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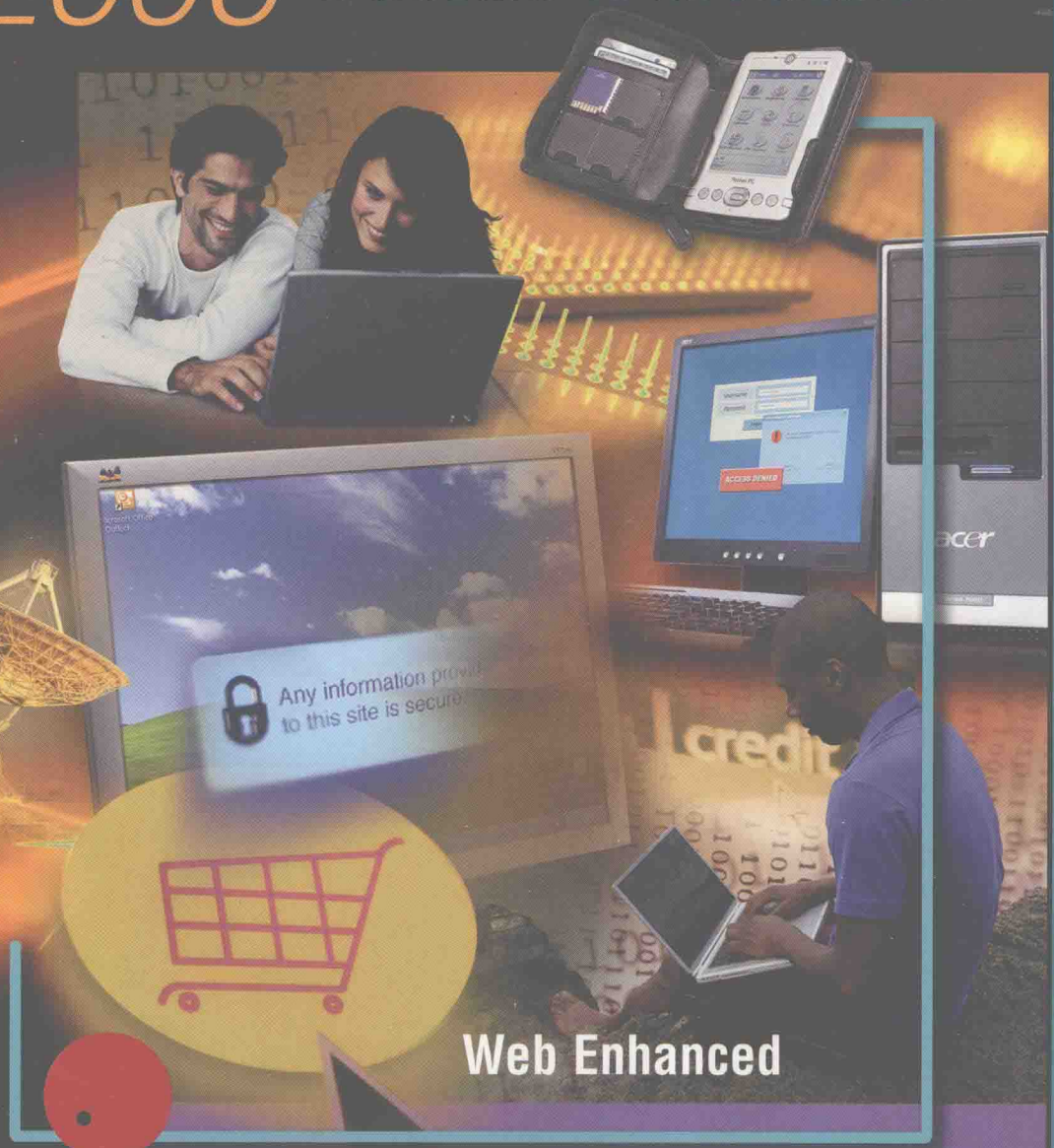
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Discovering Computers 2006

A GATEWAY TO INFORMATION

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Discovering Computers

2006

A GATEWAY TO INFORMATION

Web Enhanced — COMPLETE

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Discovering Computers 2006: A Gateway to Information, Web Enhanced Complete

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Preface

The Shelly Cashman Series® offers the finest textbooks in computer education. We are proud of the fact that the previous ten editions of this textbook have been the most widely used in computer education. With each new edition of the book, we have implemented significant improvements based on current computer trends and comments made by instructors and students. *Discovering Computers 2006* continues with the innovation, quality, and reliability you have come to expect from the Shelly Cashman Series.

