Information Technology

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Career Paths
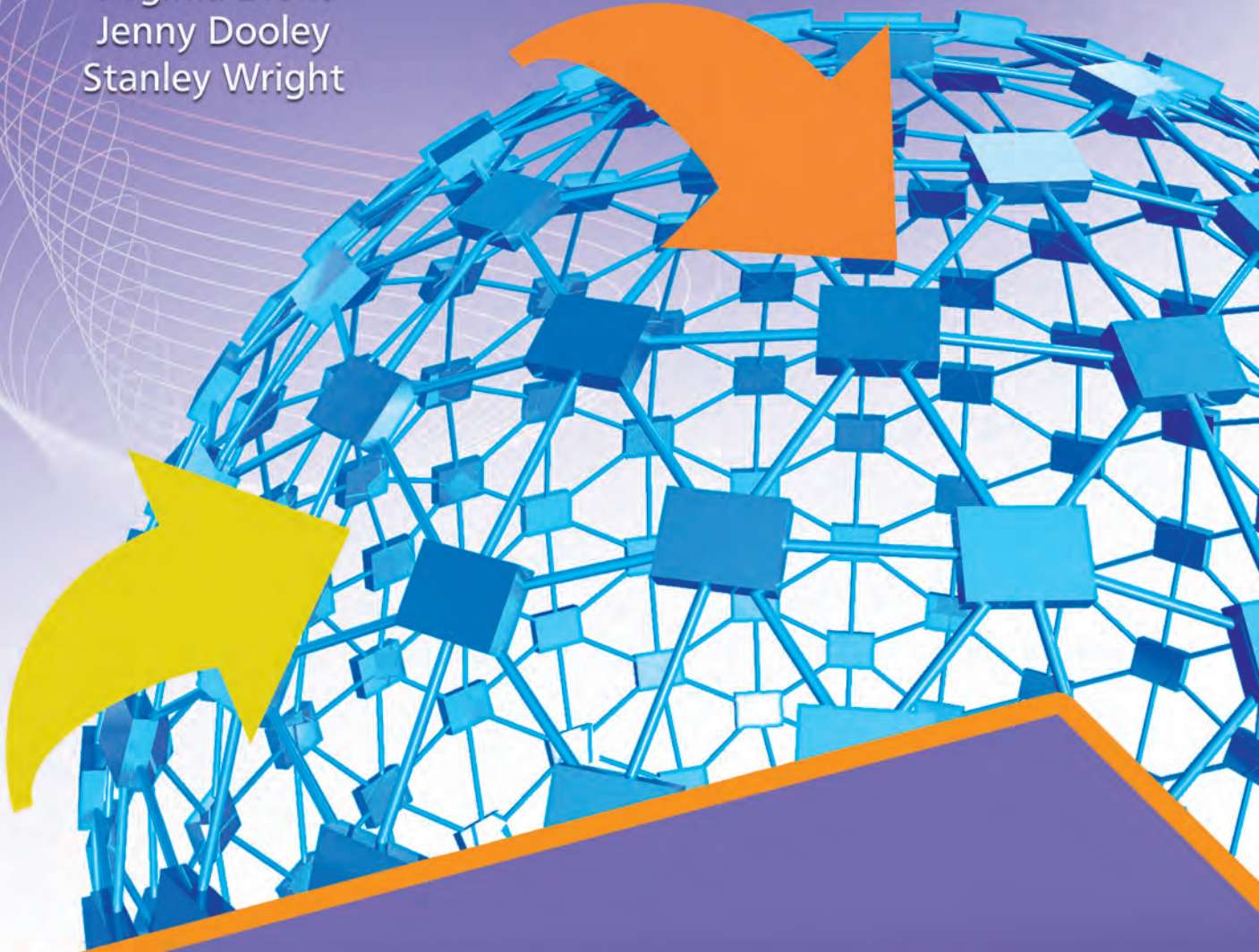
Information Technology

