

# Basic Application Software

## Chapter 3



# Learning Outcomes

- Identify general-purpose applications
- Describe word processors, spreadsheets, presentation programs, and database management systems.
- Identify specialized applications.
- Describe graphics programs, web authoring programs, and other specialized professional applications.
- Describe mobile apps and app stores.
- Identify software suites.
- Describe office suites, cloud suites, specialized suites, and utility suites.



# Introduction

- Not long ago, trained specialists were required to perform many of the operations you can now do with a personal computer.
- Competent end users need to understand the capabilities of basic application software including:
  - Word processors
  - Spreadsheets
  - Presentation programs
  - Database management systems

Copyright © McGraw-Hill Education. Permission required for reproduction or display.



© Hill Street Studios/Blend Images LLC RF



# Application Software

- Application software
  - End user software
  - Accomplish a variety of tasks
- Three categories
  1. General Purpose Applications
  2. Specialized Applications
  3. Mobile Apps

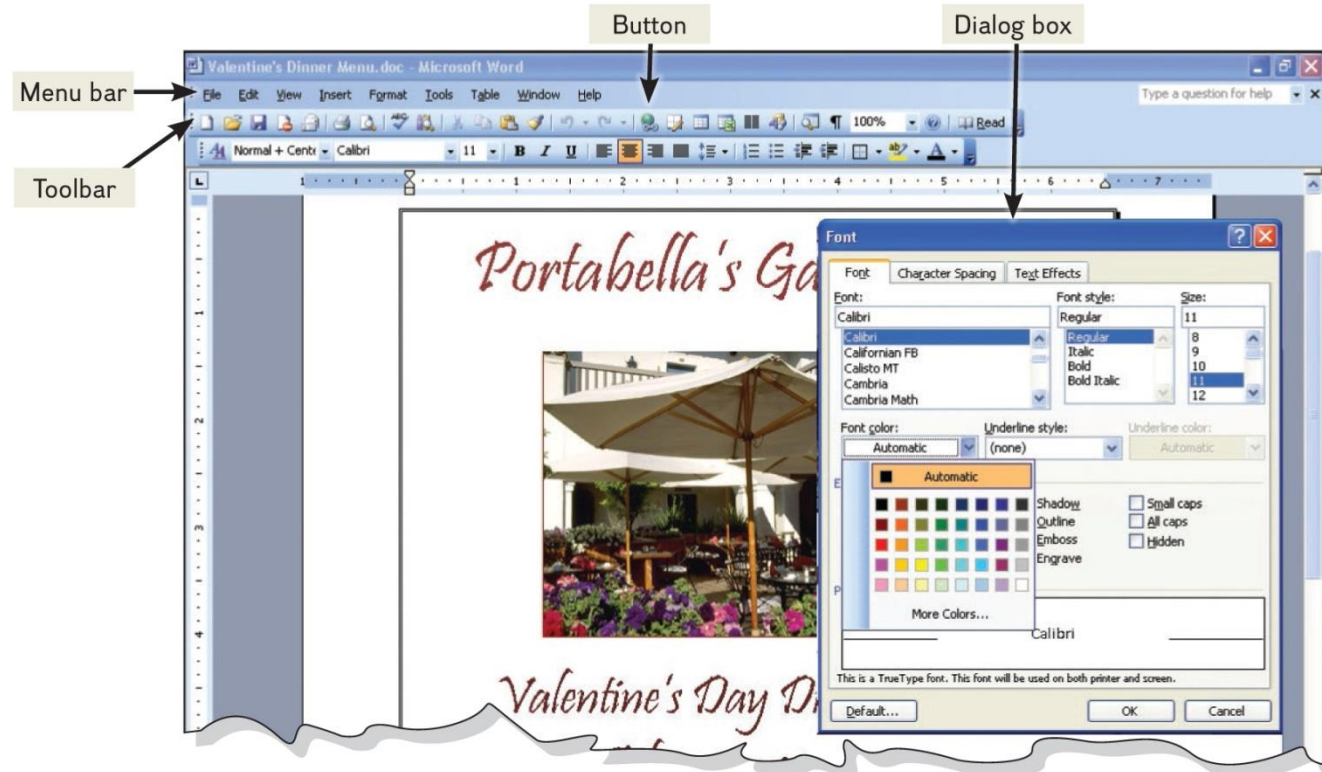


# User Interface

- Graphical User Interface (GUI) consists of:

- Icons
- Pointer
- Windows
- Menus
- Toolbars
  - Buttons
- Dialog Boxes

Copyright © McGraw-Hill Education. Permission required for reproduction or display.



