Competencies (Page 1 of 2)

• Describe graphics software, including desktop publishing, image editors, illustration programs, image galleries, and graphics suites

• Discuss audio and video editing software

• Describe multimedia, including story boards and multimedia authoring programs
Competencies (Page 2 of 2)

• Explain **Web authoring**, **Web site design**, and **Web authoring programs**
• Describe **virtual reality** and **VRML**
• Discuss **knowledge-based** (expert) **systems**
• Describe **robotics** including perception systems, **industrial robots**, and **mobile robots**
Introduction

• Software that for years was only available for mainframe computers is now available for microcomputers. Specialized application software makes it possible to perform advanced tasks at home.

• Home users can now create Webs sites, work with graphic images, and create music or art.

• Robots now provide security and assistance in homes.

• Competent end users need to be aware of specialized applications such as: graphics programs, audio and video editing software, multimedia, Web authoring, and artificial intelligence.
Specialized Applications

• Graphics Programs
• Audio and Video Software
• Multimedia Programs
• Web Authoring Programs
• Artificial Intelligence
  – Virtual Reality
  – Knowledge-based Systems
  – Robotics
Graphics

• Desktop publishing
  • Image editors
• Illustration programs
  • Image galleries
• Graphic suites
Desktop Publishing

• Programs that allow you to create publications
  – Mix text and graphics
  – Professional quality

• Popular programs
  – Adobe PageMaker
  – Microsoft Publisher
  – QuarkXPress
Image Editors

- Programs for creating and editing bitmap images
  - Bitmap images use dots or **pixels** to represent an image
  - Bitmap images are also called *raster images*

- Popular programs
  - Microsoft Paint
  - Adobe Photoshop
  - Corel PhotoPaint
  - Paint Shop Pro
Illustration Programs

- Programs used to create & edit vector images
- Drawing programs
- Vector images use geometric shapes or objects
- Popular programs
  - Adobe Illustrator
  - CorelDraw
  - Macromedia FreeHand
  - Micrografx Designer
Image Galleries

• Libraries of electronic images
• Used for a variety of applications
• Two basic types
  – Stock photographs
  – Clip art
• There are numerous Web image galleries

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Graphic Suites

• Bundled graphic programs
• Can buy a larger variety of graphics programs at a lower cost
• Popular suites
  – CorelDraw Graphics Suite
  – Adobe’s Creative Suites
  – Macromedia’s Studio
Audio and Video

- Video editing software
  - Enhances digital video footage
  - Apple's iMovie & Windows Movie Maker

- Audio editing software
  - Creates and edits audio clips
  - Can create your own MP3s
  - Apple’s Garage Band and Sony’s ACID
Digital Video Editing

- Capture Video
- Edit a Movie
- Create a DVD
Multimedia

- The integration of a variety of media into one presentation
  - Video
  - Music
  - Voice
  - Graphics
  - Text

- Should include user interactivity
Links & Buttons

Links can be to…
- Video
- Sound
- Graphics
- Text Files

• Buttons are **links** and provide the ability to navigate through a presentation
Developing Multimedia Presentations

- Plan and Analyze
- Design
- Create
- Support
Multimedia Authoring Programs

• Special programs used to create multimedia presentations
• Bring together all the video, audio, graphics, and text elements
• Popular programs
  – Macromedia Director
  – Authorware
  – Toolbook
Web Authoring

- Corporations use the Web to reach new customers
- Many individuals create their own personal sites, called Web logs or blogs, to keep in touch with friends and family
- Web Site Design
- Web Authoring Programs
Web Site Design

• Interactive multimedia form of communication
  – Create a **graphical map** of overall content
  – Add multimedia elements like animation
    • Macromedia's Flash
    • Morphing
Web Authoring Programs

- Known as **Web page editors or HTML editors**
  - Provide support for Web site design
  - Creates HTML coding

- Popular programs
  - Macromedia Dreamweaver
  - NetObjects Fusion
  - Microsoft FrontPage
Web Authoring Sequence

Graphical Map
FrontPage provides tools to create a graphical map for the entire site. This is part of the site map for the Adventure Travel Tours site.

HTML Coding
Using descriptions of each Web page, Microsoft FrontPage creates HTML code for the entire site.

Web Page
Using a browser, the completed HTML document can be displayed. This is the first page of the Adventure Travel Tours Web site.
Artificial Intelligence

• Attempts to simulate human senses, thought processes, and actions
• Designed to help people and organizations become more productive
• Three areas of AI
  – Virtual reality
  – Knowledge-based (expert) systems
  – Robotics
Virtual Reality

• Artificial or simulated reality
  – Generated in 3-D by a computer
  – Commonly known as VR, artificial reality, or virtual environments

• Virtual reality modeling language (VRML)
  – Used to create real-time animated 3-D scenes
  – Cosmos Worlds from Cosmos Software
Knowledge-Based (Expert) Systems

- Artificial intelligence that uses a database for assistance
- Database is known as a knowledge base
- Many use "fuzzy logic"
Robotics

• The field of study concerned with using **robots**

• Robots are computer-controlled machines
  – Mimic the motor activities of living things
  – Three types of robots
    • Perception system robots
    • Industrial robots
    • Mobile robots
Careers in IT

- Desktop publishers use computers to format and create publication-ready material
  - Books
  - Magazines
  - Newsletters
  - Newspapers
- Generally requires completion of a program, good communication skills, and artistic ability
- Desktop publishers can expect to earn $25K - $42K annually
A Look to the Future
Artificial Intelligence

- Research is being done to give robots a sense of values so they can make decisions independently
- The Saya robot is under development in Tokyo
Discussion Questions (Page 1 of 2)

- Describe graphics, including desktop publishers, image editors, illustration programs, image galleries, and graphics suites.

- Discuss audio and video editing software.

- What is multimedia? How are multimedia presentations developed?
Discussion Questions (Page 2 of 2)

- Describe Web authoring, including Web site design and Web authoring programs.
- Discuss three areas of artificial intelligence.