



# 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

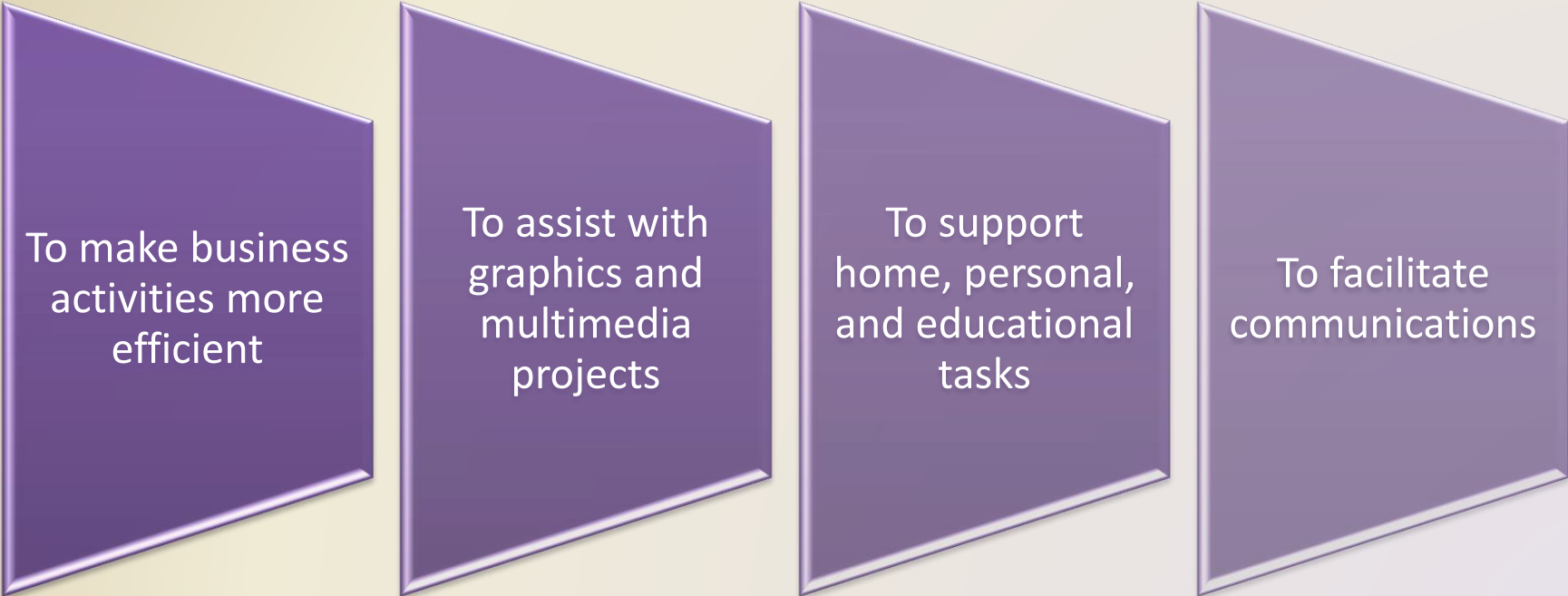
Explore the benefits of web applications and the methods for accessing them

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

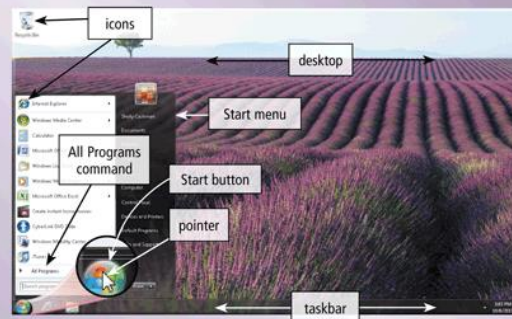


# Application Software

## One Way to Start and Interact with a Program from Windows

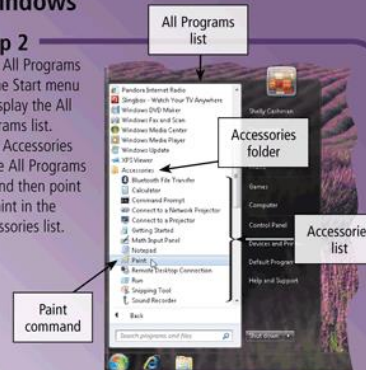
### Step 1

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.