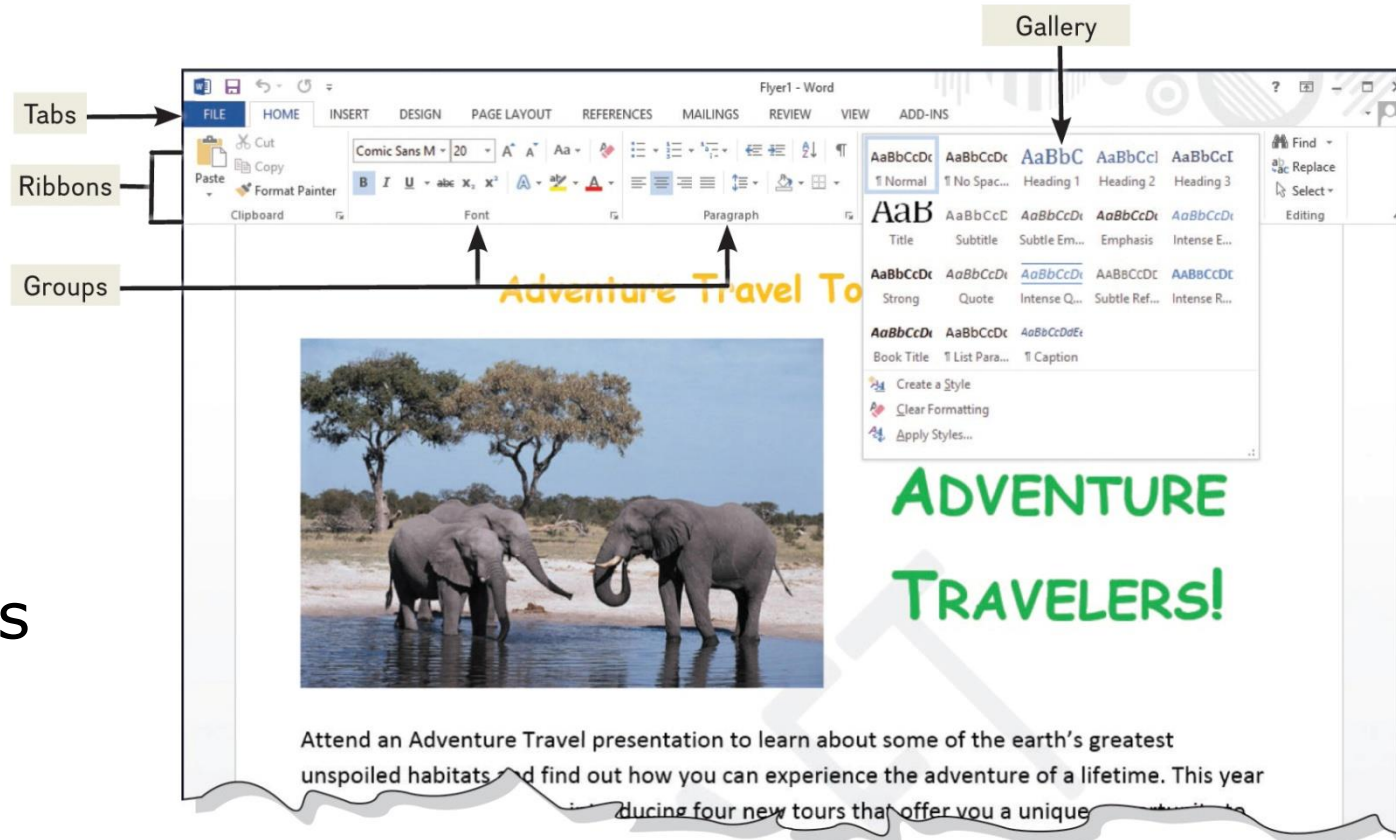
Microsoft product screen shot(s) reprinted with permission from Microsoft Corporation



# Common Features in Microsoft

- Ribbon GUI
  - Ribbons
  - Tabs
    - Groups
    - Contextual tabs
  - Galleries
- Spell checkers
- Alignment
- Font and Font Sizes
- Tables
- Reports

Copyright © McGraw-Hill Education. Permission required for reproduction or display.



Microsoft product screen shot(s) reprinted with permission from Microsoft Corporation



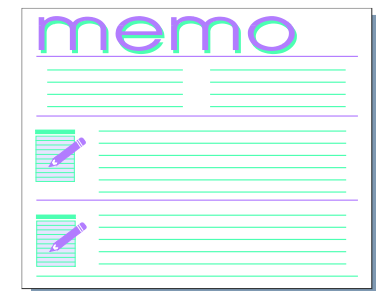
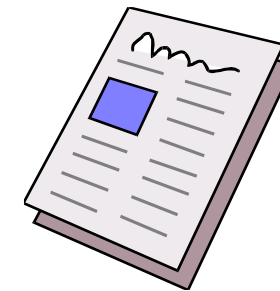
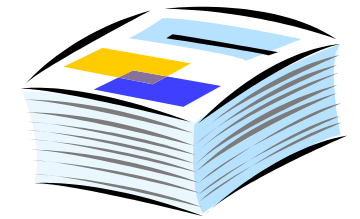
# General Purpose Applications

- General purpose applications include:
  - Word processor programs
  - Spreadsheet programs
  - Presentation graphics programs
  - Database management systems

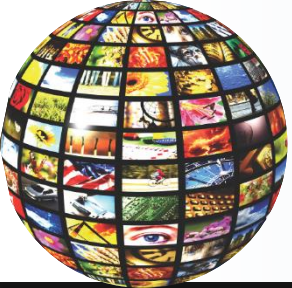


# Word Processor Programs

- Create text-based documents
  - Memos, letters, and faxes
  - Newsletters, manuals, and brochures
- Word processing programs
  - Microsoft Word
    - Most popular
  - Apple Pages
  - Google Docs
  - Corel WordPerfect
  - OpenOffice Writer







# Creating a Flyer

- Flyer Features
  - Spell Checker
  - Center-alignment
  - Grammar Checker
  - Fonts
  - Font Sizes
  - Word Wrap
  - Character Effects

Copyright © McGraw-Hill Education. Permission required for reproduction or display.

