



"We must do a few things to survive.
Everything else is entertainment."

- Marvin Minsky, Artificial Intelligence expert, at GDC lecture March 24 2001

MULTIMEDIA & GAME

WHY MULTIMEDIA?

Speaker's Impact



Category	Percentage
How you look	55%
How you sound	38%
What you say	7%

Dr. Mehrabian, UCLA

A good relationship starts with good communication.


PICTUREQUOTES.COM

WHY TO USE MULTIMEDIA?

According to Dr. Albert Mehrabian, a specialist in interpersonal communication at the University of California, says:

People recall 20% of what they **see**
 40% of what they **see & hear**
 70% of what they **see, hear & do**

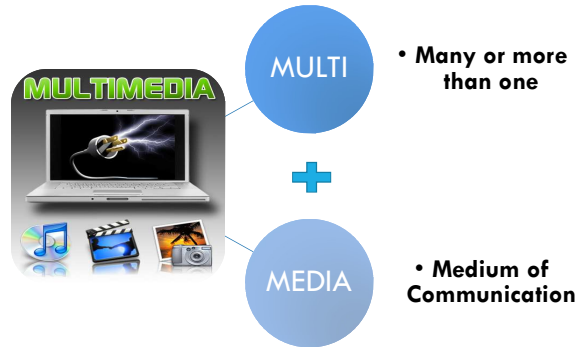
Multimedia allows for seeing, hearing and doing



WHY WE NEED MULTIMEDIA ?

1. It Starts a Conversation
2. It Tells a Human Story
3. It Goes Beyond the Headlines
4. It Asks the Hard Questions
5. It Educates and Inspires

WHAT IS **MULTIMEDIA** ??



MULTIMEDIA..

- **Multimedia** is media and content that uses a combination of different content forms.
- The term is used in contrast to media which only use traditional forms of printed or hand-produced material.
- Multimedia includes a combination of
 - Text
 - Audio
 - Still images
 - Animation video
 - Interactivity content forms.



KEY COMPONENTS OF MULTIMEDIA

- **A computer based medium**
 - Fundamental to the development and delivery of multimedia is a computer capable of incorporating various elements,
 - such as sound and animation, and providing an environment in which the user can interact with the programme.
- **Interactivity**
 - The ability of the user to interact with the program
 - Request made & information provided
- **Effective communication**
 - Burger (1994) stated; *"Effective communication is the most important criteria in Multimedia."*

HISTORY

- The term "**MULTIMEDIA**" was first used by **BOB GOLDSTEIN** in July 1996 to promote opening of his light works.
- In 1970s the term was used to describe presentations consisting of multi-projector slide shows timed to an audio track.
- In 1990s 'multimedia ' took on its current meaning
- **TAY VAUGHAN** declared "Multimedia as combination of text, graphic art, sound, animation, and video that is delivered by computer.

CONTD..

- In common usage,
 - the term multimedia refers to an electronically delivered combination of media including video, still images, audio, text in such a way that can be accessed interactively.
- Funny: Computers in 1990s were referred to as “**MULTIMEDIA COMPUTERS**” because they contained a CD-ROM drive.

COMPONENTS OF MULTIMEDIA

CHARACTERISTICS

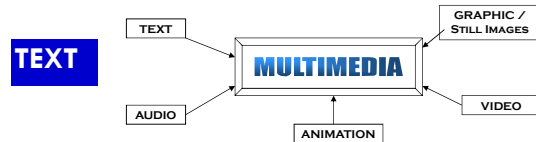
- Multimedia presentations can be viewed in person on stage, projected, transmitted, or played locally **with a media player**.
- **Broadcasts and recordings** can be either analog or digital electronic media technology.
- The various formats of technological or digital multimedia may be intended to **enhance the users' experience**.
- Online multimedia is increasingly becoming object-oriented and data-driven, enabling applications with collaborative end-user innovation and personalization on **multiple forms of content** over time.

TYPE OF MEDIA

- Text
- Audio
- Pictures
- Video
- Animation
- Interactivity

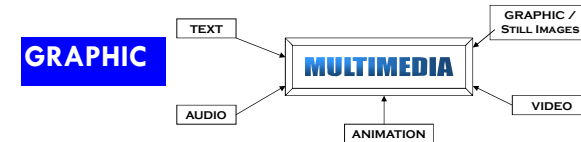


ELEMENTS OF MULTIMEDIA



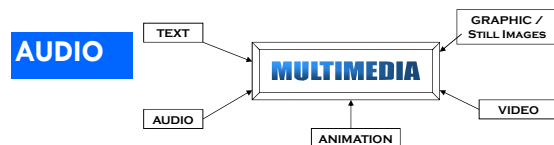
- Text is the most basic element of multimedia
- A broad term for something that contains words to express something.
- A good choice of words could help convey the intended message to the users (keywords).
- Used in contents, menus, navigational buttons

ELEMENTS OF MULTIMEDIA



- Could be produced manually (by drawing, painting, carving, etc.) or by computer graphics technology
- Two-dimensional figure or illustration
- Used in multimedia to show more clearly what a particular information is all about (diagrams, picture).

