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Department Of Computer Science (UG)

Ishare

Monthly Magazine

Ishare

Editorial

We would like to wholeheartedly thank our honorable Chairman, Secretary, Executive Director and Principal for their continuous encouragement and constant support for bringing out the magazine. We profoundly thank our Head of Department for encouraging and motivating us to lead the magazine a successful one right from the beginning. Ishare serves as a platform for updating and enhancing upcoming technologies in Information and Communication. We are grateful to all the contributors to this magazine so far. The magazine has been sent to almost 60 institutions in and around Tamilnadu. So far we have received feedbacks and appreciations from various institutions.

We would be very pleased to receive your feedbacks. Please send your feed backs to ksrcas.ishare@gmail.com

By,

Editorial Board

Content

ELECTRONIC TICKETS

M.VIVEK KUMAR
FINAL B.COM (CA)

An electronic ticket (commonly abbreviated as e-ticket) is a digital ticket. The term is most commonly associated with airline issued tickets. Electronic ticketing for urban or rail public transport is usually referred to as travel card or transit pass. It is also used in ticketing in the entertainment industry.

Airline ticket

Electronic ticketing in the airline industry was devised in about 1994. Joel R. Goheen is recognized as the inventor of electronic ticketing in the airline industry. See Patents for Electronic Ticketing Inventions in the Airline Industry.

E-ticketing has largely replaced the older multi-layered paper ticketing systems, and since 1 June 2008, it has been mandatory for IATA members. Where paper tickets are still available, some airlines charge a fee for issuing paper tickets.

When a reservation is confirmed, the airline keeps a record of the booking in its computer reservations system. Customers can print out or are provided with a copy of their e-ticket itinerary receipt which contains the record locator or reservation number and the e-ticket number. It is possible to print multiple copies of an e-ticket itinerary receipt.

Besides providing itinerary details, an e-ticket itinerary receipt also contains:

- An official ticket number (including the airline's 3-digit ticketing code, a 4-digit form number, a 6-digit serial number, and sometimes a check digit).
- Carriage terms and conditions, (or at least a reference to them)
- Fare and tax details, including fare calculation details and some additional data such as tour codes. The exact cost might not be stated, but a "fare basis" code will always identify the fare used.
- A short summary of fare restrictions, usually specifying only whether change or refund are permitted but not the penalties to which they are subject.
- Form of payment.
- Issuing office.
- Baggage allowance.

Checking in with an e-ticket

To check in for a flight with an e-ticket, the passenger usually goes to the check-in counter in the usual manner. There they may be required to present some personal

identification, a credit card or the e-ticket itinerary receipt. Theoretically it is not even necessary to present the e-ticket itinerary receipt document or quote the confirmation code or e-ticket number as the reservation is confirmed solely on the basis of the passenger's identity, which may be proven by a passport or the matching credit card. However, producing a print-out of the itinerary receipt is required to enter the terminal of some airports as well as to satisfy immigration regulations in most countries.

At the check-in counter, the passenger checks-in his/her luggage and receives a boarding pass. However, electronic ticketing allows various enhancements to checking-in.

Self-service and remote check-in

- online/telephone/self-service kiosk check-in (if the airline makes this option available)
- early check-in
- printing boarding passes at airport kiosks and at locations other than an airport
- delivery of boarding pass bar-codes via SMS or email to a mobile device

Several websites assist people holding e-tickets to check in online in advance of the twenty-four-hour airline restriction. These sites store a passenger's flight information and then when the airline opens up for online check-in the data is transferred to the airline and the boarding pass is emailed back to the customer. With this e-ticket technology, if a passenger receives his boarding pass remotely and is travelling without check-in luggage, he may bypass traditional counter check-in.

E-ticket limitations

The ticketing systems of most airlines are only able to produce e-tickets for itineraries of no more than 16 segments, including surface segments. This is the same limit that applied to paper tickets.

Another critical limitation is that at the time e-tickets were initially designed, most airlines still practiced product bundling. By the time the industry began 100% e-ticket implementation, more and more airlines began to unbundle previously included services (like checked baggage) and add them back in as optional fees (ancillary revenue). However, the e-ticket standard did not anticipate and did not include a standardized mechanism for such optional fees.

IATA later implemented the Electronic Miscellaneous Document (EMD) standard for such information. This way, airlines could consistently expose and capture such fees at time of booking through travel reservation systems, rather than having to surprise passengers with them at check-in.

IATA mandated transition

As part of the IATA Simplifying the Business initiative, the association instituted a program to switch the industry to 100% electronic ticketing. The program concluded on

June 1, 2008, with the association saying that the resulting industry savings were approximately US$3 billion.

In 2004, IATA Board of Governors set the end of 2007 as the deadline for airlines to make the transition to 100% electronic ticketing for tickets processed through the IATA billing and settlement plan;[3] in June 2007, the deadline was extended to May 31, 2008.

As of June 1, 2008 paper tickets can no longer be issued on neutral stock by agencies reporting to their local BSP. Agents reporting to the ARC using company-provided stock or issuing tickets on behalf of an airline (GSAs and ticketing offices) are not subject to that restriction.

The industry was unable to comply with the IATA mandate and paper tickets remain in circulation as of February 2009.

Train tickets

Amtrak started offering electronic tickets on all train routes on 30 July 2012.[5] These tickets can be ordered over the internet and printed (as a PDF file), printed at a Quik-Trak kiosk, or at the ticket counter at the station. Electronic tickets can also be held in a smart phone and shown to the conductor using an app.

Several European train operators also offer self printable tickets. Often tickets can also be delivered as SMS or MMS.

How to find lost mobile using IMEI number?

G.Krishnaveni.

II-BCA-'A'

I am going to share a post to find your lost mobile phone using IMEI number. Before I start let me provide a little info on IMEI number. IMEI number is short form of international manufacturer equipment identity. It is 15 digit unique number. If you are using call, SMS or gprs services on your mobile handset then IMEI number is helping you in this. Without IMEI number you can't use theses services. I hope it is enough info about IMEI number but still you want to know more then Google is alive just use it. OK now starts the method to find lost mobile phone using IMEI number.

STEP 1:

First of all you need 15 digit IMEI number of that mobile phone which you have lost sadly. You can find your phone IMEI number on your phone bill as well as box of your phone.

STEP 2:

Now note down that IMEI number and go to your email id because we are going to send an email.

STEP 3:

Now compose a new email by providing following info.