Book 1

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Express Publishing

Scope and Sequence

Unit	Topic	Reading context	Vocabulary	Function
1	Information Technology	Manual	code, data processing, data, encoding, hardware, information security, online, quality assurance, software, technical support	Getting someone's attention
2	Introduction to Computing Systems	Email	computer, desktop computer, laptop, mainframe, PDA, server, smartphone, supercomputer, tablet, workstation	Giving instructions
3	Inside the Computer	Product guide	case, expansion card, fan, hard drive, heat sink, motherboard, power supply, processor, RAM	Describing a process
4	Computing Devices	Catalog	input device, microphone, monitor, mouse, printer, scanner, scroll wheel, touch screen, USB	Making a suggestion
5	Networking	Magazine article	CAT-5, configuration, cycle, DHCP, Internet, IP address, LAN, network, router, WLAN	Describing options
6	The User Interface	Manual	desktop, drag, folder, GUI, icon, maximize, menu, minimize, OS, pointer, shortcut, window	Offering a solution
7	Word Processing	Advertisement	compatibility, document, font, format, formatting, layout, macro, spell check, template, word processing program	Clarifying a situation
8	Email	Memo	attachment, domain name, email address, email client, ISP, password, POP3, SMTP server, username, webmail	Checking for errors
9	Web Browsing	Email	HTML, http, hyperlink, meta tag, search engine, URL, web browser, web host, web site, www	Expressing confusion
10	Images and Graphic Design	Magazine article	contrast, crop, exposure, graphic editing program, graphics, JPEG, pixel, resize, resolution, tint	Answering the phone
11	Databases vs. Spreadsheets	Email	cell, database field, database, formula, function, operator, query, sort, spreadsheets, table, worksheet	Asking for help
12	Web Design vs. Web Development	Course descriptions	appearance, coding, content, CSS, functionality, navigation, usability, visibility, web design, web development	Asking about purpose
13	Desktop Publishing	Job listing	clip art, comprehensive layout, design, desktop publishing software, desktop publishing, electronic pages, electronic paper, electrostatic printing, graphic communications, offset lithography, page layout	Talking about experience
14	Videoconferencing	Email	bandwidth, dedicated system, document sharing, echo-cancellation, monitor, multipoint videoconference, video bridge, videoconferencing, webcam	Explaining differences
15	E-commerce	Email	affiliate, banner, brick and mortar, certificate authority, digital certificate, e-commerce, FAQs, shopping cart, traffic	Clarifying information

Table of Contents

Career Paths

Information Technology

Book 2

Virginia Evans
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Express Publishing

Scope and Sequence

Unit	Topic	Reading context	Vocabulary	Function
1	Computer Memory	Guide	bit size, bit, bus speed, DIMM, hard drive, MB, MHz, motherboard, paging file, RAM, SIMM, virtual memory	Describing minimum requirements
2	Programming Languages	Letter	Assembler, BASIC, C#, C, C++, compiler, computer language, CPU, Java, linker, machine code, multi-thread	Expressing a concern
3	ISPs and Internet Access	Business letter	antivirus software, broadband, DSL, hotspot, ISP, T-1, T-3, upgrade, Wi-Fi, wireless router	Describing benefits
4	Storage Devices	Suggestion form	array, CD-R, CD-RW, data compression, failure, magnetic tape, memory storage density, RAID, SATA, USB flash drive	Asking about deadlines
5	Peripherals	Advertisement	automatic document feeder, calibration, CCD, digital camera, digital zoom, DPI, flash memory, inkjet printer, laser printer, megapixel, optical zoom, transparency adapter	Making a recommendation
6	MP3 Players	Announcement	AAC, bitrate, capacity, decode, dock, driver, freeze, gigabyte, playlist, upload	Investigating a problem
7	Cell Phones	Advertisement	4G network, apps, Bluetooth, call waiting, caller ID, cell phone, lithium-ion battery, ringtone, text message, touchscreen, voicemail	Offering help
8	Communications	Instant messages	barcode, data plan, email, EPC, instant message, scan, smartphone, spam, tablet, text, UPC	Assigning a task
9	Entertainment and Social Networking	Memo	avatar, blog, feed, forum, gaming, handle, link, MMORPG, post, profile, social networking, virtual world	Giving a summary
10	GPS Systems	Advertisement	accuracy, acquisition time, cartography, coordinates, GPS, integrity, latitude, longitude, navigation, waypoint	Describing capabilities
11	Banking	Website	account activity, account alert, bank fraud, bill pay, electronic statement, identity theft, lockout, online banking, PIN, site key, SSL	Reporting a problem
12	Education and Research	Advertisement	boolean operator, catalog, ebook, ejournal, EZproxy, index, license restriction, media, remote access, subscription, VPN	Recognizing a cause
13	Robotics	Email	actuator, autonomous, drive power, dynamic model, enabling device, enabling device, end-effector, equality constraint, joints, manipulator, pendant, robotics, serial robot	Citing a previous example
14	Electronic Publishing	Website	active matrix display, bitmapped graphics, black and white, download, ergonomic, offline, PDF reader, publication, reflow, sub-pixel rendering, system requirements, upload	Describing completion
15	Artificial Intelligence	Magazine Article	agent, algorithm, case-based reasoning, cognitive scientist, computer vision, heuristic, machine learning, model-based reasoning, pattern recognition, robot	Asking for clarification

