

TECHERA



**Wear your failure
as a badge of Honor.**

-sunder pichai



MITS

Dept. of CSE

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IN THIS ISSUE.

Lifi technology	1 - 3
5g wireless network.....	4 - 6
Touch Me Dude.....	- 7
SMART PHONE.....	8 - 9
Ibeacons.....	10 - 11
speech to Text converter.....	- 12
Big Data.....	13 - 14
super computers.....	- 15
Resistive touch screen.....	16 - 17
smart sensors.....	18 - 19
5 pen technology.....	20 - 22
WIMAX TECHNOLOGY.....	23 - 24
Voice Email system for Blind People.....	25 - 26
FUTURE GENERATION DNA COMPUTER.....	27 - 28
COMPUTER FORENSICS.....	29 - 30
cloud computing.....	31 - 33
Browse It.....	- 34
MOBILE NUMBER PORTABILITY.....	- 35
Art Gallary.....
Revolutionary changes in CS.....

LIFI TECHNOLOGY



Day-to-day there are a lot of advancements in technology. It is undeniable in our daily lives. In this aspect, Li-fi technology is the growing one.

WHAT IS LI-FI?

Li-Fi is a visible light communications system also wireless communications travelling at very high speeds. This uses household LED (Light Emitting Diode) bulbs to enable data and transfer, speeds of up to 224 gigabits per second. It uses light waves instead of radio waves.

Harald Haas is the first man who coined the term Li-Fi. He is the chairperson of Mobile communications in the university of Edinburgh and the co-founder of pure Li-Fi. He introduced the concept of “wireless data from every light.” Harald, in the year 2012, after his four years of research on light bulbs he set up a company, pure Li-Fi .

HOW DOES A LI-FI WORKS ?

Li-Fi and Wi-Fi are quiet similar, as both transmit data electromagnetically. Although Wi-Fi is in use, Li-Fi is more advantageous compared to Wi-Fi, because Wi-Fi uses radio waves to transmit data whereas Li-Fi uses visible light whose bandwidth is more. Li-Fi accommodates a photo-detector to receive light signals and a signal processing element to convert the data into a content that is a continuous flow of data. Along with this an LED is a light bulb which acts as a semi conductor is at one end and a photo-detector on the other end. This photo- detector or light sensor detect the light coming from the LED bulb on the other end and get a binary 1 otherwise binary 0.

HOW DATA IS TRANSMITTED VIA LI-FI ?

Add a lit Certain times we are able to build up a message to transmit. This happens when we flash together the green laser with the red laser it is observed that we will be transmit data at 1gbps.the bit of body text

For example data is fed into a LED bulb by dipping and dimming of constant current of electricity at extremely high speeds with signal processing technology, it then sends data which is embedded in its beam at rapid speeds to the photo-detector. These small changes in LED light bulbs is then converted into the electrical signal by the receiver called photo detector. This electric signal is then converted back into a binary data stream, which is recognized as a web, video and audio applications that run on internet enable devices.

ADVANTAGES WITH LI-FI TECHNOLOGY

- As Li-Fi works on visible light technology which is a short ranged one is very advantageous. Since homes, offices, shopping malls, industries and even vehicles have LED bulbs for lighting purposes, by this new technology now these are useful for transmitting data. It is very efficient in energy as well as costs. Where ever there is a light source, there can be internet which meant that, now high-speed data is available everywhere.
- One of the main advantages with Li-Fi technology is security. As Li-Fi cannot pass through opaque surfaces structures like walls, therefore its internet is available only to the users within the room itself but not by the users of other rooms and areas. Li-Fi with its 224 gigabits leaves Wi-Fi in dust.

DISADVANTAGES EXIST WITH LI-FI ARE

- As light cannot penetrate through walls, the signals range is limited. Also other sources of light may interface with the signals.
- Sunlight will interface the signals resulting in interrupted internet. Also if there is lack of light bulbs there is a lack of Li-Fi only.

SCOPE FOR LI-FI IN THE FUTURE

Pure Li-Fi has two products already on the market. One is Li-flame ceiling unit to connect to an LED light and the other is Fixture and Li-flame desktop unit which connects to a device via USB.

.These both are aiming to provide light and connectivity in one device along with faster connectivity and data transmission. This is very helpful for businesses. For example, shop owners could transmit data to the customers phones securely and remotely and Quickly.

With the help of UAE based telecommunications provider du and zero 1, Li-fi is reportedly tested in Dubai. Apple also may build future iphones with Li-Fi capabilities

CONCLUSION

Finally my conclusion is as a whole that a new infrastructure for Li-Fi would need to be constructed for better use without any drawbacks and abstracts.



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You have two jugs - 1 has a 5 quart capacity and the other has 3 quarts. They both have irregular shapes - that means you cannot tell by simply looking how full the jugs are unless you fully fill them up with water. Now, with unlimited supply of water, how would you obtain 4 quarts of water using the two jugs?





5G (5th generation mobile networks or 5th generation wireless systems) is a name used in some research papers and projects to denote the next major phase of telecommunications standards beyond the upcoming 4G standards.

5G technology has changed the means to use cell phones within very high bandwidth. User never experienced ever before such a high valued technology. The 5G technologies include all type of advanced features which makes 5G technology most powerful and huge demand in future

INTRODUCTION

5G technology is going to be a new mobile revolution in mobile market. Through 5G technology now you can use worldwide cellular phones and this technology also strike the china mobile market. 5G technology has extraordinary data capabilities and has to tie together unrestricted call volumes and infinite data broadcast within latest mobile operating system. 5G technology has a bright future because it can handle best technologies and offer priceless handset to their customers. May be in coming days 5G technology takes over the world market.

5G technologies have an extraordinary capability to support software and consultancy. The router and switch technology used in 5G network providing high connectivity. The 5G technology distributes internet access to nodes within the building and can be deployed with union of wired or wireless network connections. The current trend of 5G technology has glowing future.

The 5G terminals will have software defined radios and modulation schemes as well as new error control schemes that can be downloaded from the internet. The development is seen towards the user terminals as a focus of the 5G mobile networks. The terminals will have access to different wireless technologies at the same time and the terminal should be able to combine different flows from different technologies. In 5G, each network will be responsible for handling user-mobility, while the terminal will make the final choice among different wireless/mobile access network providers for a given service. Such a choice will be based on open intelligent middleware in the mobile phone.

NETWORK LAYER



The fixed IPv6 will be implemented in the mobile phone by 5G phone manufactures. The 5G mobile phone shall maintain virtual multi-wireless network environment. For this purpose there should be separation of the network layer into sub-layers in 5G mobiles i.e. Lower network layer (for inference) and upper network layer (for the mobile terminal). This is due to the initial design of the internet, where all the routing is based on IP addresses which should be different in each IP network worldwide.

FEATURES

- 5G technology offers high resolution for crazy cell phone users and bi-directional large bandwidth shaping.
 - The advanced billing interfaces of 5G technology make it more attractive and effective.
 - Remote diagnostics are also a great feature of 5G technology.
 - 5G technology is providing up to 25Mbps connectivity speed.
 - 5G technology also supports virtual private networks.
 - The new 5G technology will take all delivery services out of business prospect.
 - The uploading and downloading speed of 5G technology is touching the peak.
- 5G technology is providing large broadcasting of data in gigabit which is supporting almost 65,000 connections.

CONCLUSION

- 5G technology is going to be a new revolution in wireless systems in the market.
- 5G will promote the concept of super core, where all the network operators will be connected to one single core and have a single infrastructure.

