**MULTIMEDIA AND ITS APPLICATION**

**UNIT-1**

**What is Multimedia?**

* Multimedia is an interactive media and provides multiple ways to represent information to the user in a powerful manner.
* It provides an interaction between users and digital information. It is a medium of communication.
* Some of the sectors where multimedia’s is used extensively are education, training, reference material, business presentations, advertising and documentaries.

**Definition of Multimedia**

* Multimedia is a representation of information in an attractive and interactive manner with the use of a combination of text, audio, video, graphics and animation.
* In other words, we can say that Multimedia is a computerized method of presenting information combining textual data, audio, visuals (video), graphics and animations. **For examples: E-Mail, Yahoo Messenger, Video Conferencing, and Multimedia Message Service (MMS).**
* Multimedia as name suggests is the combination of Multi and Media that is many types of media (hardware/software) used for communication of information.

 

**Components of Multimedia**

Following are the common components of multimedia:

* **Text**- All multimedia productions contain some amount of text. The text can have various types of fonts and sizes to suit the profession presentation of the multimedia software.
* **Graphics**- Graphics make the multimedia application attractive. In many cases people do not like reading large amount of textual matter on the screen. Therefore, graphics are used more often than text to explain a concept, present background information etc. There are two types of Graphics:
	+ **Bitmap images**- Bitmap images are real images that can be captured from devices such as digital cameras or scanners. Generally bitmap images are not editable. Bitmap images require a large amount of memory.
	+ **Vector Graphics**- Vector graphics are drawn on the computer and only require a small amount of memory. These graphics are editable.
* **Audio**- A multimedia application may require the use of speech, music and sound effects. These are called audio or sound element of multimedia. Speech is also a perfect way for teaching. Audio are of analog and digital types. Analog audio or sound refers to the original sound signal. Computer stores the sound in digital form. Therefore, the sound used in multimedia application is digital audio.
* **Video**- The term video refers to the moving picture, accompanied by sound such as a picture in television. Video element of multimedia application gives a lot of information in small duration of time. Digital video is useful in multimedia application for showing real life objects. Video have highest performance demand on the computer memory and on the bandwidth if placed on the internet. Digital video files can be stored like any other files in the computer and the quality of the video can still be maintained. The digital video files can be transferred within a computer network. The digital video clips can be edited easily.
* **Animation**- Animation is a process of making a static image look like it is moving. An animation is just a continuous series of still images that are displayed in a sequence. The animation can be used effectively for attracting attention. Animation also makes a presentation light and attractive. Animation is very popular in multimedia application

**Applications of Multimedia**

Following are the common areas of applications of multimedia.

* **Multimedia in Business**- Multimedia can be used in many applications in a business. The multimedia technology along with communication technology has opened the door for information of global wok groups. Today the team members may be working anywhere and can work for various companies. Thus the work place will become global. The multimedia network should support the following facilities:
	+ Voice Mail
	+ Electronic Mail
	+ Multimedia based FAX
	+ Office Needs
	+ Employee Training
	+ Sales and Other types of Group Presentation
	+ Records Management
* **Multimedia in Marketing and Advertising**- By using multimedia marketing of new products can be greatly enhanced. Multimedia boost communication on an affordable cost opened the way for the marketing and advertising personnel. Presentation that have flying banners, video transitions, animations, and sound effects are some of the elements used in composing a multimedia based advertisement to appeal to the consumer in a way never used before and promote the sale of the products.
* **Multimedia in Entertainment**- By using multimedia marketing of new products can be greatly enhanced. Multimedia boost communication on an affordable cost opened the way for the marketing and advertising personnel. Presentation that have flying banners, video transitions, animations, and sound effects are some of the elements used in composing a multimedia based advertisement to appeal to the consumer in a way never used before and promote the sale of the products.
* **Multimedia in Education**- Many computer games with focus on education are now available. Consider an example of an educational game which plays various rhymes for kids. The child can paint the pictures, increase reduce size of various objects etc apart from just playing the rhymes.Several other multimedia packages are available in the market which provide a lot of detailed information and playing capabilities to kids.
* **Multimedia in Bank**- Bank is another public place where multimedia is finding more and more application in recent times. People go to bank to open saving/current accounts, deposit funds, withdraw money, know various financial schemes of the bank, obtain loans etc. Every bank has a lot of information which it wants to impart to in customers. For this purpose, it can use multimedia in many ways. Bank also displays information about its various schemes on a PC monitor placed in the rest area for customers. Today on-line and internet banking have become very popular. These use multimedia extensively. Multimedia is thus helping banks give service to their customers and also in educating them about banks attractive finance schemes.
* **Multimedia in Hospital**- Multimedia best use in hospitals is for real time monitoring of conditions of patients in critical illness or accident. The conditions are displayed continuously on a computer screen and can alert the doctor/nurse on duty if any changes are observed on the screen. Multimedia makes it possible to consult a surgeon or an expert who can watch an ongoing surgery line on his PC monitor and give online advice at any crucial juncture.

In hospitals multimedia can also be used to diagnose an illness with CD-ROMs/ Cassettes/ DVDs full of multimedia based information about various diseases and their treatment.Some hospitals extensively use multimedia presentations in training their junior staff of doctors and nurses. Multimedia displays are now extensively used during critical surgeries.

