



Al Mustaqbal University

College of Medicine



Computer Science

Lecture 2

Computer Software

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Objectives Overview

Determine the four types of application software

Distinguish between the seven different types of software availability

Describe how the operating system and utility programs interact with application software

Explain the features of a user interface

Determine the main characteristics of commonly utilized business applications

Objectives Overview

Determine the main characteristics of popular graphics and multimedia software

Determine the main characteristics of commonly used software for home, personal, and educational purposes

Explore the benefits of web applications and the methods for accessing them

Determine the types of application software utilized in communication systems

Explain the tools and resources provided to support learning in application software

Application Software

- **Application software** includes programs created to enhance user productivity and/or help with personal tasks. It serves a wide range of purposes:

To make business activities more efficient

To assist with graphics and multimedia projects

To support home, personal, and educational tasks

To facilitate communications

Application Software

Business

- Word Processing
- Spreadsheet
- Database
- Presentation
- Note Taking
- Personal Information Manager (PIM)
- Business Software for Phones
- Business Software Suite
- Project Management
- Accounting
- Document Management
- Enterprise Computing



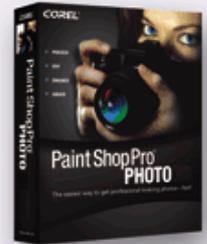
Graphics and Multimedia

- Computer-Aided Design (CAD)
- Desktop Publishing (for the Professional)
- Paint/Image Editing (for the Professional)
- Photo Editing (for the Professional)
- Video and Audio Editing (for the Professional)
- Multimedia Authoring
- Web Page Authoring



Home/Personal/Educational

- Software Suite (for Personal Use)
- Personal Finance
- Legal
- Tax Preparation
- Desktop Publishing (for Personal Use)
- Paint/Image Editing (for Personal Use)
- Photo Editing and Photo Management (for Personal Use)
- Clip Art/Image Gallery
- Video and Audio Editing (for Personal Use)
- Home Design/Landscaping
- Travel and Mapping
- Reference and Educational
- Entertainment



Communications

- Web Browser
- E-Mail
- Instant Messaging
- Chat Room
- Text, Picture, Video Messaging
- RSS Aggregator
- Blogging
- Newsgroup/Message Board
- FTP
- VoIP
- Video Conferencing

Application Software

- Available in a variety of forms:

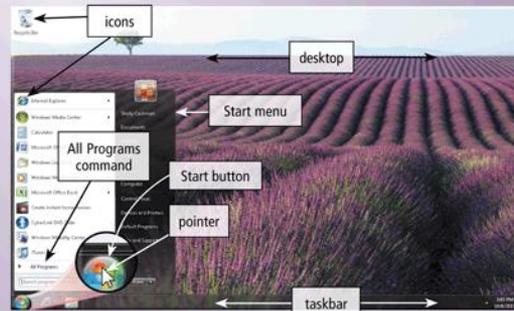
| | |
|------------------------|--|
| Packaged software | is mass-produced, copyrighted software for various users, available in stores or online. Example: Microsoft Office Suite (e.g., Word, Excel, PowerPoint). |
| Custom software | is developed to meet specific business needs when off-the-shelf solutions are inadequate. Example: A hospital management system |
| Web application | is a website that lets users access and interact with software online, like email, word processing, or games. Example: Google Docs (a web-based word processor). |
| Open source software | is free to use, modify, and share without copyright restrictions, often available for download online at no cost. Example: Linux operating system (e.g., Ubuntu). |
| Shareware | is copyrighted software offered for free for a trial, with payment required for continued use. Example: WinRAR |
| Freeware | is copyrighted software offered for free, with all rights retained by the creator. Example: Adobe Acrobat Reader (free to view PDFs). |
| Public-domain software | is free to use, copy, and distribute without copyright restrictions. Example: SQLite (a public-domain database management system). |

Application Software

One Way to Start and Interact with a Program from Windows

Step 1

When you turn on a PC-compatible computer, Windows loads into memory and displays the desktop on the screen. Click the Start button on the Windows taskbar to display the Start menu.



Step 2

Click All Programs on the Start menu to display the All Programs list. Click Accessories in the All Programs list and then point to Paint in the Accessories list.



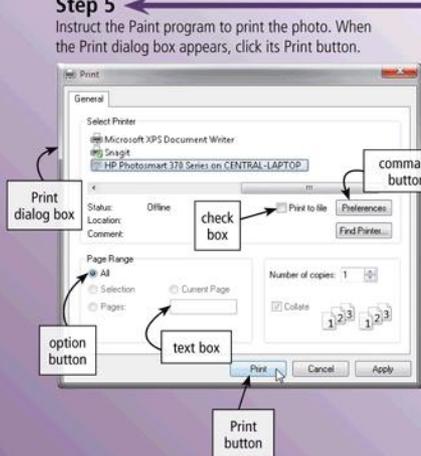
Step 3

Click Paint. The Paint window opens on the desktop.