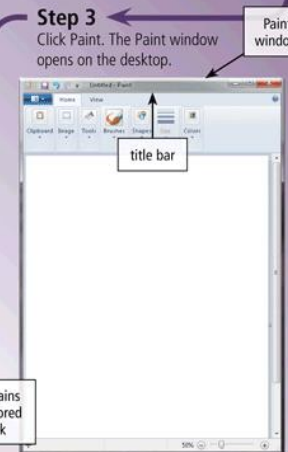
### Step 2

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.



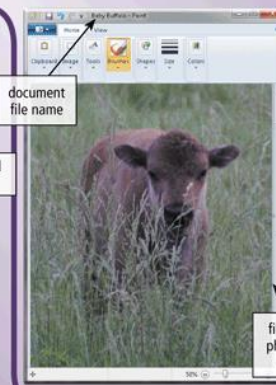
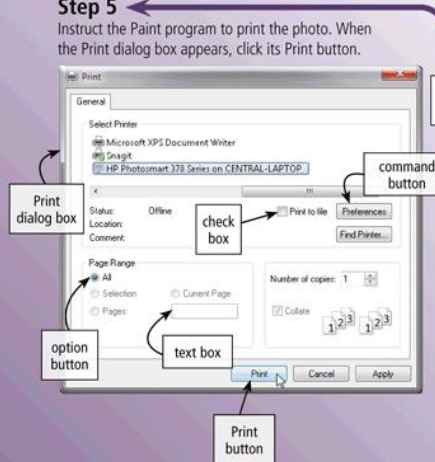
### Step 3