Table of Contents

Career Paths

Information Technology

Book 3

Virginia Evans
Jenny Dooley
Stanley Wright

Express Publishing

Scope and Sequence

Unit	Topic	Reading context	Vocabulary	Function
1	Macs and PCs	Magazine article	Apple, color matching, Mac, Microsoft, OS X, PC, prepress, processing speed, typography, video subsystem, Windows	Stating a preference
2	Linux	Email	command lines, free software license, interface, Linux, Linux distribution, Microsoft Office, open source, OpenOffice, TCP/IP protocol, terminal, Ubuntu	Listing concerns
3	Connecting to Clients and Employees	Email	anchor, applet, CAD, CBT, DVD, electronic bulletin board, FAQs, media player, MPEG, multimedia, reliability	Giving an opinion
4	Advertising and Marketing	Contract	animated GIF, click-through rate, click tracking, CPM, CPC, above the fold, commission, campaign, geo targeting, frequency capping, hang	Confirming information
5	Automation	Investor report	automation, CAM, embedded systems, encoder, Ethernet network, fault tolerant, integrated circuits, latency, open system, oscilloscope, priority inversion, redundancy	Asking for suggestions
6	Telecommuting	Letter	Basecamp, centralize, color-coding, gallery, message board, real time, Skype, telecommuting, toggle, tour, web-based	Describing functions
7	Hackers and Viruses	Newspaper article	anti-antivirus virus, hacker, imbed, infect, log in, overwriting virus, piggybacking, replicate, resident extension, resident virus, virus	Discussing possible consequences
8	Identity Theft	Letter	card scanning, cyber, fraud, harming, identity theft, malware, phishing, pretexting, scanner, spyware, Trojan horse, worm	Discussing suspicions
9	Preventative Measures	Email	attack, audit log, authenticated, backdoor, bug, firewall, intruder, keylogger, popup, protocol, security	Checking certainty
10	Anti-virus Software	Advertisement	anti-virus software, backup, block, cyber criminal, detect, false negative, false positive, rootkit, security software, sweep, virus removal software, webpage analysis	Discussing capabilities
11	Cloud Computing	Newspaper column	CDN, cloud computing, deployment, elasticity, PaaS, pay as you go, private cloud, public cloud, SaaS, scalability, utility computing	Expressing a positive opinion
12	Improving Health	Magazine article	ADM, bar coding, CDSS, CPOE, electronic health record, EMM, implanted microchip, interoperability, lab-on-a-chip, micro robotic tweezers, optic scanner, PACS	Giving instructions
13	Creative Design	Website	animated GIF, blog, egress, ingress, interface, keyword, mask, natural language, PCI compliance, redesign, trust logo, web portal	Offering solutions
14	System Administration	Job posting	configure, cover letter, duty, file archiving, install, performance tuning, purge, résumé, system administrator, technical, troubleshooting, Unix	Talking about qualifications
15	Programming	Job listings	back end, editor, GUI component, HTML, interactive, PHP, programmer, scripts, user-friendly, visual basic, web developer, XML	Discussing degree of difficulty

