

Chapter 3 Software

Computer Concepts 2014



3 Chapter Contents

- Section A: Software Basics
- Section B: Office Suites
- Section C: Installing Software and Upgrades
- Section D: Buying Software
- Section E: Security Software

Chapter 3: Software

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3 FastPoll True/False Questions

Answer A for True and B for False

- 030100 The two main categories of software are application software and system software.
- 030200 Location-based software can pinpoint its location by using the device's built-in GPS or by triangulating the distance from nearby cell towers.
- 030300 Screen readers are an example of adaptive utility software.
- 030400 The software you install to help a printer communicate with a computer is called a device driver.
- 030500 Spreadsheet software is particularly useful for what-if analyses.

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3 FastPoll True/False Questions

Answer A for True and B for False

- 030600 Database software stores information in HTML codes.
- 030700 Web apps typically are installed on your computer's local hard disk.
- 030800 Downloaded software is usually zipped to decrease download time.
- 030900 If the main screen of a software product does not contain a copyright notice, it is legal to make copies and share them with your friends.
- 031000 A EULA is a license agreement that specifies how to legally use a software product.

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3 FastPoll True/False Questions

Answer A for True and B for False

- 031100 Open source software is public domain.
- 031200 A software worm can replicate itself.
- 031300 Botnets offer effective security protection from spyware.
- 031400 To keep your antivirus software up to date, it is important to get updates of the rootkit.

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3 Section A: Software Basics

- Software Categories
- Music Software
- Video Software
- Graphics Software
- Mapping and Location-based Software

Chapter 3: Software

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3 Section A: Software Basics

- Business and "Number Crunching" Software
- Desktop Publishing Software
- Personal Finance Software
- Utility Software
- Device Drivers

3 Question

- 032100 Software publishers offer a huge variety of products for personal computer owners. From which of the following categories does the typical computer owner purchase add-on software?
 - A. System software and operating systems
 - B. Application software and utilities
 - C. Device drivers and application software
 - D. System software and antivirus software

3 Software Categories

- Software is categorized in two main categories:
 - System software
 - Designed for computer-centric tasks
 - Application software
 - Designed to help people accomplish real-world tasks

- Download music and other sound files
- Play music and sound files
- Create playlists
- Transfer music to handheld devices
- Convert audio CDs into digital music
- Record music and narrations
- Edit volume, speed, and quality of digital recordings
- Crop and mix recordings
- Stream radio music to your computer
- Identify songs playing on the radio
- Voice training

FIGURE 3-1
Music software may offer some, but not all, of these features. For example, some music software offers extensive playback features, but no way to make recordings. You might have to use more than one music software product to complete a project.

3 Music Software

- Offers many ways to work with music, sound effects, and narration from your desktop, laptop, or handheld computer
 - iTunes
 - Audio editing software



FIGURE 3-2
Audio editing software provides controls much like those on a DVD player. Many offer additional digital editing features, such as speed control, volume adjustments, clipping, and mixing.

3 Video Software

- Provides a set of tools for creating video productions from raw footage
- Consumer-level video editing software
 - Windows Movie Maker
 - Apple iMovie
- DVD authoring software

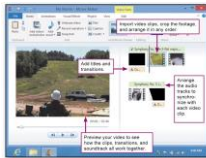


FIGURE 3-3
Video editing software helps you import a series of video files from a camera or other video source, arrange the files in the order of your choice, add transitions between clips, and add an audio track.

3 Graphics Software

- Designed to help you create, manipulate, and print graphics
 - Paint software
 - Photo editing software
 - Drawing software
 - 3-D graphics software
 - CAD software

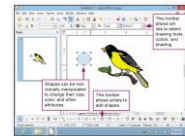


FIGURE 3-4
Drawing software provides tools for creating and managing graphics.

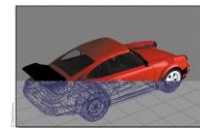


FIGURE 3-5
3-D graphics software provides tools for creating a 3-D object that represents a 3-D object. Some 3-D software specializes in engineering-style graphics, while other 3-D software specializes in figures.



