TOPIC 1– INTRODUCTION TO MULTIMEDIA
Overview

• Introduction to multimedia.
  – Definition
  – Types of multimedia
  – Delivering multimedia
• Why multimedia?
• Applications of multimedia.
  – Examples of multimedia application
• Summary
Objectives

• At the end of this chapter, students should be able to:
  – define basic terms and concepts related to multimedia technologies
  – distinguish between the types of linear and non-linear multimedia systems
  – identify various applications of multimedia
Introduction to Multimedia

• The definition of Multimedia:

“Multimedia is any combination of text, art, sound, animation, and video delivered to you by computer or other electronic or digitally manipulated means. A multimedia project development requires creative, technical, organizational, and business skills.”

Tay Vaughan

Multimedia : Making it work 8th Ed.
Multimedia is a combination of

- Images
- Text
- Sound
- Animation
- Video
Retirement rate

- Studies indicate that if you’re stimulated with audio, you will have about a 20 percent retention rate. With audio-visual, retention is up to 30 percent and in interactive multimedia presentations, where you are really involved, the retention rate is as high as 60 percent.
Multimedia Terminologies

- **Interactive Multimedia**: when a user is given the option of controlling the elements.
- **Hypermedia**: when a user is provided a structure of linked elements for navigation.
- **Multimedia Developer**: The people that develop multimedia projects.
Multimedia Terminologies

• The software vehicle, the messages, and the content together constitute a **multimedia project**.

• A multimedia project shipped to end-users with or without instructions is called a **multimedia title**.

• A project can also be launched on the Web.
Introduction to Multimedia

• Types of Multimedia projects:

1. Linear Multimedia: Projects that are not interactive. Users have very little control over the presentation.

2. Nonlinear (interactive) Multimedia: Projects that are user-interactive, where users are given navigational control.
Introduction to Multimedia

1-Linear Multimedia

– users can sit back and watch it just as they do a movie or the television

– The presentation normally plays from the start to end or even loops continually to present the information.

– A movie is a common type of linear multimedia.

– Demo show, non interactive lecture
Introduction to Multimedia

2- Non linear (interactive) multimedia

– When users are given navigational control and can wander through the content at will
– Advantage: complex domain of information can be presented.
– Disadvantage: users might lost in the massive "information highway".
– Useful for: information archive (encyclopedia), education, training and entertainment.
Non linear (interactive) multimedia

• Non linear means
  – Interactive
  – Users have control over the contents
  – Users are given navigation control
  – Example
  – Games, course ware, interactive CD
Introduction to Multimedia

- Multimedia Projects can also be delivered online (webs) and through PDAs/Hand-held Devices.
- The primary media for delivering multimedia projects are:
  - Compact disc read-only (CD-ROM)
  - Digital Versatile Disc (DVD) / Blu-ray disc (BDA)
• **CD-ROM**
  – The most cost-effective distribution medium for multimedia projects.
  – It can contain up to 80 minutes of full-screen video or sound.
  – capacity 700MB
• DVD-ROM / Blu-ray disc
  
  – Multilayered DVD technology increases the capacity of current optical technology to 18 GB.

  – DVD authoring and integration software is used to create interactive front-end menus for films and games.

  – Blu-ray disc (Blu-ray Disc Association BDA) is next-generation format for high-definition video and high-density data. A single-layer disc can fit 23.3, 25, or 27 GB (enough for approximately four hours of high-definition video with audio). It supports 25GB for one layer, 50GB for two and 100GB for four
Comparison

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<tr>
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<th>CD</th>
<th>DVD</th>
<th>BLU-RAY</th>
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<tbody>
<tr>
<td>Capacity</td>
<td>700MB</td>
<td>Up to 8.5 GB</td>
<td>Up to 120 GB</td>
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![Comparison Chart of CD, DVD, and BLU-RAY](image-url)
CD and DVD burners Software

• Both CD and DVD burners are used for reading discs and converting the discs to audio, video, and data formats.
Why Multimedia?

- Ease of use
- Intuitive Interface
- Immersive experience
- Self-paced interaction and better retention
- Better understanding
- Cost effectiveness
- More fun
Applications of Multimedia

• Home
  – Most multimedia projects reach the homes via television sets or monitors with built-in user inputs.
  – Movies on demand, games, instructional videos on gardening etc.
Applications of Multimedia

- Public places
  - Multimedia will become available at stand-alone terminals or kiosks to provide information and help.
Applications of Multimedia

• Business
  – Business applications include presentations training, marketing, advertising, product demos, databases, catalogues, instant messaging, and networked communication.
• Schools
  – Educational software can be developed to enrich the learning process
  – move away from the transmission or passive learner model of learning to the experiential learning or active-learner model.
Examples of Multimedia Application

- Digital video editing and production systems
- E-Newspapers /Magazines
- Games
- Groupware
- Home shopping
- Interactive TV
- Multimedia courseware
- Video conferencing
- Video-on-Demand (VoD)
- Virtual reality
Virtual Reality

- Virtual reality is an extension of multimedia.
- It uses the basic multimedia elements of imagery, sound, and animation.
- It requires terrific computing horsepower to be realistic.
(cont.) Virtual Reality

• In VR, cyberspace is made up of thousands of geometric objects plotted in three-dimensional space.

• The standards for transmitting VR in Virtual Reality Modeling Language (VRML) documents have been developed on the World Wide Web.
Examples:

- Flight simulators
- Surgery simulators
- Computer-controlled simulators teach the intricate loading and unloading of oil tankers and container ships (maritime academy).
Acrophobia - extreme fear of heights

Train your phobias away with realistic simulations
Summary

- Multimedia is a combination of text, graphic art, sound, animation, and video.
- There are two types of multimedia projects: linear or nonlinear.
- Multimedia projects are often stored on CD-ROM or DVDs. They can also be hosted on the Web.
- Multimedia is widely used in business, schools, public places, and at home.
- Virtual reality is an extension of multimedia.