Table of Contents

1 Computer Memory

1 motherboard

2 RAM

ClearPic Troubleshooting Guide

Certain memory requirements are necessary to install and run ClearPic. Check that the computer has at least 500 **MB** of **RAM** available. For optimal performance, make sure the computer's CPU has a **bit size** of at least 32 **bits**. It should run at a **bus speed** of 800 **MHz**.

There are several options to fix problems with limited memory. One, is to limit the number of programs running at the same time.

Another, is to increase the amount of RAM. First, determine whether your computer uses **SIMMs** or **DIMMs**. Make sure that the memory's **bus speed** matches that of the computer. Purchase the appropriate amount of RAM and attach it to the **motherboard**.

You can also increase your computer's **virtual memory**. This temporarily stores data on a **paging file** on the computer's **hard drive**. To add virtual memory, click on the "My Computer" icon. Under "Properties," increase the maximum memory amount.

6 DIMM

5 hard drive

4 CPU

3 virtual memory

Get ready!

**1 Before you read the passage, talk about these questions.**

1 How has increased computer memory changed business?

2 When do people need to add more computer memory?
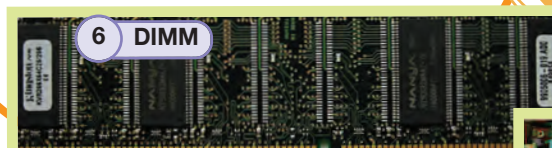
Reading

2 Read the troubleshooting guide. Then, choose the correct answers.

1 What is the passage mainly about?
  A the main function of the CPU
  B where to install the ClearPic file
  C how to add or modify computer memory
  D speeds of RAM attached to the motherboard

2 What should people do first when increasing available RAM?
  A check to see if they need SIMMs or DIMMs
  B increase the amount of virtual memory
  C temporarily store their data on a paging file
  D make sure the CPU runs at a speed of 800 MHz

3 What is NOT a way to fix a limited memory problem?
  A increase the amount of virtual memory
  B buy a new motherboard for the computer
  C reduce the number of programs running
  D increase the amount of available RAM
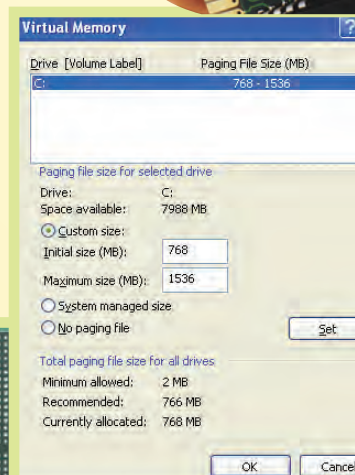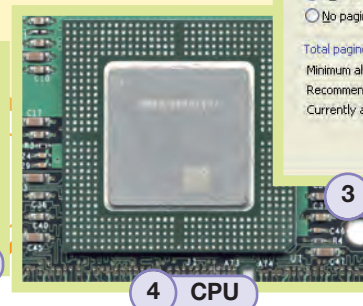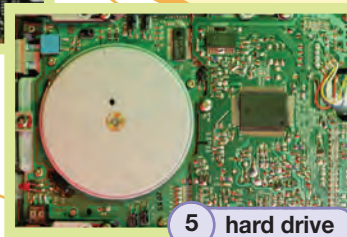
Vocabulary

3 Match the words (1-7) with the definitions (A-G).

1 __ MHz   5 __ virtual memory
2 __ SIMM   6 __ paging file
3 __ motherboard 7 __ bit
4 __ DIMM

