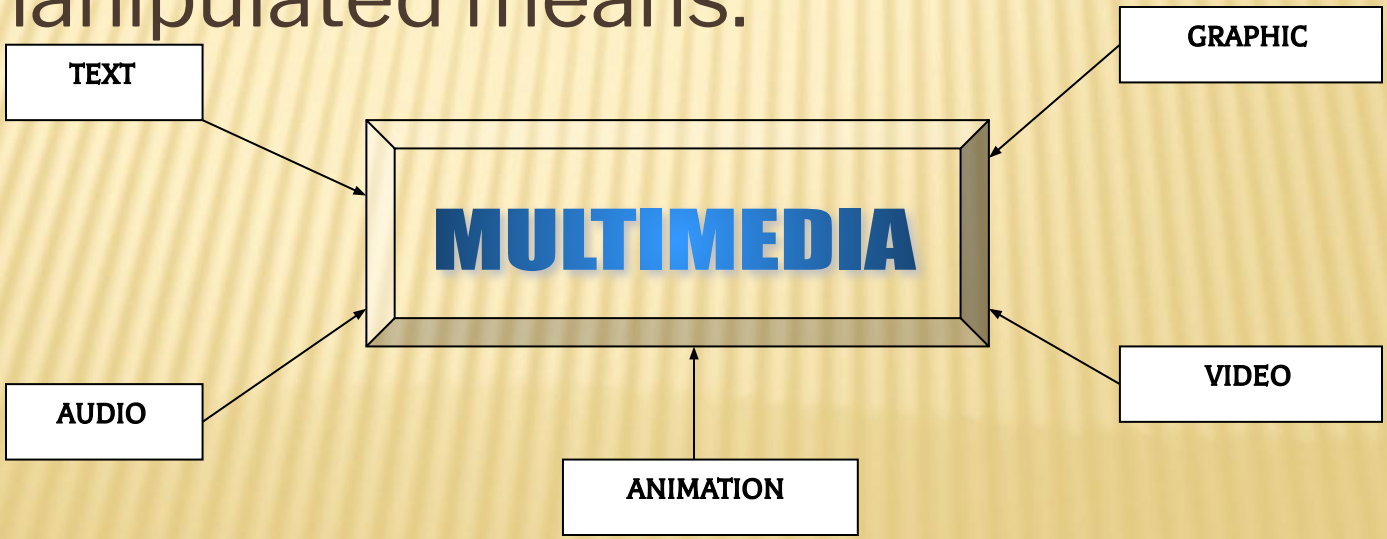
INTRODUCTION TO MULTIMEDIA

WHAT IS MULTIMEDIA?

- Derived from the word “Multi” and “Media”
  - Multi
    - Many, Multiple,
  - Media
    - Tools that is used to represent or do a certain things, delivery medium, a form of mass communication – newspaper, magazine / tv.
    - Distribution tool & information presentation – text, graphic, voice, images, music and etc.

DEFINITION OF MULTIMEDIA

- Multimedia is a combination of text, graphic, sound, animation, and video that is delivered interactively to the user by electronic or digitally manipulated means.



ELEMENTS OF MULTIMEDIA

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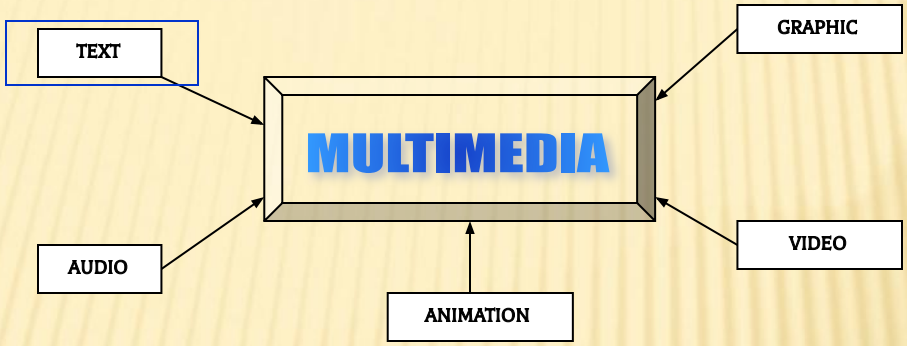