In *Discovering Computers 2006: A Gateway to Information*, you will find an educationally sound, highly visual, and easy-to-follow pedagogy that presents an in-depth treatment of introductory computer subjects. Students will finish the course with a solid understanding of computers, how to use computers, and how to access information on the World Wide Web.

OBJECTIVES OF THIS TEXTBOOK

Discovering Computers 2006: A Gateway to Information, Complete is intended for use as a stand-alone textbook or in combination with an applications, Internet, or programming textbook in a one-quarter or one-semester introductory computer course. No experience with computers is assumed. The objectives of this book are to:

- Present the most-up-to-date technology in an ever-changing discipline
- Give students an in-depth understanding of why computers are essential components in business and society
- Teach the fundamentals of computers and computer nomenclature, particularly with respect to personal computer hardware and software, the World Wide Web, and enterprise computing
- Present the material in a visually appealing and exciting manner that motivates students to learn
- Assist students in planning a career and getting certified in the computer field
- Provide exercises and lab assignments that allow students to interact with a computer and learn by actually using the computer and the World Wide Web
- Present strategies for purchasing a desktop computer, a notebook computer, a Tablet PC, and a personal mobile device
- Offer alternative learning techniques and reinforcement via the Web
- Offer distance-education providers a textbook with a meaningful and exercise-rich companion Web site

DISTINGUISHING FEATURES

To date, more than six million students have learned about computers using a *Discovering Computers* textbook. With the additional World Wide Web integration and interactivity, streaming up-to-date audio and video, extraordinary step-by-step visual drawings and photographs, unparalleled currency, and the Shelly and Cashman touch, this book will make your computer concepts course exciting and dynamic. Distinguishing features of the Shelly Cashman Series *Discovering Computers* books include:

A Proven Pedagogy

Careful explanations of complex concepts, educationally-sound elements, and reinforcement highlight this proven method of presentation. A pictorial arrangement of the pedagogy can be found beginning on page xviii.

A Visually Appealing Book that Maintains Student Interest

The latest technology, pictures, drawings, and text are combined artfully to produce a visually appealing and easy-to-understand book. Many of the figures include a step-by-step presentation

(see page 196), which simplifies the more complex computer concepts. Pictures and drawings reflect the latest trends in computer technology. Finally, the text is set in two columns, which instructors and reviewers say their students prefer. This combination of pictures, step-by-step drawings, and easy-to-read text layout sets a new standard for computer textbook design.