#### Spelling Checker

Correcting spelling and typing errors identified by the **spelling checker** creates an error-free and professional-looking document.

#### Center-Aligning

Center-aligning all of the text in the flyer creates a comfortable, balanced appearance.

#### Grammar Checker

Incomplete sentences, awkward wording, and incorrect punctuation are identified and corrections are offered by the **grammar checker**.

Adventure Travel Tours  
New Adventures



Attention adventure travelers! Attend an Adventure presentation to learn about some of the earth's greatest unspoiled habitats and find out how you can experience the adventure of a lifetime. This year we are offering four new tours:

- India Wildlife Adventure
- Inca Trail to Machu Picchu
- Safari in Tanzania
- Costa Rica Rivers and Rainforests

Call Student Name at 1-800-555-0004 for presentation locations, full color brochures, itinerary information, costs, and trip dates.

#### Fonts and Font Size

Using interesting fonts and a large font size in the flyer's title grabs the reader's attention.

#### Character Effects

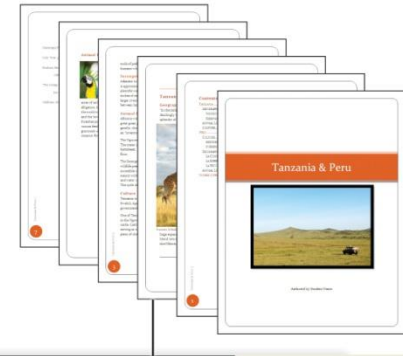
Adding character effects such as bold and color makes important information stand out and makes the flyer more visually interesting.



# Creating a Report

- Report Features
  - AutoCorrect
  - Footnote
  - Header or Footer
  - Captions and Cross References
  - Tables

Copyright © McGraw-Hill Education. Permission required for reproduction or display.



**Captions**  
Identifying figures with captions in a report makes the report easier to read and more professional.

## Tanzania

### Geography and Climate

"In the midst of a great wilderness, full of wild beasts, I fancied I saw a summit covered with a dazzling white cloud (qdu in Cole 96). This is how Johann Krapf, the first outsider to witness the splendor of Africa's highest mountain, described Kilimanjaro. The peak was real, though the white clouds he "fancied" he saw were the dense layer of snow that coats the mountain."



FIGURE 1 GIRAFFE IN SERENGETI

Tanzania is primarily a plateau that slopes gently downward into the country's five hundred miles of Indian Ocean coastline. Nearly three-quarters of Tanzania is dry savannah, so much so that the Swahili word for the central plateau is *nyika*, meaning "wasteland." Winding through these flatlands is the Great Rift Valley, which forms narrow and shallow lakes in its long path. Several of these great lakes form a belt-like oasis of green vegetation. Contrasting with the severity of the plains are the coastal areas, which are lush with ample rainfall. In the north the plateau slopes dramatically into Mt. Kilimanjaro.

### Ngorongoro Conservation Area

Some of Tanzania's most distinguishing geographical features are found in the Ngorongoro Conservation Area. The park is composed of many craters and gorges, as well as lakes, forest, and plains. Among these features is the area's namesake, the Ngorongoro Crater. The Crater is a huge expanse, covering more than one hundred square miles. On the Crater's floor, grasslands blend into swamps, lakes, rivers, and woodlands. Also within the Conservation Area's perimeter is the Olduvai Gorge, commonly referred to as the "Cradle of Mankind," where in 1931 the stone

**AutoCorrect**  
As you enter text, you occasionally forget to capitalize the first word in a sentence. Fortunately, AutoCorrect recognizes the error and automatically capitalizes the word.

**Header or Footer**  
Page numbers and other document-related information can be included in a header or footer.

**Footnote**  
To include a note about Mt. Kilimanjaro, you use the footnote feature. This feature inserts the footnote superscript number and automatically formats the bottom of the page to contain the footnote text.

<sup>1</sup>Mt. Kilimanjaro is 19,340 feet high, making it the fourth tallest mountain in the world.  
<sup>2</sup>The Conservation Area is a national preserve spanning 3,196 square miles.



# Spreadsheet Programs

- Organize, analyze, and graph numeric data
- Spreadsheet programs
  - Microsoft Excel
    - Most widely used
  - Apple Numbers
  - OpenOffice Calc
  - Corel Quattro Pro
  - Google Sheets



# Creating a Sales Forecast

- Features
  - Worksheets
  - Text entries
  - Functions
  - Cells
  - Formulas

Copyright © McGraw-Hill Education. Permission required for reproduction or display.

## Worksheets

Worksheets are used for a wide range of different applications. One of the most common uses is to create, analyze, and forecast budgets.

## Text Entries

**Text entries** provide meaning to the values in the worksheet. The rows are labeled to identify the various sales and expense items. The columns are labeled to specify the months.

## Functions

**Functions** are prewritten formulas. In this case, cell C22 (Total Expenses for February) contains the function `SUM(C14:C21)` rather than the formula `= C14 + C15 + C16 + C17 + C18 + C19 + C20 + C21`.

## Cells

**Cells** can contain labels, numbers, formulas, and functions. A cell's content is indicated by the row and column labels. For example, cell D16 contains a number for the Payroll expense expected for March.

## Formulas

**Formulas** provide a way to perform calculations in the worksheet. In this case, cell C24 contains the formula `= C12 (Total Sales for February) - C22 (Total Expenses for February)` and displays the result of the calculation for the Net Income for February.

