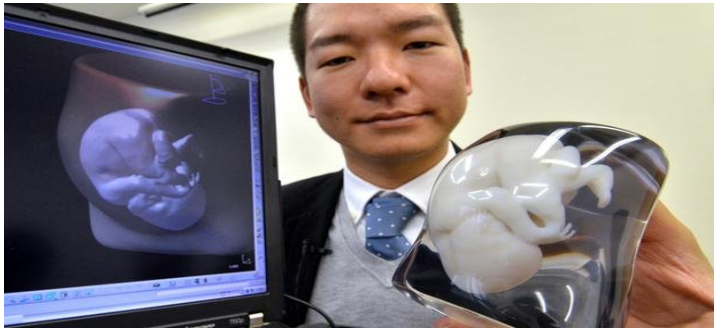
3D printers capable of outputting in colour and multiple materials already exist and will continue to improve to a point where functional products will be able to be output. With effects on energy use, waste reduction, customization, product availability, medicine, art, construction and sciences, 3D printing will change the manufacturing world as we know it.

SPARKS FLY AS NASA PUSHES THE LIMITS OF 3-D PRINTING TECHNOLOGY

K.Selvalakshmi karthika
IV B.Tech IT

Engineers just completed hot-fire testing with two 3-D printed rocket injectors. Certain features of the rocket components were designed to increase rocket engine performance.

NASA has successfully tested the most complex rocket engine parts ever designed by the agency and printed with additive manufacturing, or 3-D printing, on a test stand at NASA's Marshall Space Flight Center in Huntsville, Alabama.

NASA engineers pushed the limits of technology by designing a rocket engine injector a highly complex part that sends propellant into the engine with design features that took advantage of 3-D printing. To make the parts, the design was entered into the 3-D printer's computer. The printer then built each part by layering metal powder and fusing it together with a laser, a process known as selective laser melting.

The additive manufacturing process allowed rocket designers to create an injector with 40 individual spray elements, all printed as a single component rather than manufactured individually. The part was similar in size to injectors that power small rocket engines and similar in design to injectors for large engines, such as the RS-25 engine that will power NASA's Space Launch System (SLS) rocket, the heavy-lift, exploration class rocket under development to take humans beyond Earth orbit and to Mars.

Using traditional manufacturing methods, 163 individual parts would be made and then assembled. But with 3-D printing technology, only two parts were required, saving time and money and allowing engineers to build parts that enhance rocket engine performance and are less prone to failure.

Two rocket injectors were tested for five seconds each, producing 20,000 pounds of thrust. Designers created complex geometric flow patterns that allowed oxygen and hydrogen to swirl together before combusting at 1,400 pounds per square inch and temperatures up to 6,000 degrees Fahrenheit. NASA engineers used this opportunity to work with two separate companies—Solid Concepts in Valencia, California, and Directed Manufacturing in Austin, Texas. Each company printed one injector.

Additive manufacturing not only helped engineers build and test a rocket injector with a unique design, but it also enabled them to test faster and smarter. Using Marshall's in-house capability to design and produce small 3-D printed parts quickly, the propulsion and materials laboratories can work together to apply quick modifications to the test stand or the rocket component.

"Having an in-house additive manufacturing capability allows us to look at test data, modify parts or the test stand based on the data, implement changes quickly and get back to testing," said Nicholas Case, a propulsion engineer leading the testing. "This speeds up the whole design, development and testing process and allows us to try innovative designs with less risk and cost to projects."

TEAMVIEWER

B.S.Praveen Kumar
IV B.Tech IT

Have you ever been somewhere and wanted to show a family photo or retrieve a document, only to realize that the file is on a home computer? The more connected our devices become, the more they increase our desire to access our information anywhere.
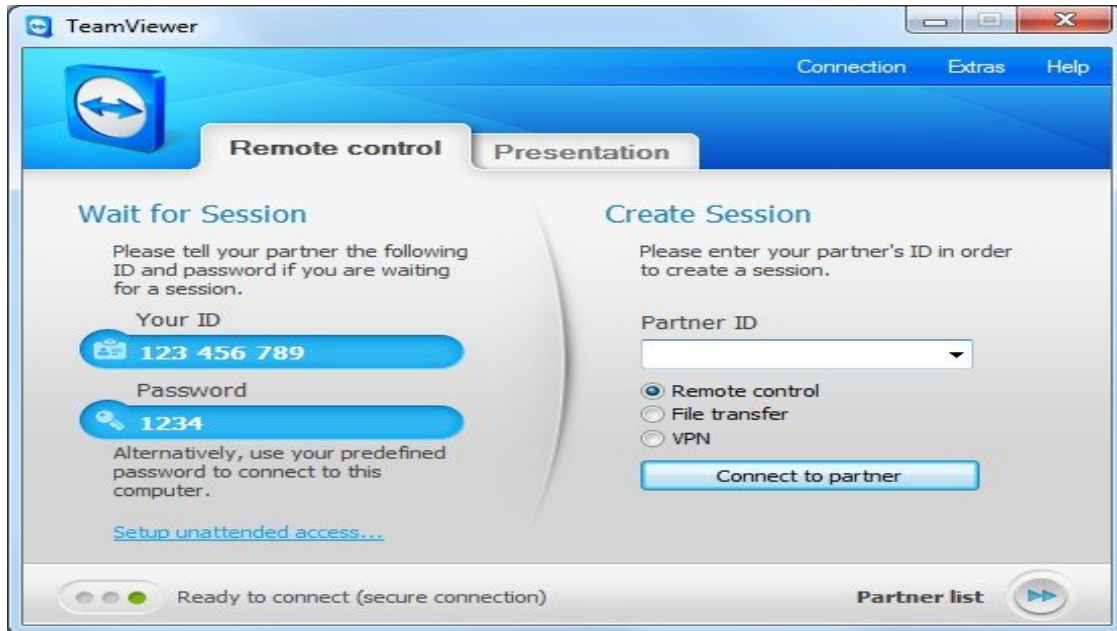
But while mobile devices increasingly outsell traditional computers, a lot of our most important information continues to be stored on stationary home desktops or laptops, which don't offer convenient access from just anywhere because of home firewalls. Even when you're on a home network, having to move to a particular device on the other side of the house can be annoying.

Software engineers have come up with an easier way to gain access from afar. Using simple software, you can see and control a remote computer on another device that you're currently using--even from a different computer network. All you typically need is a working Internet connection for both devices.

Various methods and applications can enable this functionality for your devices. In this guide, we'll focus on TeamViewer, a popular program that offers compatibility with Windows, Mac, and even some smartphone operating systems. Here's how to use it.

Install the Software on the First Computer

1. 1.Download the TeamViewer app from the company's website or from PCWorld's Downloads to the computer that you want to control remotely. In most cases, the full version will suffice; it's free for noncommercial users.

2. After completing the download, launch the installer.

3. Select *Install* and then *Next*.

4. For personal use, select *personal/noncommercial* and then click *Next*.

5. Accept the license and usage agreement by selecting both checkboxes and clicking*Next*.

6. For installation type, select *Yes* to install the host listening software on the current computer; then click *Next*. The software will now be installed.

7. The app will prompt you to set up unattended access. Click *Next*, set a descriptive name and password for the computer, and click *Next* again.