Latest Technologies and Terms

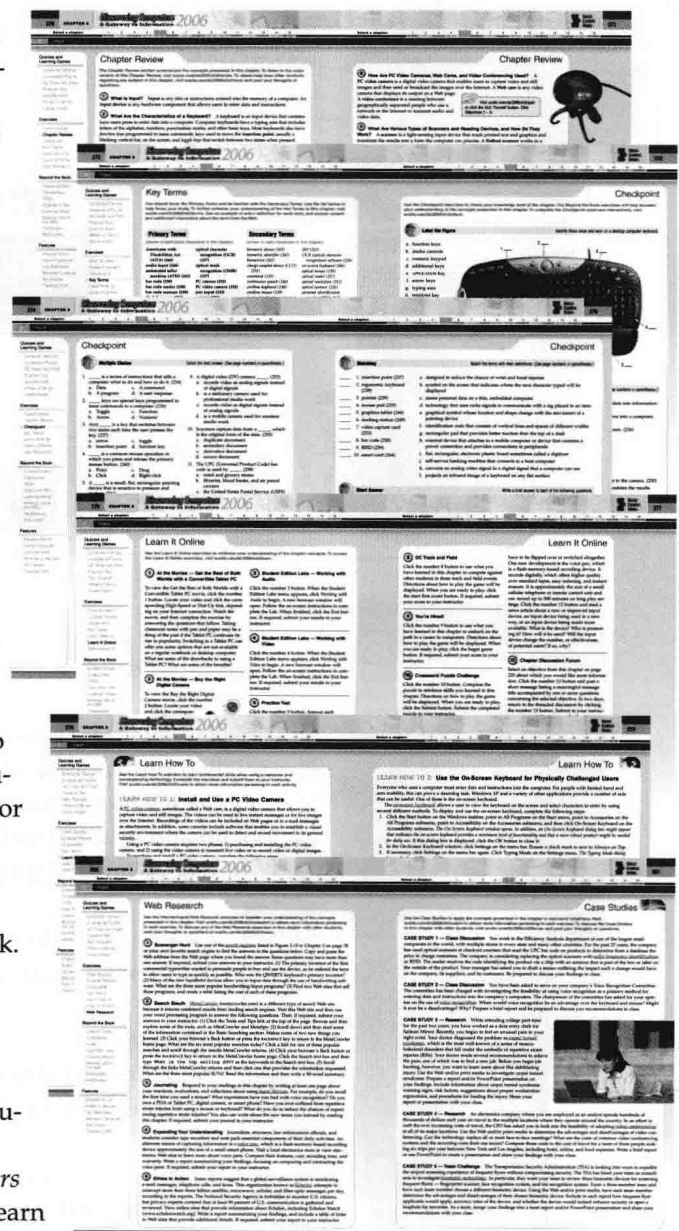
The technologies and terms your students see in this book are those they will encounter when they start using computers. Only the latest application software is shown throughout the book. New topics and terms include embedded computer, handtop computer, smart watch, fixed wireless, satellite modem, static Web page, dynamic Web page, hot spots, blog, moblogs, Internet telephony, Voice over IP, open source software, product activation, dual-core processor, liquid cooling technology, magnetic stripe card reader, magstripe reader, mouse gestures, picture messaging, native resolution, plasma monitor, satellite speakers, Blu-Ray disc, digital photo viewer, Hi-Speed USB, mini disc, pen drive, Serial Advanced Technology Attachment, anti-spam program, embedded Linux, file conversion utility, pop-up ad, pop-up blocker, scripts, spyware, spyware remover, Web filtering software, Windows Server System, WinFS, 802.11g, 802.11i, Centrino technology, hardware firewall, network standard, Wi-Fi mesh network, WiMAX, wireless Ethernet standard, wireless network card, 802.11i, back door, computer forensics, computer forensics specialist, cyberextortionist, cyberforensics, cyberterrorist, digital forensics, network forensics, phishing, script kiddie, spim, spoofing, war driving, war flying, Wi-Fi Protected Access, wired equivalent privacy, computer security plan, International Computer Security Association Labs, system developer, continuous data protection, demand computing, document management system, grid computing, personal computer blade, thin client, and utility computing.

World Wide Web Enhanced

This book uses the World Wide Web as a major supplement. The purpose of integrating the World Wide Web into the book is to (1) offer students additional information and currency on important topics; (2) use its interactive capabilities to offer creative reinforcement and online quizzes; (3) make available alternative learning techniques with Web-based learning games, practice tests, and interactive labs; (4) underscore the relevance of the World Wide Web as a basic information tool that can be used in all facets of society; (5) introduce students to doing research on the Web; and (6) offer instructors the opportunity to organize and administer their traditional campus-based or distance-education-based courses on the Web using WebCT, Blackboard, or MyCourse 2.1. This textbook, however, does not depend on Web access to be used successfully. The Web access adds to the already complete treatment of topics within the book.

Extensive End-of-Chapter Materials

A notable strength of the *Discovering Computers* textbooks is the extensive student activities at the end of each chapter. Well-structured student activities can make the difference between students merely participating in a class and students retaining the information they learn. The activities in the *Discovering Computers 2006* books include: Chapter Review, Key Terms, Checkpoint, Learn It Online, Learn How To, Web Research, and Case Studies. A pictorial presentation of each end-of-chapter activities can be found beginning on page xx.



ORGANIZATION OF THIS TEXTBOOK

Discovering Computers 2006: A Gateway to Information, Complete provides a thorough introduction to computers. The material is divided into fifteen chapters, eight special features, three appendices, and a glossary/index.

Chapter 1 – Introduction to Computers In Chapter 1, students are introduced to basic computer concepts, such as what a computer is, how it works, and what makes it a powerful tool.

Special Feature – Timeline 2006 Milestones in Computer History In this special feature, students learn about the major computer technology developments during the past 65 years.

Chapter 2 – The Internet and World Wide Web In Chapter 2, students learn about the Internet, World Wide Web, browsers, e-mail, FTP, and instant messaging.

