



CTC(T&IT), CRPF



e-Newsletter



October, 2020



Shri.Amit Taneja, DIGP
Patron

Shri Ujjwal Kumar Singh, AC
Editor & Publisher

Index

<u>Sl</u>	<u>Topic</u>	<u>Author</u>	<u>Page No</u>
1.	VSAT (Very Small Aperture Terminal)	Insp/T Inder Singh	3
2.	Hindi Poem	HC/RO Manoj	6
3.	Evolution of autonomous driving technology	HC/RO Muppidatti	7
4.	E-BALL Technology	HC/RO Prashant Kr Choudhury	8
5.	3D Internet	HC/RO Prashant Kr Choudhury	13
6.	Quiz	R & D Team	17
7.	Technical Terms	R & D Team	19
8.	Answers To Quiz	R & D Team	20

“You must be the change you wish to see in the world.”

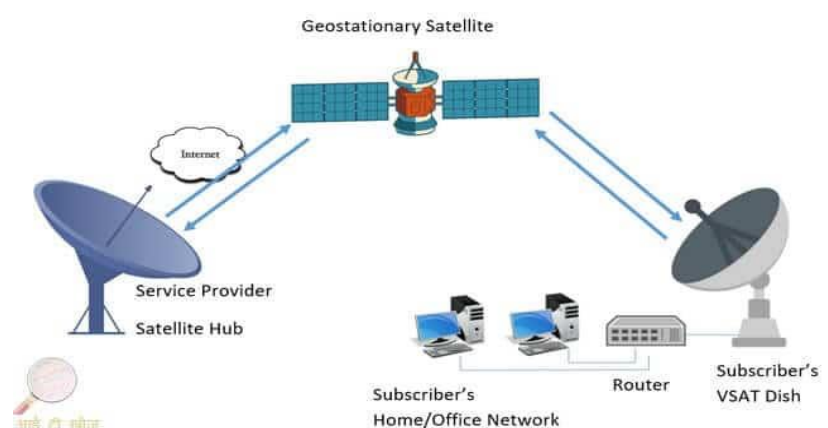
VSAT (Very Small Aperture Terminal)

VSAT एक छोटा टेलीकम्यूनिकेशन अर्थ स्टेशन है जो सैटेलाइट के माध्यम से रीयल-टाइम डेटा प्राप्त करता है और ट्रांसमिट करता है।

VSAT एक ऐसी तकनीक है जो बेहद रिमोट एरियाज और दूरदराज के लोकेशन पर इंटरनेट कनेक्टिविटी प्रोवाइड करती है। लेकिन, यह वास्तव में क्या है और यह कैसे काम करता है?

VSAT बिज़नेस और वैयक्तिक सर्विस के लिए डिज़ाइन किया गया है और इसमें व शफ्ट टेक्नोलॉजी और डिवाइसेस का उपयोग शामिल है जो इफेक्टिव टेलीकम्यूनिकेशन और इंटरनेट कनेक्टिविटी की सुविधा के लिए डिज़ाइन किए गए हैं।

VSAT एक टेक्नोलॉजी है जिसे आमतौर पर एक प्राइवेट अर्थ स्टेशन के रूप में जाना जाता है। अर्थ स्टेशन को सैटेलाइट सग्नल के माध्यम से डेटा सग्नल को ट्रांसमिट और रिसीव करने के लिए डिज़ाइन किया गया है। **VSAT** में “very small” शब्द शामिल है जो **VSAT** डिश पर एंटीना के साइज को रेफर करता है।



एंटीना आमतौर पर लगभग चार फीट व्यास का होता है और इसमें लो-नॉइस कनवर्टर होता है जो सैटेलाइट सग्नल प्राप्त करता है, और एक **Block Upconverter (BUC)** जो रेडियो तरंगों के लिए सग्नल को ट्रांसमिट करता है। एंटीना जमीन पर लगाया जा सकता है या इसे छत पर रखा जा सकता है।

VSAT के एंड यूजर्स को ऐसे बॉक्स की आवश्यकता होती है जो यूजर्स के कंप्यूटर और ट्रांसीवर के साथ बाहरी एंटीना के बीच इंटरफेस करता है। ट्रांसीवर आकाश में एक सैटेलाइट ट्रांसपोंडर को सग्नल भेजता है या प्राप्त करता है।

सैटेलाइट अर्थ स्टेशन कंप्यूटर से सग्नल भेजता है और प्राप्त करता है जो सिस्टम के लिए एक हब के रूप में कार्य करता है। प्रत्येक एंड यूजर्स एक स्टार टोपोलॉजी में सैटेलाइट के माध्यम से हब स्टेशन से जुड़ा हुआ होता है।