Step 5

Instruct the Paint program to print the photo. When the Print dialog box appears, click its Print button.



Step 4

Instruct the Paint program to open a file that is stored on the hard disk.

System Software

- **System software** serves as the interface between the user, the application software, and the computer's hardware, enabling the use of programs like word processing program.
- **Utility programs** a utility program is a type of system software that assists users with controlling or maintaining the operation of a computer, its devices, or its software.
- An important utility program is **antivirus software**, which protects computers from malware that acts without a user's knowledge and deliberately alters the computer's operations



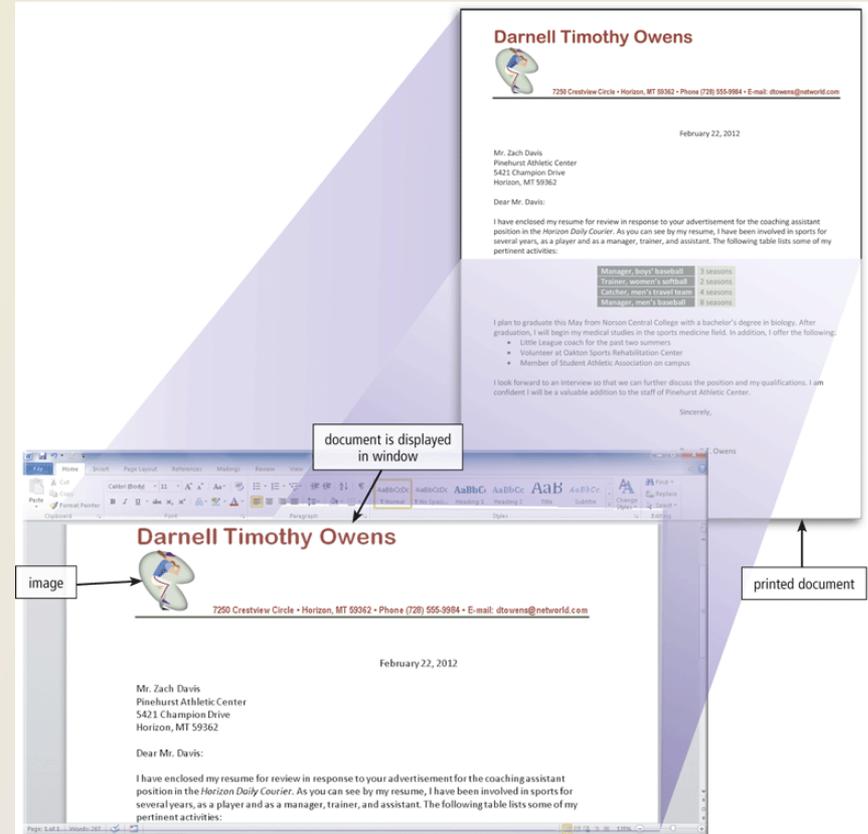
Business Software

- **Business software** is a type of application software designed to help individuals carry out business-related tasks.



Business Software

- **Word processing software** enables users to generate and edit documents, containing mostly text and sometimes graphics.
- **Clip art** refers to a set of digital drawings, photographs, and various other images



Business Software

- Additional word processing features include



Business Software

- Developing a document



Business Software

- **Spreadsheet software** enables users to arrange data in rows and columns and carry out calculations. These rows and columns collectively are called a **worksheet**

handwritten spreadsheet

Campus Clothiers
Semiannual Projected Gross Margin, Expenses, and Operating Income