Special Feature – Making Use of the Web In this special feature, more than 150 popular up-to-date Web sites are listed and described. Basic searching techniques also are introduced.

Chapter 3 – Application Software In Chapter 3, students are introduced to a variety of business software, graphics and multimedia software, home/personal/educational software, and communications software.

Chapter 4 – The Components of the System Unit In Chapter 4, students are introduced to the components of the system unit; how memory stores data, instructions, and information; and how the system unit executes an instruction.

Chapter 5 – Input Chapter 5 describes the various techniques of input and commonly used input devices.

Special Feature – Personal Mobile Devices In this special feature, students receive a detailed presentation of personal mobile device operating systems, built-in personal mobile device software, personal mobile device application software, and how to obtain and install personal mobile device software. Also included is a personal mobile device buyer's guide.

Chapter 6 – Output Chapter 6 describes the various methods of output and commonly used output devices.

Special Feature – Digital Imaging and Video Technology In this special feature, students are introduced to using a personal computer, digital camera, and video camera to manipulate photographs and video.

Chapter 7 – Storage In Chapter 7, students learn about various storage media and storage devices.



Chapter 8 – Operating Systems and Utility Programs In Chapter 8, students learn about a variety of stand-alone operating systems, network operating systems, and embedded operating systems.

Special Feature – Buyer's Guide 2006: How to Purchase a Personal Computer In this special feature, students are introduced to purchasing a desktop computer, notebook computer, and Tablet PC.

Chapter 9 – Communications and Networks Chapter 9 provides students with an overview of communications technology and applications.

Chapter 10 – Database Management Chapter 10 presents students with the advantages of organizing data in a database and describes various types of data.

Chapter 11 – Computer Security, Ethics, and Privacy In Chapter 11, students learn about computer and Internet risks, ethical issues surrounding information accuracy, intellectual property rights, codes of conduct, information privacy, and computer-related health issues.

Special Feature – Computer Forensics This special feature introduces students to the scope of, process, and tools involved in computer forensics work. The feature underlines the importance of computer forensics in our increasingly digital world.

Chapter 12 – Information System Development In Chapter 12, students are introduced to the system development cycle and guidelines for system development.

Chapter 13 – Programming Languages and Program Development Chapter 13 presents the program development cycle, program design methods, and popular programming languages.



Chapter 14 – Enterprise Computing In Chapter 14, students learn about the special computing requirements used in an enterprise-sized organization.

Special Feature – Enterprise Order Processing: A Case Study This special feature introduces students to how modern-day enterprises process a customer order.

Chapter 15 – Computer Careers and Certification Chapter 15 presents a broad overview of computer-related careers, career development, and certification.

Special Feature – Digital Entertainment In this special feature, students are introduced to the personal computer as a digital entertainment device.

Appendix A – Coding Schemes and Number Systems Appendix A presents the ASCII, EBCDIC, and Unicode coding schemes.

Appendix B – Quiz Yourself Answers Appendix B provides the answers for the Quiz Yourself questions in the text.

Appendix C – Computer Acronyms Appendix C summarizes the computer acronyms discussed in the book.

Glossary/Index The Glossary/Index includes a definition and page references for every key term presented in the book.

SHELLY CASHMAN SERIES INSTRUCTOR RESOURCES

The Shelly Cashman Series is dedicated to providing you with all of the tools you need to make your class a success. Information on all supplementary materials is available through your Course Technology representative or by calling one of the following telephone numbers: Colleges and Universities, 1-800-648-7450; High Schools, 1-800-824-5179; Private Career Colleges, 1-800-347-7707; Canada, 1-800-268-2222; Corporations with IT Training Centers, 1-800-648-7450; and Government Agencies, Health-Care Organizations, and Correctional Facilities, 1-800-477-3692.

Instructor Resources CD-ROM

The Instructor Resources CD-ROM includes both teaching and testing aids. The contents of each item on the Instructor Resources CD-ROM (ISBN 0-619-25483-1) are described below.

Instructors Manual The Instructor's Manual is made up of Microsoft Word files, which include detailed lesson plans with page number references, lecture notes, classroom activities, discussion topics, and projects to assign.

Syllabus Sample syllabi, which can be customized easily to a course, are included. The syllabi cover policies, class and lab assignments and exams, and procedural information.