	JAN	FEB	MAR	TOTAL	AVG
<b>Sales</b>					
Espresso	\$ 13,300	\$ 13,600	\$ 14,200	\$ 41,100	\$ 13,700
Drip Coffee	\$ 5,800	\$ 6,000	\$ 6,200	\$ 18,000	\$ 6,000
Food/Beverage	\$ 3,600	\$ 3,800	\$ 3,800	\$ 11,200	
Merchandise	\$ 1,000	\$ 1,100	\$ 1,100	\$ 3,200	
Computer	\$ 400	\$ 400	\$ 400	\$ 1,200	
<b>Total Sales</b>	\$ 24,100	\$ 24,900	\$ 25,700	\$ 74,700	
<b>Expenses</b>					
Cost of Goods	\$ 7,225	\$ 7,480	\$ 7,690	\$ 22,395	
Cost of Merchandise	\$ 700	\$ 770	\$ 770	\$ 2,240	
Payroll	\$ 9,000	\$ 9,000	\$ 9,000	\$ 27,000	\$ 9,000
Internet	\$ 325	\$ 325	\$ 325	\$ 975	\$ 325
Building	\$ 2,100	\$ 2,100	\$ 2,100	\$ 6,300	\$ 2,100
Advertising	\$ 600	\$ 600	\$ 600	\$ 1,800	\$ 600
Capital Assets	\$ 1,500	\$ 1,500	\$ 1,500	\$ 4,500	\$ 1,500
Miscellaneous	\$ 1,300	\$ 1,300	\$ 1,300	\$ 3,900	\$ 1,300
<b>Total Expenses</b>	\$ 22,750	\$ 23,075	\$ 23,285	\$ 69,110	\$ 23,037
<b>Income</b>					
<b>Net Income</b>	\$ 1,350	\$ 1,825	\$ 2,415	\$ 5,590	\$ 1,863
<b>Profit Margin</b>	5.60%	7.33%	9.40%	7.48%	7.48%
<b>Income Year-To-Date</b>				\$ 5,590	

Microsoft product screen shot(s) reprinted with permission from Microsoft Corporation



# Analyzing Your Data

- Analysis Features
  - Workbook and worksheets
  - What-if Analysis

Copyright © McGraw-Hill Education. Permission required for reproduction or display.

## Workbook

The first worksheet in a **workbook** is often a summary of the following worksheets. In this case, the first worksheet presents the entire year's forecast. The subsequent worksheets provide the details.

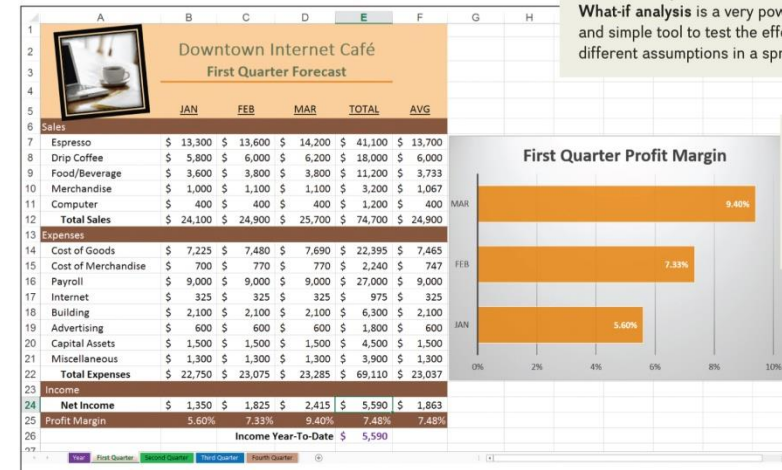
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
<b>Sales</b>									
Espresso	\$13,300	\$13,600	\$14,200	\$14,400	\$15,200	\$15,500	\$15,200	\$15,300	\$15,800
Drip Coffee	\$5,800	\$6,000	\$6,200	\$6,200	\$6,200	\$6,200	\$6,000	\$6,000	\$6,500
Food/Beverage	\$3,600	\$3,800	\$3,800	\$3,600	\$3,800	\$3,800	\$4,000	\$4,000	\$4,000
Merchandise	\$1,000	\$1,100	\$1,100	\$1,500	\$1,500	\$1,500	\$2,000	\$2,000	\$2,000
Computer	\$400	\$400	\$400	\$600	\$600	\$800	\$800	\$800	\$600
<b>Total Sales</b>	<b>\$24,100</b>	<b>\$24,900</b>	<b>\$25,700</b>	<b>\$26,300</b>	<b>\$27,300</b>	<b>\$27,800</b>	<b>\$28,000</b>	<b>\$28,100</b>	<b>\$28,900</b>
<b>Expenses</b>									
Cost of Goods	\$7,225	\$7,480	\$7,690	\$7,620	\$7,940	\$8,015	\$8,000	\$8,025	\$8,300
Cost of Merchandise	\$700	\$770	\$770	\$1,050	\$1,050	\$1,400	\$1,400	\$1,400	\$1,400
Payroll	\$9,000	\$9,000	\$9,000	\$7,860	\$8,390	\$8,740	\$9,000	\$9,000	\$9,000
Internet	\$325	\$325	\$325	\$325	\$325	\$325	\$325	\$325	\$325
Building	\$2,100	\$2,100	\$2,100	\$2,100	\$2,100	\$2,100	\$2,100	\$2,100	\$2,100
Advertising	\$600	\$600	\$600	\$600	\$600	\$600	\$600	\$600	\$600
Capital Assets	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500	\$1,500
Miscellaneous	\$1,300	\$1,300	\$1,300	\$1,300	\$1,300	\$1,300	\$1,300	\$1,300	\$1,300
<b>Total Expenses</b>	<b>\$22,750</b>	<b>\$23,075</b>	<b>\$23,285</b>	<b>\$22,355</b>	<b>\$23,205</b>	<b>\$23,630</b>	<b>\$24,215</b>	<b>\$24,250</b>	<b>\$24,525</b>
<b>Income</b>									
<b>Net Income</b>	<b>\$1,350</b>	<b>\$1,825</b>	<b>\$2,415</b>	<b>\$3,945</b>	<b>\$4,095</b>	<b>\$4,170</b>	<b>\$3,775</b>	<b>\$3,850</b>	<b>\$4,375</b>
<b>Profit Margin</b>	<b>5.60%</b>	<b>7.33%</b>	<b>9.40%</b>	<b>15.00%</b>	<b>15.00%</b>	<b>15.00%</b>	<b>13.48%</b>	<b>13.70%</b>	<b>15.14%</b>
<b>Income Year-To-Date</b>				\$ 5,590		\$ 17,800		\$ 25,800	
<b>Quarter Profit Margin</b>				7.48%		15.00%		14.12%	