एक एंड यूजर के लिए दूसरे के साथ कम्यूनिकेशन करने के लिए, प्रत्येक ट्रांसमिशन को पहले हब स्टेशन पर जाना होता है जो इसे सैटेलाइट के माध्यम से दूसरे एंड यूजर के **VSAT** में रिट्रांसमिट करता है। **VSAT** डेटा, वॉइस, और वीडियो सग्नल को हैंडल करता है।

अधिकतर **VSAT** एंटीना 30 इंच से 48 इंच तक के होते हैं। डेटा रेट आम तौर पर 56 Kbps से 4 Mbps तक होती है।

VSAT को आमतौर पर निम्न ट्रांसमिट करने के लिए उपयोग किया जाता है:-

Narrowband data:-

इसमें क्रेडिट कार्ड, मतदान या **radio-frequency identification (RFID)** डेटा, या **supervisory control और data acquisition (SCADA)** डेटा जैसे बिक्री के ट्रांज़ैक्शन शामिल हैं।

Broadband data:-

दूरदराज के स्थानों पर सैटेलाइट इंटरनेट एक्सेस **Voice over Internet Protocol (VoIP)** या वीडियो के प्रावधान के लिए ब्रॉडबैंड डेटा।

VSAT सिस्टम इंटरनेट या प्राइवेट नेटवर्क कम्युनिकेशन के लिए हाई स्पीड, ब्रॉडबैंड सैटेलाइट कम्युनिकेशन प्रदान करते हैं।

VSAT माइनिंग कैम्पस, समुद्र में जहाजों, सैटेलाइट से न्यूज़ प्राप्त करना, इमरजेंसी रेस्पॉन्डर्स, ऑयल और गैस कैम्प या कोई भी एप्लीकेशन के लिए आदर्श है जहां किसी रिमोट लोकेशन पर ब्रॉडबैंड इंटरनेट कनेक्शन की आवश्यकता होती है।

VSAT आपके रिमोट साइट्स और वर्क्स को ईमेल, वेब एक्सेस, वीडियो ट्रांसमिशन, वॉयस ओवर आईपी टेलीफोन सर्विसेस या आपके फील्ड ऑपरेशंस के लिए अन्य आईपी एप्लीकेशन के लिए इंटरनेट कम्युनिकेशन के साथ कनेक्ट करने का एक शानदार तरीका है।

VSAT आपको अपने कॉर्पोरेट वाइड एरिया नेटवर्क के साथ फील्ड ऑपरेशंस को इंटीग्रेट करके बिज़नेस प्रोसेस को तेज करने में सक्षम बनाता है।

VSAT के वृद्धि उद्देश्य:-

VSAT सैटेलाइट कम्युनिकेशन का इस्तेमाल छोटे प्राइवेट नेटवर्क या बड़े नेटवर्क प्रदान करने की क्षमता के कारण व्यक्तियों और ऑर्गनाइजेशन दोनों के लिए किया जा सकता है, जिसके लिए मल्टीपल **VSAT** एंटेना की आवश्यकता होती है।

VSAT इम्प्लीमेंटेशन से जुड़ी लागत आपकी जरूरत के आधार पर हो सकती है। इसका मतलब है कि यदि **VSAT** नेटवर्क अंततः बढ़ने जा रहा है, तो आप लागत प्रभाव को कम करने के लिए छोटे चरणों में आवश्यक उपकरणों को लागू करके स्केलेबिलिटी का लाभ उठा सकते हैं।

VSAT सैटेलाइट कम्युनिकेशन का उपयोग करने वाले वृद्धि एप्लीकेशन में पॉइंट-ऑफ-सेल सिस्टम और एटीएम बैंकिंग सिस्टम शामिल हैं जो वायरलेस टेक्नोलॉजी और व्यक्तिगत इंटरनेट कनेक्टिविटी या बड़े ऑर्गनाइजेशन के लिए इंटरनेट एक्सेस का उपयोग करने में सक्षम हैं।

पुलस निगरानी, डेटाबेस मॉनिटरिंग और एक्सेस, पर्यावरणीय उद्देश्यों, सैन्य संचालन, सीमा शुल्क जिम्मेदारियों, क्षेत्रीय कार्य, आपदा और आपातकालीन राहत, यात्रा और पर्यटन, खनन और अन्वेषण, समाचार एजेंसियों, कृषि प्रयोजनों और समुद्र में जहाज संचालन के लिए **VSAT** का उपयोग किया जाता है।

