

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

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Application Software

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

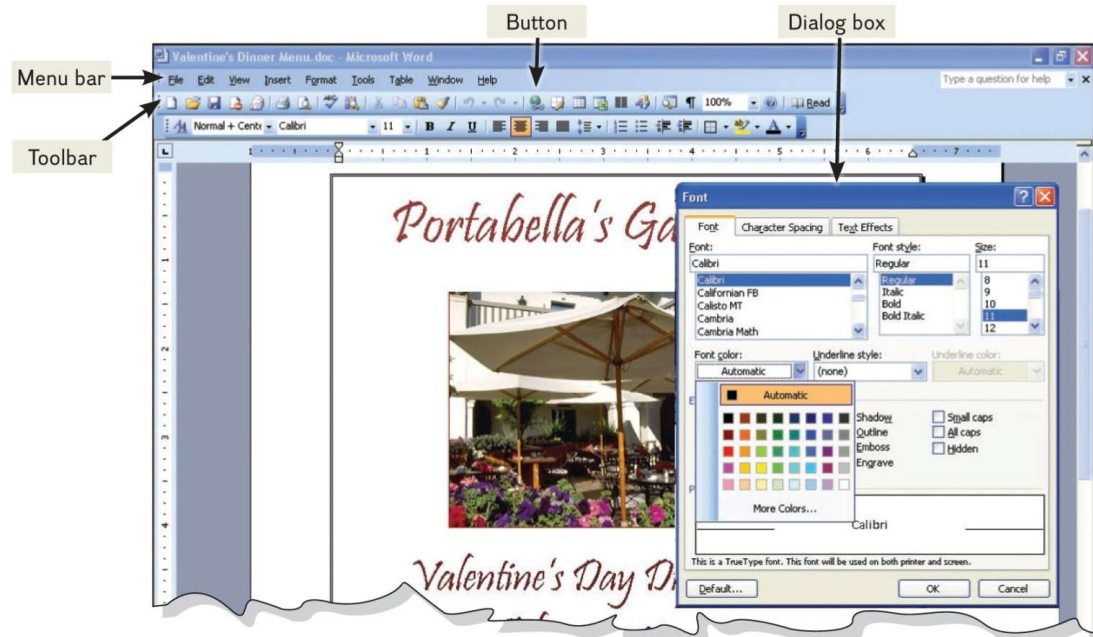


User Interface

- Graphical User Interface (GUI) consists of:

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

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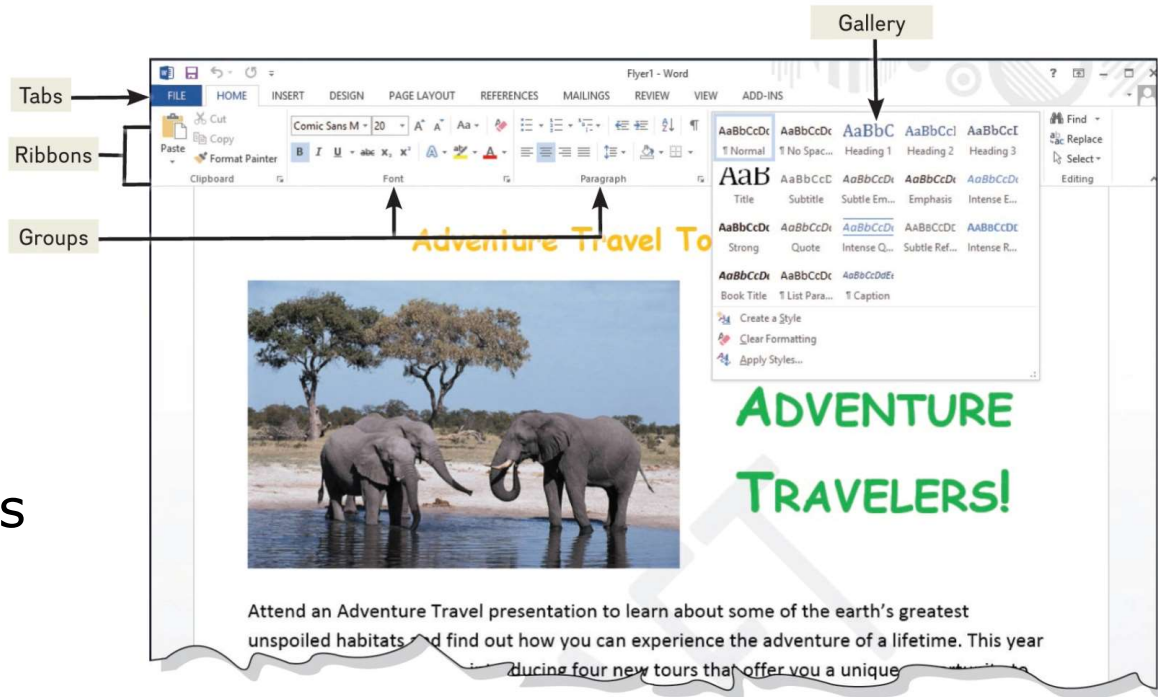
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Common Features in Microsoft