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





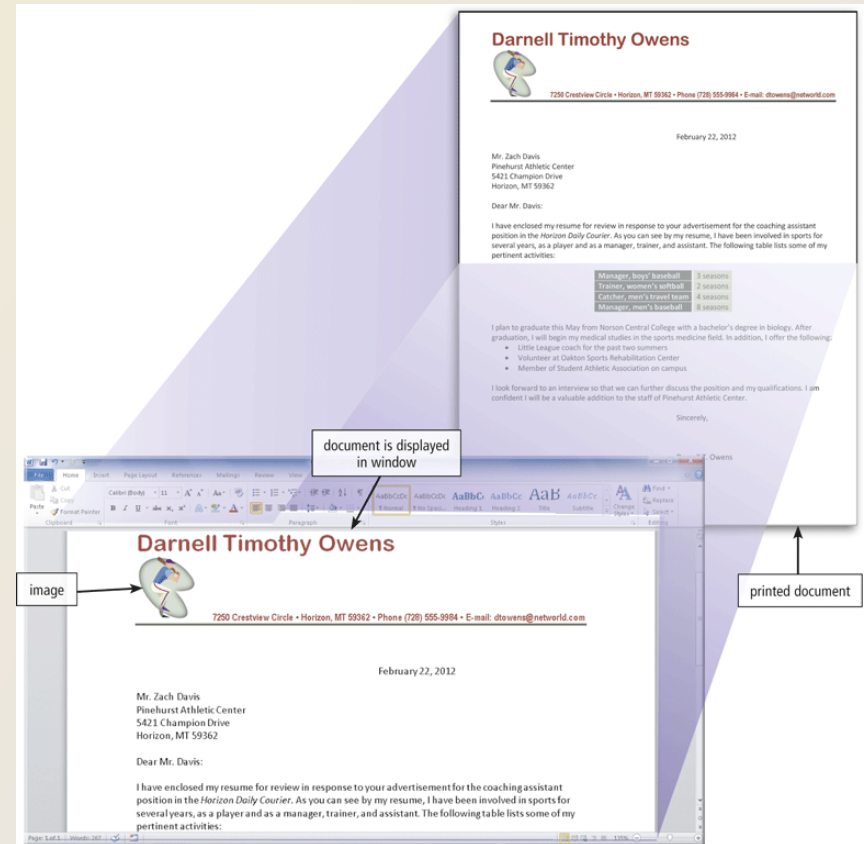
# Business Software

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



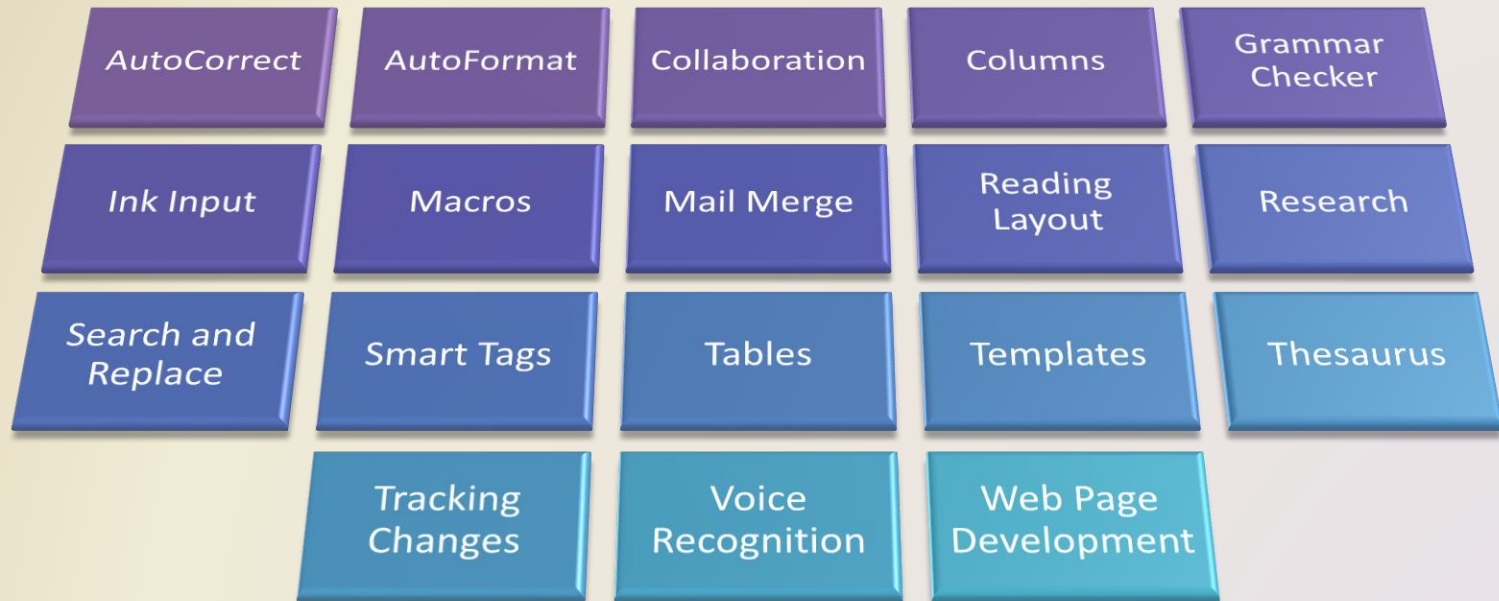
# Business Software

- **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

columns B, C, D, and E

function assigned to active cell

rows 3, 4, 5, and 6

cell B4

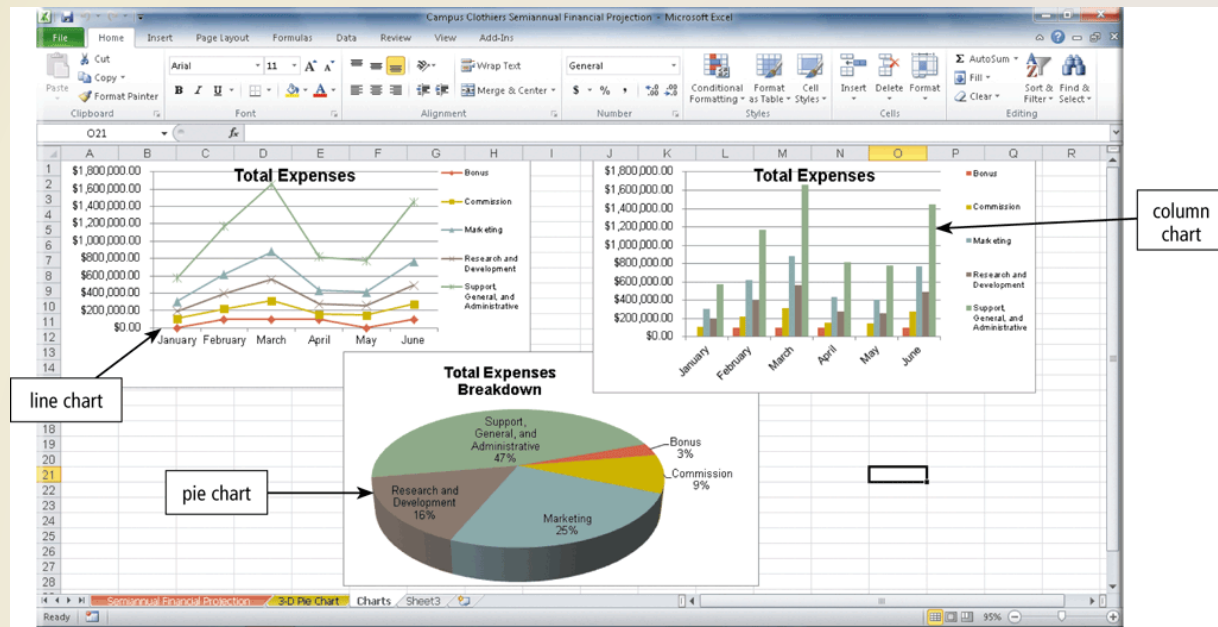
cell B14 is active

worksheet

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	223,618.72	316,637.13	156,601.04	148,418.49	277,143.89	1,232,397.04
Marketing	304,551.88	619,201.55	876,843.21	433,664.42	411,005.04	767,475.40	3,412,791.80
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

# 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

The screenshot shows the Microsoft Access interface for a database named 'InPerson Fitness : Database (Access 2007)'. The 'Table Tools' ribbon is active, showing the 'Fields' and 'Table' tabs. The 'Client' table is selected in the 'All Tables' pane on the left. The 'Client' table is displayed in Datasheet View with the following columns: Client Numl, Last Name, First