3 Mapping and Location-Based Software

- A mapping application typically displays satellite, aerial, or street maps used to locate places and get directions between two addresses
 - Google Maps
- Location-based software is able to access your current location and use it to show you the closest shops, restaurants, and theaters, as well as information about each location
 - Stay alert for devices and software applications that track your location

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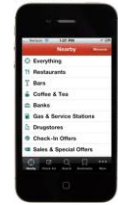
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3 Mapping and Location-Based Software



FIGURE 3-10

Yelp uses the GPS signal built into your mobile phone to pinpoint your position and offer suggestions for nearby restaurants, banks, museums, and other attractions.



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3 Business and “Number Crunching” Software

- Vertical market software is designed to automate specialized tasks in a specific market or business
- Horizontal market software is generic software that just about any kind of business can use
 - Payroll software
 - Accounting software
 - Project management software

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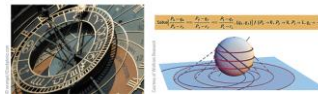
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3 Business and “Number Crunching” Software

- Businesses use a variety of “number crunching” software applications for planning and analysis
 - Statistical software
 - Mathematical modeling software

FIGURE 3-11

Mathematical modeling software helps you visualize complex formulas. Here the points from a sphere are graphed onto a plane to demonstrate the principles behind the Astronomical Clock of Prague.

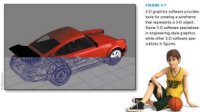


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3 Desktop Publishing Software

- Desktop publishing software (DTP software) takes word processing to the next level by providing professional tools for producing typeset-quality documents
 - DTP software is available in consumer-level and professional-level versions
- DTP software allows you to create a page using multiple frames; some frames can hold text, while other frames can hold titles, graphics, and tables
- Today's word processing software typically provides an adequate feature set for the document production needs of most individuals



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3 Desktop Publishing Software

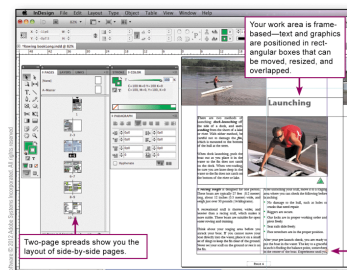


FIGURE 3-12

DTP frames give you exact control over the position of text and graphical elements on a page. Want to see how desktop publishing software works? Start the tour for this figure in your interactive eBook.

You can link text from one frame to another so it is easy to continue an article on a different page.

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3 Personal Finance Software

- Money management software offers a variety of tools for tracking cash flow and investments
- Personal finance software, such as Intuit Quicken, is designed to keep track of income, expenses, assets, and liabilities using a simple checkbook-like user interface
- Tax preparation software is a specialized type of personal finance software designed to help you gather your annual income and expense data, identify deductions, and calculate tax payments

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3 Personal Finance Software

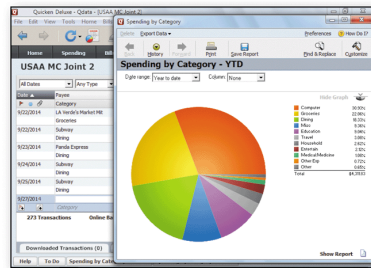


FIGURE 3-13 Personal finance software offers lots of tools to help you get a handle on the money that comes in and goes out.

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3 Utility Software

- Utility software is designed to help you monitor and configure settings for your digital gear, its operating system, or application software
- Third-party software companies offer additional products that extend and improve upon those supplied by the operating system
- A PDF reader, such as Adobe Reader, is an essential utility that displays documents stored in standard PDF files

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3 Utility Software

- Adaptive utilities alter a device's user interface to create an accessible environment by providing closed captions, text-to-speech, speech-to-text, or large screen text
- System utilities can track down and fix disk errors, repair corrupted files, and give your device a performance-enhancing tune-up



FIGURE 3-14 Mac OS Xes are listed in the System Performance window.