Advantages of VSAT :-

इंस्टैंट इंफ्रास्ट्रक्चर: **VSAT** इंस्टॉल करने के लिए आसान और जल्द तरीका है, अपेक्षाकृत कम अपरिवर्तनीय निवेश है, और प्रति मिनट ऑपरेटिंग लागत कम है और **VSAT** सर्विस प्रोवाइडर को सस्ती दरों की पेशकश करने की अनुमति देती है।

आसान नेटवर्क मैनेजमेंट: नेटवर्क मैनेजमेंट बहुत आसान है क्योंकि **VSAT** स्केलेबल और लचीला दोनों हैं। यदि नई साइटों को एड करने की आवश्यकता है या एक मौजूदा साइट को स्थानांतरित करना होता है, तो इंस्टॉलेशन स्वतंत्र रूप से किया जा सकता है जो देरी और एरर की संभावना को कम कर देता है।

रिकवरी सस्टम का एक्सेस: **VSAT** टेक्नोलॉजी एक विश्वसनीय आर्कटेक्चर प्रदान करती है जिस पर रिकवरी नेटवर्क बनाया जा सकता है।

ब्रॉड कवरेज: **VSAT** नेटवर्क मल्टीपल नेटवर्क की लागत को कम करने के लिए व्यापक सैटेलाइट कवरेज का लाभ उठाता है, जो अन्य कॉम्प्लेक्स सैटेलाइट डेवलपमेंट सोल्युशन के विपरीत है।

यह कम लागत के आर्कटेक्चर और अधिक पावरफुल सस्टम के माध्यम से डिजिटल इनफॉर्मेशन को कॉस्ट इफेक्टिवली और इफिशिएंटली ट्रांसमिट करता है।

सेक्युरिटी: **VSAT** सस्टम काफी सुरक्षित है। ऐसा इसलिए है क्योंकि आमतौर पर दो प्राइवेट लेयर नेटवर्क होते हैं। इस प्रकार की टेक्नोलॉजी **Virtual Private Network (VPN)** के रूप में कार्य करती है जो सुरक्षित कम्युनिकेशन को बढ़ावा देती है।

अफोर्डेबल कॉस्ट: **VSAT** के लिए मूल्य निर्धारण काफी सस्ती है क्योंकि प्रोवाइडर नेटवर्क के लिए न्यूनतम ओवरहेड लागत है। ऐसा इसलिए है क्योंकि आर्कटेक्चर प्रोवाइडर्स को अतिरिक्त बुनियादी ढांचे में निवेश के बिना सचमुच हजारों अलग-अलग स्थानों पर एक ही कंटेंट की सर्विस देने की अनुमति देता है।

मीठा मोती

पैर में से काँटा निकल जाए तो,

चलने में मज़ा आ जाता है,

और मन में से अहंकार निकल जाए तो,

जीवन जीने में मज़ा आ जाता है,

चलने वाले पैरों में कितना फर्क है,

एक आगे है तो एक पीछे,

पर ना तो आगे वाले को अभिमान है,

और ना पीछे वाले को अपमान,

क्योंकि उन्हें पता होता है,

कि पलभर में ये बदलने वाला है,

इसी को जिन्दगी कहते हैं।

?? खुश रहिये मुस्कुराते रहिये ??

Evolution of autonomous driving technology

Autonomous driving is already a hot topic, although level 5 (fully autonomous) has not been realized. Some Tesla cars can be switched to autopilot mode on the highway, but this is only possible up to level 2 (driving support) or level 3 (operated by the driver in an emergency).

Technology for understanding detailed road conditions by AI is evolving. Start-ups Prophase (France), [Perceptive Automata](#) (U.S.), and [Humanising Autonomy](#) (U.K.) stand out as leaders. They will contribute towards achieving level 5 in 2020.

The idea of self-driving vehicles dates back much further than Google's research in the present day. In fact, the concept of an autonomous car dates back to Futurama, an exhibit at the 1939 New York World's Fair. General Motors created the exhibit to display its vision of what the world would look like in 20 years, and this vision included an automated highway system that would guide self-driving cars. While a world filled with robotic vehicles isn't yet a reality, cars today do contain many autonomous features, such as assisted parking and braking systems. Meanwhile, work on full-fledged autonomous vehicles continues, with the goal of making driving a car safer and simpler in the coming decades.