- A broad term for something that contains words to express something.
- Text is the most basic element of multimedia.
- A good choice of words could help convey the intended message to the users (keywords).
- Used in contents, menus, navigational buttons

ELEMENTS OF MULTIMEDIA

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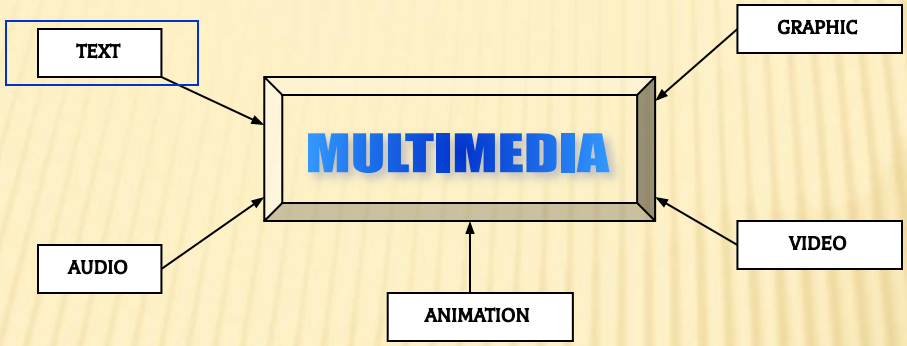


- Example

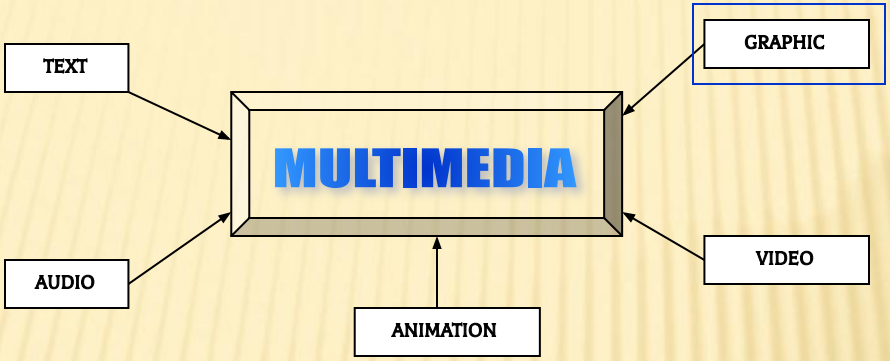
ROAD SAFETY Basic Intermediate Advanced

First, before crossing the road, make sure you look to your left, to your right and then left again.

Then, walk carefully to cross the road.