ELEMENTS OF MULTIMEDIA

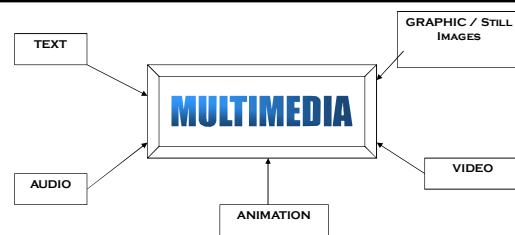


- Produced by vibration, as perceived by the sense of hearing.
- In multimedia, audio could come in the form of speech, sound effects and also music score.

MORE ABOUT AUDIO

- Sound is analog in nature, and to be used in multimedia, needs to be digitised, creates mood, interest, includes speech
- audio files are usually large files unless they have been compressed
- Audio can be in 2 basic formats:
 - *a digitised file* of the actual sound eg. WAV file or in compressed format MP3
 - *MIDI* (Musical Instrument Digital Interface) where details of the characteristics of each note is filed

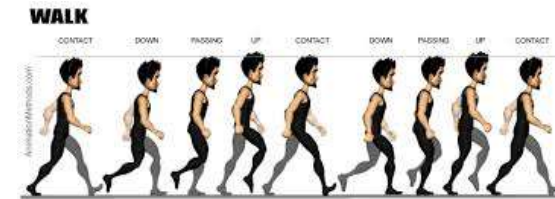
ANIMATION



- The illusion of motion created by the consecutive display of images of static elements.
- In multimedia, animation is used to further enhance / enriched the experience of the user to further understand the information conveyed to them.

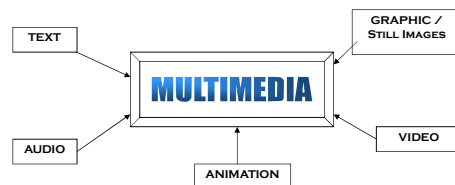
ANIMATION

Is the process of making the illusion of motion and change by means of the rapid display of a sequence of static images that minimally differ from each other.



VIDEO

- Is the technology of capturing, recording, processing, transmitting, and reconstructing moving pictures.
- Video is more towards photo realistic image sequence/live recording as in comparison to animation.
- Video also takes a lot of storage space. So plan carefully before you are going to use it.



VIDEO

- Video is real image recording
- usually requires data compression (CODEC) to allow a smaller file, and decompression to play
- requires high VRAM and storage space
- typically, 20 minutes of video is 8GB. Since 1 frame at 24 bit = 1Mb
- file types include MPEG (Lossy) and Quicktime, AVI (Lossless)

WHAT IS INTERACTIVITY?

- refers to the user being able to make an immediate response to the product and modify processes
- there is a dialogue between the user and the input device
- this communication may result in linear or non-linear path through the product
- dynamic interactivity results when the product changes, depending on the action taken by either the author and/or the user
- some products use indexing to remember position in the product

LINEAR VS NON-LINEAR

LINEAR

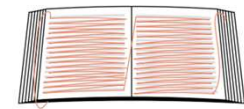
A Multimedia Project is identified as Linear when:

- It is not interactive
- User have no control over the content that is being showed to them.

Example:

- A movie
- A non-interactive lecture / demo show

Book: physical arrangement of text and pages implies a linear reading order.



Film: fixed order of frames defines a single playback sequence.



LINEAR VS NON-LINEAR

NON-LINEAR

A Multimedia Project is identified as Non-Linear when:

- It is interactive
- Users have control over the content that is being showed to them.
- Users are given navigational control

Example:

- Games
- Courseware
- Interactive CD/web

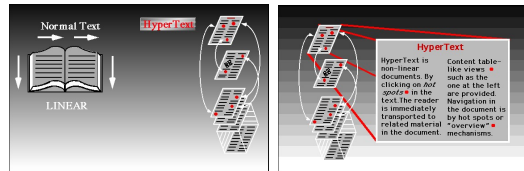
INTERACTIVE MULTIMEDIA

Hyper Media

When the user is given the option of controlling the elements.

A combination of hypertext, graphics, audio, video, (linked elements) and interactivity culminating in a complete, non-linear computer-based experience.

WHAT IS HYPERTEXT ?



HyperText is a **text** which contains **links to other texts**. The term was invented by Ted Nelson around 1965.

HyperText is therefore usually **non-linear**.

