Chapter 2

The Internet, the Web, and Electronic Commerce

Computing Essentials 2023
O'Leary

Learning Objectives

1. Explain the origins of the Internet and the web.

2. Explain how to access the web using providers and browsers.

3. Compare different web utilities including filters, file transfer utilities, and Internet security suites.

4. Compare different Internet communications, including social networking blogs, microblogs, webcasts, podcasts, wikis, e-mail, text messaging, and instant messaging.

5. Describe search tools, including search engines and specialized search engines.

6. Describe how to evaluate the accuracy of information presented on the web.

7. Identify electronic commerce, including B2C, C2C, B2B, and security issues.

8. Describe cloud computing, including the three-way interaction of clients, Internet, and service providers.

9. Discuss the Internet of Things (IoT) and the continuing development of the Internet to allow everyday objects to send and receive data.

Introduction

The Internet.

* Interconnected mesh of computers and data lines.

* Connecting millions of people and organizations.

Foundation of the digital revolution.

* Allowing people around the world to share words, images and any digital file almost instantaneously.

The Web.

* Provides a multimedia interface to Internet resources.

To be effective and efficient.

* End user awareness of the resources available on the Internet and the Web.

The Internet and the Web

The Internet.

- Large global network connecting smaller networks all over the globe.

The Internet launched in 1969.

- The United States funded a project to develop a national computer network.

- ARPANET (Advanced Research Project Agency Network).

World Wide Web or WWW was introduced in 1991.

The Internet and the web are NOT the same.

- The Internet is the physical network.

- The web is a multimedia interface to the resources available on the Internet.

Web

Web 1.0.

- 1st generation.

- Linking existing information focus.

- Search programs were created.

Web 2.0.

- Dynamic content creation.

- Facebook is most common in Web 2.0.

Web 3.0.

- Identifies relationships between data.

- Personalized content creation for users.

Web 4.0.

- Called the mobile web.

- Similar to Web 3.0 but includes information from mobile devices.

Common Internet Uses

- Communicating.

- Shopping.

- Searching.

- Education or e-learning.

- Online Entertainment.

Making IT Work for You – Online Entertainment

Online options for TV, movies, music, books, social media, news feeds.

- Hulu, Amazon Prime, Netflix, Amazon Kindle, CNN, Instagram, Tidal, HBOMax, Apple Podcasts.

HBO

Aspiro AB

Instagram Inc.

Apple Inc.
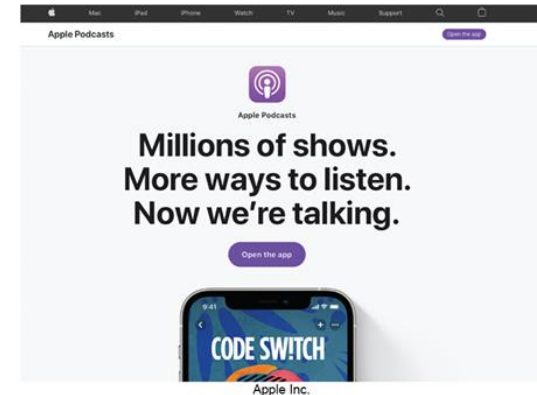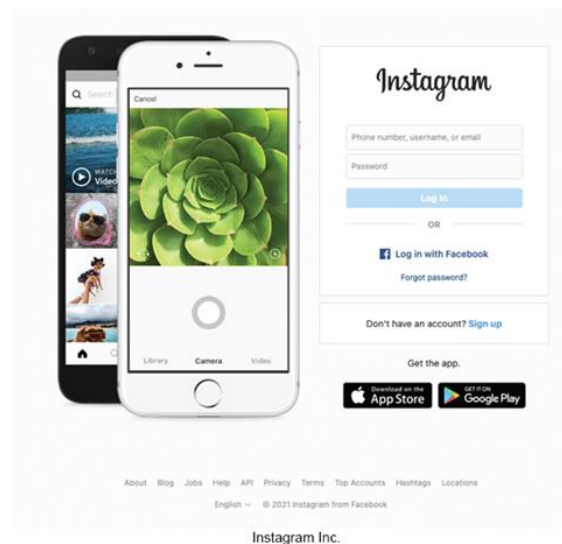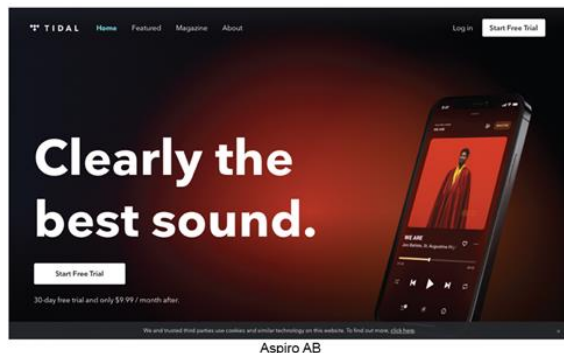
Internet Access Providers