A where data that doesn't fit in the RAM is stored
B the main circuit board in a computer
C a unit of measurement that measures the speed of a CPU
D a data storage method that stores data on the hard drive
E the smallest unit of computer data
F an memory module that sends up to 32 bits of data to a CPU
G a memory module that sends up to 64 bits of data to a CPU

4 Fill in the blanks with the correct words and phrases from the word bank.

WORD BANK

hard drive   **RAM**   **bit size**   **MB**   **bus speed**

1 The computer has a _____ of 64 bits.
2 The computer's CPU has a _____ of 800 MHz.
3 Increase the virtual memory to store data on the _____ .
4 This computer comes with 900 _____ of RAM.
5 Install additional _____ into the motherboard.

5 🎧 Listen and read the troubleshooting guide again. What happens when a computer's virtual memory is made bigger?

Listening

6 🎧 Listen to a conversation between a customer and an employee of ClearPic. Mark the statements as true (T) or false (F).

1 __ The customer's CPU is too slow to run the program.
2 __ The employee advises the customer to buy more RAM.
3 __ Increasing the virtual memory will increase the paging file size.

7 🎧 Listen again and complete the conversation.

Employee: Well, **1** _____ _____ _____ . To run ClearPic you really want to have at least 500 MB of memory.

Customer: So how can I fix that?

Employee: One easy way is to increase your computer's **2** _____ _____ .

Customer: What will that do?

Employee: It increases the paging file size. That way, your computer's **3** _____ _____ can store more data.

Customer: I see. So **4** _____ _____ do I increase the memory?

Employee: **5** _____ _____ on the 'My Computer' icon. Under 'Properties', increase the maximum memory amount **6** _____ _____ _____ half.

Speaking

8 With a partner, act out the roles below based on Task 7. Then, switch roles.

USE LANGUAGE SUCH AS:

How can I help you?
The program keeps freezing.
How can I fix that?

Student A: Your computer program keeps freezing. Talk to Student B about:
• the problem
• solutions
• increasing virtual memory

Student B: You are a support center employee. Answer Student A's questions.

Writing

9 Use the conversation from Task 8 to complete the receipt.

ClearPic
Support Center Receipt

Customer
Issue: _____

Does computer have enough memory? Y / N

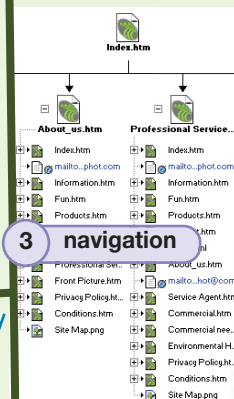Advice given: Increase _____

How to do this:
1 _____
2 _____

5

1 web design

NEWS FEED

MARKETING DESIGN

SEARCH ENGINE — WEBSITE — BLOG

ANALYTICS FORUM

CONTENT

TESTING LAYOUT

WEB DEVELOPMENT

2 web development USABILITY

3 navigation

Now Offering!

Spring Professional Development Courses

Website Review SOLUTIONS

Website Review Solutions now offers two spring classes. These classes focus on creating websites.

Web Development: Learn how to ma a simple website. Create **coding** to build sites. Explore ways to expand **functionality**. Discuss improving **navigation** and **usability**. Learn ways to increase a website's **visibility**.

Web Design: Learn how to change a website's **appearance**. Use **CSS** to chan a website's style. Compare the effect of different fonts and colors. Create attractiv **content** to catch a user's attention.

E-mail Mary Shelton at mshelton@wrsolutions.com register for classes.

4 CSS

6 coding

5 visibility
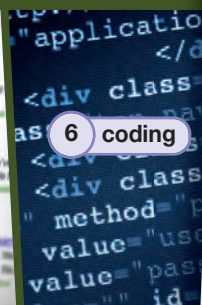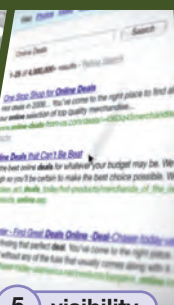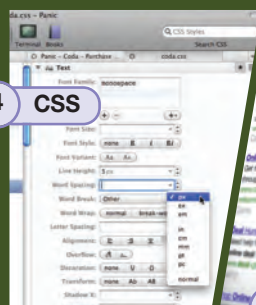
Get ready!

