ACADEMY OF TECHNOLOGY

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Paper name: <u>Multimedia Technology</u>   **Paper code:** <u>OEC-CS701B</u>

Power Point Presentation on -
Characteristics & Components of Multimedia

Presented by-

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To fulfill the requirement of Continuous Assessment 1 [CA1] of B. Tech Course.
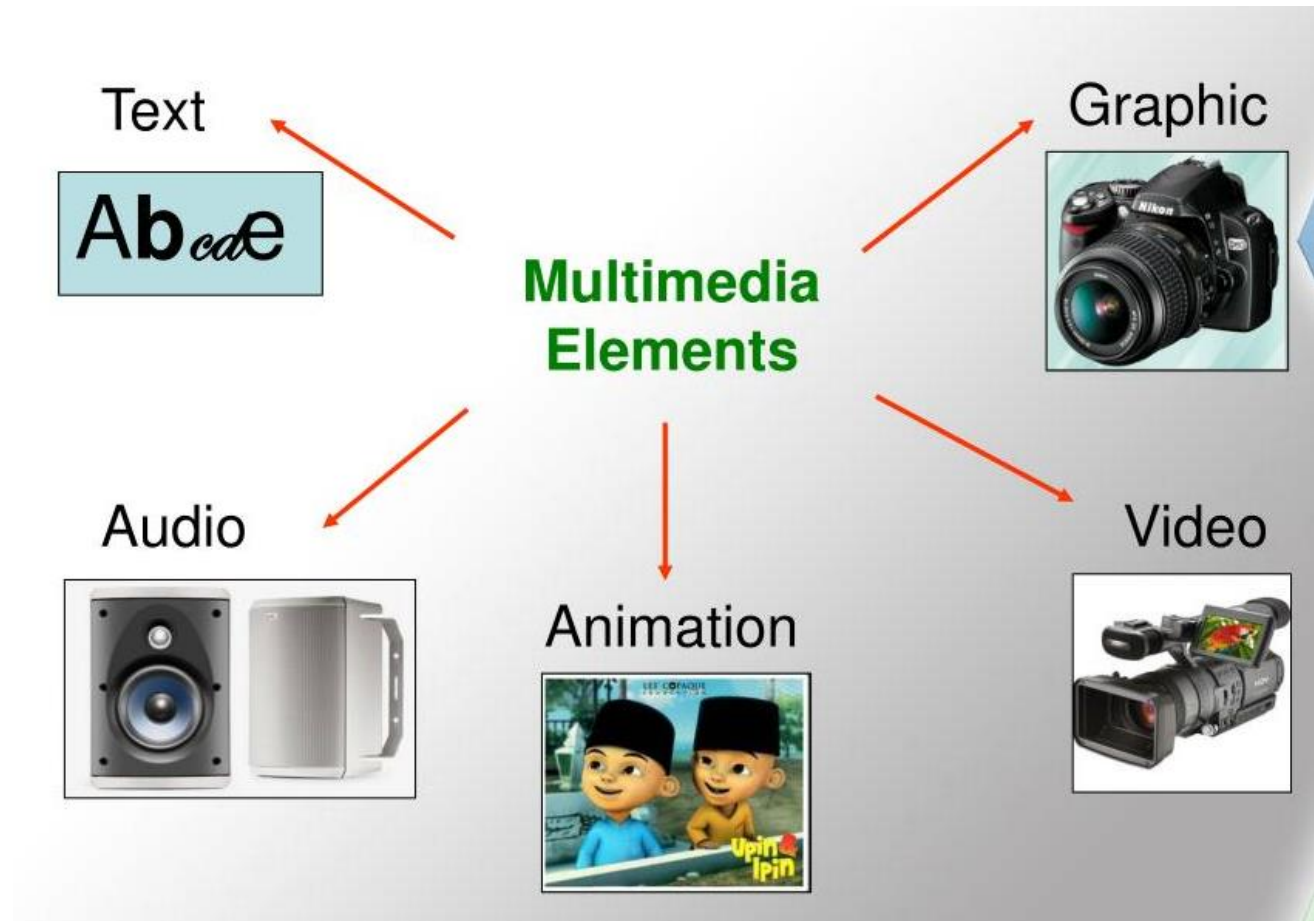
Introduction:

First of all, we should know what is Multimedia?