Internet Service Provider (ISP).

- Common way to access the Internet.

- Provide a path to access the Internet.

- Use digital subscriber line (DSL), cable, and/or wireless connections.

Most common providers.

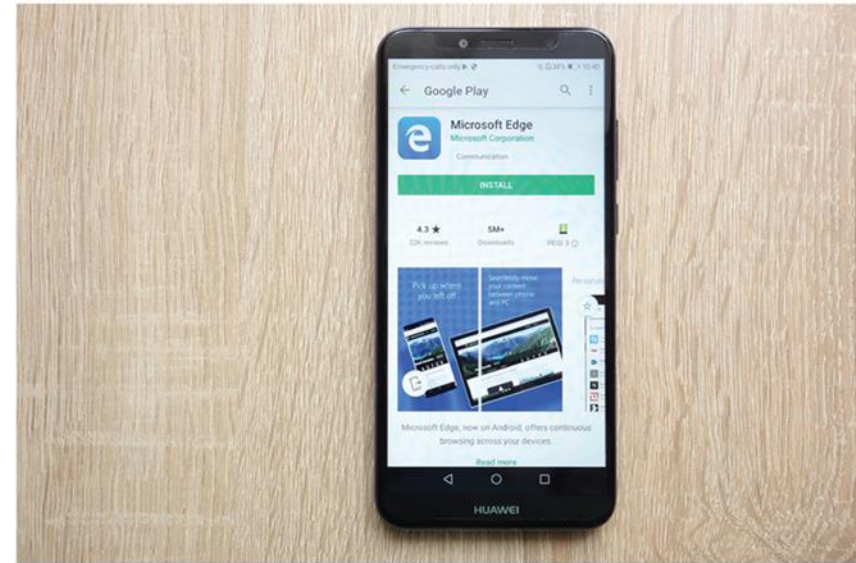- Verizon, Comcast, Sprint, T-Mobile, AT&T.

Browsers

Provide access to web resources.

Allow you to explore the web.

- Connect to remote computers.

- Uncomplicated interface to the Internet.

- File transfer.

- Display many varieties of multimedia.

Popular Web browsers include:

- Mozilla Firefox.

- Apple Safari.

- Microsoft Edge.

- Google Chrome.

Piotr Swat/Alamy Stock Photo

Indiaforte/Alamy Stock Photo

URLs

Uniform Resource Locator.

- Location or address of resource.

- https is the most common for web traffic.

Two parts.

Protocol.

- Rules for exchanging data.

Domain name.

- Where resource is located.

Figure 2-4

Top-Level Domain (TLD)

.com

- Commercial.

.edu

- Educational.

.gov

- Government.

.mil

- US Military.

.net

- Network.

.org

- Organization.

HTML and Hyperlinks

Hypertext Markup Language.

- Markup language for displaying web pages.

Browsers interpret HTML commands.

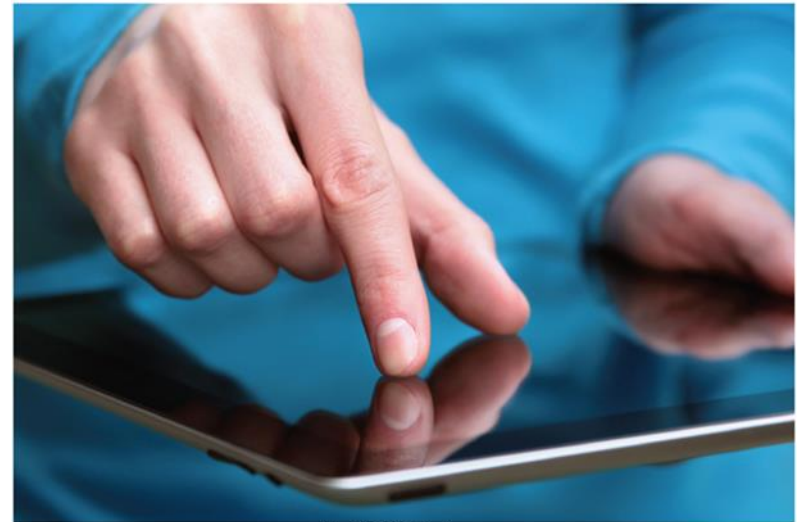- Display document as a web page.