Name, Address, Telephone Nur, Amount Paid, Balance, and Trainer Number. The 'Trainer' table is also visible in the 'All Tables' pane. Arrows indicate that the 'fields' label points to the column headers of the 'Client' table, and the 'records' label points to the rows of the 'Client' table. A label 'Client table' points to the 'Client' table in the 'All Tables' pane, and a label 'Trainer table' points to the 'Trainer' table in the 'All Tables' pane.

Client Numl	Last Name	First Name	Address	Telephone Nur	Amount Paid	Balance	Trainer Number
AB10	Alvarez	Francine	23 Robbins	555-4321	\$300.00	\$24.00	203
BR18	Breeton	Alex	345 Levick	555-6987	\$324.00	\$32.00	205
FE47	Ferber	Jane	68 Passmore	555-3412	\$420.00	\$36.00	207
GM50	Gammon	Fred	98 Magee	555-8789	\$560.00	\$50.00	205
HJ05	Heijer	Bill	314 Oakley	555-4365	\$240.00	\$48.00	203
KL10	Klinger	Cynthia	44 Rising Sun	555-4576	\$640.00	\$0.00	203
MA24	Manchester	Liz	67 Fanshawe	555-8787	\$348.00	\$40.00	207
PR30	Preston	Mike	75 Ullrich	555-4454	\$440.00	\$40.00	205
SA23	Santoro	Maria	134 Castor	555-9780	\$340.00	\$36.00	207
TR35	Trent	Jerry	167 Martin	555-7667	\$480.00	\$42.00	205