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

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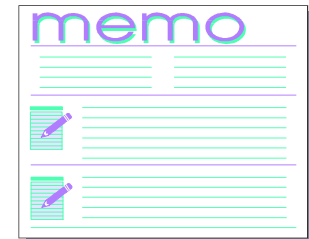
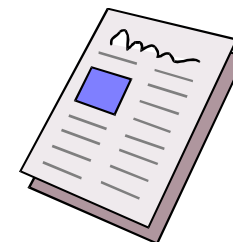
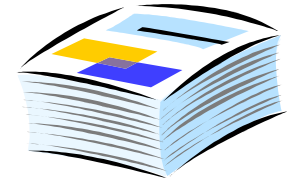
General Purpose Applications

- 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

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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.

Fonts and Font Size

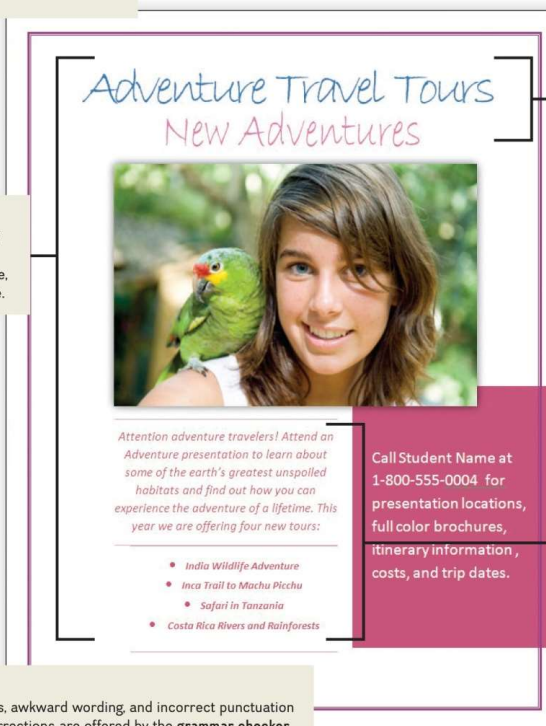
Using interesting **fonts** and a large **font size** in the flyer's title grabs the reader's attention.