| | January | February | March | April | May | June | Total |
|--------------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------------|
| Sales | \$3,383,909.82 | \$6,880,576.15 | \$9,742,702.37 | \$4,818,493.53 | \$4,566,722.63 | \$8,527,504.39 | \$37,919,908.89 |
| Cost of Goods Sold | 1,319,724.83 | 2,683,424.70 | 3,799,653.92 | 1,879,212.48 | 1,781,021.83 | 3,325,726.71 | 14,788,764.47 |
| Gross Margin | \$2,064,184.99 | \$4,197,151.45 | \$5,943,048.45 | \$2,939,281.05 | \$2,785,700.80 | \$5,201,777.68 | \$23,131,144.42 |
| Expenses | | | | | | | |
| Bonus | \$0.00 | \$0.00 | \$100,000.00 | \$100,000.00 | \$0.00 | \$100,000.00 | \$400,000.00 |
| Commission | 109,977.07 | 304,551.88 | 876,843.21 | 433,664.42 | 411,005.04 | 767,475.40 | 3,412,791.80 |
| Marketing | 304,551.88 | 194,574.81 | 395,633.13 | 560,205.39 | 277,063.38 | 262,586.55 | 2,180,394.76 |
| Research and Development | 194,574.81 | 395,633.13 | 560,205.39 | 277,063.38 | 262,586.55 | 490,331.50 | 2,180,394.76 |
| Support, General, and Administrative | 575,264.67 | 1,169,697.95 | 1,656,259.40 | 819,143.90 | 776,342.85 | 1,449,675.75 | 6,446,384.51 |
| Total Expenses | \$1,184,368.44 | \$2,508,201.65 | \$3,509,945.83 | \$1,786,472.74 | \$1,598,352.92 | \$3,084,626.54 | \$13,671,968.11 |
| Operating Income | \$879,816.55 | \$1,688,949.80 | \$2,433,102.62 | \$1,152,808.32 | \$1,187,347.88 | \$2,117,151.14 | \$9,459,176.31 |

