

# MULTIMEDIA AND VIRTUAL REALITY

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## ABSTRACT

Multimedia can be recorded and played and also displayed, dynamic, interaction with accessed information, processing devices, such as computerized and electronic devices. The combination of different media for communication has influenced and changed all aspects of human life. Virtual reality is an interactive computer-generated with the experience taking place within a simulated in environment. It in corporates auditory and visual feedback, and also allow other types of sensory like haptic. This immersive environment can be related to the real world. Artificial interested environment provided by the VR applications. Multimedia and virtual reality are provide animations and real world environments to the interactive world systems.

## KEYWORDS

Multimedia,deigitaization,virtual reality

## 1.INTRODUCTION

Multimedia communications embraces a range of application and networking infrastructures.in terms of the different types of media ,text and images are generated and represented in a digital form.speech,audio and video are referred as analog signals.the application may involve either person to person communications or persons to system communications.VR that captures the most crucial aspects in spite of rapidly changing technology.VR creates the environment as like the.real world

## 2.MULTIMEDIA AND VIRTUAL REALITY SYSTEMS

People communicate with each other through suitable terminal

equipment(TE) while a person interacts with the system using either



multimedia personal computer(pc) workstation .video and movies interacts with the server by means of suitable

selection device that is connected with the set-top box associated with the television .typical unit is a block of characters it represented as binarydigits(bits) known as codeword.digitized image comprises a two dimensional block of picture elementsit represented as number of bits.in multimedia there are five communication networks are used.

- 1.Telephone networks
- 2.Data networks
- 3.Broadcast television networks
- 4.Integrated service digital networks
- 5.Broadband multiserver networks

Communication channels are associated with circuit mode and time-varying packet mode. In this the microwave broadcast transmission are performe by the co-axial cable .multi channel multipoint distribution system and the local multipoint distributions system. In (MMDS) GHz frequency band is followed.coverage with the direct connection between the transmitter and the cable headend.multiple 6/8 MHz downstream channels are supported either analog TV broadcasts or with suitable modernms,digitalbroadcasts.(LMDS)operates in a higher frequency band as it is intended for local transaction.Interactive Multimedia: The interactive multimedia integrating computer, memory storage, digital (binary) data, telephone, television, and information techniques. training programs, video games, electronic encyclopedias, and travel guides are included in this. Interactive multimedia shift the user's role from observer to participant and considered the next generation of information electronic systems. Interactive Multimedia: The interactive multimedia integrating computer, memory storage, digital (binary) data, telephone, television, and information techniques. training programs, video games, electronic encyclopedias, and travel guides are included in this. Interactive multimedia shift the user's role from observer to participant and considered the next generation of information electronic systems.shapes created with the software's drawing tools with imported bitmaps. Flash excels are creating the vector graphics and the animations. Flash animate bitmap graphics, animations made upon predominately with vector graphics in Flash and they are considerably smaller than animations created with bitmap graphics. Simple 2D animations can be created by open source tools like pencil and more advance tools as like

blender. In VR it allows artificial world through the internet. MPEG files are used to motion videos. H.264 is the video format

Virtual reality is a rapidly changing technology. using the sensor stimulation all the process are executed in this virtual reality humans with the illusion of the external physical world. This idea is brain in a vat. There are two extremes exist in constructing a virtual world as a part of vr experience. Synthetic world is one end it is invited in primitives of geometric and simulated physics. SLAM is used to represent the 3D surround the world that can be changed vr works constitutes by VR system. the sensors is a special transducer the receptor collects all the energy information. a Virtual World Generator (VWG) it produce than other world and also it gives the pure synthetic of another world. it utilizing the Software Development Kit for particular headsets. it handles the lowest level operations and display output. it gives the perception and illusion are not limited to our eyes. the sensor converts the energy in to a signals in a circuit. There is referred to the sensor system selectively. in each eye over there are 100 million photoreceptors target electro magnetic energy in the frequency of range of visible light.