Character Effects

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

Grammar Checker

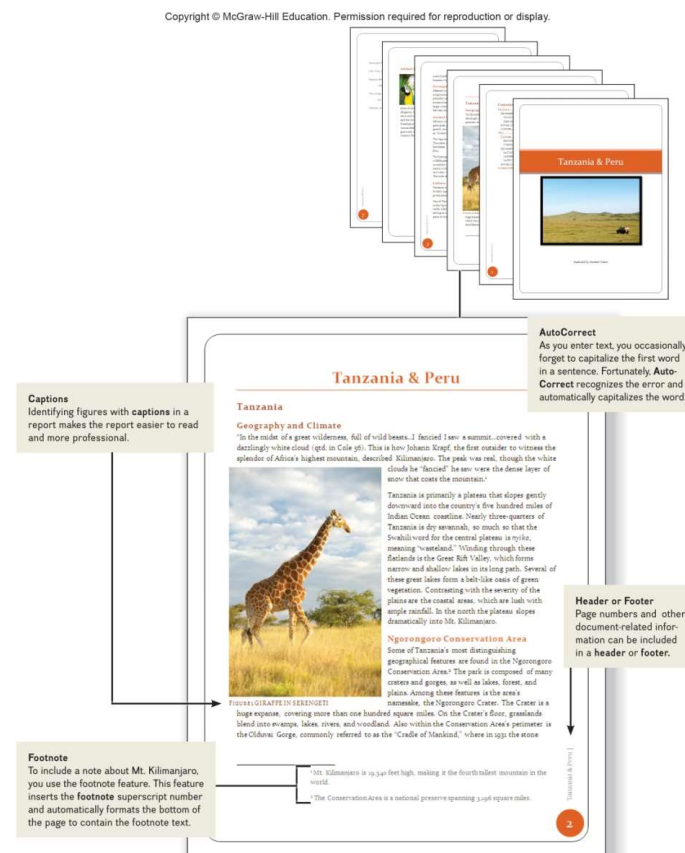
Incomplete sentences, awkward wording, and incorrect punctuation are identified and corrections are offered by the **grammar checker**.





Creating a Report

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





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

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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.

Downtown Internet Café First Quarter Forecast					
	JAN	FEB	MAR	TOTAL	AVG
Sales					
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	
Total Sales	\$ 24,100	\$ 24,900	\$ 25,700	\$ 74,700	
Expenses					
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
Total Expenses	\$ 22,750	\$ 23,075	\$ 23,285	\$ 69,110	\$ 23,037
Income					
Net Income	\$ 1,350	\$ 1,825	\$ 2,415	\$ 5,590	\$ 1,863
Profit Margin	5.60%	7.33%	9.40%	7.48%	7.48%
Income Year-To-Date	\$ 5,590				

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Analyzing Your Data

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

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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
Sales									
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	\$3,800	\$3,800	\$3,800	\$4,000	\$4,000	\$4,000
Merchandise	\$1,000	\$1,100	\$1,100	\$1,100	\$1,100	\$1,100	\$1,000	\$2,000	\$2,000
Computer	\$400	\$400	\$400	\$400	\$400	\$400	\$400	\$400	\$400
Total Sales	\$24,100	\$24,900	\$25,700	\$26,900	\$27,300	\$27,800	\$28,000	\$28,100	\$29,600
Expenses									
Cost of Goods	\$7,225	\$7,480	\$7,690	\$7,620	\$7,940	\$8,025	\$8,000	\$8,025	\$8,300
Cost of Merchandise	\$700	\$770	\$770	\$1,050	\$1,050	\$1,050	\$1,400	\$1,400	\$1,400
Payroll	\$9,000	\$9,000	\$9,000	\$7,860	\$8,360	\$8,360	\$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
Total Expenses	\$22,750	\$23,075	\$23,285	\$22,955	\$23,205	\$23,630	\$24,225	\$24,250	\$24,325
Income									
Net Income	\$1,350	\$1,825	\$2,415	\$3,945	\$4,095	\$4,175	\$3,775	\$3,850	\$4,375
Profit Margin	5.60%	7.33%	9.40%	15.00%	15.00%	15.00%	13.48%	13.70%	15.14%
Quarter Profit Margin	7.48%								
Income Year-To-Date	\$5,990								

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.

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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

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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

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 happy

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.