columns B, C, D, and E

function assigned to active cell

rows 3, 4, 5, and 6

cell B4

cell B14 is active

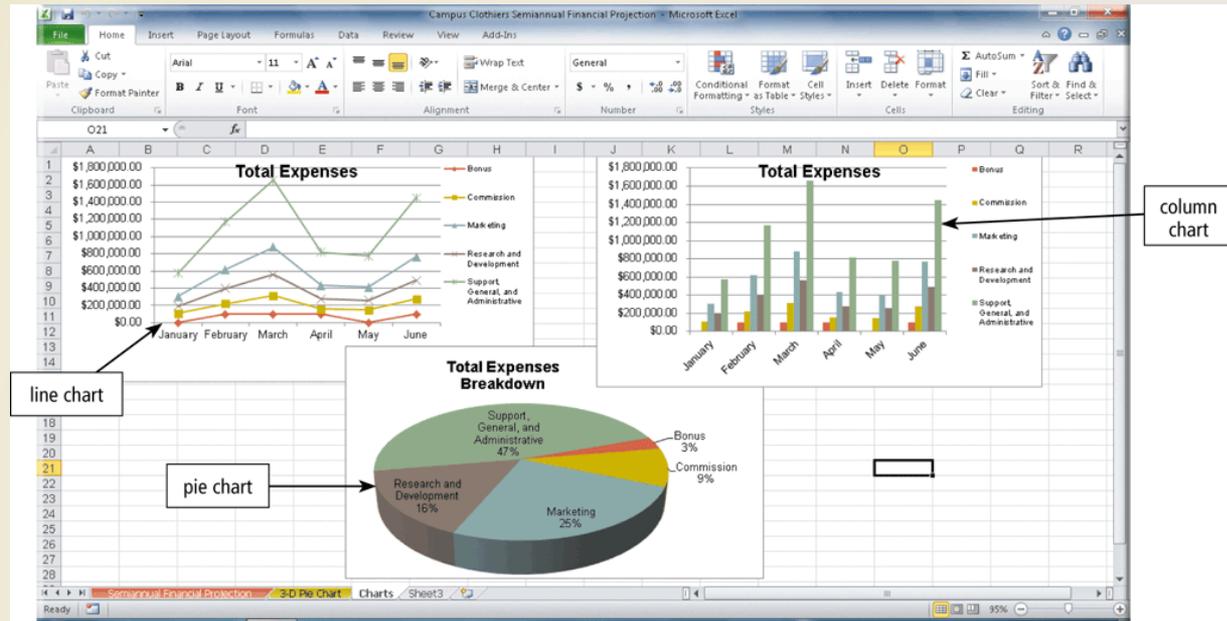
worksheet

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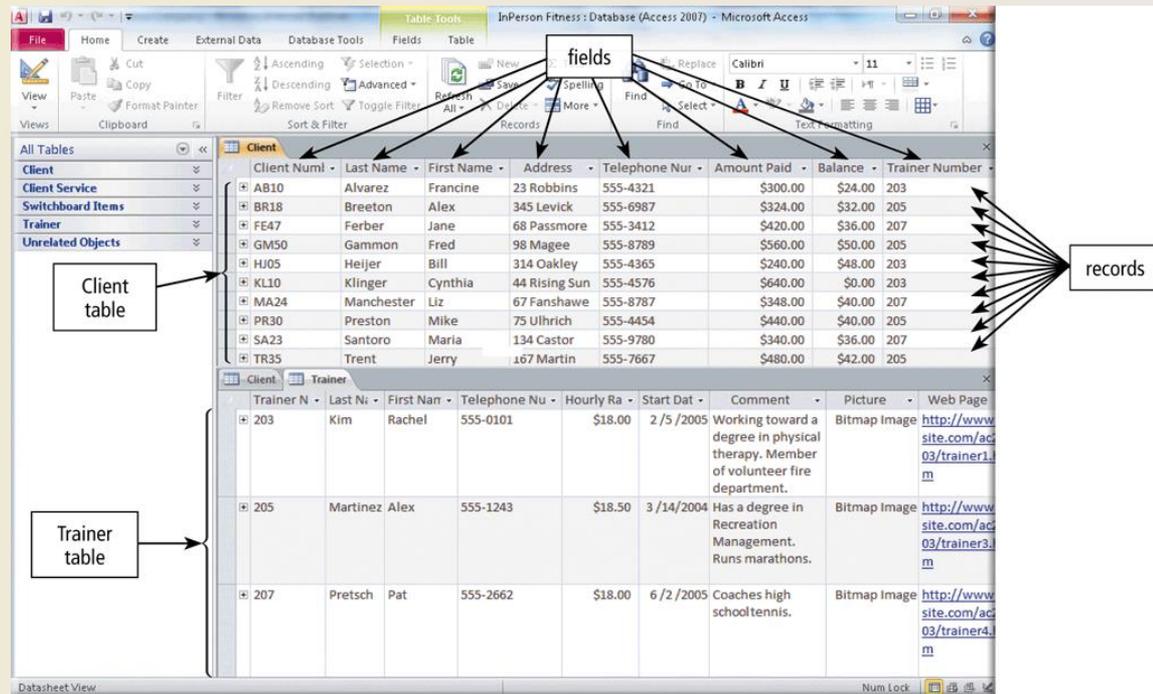
Business Software

- Another standard feature of spreadsheet software is charting, which depicts the data in graphical form. A visual representation of data through charts often makes it easier for users to see at a glance the relationship among the numbers.



Business Software

- A **database** is a collection of data organized in a manner that allows access, retrieval, and use of that data
 - **Database software** allows users to create, access, and manage a database