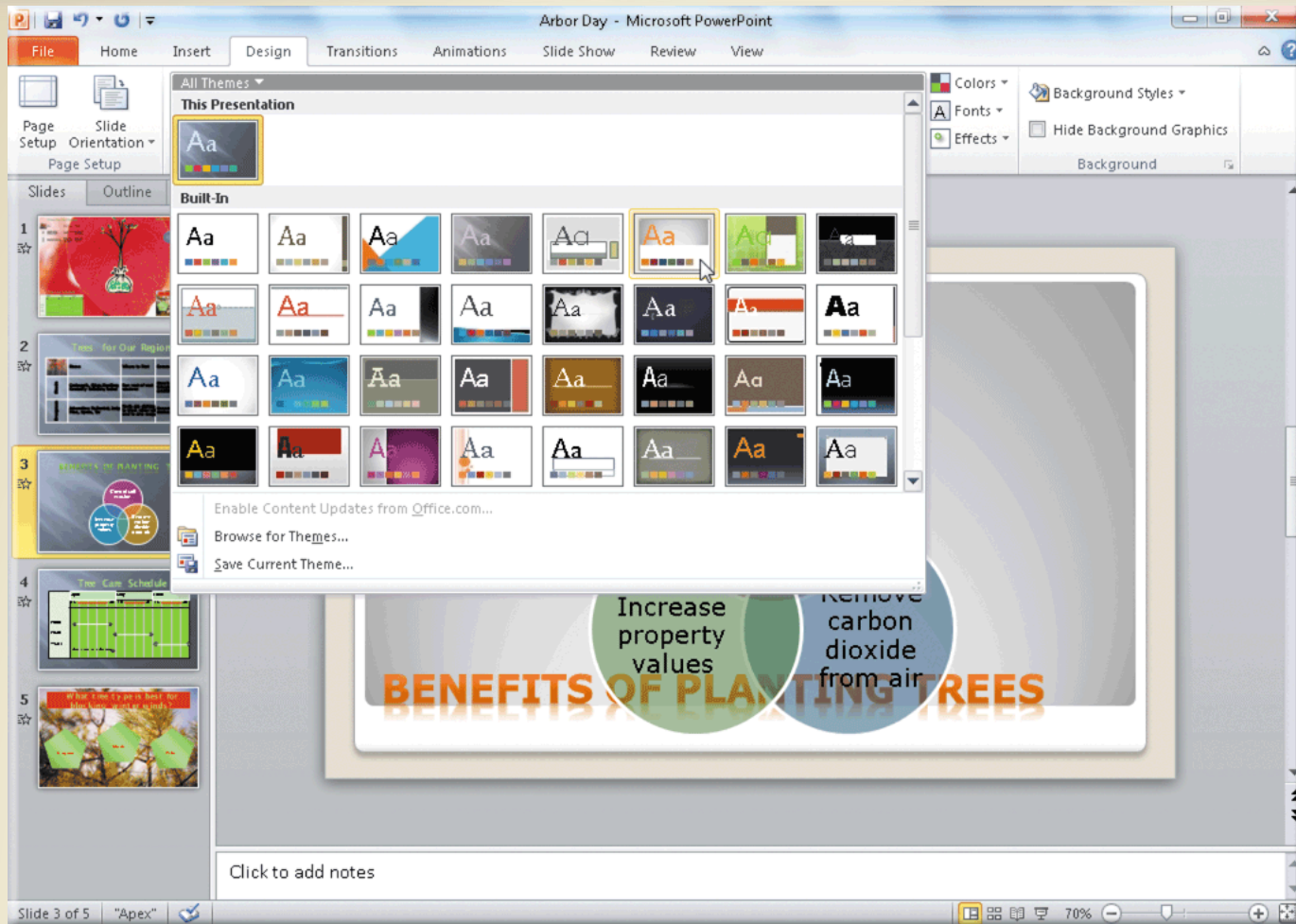
Trainer N	Last Ni	First Nan	Telephone Nu	Hourly Ra	Start Dat	Comment	Picture	Web Page
203	Kim	Rachel	555-0101	\$18.00	2 / 5 / 2005	Working toward a degree in physical therapy. Member of volunteer fire department.	Bitmap Image	<a href="http://www.site.com/ac03/trainer1.m">http://www.site.com/ac03/trainer1.m</a>
205	Martinez	Alex	555-1243	\$18.50	3 / 14 / 2004	Has a degree in Recreation Management. Runs marathons.	Bitmap Image	<a href="http://www.site.com/ac03/trainer3.m">http://www.site.com/ac03/trainer3.m</a>
207	Pretsch	Pat	555-2662	\$18.00	6 / 2 / 2005	Coaches high school tennis.	Bitmap Image	<a href="http://www.site.com/ac03/trainer4.m">http://www.site.com/ac03/trainer4.m</a>