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

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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

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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
12055	Lahti	Bill	5401 E. Thomas Rd.	Landis	CA	92120-1741	(507) 555-4705	F	6/14/1980	(img)
12920	Larson	Alicia	345 W. Mill Ave.	Maldin	CA	92121-1740	(941) 555-4717	F	8/21/1991	(img)
14416	Lembi	Damon	4189 S. Rita Ln.	Landis	CA	92120-1741	(941) 555-4347	M	9/12/1982	(img)
11747	Lerttine	Iwan	158 Maple Dr.	Maldin	CA	92121-1740	(507) 555-2805	M	11/12/1991	(img)
22085	Lindau	Kristina	1947 E. Watson	Landis	CA	92120-1741	(941) 555-4363	F	2/14/1980	(img)
03406	Lopez	Mina	4290 E. Alameda Dr.	Maldin	CA	92121-1740	(507) 555-4050	F	2/25/1985	(img)
04873	Marchant	Richetta	564 Palm Avenue	Landis	CA	92120-1741	(507) 555-4090	F	5/28/1990	(img)
11543	Martinez	Juile	1929 First Ave.	Maldin	CA	92121-1740	(941) 555-1044	F	12/10/1992	(img)
13635	Martinez	Juan	7115 E. Roosevelt Dr.	Maldin	CA	92121-1740	(507) 555-2935	M	12/10/1992	(img)
22407	Mazoon				CA	92120-1741	(941) 555-1093	F	9/23/1982	(img)
00225	Morgan				CA	92121	(507) 555-4647	M	3/2/1984	(img)
99999	Name				CA	92123-2232	(507) 555-9999	F	1/1/1989	(img)
00617	Nichols				CA	92120-1741	(507) 555-0001	F	5/19/1972	(img)
00907	Pennin				CA	92120-1741	(507) 555-1111	M	7/7/1977	(img)
12104	Polson				CA	92121-1740	(507) 555-1018	M	3/13/1990	(img)
12247	Ruth				CA	92122-1208	(507) 555-4797	F	5/10/1988	(img)
12504	Reddix				CA	92121	(507) 555-1139	M	11/2/1986	(img)
12730	Reddix				CA	92120-1741	(507) 555-1191	F	7/14/1988	(img)
13005	Reilly				CA	92121-1740	(941) 555-4532	F	5/21/1988	(img)
12612	Richard				CA	92123	(507) 555-4789	F	8/10/1981	(img)
06000	Robertson	Kirk	412 S. William Ave.	Maldin	CA	92121	(507) 555-1740	M	4/4/1982	(img)
22297	Rogardines	Patricia	7581 Targuense	Chesterfield	CA	92122-1208	(941) 555-4539	F	4/30/1980	(img)
07287	Roman	Anita	2148 S. Bala Dr.	Maldin	CA	92121-1740	(507) 555-4870	F	3/15/1990	(img)
12918	Rulu	Carlos	10103 First St.	Maldin	CA	92121-1740	(507) 555-0175	M	7/22/1987	(img)
08391	Rulu	Laragae	35 Palm St.	Chesterfield	CA	92122-1208	(507) 555-0091	M	12/10/1982	(img)
05171	Sabin	Greg	90 E. Rowcliffe Ave.	Chesterfield	CA	92122	(507) 555-4855	M	8/10/1987	(img)
00212	Schiff	Chad	235 N. Carston Dr.							
22114	Schneider	Paul	1731 Jackson Ave.							
05421	Spahr	Timothy	80 Royal Dr.							
12366	Stacey	David	737 S. College Rd.							
13497	Steele	Jeff	1013 E. Holly Ln.							
12028	Sturand	Valerie	14 University Dr.							
12551	Sullivan	Marie	78 Orange Drive							
12867										
03880										
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: 08391

Last Name: Rulu

First Name: Enrique

Address: 35 Palm St.

