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Review on 3D Internet Technology

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ABSTRACT: The internet has become an important part of our everyday lives. The World Wide Web, which began as a solitary data archive, has grown to be vast and indispensable. Current behaviours that are partly or entirely connected to the virtual universe may be enhanced. Any aspect of our everyday lives is summarised and linked to a digital body. The Internet and 3D stereoscopic screens have progressed rapidly around the globe. The time has come to blend the two to provide consumers with a different level of experience. The 3D Internet is a concept that has yet to be realised, and it necessitates browsers with scope insight and artificial intelligence. If this property is incorporated then the idea of Internet of things can become a reality which is also discussed in this paper.

KEYWORDS: 3D Internet, Features of 3D Internet, Future of 3D Internet Introduction

I. INTRODUCTION

Some experts expect that the popularity of 3D communities and mapping apps, along with dropping costs of creating 3D worlds, would lead to a boom in 3D environments. People's views of the environment are shifting drastically. Make use of the internet Consumers' curiosity in 3D environments The level of immersion that the services have is the difference between buyers and sellers.

Interacting with another character in a 3D world, rather than a screen name or a flat image, brings the act of socialsing on the Internet a whole new level. Advertisements in Microsoft's Virtual Earth 3D mapping programme are shown on top of buildings as billboards and signage, fitting in with the cityscapes.

The question "why do we need it?" is posed by the 3D Internet. For the majority of its users, the Internet is a common and convenient medium by which we connect. other, get news, buy, pay bills, and so on. If we work together, we will Consider what we have, i.e. the 2D edition, which seems to be "sufficient." Furthermore, the 3D Internet is yet another fad. Nonetheless, If we take a moment to consider the essence of the Internet, we can see that it is nothing more than a simulated world. (cyberspace) is a virtual environment in which individuals and organisations communicate. each other and share facts with one another. Once this fact has been established,When this is remembered, the question becomes, "Why do we restrict?" For both of these, we've confined ourselves to 2D pages and hyperlinks. [4]

A 2D website is nothing more than a series of documentation and photographs. The developers must provide urgent navigational assistance to the user at any stage of the interaction. Since this is such an abstract world, there is no simple way to have a navigation system, and we have no control of where the network takes us with each subsequent click.

II. EVOLUTION OF 3D INTERNET

This section states the different stages the Internet has gone through. Web 1.0, 2.0 and 3.0 are the three division which describe the evolution and progress of Internet over the ages

Web 1.0

This was the first model of Internet. People could only read content online provided by a small number of developers. Users couldn't upload or provide their content to other equal at this stage. This can be only if termed as

"read only" form of Internet. Web 1.0 had many boundary and small difficulty which had been fixed later by web 2.0.

Web 2.0

The lacks of active intercommunication of common users with the web lead to the birth of Web 2.0. The year 1999 marked the starting time of a Read-Write-Publish era with notable significant addition from Live Journal (Launched in April, 1999) and Blogger (Launched in August, 1999). Now even a non-technical user can actively interact & contribute to the web using different blog platforms. The Web 2.0 or the ―read-write‖ web has the power to contribute content and interact with other web users. This interaction and contribution has dramatically changed the landscape of the web. It has even more ability that we have yet to see. The Web 2.0 appears to be a welcome reply to a web users demand to be more involved in what information is available to them.[3],[7]

Web 3.0

Web 3.0 is not yet fully developed. In the above two versions of web, information was mainly generated by people. In web 3.0 raw data is handled and transformed to information by the Internet itself. It will provide the users with related lead and guidance based on their Internet exercise that will be useful to the user. Web 3.0 include of online unified gaming, live educational and business presentations and avatar representation. It is basically a real time creative web. [3],[7]

III. ARCHITECTURE OF 3D INTERNET

The thought of the 3Dimensional Internet shared by its precursor includes open and reliable architecture, open proprieties, simple to operate at the network core, higher levels of intellect at the edges, and shared application. User surfs the 3Dimension net and uses teleports to move between independent worlds or services.Web place in disagreement of the 2Dimensional Internet we have www, Websites and Sub domains.

World servers

The world wide servers have an imperative task of unify Actually with the users that are connected, starting to communicate within themselves, which ensures space in consistency in realistic machines. These are also used to give various other services such as mails, immediate memorandum, uploading, downloading fast and more.