8. Now you need to create a Teamviewer account, to permit easy, secure access to any of your devices that you want to reach. Fill in a username, email address, and password to create the account, and then click *Next*.

9. Click *Finish* to complete the setup.

The computer will now be running listening software that waits for approved devices to connect to it, and that can also connect to other computers you configure.

Install the Software on the Second Computer

1. Download TeamViewer from the company's website or from PCWorld's Downloads to another computer that you want to connect to or from. Once the download is complete, launch the app's installer.

2. Select *Install* and then *Next*.

3. For personal use, select *personal/noncommercial* and then click *Next*.

4. Accept the license and usage agreement by selecting both checkboxes and clicking*Next*.

5. For installation type, select *Yes* to install the host listening software on the current computer; then click *Next*. The software will now be installed.

6. The app will prompt you to set up unattended access. Click *Next*, set a descriptive name and password for the computer, and click *Next* again.

7. Select *I already have a TeamViewer account*. Fill in the username and password that you created previously, and then click *Next*. Click *Finish* to complete the setup.

The second computer will now be running listening software that waits for approved devices to connect to it, and can also connect to other computers you configure.

Remotely Connect to One Computer From the Other

With the software is installed at both ends, connecting to the remote computer (typically called the *host*) from the computer/device where you are currently located (typically called the *guest*) should be easy.

1. Launch the software on the guest.

2. Enter your TeamViewer account login credentials, and log in.
3. A list of computers associated with your account will be appear in the My Partners list; one of them will be the host computer that you configured earlier. Double-click the name of the remote computer that you want to connect to.
4. Your remote computer's display will appear in a window, just as if you were sitting directly in front of it. Use the keyboard/mouse/touchpad/touchscreen of your current device to interact with it as you normally would. The software will take your local input and send it to your remote computer, which will then send its display back to your current device in real-time. (Note: For security reasons, some keys and key combinations won't go directly to your remote host, like **Ctrl-Alt-Del** for Windows. TeamViewer enables you to send these special keys and combinations through its software Actions menu.)
5. When you're done accessing your remote computer, close the window to end the session.

7 DESIGN TIPS TO ATTRACT MORE VISITORS TO YOUR WEBSITES

S.P.AravindKumar
IV B.Tech IT

Ensuring your client is happy with your website design is only the first step. Once it's out in the world, your site is competing for attention with millions of others, and you need to find ways to encourage visitors to stay longer and keep coming back.Engagement is one of the most difficult aspects of user experience to design for, because it requires not only quality content, but also clever and exciting ways to present that content.

01. Parallax: turning scrolling into engagement

Imagine if you could get as much as 70% more engagement from one single change. Could such a thing exist? As a matter of fact, it does!

Parallax scrolling is a trend that's sweeping the design industry, and with good reason—it provides a unique and eye-catching way to visually deliver a message.Parallax refers to the use of several elements that individually move as you scroll down the page, resulting in a dynamic experience that encourages further scrolling.A great example is Sony's remarkable Be Moved campaign, which stretches the limits of what parallax can do.

Advanced code-free website design platforms, like Webydo, mean you can now design amazing, parallax websites with pixel perfect accuracy. They have recently unveiled their code-free, Parallax Scrolling Animator, to facilitate the production of pixel-perfect, parallax websites.

02. Symbols and iconography: visual lubricant

On information-rich sites, you need a lot of text to describe things. This means designers must devise ways to present that text with maximum impact.The use of icons can help your website visitors find what they're looking for much more quickly. The tiny visuals not only illustrate the concepts they accompany, but their distinctive look helps guide the eye from place to place, like visual signposts.In the early days, icons had to be implemented as bitmap graphics, which was cumbersome to implement and modify, and there was no simple way to style the icons.

Nowadays, designers make use of icon fonts to produce glyphs that behave exactly like text: vector-based, infinitely scalable, and customizable via CSS. One of the nicest is undoubtedly **Glyphter**. With its appealing and intuitive tools, Glyphter allows you to draw from various open-source icon sets (including Font Awesome!) or upload your own SVGs to create custom icon fonts that you can freely download and use on your next site.

03. Flexible typography: responsive design for content

Responsive design isn't just about layout – it should be about content too. It's great if a layout adapts to the necessary screen size, but the content must also adapt accordingly:Mobile users

don't have time to read long paragraphs, so make sure your mobile version is concise and offers clear calls to action. Reading on a tiny screen isn't fun if the text is too small; so use dynamic type techniques to keep text at a comfortable size — don't make users zoom!

The best example of this can be seen in the design of the Information Architects site — one of the originators of the practice. Their blog discusses the theory and techniques of responsive typography at great length and makes a clear case for why it's preferable to static type sizes.

Having content that responds to the visitor's reading situation makes the website itself feel more fluid, more aware, and overall more engaging. This same idea extends to imagery too…

04. Vector images for responsive visuals

Text is only one piece of the web design puzzle, imagery is usually just as important. Typically, this imagery has come in the form of bitmap files like JPGs, PNGs, and of course GIFs.The problem with these bitmap images is twofold:

- Bitmap images are of a fixed size, so they cannot losslessly scale to fit new layout sizes or resolutions, requiring the addition of more graphics assets to account for mobile, Retina screens, etc.
- Each time an image like this is used, it adds an HTTP request to the loading process of your site. As images become more and more popular on sites, this can start to bloat your loading time significantly, not to mention add to the amount of data that needs to be loaded to render your page.

The solution: vector graphics. Since vector images are simply mathematical instructions for rendering a visual, they can be scaled to any size and any resolution with no effort and no degradation.

SVG is an increasingly popular vector image format, one that web designers are particularly fond of because it can be actively styled and manipulated like any other markup, resulting in some beautiful and interactive implementations.

05. Gamification

One of the trickiest techniques to implement well is gamification, or the introduction of game-like elements in your design that help give visitors a sense of interaction and reward when they navigate.Gamification most often appears in the form of badges that you can unlock for completing various tasks; on sites like Treehouse where you go through courses, this makes a lot of sense. But what if you have no courses or similar structures to work with?

For blogs, ecommerce sites, and other more standard web properties, gamification can take the form of coupons or discounts that are offered to visitors in specific circumstances. For example, a blog could offer a free ebook download for tweeting a link to the site, or an ecommerce site could provide a discount coupon when a visitor has explored the full catalogue.Small things like this help personalize a visitor's experience, and the sense of receiving individual attention is key to fostering a sense of engagement and encouraging them to come back.

06. Image compression: the need for speed

Nothing kills engagement like slow load times on your website. In a world of short attention spans, if a site is taking too long to load, your visitors will almost invariably leave - who has the patience to wait for slow pages?With websites becoming more and more complex and visually appealing, load times are inevitably impacted. Luckily, there are a number of techniques that can help mitigate the issue:

- Minifying content
- Optimizing images for the web
- Serving your site through a Content Delivery Network

For starters, many designers like to minify their site's assets when publishing. Minimization strips all whitespace, comments, and redundancy from CSS and JS files, resulting in tiny versions that load slightly faster.

Similarly, there are a number of algorithms that can help reduce the size of your site's image assets without compromising their visual quality. Multiple algorithms can be run in sequence, and apps like ImageOptim (Mac only) can make preparing images a one-click process.