## Sheet Name

Each worksheet has a unique **sheet name**. To make the workbook easy to navigate, it is a good practice to always use simple yet descriptive names for each worksheet.

## What-if Analysis

What-if analysis is a very powerful and simple tool to test the effects of different assumptions in a spreadsheet.



## Chart

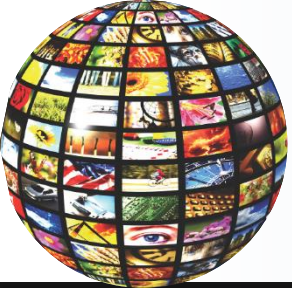
Once data is in the worksheet, it is very easy to **chart** the data. All you need to do is to select the data to chart, select the chart type, and add some descriptive text.

Microsoft product screen shot(s) reprinted with permission from Microsoft Corporation



# Presentation Graphics Programs

- Combine a variety of visual objects to create visually interesting presentations
- Presentation programs
  - Microsoft PowerPoint
  - OpenOffice Impress
  - Apple Keynote
  - Google Slides
  - Corel Presentations



# Creating a Presentation

- Presentation Features
  - Document Theme
  - Animation
  - Templates

Copyright © McGraw-Hill Education. Permission required for reproduction or display.

## Document Theme

To make your presentation more professional and eye-catching, you select a **document theme**, built-in sets of colors, fonts, and effects that can be quickly applied to your entire presentation.

## How Does the Foundation Help?

- ▶ Provides temporary homes
- ▶ Provides obedience training
- ▶ Provides veterinary care
- ▶ Finds loving permanent homes

## Templates

**Templates** provide an excellent way to quickly create a presentation by providing predesigned styles and layouts as well as suggested content based on the type of template you select.

## Who Are Animal Angels?

- ▶ Believe unwanted animals deserve a home
- ▶ Believe you can teach an old dog new tricks
- ▶ Believe you can retrain animals to be lovable

## Animation

To provide additional emphasis to items or show the information on a slide in phases, you add **animation** to text and objects. Finally, you use **slide transition** effects to animate the transition from one slide to the next.



## Join Animal Angels

Animal Rescue Foundation

Volunteer Coordinator

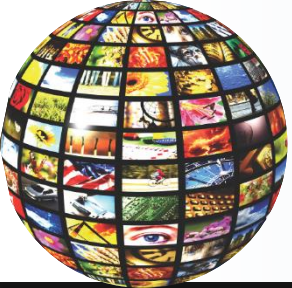
Microsoft product screen shot(s) reprinted with permission from Microsoft Corporation



# Database Management Systems (DBMS)

- A collection of related data
- Electronic equivalent of a file cabinet
- Two most widely used systems
  - Microsoft Access
  - OpenOffice Base
  - Apple FileMaker
  - Google Obvibase





# Creating a Database

- First steps is to plan
- Database Features
  - Primary Key
  - Fields
  - Record
  - Table
  - Form

Copyright © McGraw-Hill Education. Permission required for reproduction or display.

### Primary Key

The **primary key** is the unique employee identification number. You considered using the last name field as the primary key but realized that more than one employee could have the same last name. Primary keys are often used to link tables.

### Fields

**Fields** are given field names that are displayed at the top of each table. You select the field names to describe their contents.

### Table

**Tables** make up the basic structure of a relational database with columns containing field data and rows containing record information. This table records basic information about each employee, including name, address, and telephone number.