Your name:
Address:
Phone model:
Make:
Last used No.:
E-mail for communication:
Missed date:
IMEI No.:

and send this email to this email

bn

id: cop@vsnl.net

Now just wait for reply from cop@vsnl.net. If your phone in use then they will trace it out and inform you shortly.

WIRELESS CONTROL OF ROBOTS USING WI-FI integration

Ms.R.Sudha
Assistant Professor, Department of Computer Science
K.S.R College of Arts and Science

ROBOTICS is a special term in the field of technology. It's a pet of all departments, Be it Electronics, Instrumentation, Computer Engineering, Information technology or Mechanical. There is no field without being related to robots. That's why there is always a tremendous increase in the robotic field.

Even though a lot of success had been sawn by the past 4 decades there is still a thirst among the techies to make precise robots and controlling them effectively. Mostly wireless robots are controlled by single channel receiver/transmitter, complex microprocessors and controllers. Here we will be discussing about the technique to control wireless robots using WI-FI with simple microprocessors and controllers. This is a theoretical concept and we are trying to make the best possibilities to make it as a practically possible one. Follows is the proposed block diagram and of my concept.

What is Robot control using WI-FI integration?

The individual parts/final control element of Robots (most probably the stepper motor) will be made to controlled by a simple processor such as 8085/8086 which are pre programmed to behave in certain ways. The µp will be interfaced with USART which in turn will be connected to Wi-Fi adapter. For a single robots there will be such a lot of arrangements and they can controlled using simple data (Simple data inputs to µp controls the final control element). These data are given from a certain number of input devices which are integrated to form a single input device and they are connected to communicate the nodes by providing hotspots. And our name to this concept is robot control using wi-fi integration

This is How it will Work

The processors are preprogrammed to carry out a certain actions with reference to particular parameters Since the 8085 microprocessors can accept binary input, the apt controls are coded as opcode and input is give from control side The input (ie., the

control signals for fce) given are transmitted to hotspots which are received by wireless **adapters**

The signals are given to microprocessor via the interfacing device USART Usart is Universal Synchronous/Asynchronous Receiver/Transmitter a popular interface for 8085/8086 microprocessors Control is done from integrated control side by the apt opcodes.

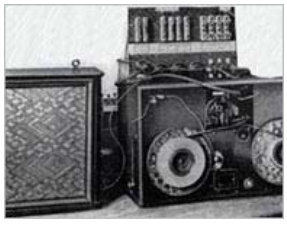
Advantages

Controlling is done by opcode input which are simple since primitive type of processors is used it would be easier to coding and even recoding. In a single transmission line if there is failure in one point the entire network will collapse whereas in this case WiFi is used the failure at one point wont affect other fde Architecture complexity can be reduced. Cost can be made comparatively lesser. Direct Monitoring by computers are possible with proper interfacing.

The History of Computer Storage

R.PARAMASIVAM

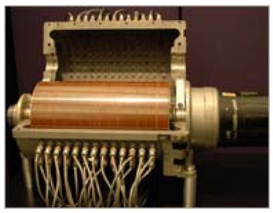
PROGRAMMER IN UGLAB (CS)



1920s

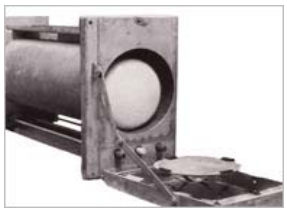
1928 Magnetic TapeFritz Pfleumer, a German engineer, patented magnetic tape in 1928. He based his invention off Vlademar Poulsen's magnetic wire.

1930s

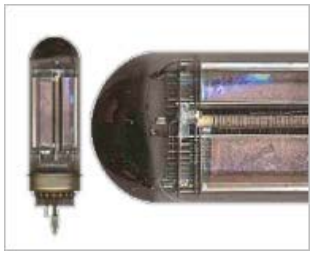


1932 Magnetic DrumG. Taushek, an Austrian innovator, invented the magnetic drum in 1932. He based his invention off a discovery credited to Fritz Pfleumer.

1940s

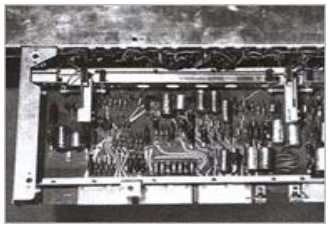


1946 Williams TubeProfessor Fredrick C. Williams and his colleagues developed the first random access computer memory at the University of Manchester located in the United Kingdom. He used a series of electrostatic cathode-ray tubes for digital storage. A storage of 1024 bits of information was successfully implemented in 1948.



Selectron TubeIn 1948, The Radio Corporation of America (RCA) developed the Selectron tube, an early form of computer memory, which resembled the Williams-Kilburn design.

1949



Delay Line MemoryThe delay line memory consists of imparting an information pattern into a delay path. A closed loop forms to allow for the recirculation of information if the end of the delay path connects to the beginning through amplifying and time circuits. A delay line memory functions similar to inputting a repeating telephone number from the directory until an individual dials the number.

1950s

Magnetic CoreA magnetic core memory, also known as a ferrite-core memory, uses small magnetic rings made of ceramic to store information from the polarity to the magnetic field it contains.

1956

Hard diskA hard disk implements rotating platters, which stores and retrieves bits of digital information from a flat magnetic surface.

1960s

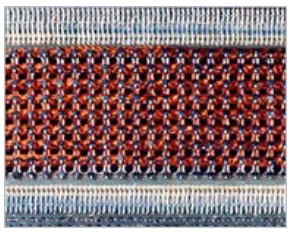
1963 Music tapePhilips introduced the compact audio cassette in 1963. Philips originally intended to use the audio cassette for

dictation machines; however, it became a popular method for distributing prerecorded music. In 1979, Sony's Walkman helped transformed the use of the audio cassette tape, which became widely used and popular.

1966

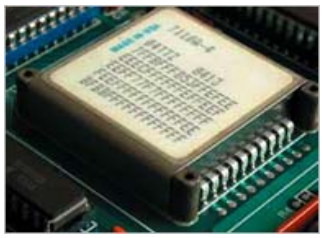
DRAM (PDF)In 1966, Robert H. Dennard invented DRAM cells. Dynamic Random Access Memory technology (DRAM), or memory cells that contained one transistor. DRAM cells store bits of information as an electrical charge in a circuit. DRAM cells increased overall memory density.