- 5G will bring evaluation of active infra sharing and managed services and eventually all existing network operators will be MVNO's(mobile virtual operators).

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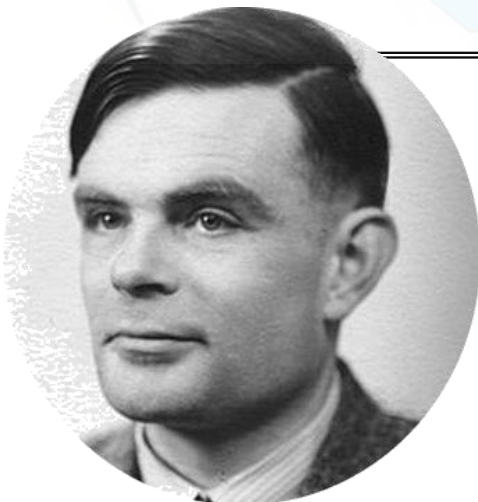
&

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You have 8 pool balls. The problem is, one of them is heavier than the rest. You have two attempts to find the heavier ball using a weight balance. Now show me how to do it!



ALAN TURING

Famed mathematician Alan Turing proved in his 1936 paper, "On Computable Numbers," that a universal algorithmic method of determining truth in math cannot exist.

Do You Know : . The Apple inventor Steve jobs never wrote a single line of programming code.

6

GAME : TOUCH ME DUDE.



Creation and design of an android application using MIT app inventor.

ABOUT MIT APP INVENTOR.

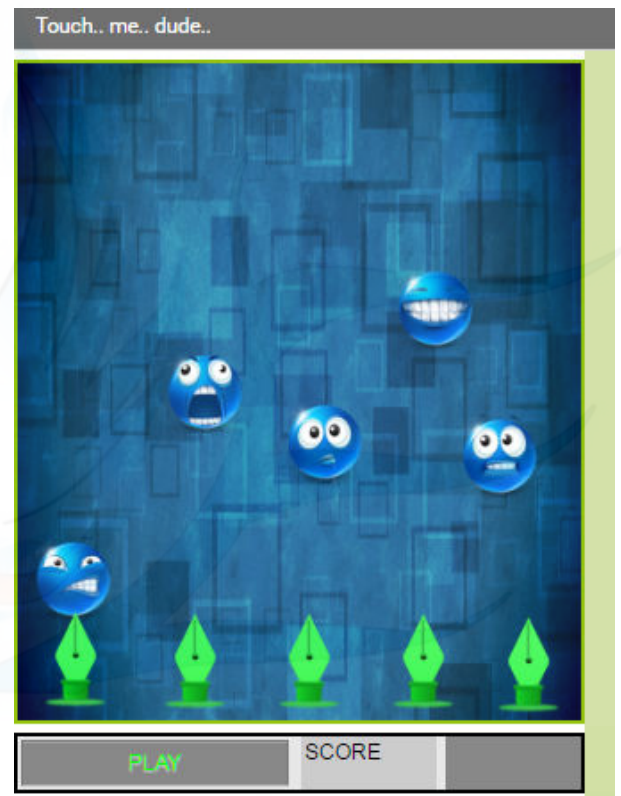
App Inventor for Android is an open-source web application originally provided by Google, and now maintained by the Massachusetts Institute of Technology (MIT). It allows newcomers to computer programming to create software applications for the Android operating system .

ABOUT TOUCH ME DUDE.

- Elements are two images as background screens.
- Emojis for spirit animations.

HOW IT WORKS ?

- When the start button is clicked, it calls the next screen according to code written in predefined blocks.
- When you click the button play, The image sprites starts scrolling vertically .
- when sprite is tapped its speed rate increases gradually.



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SMART PHONE



In the short span of the time smart phones have a great impact on the human everyday life. But it is yet to display that in the field of the health care and the medicines. And this article explore the ways in that smart phones and the internet can improve in the medicine field both in the today and the future.

SMART PHONE TECHNOLOGIES



- Now, technology or the device that attach directly to a smart phone can be used to measure an ever-
- Growing set of personal bio-metrics including blood pressure, heart rate, respiratory rate and the blood rate oxygen concentration.
- Individuals can easily acquire and store this information through their smart phone these technologies have enabled real time data streaming, superseding the traditional snapshot view of vital sign measurement that often took place only when the patients encountered a health care provider.
- Smart phones also serve as a pivot for many medical diagnostic platforms, including inexpensive hand held ultra sound technologies such as Philips health care.

Beyond a detailed picture of what is happening from a moment to moment inside the body smart phone sensors will provide in depth insight into our personal environment including air quality measurements, pollen count, ambient radiation and ultra-violet , preservatives in our food and pollution particulate counts.



SMART PHONE OF THE FUTURE

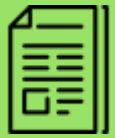
- The medicalized smart phone of the future will have an impressive array of health care features. Currently smart phones can measure basic blood chemistries such as blood glucose. But, in the near future they will have the potential to perform blood testing that was
- Previously exclusively available only in hospital settings.
- No longer will be patients be forced to travel often great distances to have blood drawn they will have options to do s from the comfort of their own homes and will be further more provided with instant feedback concerning their results.
- There is no doubt that to achieve the fullest potential of the individualized medicine using smart phone technologies substantial challenges must be overcome. These would include data privacy concerns, appropriate accountability for acting upon the information gathered and the analytics services that need to be developed to enable such opportunities.
- However, in less than a decade, there has been explosive growth in the capabilities of smart phone technologies supported by a remarkable digital infrastructure with cloud and super-computing, pervasive connectivity, and ever increasing band width. The next step involves artificial intelligence and deep learning on each individuals multi-layered medical data, which no human could process in real time.

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IBEACONS



- iBeacon, a new communication tool, which brings locational awareness indoors. Unlike GPS, which typically requires an unobstructed path between the device and satellite, the platform relies on small Bluetooth modules that identify people's proximity in a given location inside or out. The beacons can then push tailored content (such as exhibit notes in museums or coupons in a store) directly to smart phones. Developers have already built hundreds of applications, including one that lets fans order concessions in baseball stadiums and another that guides blind passengers through the San Francisco airport.
- iBeacon uses Bluetooth low energy proximity sensing to transmit a universally unique identifier picked up by a compatible app or operating system. The identifier and several bytes sent with it can be used to determine the device's physical location, track customers, or trigger a location-based action on the device such as a check-in on social media or a push notification.
- One application is distributing messages at a specific Point of Interest, for example a store, a bus stop, a room or a more specific location like a piece of furniture or a vending machine. This is similar to previously used geopush technology based on GPS, but with a much reduced impact on battery life and better precision.

WHAT ARE IBEACONS?

iBeacon is a protocol developed by Apple and introduced at the Apple Worldwide Developers Conference in 2013.

iBeacon works with Location Services in iOS. With

iBeacon, your iOS device can alert apps when you

approach or leave a location. In addition to monitoring

your location, an app knows when you're close to an

iBeacon, like a checkout counter in a retail store. Instead

of using latitude and longitude to determine your location,

Instead of using latitude and longitude to determine your location, iBeacon uses a Bluetooth low energy signal that is detected by your iOS device.



FUNCTIONS

Region monitoring :

Region monitoring is limited to 20 regions and can function in the background (of the listening device) and has different delegates to notify the listening app (and user) of entry/exit in the region - even if the app is in the background or the phone is locked. Region monitoring also allows for a small window in which iOS gives a closed app an opportunity to react to the entry of a region.