Avatar/ID servers

Computer-generated individuality running systems enveloping identity and avatar material as well as account of enumerated employers these all provide an environment in which the information of the world servers and the sole servers are having privacy and security.[5][7]

Universal Location Server

The systems which are used for virtual . that are same as the (DNS),these DNS are used to provide the information regarding virtual geography The (ULS) can also help as a dealer of id servers and the user.

Client

Programs working on the user system like a browser which needs a caching, network and a3 dimensional functions to run in the system. There are some additional software's which are needed to support 3 dimensional functions such as editing software's and placing websites in user system. It is expected that discovery of new tool and software development kits will reduce this problem.
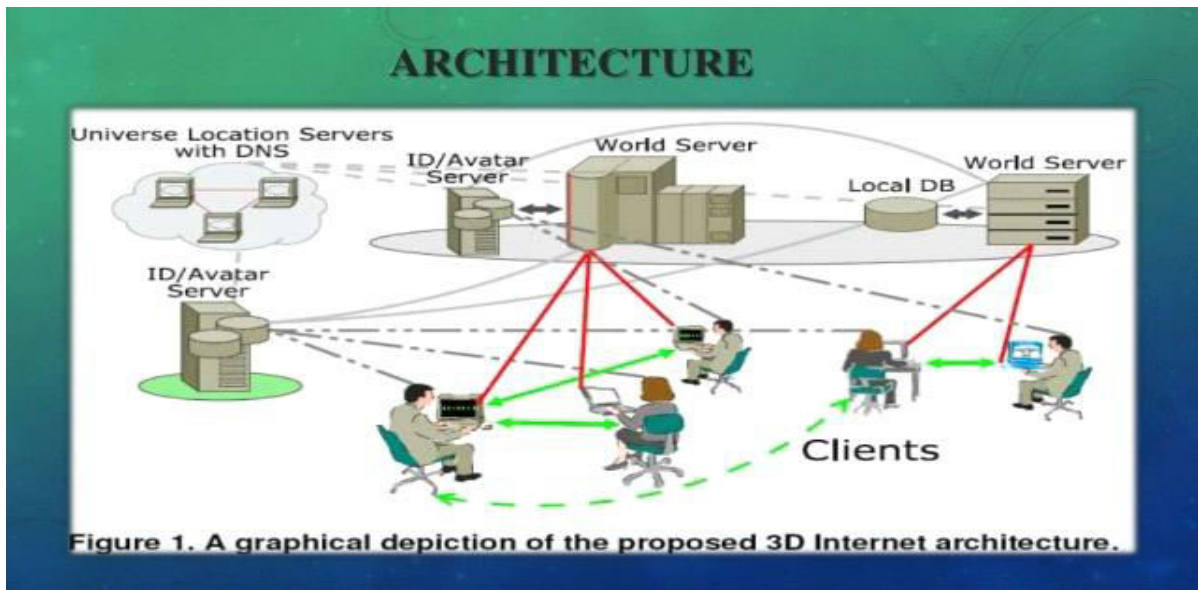
Figure 1. A graphical depiction of the proposed 3D Internet architecture.

IV. IMPLEMENTATION USING VRML TECHNOLOGY

VRML _ Virtual Reality Modelling Language

VRML is the Virtual Reality Modelling Language, a system for detail 3D scenes on the Web. Using text files in a similar format to the HTML which you have been studying, VRML allows a browser to produce the illusion of a three dimensional environment .The very first thing you need is a VRML browser, to view your worlds, as well as other peoples. There are two ways of doing this. First, you could use one of the many VRML authoring tools, which are like 3D model lers in which you can build your world. The other way is to code it by hand. All you need for this is a text editor, such as notepad or word pad. Simply type in the code as shown, and save it as filename.wrl .You can then load this into your browser and take a look! [6]