1968



Twistor MemoryBell Labs developed Twistor memory by wrapping magnetic tape around a wire that conducts electrical current. Bell Labs used Twistor tape between 1968 to the mid-1970s before it was totally replaced by RAM chips.

1970s



1970 Bubble MemoryIn 1970, Andrew Bobeck invented the Bubble Memory, a thin magnetic film used to store one bit of data in small magnetized areas that look like bubbles. The development of the Twistor memory enabled him to create Bubble Memory.

1971

8" FloppyIBM started its development of an inexpensive system geared towards loading microcode into the System/370 mainframes. As a result, the 8-inch floppy emerged. A floppy disk, a portable storage device made of magnetic film encased in plastic, made it easier and faster to store data.

1976

5.25" FloppyAllan Shugart developed a the 5.25-inch floppy disk in 1976. Shugart developed a smaller floppy disk, because the 8-inch floppy was too large for standard desktop computers. The 5.25-inch floppy disk had a storage capacity of 110 kilobytes. The 5.25-inch floppy disks were a cheaper and faster alternative to its predecessor.

1980s

1980 CD During the 1960s, James T. Russel thought of using light to record and replay music. As a result, he invented the optical digital

television recording and playback television in 1970; however, nobody took to his invention. In 1975, Philips representatives visited Russel at his lab. They paid Russel millions for him to develop the compact disc (CD). In 1980, Russel completed the project and presented it to Sony.

1981

3.5" Floppy The 3.5-inch floppy disk had significant advantages over its predecessors. It had a rigid metal cover that made it harder to damage the magnetic film inside.

1984 CD Rom

The CD-ROM, also known as the Compact Disk Read-Only Memory, used the same physical format as the audio compact disks to store digital data. The CD-ROM encodes tiny pits of digital data into the lower surface of the plastic disc, which allowed for larger amounts of data to be stored.

1987

DATIn 1987, Sony introduced the Digital Audio Tape (DAT), a signal recording and playback machine. It resembled the audio cassette tape on the surface with a 4 millimeter magnetic tape enclosed into a protective shell.

1989

DDSIn 1989, Sony and Hewlett Packard introduced the Digital Data Storage (DDS) format to store and back up computer data on magnetic tape. The Digital Data Storage (DDS) format evolved from Digital Audio Tape (DAT) technology.

1990s

1990 MOD (PDF)The Magneto-Optical disc emerged onto the information technology field in 1990. This optical disc format used a combination of optical and magnetic technologies to store and retrieve digital data. A special magneto-optical drive is necessary to retrieve the data stored on these 3.5 to 5.25-inch discs.

1992

MiniDiscThe MiniDisk stored any kind of digital data; however, it was predominately used for audio. Sony introduced MiniDisk technology in 1991. In 1992, Philip's introduced the Diigtal Compact Cassette System (DCC). MiniDisk was intended to replace the audio cassette tape before it eventually phased out in 1996.

1993 DLT (PDF)

The Digital Equipment Corporation invented the Digital Linear Tape (DLT), an alternative to the magnetic tape technology used for computer storage.

1994

Compact FlashCompactFlash (CF), also known as “flash drives,” used flash memory in an enclosed disc to save digital data. CF devices are used in digital cameras and computers to store digital information.

ZipThe Zip drive became commonly used in 1994 to store digital files. It was a removable disk storage system introduced by Iomega.

1995

DVDDVD became the next generation of digital disc storage. DVD, a bigger and faster alternative to the compact disc, serves to store multimedia data.

SmartMediaToshiba launched the SmartMedia, a flash memory card, in the summer of 1995 to compete with MiniCard and SanDisk.

Phasewriter DualThe Phasewriter Dual (PD) was the first device that used phase-change technology to store digital data. Panasonic introduced the Phasewriter Dual device in 1995. It was replaced by the CD-ROM and DVD.

CD-RWThe Compact Disc Rewritable disc, a rewritable version of the CD-ROM, allows users to record digital data over previous data.

1997 Multimedia CardThe Multimedia Card (MMC) uses a flash memory card standard to house digital data. It was introduced by Siemen's and SanDisk in 1997.

1999 MicrodriveA USB Flash Drive uses a NAND-type flash memory to store digital data. A USB Flash Drive plugs into the USP interface on standard computers.

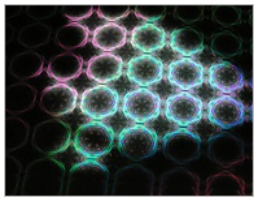
2000sSD CardThe Secure Digital (SD) flash memory format incorporates DRM encryption features that allow for faster file transfers. Standard SD cards measure 32 millimeters by 32 millimeters by 2.1 millimeters. A typical SD card stores digital media for a portable device.

2003 Blu Ray (PDF)Blu-Ray is the next generation of optical disc format used to store high definition video (HD) and high density storage. Blu-Ray received its name for the blue laser that allows it to store more data than a standard DVD. Its competitor is HD-DVD.

xD-Picture CardOlympus and Fujifilm introduced the xD-Picture Card in 2002, which are exclusively used for Olympus and Fujifilm digital cameras.

2004 WMV-HDThe Windows Media High Definition Video (WMV-HD) references high definition videos encoded with Microsoft Media Video nine codecs. WMV-D is compatible for computer systems running Windows Vista, Microsoft Windows XP. In addition, WMV-D is compatible with Xbox-360 and Sony's PlayStation 3.

HD-DVDHigh-Density Digital Versatile Disc (HD-DVD), a digital optical media format, uses the same disc size as Blu-Ray. It is promoted by Toshiba, NEC, and Sanyo.



Holographic (PDF) the future of computer memory resides in holographic technology. Holographic memory can store digital data at high density inside crystals and photo-polymers. The advantage of holographic memory lies in its ability to store a volume of recording media, instead of just on the surface of discs. In addition, it enables a 3D aspect that allows a phenomenon known as Bragg volume to occur.

Cloud Backup SolutionsZetta's cloud enables businesses to protect data using backup, recover from a disaster, and archive unused files using only a lightweight sofware client and Zetta's bi-coastal datacenters. As storage hardware and internet bandwidth continue to develop, so will Zetta's performance.