Ranging:

As opposed to monitoring, which enables users to detect movement in-and-out of range of the beacons, ranging provides a list of beacons detected in a given region, along with the estimated distance from the user's device to each beacon. Ranging works only in the foreground but will return (to the listening device) an array (unlimited) of all iBeacons found along with their properties (UUID, etc.) An iOS device receiving an iBeacon transmission can approximate the distance from the iBeacon. The distance (between transmitting iBeacon and receiving device) is categorized into 3 distinct ranges:

Immediate : Within a few centimeters

Near : Within a couple of meters

Far : Greater than 10 meters away

The maximum range of an iBeacon transmission will depend on the location and placement, obstructions in the environment and where the device is being stored. Standard beacons have an approximate range of 70 meters. Long range beacons can reach up to 450 meters.

Conclusion:

The iBeacons are new technology in the field of computer science, with help of which we can access all the features of Bluetooth and GPS with more accuracy and less power consumption.

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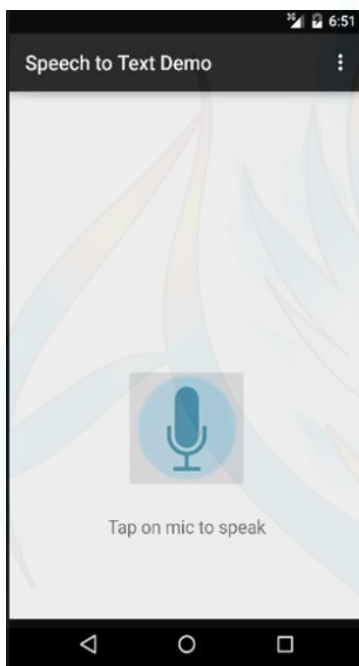
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- Android comes with an inbuilt feature speech to text through which you can provide speech input to your app. With this you can add some of the cool features to your app like adding voice navigation (Helpful when you are targeting disabled people), filling a form with voice input etc.
- In the background how voice input works is, the speech input will be streamed to a server, on the server voice will be converted to text and finally text will be sent back to our app.

ABOUT SPEECH TO TEXT CONVERTER



- I have created a simple app to demonstrate this Text to speech in android studio. Below is the screenshot of the app which contains a simple button to invoke speech input and a TextView to display the converted speech text.
- This is a internet needed application.
- However if you wish to use it with out internet, one can change the preference of input method to google voice which is available by default in your smart phone.

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APPLICATIONS

Education: Big Data Helped in diminishing lack of education which imply that 4.6 billion versatile membership enacted everywhere throughout the world where the general population were offer data in petabytes.

Government: The utilizing and adaption of Big Data administrative procedures is gainful like it permitted efficiencies as far as profitability and innovation.

*India : Our administration used various procedures of Big Data to create nation.

Health Care: Big Data examination has helped a ton to get mindfulness about drugs and maladies.

Media: Media utilizing Big Data to focusing on customers (for promoting by advertisers) furthermore for Data-catching like for news scope.

Retail Banking: FICO card identification framework ensures accounts overall utilizing Big Data.
Mechanical truths about Big Data:

- 1) eBay.com utilizations two information stockpiling focuses at 75 petabytes and in addition 40 pb Hadoop group for seeking.
- 2) Google was taking care of harsh 100 billion quests for each month.
- 3) Amazon.com handles a large number of back end operations consistently. The centre innovation helps Amazon running Linux based and they had the world's biggest Linux Databases.
- 4) Walmart handles more than one million customer exchanges each hour.

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SUPER COMPUTERS



- The first commercial and successful super computer, Control Data Corporation (CDC) 6600 was designed by Seymour Cray. Released in 1964, the CDC 6600 had a single CPU and cost \$8 million –the cost of \$60 million today.
- Cray went on to found a super computer company under his name in 1972. In September 2008, Cray and Microsoft launched CX1, a \$25,000 personal super computer aimed at markets such as aerospace, automotive, academic, financial services and life sciences.
- A supercomputer is a computer that performs at or near the presently highest operational rate for computers.
- Traditionally, supercomputers have been used for scientific and engineering applications that must handle very large databases or do a great amount of computation . Although advances like multi-core processors and GPGPUs have enabled machines for personal use ,by definition ,super computer is exceptional in terms of performance.
- At any given time, there are a few well publicized supercomputers that operate extremely high speeds relative to all other computers. The term is also sometimes applied to far slower computers. The term is also applied to far slower computers. The largest,most powerful super computers are really multiple computers that perform parallel processing, In general,there are two parallel processing approaches: symmetric multiprocessing(SMP) and massively parallel processing(MPP).

A FEW STATISTICS ON TAIHULIGHT

- 40,960 64-bit, RISC processors with 260 cores each.
- Peak performance of 125 petaflops.
- 32GB DDR3 memory per compute node,1.3 PB memory in total.
- Linux-based Sunway Raise operating system(OS).

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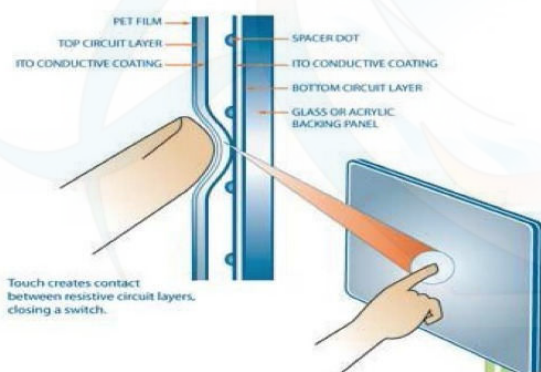


RESISTIVE TOUCH SCREEN



There are many touchscreen technologies but the resistive touchscreens are used mostly, push and bend the screen to make it work. Resistive touchscreens are made of two separate layers. They work as capacitive and resistive. The resistive screens literally resist your touch and if you press hard enough you can feel the screen been slightly. Thus us what makes the resistive screens work. Conductive layer and the resistive layer are two layers in resistive touchscreen the.

Tiny dots called spacers are separated these layers, the electric current run through the yellow layer at all times. But the resistive layer comes in contact, when you touch the screen, with the conductive layer. Thus the electric current changes at that point of contact and the function corresponding to that point is carry out. Resistive screens are durable and consistent but they are harder to read because of multiple layers which reflect more ambient light and yet light is the surrounding light reflected back from the screen making the tax harder to read. Unlike reactive touchscreens capacitive screens do not use the pressure of finger to create change in the flow of electricity instead they work with anything that holds an electric charge including human skin.



Capacitive touchscreens are constructed using materials like copper or indium tin oxide that store electric charges and an electrostatic grid of tiny wires eat smaller than human hair. There is a glass subtract conductive layer of protective coating a controller and electrodes in the corners. The conductive layer applied a low voltage by the electrodes creating a uniform

electromagnetic field. When a finger hits the screen a tiny electrical charge is transferred to the finger to the circuit creating a voltage drop at that point on the screen. The controller records the location of this voltage drop and this is how a capacitive touch screen works.

ADVANTAGES

- These devices have limited buttons that will possibly break after 3-4 years.
- These devices usually have more simple user interfaces.

- These have less buttons which means that can put more effort into having a big screen.
- Most of these devices are easy to clean, some are even dirt, dust and grease resistant.
- These are easy to use for people who are new or uncomfortable with normal devices.