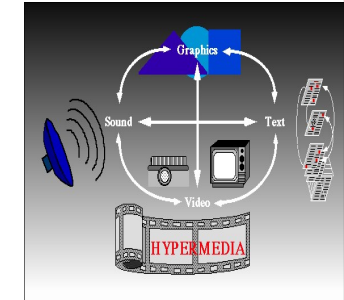
WHAT IS HYPERMEDIA ?

HyperMedia is not constrained to be text-based.

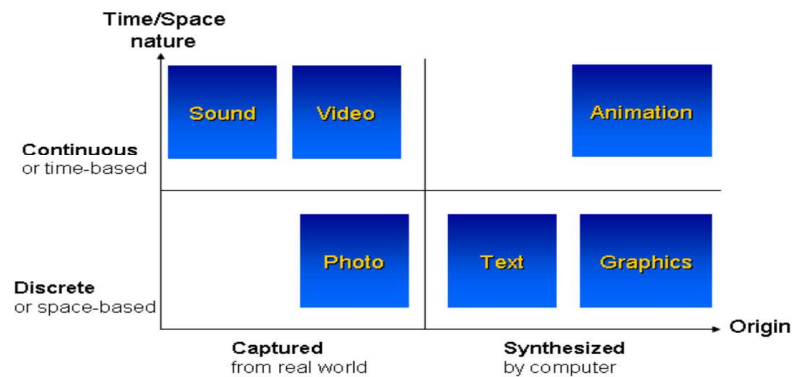
It can include other media, e.g., graphics, images, and especially the continuous media - sound and video.

The World Wide Web (WWW) is the best example of hypermedia applications.

Others: Adobe Acrobat, Powerpoint



Classification of media types



SUMARY: SCOPE OF MULTIMEDIA

- The technology of multimedia design utilizes various features like animation, video, graphics, audio and sound to impress the users.
- Multimedia technology is used for 3D cinema applications and mobile 3DTV environments.
- Animation is also being used in titling films, creating special effects or in web entertainment programs. Thus scope of animation is huge in context to market.

- In the field of education multimedia is being used extensively especially for online courses and trainings.
- Multimedia is also used in advertising purposes.

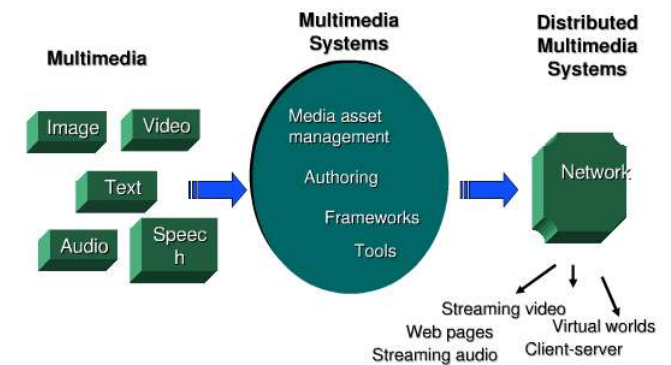
MULTIMEDIA SYSTEM?

MULTIMEDIA SYSTEM ?

A *Multimedia System* is a system capable of **processing multimedia data** and **applications**.

A *Multimedia System* is characterized by the **processing, storage, generation, manipulation and rendition of** multimedia information.

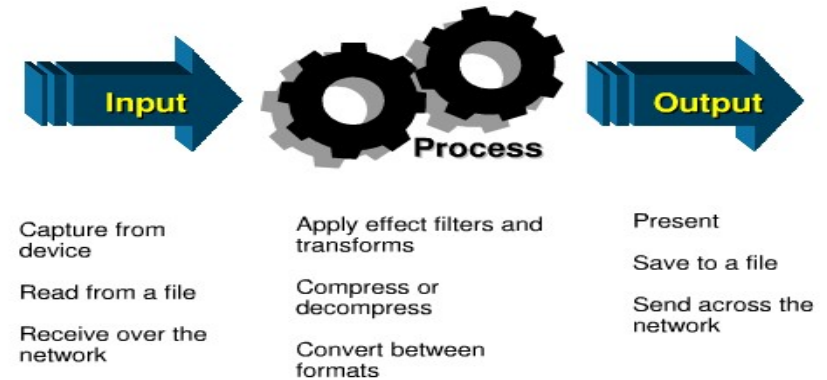
MULTIMEDIA SYSTEM



CHARACTERISTICS

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

MODEL OF MULTIMEDIA SYSTEM



ADVANTAGES

- Multimedia enhances the effect of text presentations.
- Improves the quality of presentation and retains the attention of audience.
- It can be used for educational as well as entertainment purpose.
- It is quick and easier to operate for the instructor.
- Multimedia presentations can be modified very easily.
- Multimedia is Entertaining as Well as Educational.