Figure Files Illustrations for every figure in the textbook are available in electronic form. Use this ancillary to present a slide show in lecture or to print transparencies for use in lecture with an overhead projector. If you have a personal computer and LCD device, this ancillary can be an effective tool for presenting lectures.

Solutions to Exercises Solutions are included for all end-of-chapter exercises.

Test Bank & Test Engine The ExamView test bank includes 220 questions for every chapter (50 multiple-choice, 100 true/false, and 70 completion) with page number references, and when appropriate, figure references. Each question also is identified by objective and type of term (primary or secondary). The test bank comes with a copy of the test engine, ExamView, the ultimate tool for your objective-based testing needs.

Printed Test Bank A Microsoft Word version of the test bank you can print also is included.

Test Out/Final Exam Use this objective-based test to test students out of your course, or use it as a final examination. A master answer sheet is included.

Pretest/Posttest Use these carefully prepared tests at the beginning and the end of the semester to measure student progress. A master answer sheet is included.

Data Files for Students All the files that are required by students to complete the exercises are included. You can distribute the files on the Instructor Resources CD-ROM to your students over a network, or you can have them follow the instructions on the inside back cover of this book to obtain a copy of the Data Disk.

Course Presenter

Course Presenter (ISBN 0-619-25484-X) is a one-click-per-slide presentation system on CD-ROM that provides PowerPoint slides for every subject in each chapter. Use this presentation system to give interesting, well-organized, and knowledge-based lectures. Several up-to-date G4TechTV computer-related video clips are available for optional presentation. Course Presenter provides consistent coverage for multiple lecturers.

Student Edition Labs

Thirty Web-based interactive labs will help your students master hundreds of computer concepts including input and output devices, file management and desktop applications, computer privacy, virus protection, and much more. Featuring up-to-the-minute content, eye-popping graphics, and rich animation, the highly interactive Student Edition Labs offer students an alternative way to learn through dynamic observation, step-by-step practice, and challenging review questions. Access the free Student Edition Labs from the *Discovering Computers 2006* Web site at scsite.com/dc2006 or see the Student Edition Lab exercises on the Learn It Online pages at the end of each chapter.

Online Content

Course Technology offers textbook-based content for Blackboard, WebCT, and MyCourse 2.1.

BlackBoard and WebCT As the leading provider of IT content for the Blackboard and WebCT platforms, Course Technology delivers rich content that enhances your textbook to give your students a unique learning experience.

MyCourse 2.1 MyCourse 2.1 is Course Technology's powerful online course management and content delivery system. MyCourse 2.1 allows nontechnical users to create, customize, and deliver Web-based courses; post content and assignments; manage student enrollment; administer exams; track results in the online grade book; and more.

SUPPLEMENTS

Two supplements can be used in combination with this textbook.

SAM Computer Concepts

Add the power of assessment and detailed reporting to your Student Edition Lab assignments with SAM Computer Concepts.

SAM (Skills Assessment Manager) Computer Concepts helps you energize your training assignments by allowing students to learn and quiz on important computer skills in an active, hands-on environment. By adding SAM Computer Concepts to your curriculum, you can:

- Reinforce your students' knowledge of key computer concepts with hands-on application exercises.
- Allow your students to "learn by listening," with rich audio in their computer concepts labs.
- Build computer concepts exams from a test bank of more than 50,000 objective-based questions or create your own test questions.
- Schedule your students' computer concepts training and testing assignments with powerful administrative tools.
- Track student exam grades and training progress using more than one dozen student and classroom reports.

Study Guide

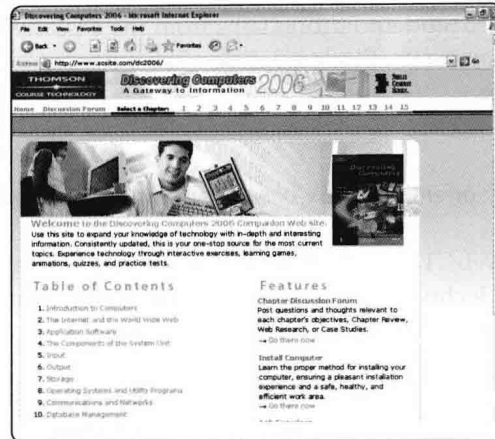
This highly popular *Study Guide* (ISBN 0-619-25500-5) includes a variety of activities that help students recall, review, and master introductory computer concepts. The *Study Guide* complements the end-of-chapter material with a guided chapter outline; a self-test consisting of true/false, multiple-choice, short answer, fill-in, and matching questions; an entertaining puzzle; and other challenging exercises.