DISADVANTAGES

- The screen must be big enough to touch the buttons without missing.
- It consists very low battery life due to need of having a bright big screen with massive power to run.
- Most of the time very difficult to read the screen in direct sunlight.
- The screens will get very dirty.

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BILL GATES

William Henry "Bill" Gates III is an American business magnate, entrepreneur, philanthropist, investor, and programmer. In 1975, Gates and Paul Allen co-founded Microsoft, which became the world's largest PC software company.





The advent of integrated circuits, which became possible because of the tremendous progress in semiconductor technology, resulted in the low cost microprocessor. Thus if it is possible to design a low cost sensor which is silicon based then the overall cost of the control system can be reduced. We can have integrated sensors which has electronics and the transduction element together on one silicon chip. This complete system can be called as system-on-chip. The main aim of integrating the electronics and the sensor is to make an intelligent sensor, which can be called as smart sensor. Smart sensors then have the ability to make some decision. Physically a smart sensor consists of transduction element, signal conditioning electronic and controller/processor that support some intelligence in a single package. In this report the usefulness of silicon technology as a smart sensor, physical phenomena of conversion to electrical output using silicon sensors, characteristics of smart sensors. A general architecture of smart sensor is presented.

USEFULNESS OF SILICON TECHNOLOGY IN SMART SENSOR:

There are very convincing advantages of using silicon technology in the construction of smart sensor. All integrated circuits employ silicon technology. A smart sensor is made with the same technology as integrated circuits. A smart sensor utilizes the transduction properties of one class of materials and electronic properties of silicon (GaAs). A transduction element either includes thin metal films, zinc oxide and polymeric films. Integrating electronics circuits on the sensor chip makes it possible to have single chip solution. Integrated sensors provide significant advantages in terms of overall size and the ability to use small signals from the transduction element. The IC industry will get involved in smart sensor if a very large market can be captured and the production of smart sensor does not require non-standard processing steps.

IMPORTANCE AND ADAPTATION OF SMART SENSOR

The presence of controller/processor in smart sensor has led to corrections for different undesirable sensor characteristics which include input offset and span variation, non-linearity and cross-sensitivity. As these are carried in software, no additional hardware is required and thus calibration becomes an electronic process. Thus it is possible to calibrate the batches of sensor during production without the need to remove the sensor from its current environment or test fixture .

Cost improvement

In case of smart sensor inside hardware is more complex in the sensor on the other hand it is simpler outside the sensor. Thus the cost of the sensor is in its setup, which can be reduced by reducing the effort of setup, and by removing repetitive testing.

Reduced cost of bulk cables and connectors

Use of smart sensor has significantly reduced the cost of bulk cables and connectors needed to connect different blocks (i.e. electronic circuits).

Remote Diagnostics

Due to the existence of the processor with in the package, it is possible to have digital communication via a standard bus and a built in self-test (BIST). This is very helpful in production test of integrated circuits. This diagnostic can be a set of rules based program running in the sensor.

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5 PEN TECHNOLOGY



Amazing new future computer technology P-ISM (“Pen-style Personal Networking Gadget Package”), which is a recent discovery in the field of pen computing. 5 Pen PC technology is shortly called as P-ISM which is under developing by Japanese technology company NEC in 2003. P-ISM is a gadget package it includes 5 functions, a CPU pen, communication pen with cellular phone function, virtual key board, a very small projector and a small camera. It Connect to the internet with the help of cellular phone connection. It utilizes short range wireless technology while connecting with other P-ISM. Use of pen and paper to send SMS’s, emails and surf internet didn’t seem possible. However, the introduction of pen-style personal Networking Gadget [P-ISM .

COMPONENTS OF 5 PEN PC

It consists of 5 pens. So, it named as 5 pen pc technology.

CPU pen

Communication pen

Projector pen

Digital camera pen

Virtual keyboard[VKB] pen

CPU pen:

It is also known as computing engine .It consists of dual core processor embedded in it and it works with WINDOWS operating system. It performs functions similar to the central processing unit of a laptop or a desktop because it is a computation engine which handles all the processing and calculation task. Operating system is already preloaded in this pen and cannot be altered. Wheather the CPU pen supports USB is still in doubt. Its resolution capacity is 1024X768.

Communication pen :

This component facilitates communication between all pens. This pen has inbuilt cellular phone connection which enables it to connect the internet, and it is capable of performing all the web related tasks. It is a pointing device that will provide functions similar to a mouse. This pen will help the user to interact with information that is projected by the projector pen. This is very effective because we can able to connect whenever we need without having wires. They are used at the frequency band of 2.4GHz ISM.

Projector pen :

This projector pen works as a conventional projector. Its maximum display resolution is 1024x768 pixels which will provide high quality and clear picture. It should be projected on a flat surface for better user experience and its clarity depends on the distance between the projected surface. Greater the distance between the two, clarity will reduce. It works in combination with communication pen and camera pen. Projector pen can be attached to a small stand for undisturbed projection on any flat surface.

Digital camera pen :

This pen has an inbuilt digital camera which is used in capturing images and videos. Including this it can also work as web cam which is helpful for web related applications like conferring, skype, video call etc...., The sensors which are embedded in the pen directs the camera to automatic adjust, since the camera can rotate 360 degrees.

Virtual key board:[VKB]

Now-a-days LED [Light Emitting Diode] projector pen is very popular because laser pen emits a laser keyboard on a flat surface which is similar to the keyboard having an arrangement of QWERTY. When the keys are typed on the laser key board input is identified by the device. It works on the principle of computer (or) on-screen key board. Virtual key board pen function is similar to LED projector pen.

CONCLUSION

There is large change in the field of computing and communication due to regular advancement in technologies. The link between the latest technology and human brain has been visualized in the form of a pen. The design concept utilizes 5 different pens to create a computer. Among them one work as Camera, another as a CPU pen, one is to project visual output including display another one creates a virtual keyboard and last one is communicator which helpful as communication phone. This whole set recharges the batteries and holds the mass storage and communicate wirelessly through Bluetooth. Thus P-ISM provides a good review of what the future holds in the field of technology.

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STEVE JOBS

Steven Paul "Steve" Jobs was an American information technology entrepreneur and inventor. He was the co-founder, chairman, and chief executive officer (CEO) of Apple Inc.; CEO and majority shareholder of Pixar Animation Studios a member of The Walt Disney Company's board of directors following its acquisition of Pixar; and founder, chairman, and CEO of NeXT Inc.



WiMAX is an emerging technology for broadband wireless access. It offers both fixed and mobile broadband wireless Internet access. It promises very high reliability, high data rates, good efficiency and low cost. WiMAX enjoys strong industry support and also standardization. Also it is of low cost, WiMAX can be used to provide broadband Internet access to sub-urban and rural areas and thus bridge the digital divide.

INTRODUCTION

There are basically three different options to access internet,

BROADBAND ACCESS

WIFI ACCESS

DIAL-UP ACCESS

The main problems with broadband access 1. very expensive and 2. It doesn't reach all areas.

The main problem with WIFI - hot spots are very small, so coverage is sparse.

WHAT IS WIMAX ??

- WiMAX stands for Worldwide Interoperability of Microwave Access. It is a wireless Internet service at low cost designed to cover wide geographical areas serving large number of users .

WiMAX is the synonym given to the IEEE 802.16 standard .It defines wide area wireless data networking.

The history of WiMAX starts back in the 1990s.