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3 Device Drivers

- A device driver is software that helps a peripheral device establish communication with a computer
- On a Mac, you can click the Apple icon, select About this Mac, and then select More info to look at a list of devices connected to your computer
- On a PC, if you need to update a device driver or change its settings, you can usually view driver information by accessing the Control Panel and selecting System (or System and Security)

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3 Device Drivers

FIGURE 3-18 The Windows Device Manager offers access to device drivers. You can check if they are working and change settings. You can also check the device driver's version number and compare it with the most recent version posted online.



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3 Section B: Office Suites

- Office Suite Basics
- Word Processing
- Spreadsheets
- Databases
- Presentations

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3 Question

- 032200 Just about everyone has used iTunes software to download music. iTunes software also allows you to list the songs you've downloaded, delete songs, find songs, and organize your music into play lists. These features of iTunes are similar to what type of software?
 - A. Word processing software
 - B. Spreadsheet software
 - C. Database software
 - D. Groupware

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3 Office Suite Basics

- An office suite is a collection of programs that typically include word processing, spreadsheet, presentation, and database modules

FIGURE 3-19
Popular office suites contain a similar set of modules.

Name	Modules	Platform
Google Docs	Word processing, spreadsheet, presentation	Online (Free)
iWork	Word processing, spreadsheet, presentation	Mac (OS)
LibreOffice	Word processing, spreadsheet, presentation, database, drawing	Windows, Mac, Linux (Free)
Microsoft Office	Word processing, spreadsheet, presentation, database, mail/calendar	Windows, Mac, Linux (OS)
Microsoft Office 365	Word processing, spreadsheet, presentation	Online (Free)
Zoho Office Suite	Word processing, spreadsheet, presentation, calendar, and more	Online (Free)

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3 Word Processing

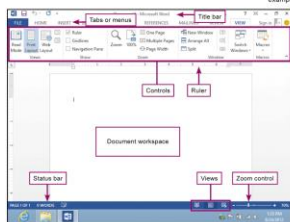
- Word processing software has replaced typewriters for producing many types of documents, including reports, letters, memos, papers, and book manuscripts
- A typical word processor window displays a work area, called a workspace, that represents a blank piece of paper

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3 Word Processing

FIGURE 3-20
No matter which word processor you use, it includes elements similar to those shown in this Microsoft Word example.



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3 Word Processing

- Word processing features include:
 - Word wrap
 - Search and Replace
 - Thesaurus
 - Grammar checker
 - Readability formula
 - Spelling checker
 - Spelling dictionary

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3 Word Processing

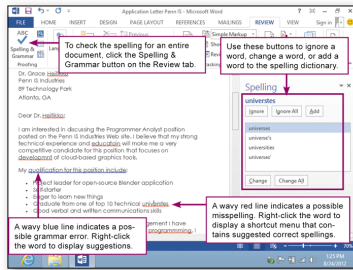


FIGURE 3-21
Word processing software can check your spelling and grammar. Refer to your interactive eBook for an overview of using your word processor's thesaurus, spelling checker, grammar checker, and readability statistics.

3 Word Processing

- The final format of your document depends on several formatting factors, such as page layout, paragraph style, and font
 - Page layout refers to the physical position of each element on a page
 - Paragraph style includes the alignment of text within the margins and the space between each line of text
 - A font is a set of letters that share a unified design

3 Word Processing

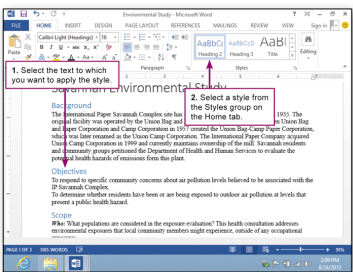


FIGURE 3-23
In this document, headings were formatted by selecting a style with a single click instead of individually selecting a font color, font size, and font style. Now if the Heading style is changed to green, for example, all the headings will automatically change from black to green. Your interactive eBook walks you through the process of defining and using styles.