07. Push notifications

On many sites, engagement goals come in the form of welcoming visitors back as you post new content, whether they be blog posts, videos, or something entirely different.Typically, designers use forms to get people to sign up for email newsletters. While these remain popular, a new technology is emerging that has 30x better opt-in than email, and is significantly more engaging: browser push notifications.

Using tools like Roost, designers can easily implement browser notifications that alert visitors to new content even when they're not on your site!For now, only Safari is fully supported on the latest OS X, but both Chrome and Firefox are launching push notification support within the year, so now is the perfect time to get in on this exciting new technique.

TOP 20 COMPANIES

M.Santhanalakshmi
IV B.Tech IT

Top 20 Cloud Computing Companies

The top 20 cloud computing companies examining their positioning, capabilities, product portfolios, R&D activity, services, focus, strategies, M&A activity, and future outlook.

- Akamai
- Amazon
- Apple
- AT&T
- BMC Software
- Citrix
- Dimension Data
- Dropbox
- Google
- HP
- IBM
- Microsoft
- Netsuite
- Oracle
- Rackspace
- Salesforce
- SAP AG
- Savvis
- Terremark/Verizon
- VMWare

Top 25 CEO/Head Of Companies In India

1. Ratan Tata — Tata Sons
2. Mukesh Ambani — Reliance Industries
3. NR Narayana Murthy — Infosys Technologies
4. Anil Ambani — Reliance ADAG
5. Sunil Mittal — Bharti Group
6. Azim Hasham — Premji Wipro
7. Kumar Mangalam — Birla AV Birla Group
8. Rahul Bajaj — Bajaj Auto
9. Anand G Mahindra — Mahindra & Mahindra
10. Vijay Mallya — UB Group
11. S Gopalakrishnan — Infosys Technologies
12. OP Bhatt — State Bank of India
13. Chanda Kochhar — ICICI bank
14. Vinita Bali — Britannia
15. Venu Srinivasan — TVS Motors
16. Shiv Nadar — HCL Technologies
17. Uday Kotak — Kotak Mahindra
18. Harsh Goenka — RPG
19. A B Godrej — Godrej Group

20. Shashikant N Ruia   -   Essar Group
21. AM Naik   -   L&T
22. Ravikant N Ruia   -   Essar Group
23. T S Vijayan   -   LIC
24. Aditya Puri   -   HDFC Bank
25. Kishore Biyani   -   Future Group

TONGUE TWISTERS

- A proper copper coffee pot.
- Around the rugged rocks the ragged rascals ran.
- Long legged ladies last longer.
- Mixed biscuits, mixed biscuits.
- A box of biscuits, a box of mixed biscuits and a biscuit mixer!
- Peter Piper picked a peck of pickled pepper.
  Did Peter Piper pick a peck of pickled pepper?
  If Peter Piper picked a peck of pickled pepper,
  Where's the peck of pickled pepper Peter Piper picked?
- Pink lorry, yellow lorry.
- Red leather, yellow leather, red leather, yellow leather.
- The sixth sick Sheik's sixth sheep is sick.
- Swan swam over the pond,
  Swim swan swim!
  Swan swam back again –Well swum swan!
- Three grey geese in green fields grazing.
- We surely shall see the sun shine soon
- One smart fellow, he felt smart
  Two smart fellows, they felt smart
  Three smart fellows, they all felt smart
- A tricky frisky snake with sixty super scaly stripes.

TECHNOLOGY FACTS

S.B.Sivakamini
IV B.Tech IT

- Engineers solve practical problems by applying mathematical and scientific knowledge.
- The word engineer comes from a Latin word meaning 'cleverness'.
- The name of the popular search engine 'Google' came from a misspelling of the word 'googol', which is a very, very large number (the number one followed by one hundred zeros to be exact).
- A 'googolplex' is the number 1 followed by a googol zeros, this number is so big that it can't be written because there isn't enough room in the universe to fit it in! It would also take a length of time far greater than the age of the universe just to write the numbers.
- One Google search produces about 0.2g of CO2. But since you hardly get an answer from one search, a typical search session produces about the same amount of CO2 as does boiling a tea kettle.
- Google handles about 1 billion search queries per day, releasing some 200 tons of CO2 per day.
- The average US household uses 10.6 megawatt-hours (MWh) electricity per year.
- Google uses an estimated 15 billion kWh of electricity per year, more than most countries. However, Google generates a lot of their own power with their solar panels.
- 60 billion emails are sent daily, 97% of which are spam.
- Spam generates 33bn KWt-hours of energy every year, enough to power 2.4 million homes, producing 17 million tons of CO2.
- A "twillionaire" is a twitterer with a million or more followers.
- The first public cell phone call was made on April 3, 1973 by Martin Cooper.
- The Motorola DynaTAC 8000X was the first cell phone sold in the US; launched on April 11, 1984, it was designed by Rudy Krolopp and weighed 2 pounds.
- There are more than 4 billion cell phones in use. About 3 million cell phones are sold every day.
- The first known cell phone virus, Cabir.A, appeared in 2004.
- Although the World Wide Web is often referred to as the Internet, the two are not the same thing. The Internet is a huge network of networks that links computers together all over the world using a range of wires and wireless technologies. The World Wide Web is the collection of linked pages that are accessed using the Internet and a web browser.

TECHNICAL RIDDLES

M.Monisha
IV B.Tech IT

This is Attitude

1. If an egg is broken by an outside force ->Life Ends
2. If an egg breaks from within ->Life Begins
3. Why we have so many temples, if god is everywhere?
A Man replied: Air is everywhere, but we still need a fan to feel it.
4. When you trust someone, trust him completely without any doubt. At the end, you would get one of the two…. Either a lesson or a good partner.
5. The greatest waste in the world is the difference between what we are and what we could become.

Engineering Puzzle

45-45=45, can you prove?
45=1+2+3+4+5+6+7+8+9
45=9+8+7+6+5+4+3+2+1
Now subtract both,
987654321-123456789=864197532
8+6+4+1+9+7+5+3+2=45
So, 45-45=45.

Free and Open Source Software

Everybody wants to work on things which pay more money rather than the things which we wanted to work on. Freedom, Innovation, Distribution-One can get these desired things in **Open Source.** Open Source offers a chance to quench our programming thirst.

You are free to pick and choose between thousands of Open Source projects out there in the open source community. Moreover, you are free to decide on how much you want to contribute. You won't have a boss and you won't have the pressure of deadlines and schedules.

Let us focus on **FOSS-Free and Open Source Software**, though the two terms reveal identical meaning, a major conflict between the two has been perceived since ages. The literal meaning of FOSS is intentionally obtained by means of providing freedom to users to study, modify, and improve the features of software with the availability of source code.

Free software may be termed to be open source software does not necessarily have to be Free Software. Puzzled?

Free Software-the unintended meaning is**" Software you can get for zero price"**. This means **"Software which gives the user certain freedoms".**

Open Source Software-**"you can look at the source code".** It should not be non-commercial.
The Free Software Foundation grants users with 4 basic freedoms

- The freedom to run the program, for any purpose.
- The freedom to study how the program works, and adapt it to your needs.
- The freedom to redistribute copies so you can help your neighbor.
- The freedom to improve the program, and release your improvements to the public, so that the whole community is benefited.