ELEMENTS OF MULTIMEDIA

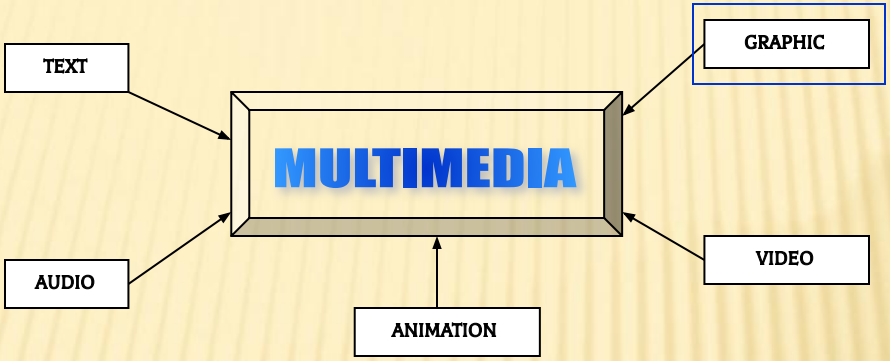
GRAPHIC



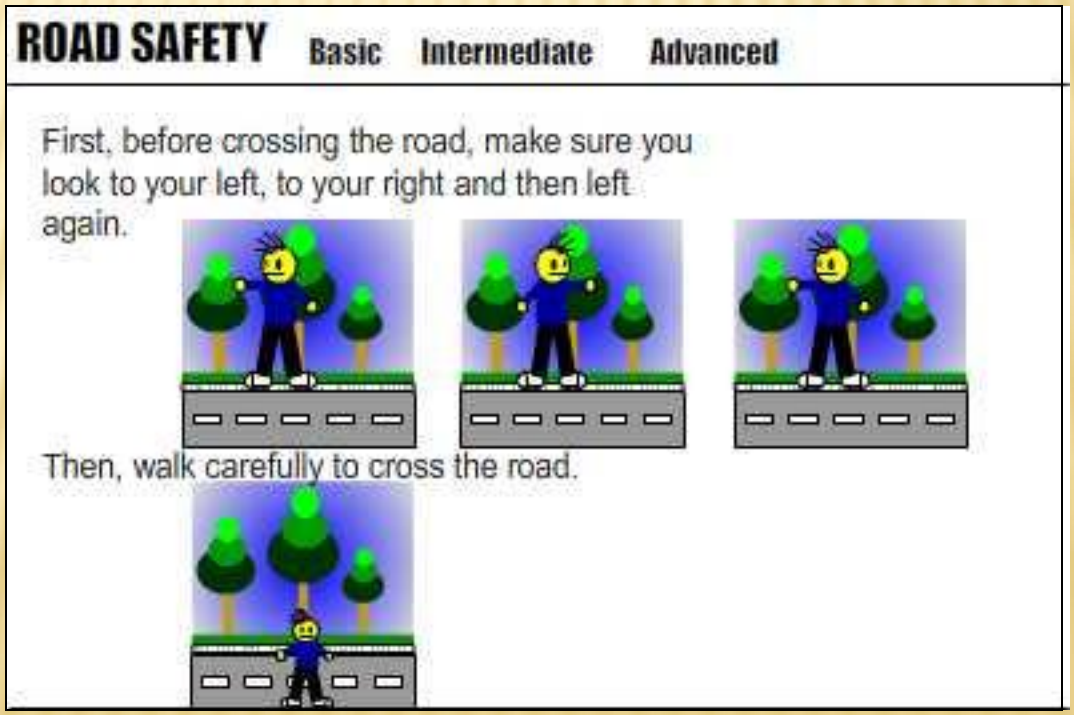
- Two-dimensional figure or illustration
- Could be produced manually (by drawing, painting, carving, etc.) or by computer graphics technology.
- Used in multimedia to show more clearly what a particular information is all about (diagrams, picture).