3 Spreadsheets

- A spreadsheet uses rows and columns of numbers to create a model or representation of a real solution
- Spreadsheet software, such as Microsoft Excel, iWork Numbers, Google Docs Spreadsheets, or LibreOffice Calc, provides tools to create electronic spreadsheets

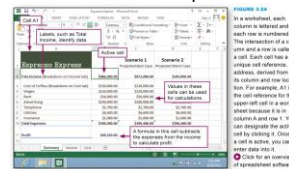


FIGURE 3-24
In a spreadsheet, each column is labeled with letters, and each row is numbered. The intersection of a column and a row is called a cell. Each cell has a unique cell address, or address, derived from its column and row location. For example, A1 is the cell address for the upper-left cell in a spreadsheet because it is in column A and row 1. You can designate the entire spreadsheet by using A1:Z26 as a cell address. You can enter data into a cell by clicking a cell or by using the keyboard. You can enter data into a cell by clicking a cell or by using the keyboard. You can enter data into a cell by clicking a cell or by using the keyboard.

3 Spreadsheets

- A formula tells the computer how to use the contents of cells in calculations
 - Cell references
 - Relative reference
 - Absolute reference
 - Mathematical operators
 - Functions
 - Automatic recalculations

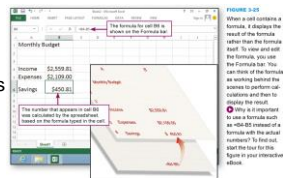


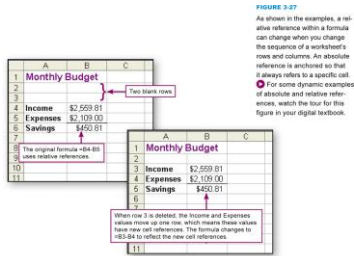
FIGURE 3-25
When you enter a formula, it displays the result of the formula. You can enter a formula in a cell by clicking the cell and then entering the formula. You can also enter a formula by clicking the cell and then clicking the Formula bar. You can enter a formula by clicking the cell and then clicking the Formula bar. You can enter a formula by clicking the cell and then clicking the Formula bar.

3 Spreadsheets

FIGURE 3-26
Functions are special formulas provided by spreadsheet software.

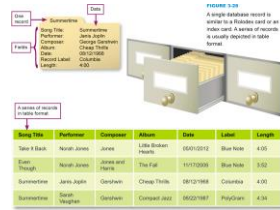


3 Spreadsheets

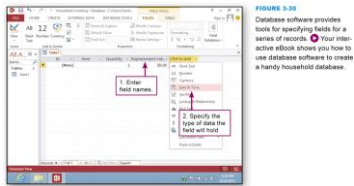


3 Databases

- A database is a collection of data
- Database software helps you enter, find, organize, update, and report information stored in a database



3 Databases



3 Databases

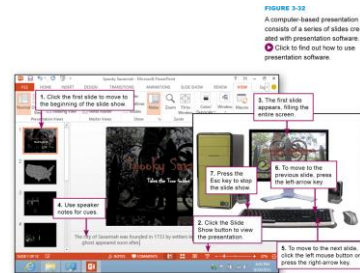
- A query language such as SQL (Structured Query Language) provides a set of commands for locating and manipulating data
 - Natural language query
 - Keyword search
 - Query by example



3 Presentations

- Presentation software supplies the tools for combining text, photos, clip art, graphs, animations, and sound into a series of electronic slides that can be shown on a computer screen or projector

3 Presentations



3 Section C: Installing Software and Upgrades

- Web Apps
- Mobile Apps
- Local Applications
- Portable Software
- Software Upgrades and Updates
- Uninstalling Software

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3 Question

- 032300 Suppose that you're looking for software to convert a YouTube video into a format you can use with Windows Media Player or iMovie. You don't want to bother downloading or installing any software on your computer. What should you look for?
- A. A Web app
 - B. Open source software
 - C. A .zip file
 - D. A portable app

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3 Web Apps

- Software installation is a process that places a program into a computer so that it can be run or executed
- A Web application, or Web App, is software that is accessed with a Web browser
 - Example of cloud computing
 - Many are associated with consumer sites
 - Most require no installation at all on your local computer or handheld device

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3 Web Apps

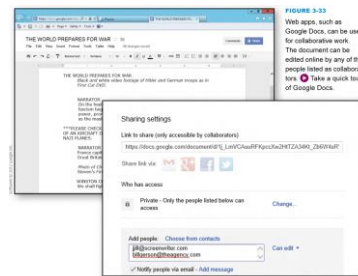


FIGURE 3-33
Web apps, such as Google Docs, can be used for collaborative work. The document can be edited online by any of the people listed as collaborators. Take a quick tour of Google Docs.