# 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

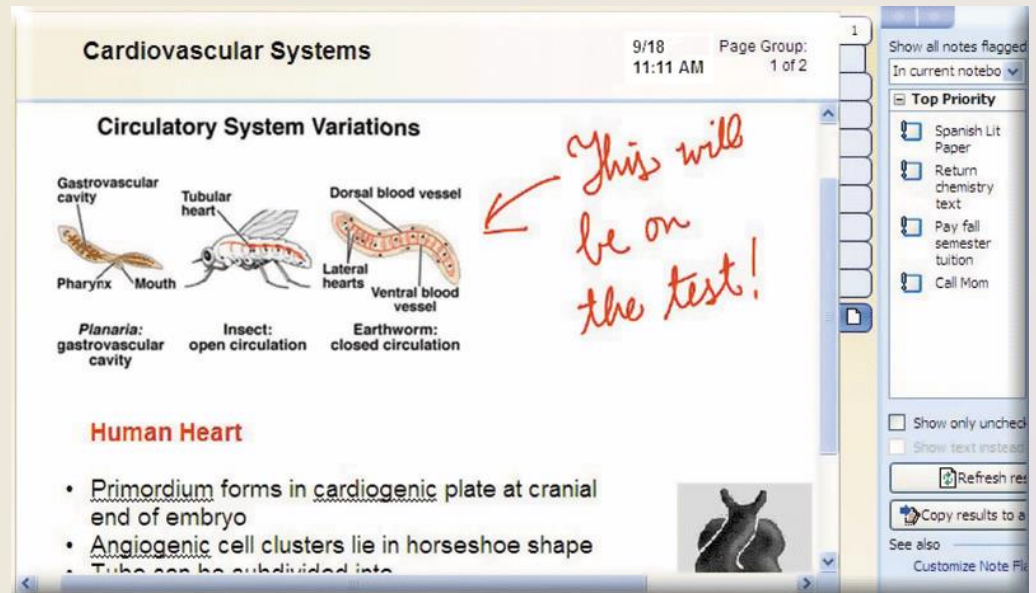


# Business Software



# 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.



# 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

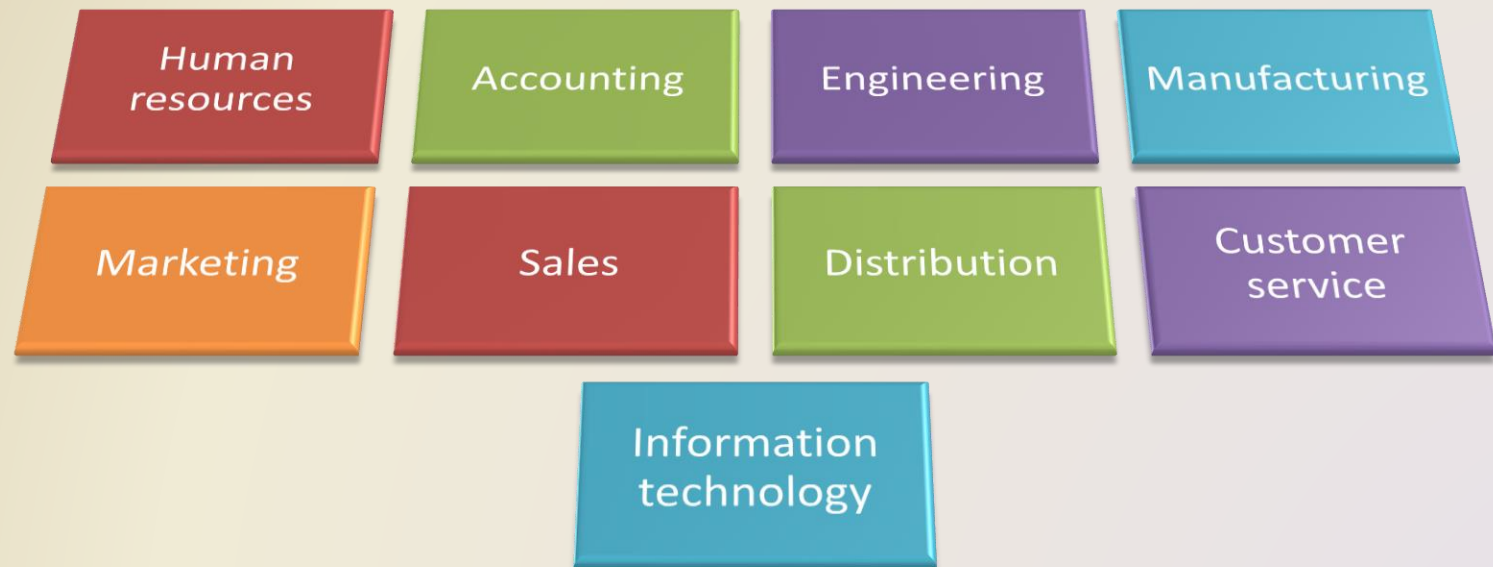


**Document management software** provides a means for sharing, distributing, and searching through documents by converting them into a format that can be viewed by any user



# 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
Multimedia Authoring	Sony	ACID Pro
	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	Video and Audio Editing (for Personal Use)	Corel	VideoStudio
	Nolo	Quicken Legal Business Quicken WillMaker		Microsoft	Windows Live Movie Maker
Tax Preparation	2nd Story Software	TaxACT		Pinnacle Systems	Studio
	H&R Block	TaxCut		Roxio	Buzz
	Intuit	TurboTax	Home Design/Landscaping	Broderbund	Instant Architect
Desktop Publishing (for Personal Use)	Broderbund	The Print Shop PrintMaster		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		Google	Earth Maps