BLUE BRAIN TECHNOLOGY

VENUGOPALCHETTY.P.V.S

I -B.Sc(C.S)-"B"

Abstract:

The name of the world's first virtual brain. That means a machine that can function as human brain. Today scientists are in research to create an artificial brain that can think,

response, take decision, and keep anything in memory. The main aim is to upload human brain into machine. So that man can think, take decision without any effort. After the death of the body, the virtual brain will act as the man .So, even after the death of a person we will not loose the knowledge, intelligence, personalities, feelings and memories of that man that can be used for the development of the human society. No one has ever understood the complexity of human brain. It is complex than any circuitry in the world. So, question may arise "Is it really possible to create a human brain?" The answer is "Yes". Because whatever man has created today always he has followed the nature. When man does not have a device called computer, it was a big question for all .But today it is possible due to the technology. Technology is growing faster than every thing. IBM is now in research to create a virtual brain. It is called "Blue brain ".If possible, this would be the first virtual brain of the world.IBM, in partnership with scientists at Switzerland's EcolePolytechniqueFederale de Lausanne's (EPFL) Brain and Mind Institute will begin simulating the brain's biological systems and output the data as a working 3-dimensional model that will recreate the high-speed electro-chemical interactions that take place within the brain's interior. These include cognitive functions such as language, learning, perception and memory in addition to brain malfunction such as psychiatric disorders like depression and autism. From there, the modeling will expand to other regions of the brain and, if successful, shed light on the relationships between genetic, molecular and cognitive functions of the brain.

DEFINITION:

"Blue brain" –The name of the world's first virtual brain. That means a machine that can function as human brain. Today scientists are in research to create an artificial brain that can think, response, take decision, and keep anything in memory. The main aim is to upload human brain into machine. So that man can think, take decision without any effort. After the death of the body, the virtual brain will act as the man .So, even after the death of a person we will not loose the knowledge, intelligence, personalities, feelings and memories of that man that can be used for the development of the human society. No one has ever understood the complexity of human brain. It is complex than any circuitry in the world. So, question may arise "Is it really possible to create a human brain?" The answer is "Yes". Because whatever man has created today always he has followed the nature. When man does not have a device called computer, it was a big question for all .But today it is possible due to the technology. Technology is growing faster than everything. IBM is now in research to create a virtual brain. It is called "Blue brain ".If possible, this would be the first virtual brain of the world.

WHAT IS BLUE BRAIN?

The IBM is now developing a virtual brain known as the Blue brain. It would be the world's first virtual brain. Within 30 years, we will be able to scan ourselves into the computers. Is this the beginning of external life?

WHAT IS VIRTUAL BRAIN?

We can say Virtual brain is an artificial brain, which does not actually the natural brain, but can act as the brain .It can think like brain, take decisions based on the past experience, and response as the natural brain can. It is possible by using a super computer, with a huge amount of storage capacity, processing power and an interface between the human brain and this artificial one .Through this interface the data stored in the natural brain can be up loaded into the computer .So the brain and the knowledge, intelligence of anyone can be kept and used for ever, even after the death of the person.

Wanted In VIRTUAL BRAIN?

Today we are developed because of our intelligence. Intelligence is the inborn quality that cannot be created. Some people have this quality, so that they can think up to such an extent where other cannot reach. Human society is always needed of such intelligence and such an intelligent brain to have with. But the intelligence is lost along with the body after the death. The virtual brain is a solution to it. The brain and intelligence will alive even after the death.

We often face difficulties in remembering things such as people's names, their birthdays, and the spellings of words, proper grammar, important dates, history facts, and etcetera. In the busy life every one wants to be relaxed. Cannot we use any machine to assist for all these? Virtual brain may be the solution to it. What if we upload ourselves into computer, we were simply aware of a computer, or maybe, what if we lived in a computer as a program.

HOW IT IS POSSIBLE?

First, it is helpful to describe the basic manners in which a person may be uploaded into a computer. Raymond Kurzweil recently provided an interesting paper on this topic. In it, he describes both invasive and noninvasive techniques. The most promising is the use of very small robots, or nanobots. These robots will be small enough to travel throughout our circulatory systems. Traveling into the spine and brain, they will be able to monitor the activity and structure of our central nervous system. They will be able to provide an

interface with computers that is as close as our mind can be while we still reside in our biological form. Nanobots could also carefully scan the structure of our brain, providing a complete readout of the connections between each neuron. They would also record the current state of the brain. This information, when entered into a computer, could then continue to function as us. All that is required is a computer with large enough storage space and processing power. Is the pattern and state of neuron connections in our brain truly all that makes up our conscious selves? Many people believe firmly those we possess a soul, while some very technical people believe that quantum forces contribute to our awareness. But we have to now think technically. Note, however, that we need not know how the brain actually functions, to transfer it to a computer. We need only know the media and contents. The actual mystery of how we achieved consciousness in the first place, or how we maintain it, is a separate discussion.

Really this concept appears to be very difficult and complex to us. For this we have to first know how the human brain actually works.

HOW THE NATURAL BRAIN WORKS?

The human ability to feel, interpret and even see is controlled, in computer like calculations, by the magical nervous system. Yes, the nervous system is quite like magic because we can't see it, but its working through electric impulses through your body.

One of the worlds most "intricately organized" electron mechanisms is the nervous system. Not even engineers have come close to making circuit boards and computers as delicate and precise as the nervous system. To understand this system, one has to know the three simple functions that it puts into action: sensory input, integration, motor output.

• Sensory input:

When our eyes see something or our hands touch a warm surface, the sensory cells, also known as Neurons, send a message straight to your brain. This action of getting information from your surrounding environment is called sensory input because we are putting things in your brain by way of your senses.

• Integration:

Integration is best known as the interpretation of things we have felt, tasted, and touched with our sensory cells, also known as neurons, into responses that the body recognizes. This process is all accomplished in the brain where many, many neurons work together to understand the environment.

• Motor Output:

Once our brain has interpreted all that we have learned, either by touching, tasting, or using any other sense, then our brain sends a message through neurons to effecter cells, muscle or gland cells, which actually work to perform our requests and act upon our environment. The word motor output is easily remembered if one should think that our putting something out into the environment through the use of a motor, like a muscle which does the work for our body.

BRAIN SIMULATION:

Now the question is how to implement this entire natural thing by using artificial things. Here is a comparative discussion.

• Input

In the nervous system in our body the neurons are responsible for the message passing. The body receives the input by the sensory cells. These sensory cells produces electric impulses which are received by the neurons .The neurons transfer these electric impulses to the brain.

• Interpretation

The electric impulses received by the brain from the neurons are interpreted in the brain .The interpretation in the brain is accomplished by the means of certain states of many neurons.