NEW INOVATIONAL ROLE OF ANDOIRD IN FUTURE

N.S.Srinivasan
III B.Tech IT

Android 5.0 Release Date, Name, Features, Update and New

Everything you need to know about Android 5.0 whether it is called Android 5.0 or Android 4.5, the release of the next version of the Android OS will be big news. It's the software that will power the phones set to do battle with the iPhone 6, and shows us the way Android phones are headed, in terms what features we'll see developed in the future.

The Android 5.0 release will be met with almost as much as excitement as new Android phones like the Nexus 6. And we are already being asked questions about the new software on a regular basis.When is the Android 5.0 release date? What features will Android 5.0 have? Will it be called lemon pie, lollipop or Lion Bar? These are all pretty common ones, and things we'll address here.

Android 5.0 Release Date

The Android 5.0 release date is a point of contention because we're still not 100 per cent sure – not even 50 per cent sure – whether the next version of Android will be called Android 4.5 or Android 5.0.However, we are pretty sure that the next version of Android will be shown off Google I/O 2014. This is a developer conference held in San Francisco each year, and this year it falls on 25-26 June.I/O is just when the announcement of the software will occur. We'll see Android 5.0 in person for the first time in the next wave of Nexus devices. Google is rumoured to be bringing us a Nexus 6 phone, a new 8-inch Nexus 8 tablet and a refreshed Nexus 10.We expect to see the first of these devices released in late 2014 – think September-October at the earliest. However, any release plans and even the existence of the hardware are yet to be properly confirmed.

Android 5.0 Name

Each time an Android update is released, there's a lot of talk about what the next one in line will be called. For the uninitiated, each and every version of Android (since 2009) is named after a type of confectionary.

Google rocked the boat with Android 4.4 by tying its release to a brand name rather than a generic kind of sweetie. Its full name is Android 4.4 KitKat, and outside Google campus sits a giant KitKat

There are two main contenders for the next version of Android – Lollipop and Lemon Pie (or some variant thereof). Lollipop is currently the most likely. If you've not been following Android as keenly as us over the last six years, here are the names Google has already used:

- Android 1.0 and 1.1 had no fun codename
- Android 1.5 Cupcake
- Android 1.6 Donut
- Android 2.0/2.1 Éclair
- Android 2.3 Gingerbread
- Android 3.0 Honeycomb
- Android 4.0 Ice Cream Sandwich
- Android 4.1/4.2/4.3 Jelly Bean
  Android 4.4 KitKat

Android 5.0 Feature

We don't officially know any of the features that will be put into Android 5.0. But there are plenty of clues in Android 4.4 already, and mobile device CPUs due for release tell us a lot about where the system is headed. But first…

A new interface

A new-look interface for the next version of Android has been leaked. It's known as Moonshine, and it sees normal Android phones take on the look the Nexus 5adopted with its Google Experience Interface.

Although not widely known, the Nexus 5 has a completely different interface from other Nexus devices. It looks less up-tight than the Nexus 4's normal Android UI.

The new Android 5.0 Moonshine UI has new more cartoony Google Experience interface. Check out these icon screen shots for a preview:

Ultra Techy features Android is going 64-bit

At present Android is a 32-bit system. However, the recent announcement of the Snapdragon 808 and 810 processors from Qualcomm heavily suggests Android is going to 'go 64-bit' with Android 5.0.

ANDROID VS IOS

V.Srijha
III B.Tech IT

* Google's **Android** and Apple's **IOS** are operating systems used primarily in mobile technology, such as Smartphone's and tablets.

* Android, which is Linux-based and partly open source, is more PC-like than IOS, in that its interface and basic features are generally more customizable from top to bottom.

* However, IOS' uniform design elements are sometimes seen as being more user-friendly.

* We should choose our Smartphone and tablet systems carefully, as switching from IOS to Android or vice versa will require us to buy apps again in the Google Play or Apple App Store.

* Android is now the world's most commonly used Smartphone platform and is used by many different phone manufacturers.

* IOS is only used on Apple devices, such as the **iPhone.**

	ANDROID	IOS
DEVELOPER	Google	Apple INC
OS FAMILY	Linux	OS X,UNIX
INITIAL RELEASE	September 23,2008	July 29,2007
PROGRAMMED IN	C,C++	C,C++,objective-c
DEPEND ON PC/MAC	No	No
SOURCE MODEL	Open source	Closed, with open source components
OPEN SOURCE WIDGETS	Kernel, UI & some std.	IOS kernel based on Darwin OS

INTERNET BROWSING	Yes	No
	Google chrome(or android for older version	Mobile safari
INTERFACE	touch screen, smart watch	Touch screen
MESSAGING	Google hangouts	iMessage
VOICE COMMANDS	Google now	Siri
MAPS	Google Maps	Apple Maps
APP STORE	Google play, Amazon, Getjar	Apple store
AVAILABLE LANGUAGE(S)	32 Languages	34 Languages
LATEST STABLE RELEASE	Android 4.4 Kitkat (October, 2013)	7.1 (March 10, 2014)
DEVICE MANUFACTURER	Google, LG, Samsung, HTC, Sony, ASUS, Motorola,	Apple Inc
WEBSITE	android.com	Apple.com

CODE.ORG
# (A SELF LEARNING OF ALL PROGRAMMING LANGUAGE)

K.S.Vijayalakshmi
III B.Tech IT

A non-profit organization called Code.org, founded by brothers **Hadi Partovi and Ali Partovi**. Launched in 2013,Code.org is a non-profit dedicated to expanding participation in computerscience.

The goal of making computer science and programming accessible for everyone. I really mean everyone.

According to Partovi, there are roughly 1.4 million jobs in computing areas, and there's only 400K computer science graduates coming out of college over the same period of time. By this there's a gap of roughly 1 million jobs. That means that there is an absolute need for computer professionals, and learning how to code is indeed an essential life skill.

The statistical diagram is given below:
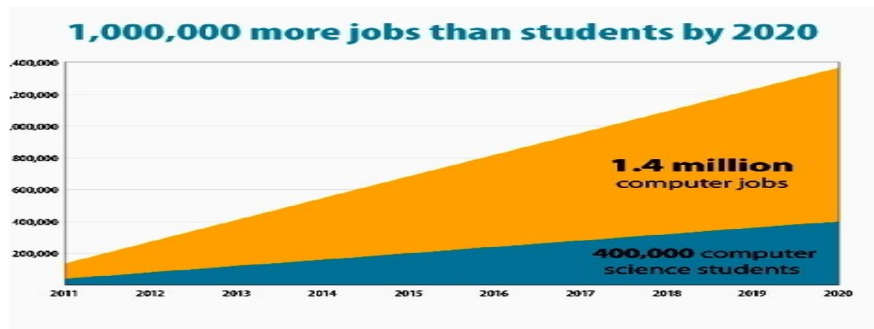
Computer Science is the 2nd Highest paid college degree and computer programming jobs and Growing at 2X the national average.