	Corel	Paint Shop Pro Photo Ulead PhotoImpact MediaOne Plus	Reference	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\_ZOyqXPcGdjS1BpWUxzalktaE1DQU52UzM0UUE&hl=en&invite=CLyug4DxbCg

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	<b>Campus Clothier</b>							
2	<b>Semiannual Projected Gross Margin, Expenses, and Operating Income</b>							
3								
		January	February	March	April	May	June	Total
4	<b>Sales</b>	\$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	<b>Cost of Goods Sold</b>	1,319,725	2,683,425	3,799,654	1,879,212	1,781,022	3,325,727	14,788,764
6	<b>Gross Margin</b>	<b>\$2,064,184.99</b>	<b>\$4,197,151.45</b>	<b>\$5,943,048.45</b>	<b>\$2,939,281.05</b>	<b>\$2,785,700.80</b>	<b>\$5,201,777.68</b>	<b>\$23,131,144.42</b>
7								
8	<b>Expenses</b>							
9	<b>Bonus</b>	\$0.00	\$100,000.00	\$100,000.00	\$100,000.00	\$0.00	\$100,000.00	\$400,000.00
10	<b>Commission</b>	109,977	223,619	316,638	156,601	148,418	277,144	1,232,397
11	<b>Marketing</b>	304,552	619,252	876,843	433,664	411,005	767,475	3,412,792
12	<b>Research and Development</b>	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