ELEMENTS OF MULTIMEDIA

GRAPHIC

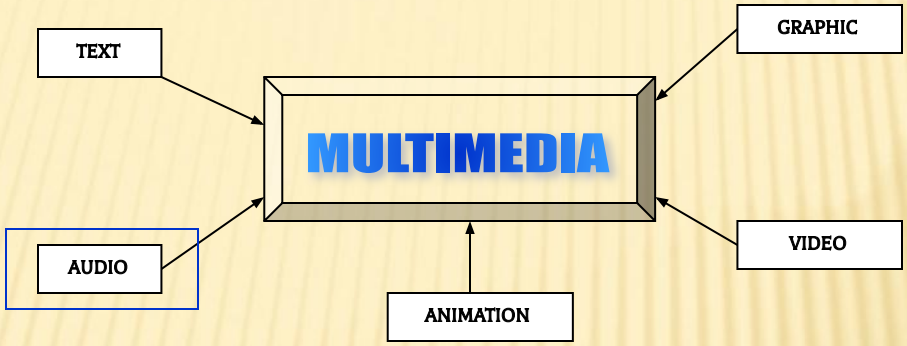


- Example



ELEMENTS OF MULTIMEDIA

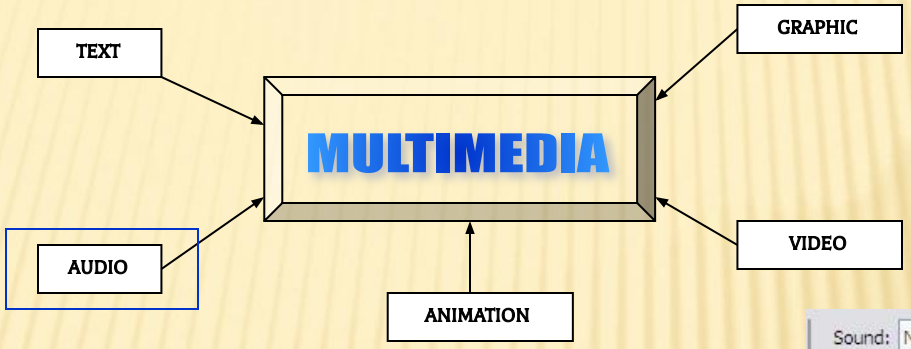
AUDIO



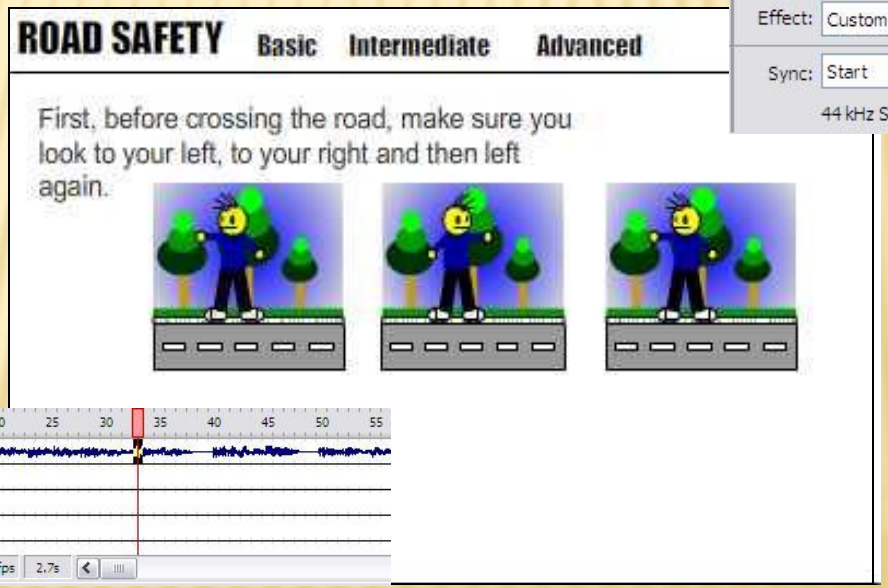
- Produced by vibration, as perceived by the sense of hearing.
- In multimedia, audio could come in the form of speech, sound effects and also music score.

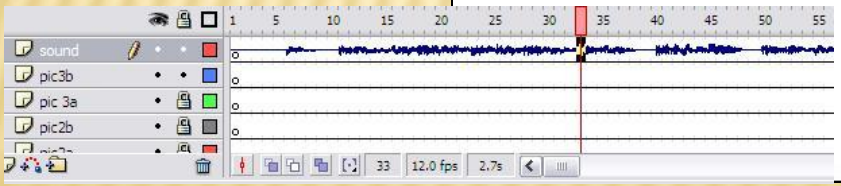
ELEMENTS OF MULTIMEDIA

AUDIO



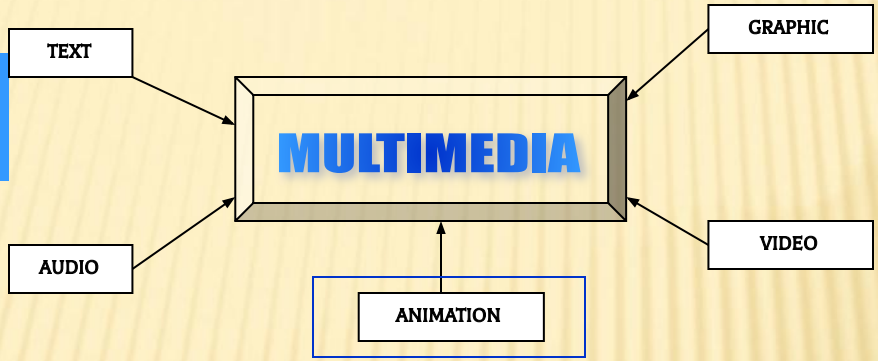
- Example





ELEMENTS OF MULTIMEDIA

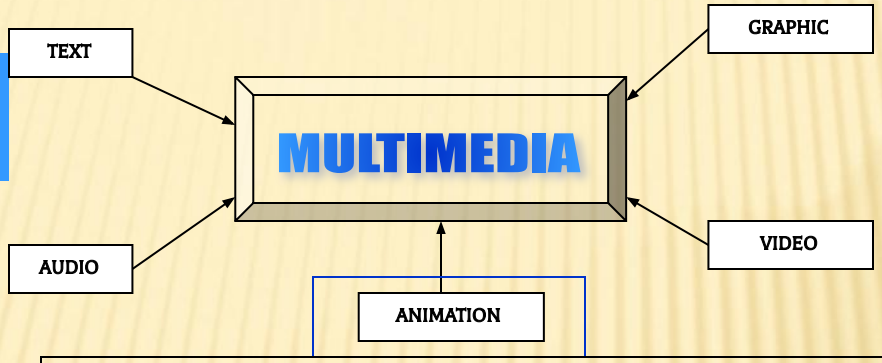
ANIMATION



- 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.