1 Before you read the passage, talk about these questions.

1 What makes a good business website?

2 What kind of websites do you like to use?

Reading

2 Read the article from a business newsletter. Then, choose the correct answers.

1 What does the Web Development class NOT teach?
   A making a website easy to use
   B improving a website's visibility
   C using code to program a website
   D how to market a new website

2 What can you infer about the Web Design class?
   A Attending the class is mandatory.
   B The first class addresses functionality.
   C It focuses on improving a site's visual element.
   D Its registration fee is less than the Web Development class.

3 What is the function of CSS?
   A It helps improve navigation.
   B It decreases a website's visibility.
   C It changes the style of a web page.
   D It expands the functionality of a website.

Vocabulary

3 Match the words (1-6) with the definitions (A-F).

1 __ web design   4 __ visibility
2 __ coding   5 __ usability
3 __ navigation   6 __ content

A choosing a website's visuals

B how easily you can find a website on a search engine

C a website's programming

D how easily a user can use a website

E moving around a website

F everything contained in a website

4 Fill in the blanks with the correct words and phrases from the word bank.

WOrd BANK

CSS   web development   appearance   functionality

1   The website doesn't work well. I want to improve its _____ .
2   My website looks boring. I'll give it a more interesting _____ .
3   If you are interested in making a website, take a _____ class.
4   I'm learning _____ so that I can change my website.

5 🎧 Listen and read the article from a business newsletter again. Which class would someone attend to learn about developing a website's performance?

Listening

6 🎧 Listen to a conversation between an instructor for a web development class and an employee. Choose the correct answers.

1   What do the speakers mostly talk about?
    A   how to change content
    B   why sheets are separate
    C   choosing the correct CSS style sheet
    D   the difference between content and style

2   What happens when the style sheet and the content are separated?
    A   It alters the content.
    B   The content does not change.
    C   Content needs creating.
    D   The words are changed in the content.

7 🎧 Listen again and complete the conversation.

Instructor:	So, that's how we change the website's style. Does anyone have any questions?
Employee:	Yes. I have one. It's about **1** _____ .
Instructor:	Oh, the **2** _____ _____ _____ . What do you want to know?
Employee:	Why do we separate the style sheet and the **3** _____ ?
Instructor:	It makes changing the **4** _____ _____ easier. The **5** _____ changes, but the content doesn't.
Employee:	So, I change the style sheet. What happens to the content?
Instructor:	Nothing, because the two are **6** _____ .
Employee:	Okay. I understand now. The words stay the same, but their appearance changes.

Speaking

8 With a partner, act out the roles below based on Task 7. Then, switch roles.

USE LANGUAGE SUCH AS:

I have a question about CSS.

Why do we separate the style sheet and the content?

What happens to the content?

Student A: You are in a web design class. Ask Student B questions to find out about:
•   style sheet and content
•   changing the style sheet
•   effects on content

Student B: You are the instructor of a web design class. Answer Student A's questions about web design.

Writing

9 Use the conversation from Task 8 to answer the sample test questions on web design.

EXAMPLE TEST QUESTIONS ON WEB DESIGN –
Spring Professional Development Courses:

1   What do the letters CSS stand for?
_____

2   What is the importance of separating the style sheets and the content?
_____

3   If the style sheet is changed, what happens to the content?
_____

above the fold [ADJ-U4] If something on a website is **above the fold**, it is visible without scrolling down after the page has loaded.

ad product [N-COUNT-U4] An **ad product** is an advertising opportunity such as a banner that is located on a website.