History of Autonomous Cars

In GM's 1939 exhibit, Norman Bel Geddes created the first self-driving car, which was an electric vehicle guided by radio-controlled electromagnetic fields generated with magnetized metal spikes embedded in the roadway. By 1958, General Motors had made this concept a reality. The car's front end was embedded with sensors called pick-up coils that could detect the current flowing through a wire embedded in the road. The current could be manipulated to tell the vehicle to move the steering wheel left or right.

In 1977, the Japanese improved upon this idea, using a camera system that relayed data to a computer to process images of the road. However, this vehicle could only travel at speeds below 20 mph. Improvement came from the Germans a decade later in the form of the VaMoRs, a vehicle outfitted with cameras that could drive itself safely at 56 mph. As technology improved, so did self-driving vehicles' ability to detect and react to their environment.

Autonomous Cars Today

At present, many vehicles on the road are considered to be semi-autonomous due to safety features like assisted parking and braking systems, and a few have the capability to drive, steer, brake, and park themselves. Autonomous vehicle technology relies on GPS capabilities as well as advanced sensing systems that can detect lane boundaries, signs and signals, and unexpected obstacles. While the technology isn't yet perfect, it's expected to become more widespread as it improves, with some predicting that up to half of the automobiles rolling off of assembly lines worldwide will be autonomous by 2025. Dozens of states already have legislation on the books concerning the use of autonomous vehicles in preparation for when this technology is commonplace.

Autonomous vehicles are expected to bring with them a few different benefits, but the most important one is likely to be improved safety on the roads. The number of accidents caused by impaired driving is likely to drop significantly, as cars can't get drunk or high like human drivers can. Self-driving cars also don't get drowsy, and they don't have to worry about being distracted by text messages or by passengers in the vehicle. And a computer isn't likely to get into an accident due to road rage. A 2015 National Highway Traffic Safety Administration report found that 94 percent of traffic accidents happen because of human error: By taking humans out of the equation, self-driving vehicles are expected to make the roads much safer for all.

E-BALL Technology

INTRODUCTION

The E-Ball concept PC is a sphere shaped computer which is the smallest design among all the laptops and desktops. Soon E-BALL based computer will be the new pc to be used in the near future.

E-BALL

The E-ball technology for the future pc was proposed by Apostol Tnokovski who is a product designer in Marcedonia . The E-ball is the smallest pc that has ever been designed till now. It is not going to be like a PDA but like a PC with features of a conventional computer.

CONCEPT OF E-BALL

The E-BALL is a sphere shaped computer. Apostol Tnokovski decided to give sphere shape to the pc because he considered the sphere to be the most attractive shape in the nature that gathers the attention of all.

The body of E-BALL is made up of aluminium and plastic parts. E-BALL is the smallest among all the PCs developed so far as it has 120x120mm motherboard and is 6 inch in diameter. The EBALL pc has all the features and elements of conventional computer like mouse, keyboard, display etc.



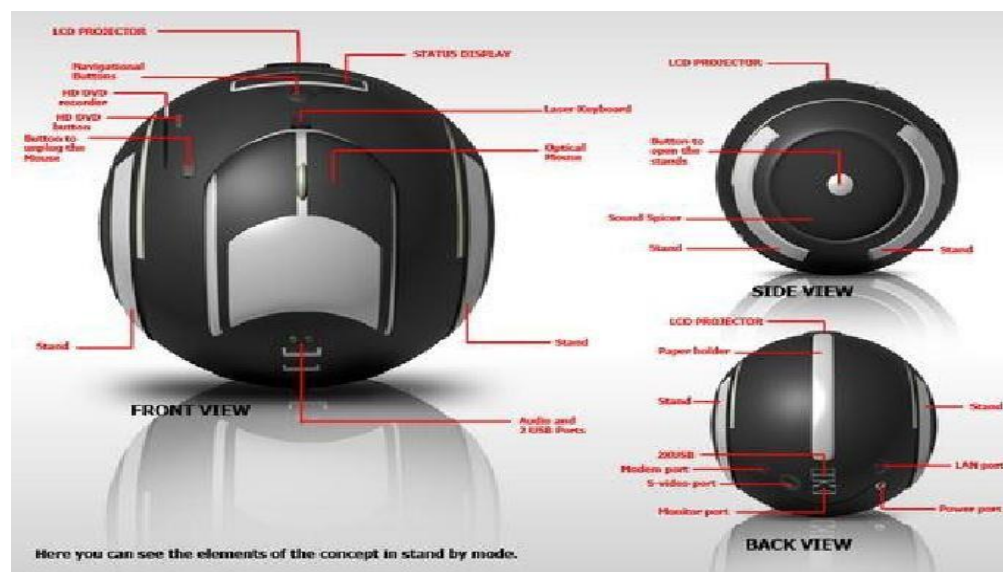
History Of E-ball

- Designer Apostol Tnokovski has Replaced the good old PC from the shackles of the monotonous squares and rectangular shape with his newly designed wonder in a spherical shape.
- According to Apostol it is the best shape in nature and it draws everybody attention. It is the smallest PC ever made.
- It is definitely small when it comes to the size but as they say all good things come in small packages, this tiny round PC is no exception.
- It is loaded with all features that you can only dream of to have in a regular PC. It comes packed with a projected keyboard and display.