Hyperlinks or links.

Connect to other web pages.

- Text files.

- Graphic images.

- Audio and Video Clips.

Interactive Web Sites

Technologies used to provide highly interactive and animated websites.

- JavaScript.

- PHP.

- Cascading Style Sheets (CSS).

- Mobile Browsers.

outline205/Getty Images

George Dolgikh/Shutterstock

Web Utilities

Specialized utility programs that make using the Internet and web safer and easier.

- Filters.

- File Transfer Utilities.

- Internet Security Suites.

Filters

Block access to selected sites.

Set time limits.

Monitor total time spent on the Internet and at individual web sites.

- Net Nanny.

- Qustodio Parental Control.

- Circle with Disney.

- Symantec Norton Family Premier.

File Transfer Utilities

Upload and download files to and from the Internet.

- Downloading.
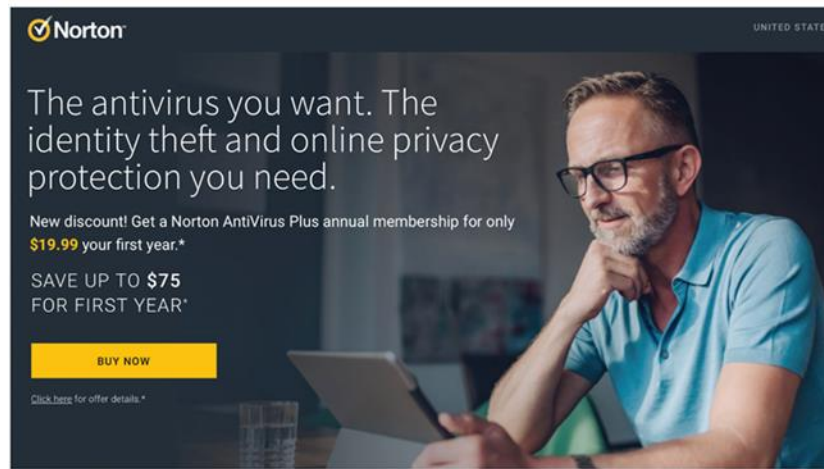
- Uploading.

Three popular types of programs.

- Web-based file transfer services.

- Bit-Torrent.

- File transfer protocol (FTP) / Secure file transfer protocol (SFTP).

Internet Security Suites

Designed to maintain your security and privacy while on the web.

Two best known suites.

- Symantec Norton Internet Security.

- Bitdefender Internet Security.

NortonLifeLock Inc.

Communication

Communication is the most popular Internet activity.

- Social Networking.