Employee ID	Last Name	First Name	Address	City	State	ZIP Code	Home Phone	Gender	Birth Date	Photo/Resume
12655	Lahti	Jill	5401 E. Thomas Rd.	Landis	CA	92120-3741	(507) 555-4765	F	6/14/1980	
12920	Larson	Alicia	345 W. Mill Ave.	Maldin	CA	92121-3740	(941) 555-4717	F	6/21/1993	
13416	Lembi	Damon	4389 S. Rita Ln.	Landis	CA	92120-3741	(941) 555-4747	M	9/12/1982	
11747	Lettow	Ryan	358 Maple Dr.	Maldin	CA	92121-3740	(507) 555-2805	M	11/15/1991	
22885	Lindaa	Kristina	1942 E. Watson	Landis	CA	92120-3741	(941) 555-4363	F	2/24/1980	
01406	Lopez	Mina	4290 E. Alameda Dr.	Maldin	CA	92121-3740	(507) 555-4050	F	2/25/1985	
04731	Marchant	Roberta	564 Palm Avenue	Landis	CA	92120-3741	(507) 555-4990	F	5/18/1990	
13543	Martinez	Julie	1920 First Ave.	Maldin	CA	92121-3740	(941) 555-1044	F	12/10/1992	
13635	Martinez	Juan	7315 E Roosevelt Dr.	Maldin	CA	92121-3740	(507) 555-2935	M	12/10/1992	
22407	Mazeau									
05225	Morgar									
99999	Name									
00617	Nichols									
00907	Pennin									
12194	Polonsi									
12247	Rath									
12594	Reddie									
12230	Reddie									
13405	Reilly									
12612	Richard									
06000	Robertson	Kirk	832 S. William Ave.	Maldin	CA	92121	(507) 555-3730	M	4/5/1982	
22297	Rogondino	Patricia	7583 Turquoise	Chesterfield	CA	92122-1268	(941) 555-4539	F	8/30/1980	
07287	Roman	Anita	2348 S. Bala Dr.	Maldin	CA	92121-3740	(507) 555-4870	F	3/15/1990	
12918	Ruiz	Carlos	0101 First St.	Maldin	CA	92121-3740	(507) 555-0125	M	7/27/1987	
08391	Ruiz	Enrique	35 Palm St.	Chesterfield	CA	92122-1268	(507) 555-0091	M	12/10/1982	
04321	Sabin	Greg	90 E. Ravinhide Ave.	Chesterfield	CA	92122	(507) 555-4655	M	9/30/1987	
00212	Schiff	Chad	235 N. Cactus Dr.							
22114	Schneider	Paul	1711 Jackson Ave.							
01421	Spehr	Timothy	90 Royal Dr.							
12366	Stacey	David	737 S. College Rd.							
13497	Steele	Jeff	1011 E. Holly Ln.							
12668	Stueland	Valerie	34 University Dr.							
12583	Sullivan	Marie	78 Omega Drive							
12867										
05890										
22304										

**Record**  
Each record contains information about one employee. A record often includes a combination of numeric, text, and object data types.

**Form**  
Like printed paper forms, electronic forms should be designed to be easy to read and use. This form makes it easy to enter and view all employees' data, including their photographs.

### Employee Records

Employee ID:

Last Name:  Photo/Resume:

First Name:

Address:

City:

State:

ZIP Code:

Home Phone:

Gender:

Birth Date:

Microsoft product screen shot(s) reprinted with permission from Microsoft Corporation



# Specialized Applications

- Programs that more narrowly focused on specific disciplines and occupations
- Includes:
  - Graphics Programs
  - Web Authoring Programs



# Graphics Programs

- Widely used in graphic arts
- Types of graphics programs are:
  - Desktop Publishing Programs
  - Image Editing Programs
  - Illustration Programs
  - Image Galleries



# Desktop Publishing Programs

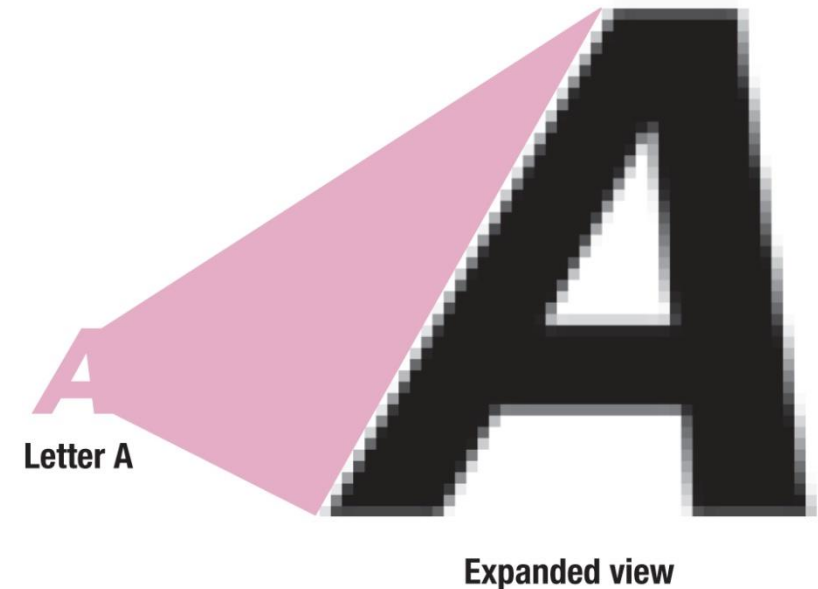
- Also known as Page Layout Programs
- Mix text and graphics to create brochures, newsletters, newspapers and textbooks
- Popular programs:
  - Adobe InDesign
  - Microsoft Publisher
  - QuarkXPress



# Image Editors

- Also known as Photo Editors
- Editing or modifying digital photographs
- Photographs consist of thousands of pixels that form images known as bitmaps
- Popular image editors
  - Adobe Photoshop
  - Corel PaintShop Pro
  - GIMP (GNU Manipulation Program)
  - Windows Live Photo Gallery

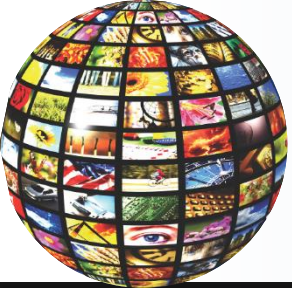
Copyright © McGraw-Hill Education. Permission required for reproduction or display.