So by the above graph,we see that there is a lot of jobs for the students. But the Students are lacking in the programming languages.
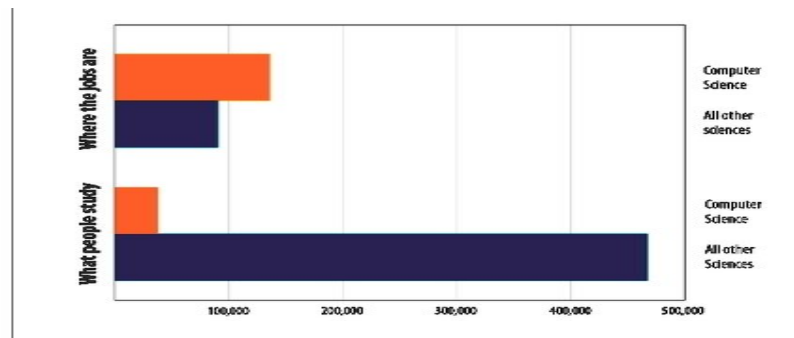
Less than 2.4% of college students graduate with a degree in computer science...That's fewer than 10 years ago.

What Code.org is doing right now is building a database that teaches any type of programming.

SIXTH SENSE TECHNOLOGY

R.K.Durgesh
III B.Tech IT

## Definition of Sixth Sense Technology

Sixth Sense Technology integrates digital information into the physical world and its objects, making the entire world your computer. It can turn any surface into a touch-screen for computing, controlled by simple hand gestures. It is not a technology which is aimed at changing human habits but causing computers and other machines to adapt to human needs. It also supports multi user and multi touch provisions. Sixth Sense device is a mini-projector coupled with a camera and a cell phone-which acts as the computer and your connection to the Cloud, all the information stored on the web. The current prototype costs around $350. The Sixth Sense prototype is used to implement several applications that have shown the usefulness, viability and flexibility of the system

Introduction of Sixth Sense Technology
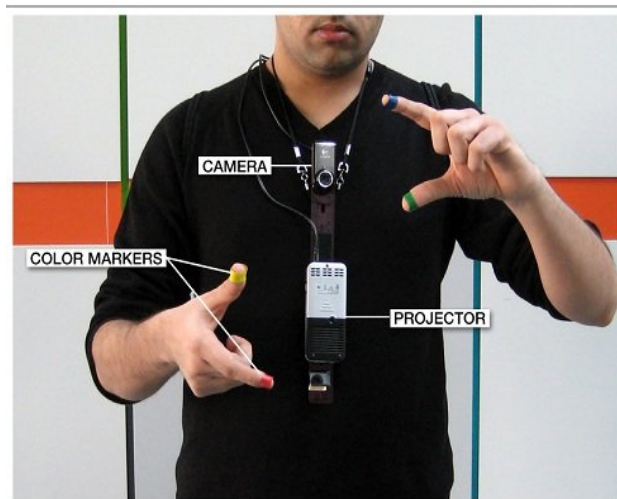
'Sixth Sense' is a wearable gestural interface that augments the physical world around us with digital information and lets us use natural hand gestures to interact with that information the hardware components are coupled in a pendant like mobile wearable device. The Sixth Sense prototype is comprised of a pocket projector, a mirror,colored marker and a camera. The camera, mirror and projector is connected wirelessly to a blue tooth smart phone device that can easily fit into the user's pocket.A software then processes the data that is collected by the capturing device and produces analysis.The software that is used in sixth sense device is open source type

Gesture Recognition

It is a technology which is aimed at interpreting human gestures with the help of mathematical algorithms. Gesture recognition technique basically focuses on the emotion recognition from the face and hand gesture recognition. Gender recognition technique enables humans to interact with computers in a more direct way without using any external interfacing devices. It can provide a much better alternative to text user interfaces and graphical user interface which requires the need of a keyboard or mouse to interact with the computer. Interfaces which solely depends on the gestures requires precise hand pose tracking. In the early versions of gesture recognition process special type of hand gloves which provide information about hand position orientation and flux of the fingers. In the SixthSense devices colored bands are used for this purpose. Once hand pose has been captured the gestures can be recognized using different technique's. Neural network approaches or statistical templates are the commonly used techniques used for the recognition

purposes. This technique have an high accuracy usually showing accuracy of more than 95%. Time dependent neural network will also be used for real time recognition of the gestures

APPLICATION

The Working Of The Sixth Sense Device
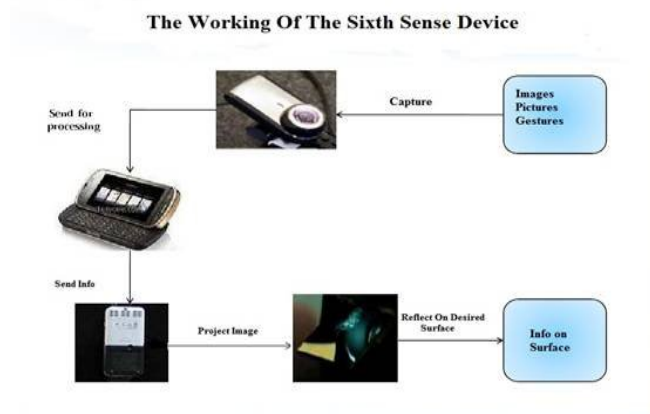
The sixth sense technology finds a lot of application in the modern world. The sixth sense devices bridge the gap by bringing the digital world into the real world and in that process allowing the users toiu interact with the information without the help of any machine interfaces. Prototypes of the sixth sense device have demonstrated viability, usefulness and flexibility of this new technology. According to the words of its developers the extend of use of this new device is only limited by the imagination of human beings

The sixth sense recognizes the objects around us and displays the information relating to those objects in a real time environment. The sixth sense technology allows the user to interact the information through hand gestures. This is a quiet efficient way compared to the text and graphic based user interface. It has the potential to form the transparent user interface for accessing the information around us.

BABY ICTERUS DETECTOR

M.S.Haripriya
II B.Tech IT

Parents or physicians can monitor a newborn baby's jaundice with their smartphones through Bill cam

Newborn jaundice: It's one of the last things a parent wants to deal with, but it's unfortunately a common condition in babies less than a week old.Skin that turns yellow can be a sure sign that a newborn is jaundiced and isn't adequately eliminating the chemical bilirubin. But that discoloration is sometimes hard to see, and severe jaundice left untreated can harm a baby.

University of Washington engineers and physicians have developed a smartphone application :

➢ That checks for jaundice in newborns and can deliver results to parents and pediatricians within minutes. It could serve as a screening tool to determine whether a baby needs a blood test -- the gold standard for detecting high levels of bilirubin.

➢ This smartphone test is really for babies in the first few days after they go home. A parent or health care provider can get an accurate picture of bilirubin to bridge the gap after leaving the hospital.

➢ Research team will present its results at the Association for Computing Machinery's International Joint Conference on Pervasive and Ubiquitous Computing in September in Seattle.

➢ The app, called BiliCam, uses a smartphone's camera and flash and a color calibration card the size of a business card. A parent or health care professional would download the app, place the card on her baby's belly, then take a picture with the card in view. The card calibrates and accounts for different lighting conditions and skin tones. Data from the photo are sent to the cloud and are analyzed by machine-learning algorithms, and a report on the newborn's bilirubin levels is sent almost instantly to the parent's phone.

➢ "**This is a way to provide peace of mind for the parents of newborns**," said Shwetak Patel, a UW associate professor of computer science and engineering and of electrical engineering. "The advantage of doing the analysis in the cloud is that our algorithms can be improved over time."

➢ A noninvasive jaundice screening tool is available in some hospitals and clinics, but the instrument costs several thousand dollars and isn't feasible for home use. Currently, both doctors and parents assess jaundice by looking for the yellow color in a newborn's skin, but this visual assessment is only moderately accurate. The UW team developed

BiliCam to be easy to use and affordable for both clinicians and parents, especially during the first several days after birth when it's crucial to check for jaundice.