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3 Mobile Apps

- A mobile app is designed for a handheld device, such as a smartphone, tablet computer, or enhanced media player
- Most handheld devices can use both Web apps and mobile apps
- Mobile apps can be purchased from an app store
 - Apple App Store
 - Android Market
- Apps are available from other sources, but using them requires an unauthorized change to the device's software called a jailbreak

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3 Mobile Apps



FIGURE 3-34
Mobile apps range from simple utilities that turn the device into a flashlight to more sophisticated apps for entertainment and learning.

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3 Local Applications

- Most local applications contain a setup program that guides you through the installation process
- At least one of the files included in a software package is an executable file designed to be started by users or automatically launched by the operating system

3 Local Applications



3 Local Applications



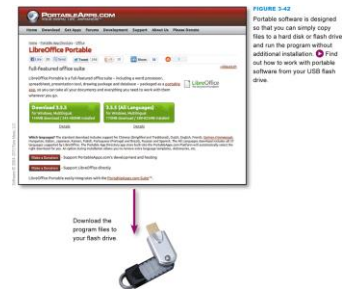
3 Local Applications



3 Portable Software

- Portable software is designed to run from removable storage, such as a CD or USB flash drive
- Installation is simply a matter of getting program files to the media on which they are supposed to run

3 Portable Software



3 Software Upgrades and Updates

- Periodically, software publishers replace older versions of a software product with a new version that's sometimes referred to as a software upgrade
- A software update is a small section of program code that replaces part of the software you currently have installed
 - Service packs

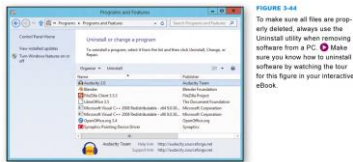
3 Software Upgrades and Updates

- Many software applications allow you to set your preferences for how you would like to receive notifications and updates
- It is always a good idea to install updates and service packs when they become available



3 Uninstalling Software

- Uninstall routines delete the software's files from the various folders on your computer's hard disk



3 Section D: Buying Software

- Consumer Basics
- Software Copyrights and Licenses

3 Question

- 032400 Suppose you purchase a new computer and it comes with Microsoft Office installed. After using this software for 30 days, it displays a message indicating that to keep using it, you will have to pay. This software is an example of all of the following EXCEPT:
 - A. Proprietary software
 - B. Open source software
 - C. Commercial software
 - D. Demoware

3 Consumer Basics

- Most operating systems include a handful of small applications and a good variety of useful utility software

Software	Function
Internet Explorer	Browse the Web
File Explorer	Keep track of files and folders, shrink file size
WordPad	Perform basic word processing
Notepad	Perform basic text editing
Calculator	Add, subtract, and calculate basic functions
Paint	Edit bitmap images, such as photos
Sound Recorder	Digitize music and voice input from a microphone
Windows Media Player	Play music and videos
File History	Make backups of hard disk files
Disk Defragmenter	Arrange data on hard disk for optimal efficiency
Windows Defender	Protect your computer from viruses and spyware
Windows Firewall	Block intrusion attempts
Magnifier and Narrator	Improve accessibility
Windows Photo Viewer	View digital photos

FIGURE 3-46 The Windows 8 operating system includes many useful applications and utilities. You can evaluate these offerings before considering whether to supplement them with third-party versions.

3 Consumer Basics

- System requirements specify the operating system and minimum hardware capacities necessary for a software product to work correctly



FIGURE 3-47 System requirements can be found on the software box or on the download site.

3 Software Copyrights and Licenses

- A copyright is a form of legal protection that grants the author of an original work exclusive rights
 - Copyright notice
- Software licenses, also called license agreements, define the ways in which you may use a computer program
 - Single-user license
 - Site license
 - Multiple-user
 - Shrink-wrap license

3 Software Copyrights and Licenses

- EULA (End-User License Agreement)
- Different types of software licenses
 - Public domain
 - Proprietary
 - Commercial software
 - Demoware
 - Shareware
 - Open source
 - BSD
 - GPL



FIGURE 3-48 When you agree to the terms of an end-user license agreement, you are essentially signing a contract to abide by the terms stated in the agreement.