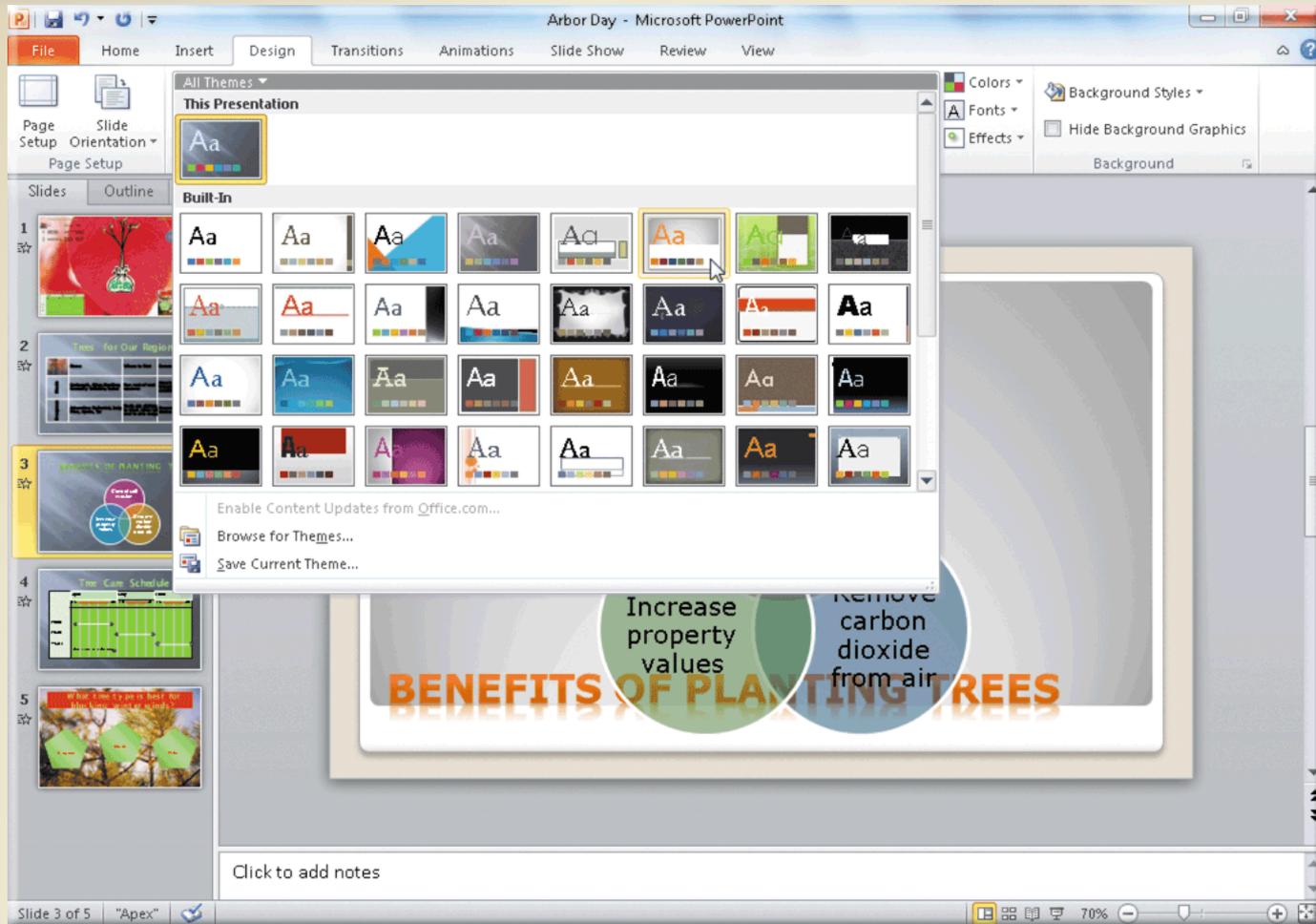


Business Software

- **Presentation software** is application software that allows users to create **visual aids** for presentations to communicate ideas, messages, and other information to a group.
- The presentations can be viewed as **slides**, sometimes called ***a slide show***, that are displayed on a large monitor or on a projection screen



Business Software



Business Software

- **Note taking software** is application software that enables users to enter typed text, handwritten comments, drawings, or sketches anywhere on a page and then save the page as part of a notebook.

- Note-taking software lets users record audio and take notes conveniently during meetings, class lectures, conferences, in libraries, and more.

The screenshot displays a note-taking application interface. The main content area is titled "Cardiovascular Systems" and contains a section "Circulatory System Variations" with three diagrams: Planaria (gastrovascular cavity), Insect (open circulation with tubular heart), and Earthworm (closed circulation with dorsal and ventral blood vessels). A handwritten red note says "This will be on the test!" with an arrow pointing to the Earthworm diagram. Below this is a section "Human Heart" with bullet points: "Primordium forms in cardiogenic plate at cranial end of embryo" and "Angiogenic cell clusters lie in horseshoe shape". The application interface includes a date/time stamp (9/18 11:11 AM), page information (Page Group: 1 of 2), and a sidebar with a list of notes and a search bar.

Business Software

- A **software suite** is a collection of individual programs available together as a unit
- A **personal information manager (PIM)** is application software that includes an **appointment calendar, address book, notepad,** and other features to help users organize personal information.

Business Software

- **Business Software for Phones** enables users to create and manage documents, notes, budgets, emails, messages, photos, e-books, travel plans, and browse the web.
- Scaled down versions of software are available to work with smart phones and other mobile devices



Mobile Health (mHealth) Applications

- **Mobile Health Apps** support healthcare through patient monitoring, medication reminders, and fitness tracking.
- **Examples: MyFitnessPal, Medisafe, or Fitbit.**
- **Benefits:**
 - Empowers patients with self-care tools.
 - Supports chronic disease management remotely.

Business Software



Project management software allows a user to plan, schedule, track, and analyze the events, resources, and costs of a project



Accounting software helps companies record and report their financial transactions



Document management software provides a means for sharing, distributing, and searching through documents by converting them into a format that can be viewed by any user



Business Software

- Enterprises typically require special computing solutions for various functional units



Medical Record Management Software

- **Electronic Health Records (EHR)** systems store patient information, enabling easy access, updates, and sharing among healthcare providers.
- **Examples: Epic Systems, Cerner, or Allscripts.**
- **Benefits:**
 - Streamlines patient management.
 - Reduces errors and duplication.
 - Facilitates better care coordination.

Graphics and Multimedia Software

| Popular Graphics and Multimedia Software | | |
|---|------------------|--|
| Application Software | Manufacturer | Program Name |
| Computer-Aided Design (CAD) | Autodesk | AutoCAD |
| | Chief Architect | Chief Architect |
| | Microsoft | Visio |
| Desktop Publishing (for the Professional) | Adobe | InDesign |
| | Corel | Ventura |
| | Quark | QuarkXPress |
| Paint/Image Editing (for the Professional) | Adobe | Illustrator |
| | Corel | Painter |
| | Microsoft | Expression Design |
| Photo Editing (for the Professional) | Adobe | Photoshop |
| | Arcadia | PhotoPerfect Ultimate |
| | Nik Software | Nik Professional Suite |
| Video and Audio Editing (for the Professional) | Adobe | Audition Premiere Pro Soundbooth |
| | Avid Technology | Avid Media Composer |
| | Cakewalk | SONAR |
| | Sony | ACID Pro |
| | | |
| Multimedia Authoring | Adobe | Director |
| | Agilix | GoCourse |
| | SumTotal Systems | ToolBook Instructor |
| Web Page Authoring | Adobe | Dreamweaver Fireworks Flash |
| | Microsoft | Expression Web SharePoint Designer |
| | | |
| | | |

