

Unit I Introduction

1.1 Introduction :-

- Multimedia is content that uses a combination of different content forms such as text, audio, images, animations, video and interactive content.
- Multimedia contrasts with media that use digitally and non-digitally presentation such as text-only or traditional forms of printed or hand-produced material.
- Multimedia can be recorded and played, displayed, interacted with or accessed by information content processing devices, such as computerized and electronic devices, but can also be part of a live performance.
- Multimedia devices are electronic media devices used to store and experience multimedia content.

Definition of Multimedia :-

1. Multimedia can be defined as a Technology that engaging the variety of media including text, graphics, Audio, Video and Animation. That either separately or combination using computers to communicate the Ideas or Spread information.
2. Multimedia is a combination of text, graphics, sound, animation and video that is delivered interactively to the user by electronic technologies.

1.2 Elements of Multimedia :-

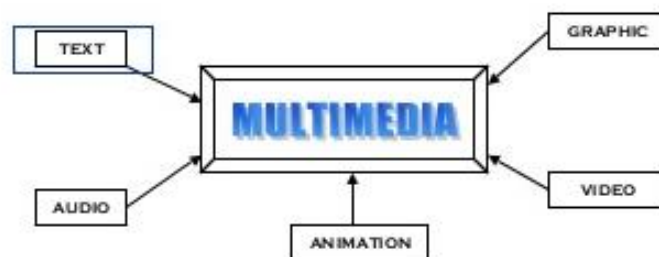


Fig. Elements of Multimedia

Following are the elements of Multimedia such as:

1) Text :-

- Text is a most popular and widely used to represent the information.
- Text includes words, sentences and paragraphs to communicate the thoughts, ideas and facts.
- A text technology is based on creating letters, paragraphs, numbers, characters, such as dollar sign, comma for build specific information. - Text elements are as follows:

i) Alphabet Characters :-

- It includes A to Z uppercase letters and a to z lowercase letters.

ii) Number's :-

- It includes 0 to 9 numbers or digits.

iii) Special Characters :-

- It includes \$, * , , , + , - , , , , ' ' , etc

2) Graphics :-

- Graphics includes pictures, clip arts, line arts, and photographs.
- Graphics are used to provide backgrounds, informational contains for multimedia products.
- Graphics are created by using variety of tools such as: MS- Paint, Adobe Photoshop and any other drawing Software.

3) Audio :-

- Audio includes switches, music and any other type of sound.
- The main element of audio is sound.
- Sound is generated by vibration through air.
- Audio includes effect of switches used for multimedia packages.
- Digital audio is actual representation of sound.
- Audio are used to stored in a files in the variety of formats such as .AIFF (Audio Interchange File Format), .WAV file, MIDI (Musical Instrument Digital Interface), .RA (Real Audio) and so on.

4) Video :-

- Digital video combines Audio and graphics to the dynamic content for the multimedia products.
- Video is simply moving a picture often momentary (short period) view of time.
- It also recording live actions usually capture from digital Camera's.
- Video are used in a files in the variety of formats such as .AVI (Audio Video Interleave)
- .MPEG (Moving Picture Expert Group) - .AMV (Audio Music Video) and so on.

5) Animation :-

- Animation is the motion of a picture to display specific information.
- In Animation first draw the no. of images by using Input process.
- Combines these images by using Composition stage.
- Display Interpolation Process by using In-Between Process.
- Changing Colors by using CLUT that is (Color Look Up Table) - Techniques of Animations are Morphing, kinematics, 2D, 3D, etc.

1.3 Application of Multimedia:-

- Multimedia is a widely used in the heterogeneous environment and places from classroom to star hotels and research labs to Movie Theater.
- Following are the applications Multimedia such as:

- 1) MM in Business
- 2) MM in Education
- 3) MM Home
- 4) MM in Public Places
- 5) MM for Entertainment
- 6) Document Imaging
- 7) Multimedia in software
- 8) Multimedia on the Web

1) MM in Business :-

- MM is widely used in Business. In Business multimedia can be used in marketing advertisement and presentations.
- Video conferencing is most effective tool in Business.
- Video conferencing is widely used as transfer information as well as training purpose.

2) MM in Education :-

- MM is widely in education sector. These education sectors are as School, Colleges.
- Now a days, in school used traditional teaching methods is making in MM application such as presentation of LCD projector and some animated movies designed for student.
- For study, each lesson gets records student can play them and when they can understand better.

3) MM at Home :-

- It has already entered our home in terms of television set.
- It has become very powerful.
- Now a day's everyone is making the use of DTH service provided by service provider.
- It also provides education kits or programs and games to make child intelligent.

4) MM in Public Places :-

- MM is widely used in public places such as Air Stations, Bus Stands, and Hospitals etc.
- If kiosks have been setup at different places, so that we can get lot of information about needed by us through it.
 - At the Post Office, if kiosks have been setup, so that we can get lot of information about different schemes under the Central Post.

5) MM for Entertainment :-

- We can watch different T.V. shows cartoon films as well as different videos and we can also play computer based games.
- MM is widely used in Home application like as, we can watch No. of T.V. channels from different countries at our Home.