- The word *'Multimedia'* is a combination of two words, *'Multi'* means *many* and **'Media'** means *material through which something can be transmitted or send.*
- Multimedia is a type of medium that allows information to be easily transferred from one location to another.
- It's 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.

Components of multimedia:

There are mainly 5 components of multimedia. These are -

- Text
- Audio
- Video
- Animation
- Graphics

Text:

- Characters are used to form words, phrases, and paragraphs in the text.
- Text appears in all multimedia creations of some kind.
- 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.
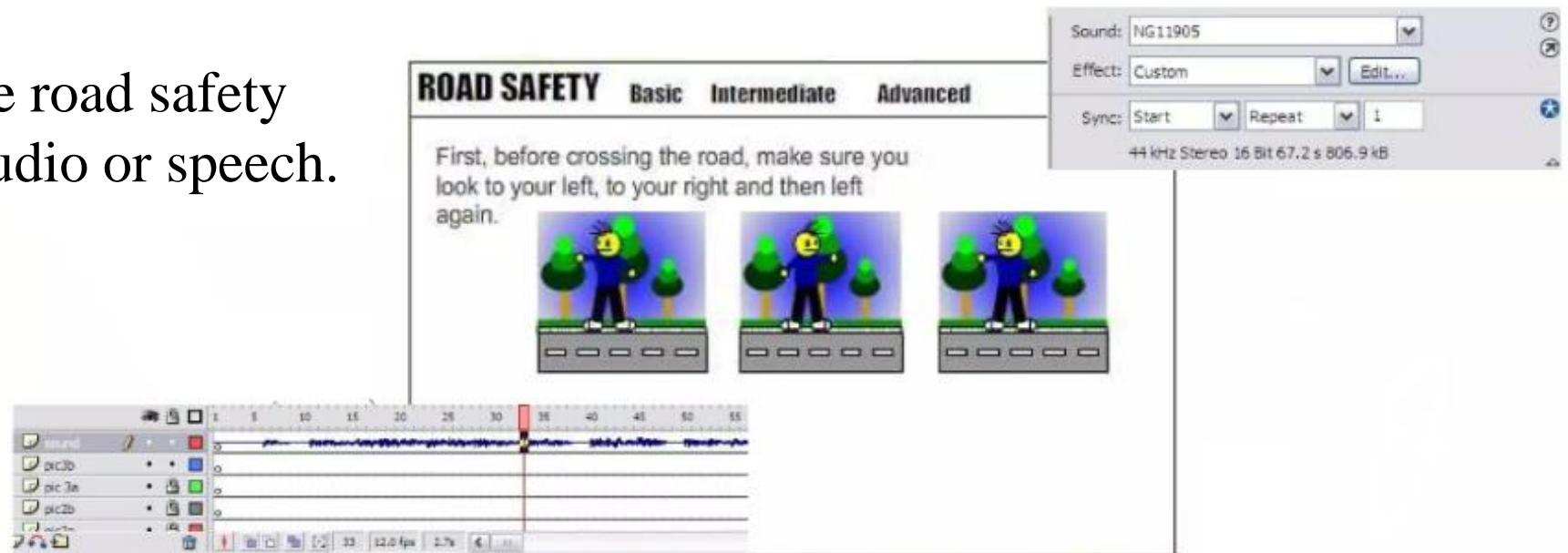
For example, the road safety instructions

