Table of Contents

MULTIMEDIA

Introduction of multimedia

Multimedia is an interactive media and provides multiple ways to represent information to the user in a powerful manner. It provides interaction between users and digital information. It is a medium of communication. Some of the sectors where multimedia is used extensively are education, training, reference material, business presentations, advertising, and documentaries [1].

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 example: 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 [1].

Characteristics of multimedia

Integration:

Multimedia integrates different types of media elements into a cohesive whole. For example, a multimedia presentation might combine text, images, and audio to convey information or tell a story [2].

Interactivity:

Multimedia allows for user interaction, enabling users to engage with and manipulate the content. This interactivity can range from simple actions like clicking on links to more complex interactions like simulations or games [2].

Synchronization:

In multimedia presentations, different media elements are often synchronized to work together seamlessly. For instance, in a video with subtitles, the text appears on the screen at the same time as the corresponding audio [2].

Presentation:

Multimedia offers flexible presentation options, allowing content creators to design experiences that are visually appealing and engaging. This includes considerations such as layout, design, and navigation, all of which contribute to the overall user experience [2].

Components of Multimedia [1]
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 professional presentation of the multimedia software.

Graphics-

Graphics make the multimedia application attractive. In many cases people do not like reading large amounts 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. Audios 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. Videos 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.

Application of multimedia [1]

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 workplace will become global. The multimedia network should support the following facilities:

- o Voice Mail
- o Electronic Mail
- o Multimedia based FAX.
- o Office Needs
- o Employee Training
- o Sales and Other types of Group Presentation
- o 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 has 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.

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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 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 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:
- o Basic Television Services
- o Interactive entertainment
- o Digital Audio
- o Video on demand

- o Home shopping
- o Financial Transactions
- o Interactive multiplayer or single player games
- o Digital multimedia libraries

References

[1] "Tutorials point," [Online]. Available: https://www.tutorialspoint.com/. [Accessed 29 02 2024].

[2] "chatgpt," [Online]. Available: www.chatgpt.com. [Accessed 29 02 2024].