Chapter Objectives (1 of 2)

- Explain the differences between digital media and multimedia
- Name and define the elements of multimedia and digital media
- Explain the different uses of digital media applications
- Discuss digital media applications on the Web

Chapter Objectives (2 of 2)

- Identify various K-12 digital media software applications
- Specify what is meant by an interactive media
- Examine the uses of digital media authoring software programs
- Explain why digital media applications are important for education

What is Digital Media?

- Multimedia incorporates a variety of elements, including text, graphics, audio, video, and animation
- Digital media technologies allow users to create new forms of interaction, expression, communication, and entertainment in a digital format
- Next 2 slides have examples

Digital Media Example #1

This Interactive multimedia software application helps students learn about the human body

Digital Media Example #2

Any clickable object in a digital media presentation can function as a link
**What is Digital Media?**

- **Text**
  - Create words, sentences, and paragraphs
  - Textual effects
  - Menus

**Chapter 5: Integrating Digital Media and Educational Software Applications**

**What is Digital Media?**

- **Graphics**
  - Illustrate concepts more vividly than text
  - Visual learners
  - Navigation elements
  - Clip art
  - Multimedia and digital media applications often use graphics

**Chapter 5: Integrating Digital Media and Educational Software Applications**

**What is Digital Media?**

- **Animation**
  - A graphic that has the illusion of motion
  - Range in scope from simple to complex
  - Conveys information more vividly than text
  - Improved the quality of educational software
  - Animation software packages allow you to create animation

**Chapter 5: Integrating Digital Media and Educational Software Applications**

**What is Digital Media?**

- **Audio**
  - Music, speech, or any other sound
  - Capture with microphone or other audio input device
  - MIDI (Musical Instrument Digital Interface)- compose and edit music
  - Purchase audio clips

**Chapter 5: Integrating Digital Media and Educational Software Applications**

**What is Digital Media?**

- **Video**
  - Photographic images that are played back at speeds of 15 to 60 frames per second and provide the appearance of full motion
  - Video compression saves space
  - Moving Pictures Experts Group (MPEG)
  - CODEC (Compression and Decompression) reduce video sizes

**Digital Media Applications**

- Involves the use of digital media technology in education, business, and entertainment
  - **Simulations**- computer based models of real life situations
    - Flying a plane
    - Science experiment
**Digital Media Applications**

- **Computer-Based Instruction (CBI)**
  - Reduced training time and cost
  - Teach new skills
  - Courseware
  - Instant feedback
  - Self-pace study
  - Unique content
  - Unique instructional experience
  - One-on-one interaction

**Electronic Books and References**

- Electronic books and references
  - Digital version of a reference book
  - Articles, photographs, illustrations, and animations
  - Often used in health and medicine
  - Examples on next page

**Electronic Reference Material Examples**

<table>
<thead>
<tr>
<th>Name</th>
<th>Publisher</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guitar Solo</td>
<td>Hal Leonard</td>
<td>Includes 100 songs in a variety of styles for guitarists of all levels.</td>
</tr>
<tr>
<td>Electronic Encyclopedia</td>
<td>Encyclopedia Britannica</td>
<td>The largest and most comprehensive encyclopedia on the internet.</td>
</tr>
<tr>
<td>Children's Encyclopedia</td>
<td>Children's Encyclopedia</td>
<td>Features over 50,000 articles, more than 5,000 images, 1,000 audio clips, and over 100 video clips.</td>
</tr>
<tr>
<td>American Sign Language Dictionary</td>
<td>Gallaudet University</td>
<td>Provides access to the world of sign language.</td>
</tr>
</tbody>
</table>

**How To Guide Examples**

<table>
<thead>
<tr>
<th>Name</th>
<th>Publisher</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Windows Repair</td>
<td>Microsoft</td>
<td>Guides users through step-by-step instructions to repair and maintain their Windows-based computer.</td>
</tr>
<tr>
<td>Mac Repair</td>
<td>Apple</td>
<td>Provides detailed instructions on repairing and maintaining Mac computers.</td>
</tr>
<tr>
<td>Pesticide Control</td>
<td>Pesticide Control</td>
<td>Provides information on controlling pests in a safe and environmentally friendly manner.</td>
</tr>
<tr>
<td>Fire Safety</td>
<td>Fire Safety</td>
<td>Guides users through step-by-step instructions on preparing for and responding to fires.</td>
</tr>
</tbody>
</table>

**Chapter 5: Integrating Digital Media and Educational Software Applications**

- Electronic Books and References
  - Electronic book
  - Digital text that uses links to give the user access to information
  - Kindle2
  - E-book
  - iPod and iPad Books
Digital Media Applications

- **Digital Media Newspapers, Magazines (E-zines), and Journals**
  - Digital version of a newspaper, magazine, or journal
  - Distributed via CD, DVD, or the World Wide Web
  - Electronic magazines (e-zine)
  - Companion Web sites
  - Online education journals