# Illustration Programs

- Drawing programs
- Create and edit vector images
  - Vector illustrations
- Geometric shapes or objects
- Created by connecting lines and curves
- Defined by mathematical equations
- Popular Illustration Programs
  - Adobe Illustrator
  - CorelDraw
  - Inkscape



# Video Editors

- Edit videos to enhance quality and appearance
  - Can now use your smartphone to edit videos
- Well-known programs
  - Windows Live Movie Maker
  - Apple iMovie
  - YouTube Video Editor



Screenshot credit to come



# Video Game Design Software

- Video Game Design Software helps
  - Organize thoughts
  - Guide user through game design process
    - Character development
    - Environmental design
  - Free / inexpensive video game design software
    - YoYo GameMaker
    - Stencyl
    - Unity



Screenshot of the Unity editor, courtesy of Unity Technologies





# Web Authoring Programs

- Web authoring is the creation of a site
  - Design
  - Document file displaying website's content
- Blog
  - Online diary/commentaries
- Web Authoring Programs
  - Typically used to create commercial sites
  - Web page editors or HTML editors
  - WYSIWYG (what you see is what you get)
- Most widely used programs
  - Adobe Dreamweaver
  - Microsoft Expression Web



# Mobile Apps

- Mobile Applications or Mobile Apps
  - Add-on programs for a variety of mobile devices
  - Smartphones or tablets
- Apps
  - Breadth and scope are ever-expanding
  - 500,000 just for iPhone
  - Music, videos, social networking, shopping, games

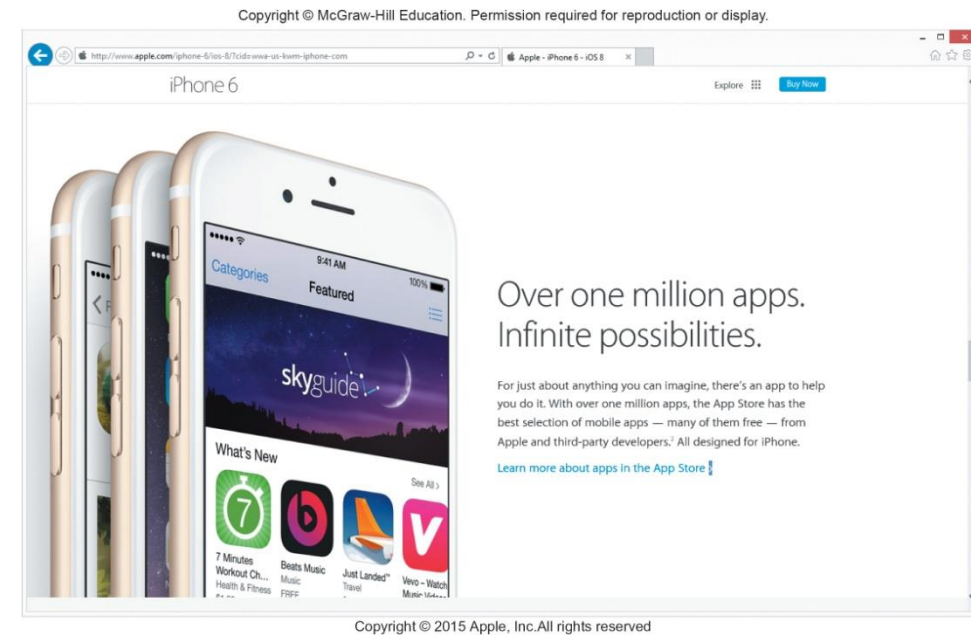


Copyright © 2014 Hipster Whale. All rights reserved



# App Stores

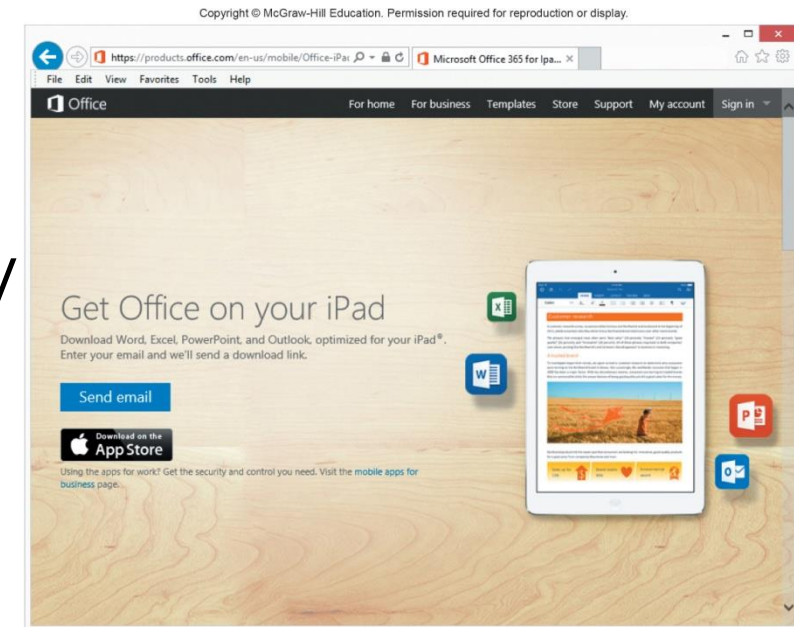
- App Stores
  - Provides access to mobile apps for downloads
    - Apple's App Store
      - Apple Devices
      - [www.apple.com/itunes/charts](http://www.apple.com/itunes/charts)
    - Google Play
      - Android Devices
      - [Play.google.com/store/apps](http://play.google.com/store/apps)
    - Appszoom
      - Android and Apple Devices
      - [www.appszoom.com](http://www.appszoom.com)