6) Document Imaging :-

- It is used to create the combination of text and images.
- Document imaging is widely used in low offices, countries and State Govt.
- Document imaging is the process of scanning that is used to paper document converted into digital images and stored in CD's or DVD's.

7) Multimedia in software :-

- Software Engineers may use multimedia in computer from entertainment to training such as military industrial training, designing digital games;
- It can be used as a learning process.
- This multimedia software's are created by professionals and software engineers.

8) Multimedia on the Web :-

- In today's world web plays a very important role according to multimedia experience.
- It has been a broadcast medium offering various online facilities like live TV, Pre-recorded videos, photos, animations etc.
- During the coming years most multimedia applications experience on the internet and occur on the WWW [World Wide Web].
- Programmes contain HTML [Hyper Text Mark-up Language] pages which are also available and provided by XML [extended Mark-up Language]. Along with it Java Script is also used.
- Plug-in and Media Players are software programmes that allow us to experience multimedia on the web.
- File formats requiring this software are known as MIME [Multimedia Internet Mail Extension] types. To embed a media file, just copy the source code and paste it into user's webpage. It is as simple as easy.

1.4 Global Structure of Multimedia :-

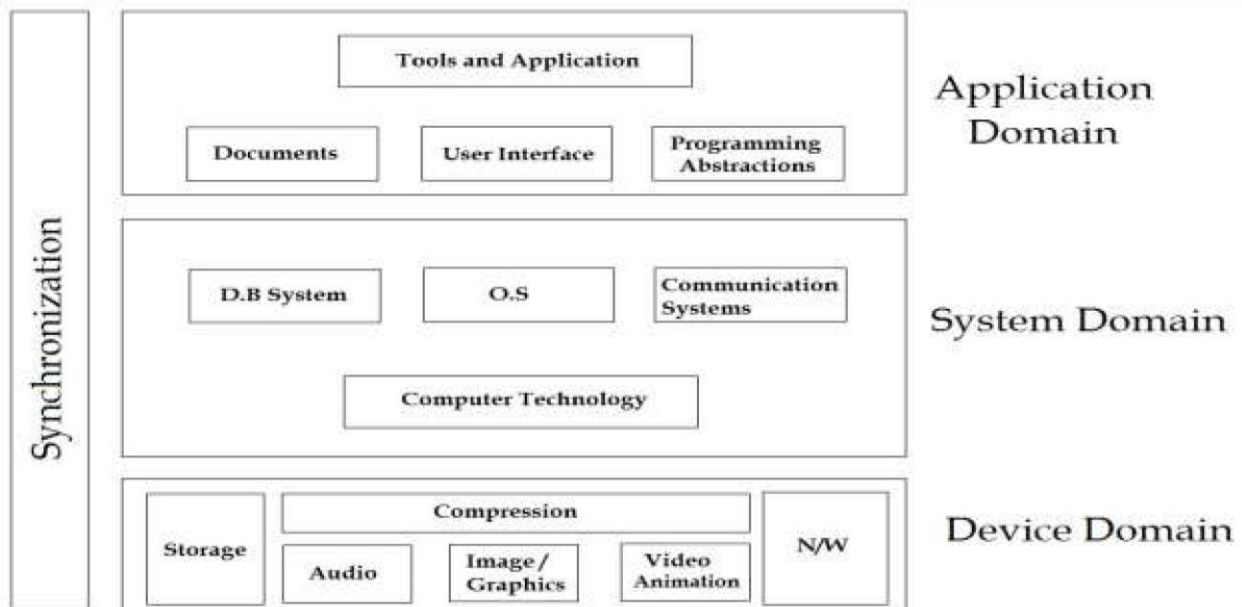


Fig: Global Structure of Multimedia System

- 1) Device Domain
- 2) System Domain
- 3) Application Domain
- 4) Cross Domain

1) **Device Domain :-**

- Audio technology includes switches, music and any other type of sound
- Video technology includes the digital representation by using T.V. development and HDTV Medias demands of compression techniques.
- Storage devices like as CD's, DVD's and other removable disks are used to storing different Medias.
- For Ex – Pen Drive, Card Reader etc.

2) **System Domain :-**

- An interface between system and device domain is specific by computer technology.

- Operating system provides services by using computer resources such as, main memory, processor, Input and output devices
- Database system allows a structured data access and management of large amount of database.
- A communication system is responsible for transmission of all Medias in the form of timing and reliability in networked Multimedia application.

3) Application Domain :-

- The services of system domain are offered to the application domain through the proper programming abstractions.
- A document is the structured set of information presented in different Medias and representing or recording at the time of presentation.
- That provides to the user through a user interface.

4) Cross Domain:-

- The synchronization is being the temporal relationship among various Medias.
- That relates to many components across the all domains.

Important Question

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|---|----|
| Q. 1. What is Multimedia ? OR Describe Multimedia . | 3M |
| Q. 2. Explain Elements of Multimedia in detail. | 5M |
| Q. 3. Explain Application of Multimedia in detail. | 5M |
| Q. 4. Explain Global Structure of Multimedia in detail. | 5M |