➢ Jaundice, or the yellowing of the skin, can happen when an excess amount of bilirubin collects in the blood. Bilirubin is a natural byproduct of the breakdown of red blood cells, which the liver usually metabolizes. But newborns often metabolize bilirubin slower because their livers aren't yet fully functioning. If left untreated, severe jaundice can cause brain damage and a potentially fatal condition called kernicterus.

➢ "BiliCam would be a significantly cheaper and more accessible option than the existing reliable screening methods," said Lilian de Greef, lead author and a UW doctoral student in computer science and engineering. "**Lowering the access barrier to medical applications can have profound effects on patients, their caregivers and their doctors, especially for something as prevalent as newborn jaundice.**"

➢ The researchers plan to test BiliCam on up to 1,000 additional newborns, especially those with darker skin pigments. The algorithms will then be robust enough to account for all ethnicities and skin colors. This could make BiliCam a useful tool for parents and health care workers in developing countries where jaundice accounts for many newborn deaths.

➢ "We're really excited about the potential of this in resource-poor areas, something that can make a difference in places where there aren't tools to measure bilirubin but there's good infrastructure for mobile phones," Taylor said.

➢ Within a year, the researchers say BiliCam could be used by doctors as an alternative to the current screening procedures for bilirubin. They have filed patents on the technology, and within a couple of years hope to have Federal Drug Administration approval for the BiliCam app that parents can use at home on their smartphones.

DIGITAL LIZARDS

S.Jeevitha
II B.Tech IT

Data storms in the atmosphere
Welcome to the information era
Lonely ballads in the night
The internet is our chimera.

Oh, look
They leaked the cloud
And the faceless crowd
Showed it's grins and frowns.

Oh, listen
Pages tell numbered lies
Girls yell intimate cries
Every corner hides the enemy spy

Magic windows, metal eyes
Bringing up our wild teen lives
Into the judgement of megalomaniacs
And content addicted insomniacs

PHONEBLOKS

R.Ramkumar
II B.Tech IT

Concept

Is an independent organization with the purpose of encouraging the development and production of products that produce less electronic waste. This concept was started by a DUTCH designer DAVE HAKKENS, with the primary moto of reducing the cost of mobile phones and to pay only for the features the customer needs.

This is not the first attempt in the smart phone revolution but it has gained a vast supporters from social media and youtube. The concept of phone blok is very simple,instead of replacing the entire phone when it becomes obsolete or broken, one could simply replace the defective or performance-limiting part. If the consumer wants a camera that suits his or her needs better, he or she could for example swap their small generic camera blok for a larger zoom camera from a manufacturer such as Nikon or Canon instead of buying a phone with a better camera.
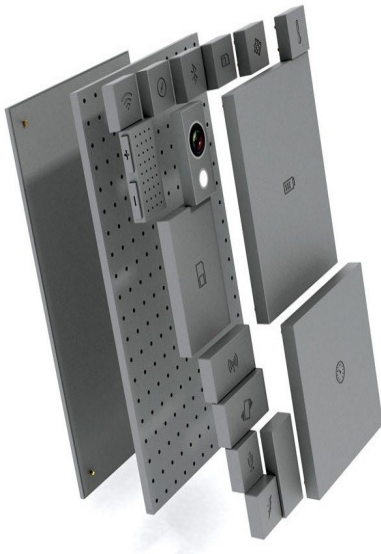
How It All Started:

When Dave's camera broke, and there was no means to fix it, he started to think about how one could design consumer electronics so that they would be easy to repair, easy to upgrade and long lasting. Trying to end planned obsolescence and reduce electronic waste streams. Modularity was, and still is, the answer. Beginning with the one of the fastest growing parts of these electronic waste streams, mobile phones, Phonebloks was born. Never intending to build a mobile phone ourselves, Phonebloks, as an idea, is a means to get the industry's attention and to get it moving towards the best mobile phone for world and population.

Sponcers:

On may 2014 Phonebloks officially announced partnerships with Sennheiser and Fairphone. Whereas Google is there main sponcer. Other companies like CYSO(Hosting), CMNTY(community platform), SOLON(legal), deWaardKramer(Accounting), .wdo(communication) are some of the companies supporting this idea in various fields. Other public contributers can also join their project as they will be connected with their new updates.

Issues:

While many are supporting this project there are several major issues from bringing this project into an actual concept.

E-Waste:

There would be a potential increase in the electronic waste(E-waste) as the customer would be forced to change their components every few months. Frequent replacement of blocks could make many customers add up to more wastes on an average than getting a new phone every two years.

Technical Issues:

Since all blocks are externally connected with the processor the signals have to travel a farther distance between the component. This extra distance could lead to decrease in the performance. Further the blocks are needed to be connected with a pin or a socket which is very difficult to manufacture.

The Outcome:

After exceeding their goal of 9000,000 supporters on Thunderclap by oct 2013 Hakkens has started collaborating with MOTOROLA on project "ARA"(designed by google's ATAP team), a more practical modular smartphone system consisting of an endoskeleton with slots on the back where bloks can slide in. This tiny group of engineers and designers has given itself the task of creating a phone with several unproven, next-generation technologies .Although , this new project faces many of the same challenges inherent in modular smartphone design.

Phonebloks has reached over 380,000,000 people via social media and youtube which is a giant success for their company.This modular phone is scheduled to be released in January 2015.

LI-FI TECHNOLOGY

M.Mounisha
II B.Tech IT

This brilliant idea was first showcased by Harold Haas From University of Edinburgh, UK, in his TED Global talks on VLC. LI-FI is transmission of data through illumination by taking the fibre out of fibre optics by sending data through an LED light bulb that varies in intensity faster than the human eye can follow.

Fig1 LI –FI Environment
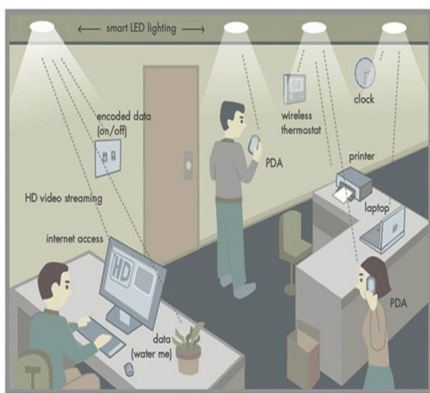
He explained, "Very simple, if the LED is on, you transmit a digital 1, if it is off you transmit a 0. The LEDs can be switched on and off very quickly, which gives nice opportunities for transmitting data." So what you require at all some LEDs and a controller that code data into those LEDs. We have to just vary the rate at which the LED's flicker depending upon the data we want to encode. Further Enhancements can be made in this method like using an array of LEDs for parallel data transmission or using mixtures of red, green and blue LEDs to alter the light's frequency with each frequency encoding a different data channel. Such advancements promise a theoretical speed of 10 Gbps – meaning you can download a full high definition film in just 30 seconds. But blazingly fast data rates and depleting bandwidths worldwide are not the only reasons that give this technology an upper hand. Since Li-Fi uses just the light, it can be used safely in aircrafts and hospitals that are prone to interference from radio waves. This can even work underwater where Wi-Fi fails completely, thereby throwing open endless opportunities for military operations.