ELEMENTS OF MULTIMEDIA

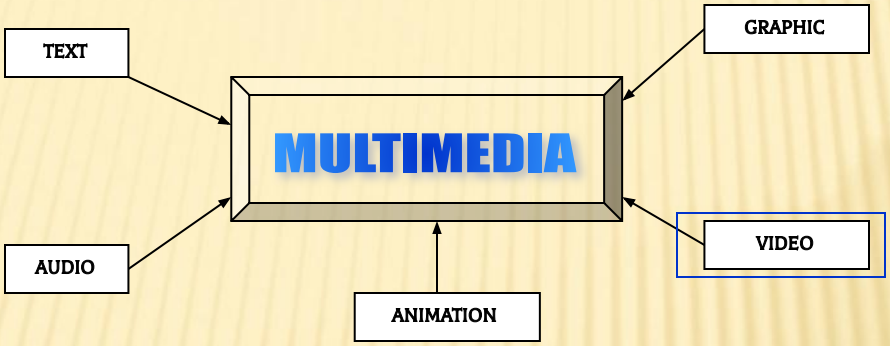
ANIMATION



- Example

ELEMENTS OF MULTIMEDIA

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.

INTERACTIVE MULTIMEDIA

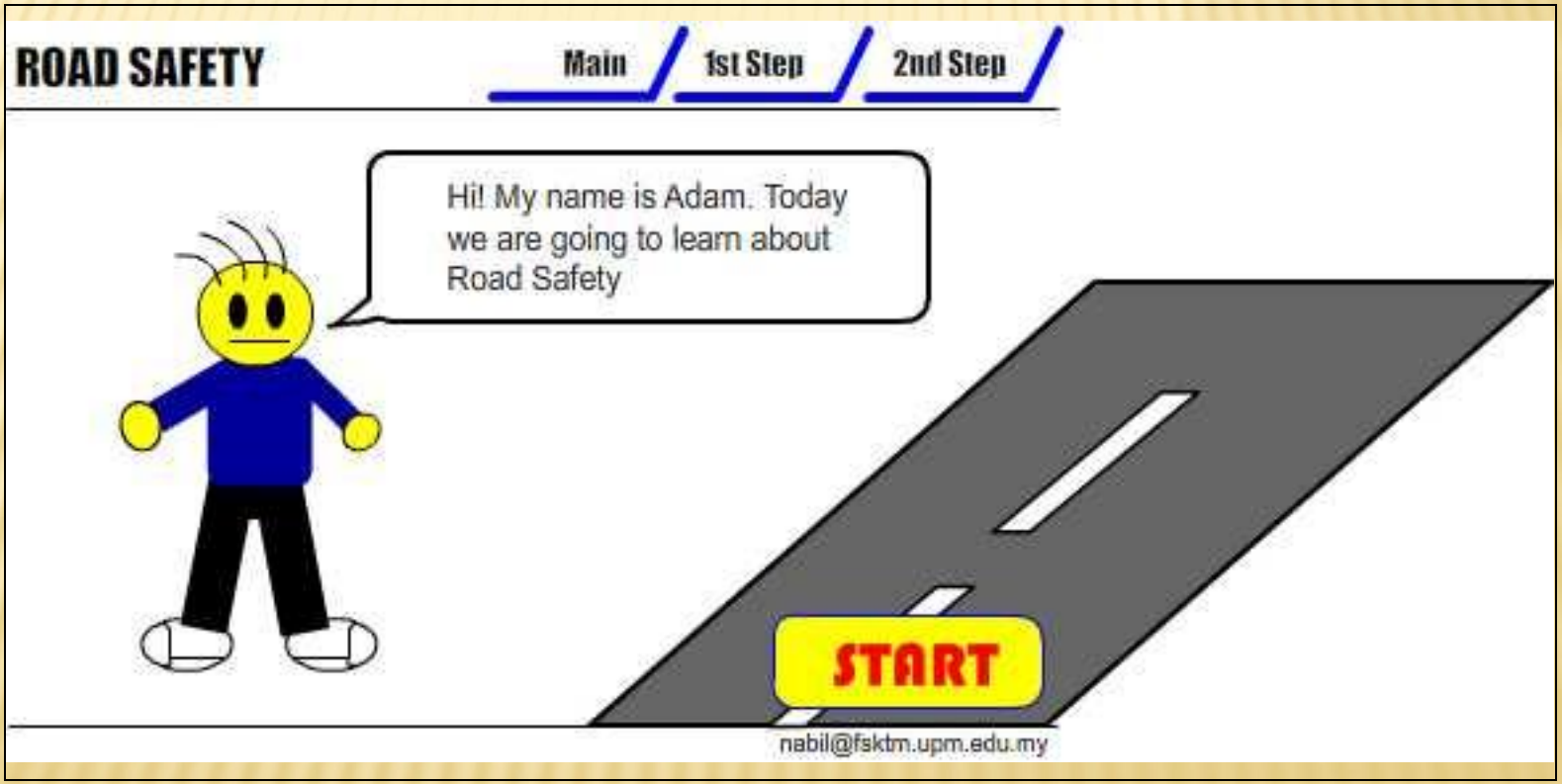
- When the user is given the option of controlling the elements.