### 3. MULTIMEDIA APPLICATIONS

Many applications that are involve multiple media types

1. Interpersonal communications
2. Interactive applications over the internet
3. Entertainment applications

Interpersonal communications may involve speech, image, text, or video. single type of medium is involved. telephone that are connected either to a switched telephone network. it requires a telephone interface card and associated software. an alternative form of interpersonal communications over a PSTN or and ISDN by the exchange of electronic images of documents. text communications involves in electronic mail. Interactive are HTML. the URL also created. entertainment applications are two types. Movie/video demand Interactive television the



subscriber able to browse through the set of movies

and initiative the showing of selected movie. the movie on demand (MOD) video on demand (VOD).

**Text:** Text and symbols are important for communication in medium. many advantages: text files are small and they perform well at low bandwidth, for specific words or phrases, and text can be easily updated in users search. You can create text directly within an authoring application otherwise import it from external text files. Anti-aliasing enables user to create attractive text that blends into the background color. anti-aliased text supports Authorware, Director, and Flash. anti-aliased text helps to create display text as a graphics file, which would make your overall course size much larger than if you simply entered text directly into the authoring tool.

**Images and Graphics:** Images are very important role which are played in a multimedia. the form of still picture, painting and photograph taken through the digital camera. The points at an image is sampled are known as picture elements, they are known as pixels. pixel values of images are called grayscale levels. Two type of image formats like the Captured Image Format and then format when images are stored. The captured image Format is spatial resolution which is specified as pixels x pixels and color encoding is specified by bits per pixel. Both factors depend on hardware and software for input/output of intensity images. The Stored Image Format is when user store an image it is storing in a two-dimensional array of values, in which each value represents the data associated with a pixel which are in the image. These images help few of the software like general drawing programs, JASC Paint Shop Pro, Corel Photo Paint, Macromedia Fireworks and other applications.

**Graphics Formats:** Web browsers displays GIF and JPEG graphics files. Later version of web browsers can use the JPEG format for continuous-tone images, as photographs and images that use color gradients. The PNG image format was developed a patent-free replacement for GIF format. PNG use an alpha channel to transparency in a graphic. Import PNG files into any of the Macromedia tools used to alternative for GIF files with transparency. The graphic formats for Web pages in general are GIFs and JPEGs.

**3. Audio:** Audio enhance learning and reinforce ideas presented as text and graphics on the screen. audio essential to the teaching of topics as a foreign language or other music appreciations. three types of audio

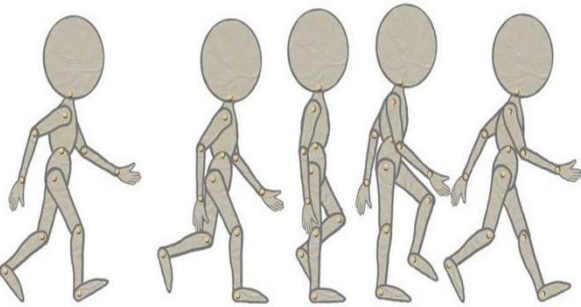
1. Music
2. Narration
3. Sound effects

Music gives a higher-quality and a wider frequency of sound range than the narration and produces larger files.

Narrations have a smaller frequency of sound range so it can be compressed and retain good sound quality. Sound effects are short so they don't have a large impact on the overall file size of applications .

**Audio Formats:** The WAV and AIFF audio formats are popular in Microsoft Windows and Macintosh systems. the compressed formats with the small file size with acceptable quality audio. Shockwave Audio (SWA) used by Authorware and Director, and MP3, used to Flash and popular compressed formats.

4. Video: video requires lots of bandwidth for download. it is useful for convey the information. e-learning helps to demonstrate equipment and also processes among other



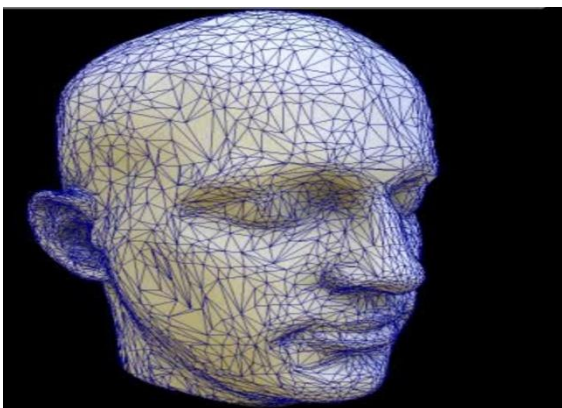
things. Videos are used in e-learning course in botany shows a sprouting seed. the features of an airplane shows a video of a crew member properly. It shows the closing and securing a door to takeoff.