A WiMAX system consists of two parts

Transmitter

Receiver

A WiMAX tower is similar in concept to a cell-phone tower - A single WiMAX tower can stipulate coverage to a very large area as big as 3,000 square miles (~8,000 square km).

A WiMAX receiver - The receiver and antenna could be a Personal Computer Memory card or a small box, or they could be built into a laptop the way Wi-Fi access is today.

TYPES OF WiMAX

FIXED WiMAX:

Fixed WiMAX is optimized for home/office networks.

MOBILE WiMAX:

Mobile WiMAX is optimized for mobiles. This can be used to deliver both fixed & mobile services

Advantages:

Speed

Data rates as high as 280 Mbps and distances of 30 miles are possible.

Wireless

Not having to lay cables reduces cost.

Easy way to extend to suburban and rural areas.

Broad Coverage

Compared to Wi-Fi hotspot, it is much wider coverage

Disadvantages:

Line-of-Sight is required for long distance (5-35 mile) connections.

Heavy rains can disrupt the service.

CONCLUSION

Within five years, we can expect WiMAX to be the dominant technology for wireless networking. By that time it will be fully mobile, as well as Providing low- cost, fixed broadband access that will open up regions where internet access has no far not been practical.

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VOICE BASED EMAIL SYSTEM FOR BLIND PEOPLE



- Now a day's internet can be used in a wide range. No work can be done without internet. Email is one of the most common forms of communication especially in business world. But internet is completely useless for visually impaired and illiterate person. Even systems are currently available like screen readers TTS (Text To Speech) and ASR (Automatic Speech Recognition) are not efficient to use internet for blind people. As nearly 285 million people worldwide are estimated visually impaired it become necessary to make internet facilities for communication usable for them also.
- In this system all functions are based on mouse click, making these operations easy for any user to use this type system. The user need not to worry to which mouse click operation he/she performs, as the system itself promoting them as to which click will provide them with what operations. Screen readers perform actions with the use of keyboard, as mouse location cannot be traced by screen readers i.e., user can't use the mouse as it is inconvenient. Another drawback that sets in this screen reader is they read content in sequential manner and therefore user can make out contents of screen only if they are in HTML (Hyper Text Markup Language) format.
- The important aspect that has been kept in mind while developing this system is accessibility. A web system is said to be perfectly accessible only if it can be used efficiently by all types of people whether able or disable. Unlike current systems more emphasizes for normal users, but this system focuses more on all type of people including normal, visually impaired and illiterate people.
- This system is completely based on IVR (Interactive Voice Response), one of the major advantage of this system is that user won't require to use keyboard. All operations will be based on mouse click events. Here the user cannot be tracked the particular location as well as mouse pointer location. This system has given the user a free will to click blandly anywhere on the screen. Which type of click will perform which function will be specified by IVR (Interactive Voice Response). Thus user need not worry about location of the mouse.

- This system will be perfectly accessible to all type of users as it is just based on simple mouse clicks and speech inputs, also because of IVR facility those who cannot read need not worry as they can listen to the prompting, done by the system and perform respective actions.
- This system user interference is designed by using Adobe Dreamweaver CS3 (Creative Suit 3).

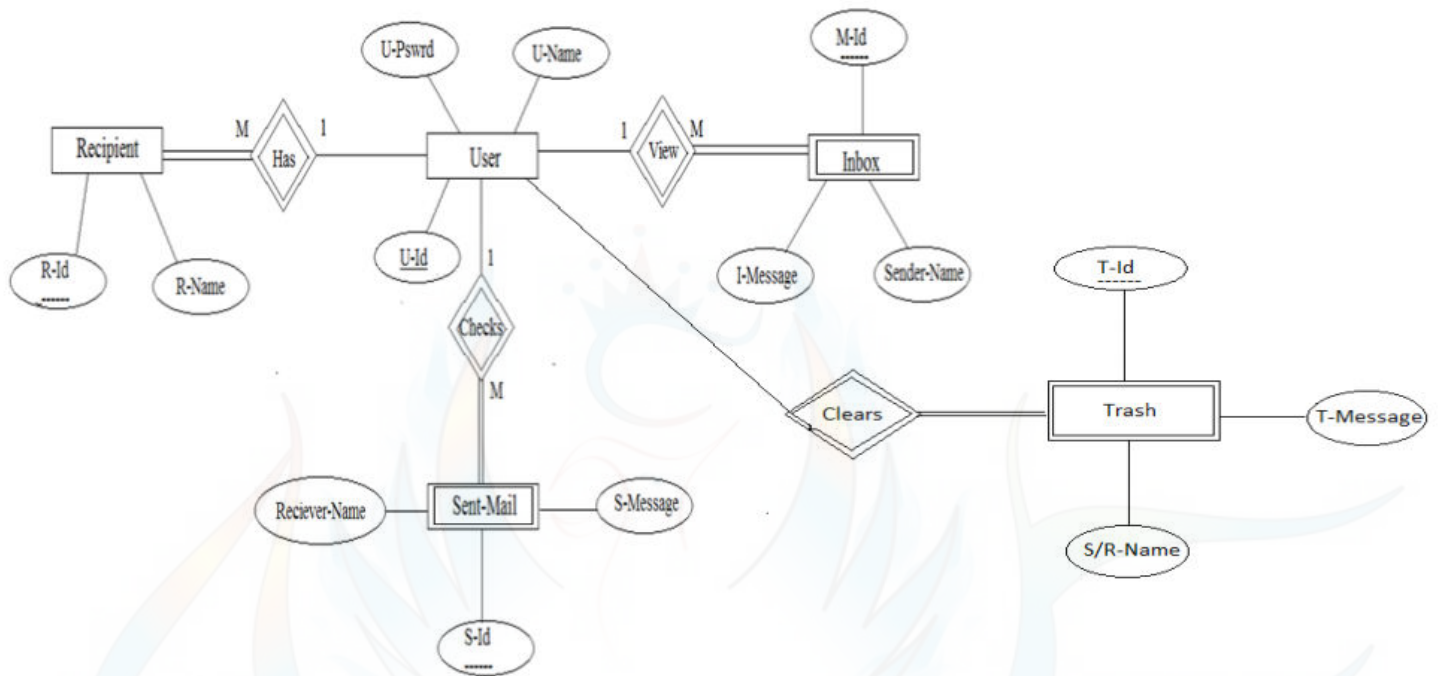


Fig. 1. E-R Diagram of our system

ARTICLE BY

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Computer chip manufactures are running to make microprocessors which will topple speed records. Microprocessors made of silicon will eventually reach their limits of speed and miniaturization. So chip makers need a new material to produce faster speed and we cannot even believe it, where scientists have found that material to build the next generation of microprocessors. Millions of natural super computers exist inside living organisms including our body. DNA molecules, the material with which our genes are made have the potential to perform calculations many times faster than the world's most powerful human-built-computers. DNA might be integrated into a computer chip to create so called bio-chip, which will push computers even faster while still in their infancy, DNA computers will be able to store billion times more data than your personal computer.

HISTORY

DNA computers cannot be found at your local electronics store yet. The technology is in development, and did not even exist as a concept a decade ago. In 1994, Leonard Adleman introduced the idea of using DNA to solve complex mathematical problems. Adleman, a computer scientist at the university of South California, came to the conclusion that DNA had computational potential after reading the book "Molecular Biology of the Gene", written by James Watson, who co-discovered the structure DNA in 1953. Infact, DNA is very similar to a computer hard drive in how it stores permanent information about your genes.