• Output

Based on the states of the neurons the brain sends the electric impulses representing the responses which are further received by the sensory cell of our body to respond. The sensory cells of which part of our body is going to receive that, it depends upon the state o f the neurons in the brain at that time.

• Memory

There are certain neurons in our brain which represent certain states permanently. When required these state is interpreted by our brain and we can remember the past things. To remember thing we force the neurons to represent certain states of the brain permanently or for any interesting or serious matter this is happened implicitly.

• Processing

When we take decision, think about something, or make any computation,Logical and arithmetic calculations are done in our neural circuitry .The past experience stored and the current input received are used and the states of certain neurons are changed to give the output .Now there is no question how the virtual brain will work .But the question is how the human brain will be up loaded into it . This is also possible due to the first growing technology.

UPLOADING HUMAN BRAIN:

The uploading is possible by the use of small robots known as the Nanobots .These robots are small enough to travel throughout our circulatory system. Traveling into the spine and brain, they will be able to monitor the activity and structure of our central nervous system. They will be able to provide an interface with computers that is as close as our mind can be while we still reside in our biological form. Nanobots could also carefully scan the structure of our brain, providing a complete readout of the connections. This information, when entered into a computer, could then continue to function as us. Thus the data stored in the entire brain will be uploaded into the computer.

CURRENT RESEARCH WORK:

1.IBM, in partnership with scientists at Switzerland's EcolePolytechniqueFederale de Lausanne's (EPFL) Brain and Mind Institute will begin simulating the brain's biological systems and output the data as a working 3-dimensional model that will recreate the high-speed electro-chemical interactions that take place within the brain's interior. These include cognitive functions such as language, learning, perception and memory in addition to brain malfunction such as psychiatric disorders like depression and autism. From there, the modeling will expand to other regions of the brain and, if successful, shed light on the relationships between genetic, molecular and cognitive functions of the brain.

2. Researchers at Microsoft's Media Presence Lab are developing a "virtual brain," a PC-based database that holds a record of an individual's complete life experience. Called MyLifeBits, the project aims to make this database of human memories searchable in the manner of a conventional search engine. "By 2047, almost all information will be in cyberspace including all knowledge and creative works, said one of the project's leaders, Gordon Bell.

3. According to the new scientist Magazine report Rodrigo Laje and Gabriel Mindlin of the University of Buenos Aires in Argentina have devised a computer model of a region of the brain called the RA nucleus which controls muscles in the lungs and vocal folds.

The model brain can accurately echo the song of a South American sparrow. The bird sing by forcing air from their lungs past folds of tissue in the voice box. The electric impulses from the brain that force the lungs had been recorded and when the equivalent impulses were passed to the computer model of the lungs of the bird it begins to sing like the bird. Mr. Mindlin told the weekly science magazine he was surprised that simple instructions from the brain change a constant signal into a complex series of bursts to produce the intricacies of birdsong. He plans to add more brain power to his model which might reveal how birds improve their songs and learn them from other birds.He hopes it might one day be possible to use similar models to map the neural [brain] circuitry of animals without distressing lab experiments - just by recording their calls and movements, the magazine said.

ADVANTAGES AND LIMITATION:

ADVANTAGES

1. We can remember things without any effort.

2. Decision can be made without the presence of a person.

3. Even after the death of a man his intelligence can be used.

4. The activity of different animals can be understood. That means by interpretation of the electric impulses from the brain of the animals, their thinking can be understood easily.

5. It would allow the deaf to hear via direct nerve stimulation, and also be helpful for many psychological diseases. By down loading the contents of the brain that was uploaded into the computer, the man can get rid from the mad ness.

DISADVANTAGES:

1. We become dependent upon the computer systems.

2. Others may use technical knowledge against us.

3. Computer viruses will pose an increasingly critical threat.

4. The real threat, however, is the fear that people will have of new technologies. That fear may culminate in a large resistance. Clear evidence of this type of fear is found today with respect to human cloning.

CONCLUSION:

In conclusion, we will be able to transfer ourselves into computers at some point. Most arguments against this outcome are seemingly easy to circumvent. They are either simple minded, or simply require further time for technology to increase. The only serious threats raised are also overcome as we note the combination of biological and digital technologies.

STEREO DISPLAY

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A stereo display (also 3D display) is a display device capable of conveying depth perception to the viewer by means of stereopsis for binocular vision.

Types of stereo displays - Stereoscopy vs. 3D

The basic technique of stereo displays is to present offset images that are displayed separately to the left and right eye. Both of these 2D offset images are then combined in the brain to give the perception of 3D depth. Although the term "3D" is ubiquitously used, it is important to note that the presentation of dual 2D images is distinctly different from displaying an image in three full dimensions.

The most notable difference to real 3D displays is that the observer's head and eyes movements will not increase information about the 3-dimensional objects being displayed. For example holographic displays do not have such limitations. Similar to how in sound reproduction it is not possible to recreate a full 3-dimensional sound field merely with two stereophonic speakers, it is likewise an overstatement of capability to refer to dual 2D images as being "3D".

The accurate term "stereoscopic" is more cumbersome than the common misnomer "3D", which has been entrenched after many decades of unquestioned misuse. It is to note that

although most stereoscopic displays do not qualify as real 3D display, all real 3D display are also stereoscopic displays because they meet the lower criteria as well.

Stereo displays

Based on the principles of stereopsis, described by Sir Charles Wheatstone in the 1830s, stereoscopic technology provides a different image to the viewer's left and right eyes. The following are some of the technical details and methodologies employed in some of the more notable stereoscopic systems that have been developed.

"The early bird catches the worm" Stereograph published in 1900 by North-Western View Co. of Baraboo, Wisconsin, digitally restored.

Traditional stereoscopic photography consists of creating a 3D illusion starting from a pair of 2D images, a stereogram. The easiest way to enhance depth perception in the brain is to provide the eyes of the viewer with two different images, representing two perspectives of the same object, with a minor deviation exactly equal to the perspectives that both eyes naturally receive in binocular vision.

If eyestrain and distortion are to be avoided, each of the two 2D images preferably should be presented to each eye of the viewer so that any object at infinite distance seen by the viewer should be perceived by that eye while it is oriented straight ahead, the viewer's eyes being neither crossed nor diverging. When the picture contains no object at infinite distance, such as a horizon or a cloud, the pictures should be spaced correspondingly closer together.