Hyper Media

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

EXAMPLE

- Interactive Multimedia

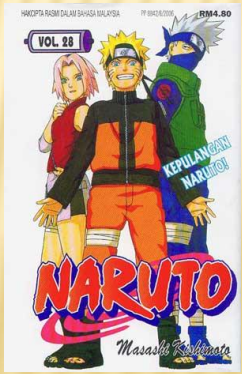


EXAMPLE

- Hyper Media

Main Page

1. Video link
2. Image link
3. Audio Link



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

LINEAR VS NON-LINEAR

NON-LINEA

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- 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

APPLICATIONS OF MULTIMEDIA

- There are a number of fields where multimedia could be of use. Examples are:-
  - Business
  - Education
  - Entertainment
  - Home
  - Public Places

APPLICATIONS OF MULTIMEDIA

- **Business**
  - Use and Applications
    - Sales / Marketing Presentation
    - Trade show production
    - Staff Training Application
    - Company Kiosk

MULTIMEDIA IN BUSINESS

- Business applications for multimedia include presentations, training, marketing, advertising, product demos etc.

MULTIMEDIA IN BUSINESS

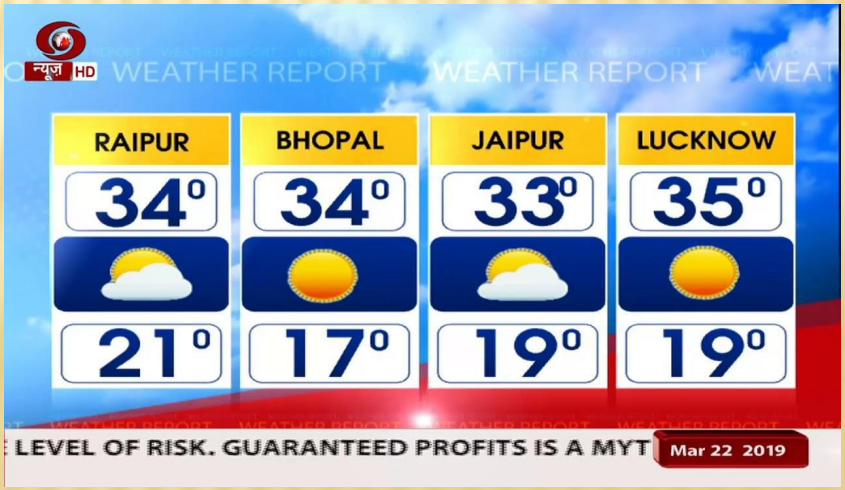
- Multimedia is enjoying widespread use in training programs.
  - Salespeople learn about product lines and leave behind software to train their customers.
  - Flight attendants learn to manage international terrorism and security through simulation.
  - Drug enforcement agencies of the UN are trained using interactive videos and

MULTIMEDIA IN BUSINESS

- Exciting presentations are used to grab and keep attention in advertising.