1. **File structure of VRML technology VRML files contain: The file header**

- Comments - notes to yourself
- Nodes - nuggets of scene information
- Fields - node attributes you can change
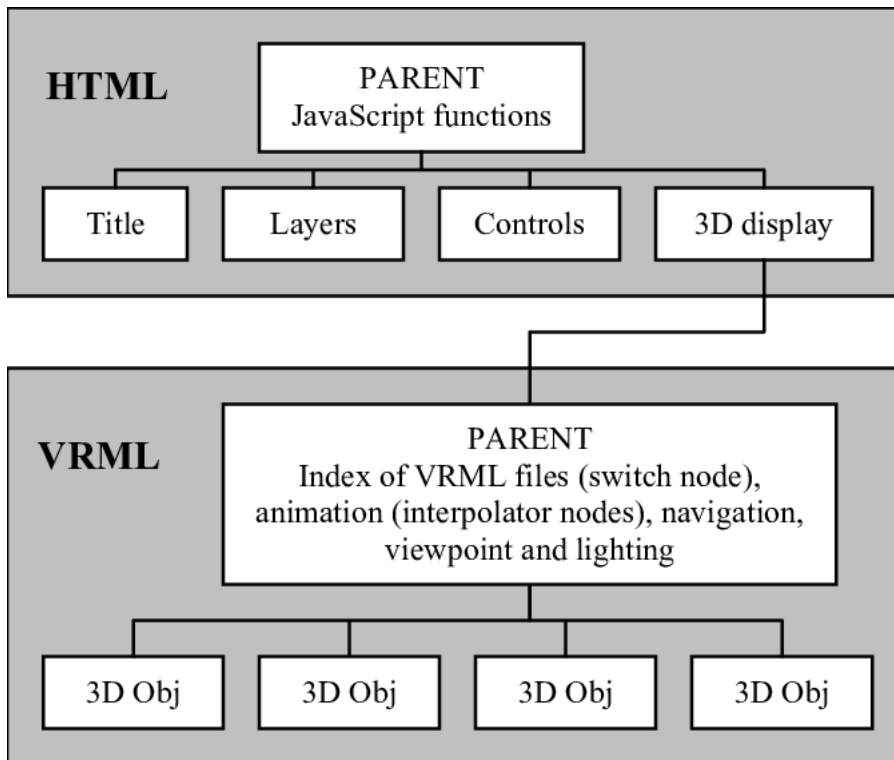- Values - attribute value

Figure 2. VRML technology provide by 3d internet

Google Glass

Vision Station

3D Mouse

Virtual shopping

Google Glass

It is a headset, or optical head-mounted display, that is worn like a pair of eyeglasses. It was developed with the mission of producing a ubiquitous Computer .Google Glass displayed information in a smart phone-like hands free format. Wearers communicated with the Internet via natural language voice commands. Google started selling a prototype of Google Glass to qualified "Glass Explorers" in the US on April 15, 2013, for a limited period for $1,500, before it became available to the public on May 15, 2014, for the same price. The headset has received massive criticism and legislative action due to privacy and safety concerns.
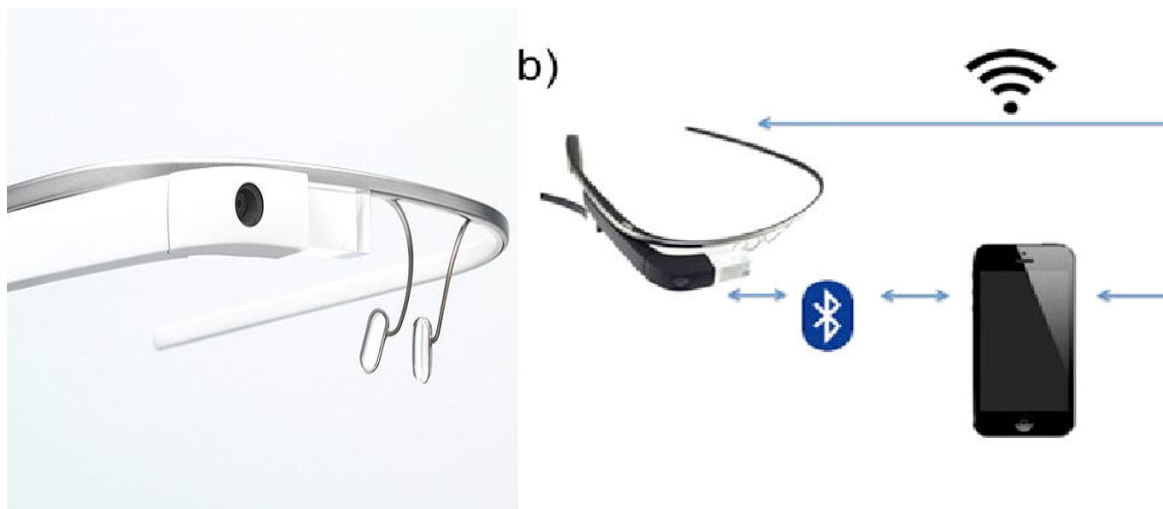
Figure 3,4 Google Glass & how it's connected with mobile

