**What is Multimedia?**

Multimedia derived from the word “Multi” and “Media” **Multi** mean Many, Multiple, and **Media** mean Tools that is used to represent or do a certain thing, delivery medium, a form of mass communication – newspaper, magazine / TV. Distribution tool & information presentation – text, graphic, voice, images, music and etc. **Multimedia** is the integration of multiple forms of media. This includes text, graphics, audio, video, etc.

**Example:** One example of multimedia would be combining a website with video, audio, or text images.

**Application of multimedia**

Nowadays the application of Multimedia is observed in various fields such as Education, Entertainment, Business and so on. To communicate the message in the form of picture, sound, video, animation is the primary role of multimedia. Some of the application of multimedia are as follows:

**1)Multimedia in Education:** Multimedia is becoming popular in the field of education. It is commonly used to prepare study material for the students and also provide them proper understanding of different subjects. Nowadays Edutainment, a combination of Education and Entertainment has become very popular. This system provides learning as well as provides entertainment to the user.

**2)Multimedia in Entertainment:** Computer graphics techniques are now commonly used in making movies and games. this increase the growth of multimedia.

* **Movies:** Multimedia used in movies gives a special audio and video effect. Today multimedia has totally changed the art of making movies in the world. Difficult effect, action is only possible through multimedia.
* **Games:** Multimedia used in games by using computer graphics, animation, videos have changed the gaming experience. Presently, games provide fast action, 3-D effects and high-quality sound effects which is only possible through multimedia.

**3)Mathematical and Scientific Research:** In Mathematical and Scientific Research, multimedia is mainly used for modeling and simulation.

**4)Medicine:** In Medicine, doctors can get trained by looking at a virtual surgery. They can simulate how the human body is affected by diseases spread by viruses and bacteria and then develop techniques to prevent it

**5)Multimedia in Business:** Today multimedia is used in every aspect of business. These are some of the applications:

* **Videoconferencing:** This system enables to communicate using audio and video between two different locations through their computers. When the information is sent across the world, this technology provides cost benefits to the business which saves their time, energy and money.
* **Marketing and advertisement:** Nowadays different advertisement and marketing ideas about any product on television and internet is possible with multimedia.

**Explain key issues of multimedia system.**

The key issues multimedia systems need to deal with here are:

* How to represent and store temporal information.
* How to strictly maintain the temporal relationships on play
* back/retrieval
* What process are involved in the above.
* Data has to be represented digitally.
* Conversion, Sampling etc.
* Large Data Requirements — bandwidth, storage, Data compression is usually mandatory.

**What are main components of multimedia system?**

The various components of multimedia are Text, Audio, Graphics, Video and Animation. All these components work together to represent information in an effective and easy manner.

**Components of Multimedia:**

**1)Text:** Text is the most common medium of representing the information. In multimedia, text is mostly use for titles, headlines, menu etc. The most commonly used software for viewing text files are Microsoft Word, Notepad, Word pad etc. Mostly the text files are formatted with, DOC, TXT etc. extension.

**2)Audio:** In multimedia audio means related with recording, playing etc. Audio is an important component of multimedia because this component increases the understandability and improves the clarity of the concept. audio includes speech, music etc. The commonly used software for playing audio files are:

**i)** Quick Time

ii) Real player

iii) Windows Media Player

**3)Graphics:** Every multimedia presentation is based on graphics. The used of graphics in multimedia makes the concept more effective and presentable. The commonly used software for viewing graphics are windows Picture, Internet Explorer etc. The commonly used graphics editing software is Adobe Photoshop through which graphics can be edited easily and can be make effective and attractive.

**4)Video: V**ideo means moving pictures with sound. It is the best way to communicate with each other. In multimedia it is used to makes the information more presentable and it saves a large amount of time. The commonly used software for viewing videos are:

i) Quick Time

ii) Window Media Player

iii) Real Player

**5)Animation:** In computer animation is used to make changes to the images so that the sequence of the images appears to be moving pictures. An animated sequence shows a number of frames per second to produce an effect of motion in the user's eye. Some of the commonly used software for viewing animation are:

i) Internet Explorer

ii) Windows Pictures

iii) Fax Viewer

**Component of Multimedia:**

* Capture Devices:

Video Camera, Microphone, Digitizing, Sampling, Hardware etc.

* Storage Devices:

Hard disks, CD-ROM, DVD, USB

* Communication Network:

Cable Internet, wireless internet, mobile internet etc.

* Computer System:

Multimedia Computer Machine, Network Computers

* Rendering Devices:

Speaker, TV, Computer monitor, printer, MPEG reader devices