The side-by-side method is extremely simple to create, but it can be difficult or uncomfortable to view without optical aids.

Stereoscope and stereographic cards

A stereoscope is a device for viewing stereographic cards, which are cards that contain two separate images that are printed side by side to create the illusion of a three-dimensional image.

Transparency viewers

Pairs of stereo views printed on a transparent base are viewed

by transmitted light. One advantage of transparency viewing is the opportunity for a wider, more realistic dynamic range than is practical with prints on an opaque base; another is that a wider field of view may be presented since the images, being illuminated from the rear, may be placed much closer to the lenses.

The practice of viewing film-based stereoscopic transparencies dates to at least as early as 1931, when Tru-Vue began to market sets of stereo views on strips of 35 mm film that were fed through a hand-held Bakelite viewer. In 1939, a modified and miniaturized variation of this technology, employing cardboard disks containing seven pairs of small Kodachrome color film transparencies, was introduced as the View-Master.

Head-mounted displays

The user typically wears a helmet or glasses with two small LCD or OLED displays with magnifying lenses, one for each eye. The technology can be used to show stereo films, images or games. Head-mounted displays may also be coupled with head-tracking devices, allowing the user to "look around" the virtual world by moving their head, eliminating the need for a separate controller.

Owing to rapid advancements in computer graphics and the continuing miniaturization of video and other equipment these devices are beginning to become available at more reasonable cost. Head-mounted or wearable glasses may be used to view a see-through image imposed upon the real world view, creating what is called augmented reality. This is done by reflecting the video images through partially reflective mirrors. The real world view is seen through the mirrors' reflective surface.

Anaglyph

The archetypal 3D glasses, with modern red and cyan color filters, similar to the red/green and red/blue lenses used to view early anaglyph films.

In an anaglyph, the two images are superimposed in an additive light setting through two filters, one red and one cyan. In a subtractive light setting, the two images are printed in the same complementary colors on white paper. Glasses with colored filters in each eye separate the appropriate images by canceling the filter color out and rendering the complementary color black. A compensating technique, commonly known as Anachrome, uses a slightly more transparent cyan filter in the patented glasses associated with the technique. Process reconfigures the typical anaglyph image to have less parallax.

An alternative to the usual red and cyan filter system of anaglyph is ColorCode 3-D, a patented anaglyph system which was invented in order to present an anaglyph image in conjunction with the NTSC television standard, in which the red channel is often

compromised. ColorCode uses the complementary colors of yellow and dark blue on-screen, and the colors of the glasses' lenses are amber and dark blue.

Polarization systems

Resembling sunglasses, RealD circular polarized glasses are now the standard for theatrical releases and theme park attractions.

To present a stereoscopic picture, two images are projected superimposed onto the same screen through different polarizing filters. The viewer wears eyeglasses which also contain a pair of polarizing filters oriented differently (clockwise/counterclockwise with circular polarization or at 90 degree angles, usually 45 and 135 degrees, with linear polarization).

As each filter passes only that light which is similarly polarized and blocks the light polarized differently, each eye sees a different image. This is used to produce a three-dimensional effect by projecting the same scene into both eyes, but depicted from slightly different perspectives.

Additionally, since both lenses have the same color, people with one dominant eye (amblyopia), where one eye is used more, are able to see the 3D effect, previously negated by the separation of the two colors.

Circular polarization has an advantage over linear polarization, in that the viewer does not need to have their head upright and aligned with the screen for the polarization to work properly. With linear polarization, turning the glasses sideways causes the filters to go out of alignment with the screen filters causing the image to fade and for each eye to see the opposite frame more easily. For circular polarization, the polarizing effect works regardless of how the viewer's head is aligned with the screen such as tilted sideways, or even upside down. The left eye will still only see the image intended for it, and vice versa, without fading or crosstalk.

All types of polarization will result in a darkening of the displayed image and poorer contrast compared to non-3D images. Light from lamps is normally emitted as a random collection of polarizations, while a polarization filter only passes a fraction of the light. As a result the screen image is darker. This darkening can be compensated by increasing the brightness of the projector light source. If the initial polarization filter is inserted between the lamp and the image generation element, the light intensity striking the image element is not any higher than normal without the polarizing filter, and overall image contrast transmitted to the screen is not affected.

Eclipse method

A pair of LCD shutter glasses used to view XpanD 3D films. The thick frames conceal the electronics and batteries.

With the eclipse method, a shutter blocks light from each appropriate eye when the converse eye's image is projected on the screen. The display alternates between left and right images, and opens and closes the shutters in the glasses or viewer in synchronization with the images on the screen. This was the basis of the Teleview system which was used briefly in 1922. A variation on the eclipse method is used in LCD shutter glasses.

Glasses containing liquid crystal that will let light through in synchronization with the images on the cinema, television or computer screen, using the concept of alternate-frame sequencing. This is the method used by nVidia, XpanD 3D, and earlier IMAX systems.

A drawback of this method is the need for each person viewing to wear expensive, electronic glasses that must be synchronized with the display system using a wireless signal or attached wire. The shutter-glasses are heavier than most polarized glasses, though lighter models are no heavier than some sunglasses or deluxe polarized glasses. However these systems do not require a silver screen for projected images.

Liquid crystal light valves work by rotating light between two polarizing filters. Due to these internal polarizers, LCD shutter-glasses darken the display image of any LCD, plasma, or projector image source, which has the result that images appear dimmer and contrast is lower than for normal non-3D viewing. This is not necessarily a usage problem; for some types of displays which are already very bright with poor grayish black levels, LCD shutter glasses may actually improve the image quality.

Interference filter technology

Dolby 3D uses specific wavelengths of red, green, and blue for the right eye, and different wavelengths of red, green, and blue for the left eye. Eyeglasses which filter out the very specific wavelengths allow the wearer to see a 3D image. This technology eliminates the expensive silver screens required for polarized systems such as RealD, which is the most common 3D display system in theaters. It does, however, require much more expensive glasses than the polarized systems. It is also known as spectral comb filtering or wavelength multiplex visualization

The recently introduced Omega 3D/Panavision 3D system also uses this technology, though with a wider spectrum and more "teeth" to the "comb" (5 for each eye in the Omega/Panavision system). The use of more spectral bands per eye eliminates the

need to color process the image, required by the Dolby system. Evenly dividing the visible spectrum between the eyes gives the viewer a more relaxed "feel" as the light energy and color balance is nearly 50-50. Like the Dolby system, the Omega system can be used with white or silver screens.