* **Multimedia Pedagogues**- Pedagogues are useful teaching aids only if they stimulate and motivate the students. The audio-visual support to a pedagogue can actually help in doing so. A multimedia tutor can provide multiple numbers of challenges to the student to stimulate his interest in a topic. The instruction provided by pedagogue have moved beyond providing only button level control to intelligent simulations, dynamic creation of links, composition and collaboration and system testing of the user interactions.
* **Communication Technology and Multimedia Services**- The advancement of high computing abilities, communication ways and relevant standards has started the beginning of an era where you will be provided with multimedia facilities at home. These services may include:
	+ Basic Television Services
	+ Interactive entertainment
	+ Digital Audio
	+ Video on demand
	+ Home shopping
	+ Financial Transactions
	+ Interactive multiplayer or single player games
	+ Digital multimedia libraries
	+ E-Newspapers, e-magazines

**Advantages of Multimedia.**

**(i) It is interactive and integrated**: The digitization process integrates all of the numerous mediums. The ability to receive immediate input enhances interactivity.

**(ii) It’s quite user-friendly:** The user does not use much energy because they can sit and watch the presentation, read the text, and listen to the audio.

**(iii) It is Flexible:** Because it is digital, this media can be easily shared. Adapted to suit various settings and audiences.

**(iv) It appeals to a variety of senses:** It makes extensive use of the user’s senses while utilizing multimedia, for example, hearing, observing and conversing

**(v) Available for all type of audiences:** It can be utilized for a wide range of audiences, from a single individual to a group of people.

**Disadvantages of Multimedia.**

**(i) Expensive:** It makes use of a wide range of resources, some of which can be rather costly.

**(ii) Overabundance of information:** Because it is so simple to use, it can store an excessive amount of data at once.

(iii) The time it takes for your presentation to load is affected by large files such as video and music. If you add too much, you may need to utilize a larger computer to store the information.

**(iv) Compilation Time:** It takes time to put together the original draft, despite its flexibility.

**The characteristics of Multimedia:**

(i) Multimedia systems must be controlled by a computer – storing, transmitting and presenting the information to the end users

(ii) Multimedia systems are linked to one another, i.e., integrated: The system’s multimedia components such as video, music, text, and graphics must all be integrated in some way.

(iii) The data they work with must be represented digitally: The process of converting an analog signal to a digital signal.

(iv) Usually, the interface to the final media presentation is interactive.

**Introduction to making Multimedia:**

**Stages of a Project**

**1. Planning and costing-begin with an idea**

 Develop an idea

 Identify objectives

 plan text, graphics, music, video

 develop graphic layout (“look and feel”)

 develop a structure and navigation system

 estimate time needed to complete

 prepare budget ( if necessary)

 Identify skills and resources

 work up a prototype

**The plan should include:**

 A flow chart or timeline showing the basic flow of the project

 A list of hardware and software resources that will be

required

 A list of skills that will be required

 A time estimate for project completion

 To make multimedia, you need hardware, software, good

ideas.

**2. Designing and Producing -** perform each planned task

**3. Testing -** test to be sure project meets objectives and needs of

client

**4. Delivering-** package and deliver to end user

 Create CD-ROM, labels, etc.

 prepare user manual

**What You Need?**

**1. Hardware** The Macintosh as well as Windows PC offers a combination of affordability, and software and hardware availability.

•The Macintosh platform is better suited for multimedia production than the Windows platform.

•The hardware platforms provided by Apple are better equipped to manage both, sound and video editing.

**2. Software** Multimedia software provides specific instructions to the hardware for performing tasks. Software tools are divided into production tools and authoring tools

**3. Creativity** In a multimedia project, being creative implies knowledge of hardware and software. It is essential to develop an organized outline detailing the skills, time, budget, tools and resources needed for the project.

**4. Organization**

**What is a Multimedia Presentation?**

* A multimedia presentation is a type of presentation that uses several different forms of digital communication, such as video, interactive slides, audio clips, music and more, to get the message across.
* In short, multimedia presentations go beyond the use of text and images. Including digital media like animation, video, audio, or interactive features like forms, popups and more can help enrich your presentations both visually and content-wise.

**Steps for Create a Multimedia Presentation:**

It’s simple to create a multimedia presentation if you have the right software tools at your disposal, just follow the following steps:

**1. Select and outline your content –** What is the purpose of your presentation? What is your subject? Answer these questions and choose content that will support your presentation objectives. Create an outline of the content as it will appear on your slides.

**2. Consider multimedia options –** Examine your content outline and decide what multimedia elements will best showcase your information. Will a concept clearly be communicated with a video, or will a photograph be a better fit? Should you add music to a certain section, and what multimedia options will boost audience engagement at key moments?

**3. Design your slide deck –** You can design your slide deck from scratch or customize a presentation template from PowerPoint-alternative software options like Beautiful.ai. Construct your slide deck so that each section of your outline is represented by its own slide. Add titles and headings to designate each slide’s function.

**4. Insert your content –** Add your textual content to the appropriate slides. Be sure the text is in a clear and legible font, and try to avoid crowding too much content on any individual slide.

**5. Add images, video and audio elements –** Using your presentation software of choice, insert video, audio and graphic elements in the appropriate slides. If you use Beautiful.ai, artificial intelligence will automatically adjust the design of your slides each time you add new content, ensuring your presentation adheres to the principles of good design.

**6. Add animations and transitions –** Once you’ve designed your slide deck and inserted multimedia elements, you can add extra pizzazz to your presentation with the addition of transition and animations. The subtle motions will polish your presentation with increased visual appeal, and it will boost audience engagement by capturing and retaining viewers’ attention.

**7. Review your presentation and share it –** Carefully review your presentation to ensure it’s ready for audiences, rehearse your delivery and share your information with the world!