Digital Media Applications

- **Virtual reality (VR)**
  - Use of a computer to create an artificial environment that appears and feels like a real environment and allows the user to explore space and manipulate the setting
  - Specialized headgear, body suits, and gloves
  - VR on the Web (tour places like the U.S. Capital Building)
  - Second Life (create an avatar)

Second Life Website – secondlife.com

Digital Media Applications

- **Information Kiosks**
  - Computerized information or reference center that allows you to select various options to browse through or find specific information
  - Touch screens allow you to interact and search for things

Digital Media Applications

- **Digital Media and the World Wide Web**
  - Computer-based instruction
  - Newspapers
e-zines
  - Games
  - Virtual Reality

Digital Media Applications

- **Entertainment and Edutainment**
  - Games
  - Music
  - Interactive music
  - Edutainment - both educational and entertaining
Digital Media Applications

- Web-based Training and Distance Learning
  - Web-based uses www technology to learn
  - Distance Learning
    - Web-based education
    - Distributed learning
    - Web-based course (online course)
    - Web-enhanced course (traditional class that enhances with web materials)

Digital Media Applications

- Colleges and Universities
  - Students attend class from home or at any time that fits their schedule

Digital Media Applications

- High Schools
  - Prevent school overcrowding
  - Pool resources
  - Link students
  - Web-enhanced courses
  - Interact with subject area experts

Digital Media Applications

- Professional Development Training
  - Easy and more convenient way to train teachers
  - Self-paced
  - Instructor-led

K-12 Educational Software Applications

- Software products used to support teaching and learning of subject-related content
- Interactive multimedia applications
- Many designs, forms, and curriculum levels

K-12 Educational Software Applications

- Computer-Assisted Instruction (CAI)
  - Software to help teach facts, information, and/or skills associated with subject-related materials
K-12 Educational Software Applications

- Drill-and-Practice Software
  - First supplies factual information
  - Uses repetitive exercises
  - Also known as skills-reinforcement software
  - Remediation

K-12 Educational Software Applications

- Educational Games
  - Contains rules that allow the student to compete between other students or the game
  - Problem-solving environments

K-12 Educational Software Applications

- Tutorials
  - Helps individuals learn to use a product or concept
  - Many software products contain built-in tutorials to teach software to user

K-12 Educational Software Applications

- Educational Simulations
  - Models some event, reality, real-life circumstance, or phenomenon
  - Educational computer simulations on the Web

K-12 Educational Software Applications

- Integrated Learning Systems (ILS)
  - Complete educational software solution in one package
  - Includes pre-tests, tutorials, testing, etc.
    - Open learning system includes many software packages in the ILS
      - Classworks from Curriculum Advantage shown here --

K-12 Educational Software Applications

- Curriculum-Specific Educational Software
  - High quality interactive and digital media educational programs
  - Available on CD and DVD
  - Installed on school networks
  - Available on the Web
K-12 Educational Software Applications

- **Creativity**
  - Students can completely control the design of their projects
  - Some applications provide ideas and pre-made backgrounds and images
  - Paint software is free – in accessories menu

K-12 Educational Software Applications

- **Critical Thinking**
  - Stimulate students to use critical thinking skills
  - Students are presented with a problem and a variety of ways to solve the problem

K-12 Educational Software Applications

- **Early Learning**
  - Designed for PreK-3 students
  - Provides a jumpstart on learning
  - Engaging graphics and a variety of activities

K-12 Educational Software Applications

- **ESL/Foreign Language**
  - Provides K-12 students with assistance in learning English and other languages

K-12 Educational Software Applications

- **Language Arts**
  - Support students throughout the reading and writing process
  - Encourages students to learn critical skills

K-12 Educational Software Applications

- **Math**
  - Help students learn mathematics
  - Skill practice and problem solving
**K-12 Educational Software Applications**

- **Science**
  - Helps students learn a variety of science concepts

**Discovery Education Science shown here**

**Chapter 5: Integrating Digital Media and Educational Software Applications**

- **Social Studies**
  - Encourage higher-order thinking skills
  - Provide reinforcement of facts
  - Allow students to define their own path

**Chronicle Encyclopedia of History shown here**

**Creating and Presenting Digital Media Presentations**

- Digital media presentations involve producing various digital media elements, defining the elements’ relationships to each other, and then sequencing them in an appropriate order
- Microsoft PowerPoint
- Apple iLife—photo, video, Audio, DVD creation

**Microsoft PowerPoint**

**Apple iLife—photo, video, Audio, DVD creation**

**Why Are Digital Media and Educational Software Applications Important for Education?**

- Appeals to a variety of learning styles
- Students retain 50% of what they see and hear
- Students retain as much as 80% when they see, hear, and interact with the learning environment
Chapter Summary (1 of 2)

- Explain the differences between digital media and multimedia
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Remember to Read and Outline the Chapter AND the “Special Feature” at the end of EACH chapter