UNIT IV

MULTIMEDIA

The word multi and media are combined to form the word multimedia. The word "multi" signifies "many." Multimedia is a type of medium that allows information to be easily transferred from one location to another. Multimedia is the presentation of text, pictures, audio, and video with links and tools that allow the user to navigate, engage, create, and communicate using a computer.

Multimedia refers to the computer-assisted integration of text, drawings, still and moving images(videos) graphics, audio, animation, and any other media in which any type of information can be expressed, stored, communicated, and processed digitally.

Types of Multimedia

Linear Multimedia:

It is also called Non-interactive multimedia. In the case of linear multimedia, the end-user cannot control the content of the application. It has literally no interactivity of any kind. Some multimedia projects like movies in which material is thrown in a linear fashion from beginning to end. A linear multimedia application lacks all the features with the help of which, a user can interact with the application such as the ability to choose different options, click on icons, control the flow of the media, or change the pace at which the media is displayed. Linear multimedia works very well for providing information to a large group of people such as at training sessions, seminars, workplace meetings, etc.

Non-Linear Multimedia:

In Non-Linear multimedia, the end-user is allowed the navigational control to rove through multimedia content at his own desire. The user can control the access of the application. Non-linear offers user interactivity to control the

movement of data. For example computer games, websites, self-paced computer-based training packages, etc.

Applications of Multimedia

Multimedia indicates that, in addition to text, graphics/drawings, and photographs, computer information can be represented using audio, video, and animation. Multimedia is used in:

Education

In the subject of education, multimedia is becoming increasingly popular. It is often used to produce study materials for pupils and to ensure that they have a thorough comprehension of various disciplines. Edutainment, which combines education and entertainment, has become highly popular in recent years. This system gives learning in the form of enjoyment to the user.

Entertainment

The usage of multimedia in films creates a unique auditory and video impression. Today, multimedia has completely transformed the art of filmmaking around the world. Multimedia is the only way to achieve difficult effects   and   actions. The entertainment sector makes extensive use of multimedia. It's particularly useful for creating special effects in films and video games. The most visible illustration of the emergence of multimedia in entertainment is music and video apps. Interactive games become possible thanks to the use of multimedia in the gaming business. Video games are more interesting because of the integrated audio and visual effects.

Business

Marketing, advertising, product demos, presentation, training, networked communication, etc. are applications of multimedia that are helpful in many businesses. The audience can quickly understand an idea when multimedia presentations are used. It gives a simple and effective technique to attract

visitors' attention and effectively conveys information about numerous products. It's also utilized to encourage clients to buy things in business marketing.

Technology & Science

In the sphere of science and technology, multimedia has a wide range of applications. It can communicate audio, films, and other multimedia documents in a variety of formats. Only multimedia can make live broadcasting from one location to another possible. It is beneficial to surgeons because they can rehearse intricate procedures such as brain removal and reconstructive surgery using images made from imaging scans of the human body. Plans can be produced more efficiently to cut expenses and problems.

Fine Arts

Multimedia artists work in the fine arts, combining approaches employing many media and incorporating viewer involvement in some form. For example, a variety of digital mediums can be used to combine movies and operas. Digital artist is a new word for these types of artists. Digital painters make digital paintings, matte paintings, and vector graphics of many varieties using computer applications.

Engineering

Multimedia is frequently used by software engineers in computer simulations for military or industrial training. It's also used for software interfaces created by creative experts and software engineers in partnership. Only multimedia is used to perform all the minute calculations.

Components of Multimedia

Multimedia consists of the following 5 components:

Text

Characters are used to form words, phrases, and paragraphs in the text. Text appears in all multimedia creations of some kind. The text can be in a variety of fonts and sizes to match the multimedia software's professional presentation. Text in multimedia systems can communicate specific information or serve as a supplement to the information provided by the other media.

Graphics

Non-text information, such as a sketch, chart, or photograph, is represented digitally. Graphics add to the appeal of the multimedia application. In many circumstances, people dislike reading big amounts of material on computers. As a result, pictures are more frequently used than words to clarify concepts, offer background information, and so on. Graphics are at the heart of any multimedia presentation. The use of visuals in multimedia enhances the effectiveness and presentation of the concept. Windows Picture, Internet Explorer, and other similar programs are often used to see visuals. Adobe Photoshop is a popular graphics editing program that allows you to effortlessly change graphics and make them more effective and appealing.

Animations

A sequence of still photographs is being flipped through. It's a set of visuals that give the impression of movement. Animation is the process of making a still image appear to move. A presentation can also be made lighter and more appealing by using animation. In multimedia applications, the animation is quite popular. The following are some of the most regularly used animation viewing programs: Fax Viewer, Internet Explorer, etc.

Video

Photographic images that appear to be in full motion and are played back at speeds of 15 to 30 frames per second. The term video refers to a moving image that is accompanied by sound, such as a television picture. Of course, text can be included in videos, either as captioning for spoken words or as text embedded in an image, as in a slide presentation. The following programs are widely used to view videos: Real Player, Window Media Player, etc.

Audio

Any sound, whether it's music, conversation, or something else. Sound is the most serious aspect of multimedia, delivering the joy of music, special effects, and other forms of entertainment. Decibels are a unit of measurement for volume and sound pressure level. Audio files are used as part of the application context as well as to enhance interaction. Audio files must occasionally be distributed using plug-in media players when they appear within online applications and webpages. MP3, WMA, Wave, MIDI, and RealAudio are examples of audio formats. The following programs are widely used to view videos: Real Player, Window Media Player, etc.

Advantages of multimedia are:

(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 are:

(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) Time Taken :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.

Multimedia has following important characteristics :

(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.