TO THE STUDENT...Getting the Most Out of Your Book

Welcome to *Discovering Computers 2006: A Gateway to Information, Web Enhanced*. You can save yourself a lot of time and gain a better understanding of the computer concepts presented in this book if you spend a few minutes reviewing this section.

1 Companion Web Site

Use the Companion Web site at scsite.com/dc2006, which includes additional information about important topics and provides unparalleled currency; and make use of online learning games, practice tests, and additional reinforcement. Gain access to this dynamic site with Course Technology's centralized login page, CoursePort.



2 Picture Yourself

Picture yourself using the concepts presented in the chapter you are about to read. This section at the beginning of each chapter is intended to help you see how the specific material might apply to your everyday life using computers.

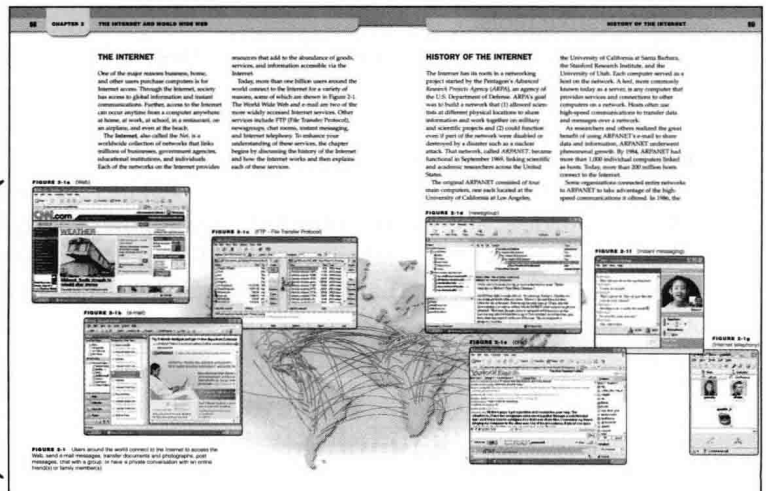


3 Chapter Objectives and Table of Contents

Before you read the chapter, carefully read through the Objectives and Contents so that you know what you should learn from the chapter.

4 Initial Chapter Figure

Carefully study the first figure in each chapter because it will give you an easy-to-follow overview of the major purpose of the chapter.



10 Quiz Yourself

Three Quiz Yourself boxes per chapter help ensure that you know the material you just read and are ready to move on in the chapter. Use the answers in Appendix B for a quick check of the answers, and take additional these quizzes on the Web for interactivity and easy use.

11 Career Corner

Each chapter ends with a Career Corner feature that introduces you to a computer-career opportunity relating to a topic covered in the chapter.

12 High-Tech Talk

If you are technically inclined, you will enjoy the High-Tech Talk article at the end of each chapter. These presentations expand on a topic covered in the chapter and present a more technical discussion.