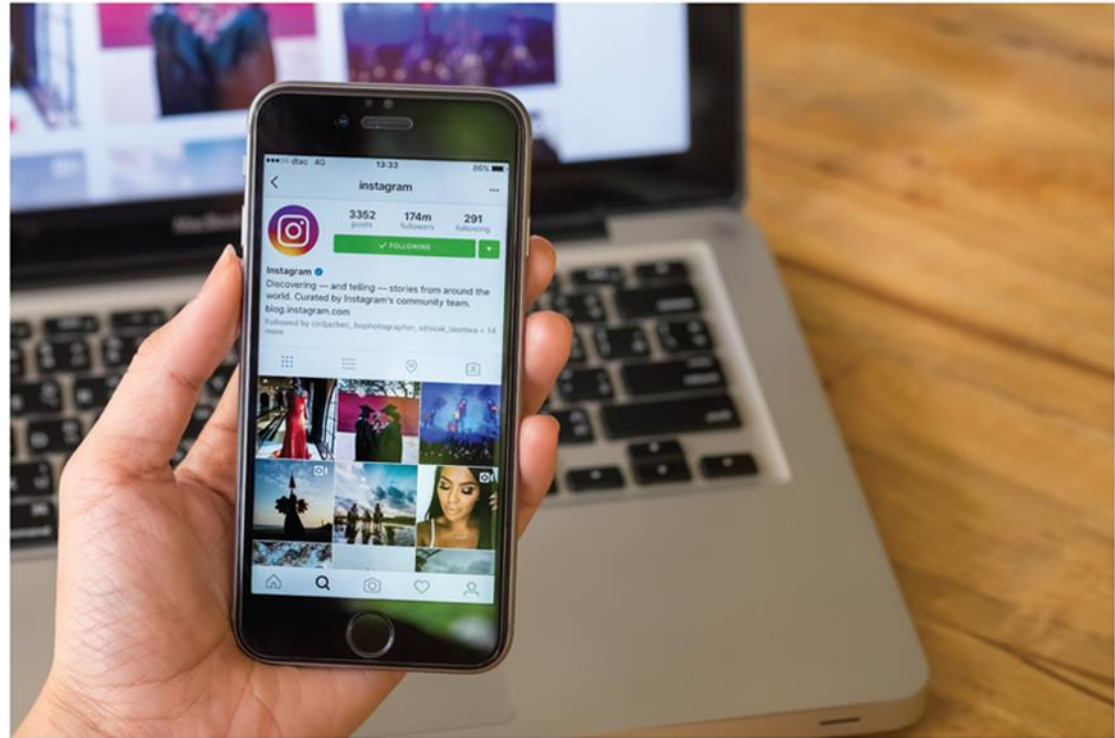- Blogs, Microblogs, Podcasts, and Wikis.

- Messaging.

- E-mail.

Social Networking

Connecting people and organizations that share a common interest or activity.

Common features.

- Profiles.

- Pages.

- Groups.

- Friends.

- News feed.

- Share settings.

Jirapong Manustrong/Shutterstock

ImageBROKER/Mara Brandl/Newcom

Blogs

- Blogs.

- Microblogs.

Worawee Meepian/Shutterstock

Webcast, Podcast, and Wikis

Podcast.

- Delivered over the Internet.

- Typically one audio program in a series of related podcasts.

Wiki.

- Specially designed Web site.

- Allows visitors to edit the contents.

- Supports collaborative writing.
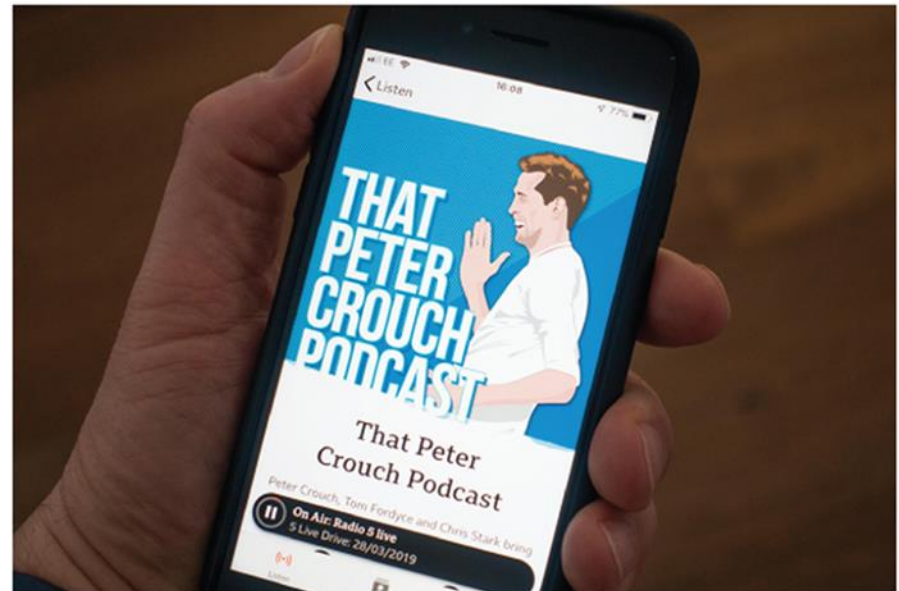
Cyberstock/Alamy Stock Photo

Apple

Messaging

- Text Messaging.

- MMS.

- Instant Messaging.

E-Mail

Transmission of electronic messages over the Internet.

Four basic elements.