**Video Formats:** Quick Time, Video for Windows, and MPEG are the three formats . Video files large so they appropriate for delivery in modem connections.

5. Animation: Animation having concepts with movement, shows processes, otherwise draws attention to a region or elements of a screen. animations involve graphics, it is highly dependent upon the size and the file type of graphics that are being animated.

**Animation Formats:** There are many ways to create animations like Authorware, Dreamweaver, Director and Flash all create animations. animations are created within an authoring program is smaller and more efficient. animation create

d in another tool and then imported in users authoring



program. It is true when an animation is based on shapes created with the software's drawing tools with imported bitmaps. Flash excels are creating the vector graphics and the animations. Flash animate bitmap graphics, animations made upon predominately with vector graphics in Flash and they are considerably smaller than animations created with bitmap graphics. Simple 2D animations can be created by open source tools like pencil and more advance tools as like blend.

## VR APPLICATIONS

This immersive environment can be similar to the real world and it can be fantastical. Augmented reality systems also be considered a form of VR. And the VR layers virtual information over a live camera feed into a headset or through a smartphone or tablet device. It gives the ability to view three-dimensional images.

VR technology uses virtual reality headsets and multi-projected environments, the combination with physical environments and props, to generate realistic images, sounds and other sensations. It simulate a user's physical presence in a virtual and imaginary environment. virtual reality equipment is able to "look around" the artificial world, move around in it, and interact with virtual features and applications. VR effect is created by VR headsets consisting of a head-mounted display with a small screen in front of the eyes. we can also be created through specially designed rooms with multiple large screens. Reality systems are considered as a form VR layers informations are in a live camera feed through smartphone and other devices. It gives the three dimensional effects. In gaming effects transmission and continous vibrations and some sensations are created by the gaming controls the devices are hepatic. production of videos and the images are developed by omnidirectional camera. VR is used to control the telerobtics and the preseence of robots .they are controlled by the remotes in dangerous environment like as space.

**Fully immersive:** For the complete VR experience, are given by three things as plausible, and richly detailed virtual world to explore; a computer model or simulation. a powerful computer can detect what we're going to adjust experience accordingly. hardware linked in to the computer they fully immerses us in the virtual world as like we roam around. People need to put on a head-mounted display (HMD) with two screens and stereo sound, and also wear one or more sensory gloves. Alternatively, user can move around inside a room, fitted out with all surround-sound loudspeakers, into which is changing images are projected them from outside.

**Non-immersive:** it is used in a very wide screen, with headphones otherwise surround sound, and a realistic joystick and all other controls. Not everyone need fully immersed in an alternative reality. An architect build a

detailed 3D model of a new one to show them to the clients that can be explored on a desktop computer by moving the mouse. Most people classify them as a kind of virtual reality, even if they doesn't fully immerse. the same way of computer archaeologists often create engaging 3D reconstructions of long-lost settlements. they can move around and explore. They don't take user back hundreds or thousands of years and create the sounds, smells, and tastes of prehistory, they gave a much richer experience than a few pastel drawings otherwise even an animated movie.

VR provides players to improved gaming experience. When they wear a VR headset, such as the Oculus Rift, HTC Vive, or PlayStation VR, they become absorbed by their personal gaming world. the game instead of playing it changes the experience by creating a interconnection between the player and the games. they are no longer confined to sitting in front of a screen and controlling the character using just their hands. They feel as the game is all around them, resulting in a more immersive and personal experience.

### DISCIPLINES OF MUTIMEDIA AND VIRTUAL REALITY:

Digital integrations are process by medias to interactive. it is easy to adapt other things. they promote the audio usage in graphics. they are supported by their interactivity. VR headset absorbed similar control in the gaming world. using the standalone vr headsets we can reduce the usage of the mobile devices. the most effective place of multimedia is education and learning places. CD-ROM is used to develop the environment in web pages widely.

### CONCLUSION

Multimedia is an important weapon for media based digital technologies. Virtual reality (VR) is a powerful technology that artificially stimulating our senses, bodies become tricked into accepting another version of reality. VR is like a waking dream that could take place in a magical cartoon-like world. It includes many familiar media, from paintings to movies to video games. they provide artificial environment in intelligence.

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