MULTIMEDIA IN CREATIVE INDUSTRIES

- Creative industries use multimedia for a variety of purposes ranging from fine arts, to entertainment, to commercial art, to journalism, to media and software services.



MULTIMEDIA IN ENTERTAINMENT AND FINE ARTS

- In addition, multimedia is heavily used in the entertainment industry, especially to develop special effects in movies and animations.

MULTIMEDIA IN ENTERTAINMENT AND FINE ARTS

- Multimediagames are a popular pastime software programs available either as CD-ROMs or online.

- Somevideo games also use multimedia features.

MULTIMEDIA IN EDUCATION

- In Education, multimedia is used to produce computer-based training courses (popularly called CBTs) and reference books like encyclopedia and directory.

MULTIMEDIA IN EDUCATION

- A CBT lets the user go through a series of presentations, text about a particular topic, and associated illustrations in various information formats.

MULTIMEDIA IN MEDICINE

- In Medicine, doctors can get trained by looking at a virtual surgery or they can simulate how the human body is affected by diseases spread by viruses and bacteria and then develop techniques to prevent it.

MULTIMEDIA AT HOME

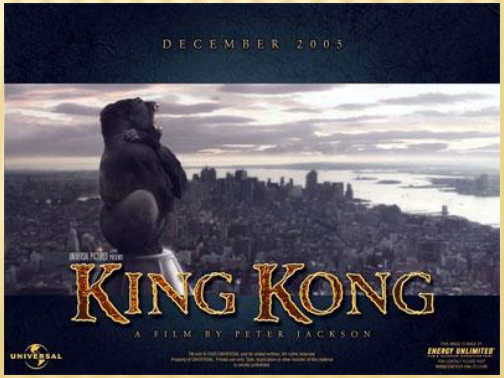
- Most multimedia projects have reached the home via television sets.
- Today, home consumers of multimedia own either a computer with an attached CD-ROM or DVD drive or a set-top player that hooks up to the television, or Sony PlayStation machine.

APPLICATIONS OF MULTIMEDIA

- **Education**
  - Use and Applications
    - Courseware / Simulations
    - E-Learning / Distance Learning
    - Information Searching

APPLICATIONS OF MULTIMEDIA

- **Entertainment**
  - Use and Applications
    - Games (Leisure / Educational)
    - Movies
    - Video on Demand
      - Online



APPLICATIONS OF MULTIMEDIA

- **Home**
  - Use and Applications
    - Television
    - Satellite TV
    - SMS services (chats, voting, reality TV)

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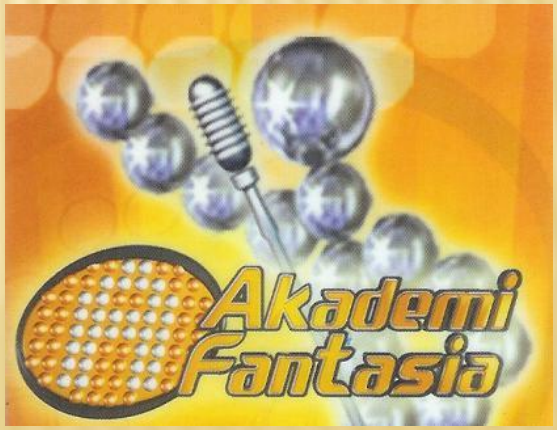

APPLICATIONS OF MULTIMEDIA

- **Public Places**
  - Use and Applications
    - Information Kiosk
    - Smart Cards, Security

MULTIMEDIA DESIGN PRINCIPLES

- Multimedia design principles are guidelines that help educators and instructional designers create effective and engaging learning materials using various media formats.
- These principles focus on optimizing the presentation of information to enhance overall learning experience

1. COHERENCE PRINCIPLE

- Eliminate extraneous material and focus on relevant content to minimize distractions and improve learning efficiency.
- By presenting only essential information, learners can concentrate on understanding the core concepts without being distracted by unnecessary details.

EXAMPLE:

- In an online course about climate change
- designers could eliminate background music and avoid adding irrelevant images or animations.
- This helps learners focus on the essential information
- such as greenhouse gas emissions and their impact on global temperatures.