Elements of E-BALL

Virtual keyboard Dual core processor 2GB RAM 350-500GB hard drive Integrated graphics and sound card Speakers Wireless optical mouse LAN & WLAN card Modem Web cam LCD projector Paper holder The above mentioned elements as seen from the front, side, back view have been depicted in the picture as shown on the next page.

Front view, side view and back view of the elements of E-BALL



Working of E-BALL

The first thing before starting the E-BALL pc is to put it into standing position. For this press the two buttons on the sides of E-BALL for 5 seconds and the stands are automatically opened and adjusted so as to hold the E-BALL PC in position.

After this the On/OFF button on the top of E-BALL must be pressed to turn on the PC and the projector pops up. After this the focus, direction etc can be adjusted using the navigation buttons.



Working of Display unit

When the stand has been opened and the system has been turned on, it becomes functional only when the screen or the display unit is available. The display unit is not physically present or attached on to the E-BALL.

Rather, with the help of the projector popping up out of the E-BALL PC, the display unit can be projected on to the wall which can work as screen.

IF THERE IS NO WALL ?

The real problem arises if there is no wall to work as a screen. In case we are working in an open place without any wall, then we can use a sheet of paper to work as screen for us.

The sheet holder is on the back of the E-BALL, and can be opened by pressing it on its lower part. As it pops up, it gets divided into three parts like an umbrella and the sheet can be placed on it to work as screen.

Virtual laser Keyboard

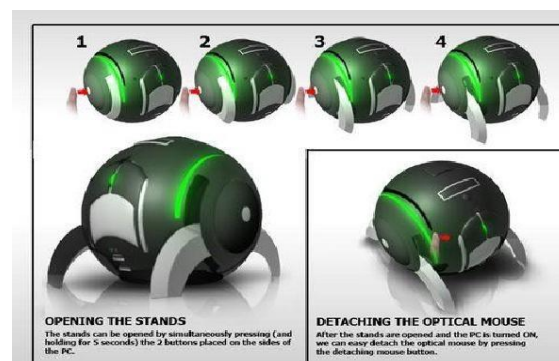
The E-BALL PC has a laser keyboard which is concept keyboard which is visible only when the PC is in working mode. The keyboard is not physical rather it is interpreted by lasers which come into play when the respective button is pressed.

It recognizes your fingers with the help of your Infrared sensors when you are typing at a particular place. The Virtual Laser Keyboard (VKB) leverages the power of laser and infrared technology and projects a full-size keyboard onto any flat surface.



Optical Mouse

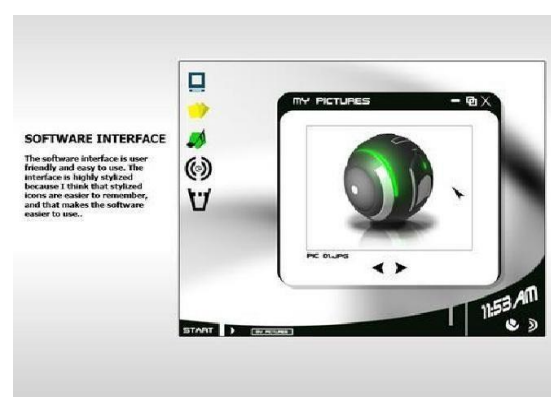
Also there is an optical mouse which is normally attached to the body of the E-BALL. The mouse can be detached from the body of the E-BALL by pressing the mouse detaching button on the left hand side of the PC body at the front (when the mouse is attached to the E-BALL).



The Software Interface

The software interface of the E-BALL PC is highly stylized with icons that support all types of Windows operating system.

Also, the icons can be easily remembered and are easy to use. So the interface is very user friendly. The various icons that are available on the display screen on the left hand side are as shown below in the picture.



