

Course Contents

Unit-10:Multimedia (3 Hrs.)

- **Introduction; Multimedia - Definition; Characteristics of Multimedia; Elements of Multimedia; Multimedia Applications**

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Explain multimedia and its components:

What is multimedia?

- Multimedia with two words—multi (many) and media(means through which information is shared i.e text, graphics, images, audio & video)
- Multimedia is a combination of more than one media—text, graphics, images, audio, or video, which is used for presenting, sharing, and disseminating the information.
- Multimedia is delivered through the computer and microprocessor-based devices, thereby introducing the elements of interactivity, which differentiates it from the traditional forms of mass media.
- Multimedia or Interactive multimedia allows the user and the multimedia application to respond to each other. The user is able to control the elements of the multimedia application in terms of what elements will be delivered and when. Since multimedia systems are integrated with computers, they are also referred to as the digital multimedia system.

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Explain multimedia and its components:

➤ Multimedia

Describing a medium as having multiple content forms. In general, multimedia includes a combination of text, audio, still images, animation, video, and interactivity content forms



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History of the term:

- In 1965, was used to describe the performance that combined live rock music, cinema, experimental lighting and performance art.
- In the late 1970s the term was used to describe multi-projector slide shows timed to an audio track.
- In the 1990s it took on its current meaning.
- Some computers which were marketed in the 1990s were called "multimedia" computers because incorporated a CD-ROM drive, which allowed for the delivery of several hundred megabytes of video, picture, and audio data.

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Categorization:

- Broadly divided into linear and non-linear categories.
- Linear active content progresses without any navigation control for the viewer e.g. cinema presentation.
- Non-linear content offers user interactivity to control progress as used with a computer game or used in self-paced computer based training. Non-linear content is also known as hypermedia content.

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Characteristics of Multimedia:

A Multimedia system has four basic characteristics:

1. Multimedia systems must be computer controlled.
2. Multimedia systems are integrated.
3. The information they handle must be represented digitally.
4. The interface to the final presentation of media is usually interactive.

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Usages of Multimedia:

- Multimedia finds its application in various areas including, but not limited to, advertisements, art, education, entertainment, engineering, medicine, mathematics, business, scientific research and spatial temporal applications.
- Advertisements: Exciting presentations are used to grab and keep attention in advertising.
- Art: multimedia artists using different media that in some way incorporates interaction with the viewer. Another approach involves the creation of multimedia that can be displayed in a traditional fine arts arena, such as an art gallery.
- Education: multimedia is used to produce computer-based training courses (popularly called CBTs).
- Entertainment: multimedia is heavily used in the entertainment industry, especially to develop special effects in movies and animations.

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Usages of Multimedia:

- Engineering: engineers may use multimedia in Computer Simulations for anything from entertainment to training such as military or industrial training
- Medicine: doctors can get trained by looking at a virtual surgery or they can simulate how the human body is affected by diseases spread by viruses and bacteria and then develop techniques to prevent it.
- Business: selling products all over the world via virtually unlimited web-based technologies
- Mathematics, Scientific research: Mathematical and Scientific Research, multimedia are mainly used for modelling and simulation. For example, a scientist can look at a molecular model of a particular substance and manipulate it to arrive at a new substance.

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Hypermedia.:

- Hypermedia is a term created by Ted Nelson, and used in his 1965 article Complex information processing: a file structure for the complex, the changing and the indeterminate.
- It is used as a logical extension of the term hypertext, in which graphics, audio, video, plain text and hyperlinks intertwine to create a generally non-linear medium of information. Multimedia, which may be used to describe non-interactive linear presentations as well as hypermedia.
- The World Wide Web is a classic example of hypermedia, whereas a non-interactive cinema presentation is an example of standard multimedia due to the absence of hyperlinks.
- The first hypermedia system was the Aspen Movie Map, while the first truly universal hypermedia was Hypercard. Most modern hypermedia is delivered via electronic pages from a variety of systems. Audio hypermedia is emerging with voice command devices and voice browsing.

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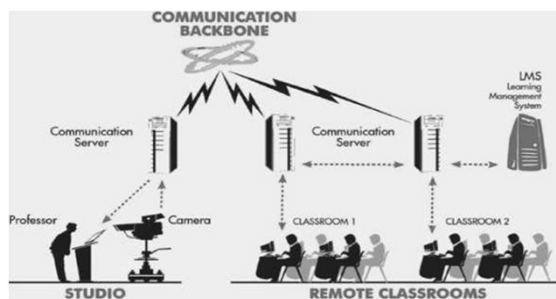
MULTIMEDIA APPLICATIONS:

1. Education: It is always better to visually observe and hear about a topic than only reading it from a book. Using multimedia for education encompasses the use of video clips, speech and sound, music, animations, and graphics. The use of these multimedia elements impacts the whole learning process and pedagogy.
 - 1) For Students and Teachers - The teachers use multimedia as a tool for delivering more effective lectures. They supplement their lectures with PowerPoint presentations, drawings, graphics and 3D graphics. They also use virtual laboratories and simulations to support their lectures, share same physical resource across multiple locations, and reduce capital and operational expenditure.
 - 2) Imparting Education - Multimedia has resulted in spreading education to far-off places where students cannot physically go and attend classes.
 - Self-learning CD-ROMs
 - E-learning Programs
 - Synchronous Learning Technology

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MULTIMEDIA APPLICATIONS:

Education – Synchronous Learning



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MULTIMEDIA APPLICATIONS:

2. In Entertainment: Video games and animation movies are some of the common uses of multimedia for entertainment. Gaming is one of the oldest uses of multimedia.
3. In Training: Training is an important ingredient in any organization. With the advent of multimedia in training, software is developed which can be stored on the CD, delivered over web and used by the employees for training. On-line training and simulation are some other methods which use multimedia for training.
4. In Business: Multimedia is crucial for the success of business organizations. In government and nongovernment organizations, no meeting is complete without PowerPoint presentations and reports generated along with graphs and images. Moreover, businesses use multimedia to further their products and to enlighten people about their products.

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MULTIMEDIA APPLICATIONS:

5. Virtual Reality: Virtual Reality is created using multimedia. Virtual reality is a special environment that is created using multimedia, where the users feel as if they are in a three-dimensional world. It gives the feeling to the users as if they are participating in the scenario.