CAPABILITIES

- DNA computing is a form of parallel computing in that it takes advantage of the many different molecules of DNA to try many different possibilities at once.
- For certain specialized problems, DNA computers are faster and smaller than any other computer built so far. Furthermore, particular mathematical
- computations have been demonstrated to work on a DNA computer. As an example, DNA molecules have been utilized to tackle the assignment problem.

DIRECTED HAMILTON PATH PROBLEM

It is also known as "travelling salesman" problem. The goal of the problem is to find the shortest route between a number of cities, going through each city only once.

As you add more cities to the problem, the problem becomes more difficult. Adleman chose to find the shortest route between seven cities.

You could probably draw this problem out on a paper and come to a solution faster than Adleman did using his DNA test-tube computer. Here are the steps taken in the Adleman DNA computer:

1. Strands of DNA represent seven cities. In genes, genetic coding is represented by letters A,T,C and G. Some sequence of four letters represented each city and possible flight path.
2. The molecules are then mixed in a test tube, with some of these DNA strands sticking together. A chain of these strands represents a possible answer.
3. Within a few seconds, all of the possible combinations of the DNA strands, which represent the answers are created on the test tube.
4. Adleman eliminates the wrong molecules through chemical reactions, which leaves behind only the flight paths that connect all seven cities.

CONCLUSION

The success of Adleman DNA computer proves that DNA can be used to calculate complex mathematical problems. However, this early DNA computer is far from challenging silicon based computers in the terms of speed. The Adleman DNA computer created a group of possible answers very quickly, but it took days for Adleman to narrow down the possibilities. Another drawback of his DNA computer is that it requires human assistance. The goal of the DNA computing field is to create a device that can work independent of human involvement.

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COMPUTER FORENSICS



The process of identifying, preserving, analysing and presenting digital evidence in legally acceptable manner is known as “Forensic computing”.

Four stages are involved in forensic computing:

IDENTIFICATION:

This is the process of identifying things such as what evidence is present, where and how it is stored, and which operating system is being used. From this information the investigator can identify the appropriate recovery methodologies, and the tools to be used.

PRESERVATION:

This is the process of preserving the integrity of digital evidence, ensuring the chain of custody is not broken. The data needs to be preserved (copied) on stable media such as CD-ROM, using reproducible methodologies. All steps taken to capture the data must be documented. Any changes to the evidence should be documented, including what the change was and the reason for the change. You may need to prove the integrity of the data in the court of law.

ANALYSIS:

This is the process of reviewing and examining the data. The advantage of copying this data onto CD-ROMs is the fact it can be viewed without the risk of accidental changes, therefore maintaining the integrity whilst examining the changes.

PRESENTATION:

This is the process of presenting the evidence in a legally acceptable and understandable manner. If the matter is presented in court the jury who may have little or no computer experience, must all be able to understand what is presented and how it relates to the original, otherwise all efforts could be futile.

COMPUTER FORENSICS MEANS?

Computer forensics is simply the application of disciplined investigative techniques in the automated environment and the search, discovery, and analysis of potential evidence. It is the method used to investigate and analyse data maintained on or retrieved from electronic data storage media for the purposes of presentation in a court of law, civil or administrative proceeding.

The computer forensics has become vital in the corporate world. There can be theft of the data from an organization in which case the organization may sustain heavy losses. For this purpose, computer forensics are used as they help in tracking the criminal. The need in the present age can be considered as much severe due to the internet advancements and the dependency on the internet.

The computer forensics is also efficient where in the data is stored in a single system for the backup. The data theft and the intentional damage of the data in a single system can also be minimized with the computer forensics.

APPLICATIONS OF COMPUTER FORENSICS

FINANCIAL FRAUD DETECTION:

Corporates and banks can be detecting financial frauds with the help of evidence collected from systems. Also, insurance companies can detect possible fraud in accident, arson, and workman's compensation cases with the help of computer evidence.

CRIMINAL PROSECUTION:

Prosecutors can use computer evidence to establish crimes such as homicides, drug and false record-keeping, financial frauds, and child pornography in the court of law.

CIVIL LITIGATION:

Personal and business records found on the computer systems related to fraud, discrimination, and harassment cases can be used in civil litigations.

"CORPORATE SECURITY POLICY AND ACCEPTABLES USE VIOLATIONS":

A lot of computer forensic work done is to support management and human resources (HR) investigations of employee abuse.

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CLOUD COMPUTING

WHAT IS CLOUD COMPUTING?

When you often listen this term cloud computing for the first time you probably heard or asked these questions to yourself.

What is this cloud? Where will be the cloud? We are in cloud now?

But all of your imaginations are wrong!!

In simple words we can state that cloud computing is accessing your data from internet instead of accessing it from your hard disk or any storage drive. You may have the doubt that why this word cloud is used in this “cloud computing”. Cloud is just a metaphor used instead of the word internet. When we look into our olden days we will represent some complicated circuits or algorithms in the easier way by using flowcharts. When we look into this flow chart, this flow chart is nothing but a white cloud like thing in which something will be written.

WORKING OF THIS CLOUD COMPUTING

“Storing data on a home or office network does not mean utilizing or making use of the cloud. For it to be considered as “cloud computing,” you need to access your data or your programs through the Internet, or at the very least, have that data synced with other information over the Web. In a big business deals, you may know all there is to know about what’s on the other side of the connection; as an individual user, you may never have any idea what kind of complex and massive data processing is happening on the other end. The end result will be the same: with an online connection, cloud computing can be done anywhere, anytime.”

APPLICATIONS OF CLOUD COMPUTING:

CLOUD COMPUTING IN MOBILES

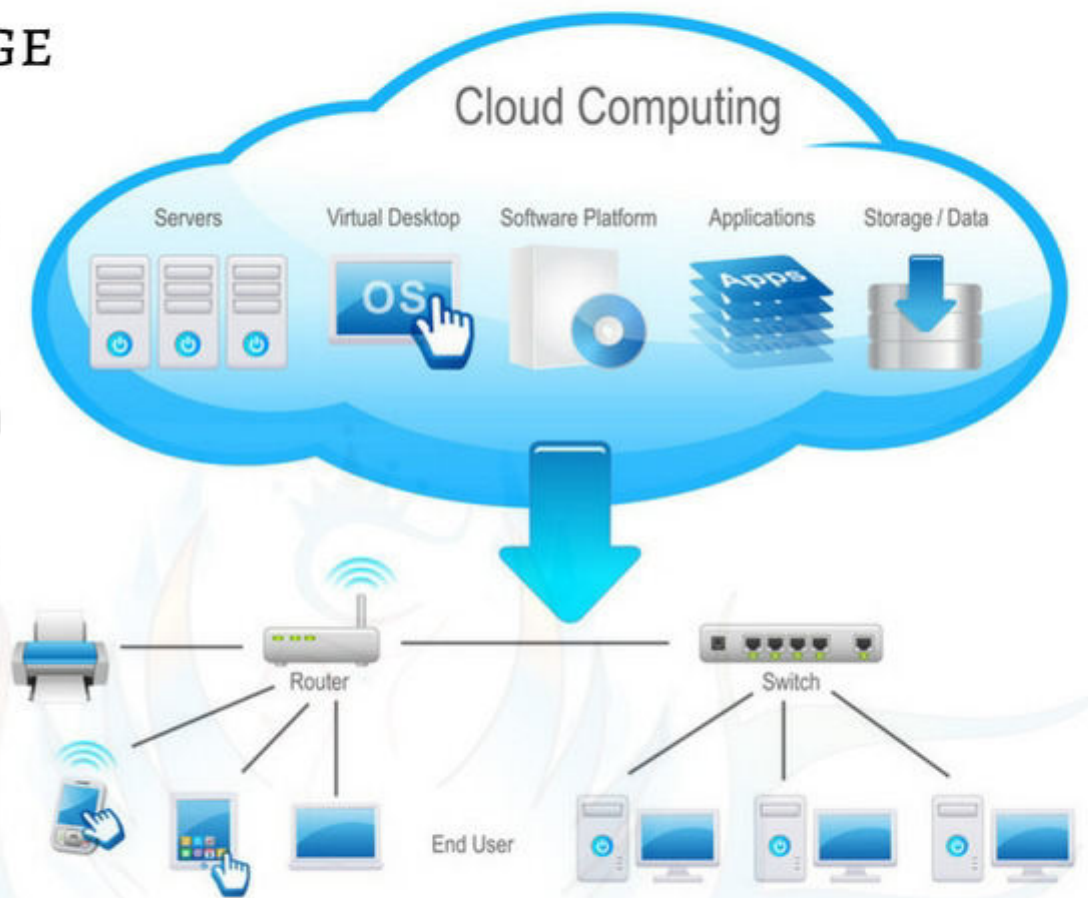
When we come to our mobiles we will have an option called “My Cloud” in which we can have all our data. We can have access to that data with the user login provided to us, anywhere anytime.