Data Transmission Using LI-FI:

As WI-FI hotspot and cloud computing are rapidly increasing reliable signal is bound to suffer. Speed and security are also major concerns. They are vulnerable to hackers as it penetrates through walls easily. LI-FI is said to overcome this.

The main component of this communication system is a high brightness white LED, Which acts as a communication source and a silicon photodiode which shows good response to visible wavelength region serving as the receiving element? LED can be switched on and off to generate digital strings of 1s and 0s. Data can be encoded in the light to generate a new data stream by varying the flickering rate of the LED. To be clearer, by modulating the LED light with the data signal, the LED illumination can be used as a communication source. As the flickering rate is so fast, the LED output appears constant to the human eye. A data rate of greater than 100 Mbps is possible by using high speed LEDs with appropriate multiplexing techniques. VLC data rate can be increased by parallel data transmission using LED arrays

where each LED transmits a different data stream. There are reasons to prefer LED as the light source in VLC while a lot of other illumination devices like fluorescent lamp, incandescent bulb etc. are available.

LI-FI technology uses semiconductor device LED light bulb that rapidly develops binary signals which can be manipulated to send data by tiny changes in amplitude. Using this innovative technology 10000 to 20000 bits per second of data can be transmitted simultaneously in parallel using a unique signal processing technology and special modulation.

The light used to transmit the data is called D- light by Harold Hass, the inventor of LI-FI. In future data for laptops, Smartphone's and tablets can be transmitted through the light in a room by using LI-FI. Security would be a snap- if you can't see the light, you can't access the data.
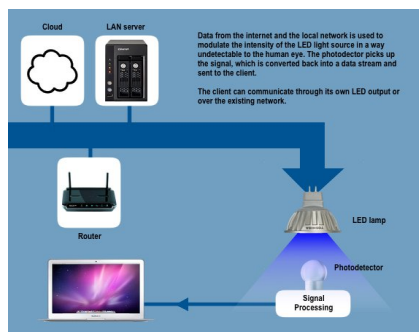
Brightness Of Li-Fi Source:

The LI-FI source has very high lumen intensity. In other words, a single source, only a few millimetres in size can produce 2300 lumens of brilliant white light. At this level of output, you will only need to use one light source per street light in most cases. This makes the mechanical and optical implementation of light much simpler and less expensive.

Comparison Between LI-FI And WI-FI:

LI-FI is a term of one used to describe visible light communication technology applied to high speed wireless communication. It acquired this name due to the similarity to WI-FI, only using light instead of radio. WI-FI is great for general wireless coverage within buildings and LI-FI is ideal for high density wireless data coverage in confined area and for relieving radio interference issues, so the two technologies can be considered complimentary.

Applications Of LI-FI:

1. It can be used in the place where it is difficult to lay the optical fiberlike hospitals. In operation theatre, LIFI can be used for modern medical instruments.
2. In traffic signals, LI-FI can be used which will communicate with the LED lights of the car and number of accidents can be decreased.
3. In aircraft, LI-FI can be used for data communication.
4. It can be used in chemical or petroleum plants where other transmission or frequencies could be hazardous.

PLASTIC NOTES

V.Meenakumari
II B.Tech IT

The Reserve Bank of India has finally floated a tender for plastic currency notes after years of deliberation. However, the tender is only for a pilot project and a final call on introduction would be taken subject to the performance of the notes.

"We have only recently floated the tender. This requires coordination from various parties, including the government, the printing presses and the Reserve Bank of India," said a senior banker. He said the plastic notes should be launched by the middle of the year.

The official said that the biggest concern over plastic currency was that it was never tried out in such extreme weather conditions like India. The extreme weather means that the notes have to survive temperatures over 40 degrees in some states and sub-zero temperatures in parts of the Himalayas and high level of humidity in parts of the country.

In May last year, minister of state for finance Namo Narain Meena, in his reply to a Parliamentary question, said that plastic currency would first be tried out in Kochi, Mysore, Jaipur, Bhubhaneshwar and Shimla - all centres with different weather conditions. The pilot project will comprise low denomination currency notes.

The introduction of polymer notes has been discussed at the FICN (Fake Indian Currency Note) Coordination Group that has been formed in the home ministry to share information gathered by various authorities on counterfeit currency. Besides being more difficult to copy, plastic currency is far more resilient that the cotton fibre-based currency that is used at present.

RBI sources said that the average life of a Rs 10 note is around six month. Plastic currency besides, being stain proof, does not tear easily but costs more than double the cotton fibre-based currency. Several countries have tried out polymer currencies with the UK expected to introduce its first polymer banknote in 2015.

RBI to issue Rs.10 plastic bank notes in 5 cities

The government will introduce 100 crore pieces of Rs 10 bank notes made of plastic on a field trial basis in five cities, minister of state for finance said on Tuesday.

"It has been decided by the government and the RBI (Reserve Bank of India) to introduce one billion pieces of Rs 10 notes in polymer/plastic on a field trial basis," minister of state for finance Namo Narain Meena said in a written reply to the Rajya Sabha.
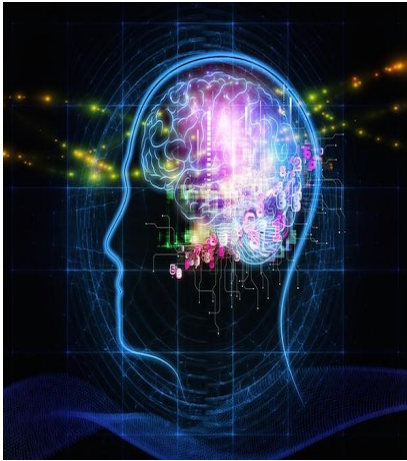
THE FUTURE OF WEARABLE BIOFEEDBACK TECHNOLOGY

M.R.Lavanya
II B.Tech IT

Let's start by breathing in.
By breathing in, you've just stepped into the newest movement in wearable technology.

Physiological Interaction

Measuring breath rate, heart rate, electrical signals from muscles and even electrical signals from your thoughts and converting them into specific actions. If you've ever considered it, your body is an ever changing landscape of chemical, electrical, and mechanical motions that operate in "specific ways" in response to stimulus in the world. Sensors in wearable technology can pick up these signals and form a data log over time of your physiological condition.

These "specific ways" are most easily understood as emotions. In *Working Memory Thought and Action*, Neuroscientist Alan Baddeley describes emotions as our means for action and that rational thinking is subservient to emotions. Hmmm, types of emotions = types of action. Sounds like a marketing frenzy is about to happen. Now, we are a few years away from tapping into all your emotional thoughts and feelings, but it's certainly easy to assess whether you are enjoying or not enjoying (level of pleasure) and calm or excited (level of arousal). Tie that with location devices like iBeacon and a physiological interaction wearable and someone might just know which sections of the store people are excited about and enjoying and which sections are not so enjoyable.

But enough about big brother. What about you? How would this kind of technology benefit you?

Biofeedback

Is a term defining the moment when you are able to consciously understand your own biological rhythms. A simple example is when you are looking at your heart rate on a heart monitor. If you've never done so, you can actually slow or raise your heart rate by simply thinking about it. That is biofeedback. At a grander scale, biofeedback can help you find certain performance patterns, such as deep focus, relaxation, or even physical performance as an athlete. If a device could provide real-time biofeedback, you could be more in control of particular emotions or be alerted to particular places that elicit certain emotions. An app could help you work through those emotional moments where you would emotionally want to act better. (Sounds like a great gift for Type "A" personalities.)

