

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

- “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.*”



Multimedia : Making it work 8th Ed.



Multimedia is a combination of



Images



Text



Sound



Animation



Video

Retention 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)

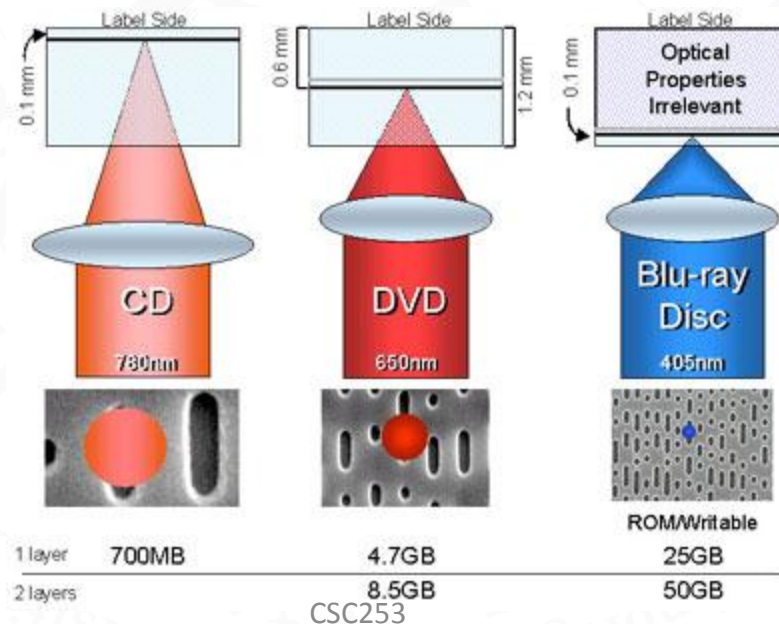
- CD-ROM
 - The most cost-effective distribution medium for multimedia projects.
 - It can contain up to 80 minutes of full-screen video or sound.
 - capacity 700MB



- 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

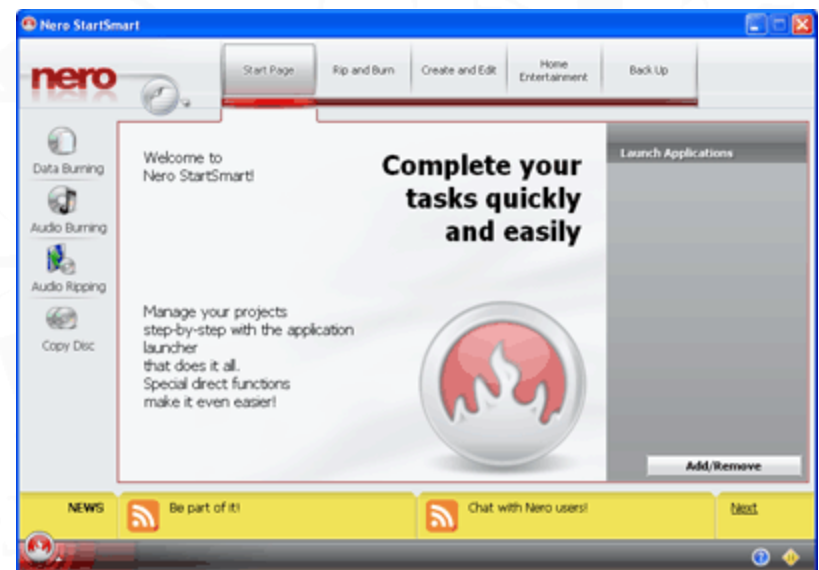
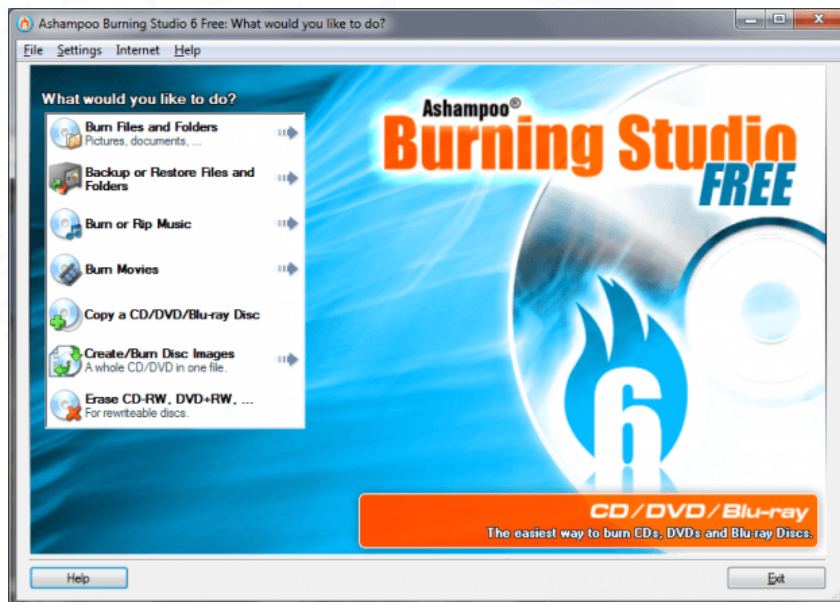
Comparison

	CD	DVD	BLU-RAY
Capacity	700MB	Up to 8.5 GB	Up to 120 GB



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.