# Software Suites

- Collection of separate application programs
  - Bundled together – sold as group
- Four types of suites
  1. Office suites or office software suite / productivity suites
    - Microsoft Office
    - Apple iWork, OpenOffice
  2. Cloud suites or online office suites
    - Google Docs (Making IT Work for You), Zoho, Microsoft Office 365





# Suites continued

- Specialized suites
  - Focus on specific applications
    - Corel Draw Graphics Suite X6
    - Moneyfree Software TOTAL Planning Suite
- Utility suites
  - Designed to make computing easier and safer
    - Norton Systems Works
    - Norton Internet Security suite



# Making IT Work for You - Google Docs

- Tool to create and collaborate with others
- Creating /sharing documents
  - Free and easy to use
  - Free Google account
  - Free online storage

Copyright © McGraw-Hill Education. Permission required for reproduction or display.



☰ Docs

📄 Docs

📊 Sheets

📄 Slides

⚙️ Settings

❓ Help & Feedback

📁 Drive

Google and the Google logo are registered trademarks of Google Inc. Used with permission.

Copyright © McGraw-Hill Education. Permission required for reproduction or display.

Share with others

Get shareable link

People

✉️ Lucy@Manhattan.org x Add more people...

Can comment

Thanks for your help at the meeting today!

Can edit

✓ Can comment

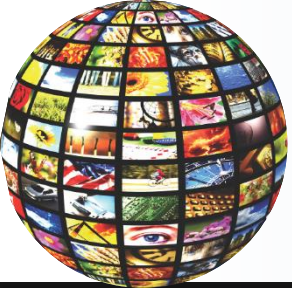
Can view

Send

Cancel

Advanced

Google and the Google logo are registered trademarks of Google Inc. Used with permission.



# Careers In IT

- Software Engineers
  - Analyze users' needs and create application software
- Attributes
  - Good communication and analytical skills
  - Programming experience
  - Detail oriented
  - Web application experience
  - Analytical skills
- Earning potential of \$55,000 to \$71,000 annually

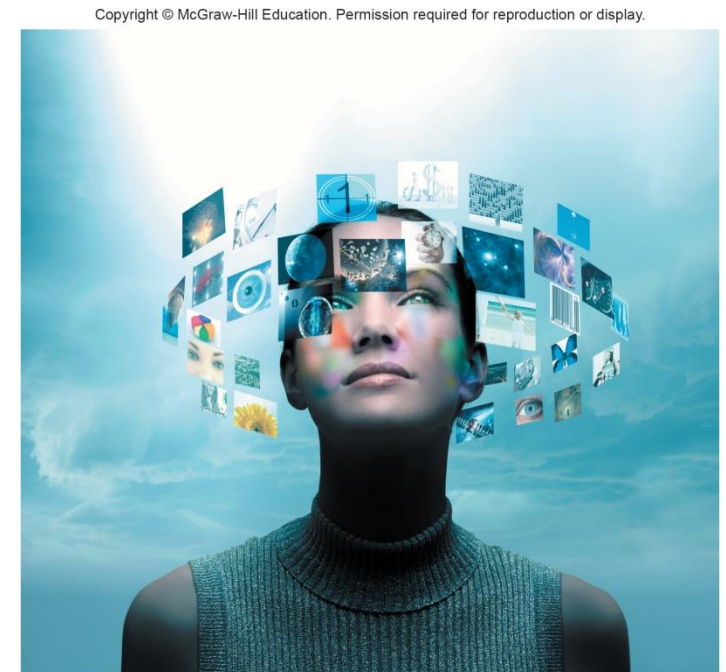


© Hill Street Studios/Blend Images LLC RF



# A Look to the Future

- Next-Generation User Interfaces
  - Doubtful a single interface will serve everyone
  - Must be comfortable to use
    - Touch / interactive screen
    - Voice recognition
    - Gestures
    - Augmented Reality



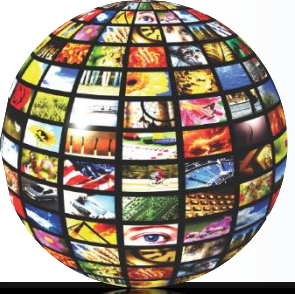
© Blend Images/Colin Anderson/Getty Images RF





# Open-Ended Questions (Page 1 of 2)

1. Explain the difference between general-purpose and specialized applications. Also discuss the common features of application programs, including those with traditional and ribbon graphical user interfaces.
2. Discuss general-purpose applications including word processors, spreadsheets, database management systems, and presentation graphics.



# Open-Ended Questions (Page 2 of 2)

3. Discuss specialized applications, including graphics programs, video game design software, web authoring programs, and other professional specialized applications
4. Describe mobile apps, including popular apps and app stores.
5. Describe software suites, including office suites, cloud suites, specialized suites, and utility suites.