But it can be used with either film or digital projectors, unlike the Dolby filters that are only used on a digital system with a color correcting processor provided by Dolby. The Omega/Panavision system also claims that their glasses are cheaper to manufacture than those used by Dolby. In June 2012 the Omega 3D/Panavision 3D system was discontinued by DPVO Theatrical, who marketed it on behalf of Panavision, citing "challenging global economic and 3D market conditions". Although DPVO dissolved its business operations, Omega Optical continues promoting and selling 3D systems to non-theatrical markets. Omega Optical's 3D system contains projection filters and 3D glasses. In addition to the passive stereoscopic 3D system, Omega Optical has produced enhanced anaglyph 3D glasses. The Omega's red/cyan anaglyph glasses use complex metal oxide thin film coatings and high quality annealed glass optics.

Autostereoscopy

The Nintendo 3DS uses parallax barrier autostereoscopy to display a 3D image.

In this method, glasses are not necessary to see the stereoscopic image. Lenticular lens and parallax barrier technologies involve imposing two (or more) images on the same sheet, in narrow, alternating strips, and using a screen that either blocks one of the two images' strips (in the case of parallax barriers) or uses equally narrow lenses to bend the strips of image and make it appear to fill the entire image (in the case of lenticular prints).

To produce the stereoscopic effect, the person must be positioned so that one eye sees one of the two images and the other sees the other. The optical principles of multiview auto-stereoscopy have been known for over a century.

Both images are projected onto a high-gain, corrugated screen which reflects light at acute angles. In order to see the stereoscopic image, the viewer must sit within a very narrow angle that is nearly perpendicular to the screen, limiting the size of the audience. Lenticular was used for theatrical presentation of numerous shorts in Russia from 1940 to 1948 and in 1946 for the feature length film Robinzon Kruzo

Though its use in theatrical presentations has been rather limited, lenticular has been widely used for a variety of novelty items and has even been used in amateur 3D photography. Recent use includes the Fujifilm FinePix Real 3D with an autostereoscopic display that was released in 2009. Other examples for this technology include

autostereoscopic LCD displays on monitors, notebooks, TVs, mobile phones and gaming devices, such as the Nintendo 3DS.

Other methods

A random dot autostereogram encodes a 3D scene which can be "seen" with proper viewing technique

An autostereogram is a single-image stereogram (SIS), designed to create the visual illusion of a three-dimensional (3D) scene from a two-dimensional image in the human brain. In order to perceive 3D shapes in these autostereograms, the brain must overcome the normally automatic coordination between focusing and vergence.

The Pulfrich effect is a psychophysical percept wherein lateral motion of an object in the field of view is interpreted by the visual cortex as having a depth component, due to a relative difference in signal timings between the two eyes.

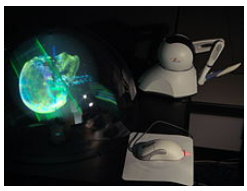
Prismatic glasses make cross-viewing easier as well as over/under-viewing possible, examples include the KMQ viewer.

Wiggle stereoscopy is an image display technique achieved by quickly alternating display of left and right sides of a stereogram. Found in animated GIF format on the web.

3D displays

Real 3D displays displaying an image in three full dimensions. The most notable difference to stereoscopic displays with only two 2D offset images is that the observer's head and eyes movement will increase information about the 3-dimensional objects being displayed.

Volumetric display



Volumetric displays use some physical mechanism to display points of light within a volume. Such displays use voxels instead of pixels. Volumetric displays include multiplanar displays, which have multiple display planes stacked up, and rotating panel displays, where a rotating panel sweeps out a volume.

Other technologies have been developed to project light dots in the air above a device. An infrared laser is focused on the destination in space, generating a small bubble of plasma which emits visible light.

Holographic displays

Holographic display is a display technology that has the ability to provide all four eye mechanism: binocular disparity, motion parallax, accommodation and convergence. The 3D objects can be viewed without wearing any special glasses and no visual fatigue will be caused to human eyes.

Integral imaging

Integral imaging is an autostereoscopic or multiscopic 3D display, meaning that it displays a 3D image without the use of special glasses on the part of the viewer. It achieves this by placing an array of microlenses (similar to a lenticular lens) in front of the image, where each lens looks different depending on viewing angle. Thus rather than displaying a 2D image that looks the same from every direction, it reproduces a 4D light field, creating stereo images that exhibit parallax when the viewer moves.

Compressive Light Field Displays

With rapid advances in optical fabrication, digital processing power, and computational models for human perception, a new generation of display technology is emerging: compressive light field displays. These architectures explore the co-design of optical elements and compressive computation while taking particular characteristics of the human visual system into account. Compressive display designs include dual and multilayer devices that are driven by algorithms such as computed tomography and Non-negative matrix factorization and non-negative tensor factorization.

Some Excellent Open Source Tools for Web Developers

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Web developers have a fond love for open source tools because these tools are generally free of cost and best, but they can be modified in any way the developer sees fit.

While .NET and other paid technologies and tools do have their place on the Web, it really is open source tools and applications that power it. There are thousands of great open source applications and picking the best among them is really hard since so many people have their own personal favorites. The list prepared for you represents best open source tools almost any Web developer can use every day:

KompoZer:

All the fans of Dreamweaver might consider KompoZer the poor man's choice but actually this isn't so. KompoZer, the former Nvu, is a WISYWIG HTML editor that, unlike Dreamweaver, doesn't require an ultra powerful PC just to open a file. KompoZer is a light-weight application but it is a good choice even for advanced programming tasks.

Eclipse:

This software development environment is comprised of the IDE and plug-in system that allows programmers to develop applications in Java, C, C++, COBOL, Python, Perl, PHP, and other languages. Eclipse is another lightweight application running only a small run-time kernel. The actual functionality of the IDE comes from the large number of plug-ins available.

Komodo Edit:

All the fans of Dreamweaver might consider KompoZer the poor man's choice but actually this isn't so. KompoZer, the former Nvu, is a WISYWIG HTML editor that, unlike Dreamweaver, doesn't require an ultra powerful PC just to open a file. KompoZer is a light-weight application but it is a good choice even for advanced programming tasks.