Software for Home, Personal, and Educational Use

| Popular Programs for Home/Personal/Educational Use | | | | | |
|---|--------------------|--|--|--------------------------|---|
| Application Software | Manufacturer | Program Name | Application Software | Manufacturer | Program Name |
| Personal Finance | IGG Software | iBank | Clip Art/Image Gallery | Broderbund | ClickArt |
| | Intuit | Quicken | | Nova Development | Art Explosion |
| Legal | Broderbund | Home and Business Lawyer WillWriter | | CoolArchive | CoolArchive |
| | | Cosmi | Perfect Attorney | Corel | VideoStudio |
| | Nolo | Quicken Legal Business Quicken WillMaker | Microsoft | Windows Live Movie Maker | |
| Tax Preparation | 2nd Story Software | TaxACT | Video and Audio Editing (for Personal Use) | Pinnacle Systems | Studio |
| | H&R Block | TaxCut | | Roxio | Buzz |
| | Intuit | TurboTax | | Broderbund | Instant Architect |
| Desktop Publishing (for Personal Use) | Broderbund | The Print Shop PrintMaster | Home Design/Landscaping | Chief Architect | Better Homes and Gardens Home Designer |
| | Microsoft | Publisher | | IMSI/Design | TurboFLOORPLAN |
| Paint/Image Editing (for Personal Use) | Corel | CorelDRAW Painter Essentials | Travel and Mapping | DeLorme | Street Atlas |
| | The GIMP Team | The Gimp | | Microsoft | Streets & Trips |
| Photo Editing and Photo Management (for Personal Use) | Adobe | Photoshop Elements Photoshop Express | Reference | Google | Earth Maps |
| | Corel | Paint Shop Pro Photo Ulead PhotoImpact MediaOne Plus | | Fogware Publishing | Merriam-Webster Collegiate Dictionary & Thesaurus |
| | Yahoo! | Flickr | Microsoft | MSN Encarta | |
| | Google | Picasa | | | |
| | Microsoft | Windows Live Photo Gallery | | | |
| | Roxio | PhotoShow | | | |

Figure 3-21 Many popular programs are available for home, personal, and educational use.

Diagnostic and Imaging Software

- **Imaging and Diagnostic Tools** Specialized software processes and analyses data from medical imaging technologies like X-rays, MRIs, and CT scans.
- **Examples: OsiriX for radiology, 3D slicer for modeling.**
- **Benefits:**
 - Enhances visualization for accurate diagnoses.
 - Assists in pre-surgical planning.

Web Applications

- A Web application is a Web site that allows users to access and interact with software from any computer or device that is connected to the Internet
- Users often interact with Web applications directly at the Web site, referred to as the host, through their Web browser.

| Popular Web Applications | |
|--------------------------|------------------------------------|
| Program Name | Type of Application Software |
| Britannica.com | Reference |
| Dictionary.com | Reference |
| Flickr | Photo Editing and Photo Management |
| Gmail | E-Mail |
| Google Docs | Productivity Suite |
| Google Earth | Travel and Mapping |
| Google Maps | Travel and Mapping |
| MSN Encarta | Reference |
| Office Web Apps | Productivity Suite |
| Photoshop Express | Photo Editing |
| Picnik | Photo Editing |
| TaxACT Online | Tax Preparation |
| TurboTax Online | Tax Preparation |
| Windows Live Calendar | Personal Information Manager |
| Windows Live Hotmail | E-Mail |
| YouSendIt | File Transfer and E-Mail |

Web Applications

campus clothiers semiannual financial projection - Windows Internet Explorer

http://spreadsheets.google.com/ccc?key=0AmYUy_ZOyqXPcGdjS1BpWUzalktaE1DQU52UzM0UUE&hl=en&invite=CLyug4DxjbCg

campus clothiers semiannual financial projection

Google docs campus clothiers semiannual financial projection Private to me + 1 more Updated 6 days ago Saved Share