BIG DATA ANALYTICS

One of the best aspect of cloud computing is the ability to tap into vast quantities of both structured and unstructured data to harness the benefit of extracting business value.

FILE STORAGE

Cloud computing will make our files storage easier, by web-user interface. At any time and place you have high availability, speed, scalability and security for your environment and can access your files.



BACKUP

When you want to back up your device it will be most time consuming operation. It require large number of wires to be connected and it is a long process. Cloud-based backup, while not being the panacea, is certainly a far cry from what it used to be. You can now automatically dispatch data to any location across the wire with the assurance that neither security, availability nor capacity are issues.

EXAMPLES OF “CLOUD”

Google drive,Office online,Amazon cloud drive,etc.,

DOWNTIME:

Cloud computing is storing our data in a cloud and accessed from anywhere by using internet. This will be the disadvantage from some aspect .To access our data internet connection should be compulsory, we will have 100's of reason due to which our internet connection may damage so that we can't access our data.

PRIVACY & SECURITY:

We store our files in a cloud, what if our cloud space is hacked .This will lead to many problems mainly to business people.

CLOUD COMPUTING EXPENSIVE:

Cloud computing costs more when we compare to our hardware devices. Though it will reduce costs of hardware but it will cost a lot at end of this process.

CONCLUSION:

Even cloud computing have all of the above disadvantages, the environment has immense potential for many business models. As platforms mature and the economies of scale continue to grow, costs will continue to fall and reliability and security standards will improve. Expect more of the same, but never fail to do your research and planning

ARTICLE BY

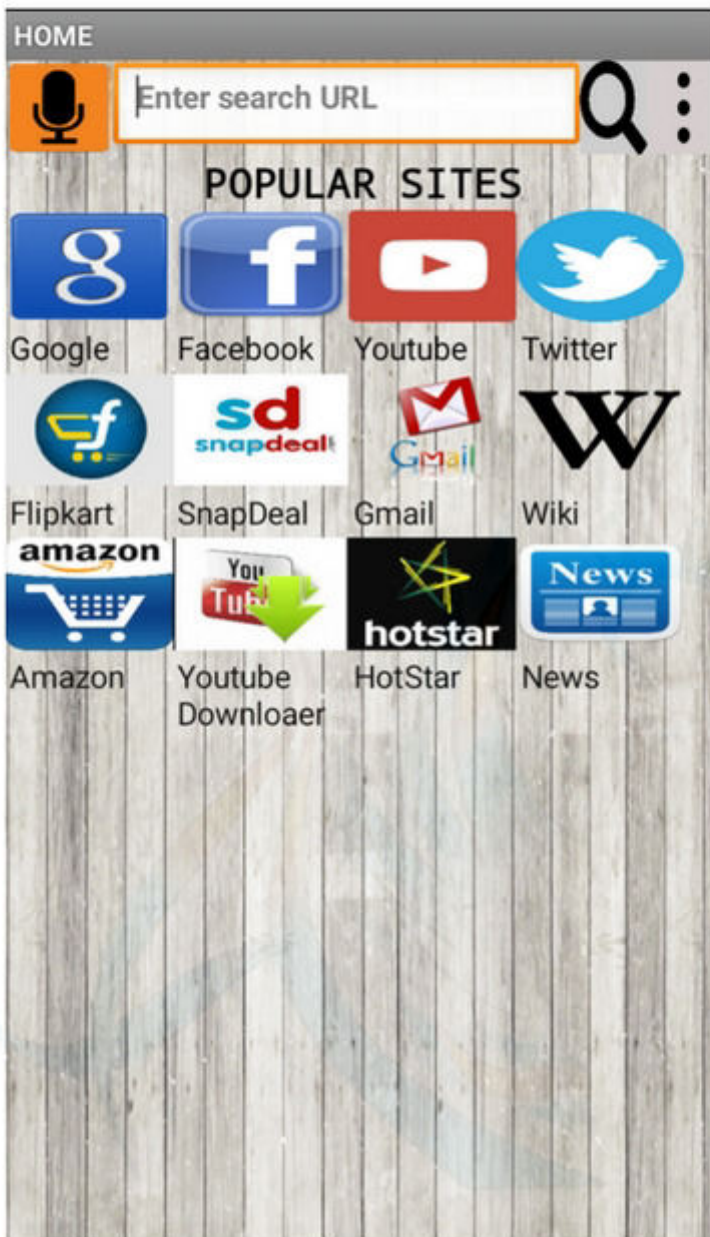
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5 pirates of different ages have a treasure of 100 gold coins. On their ship, they decide to split the coins using this scheme: The oldest pirate proposes how to share the coins, and ALL pirates (including the oldest) vote for or against it. if 50% or more of the pirates vote for it, then the coins will be shared that way. Otherwise, the pirate proposing the scheme will be thrown overboard, and the process is repeated with the pirates that remain. As pirates tend to be a bloodthirsty bunch, if a pirate would get the same number of coins if he voted for or against a proposal, he will vote against so that the pirate who proposed the plan will be thrown overboard. Assuming that all 5 pirates are intelligent, rational, greedy, and do not wish to die, (and are rather good at math for pirates) what will happen?



BROWSE IT



Browse it has been made with MIT app inventor with effective visual effects. This is an efficient browser which doesn't hold any cache and slow down the performance of the machine. There is no database given to this browser which makes you stay secured from browser attacks from stealing cookies and valuable information. There is no history stored with this browser doesn't increase size of the application. We hope you find this interesting and fashionable to use this application. It is very handy for basic android devices where RAM is the main problem for installing apps. It is very easy to operate and use for anyone.

DEVELOPED BY

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- Mobile number portability - allows mobile phone users to keep their number when changing from one network to another network.
- Applicable to both CDMA and GSM, as well as post-paid categories and pre-paid of clients
- Is the greatest improvement of customer service and network quality, that is expected in telecommunications

POSITIVES

- Operators who are having existing pool of strong customer base by providing competitive services will be able to retain customer .
- New telecom service providers by providing competitive tariffs and VAS
- can survive .
- ARPU is likely to improve as customer decreases number of active connection of several operators.