Vision Station

The Vision Station by Elumens is a low-cost 3D immersive viewing system with a wide range of applications.The Vision Station can be used with applications from many different areas of endeavor. Simulation and training, oil and gas exploration, product presentation and entertainment applications will all benefit from the use of an Elumens Vision Station visualization system.Elumens' patented TruTheta software enables software applications for use with Elumens Vision series products. TruTheta software comprises a set of software libraries available at no charge from the Elumens website. Elumens' spherical screens promote an excellent sense of 3D and "presence". Elumens' unique custom optics enables full-screen projection at 180° with perfect spherical projection. Onscreen images have extremely high fidelity to signal.[8]

Figure 5:Vision station platform

3D Mouse

Platform Performance FP is intensively client/server, Const. bandwidth and Low latency. Thus, the link has to be premeditated competently to overwhelm these trials of low dormancy due to high graphic software. The use of PC with 20X GPU and 3XCPU can increase the performance.

A 3D mouse is a pointing and control device, just like your traditional mouse, but is specialised for movement in virtual 3D space. A 3D mouse will feature a variety of ways to control models in a 3D environment including multi-axis sensors, accelerometers and even IR sensors.

3DConnexion devices are very popular in professional sectors like architecture, CAD, 3D design and 3D modeling because they feature a rotating cylinder on a base that can be raised and lowered, as well as rotated. This facilitates very intuitive environmental movement and model manipulation that gives the user the feeling of holding the 3D object in their hand.

Figure:6 3D Mouse

Virtual shopping

After 3 years of intense research, 3D store can now be easily managed by the shop owner and represents an absolute innovation in the international web market. The system builds upon an earlier Esimple technology, Virtuymall, the first Virtual Mall in the world.

Main Characteristics:

1. Avatar navigation

2. Live interaction with other connected users

3. Product details and free purchase from directly inside the 3D environment

4. An advanced editor lets shop owners place objects and furniture inside the 3D store

5. Access to statistics and visitor information

6. Personalized 3D shop assistants to assist clients and make the purchase process faster

7. Presence of avatar bots

8. Constant interaction with the database system and continuous refreshing of prices and object details.

User Created Contents (UCC):

Portability around the globe is due to simple tools and realistic rendering. This is a type of web content that must be produced by a professional. User of the internet. This will necessitate the provision of tools.the material They must develop tools for content development and distribution.Free virtual sites provide users with the opportunity to

customise their experience. Individual-oriented data, and it could be possible to restrict the volume of data that can be obtained.

simulation services :
Avatar dimensions that are dense, client types that are varied, and graphics or physics that are coherent. Client-side or server-side simulation services are available. Acceptance of tools and models is needed.

The management of multilevel identities :
Conditions and facets of self are incrementally externalised as 2Dimensional and 3Dimensional digital identities representing any range of now malleable aspects of race, sex, dob, body shape, appearance, and physique throughout this definition.

Digital asset monetization:
Every virtual world now has its own web application, such as e-Bay and Amazon.com, as well as its own money system and facilities.Since the Google services would not be as tightly connected as Second Life's grid, no one company will be able to monitor payment or trade.

speed :
The 3rdGeneration is supposed to offer fast broadcast rates, with the lowest rate of 2 Megabit/seconds and the maximum rate of 14.4 Megabit/seconds for motionless users, and 348 Kilobit/seconds for a driving vehicle.As a result of the announcement of 3rd Generation technologies, the 3Dimensional net's speed rate operations will be suppressed sooner.

Interfaces and visualisation :
PETs, also known as mobile phones, and PARTS" are examples of devices that can be used to achieve this goal. PETs can create holographic imagery and allow for the depiction of three-dimensional photographs and videos. PARTS are innovative versions of today's multimedia eye glasses,allowing them to display 3D images and also including them in the exercise.

IV. FEATURES

One of the most appealing aspects of 3D broadband is that it supports 3D internet television. Sony is considering launching a new 3D TV technology dubbed 3D internet TV and HDTV 3D internet TV Wi-Fi. Internet access would be integrated into such TVs via Wi-Fi.
The image and graphic quality, as well as the amount of TV channels available, will vastly increase as internet access increases.to boost content and expand the number of platforms available to users Other TV networks, such as Skype, will be available via Sony's internet 3D TV.

V. CONCLUSION

The 3D Internet is one venue that stands out for its potential to draw highly enthusiastic crowds. In view of this debate, it is reasonable to conclude that 3D technologies will quickly become an integral part of our daily lives. We foresee its expansion into other areas, in addition to television and the internet .In the other hand, It is critical to use it effectively in order to save valuable time and money.

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