Header.

- Address.

- Subject.

Message.

Signature.

Attachments.
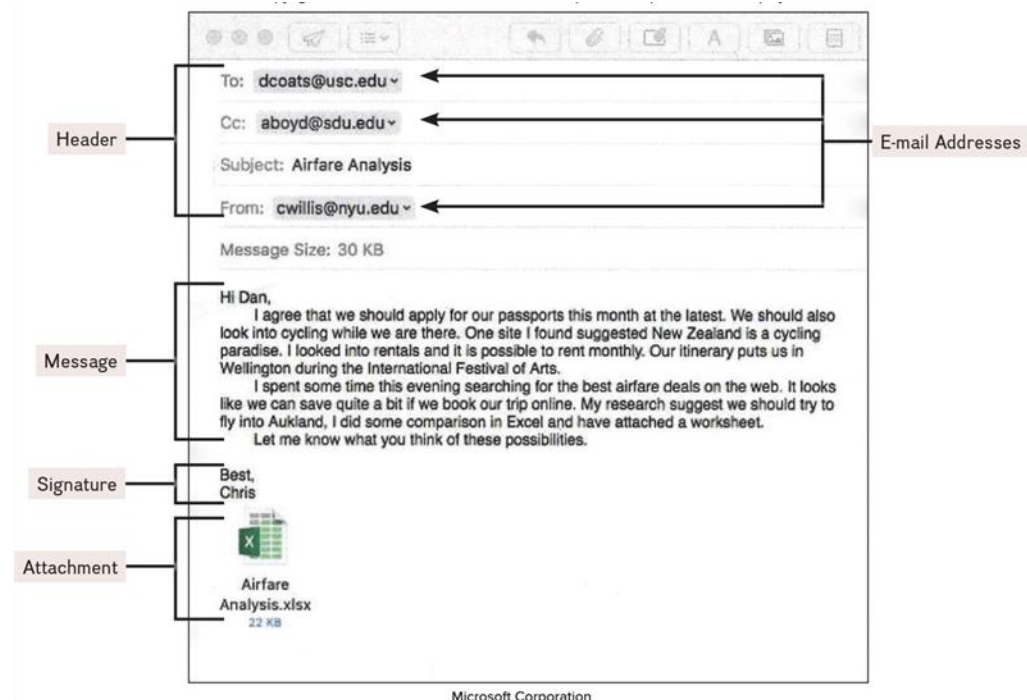
E-mail Systems

Client-based.

E-mail client.

Must be installed on computer.

- Apple's Mail.

- Microsoft Outlook.

Web-based.

Webmail client.

No installation necessary – free.

- Google's Gmail.

- Microsoft's Outlook.

- Yahoo!'s Yahoo! Mail.

SPAM

Spam.

- Unwelcome e-mail.

Computer viruses.

- Destructive programs.

CAN-SPAM Act.

- Antispam laws.

Spam Blockers/Filters.

- Identify and control spam.

Search Tools

Search Services.

- Operate websites.

- Spiders.

Search Engines.

- Assist in locating specific information.

Content Evaluation.

- Information on the web is often not reviewed to ensure accuracy.

Search Services	Site
Bing	www.bing.com
Duckduckgo	www.duckduckgo.com
Google	www.google.com
Yahoo!	www.yahoo.com

Figure 2-18 Search Engines

Content Evaluation

- Authority.

- Accuracy.

- Objectivity.

- Currency.

Electronic Commerce

- Business-to-consumer (B2C).

- Consumer-to consumer (C2C).

- Business-to-business (B2B).

Business to Consumer (B2C)

Sale of product or service to general public.

Fastest growing type of e-commerce.

Three most widely used B2C applications:

- Online banking.

- Financial trading.

- Shopping.

Amazon.com is one of the most widely used B2C sites

Consumer to Consumer (C2C)

Consumer-to-consumer e-commerce (C2C).

* Individual to individual.

Web auctions.

* Buyers and sellers seldom meet.

* Bids are submitted electronically.

* Online auction sites.

Business to Business (B2B)

Sale of a product or service from one business to another.

Primarily a manufacturer supplier relationship.

Security

Payment methods must be fast, reliable, and secure.

- Provide a convenient way to submit buyers' information.

Two options.

Credit card.

- Fast and convenient.

Digital cash.

- Internet's equivalent to traditional cash.