FEATURES OF E-BALL

- It contains wireless optical mouse and laser keyboard, and LCD projector.
- It has around 350-600GB of Hard Disk Drive.
- It contains 2GB RAM.
- It has two 50W speakers.
- Checks lighting of room using sensors and adjusts the projection light intensity accordingly.
- It has LAN and WLAN card and a Web cam.
- It is small in size so it is easy to carry.
- The keyboard is a virtual one not a physical keyboard and it is available only when the EBALL pc is working mode

The display is also a holographic display and any wall or a sheet of paper can work as display screen.

The E-BALL PC with all the features of a normal PC along with a whole new range of advanced characteristics is ready to form a base for the design of computers in future especially the ones that will be used at homes, offices and need to be carried from one place to another.

Scenarios for Use

- The first place for E-BALL to find an application is while working in office
- Also it can be used for making video presentations
- Also watching movies can be a great use that can be extracted out of the E-BALL in dayto-day life.
- We can also listen music.
- Chatting on the Internet can be done very easily and is an important utility that can be derived from the E-BALL PC as it can help in conducting online conferences .



Advantages of E-BALL

- The E-BALL PC is small in size as it has spherical shape and hence this makes the PC portable and easy to carry from one place to another.
- E-BALL PC has a large memory and thus can be used to store large amount of data.
- The PC does not require any special display and can use any plain wall or sheet as display screen.
- Also the working speed of the E-BALL PC is great.
- The E-BALL PC supports user defined keyboard layout.

-

Disadvantages of E-BALL

- The PC that is E-BALL PC is designed to work with all kinds of Windows Operating systems. No specifications for its working with other O.S. has yet been provided.
- Also since the E-BALL PC has virtual laser keyboard, holographic display detachable mouse, it has high cost.
- So it is affordable normally.
- If any problem occurs in the hardware of the system, then it is difficult to understand and be recovered easily.

Conclusion

Today the technology is beyond what we could imagine before. Also now-a-days, the new developments are not just the result of the necessity, rather invention and innovation are the new drivers in the development of technology.

So constant updation is the key method to stay and survive in the emerging market of science and technology. The new concept of E-BALL PC that has been proposed few years back but yet has not practically implemented for use in any field. But still the E-BALL PC concept has provided the idea for design of future PC.

Our imaginations have dressed into reality and with the new concept of E-BALL PC , it has become possible to have PC in our pockets.

LET's wait for the time to have the E -BALL PCs in our hands.

References

<http://www.google.co.in/#sclient=psyab&hl=en&site=&source=hp&q=EBALL> 2.

<http://www.electronics.howstuffworks.com> 3.

<http://www.forums.techarena.in/reviews/1148394.htm> 4.

<http://www.google.com> www.studymafia.org

3D Internet

Introduction

3D Internet, also known as virtual worlds, is a powerful new way for you to reach consumers, business customers, co-workers, partners, and students. It combines the immediacy of television, the versatile content of the Web, and the relationship-building strengths of social networking sites like Face book.

Yet unlike the passive experience of television, the 3D Internet is inherently interactive and engaging. Virtual worlds provide immersive 3D experiences that replicate (and in some cases exceed) real life.

People who take part in virtual worlds stay online longer with a heightened level of interest. To take advantage of that interest, diverse businesses and organizations have claimed an early stake in this fast-growing market.

They include technology leaders such as IBM, Microsoft, and Cisco, companies such as BMW, Toyota, Circuit City, Coca Cola, and Calvin Klein, and scores of universities, including Harvard, Stanford and Penn State.

What is 3D Internet?

3D Internet is the next generation after the current 2d web.3D Internet consists of interconnected services, presented as virtual worlds.

Imagine a set-up of interconnected virtual worlds inhabited by users who can visit and consume services through "teleporting" from one world to another.

3D Internet will rely on the same basic technology and components as that of a traditional browser, and it will interact with the same search engines and servers. Aside from the use of 3D computer graphics and personalized avatars, the important difference lies in a much more social experience compared to the two-dimensional Internet of today.

3D Internet is incredibly social. If you're reading a document, you can see other people reading the same document. You connect organically with other people that share your interests and consume the same services that you do.

3D Internet: Why?

One of the often heard arguments against the 3D Internet is in the form of the question“why do we need it?” For most of its users the Internet is a familiar, comfortable medium where we communicate with each other, get our news, shop, pay our bills, and more.

We are indeed so much used to and dependant on its existence that we don't think about its nature anymore just like we do not think about Ohm's law when we turn on the lights. From this perspective what we have, i.e. the 2D version, seems “sufficient” and the 3D Internet is yet another fad.

