COMPLETE
Technology in Action
7th Edition
Alan Evans • Kendall Martin
Mary Anne Poatsy
PEARSON

1

Technology in Action

Chapter 1
Why Computers Matter to You:
Becoming Computer Literate

2

Topics

- Fluency with Information Technology (IT)
- Computer literacy
- Computers and careers
- Data mining and privacy issues
- Affective computing
- Nanotechnology
- Challenges of digital society

Computers in Your Career?

- Computers are used in:
  - Business
  - Retail
  - Delivery
  - Arts
  - Computer gaming
  - Education
  - Law enforcement
  - Legal system
  - Agriculture
  - Automotive technology
 - Medicine
  - Sciences

4

What is Fluency With IT?

- To be technology fluent you must:
  - Understand a computer's capabilities and limitations
  - Know how to use computers and other technology for problem solving

---

A Savvy Computer User and Consumer:

- Makes good purchase decisions
- Maintains your computer
- Keeps abreast of changes in technology
- Understands the security risks
- Uses the Internet wisely
- Avoids online annoyances
- Avoids hackers and viruses
- Protects your privacy
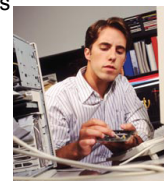
Why Become Fluent with IT?

- Benefits of learning about computers and other IT include:
  - Being a knowledgeable consumer
  - Using current and future technology
  - Increasing your career options
  - Understanding ethical and legal implications of IT

7

Participation Question

The term "digital divide" refers to:

A. the distinct technological differences between rural and suburban locations

B. the gap between those with regular, effective access to digital technologies and those without.

C. the gap between those of Generation Y and those born prior.

D. an electronic math software application.

Participation Question

Affective computing is the science of relating computers and _____ .

A. effective organizational skills.

B. results-oriented outcomes.

C. emotional and social skills.

D. the calculation on interest rates.

E. patient simulators.

Chapter 1 Summary Questions

- What does it mean to be "computer fluent"?
- How does being computer literate make you a savvy computer user and consumer?
- How can becoming computer fluent help you in your career?
- What are some future technologies?
- How can becoming computer literate help you understand and take advantage of newly emerging careers?
- How does becoming computer literate help you deal with challenges associated with technology?
- What kinds of challenges do computers bring to society?

Be a Savvy Computer User and Consumer

- Avoid hackers and viruses
- Protect your privacy
- Understand the real privacy and security risks
- Use the Internet wisely

11

Be a Savvy Computer User and Consumer

- Avoid online annoyances
- Maintain your computer
- Make good purchase decisions
- Integrate the latest technology

12

Computers in the Workplace

- Information technology (IT) involves:
  - Information handling
  - Information retrieval
  - Computers
  - Telecommunications
  - Software deployment
- The seven fastest-growing occupations are computer related.

13

Computers in Business, Retail, and Delivery

- Data mining
- Package tracking
- Forecasting models

14

Computers in the Arts

- Create Web sites
- Digitize dance movements
- Produce computer-generated art

15

Computers in Gaming

- Get a job doing:
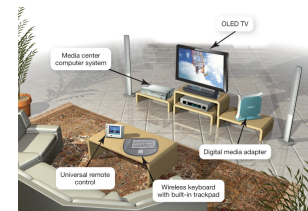 - Design
  - Programming
  - 3D animation

16

Computers in Education

- Instructional software
- Distance education
- Computerized research
- The Internet
- Virtual field trips
- PDA-guided tours

17

Digital Home

- You can control home systems from your computer and via the Internet:
  - Entertainment
  - Security
  - Lights
  - Heating and cooling
  - Appliances

18

Digital Home: Components

- Media computer with:
  - TV tuner
  - Radio tuner
  - Media software
  - Blu-ray, DVD, and/or CD
  - Network adapter

19

Computers in Law Enforcement

- Search databases
- Predict criminal activity
- Employ computer forensics

20

Computers in the Legal System

- Surveillance cameras capture crimes
- Forensic animations based on evidence
- High-tech courtrooms
- Handheld wireless devices to display evidence
- Online legal libraries

21

Computers in Agriculture

- Programs manage complex farming business and information systems
- RFID tags track and record animals in case of diseases
- Computerized sensors monitor conditions and activate equipment to protect crops

22

Computers in Automotive Technology

- Environmental trends and government regulations
- Computerized sensors and CPU systems in vehicles
- Consumer demand for computerized subsystems

23

Computers in Medicine

- Patient simulators and surgical robots
- Digital modeling of human anatomy

24

Biomedical Implants

- Technological solutions to physical problems
- Identity chips
  - Moral implications
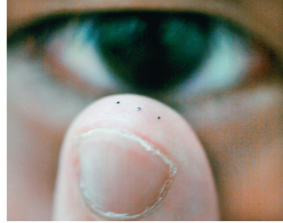
25

Computers in the Sciences

- Supercomputers create simulations in
  - Astronomy
  - Meteorology
  - Archaeology
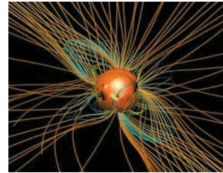
26

Computers in Sports

- Improved training
- Timing and scorekeeping
- Data storage and statistics
- Smartballs sense when soccer goals are scored

27

Nanotechnology

- Nano: Prefix stands for one-billionth
- Nanoscience: Study of molecules and nanostructures
- Nanostructures: Range in size from 1 to 100 nanometers
- Nanotechnology: Science of the use of nanostructures

28

Computers in Psychology

- Affective computing: Computing that relates to emotion or tries to influence emotion
  - Emotional social prosthesis (ESP) device
- Biped (two-legged) robots

29

Challenges Facing a Digital Society

- Privacy risks
- Personal data collection
- E-mail monitoring
- Copyright infringement
- Reliance on computers for security
- Digital divide

30