ADM [N-COUNT-U12] An **ADM** (Automated Dispensing Machine) is a hospital machine that measures out specific amounts of medication into containers.

anchor [N-COUNT-U3] An **anchor** is a word, phrase, or image that includes a hyperlink and can be used for navigation.

animated GIF [N-COUNT-U4] An **animated** GIF is the combination of multiple GIF files in one advertisement to create animation.

anti-antivirus virus [N-COUNT-U7] An **anti-antivirus virus** is a computer virus that attacks and often disables anti-virus software.

anti-virus software [N-UNCOUNT-U10] **Anti-virus software** searches a computer system for computer viruses.

Apple® [N-UNCOUNT-U1] **Apple®** is the company that produces Macs® and other computing products.

applet [N-COUNT-U3] An **applet** is a small application that is embedded in a webpage.

attack [N-COUNT-U9] An **attack** is an attempt to get through computer security.

audit log [N-COUNT-U9] An **audit log** is a record of who has accessed a computer system and what actions they took.

authenticate [V-TRANS-U9] To **authenticate** something is to make sure that it is legitimate.

Automation [NOUN-UNCOUNT-U5] **Automation** is the use of programmed machines to perform tasks without human assistance.

back end [ADJ-U15] If something is **back end**, it occurs at the end of a project or job.

backdoor [N-COUNT-U9] A **backdoor** is a hidden way to get by security in computers and programs, sometimes intentionally created.

backup [V-T-U10] To **backup** is to create a duplicate copy of data that is stored on a separate hard drive or computer system to prevent the loss of the data.

bar coding [N-UNCOUNT-U12] **Bar coding** is a system in which doctors scan medicines and match them to patients.

Basecamp® [N-UNCOUNT-U6] **Basecamp®** is a program offered by the company 37 signals that organizes projects and can be accessed by multiple users simultaneously.

block [V-T-U10] To **block** something is to prevent access to it.

blog [N-U13] A **blog** is a personal website that is maintained by an individual.

bug [N-COUNT-U9] A **bug** is a flaw in a computer program.

CAD [N-UNCOUNT-U3] **CAD** (Computer-Aided Design) is the use of a computer to design things such as machines or buildings.

campaign [N-COUNT-U4] A **campaign** is an agreement between an advertising company and a client that outlines which types of advertisements are to be used, where they are to be placed, and how long they will appear.

card scanning [N-UNCOUNT-U8] **Card scanning** is the practice of capturing the personal information stored on credit cards, debit cards, or passports.

CBT [N-UNCOUNT-U3] **CBT** (Computer-Based Training) is the use of a computer to train employees.

CDN [N-COUNT-U11] A **CDN** (content delivery network) is a system of computers on a network containing copies of data that nearby users can access.

CDSS [N-UNCOUNT-U12] **CDSS** (Clinical Decision Support System) is a system that helps doctors diagnose problems. It also suggests treatment options.

centralize [V-T-U6] To **centralize** things is to bring from multiple places and make them available in one location.

click tracking [N-UNCOUNT-U4] **Click tracking** is the process of counting and keeping track of the number of clicks an advertisement receives.

click-through rate [N-COUNT-U4] The **click-through rate** is the ratio of clicked advertisements to the number of advertisements that are viewed.

cloud computing [N-UNCOUNT-U11] **Cloud computing** is use of the Internet for software and other resources.

Career Paths

Information Technology

Career Paths: Information Technology is a new educational resource for information technology professionals who want to improve their English communication skills in a work environment. Incorporating career-specific vocabulary and contexts, each unit offers step-by-step instruction that immerses students in the four key language components: reading, listening, speaking, and writing. *Career Paths: Information Technology* addresses topics including computer components, accessories, software, Internet security, web design, and the future of the industry.

The series is organized into three levels of difficulty and offers over 400 vocabulary terms and phrases. Every unit includes a test of reading comprehension, vocabulary, and listening skills, and leads students through written and oral production.

Included Features:
- A variety of realistic reading passages
- Career-specific dialogues
- 45 reading and listening comprehension checks
- Over 400 vocabulary terms and phrases
- Guided speaking and writing exercises
- Complete glossary of terms and phrases

The **Teacher's Guide** contains detailed lesson plans, a full answer key and audio scripts.

The **audio CDs** contain all recorded material.

Express Publishing