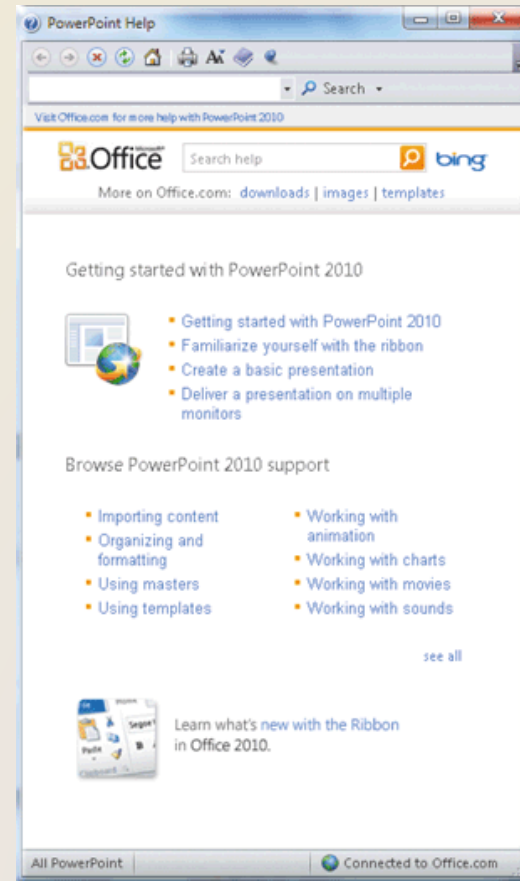
# Artificial Intelligence in Medicine

- **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.



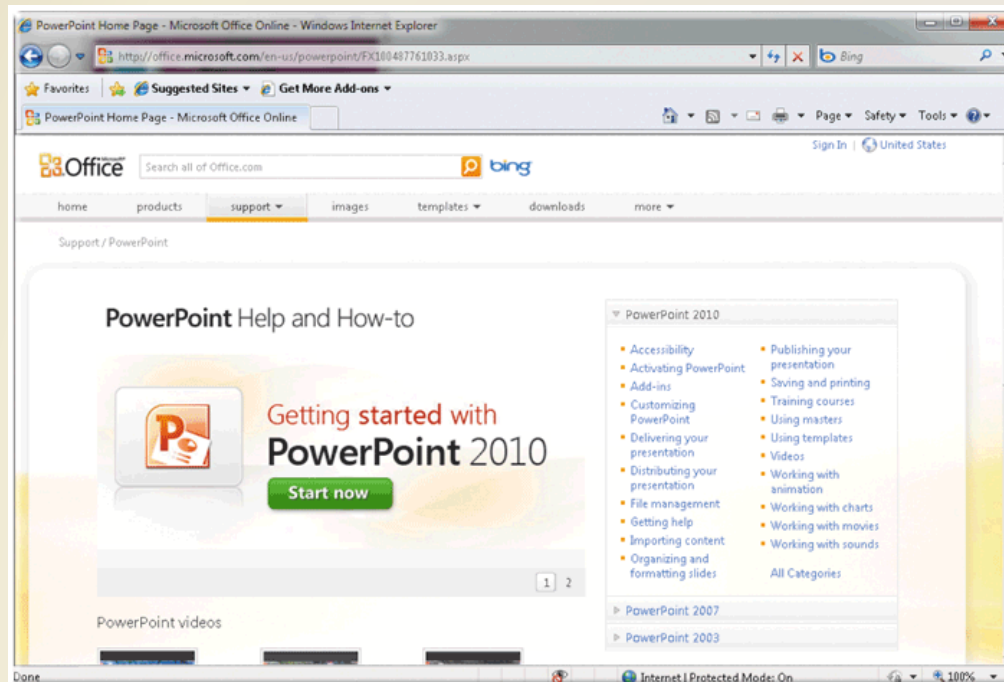
# Learning Tools for Application Software

- **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



# 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 😊**