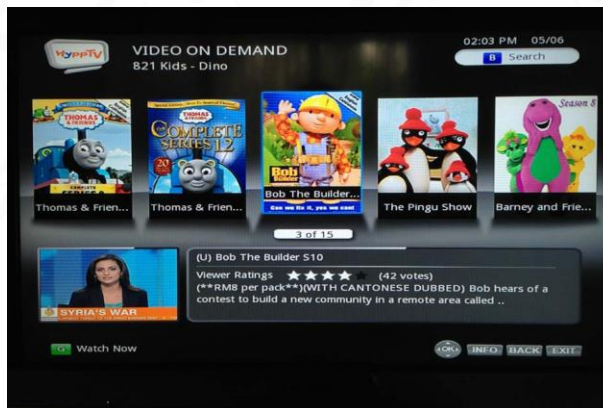


Why Multimedia?

- 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.

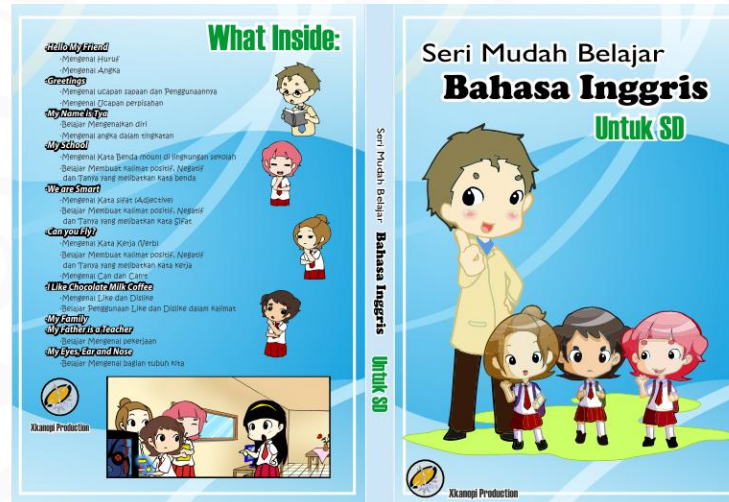


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- A man in a brown jacket and a man in a dark suit are standing at a computer workstation. The man in the brown jacket is gesturing with his hands while looking at a large monitor. The man in the dark suit is looking at the monitor. There is a laptop on the desk in front of them. The background shows a modern office environment with large windows.



- 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.



Tintinalli's Online Features

Videos of Procedures

Flash Player 8 or higher
required (Get Flash)



**Dix-Hallpike
Maneuver**
(4 min 55 sec)

[Play Video](#)



Epley Maneuver
(3 min 52 sec)

[Play Video](#)



**Ultrasound: Basilic
Vein Cannulation**
(5 min 17 sec)

[Play Video](#)



The Knee Exam
(10 min 52 sec)

[Play Video](#)



**Lumbar Puncture
Decubitus Position**
(10 min 11 sec)

[Play Video](#)



NIH Stroke Scale
(18 min 3 sec)

[Play Video](#)



**Posterior Leg
Splint**
(2 min 19 sec)

[Play Video](#)



**Chest Tube
Insertion**
(10 min)

[Play Video](#)

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

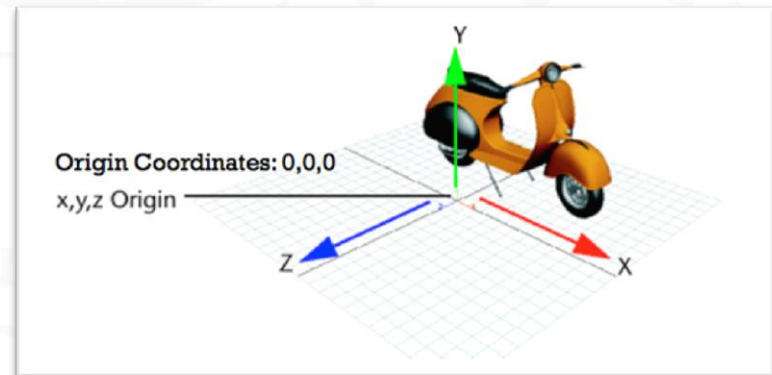
Virtual Reality

- 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.



[Emirates A380](#)

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