Amaya:

Go green, promote open source. It is a lightweight web authoring tool not only falls under the open source definition and GNU GPL, but because it is lightweight, it uses far less computing resources than its counterparts. Its functionality ain't too shabby either. Acting as both a browser and an editor, Amaya allows the developer to create, edit, view, copy, paste, and upload all from within a single environment.

Apache:

Apache is the Web server that no Web developer can go without. Apache is fast and reliable but mastering it can be a bit hard, especially for a beginner.

Editra:

Built on Widgets, this cross-platform text editor holds quite a bit of functionality in a small package. In addition to including syntax highlighting for over sixty programming languages, it boasts tabbed windows, language keyword helper, line edit commands, transparency support, as well as custom workspace views. Editra boasts a large library of plug-ins as well that help enhance its functionality. For example, the Launch plug-in lets you run scripts from within Editra and allows for custom output parsing and filtering in many of the supported languages.

Xenu:

Xenu checks for broken links in normal text links, images, frames, plug-ins, backgrounds, local image maps, style sheets, scripts and java applets. Once you have run a check against your site, Xenu offers you a multitude of sorting criteria and reporting features.

To help verify if links really are broken, or just down due to network errors, Xenu allows you to recheck broken links. And, Xenu works with SSL as well!

Selenium:

Selenium IDE is a Firefox add-on that records clicks, typing, and other actions to make a test, which you can play back in the browser. Remote Control lets you run the tests in different browsers or on different platforms for a comprehensive run of your application in many different environments.

Postgre SQL:

MySQL is a good choice for a relational DB but if you have some reasons not to use it, you could consider an alternative, such as PostgreSQL.

OpenSTA

Once you finish coding your application you are not done yet. You need to test it. While there are tons of tests you can (and should) do, one of the tests you shouldn't skip under any circumstances is load testing. With the help of OpenSTA you can perform the necessary tests to make sure that your application doesn't misbehave under stress.

OpenLazlo

This Bossie (InfoWorld's Best of Open Source Software) winner allows you to create Rich Internet Applications, or RIAs, without the cost of Adobe Flex Builder. It not only provides developers with a great tool for creating dynamic, interactive websites, but it chips away at the theory that FLOSS doesn't work in the business world. Both H & R Block and Wal Mart's web sites are featured in the Open Laszlo showcase.

Drupal:

It is a very powerful open source CMS,just like Word Press and Joomla If you are a beginner it is a best tool because Getting static pages on a Drupal site is easier than in Word Press or Joomla

Another reason is Ubercart, the e-commerce tool for Drupal is excellent, it is a community base and community support is very good.

XAMPP:

If you want to write Web applications, a Web server is only the foundation. You need other tools, such as the relational MySQL database and the PHP language framework. Installing and configuring them one by one is not rocket science but it is

much easier when you get XAMPP – a bundle with Apache, PHP, and MySQL. XAMPP is very easy to install.

Inscape:

It is a vector based graphics application and most popular open source option for a graphics tool. It supports the standard Scalable vector graphics file formats as well others. It imports files from many formats like .jpg, .png, .tif and others

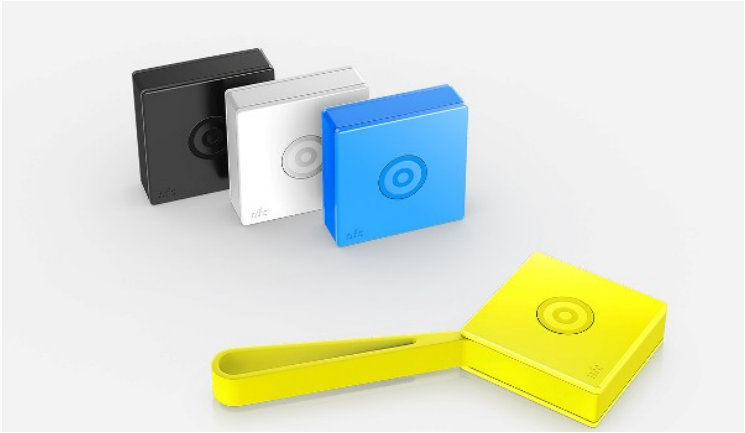
File Zilla:

It is a open source FTP, FTPs and SFTP client, Created in January 2001 by Tim Klosse as a class project. It is fifth most popular downloads of all time from Source Forge .net. It is a cross platform runs on Windows, Linux, Mac OSx and more. It resumes and transfers of files larger than 4GB.

Nokia Treasure Tag Helps You Keep An Eye On Your Valuables

C.GnanaSekaran
II-B.Sc (CS)-"A"

For all those who find it difficult to keep track of their valuables, Nokia has launched a new accessory for its Lumia range of smartphones which make sure that the valuables are always monitored. Nokia Treasure Tag can be put on any item thanks to its tiny size. The coloured tags measure 30 x 30 x 10 mm and weigh just 13 grams. The Treasure tags can be paired with smartphones using NFC or Bluetooth. The companion Nokia Treasure Tag app is currently available only for Windows Phone devices but the company has stated in the press release that third party apps will soon be launched for iOS and Android devices. Once you have attached the tags to the valuables of your choice and



paired them with your smartphone you can assign ready-made icons for every tag on the app. There is also an option that lets you use take the photograph of the tagged object and use them as icons on the app. For easy accessibility, users can also place the tags as a Live Tile on the Windows Phone Start screen. These live tiles will give you updates regarding the location of the tagged item.

The tags have been programmed to emit a loud tone when they are out of range of the smartphone. For example you are heading out of your house and forgotten to take your tagged wallet with you, the tag attached to the wallet will send out an audible alert. This also works vice-versa, for instance of you have taken a tagged item out of your house and forgotten to take your smartphone with you, the smartphone will emit a loud alert. If for some reason you have not heard the beep and managed to lose your tagged item, you can easily locate its location on the HERE Maps app on the smartphone. The companion app can also be used to trigger the alert if you are unable to find the tagged item. This will definitely help many people like me who often misplace their TV remote controls. If you have attached a Nokia Treasure tag to your remote control you can now use your smartphone to locate it. A maximum of four tags can be paired with a single smartphone. Nokia Treasure tags are powered by user replaceable non rechargeable 3-volt CR 2013 (5004LC) 220mAh alkaline batteries that are claimed to last for 180 days on standby. Nokia Treasure Tag will be available globally in cyan, yellow, white and black colour variants starting from April 2014 for a retail price of 29.90 USD which is approximately 1,860 Indian rupees.

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Senior Vice President at Google

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