City: Chesterfield


State: CA

ZIP Code: 92122-1208

Home Phone: (507) 555-0091

Gender: M

Birth Date: 12/10/1982

Photo/Resume: 

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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

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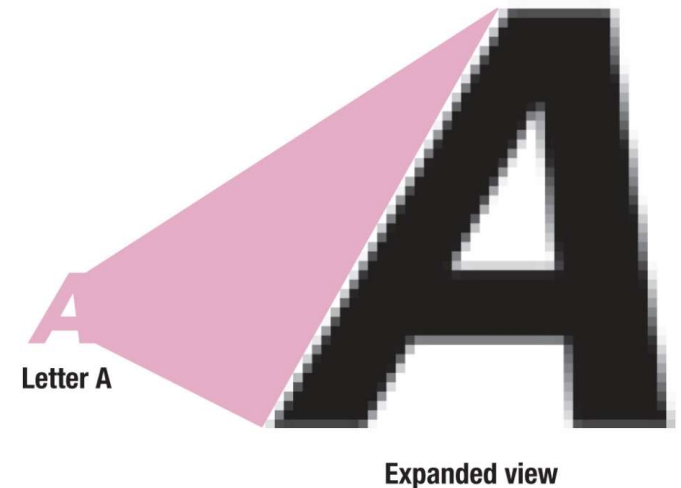




Illustration Programs

- 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

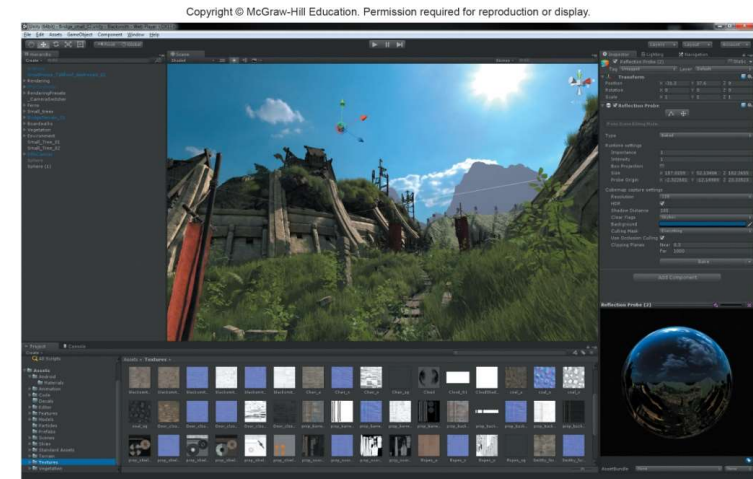


Screenshot credit to come



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

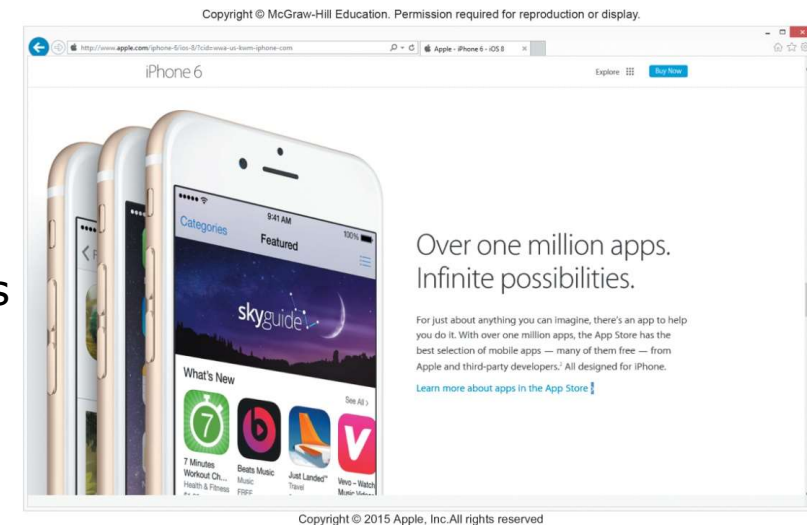
- Mobile Applications or Mobile Apps
 - Add-on programs for a variety of mobile devices
 - Smartphones or tablets
- Apps
 - Breadth and scope are ever-expanding
 - 500,000 just for iPhone
 - Music, videos, social networking, shopping, games