3 Software Copyrights and Licenses

FIGURE 3-49 Open source and free software applications are plentiful. Click to find out how to participate in open source software development projects and download free open source software.

Software	Function
LibreOffice	Productivity
Thunderbird	E-mail
Firefox	Browser
GIMP	Graphics editing
Gdtk	Photo viewer
Blender	3-D modeling and game design
Audacity	Sound editing and effects
7-Zip	Compression
WinRAR	RAR download

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FIGURE 3-50 The BSD license for open source software is short and easy to understand.

3 Software Copyrights and Licenses

- Freeware is copyrighted software that is available for free
- Product activation is a means of protecting software from illegal copying by requiring users to enter a product key or activation code before the software can be used
 - A hash value is a unique number derived from encoding one or more data sets, such as names, serial numbers, and validation codes

3 Section E: Security Software

- Security Software Basics
- Security Suites
- Antivirus Modules

3 Question

- 032500 Let's assume that you have antivirus software installed on your computer and it is up to date. You can trust it to do a pretty good job of protecting your computer from viruses and:
 - A. Bots, worms, Trojans, keyloggers, and rootkits
 - B. RATs, spoofs, and defective Web apps
 - C. Operating system security holes
 - D. Fake e-commerce sites

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3 Security Software Basics

- Security software is designed to protect computers from various forms of destructive software and unauthorized intrusions
- The terms malicious software and malware refer to any computer program designed to surreptitiously enter a computer, gain unauthorized access to data, or disrupt normal processing operations

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3 Security Software Basics

- Computer virus
- Computer worm
 - Mass-mailing worm
- Trojan horse
 - Remote Access Trojan (RAT)
- Bot
 - Spider
 - Botnet
- Spyware

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3 Security Software Basics



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3 Security Software Basics



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3 Security Software Basics

- The term rootkit refers to software tools used to conceal malware and backdoors that have been installed on a victim's computer
- A virus hoax usually arrives as an email message containing dire warnings about a supposedly new virus on the loose

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3 Security Suites

- A security suite integrates several security modules to protect against the most common types of malware, unauthorized access, and spam
- A security suite costs less than purchasing standalone security modules

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3 Security Suites

FIGURE 3-65
The Norton 360 security suite includes modules for scanning viruses, detecting spyware, and activating a firewall against unauthorized intrusions.



Take a tour of these modules by using your interactive eBook.

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3 Antivirus Modules

- Antivirus software is a type of utility software that looks for and eradicates viruses, Trojan horses, worms, and bots
 - A virus signature is a section of program code, such as a unique series of instructions, that can be used to identify a known malicious program, much as a fingerprint is used to identify an individual
 - Virus signatures and other information that antivirus software uses to identify and eradicate malware is stored in one or more files usually referred to as virus definitions

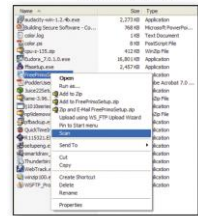
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3 Antivirus Modules

- Most experts recommend that you configure your antivirus software to periodically scan all the files on your computer
- If, during the scanning process, your virus protection software identifies a virus, worm, Trojan horse, or bot in a file or attachment, it can try to remove the infection, put the file into quarantine, or simply delete the file

FIGURE 3-67
Before installing and running a downloaded file, you can scan it by right-clicking the file name and selecting the Scan option.



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3 What Do You Think?

- 033100 Do you believe that software piracy is a serious issue?
 - A. Yes B. No C. Not sure
- 033200 Do you know of any instances of software piracy?
 - A. Yes B. No C. Not sure
- 033300 Do you think that most software pirates understand that they are doing something illegal?
 - A. Yes B. No C. Not sure
- 033400 Should software publishers try to adjust software pricing for local markets?
 - A. Yes B. No C. Not sure

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NEW PERSPECTIVES

Chapter 3 Complete

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