However, if we stop and think about the nature of the Internet for a moment we realize that it is nothing but a virtual environment (cyberspace) where people and organizations interact with each other

and exchange information. Once this fact is well understood, the question can be turned on its head and becomes “why do we restrict ourselves to 2D pages and hyperlinks for all these activities?”

Navigating hierarchical data structures is often cumbersome for large data sets. Unfortunately, the Internet as we know is organized as a flat abstract mesh of interconnected hierarchical documents. A typical 2D website is an extremely abstract entity and consists of nothing but a bunch of documents and pictures. Within the website, at every level of the interaction, the developers have to provide the user immediate navigational help.

Otherwise, the user would get lost sooner or later. Since this is a very abstract environment, there is no straightforward way of providing a navigation scheme which would be immediately recognizable to human beings. The situation is not any better when traveling between websites.. It is no surprise that Google is the most powerful Internet Company of our times.

HOW 3D INTERNET WORKS?

- Sing available virtual platforms i.e. Second Life.
- By using artificial intelligence.
- Using 3d eyewear like Google Glass.
- Implementing Sixth-Sense technology.
- Using sensors and holographic image projections.

APPLICATIONS OF 3D INTERNET

Education

3D Internet can be used as a platform for education by many institutions, such as colleges, universities, libraries and government entities. There are subjects such as chemistry and English in which Instructors and researchers would favor 3D Internet because it is more personal than traditional distance learning.

Religion

Religious organizations can make use of the 3D Internet to open virtual meeting places within specified locations.

Embassies

We could create embassies in 3D Internet, where visitors will be able to talk faceto-face with a computer-generated ambassador about visas, trade and other issues.

Live sport entertainment

Popular forms of live entertainment could also be placed into the 3D Internet. Many sports allow the users to watch or participate in many popular activities. Sporting leagues like Cricket, Football, Professional Wrestling, boxing, and auto racing could be placed in the 3D Internet for it's users to play in the 3D environment.

Arts

The modeling in 3D Internet would allow the artists to create new forms of art, that in many ways are not possible in real life due to physical constraints or high associated costs. In 3D Internet artists could display their works to an audience across the world. This has created an entire artistic culture on its own where many residents who buy or build homes can shop for artwork to place there.

Gallery openings even allow art patrons to "meet" and socialize with the artist responsible for the artwork and has even led to many real life sales. Live music performances could also be enabled in the 3D Internet.

3D Internet Technology and Components

Though the technology and components used for 3D internet are same as used in traditional internet also it interacts with the same servers and search engines. But being more social 3D internet is different from traditional 2D internet.

The wonderful thing about 3D internet is that participants learn as much from each other as from talking to any official source of information. 3D internet search is also as advanced as it opens a vast array of possibilities when it comes to search and browse data.

Through 3D internet multi users can read the same documents. You connect organically with other people that share your interests and access the same service as other use. People can also watch online 3D movies via internet with no buffering time.

3D internet also offers other facilities like virtual meetings, support groups, academics, training chats and shopping.

3D Internet Features

One of the best features of 3D internet is that it also supports 3D internet TV. Now Sony is thinking to launch new technology for 3D TV that is 3D internet TV and HDTV 3D internet TV Wi-Fi.

In such TVs internet connectivity will be built up in TV via Wi-Fi. The picture and graphic quality will also be tremendously improved along with a lot of TV channels that is building in internet connectivity with 3D TV, to improve quality and to increase number of channels that user may access.

With Sony internet 3D TV, it will also be possible to enjoy other services on TV such as Skype.

Technical Implications

- **Speed:**

Internet speed is one of the most significant implications that are being faced by the 3D Internet. A research shows that not many countries in the world are in a state to fulfill the internet speeds that are required for the implementation of the 3D Internet. Here, in the below chart we can see the average broadband speed in various countries.

- **Hardware:**

Hardware implications are not quite serious implications to be thought of, because the main Hardware implication that we face to implement the 3D Internet is that the display device used to display the images are 2D in nature, but with the inclusion of the 3D internet there would be great difficulty to view the 3D objects in the 2D devices.

PROBLEM STATEMENT

Getting a glimpse of the next generation internet and knowing its seamless power.

WEB 1.0:

- First face of the World Wide Web.
- Edited only by webmasters.
- Similar to a hand-written notebook.
- Threatened to paranoid perception.

WEB 2.0:

- Everyone can contribute to the web.
- Rich user interface and best in class graphics.
- 85% majority websites in web 2.0.
- Change is inevitable.