Benefits of using multimedia in software

- **Ease of use**
 - User friendly, increase user's effectiveness
- **Intuitive Interface**
 - Allows user to determine functions of an application by their own intuition
- **Immersive Experience**
 - Software application takes over the entire computer screen, allows user to focus on application



Benefits of using multimedia in software

- **Self-paced interaction & better retention**
 - allows information processing at one's own pace
- **Better understanding**
 - simultaneous presentation of different media provides richer & broader range of information.
- **Cost effectiveness**
 - less training, less technical support

DISADVANTAGES

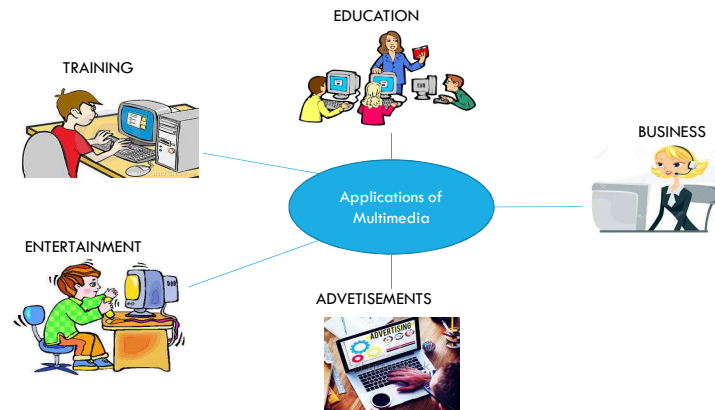
- Non-interactive – if one-way, no feedback.
- Complex to create.
- Time consuming.
- Use of multimedia is expensive

Problems with Multimedia

- **Investment costs**
 - multimedia involves high volume of content
 - expensive copyright and royalty
- **Technical barriers (accessibility issues)**
 - upgrade IT & PC infrastructure
- **Sociopsychological barriers**
 - *Generation gap*
 - *Learning rates*
 - *Learning in group/individual*
 - *Importance of teacher*
- **Legal problems**
 - Copyright

APPLICATION

TYPES OF MULTIMEDIA APPLICATIONS



APPLICATION

➤ COMMERCIAL

- Much of the electronic old and new media used by commercial artists is multimedia.
- Exciting presentations are used to grab and keep attention in advertising.

➤ ENTERTAINMENT AND FINE ARTS

- Multimedia is heavily used in the entertainment industry, especially to develop special effects in movies and animations.
- Multimedia games are also very popular.

➤ EDUCATION

- Multimedia is used to produce computer-based training courses.
- Edutainment is an informal term used to describe combining education with entertainment, especially multimedia entertainment.

➤ ENGINEERING

- Software engineers may use multimedia in Computer Simulations.
- Multimedia for software interfaces are often done as a collaboration between creative professionals and software engineers.

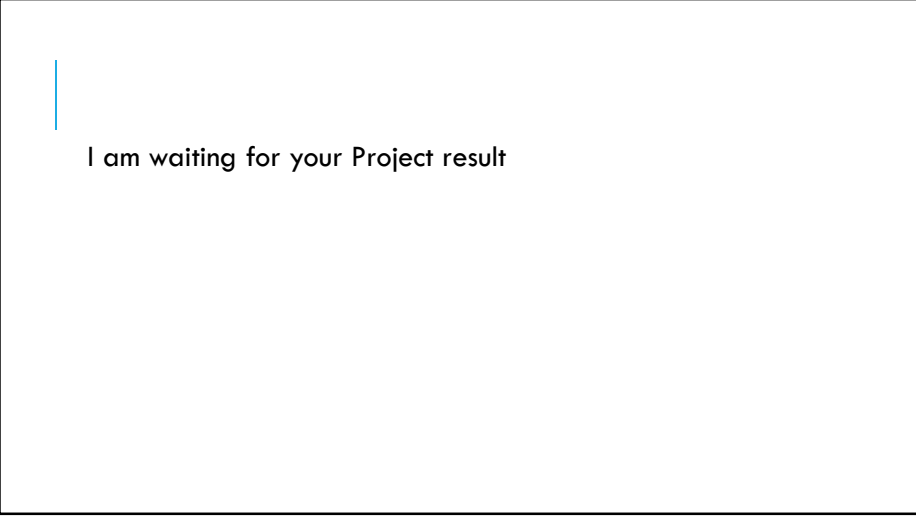


CONCLUSION

Multimedia is a woven combination of text, audio, video, images and animation, Interaction.

Multimedia systems finds a wide variety of applications in different areas such as education, entertainment etc.

The stages for multimedia application development are Planning and costing, designing and producing, testing and delivery.



I am waiting for your Project result