- Converts digital cash to currency through 3rd party.

- Cryptocurrency uses public ledgers, known as blockchains, to record all transactions.
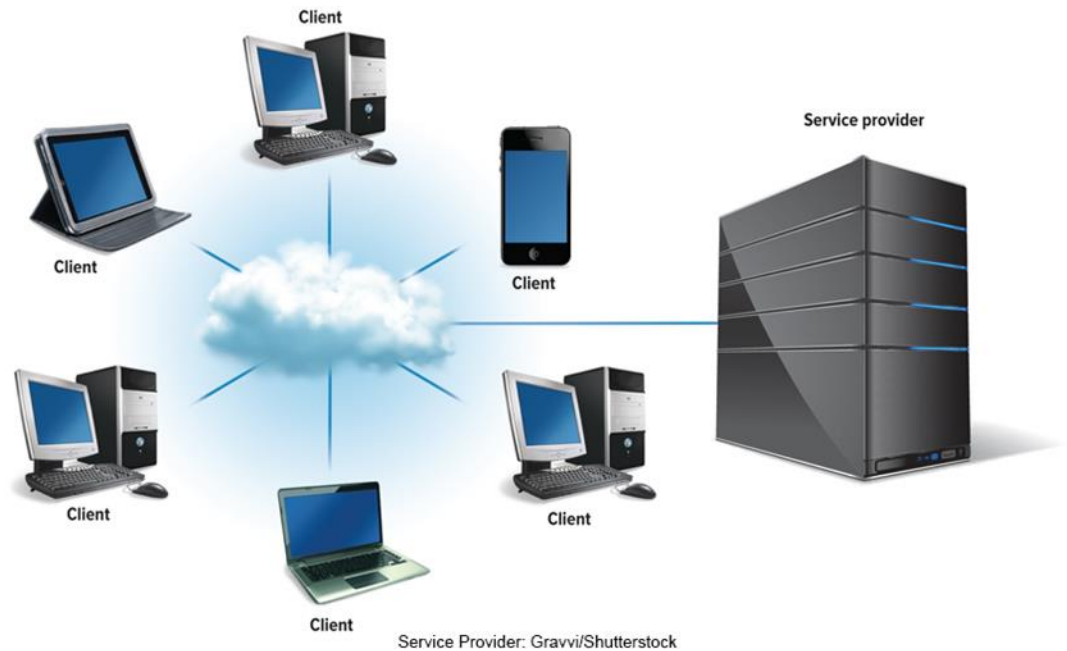
Cloud Computing

Shifts computing activities from users' computers to computers on the Internet.

Frees end-users from owning, maintaining, and storing software programs and data.

Three basic components:

- Clients (end-users).

- The Internet.

- Service providers.

Service Provider: Gravvi/Shutterstock

Internet of Things (IoT)

Continuing development of the Internet.

Allows objects embedded with electronic devices to send and receive data.

- Smartphones.

- Wearable devices.

- Coffee makers.

Uses Web 3.0 Applications.

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Careers in IT - Webmasters

Develop and maintain websites and resources.

- Backup of company website.

- Design and development of websites.

- Work with the marketing team.

- Increase site traffic.

- Development of web promotions.

Dragon Images/Shutterstock

G-Stock Studio/Shutterstock

A Look to the Future

Home Smart Home.

NicoElNino/Shutterstock

Open Ended Questions

1. Discuss the Internet and web, including their origins, the four generations of the web, and the most common uses.

2. Describe how to access the Internet. What are providers? Define browsers, and discuss URLs, HTML, CSS, JavaScript, AJAX, PHP, and mobile browsers.

3. What are Web utilities? Discuss filters, file transfer utilities, and Internet security suites.

4. Discuss Internet communications, including social networking, blogs, microblogs, podcasts, wikis, client-based and web-based e-mail, and messaging.

5. Define search tools including search services. Discuss search engines. Describe how to evaluate the content of a web site for Authority, Accuracy, Objectivity, and Currency.

6. Describe electronic commerce, including business-to-consumer, consumer-to-consumer, and business-to-business e-commerce, and security.

7. Discuss the Internet of Things (IoT). Describe how Fitbit and Apple's Health App are examples of how an IoT device can interact with a Web 3.0 application.

8. What is cloud computing? Describe the three basic components of cloud computing.

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