WEB 3.0:

- Use of metaverse in web technology.
- The rise of intelligent systems.
- Birth of the most awaited future internet.
- Webpages and Webplaces.

Conclusion

3D Internet, also known as virtual worlds, is a powerful new way for you to reach consumers, business customers, co-workers, partners, and students.

It combines the immediacy of television, the versatile content of the Web, and the relationship-building strengths of social networking sites like Face book.

Yet unlike the passive experience of television, the 3D Internet is inherently interactive and engaging. Virtual worlds provide immersive 3D experiences that replicate (and in some cases exceed) real life.

References

www.google.comwww.wikipedia.com

Technical Quiz

R&D Team

01-Ultrasound devices operates with frequencies in the range

- (A) 20 KHz – several GHz
- (B) 20 KHz – several MHz
- (C) 20 Hz – 20 KHz
- (D) 20 Hz – 2000 Hz

02-A switching device that converts fixed DC input to a variable DC output voltage directly is

- (A) Chopper
- (B) Inverter
- (C) Regulator
- (D) Stabilizer

03-The capacitance in parallel with forward biased base emitter terminals of a transistor is known as:

- (A) Depletion Capacitance
- (B) Drift Capacitance
- (C) Diffusion Capacitance
- (D) Doping Capacitance

04-Terminal current gain for the common emitter amplifier is:

- (A) ratio of Collector current to Base current
- (B) ratio of current delivered to load to current supplied to base
- (C) β of the transistor
- (D) all the above

05-Fastest of all logic families:

- (A) Emitter coupled logic
- (B) Resistor Transistor logic
- (C) CMOS logic
- (D) Transistor – Transistor logic

06-Noise due to random emission of electrons associated with charge flowing across a potential barrier is known as

- (A) Thermal noise
- (B) White noise
- (C) Cosmic noise
- (D) Shot noise

07-A broadcast radio transmitter radiates 5 kW power when the modulation percentage

is 60%. The carrier power is

- (A) 1.19 kW
- (B) 3.12 kW
- (C) 4.23 kW
- (D) 6.46 kW

08-The advantages of DSB over SSB full carrier AM is:

- (A) Less available channel space
- (B) More stable transmitter gives better reception
- (C) More power to transmit same signal
- (D) Signal is less resistant to noise

09-VSB modulation is preferred in TV because:

- (A) it avoids phase distortion at low temperature
- (B) it reduces the bandwidth requirement to half
- (C) it results in better reception
- (D) all the above

10-Which of the following is the indirect way of FM generation?

- (A) Reactance bipolar transistor modulator
- (B) Armstrong modulator
- (C) Varactor diode modulator
- (D) Reactance FM modulator

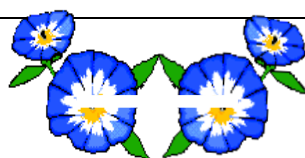
Technical Terms

R&D Team

CODEC	Short for compressor/decompressor, a codec is any technology for compressing and decompressing data. Codecs can be implemented in software, hardware, or a combination of both.
COLC	Correction loop capacitor
Contact Discharge	An ESD test method where the ESD generator makes direct contact with the device under test (DUT).
CPGA	Ceramic pin grid array, an IC packaging technology.
DDR Memory	Double Data Rate Synchronous DRAM: A clock is used to read data from a DRAM. DDR memory reads data on both the rising and falling edge of the clock, achieving a faster data rate. Often used in notebook computers because it also consumes less power.
DMA	Direct Memory Access: A scheme which reads or writes data directly to memory, bypassing the processor and the processor bus.
Drain	One of the three terminals that comprise a FET. A voltage on the gate controls the current flow between the source and drain.
DRAM	Dynamic RAM: Random-Access Memory that uses a continuous clock. Unlike SRAM, when DRAM is no longer clocked, its data is lost.
DSL	A mechanism for providing high-speed digital communications (e.g. Internet access) over a standard phone line.
Dual-Band	Dual-band refers to the capability of GSM network infrastructure and handsets to operate across two frequency bands.

Acknowledgement

We are highly thankful for reading out this compilation and hope it will be useful for you in our day to day professional and personal life. We would like to hear your interest areas, suggestions from you to make this newsletter more informative and interesting. Your views will definitely help us to create this newsletter as an effective medium to reach you with latest development in the fields of communication and technology.



R&D Team

CTC T&IT CRPF, Ranchi, Jharkhand

✉ ctcit@crpf.gov.in

Answers to the Quiz

1	2	3	4	5	6	7	8	9	10
A	A	C	A	A	D	C	C	B	B