File Edit View Insert Format Form Tools Help

Formula: Show all formulas

| | A | B | C | D | E | F | G | H |
|----|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|------------------------|
| 1 | Campus Clothier | | | | | | | |
| 2 | Semiannual Projected Gross Margin, Expenses, and Operating Income | | | | | | | |
| 3 | | January | February | March | April | May | June | Total |
| 4 | Sales | \$3,383,909.82 | \$6,880,576.15 | \$9,742,702.37 | \$4,818,493.53 | \$4,566,722.63 | \$8,527,504.39 | \$37,919,908.89 |
| 5 | Cost of Goods Sold | 1,319,725 | 2,683,425 | 3,799,654 | 1,879,212 | 1,781,022 | 3,325,727 | 14,788,764 |
| 6 | Gross Margin | \$2,064,184.99 | \$4,197,151.45 | \$5,943,048.45 | \$2,939,281.05 | \$2,785,700.80 | \$5,201,777.68 | \$23,131,144.42 |
| 7 | | | | | | | | |
| 8 | Expenses | | | | | | | |
| 9 | Bonus | \$0.00 | \$100,000.00 | \$100,000.00 | \$100,000.00 | \$0.00 | \$100,000.00 | \$400,000.00 |
| 10 | Commission | 109,977 | 223,619 | 316,638 | 156,601 | 148,418 | 277,144 | 1,232,397 |
| 11 | Marketing | 304,552 | 619,252 | 876,843 | 433,664 | 411,005 | 767,475 | 3,412,792 |
| 12 | Research and Development | 194,575 | 395,633 | 560,205 | 277,063 | 262,587 | 490,332 | 2,180,395 |

Semiannual Financial Projection 3-D Pie Chart Sheet2 Sheet3

Application Software for Communications



Application Software for Communications

Application Software for Communications

Web Browser

- Allows users to access and view Web pages on the Internet
- Requires a Web browser program
 - Integrated in some operating systems
 - Available for download on the Web free or for a fee

E-Mail

- Messages and files sent via a network such as the Internet
- Requires an e-mail program
 - Integrated in many software suites and operating systems
 - Available free at portals on the Web
 - Included with paid Internet access service
 - Can be purchased separately from retailers

Instant Messaging

- Real-time exchange of messages, files, audio, and/or video with another online user
- Requires instant messenger software
 - Integrated in some operating systems
 - Available for download on the Web, usually at no cost
 - Included with some paid Internet access services

Chat Room

- Real-time, online typed conversation
- Requires chat client software
 - Integrated in some operating systems, e-mail programs, and Web browsers
 - Available for download on the Web, usually at no cost
 - Included with some paid Internet access services
 - Built into some Web sites

Text, Picture, Video Messaging

- Short text, picture, or video messages sent and received, mainly on mobile devices
- Requires text, picture, video messenger software
 - Integrated in most mobile devices
 - Available for download on the Web, usually at no cost, for personal computers

RSS Aggregator

- Keeps track of changes made to Web sites by checking RSS feeds
- Requires RSS aggregator program
 - Integrated in some e-mail programs and Web browsers
 - Available for download on the Web, usually at no cost

Blogging

- Time-stamped articles, or posts, in a diary or journal format, usually listed in reverse chronological order
- Blogger needs blog software, or blogware, to create/maintain blog
 - Some Web sites do not require installation of blog software

Newsgroup/Message Board

- Online area where users have written discussions
- Newsgroup may require a newsreader program
 - Integrated in some operating systems, e-mail programs, and Web browsers

FTP

- Method of uploading and downloading files with other computers on the Internet
- May require an FTP program
 - Integrated in some operating systems
 - Available for download on the Web for a small fee

VoIP (Internet Telephony)

- Allows users to speak to other users over the Internet
- Requires Internet connection, Internet telephone service, microphone or telephone, and Internet telephone software or telephone adapter

Video Conferencing

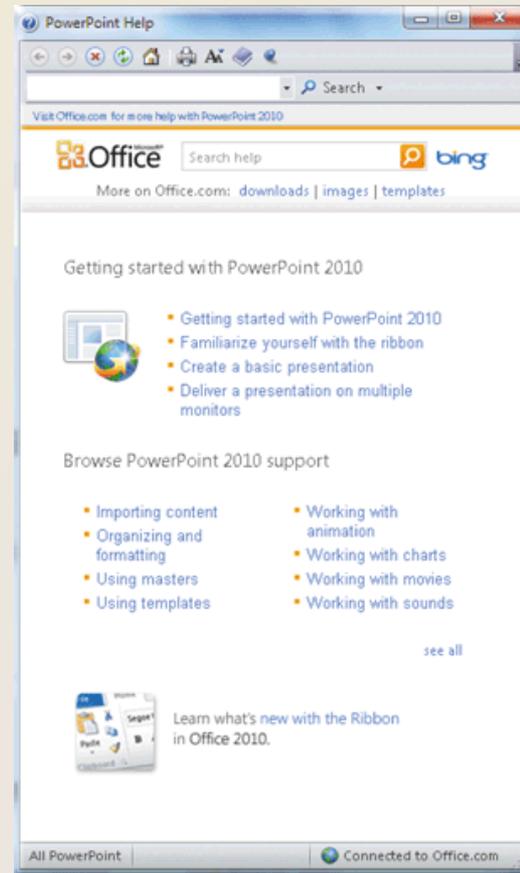
- Meeting between geographically separated people who use a network such as the Internet to transmit video/audio
- Requires video conferencing software, a microphone, speakers, and sometimes a video camera attached to your computer