2. SIGNALING PRINCIPLE

- Highlight important information using cues, such as arrows, bold text, or highlighting, to draw attention to important information.
- Signaling helps direct the learner's focus toward critical elements and improves the overall organization of the material,

EXAMPLE

- In an instructional video about computer programming, key coding concepts could be highlighted using bold text or arrows, directing learners' attention to important information and making it easier for them to follow along and understand the material

REDUNDANCY PRINCIPLE

- Avoid presenting the same information in multiple formats simultaneously (e.g., text and audio)

EXAMPLE

- During a presentation on marketing strategies
- instead of reading out the text on slides while displaying the same text,
- the presenter could use visuals and briefly summarize the main points,
- allowing learners to better process and retain the information

4. SPATIAL CONTIGUITY PRINCIPLE

- Place related text and images close together on the screen to help learners make connections more easily and improve comprehension.
- When visual and textual elements are closely aligned,
- learners can better understand the relationships between them

EXAMPLE:

- n an e-learning module on human anatomy, labels for different body parts could be placed directly next to the corresponding images

TEMPORAL CONTIGUITY PRINCIPLE

- Present corresponding text and images simultaneously, rather than sequentially, to facilitate understanding.
- Learners can better process and remember information when it is presented concurrently

EXAMPLE:

- A chemistry tutorial explaining a chemical reaction could show the reaction process in a video while simultaneously providing a voiceover explanation, enabling learners to form stronger connections between the visual and auditory information

6. SEGMENTING PRINCIPLE

- Break content into smaller, manageable segments to help learners process and understand the material more effectively.

EXAMPLE:

- A complex topic, such as the history of World War II, could be divided into separate sections for each major event, allowing learners to focus on and understand one segment at a time before moving on to the next

7. PRE-TRAINING PRINCIPLE

- Provide learners with an overview of the content and its structure before diving into the details,
- enabling them to build a framework for organizing new information.
- Pre-training helps familiarize learners with key concepts

EXAMPLE

- Before diving into an advanced physics course, learners could be provided with a brief introduction to basic concepts and terminology, helping them build a foundation for understanding the more complex material that follows

8. MODALITY PRINCIPLE

- **People learn more deeply from pictures and spoken words than from pictures and printed words**
- Use both visual and auditory channels to convey information, as this can lead to better learning than using a single modality (e.g., text or audio alone).

EXAMPLE

- An interactive tutorial on how to use a software program could include both visual demonstrations (e.g., screencasts) and auditory explanations (e.g., voiceovers)

9. MULTIMEDIA PRINCIPLE

- **People learn better from words and pictures than from words alone.**
- Combine words and images to explain concepts, as this is more effective than using words alone

EXAMPLE

- A lesson on the water cycle could combine text descriptions, diagrams, and animations, helping learners visualize the processes of evaporation, condensation, and precipitation, and better understand the concepts being presented.

10. PERSONALIZATION PRINCIPLE

- Use conversational language and adopt a friendly tone to make the material more engaging and relatable for learners.

EXAMPLE

- An online course on personal finance could use conversational language and relatable examples, such as budgeting for groceries or saving for a vacation, making the content more engaging and relevant to learners' lives.

11. VOICE PRINCIPLE

- Use a human, rather than a machine-generated, voice for narrations to increase learner engagement and understanding.

EXAMPLE

- An instructional video about meditation techniques could feature a soothing human voice guiding learners through the exercises, creating a more engaging and relatable experience compared to a machine-generated voice

12. IMAGE PRINCIPLE

- Use relevant, high-quality images that complement and support the text, rather than simply for decoration or entertainment
- Avoid including a video of yourself during an asynchronous multimedia presentation containing pictures and words.

EXAMPLE

- In a presentation about solar energy, designers could include high-quality images of solar panels and diagrams illustrating how solar cells convert sunlight into electricity, helping learners better understand the technology and its applications

QUESTIONS

Define multimedia. 1

- What is interactive multimedia? Explain in brief. 2
- Explain graphic, audio, video, text, animation as an element of multimedia (2 marks each)

- Give 2 differences of linear V/S non linear with examples for each 3
- State and explain the applications of multimedia. 5