Controlling things

Is also possible through physiological interaction. Examples already exist in the use of electromyography (EMG) sensors picking up minor electrical signals in muscles that are tied to algorithms that initiate device commands. In other words, you move your pointer finger up

and a drone lifts off the ground. You point it right, and it flies right. Other cool thoughts are exactly that: thinking a thought can also move something. Simply tie the pattern of electrical signals to the thought "up" and the drone flies up.

The revolution of wearable technology is that we are more than talking, calling, texting, emailing human beings when it comes to communicating with the world around us. We are emotional people, and our emotions drive us to act, and our actions impact the world around us. This is a fundamental human event that will not fade for the foreseeable super future. Shakespeare did a great job summing up our various emotional states so there is no need in defining them more precisely, there is a need however, in harnessing them precisely.

What's a real world example of such a philosophy?

Imagine coming home from a stressful day at work. Your wearable has calculated your stress level and compared it against those things that help alleviate that kind of stress. Now a whole theater of actions is taking shape inside your house as your car approaches. The temperature of the light calculates against the amount of sunlight coming in to color the space with just the right type of lux and hue. A small fountain turns on near the inside of the door and your door unlocks. A recipe appears on the refrigerator balanced for the amount of time and stress reduction needed to lower your blood pressure. And, of course, a small light glows over the right bottle of wine. This is the landscape of your body interacting with your home to determine the right kind of biofeedback climate. For entire families, an aggregation of physiological data can be collected and toned to the right family environment.

Humans are essentially driven by desire and desire is the attempt to obtain an emotional state. The question is how will technology integrate to fulfill our desires to achieve emotional balance in our everyday lives.

SCOPE OF INFORMATION TECHNOLOGY IN COMING FUTURE

C.Anisha Pooja
II B.Tech IT

An insight on the employability search led me to consider Space research as major area for information Technology, since the development is growing rapidly & requirement of skilled engineers are at demand. Identification of the field and planning the scope for employability led me with these details to bring an outlook on the requirement in the research departments taking Space information technologies and system research under my study. This would enable us to prepare our career wisely and effectively.

Scientific activity at Research Facility

The department specializes on developing complex distributed systems for satellite data processing.

The main task given to the department is development, validation and implementation of different satellite data processing methods in the form of information services and certain systems

Areas of Scientific interest

- the development of GRID- and distributed program systems
- parallel and distributed computing
- intelligent computing using neural networks
- mathematical modeling of complex processes and systems
- intelligent multi-agent security systems
- satellite data processing
- distance learning technologies
- strategic planning

Educational activity

Following courses are taught in research centers

- Intelligent computing
- Software engineering
- Expert systems
- Automatic control theory
- Computer architecture

Cool Tech Facts

In a world run by Internet connectivity for all aspects of life, from efficient work operations and management to social networking connections, it is no surprise that information is the foundation of our collective future. That being said, here are some quirky facts about technology that you may find surprise

- On eBay, there is an average of $680 worth of transactions every second.
- Ninety-one percent of all adults have their mobile phone within arm's reach every hour of every day.
- There are 6.8 billion people on the planet and 4 billion of them use a mobile phone. Only 3.5 billion of them use a toothbrush.
- Every minute, 100 hours of video are uploaded on YouTube by individual users.
- Thirty million individuals watch television programming from their mobile phones.
- The average 21 year old has spent 5,000 hours playing video games, sent 250,000 emails, instant messages, and text messages, and has spent 10,000 hours on a mobile phone alone
- There are 350 million Snap chat messages sent every day .
- There are 500 apps added each day to the Windows Phone Store.
- There are some 1 billion computers in use.
- There are more than 4 billion cell phones in use. About 3 million cell phones are sold every day.

OS SHOOTOUT: ANDROID VS IOS VS WINDOWS PHONE

R.Vigneshwaran
II B.Tech IT

The past year has been a remarkable one for smartphones, with the meteoric rise of Google's Android OS, the restart of Microsoft's mobile strategy with its much-ballyhooed release of Windows Phone 7 and the continuing success of Apple's iPhone, buoyed by its new availability to Verizon subscribers. Never has there been so much choice in the smartphone market. As a result, hype and overstatement have been the order of the day.

If you're in the market for a new smartphone, choosing which one to buy has much to do with the operating system that runs the phone as with the hardware itself. To help you decide, I put the latest versions of the three top mobile operating systems through their paces: Android 2.3, Windows Phone 7 and iOS 4.3.

There are, of course, two other smartphone operating systems out there: RIM's BlackBerry OS and Hewlett-Packard's webOS. However, we decided not to include them at this point.

Mobile Operating System User Experience Index **Higher is better**

iOS 7	73.25
iOS 6	70
Android (Samsung)	57.25
Windows Phone 8	47.25
Blackberry 10	56.37
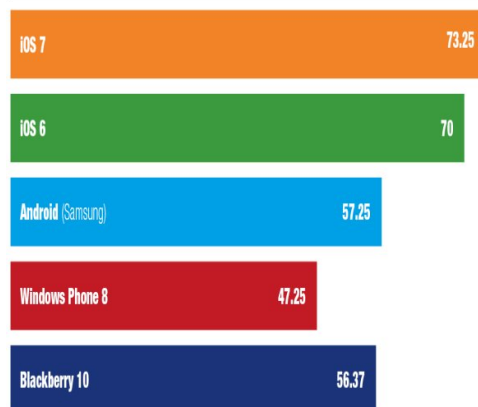
Although RIM still has a considerable presence, its market share has been plunging, dropping from nearly 36% to just over 30% in the most recent quarter, and its developer support has been anemic, with an estimated 20,000 apps available even though it's been around for far longer than the iPhone and Android platforms, each of which has hundreds of thousands apps. (Windows Phone 7, which was launched just last October, has about 9,500 apps.) In other words, it no longer feels like a contender.

If BlackBerry makes a comeback, we'll include it in our next roundup. We'll also be watching HP's webOS, which will be available on several new devices this summer.

In this roundup, I concentrated as much as I could on the underlying operating systems, not the hardware on which they run. To get the truest look at Android, I tested it using a Samsung Nexus S, which ships with a version of Android that hasn't been customized by either the device maker or the service provider -- it's Android as Google intended it. For a look at Windows Phone 7, I chose the HTC Surround. And for iOS, I looked at the iPhone 4.

I've compared the platforms in several different categories, including ease of use, app availability, features, integration with desktop and Web-based apps, customization and platform openness. Come along for the ride and see if you agree.

"The Real problems is not whether machines think but whether men do"

A CREATIVE MAN IS MOTIVATED BY THE DESIRE TO ACHIEVE, NOT BY THE DESIRE TO BEAT OTHERS.

WINNERS DON'T DO DIFFERENT THINGS , THEY DO THINGS DIFFERENTLY.

THE WILL TO SUCCEED IS IMPORTANT, BUT WHAT'S MORE IMPORTANT IS THE WILL TO PREPARE.

SETTING GOALS IS THE FIRST STEP IN TURNING THE INVISIBLE INTO THE VISIBLE.