ROAD SAFETY   Basic   Intermediate   Advanced

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

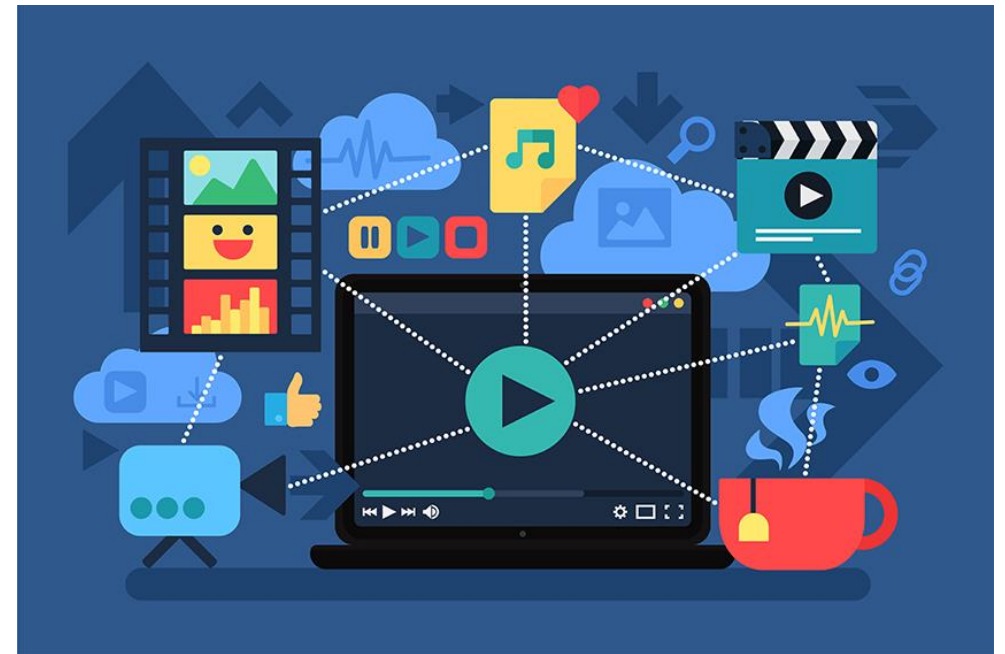Then, walk carefully to cross the road.

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.

For example, the road safety instructions using audio or speech.

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.

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.

For example, the road safety instructions using images instead of text helps to understand clearly.

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.

Animation:

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

For example, the road safety instructions…

Characteristics of multimedia:

A multimedia systems has four basic characteristics-

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

• Computer Controlled:

- Producing the content of the information e.g. by using the authoring tools, image editor, sound and video editor.
- *Storing the information:* providing large and shared capacity for multimedia information.
- *Transmitting the information:* through the network.
- *Presenting the information to the end user:* make direct use of computer peripheral such as display device (monitor) or sound generator (speaker).

• Digitally Represented:

- *Digitization:* process involved in transforming an analog signal to digital signal.

- # **Integrated:**
  - All multimedia components (audio, video, text, graphics) used in the system must be somehow integrated.
  - Every device such as microphone and camera is connected to and controlled by a single computer.
  - A single type of digital storage is used for all media type.
  - Video sequence are shown on computer screen instead of TV monitor.

- # **Interactivity:**

Level 1:   Interactivity strictly on information delivery. Users select the time at which the presentation starts, the order, the speed and the form of the presentation itself.

Level 2:   Users can modify or enrich the content of the information, and this modification is recorded.

Level 3:   Actual processing of users input and the computer generate genuine result based on the users input.

Conclusion:

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. It 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.

To begin, a computer must be present to coordinate what you see and hear, as well as to interact with. Second, there must be interconnections between the various pieces of information. Third, you'll need navigational tools to get around the web of interconnected data.

Multimedia is being employed in a variety of disciplines, including education, training, and business.

References:

- Dynamic Programming, by E. V. Denardo, Dover Publications, 2003.
- "The construction of optimal binary search trees using dynamic programming is described in The Art of Programming: Sorting and Searching", Vol.3, by D. E. Knuth, Second Edition, Addison Wesley, 1998.

Thank you