NEGATIVES

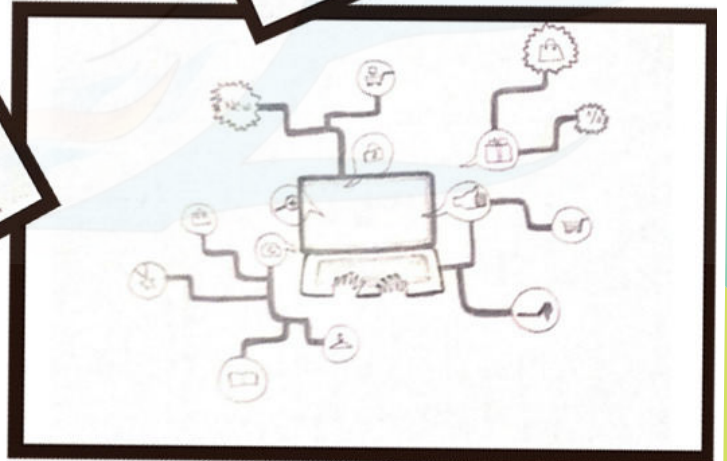
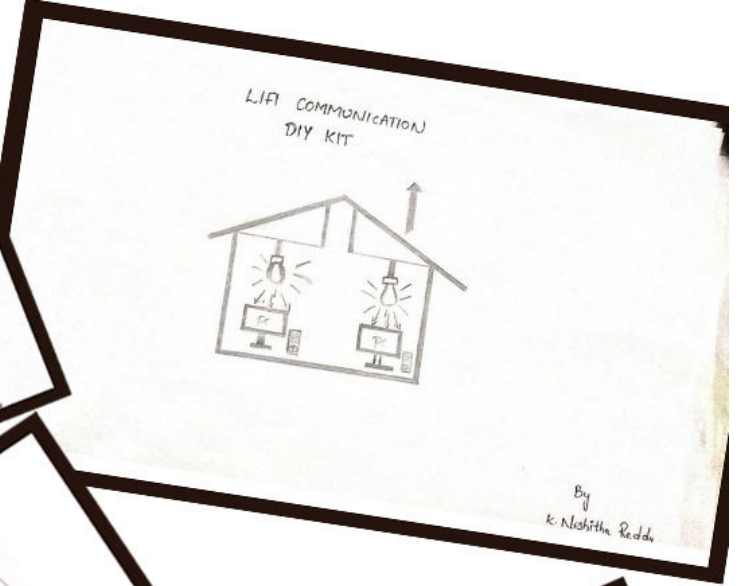
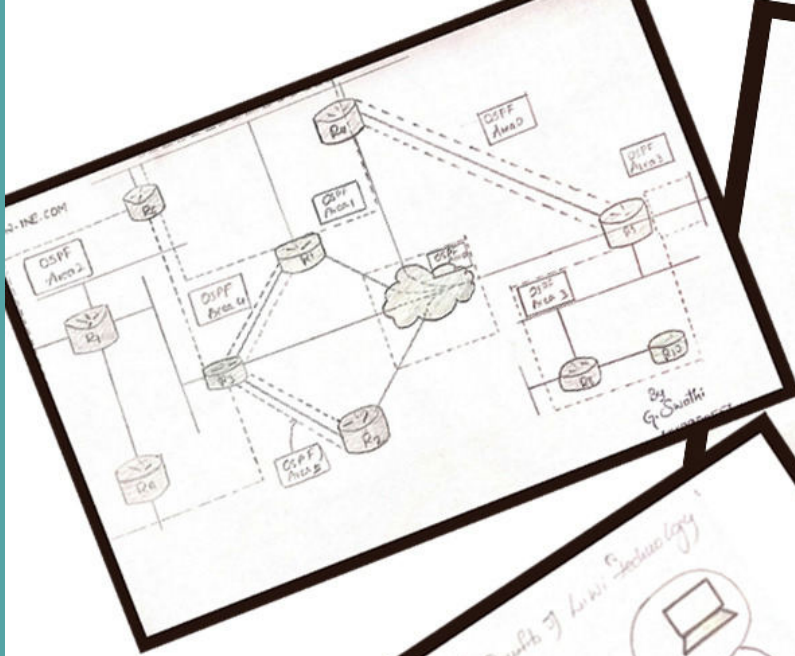
- Competition among telecom service providers is increasing
- It is Complex to find out subscribers owns by operators as it can change service providers when ones found better value for money

ARTICLE BY



K.Sravani
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&
S.Triveni
15691A05G0





ART GALLERY

REVOLUTIONARY CHANGES - COMPUTER TECHNOLOGY

- 1837 - Charles Babbage designs the first programmable computer called the "Analytical Engine".
- 1847-1854 George Boole develops Boolean algebra which is the foundation of the hardware design.
- 1936, May 28 - Alan Turing submits "On Computable Numbers, with an Application to the Entscheidungsproblem"
- 1939, December 31 - Hewlett-Packard(HP) Company founded by William Hewlett and David Packard.
- 1941 - German engineer Konrad Zuse invents and builds the first electronic programmable computer(Z3).
- 1951 - Whirlwind, the first real-time computer is built at MIT for the US Air Defence System.
- 1959 - Scientist Jack Kilby of Texas Instruments files the first patent for an Integrated Circuit.
 - 1963 - Douglas Engelbart invented the computer mouse.
 - 1968 - Intel formed by Robert Noyce, Gordon Moore, & Andy Grove.
- 1969 - Unix created at AT&T's Bell Telephone Labs by Ken Thompson & Dennis Ritchie. The first RFC,RFC1, entitled "Host Software", was written.
- 1972-C programming language created by Dennis Ritchie and Ken Thompson.
 - 1973-First operating system written in a language other than Assembly.
- 1975- William Henry Gates III , partners with fellow student Paul Allen to found Microsoft in order to market a version of the BASIC language.
 - 1977- Steve Jobs and Steve Wozniak incorporated Apple Computer.
- 1980- Bjarne Stroustrup from Bell Labs designer and implemented the C++ an enhancement to the C programming language.

- 1981- The IBM PC is introduced. 8-bit computing is widespread on the desktop.
 - 1982- The Time magazine names the computer as its "Man of the Year."
- 1988- Brian Kernighan and Dennis Ritchie publish the second edition of The C Programming Language (covering "ANSI C").
 - 1989- Tim Berners-Lee creates HTML.
- 1990- Microsoft launches Windows 3.0, the first version to achieve widespread use.
- 1991- Sun begins work on Java as an inferior version of Smalltalk aimed at C/C++ developers.
 - 1991- Linus Torvalds releases the first version of Linux, his free Unix kernel clone.
 - 1993-Intel's Pentium is introduced. 32 bit computing is widespread on the desktop.
- 1994-Intel recalls Pentium processors due to a bug in the Floating Point Unit at a cost of over \$300 million.
- 1995-May - Sun formally announced Java and HotJava at SunWorld. "Duke" is the first applet.
 - 2001-Apple releases the iPod.
- 2004- Advanced Micro Devices introduces the Opteron, a 64 bit processor for servers and powerful workstations.
 - 2005-Dual core processors permit Moore's Law to continue by reducing microprocessor heating

NOTE : It is found that from later of 2005 to till existing we found an enormous changes with rapid speed which made us difficult to distinguish the best changes,as far as we consider that APPLE I MAC would be a better change for this advanced world.

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