App Stores

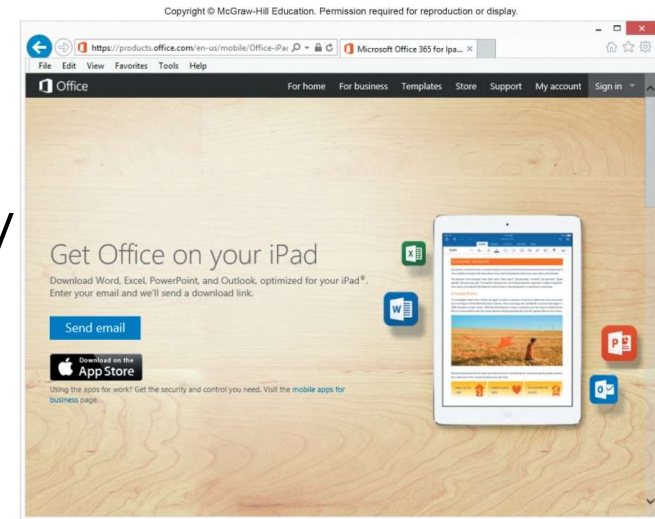
- App Stores
 - Provides access to mobile apps for downloads
 - Apple's App Store
 - Apple Devices
 - www.apple.com/itunes/charts
 - Google Play
 - Android Devices
 - [Play.google.com/store/apps](http://play.google.com/store/apps)
 - Appszoom
 - Android and Apple Devices
 - www.appszoom.com





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



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Suites continued

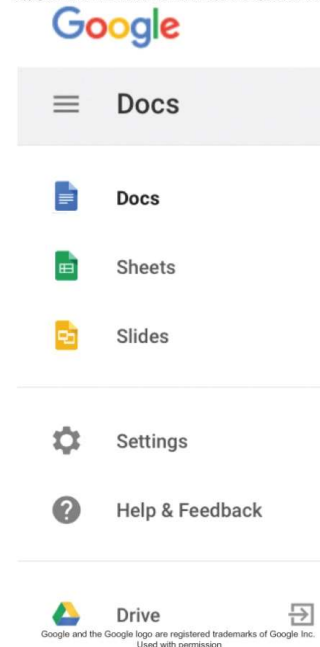
- Specialized suites
 - Focus on specific applications
 - Corel Draw Graphics Suite X6
 - Moneyfree Software TOTAL Planning Suite
- Utility suites
 - Designed to make computing easier and safer
 - Norton Systems Works
 - Norton Internet Security suite



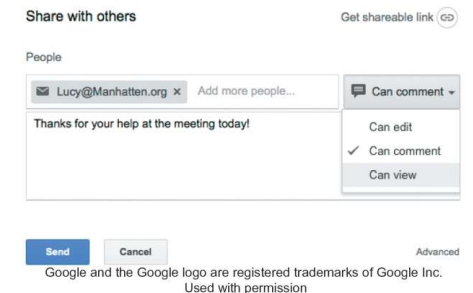
Making IT Work for You - Google Docs

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

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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

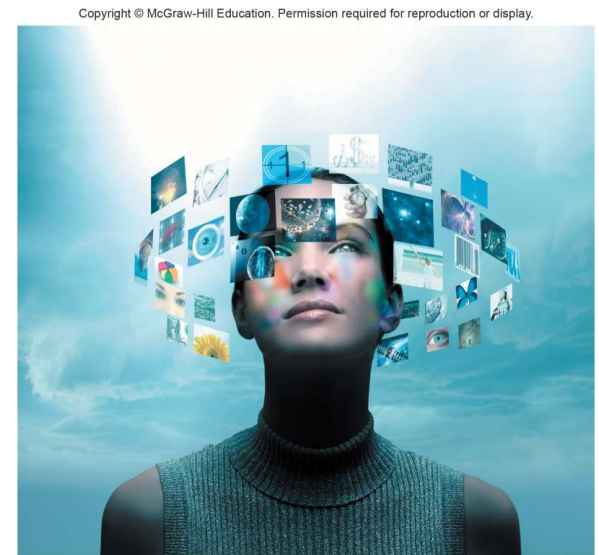


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A Look to the Future

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



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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.