13 Companies on the Cutting Edge

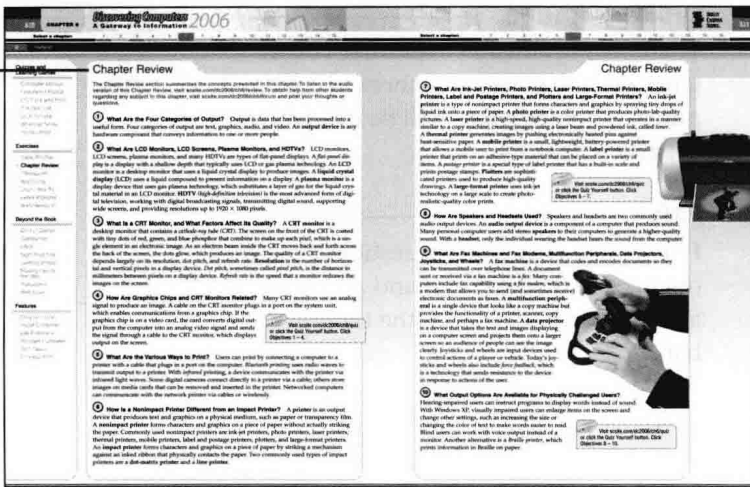
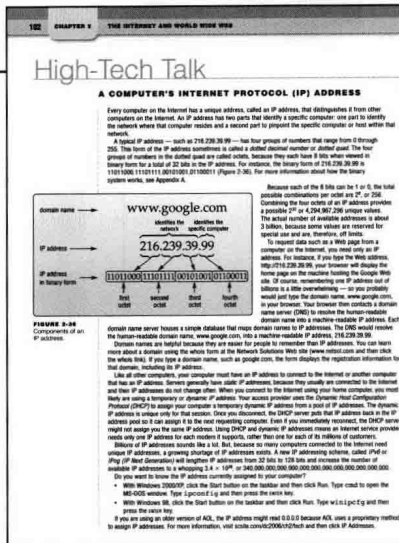
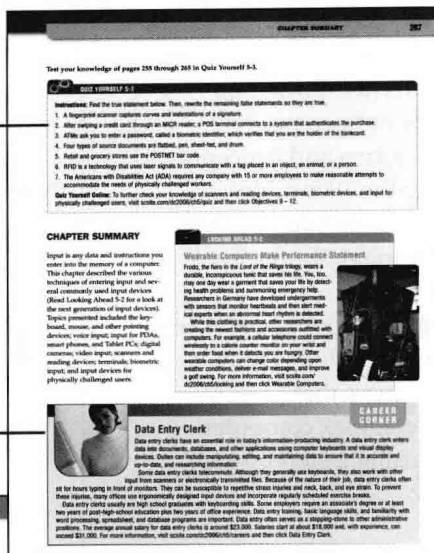
Each chapter includes a profile about two key computer-related companies of which you should be aware, especially if you plan to major in the computer field.

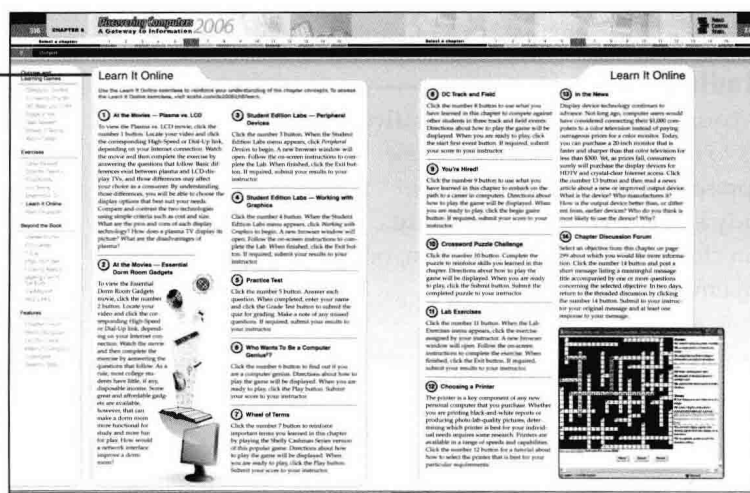
14 Technology Trailblazers

The Technology Trailblazers section in each chapter offers a glimpse into the life and times of the more famous leaders of the computer industry.

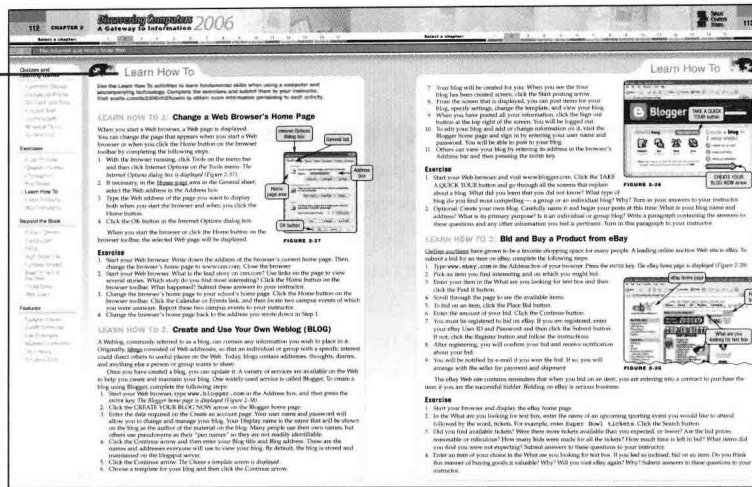
15 Chapter Review

Use the two-page Chapter Review before you take an examination to ensure that you are familiar with the computer concepts presented. This section includes each objective, followed by a one- or two-paragraph summary. Visit a Chapter Review page on the Web, and click the Audio button to listen to the Chapter Review.