Artificial Intelligence in Medicine

- **AI-Powered Medical Software** AI-based tools support diagnostics, treatment recommendations, and predictive analytics.
- **Examples: IBM Watson Health, Google DeepMind for eye disease detection.**
- **Benefits:**
 - Improves diagnostic accuracy.
 - Enhances patient care with personalized insights.

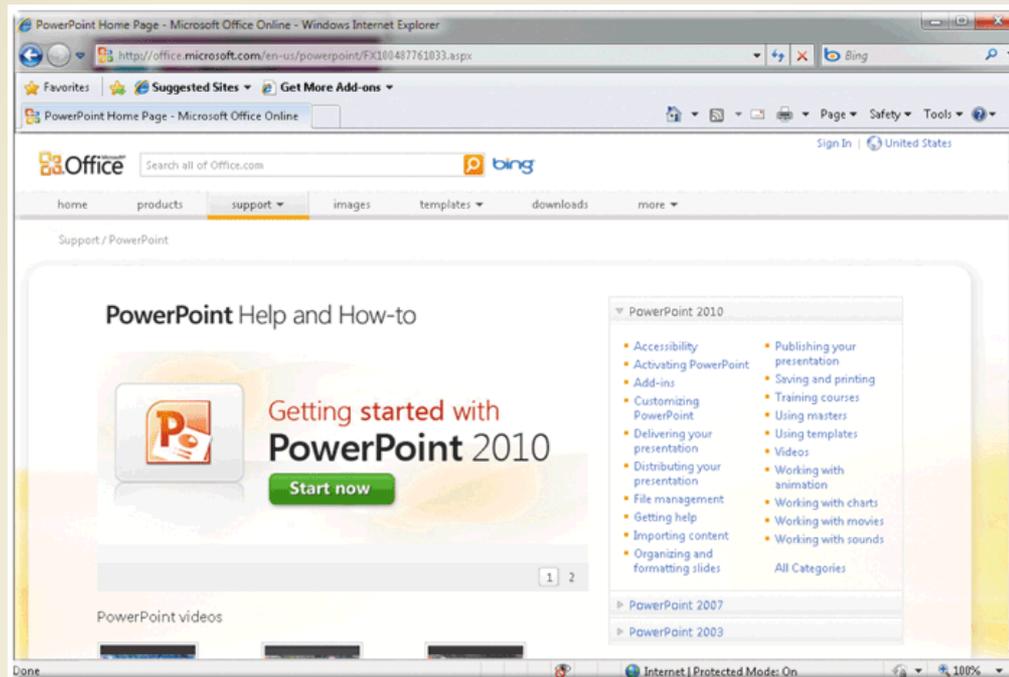
Learning Tools for Application Software

- **Online Help** is the electronic equivalent of a user manual
- You can ask a question or access the Help topics in subject or alphabetical order



Learning Tools for Application Software

- Web-based Help provides updates and more comprehensive resources to respond to technical issues about software



Learning Tools for Application Software

- **Web-based training** is a type of CBT that uses Internet technology and consists of application software on the Web
- **Distance learning (DL)** is the delivery of education at one location while the learning takes place at other locations



The screenshot shows a Moodle course page titled "Romeo and Juliet Sample Unit". The page is currently using guest access. The main content area displays a "Welcome to English 9!" message with a photograph of a building. Below this, there is a "General Information" section with a link to "Course Syllabus or Overview Goes HERE" and another link for "Welcome and instructions for Visitors". A table of contents is visible, listing "1 Introductory Discussions" with sub-items: "Primary Document for Parenting Advice Forum" and "Seventeenth Century 'Advice to Parents'". Below the table of contents are sections for "Assignments and Handouts". The left sidebar contains navigation menus for "Online Users", "Activities" (Assignments, Forums, Quizzes, Resources), and "Administration" (Enroll me in this course). The right sidebar includes a "Calendar" for September, an "Events Key", and "Credits" information stating the course was developed, taught, and donated by Lesli Smith, with a link to http://moodlerooms.com/.

Summary

How to launch and engage with application software

Overview of different types of business software, graphic and multimedia software, as well as software for home, personal, and educational use.

Communication-related web applications and software programs

Tools for learning application software and online training platforms.

THANK YOU 😊