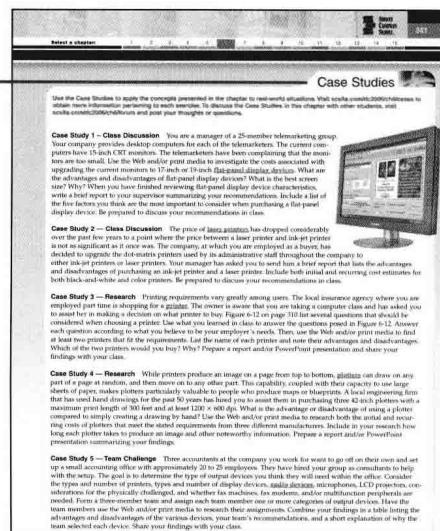
Apply what you learn in each chapter to your every day life with the Learn How To exercises. These hands-on activities solidify the concepts presented in the chapter with practical application.



If you enjoy doing research on the Web, then you will like the Web Research exercises. Each exercise in this section references an element in the book and suggests you write a short article or do a class presentation on your findings.



Exercise your mind and construct creative solutions to the thought-provoking case studies presented in each chapter. The Case Study exercises are constructed to discuss in class, research on your own, or in a team environment.



SHELLY CASHMAN SERIES – TRADITIONALLY BOUND TEXTBOOKS

The Shelly Cashman Series presents the following computer subjects in a variety of traditionally bound textbooks. For more information, see your Course Technology representative or call 1-800-648-7450. For Shelly Cashman Series information, visit Shelly Cashman Online at scseries.com

COMPUTERS

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Microsoft Windows	Microsoft Windows XP: Comprehensive Concepts and Techniques ² Microsoft Windows XP: Brief Concepts and Techniques Microsoft Windows 2000: Comprehensive Concepts and Techniques ² Microsoft Windows 2000: Brief Concepts and Techniques Microsoft Windows 98: Comprehensive Concepts and Techniques ² Microsoft Windows 98: Essential Concepts and Techniques Introduction to Microsoft Windows NT Workstation 4
Notebook Organizer	Microsoft Office OneNote 2003: Introductory Concepts and Techniques
Word Processing	Microsoft Office Word 2003: Comprehensive Concepts and Techniques ² • Microsoft Word 2002: Comprehensive Concepts and Techniques ²
Spreadsheets	Microsoft Office Excel 2003: Comprehensive Concepts and Techniques ² • Microsoft Excel 2002: Comprehensive Concepts and Techniques ²
Database	Microsoft Office Access 2003: Comprehensive Concepts and Techniques ² • Microsoft Access 2002: Comprehensive Concepts and Techniques ²
Presentation Graphics	Microsoft Office PowerPoint 2003: Comprehensive Concepts and Techniques ² • Microsoft PowerPoint 2002: Comprehensive Concepts and Techniques ²
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Browser	Microsoft Internet Explorer 6: Introductory Concepts and Techniques, Windows XP Edition • Microsoft Internet Explorer 5: An Introduction • Netscape Navigator 6: An Introduction
Web Page Creation	Web Design: Introductory Concepts and Techniques • HTML: Comprehensive Concepts and Techniques, Third Edition ² • Microsoft Office FrontPage 2003: Comprehensive Concepts and Techniques ² • Microsoft FrontPage 2002: Comprehensive Concepts and Techniques ² • Microsoft FrontPage 2002: Essential Concepts and Techniques • JavaScript: Complete Concepts and Techniques, Second Edition ¹ • Macromedia Dreamweaver MX: Comprehensive Concepts and Techniques ²

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Systems Analysis	Systems Analysis and Design, Sixth Edition
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DATA COMMUNICATIONS

Data Communications	Business Data Communications: Introductory Concepts and Techniques, Fourth Edition
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¹Also available as an Introductory Edition, which is a shortened version of the complete book. ²Also available as an Introductory Edition and as a Complete Edition, which are shortened versions of the comprehensive book.

Discovering Computers

2006

A GATEWAY TO INFORMATION

Web Enhanced — COMPLETE

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