

Technology Handbook

Module 5

Online Connections and Communications

Key Terms

e-mail

Microsoft
Outlook

distribution list

newsgroup

newsreader

instant
messaging

E-mail, Distribution Lists, Newsgroups, and Instant Messaging

The most popular form of online communication is **e-mail**, or electronic mail. E-mail is a system for sending messages and files electronically from one computer to another, enabling families, friends, business associates, and even complete strangers to communicate with one another. The messages can be text entered on the keyboard or files from a computer. All that is needed is an e-mail account, Internet access, and a Web browser or e-mail software, such as **Microsoft Outlook**.

Outlook is a popular e-mail program that sends and receives e-mail allowing you to share information with others anywhere in the world. It is also a desktop communications programs that helps you manage your time and information effectively. Outlook saves contact information, such as phone numbers and e-mail addresses and has a calendar for scheduling. The Outlook calendar is a useful time-management tool. You can view your schedule by the month, week, or day. The daily view allows you to schedule your time by the hour.

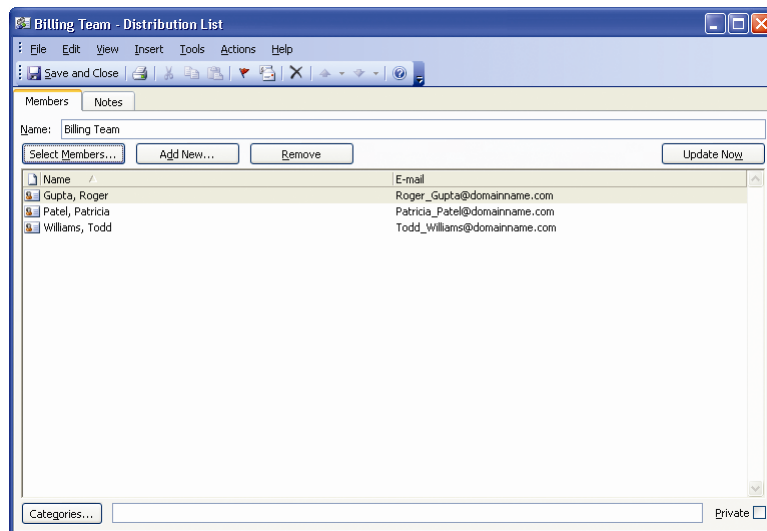
E-mail addresses function much like physical addresses do: they are used to identify the “mailbox” of the person to whom you are sending a message. E-mail addresses take on the following form: *username@location.com*. The username is the “address” of the person; the location is the “post office.” However, since many users often share the same location, avoiding duplicate addresses can be a problem. Perhaps you have tried to create a username with a popular e-mail provider such as Hotmail, only to find that this name was already in use. To avoid this problem, create a username that is unique and meaningful to you.

Technology Handbook

Module 5

Online Connections and Communications

In addition to e-mail, there are other types of online communication. A **distribution list**, or mailing list, is a list of e-mail addresses to which e-mail messages can be sent. When an e-mail is sent to a mailing list, every e-mail address on the list receives the e-mail.



TIP

When more than one user responds to a newsgroup message, the original topic is called a thread.

You can share information with whole groups at one time using online communication. A **newsgroup** is an online discussion group, or a group of individuals on the Internet with a common interest in a particular subject. There are thousands of newsgroups covering thousands of specific topics. In newsgroups, users personally exchange news through online posts to discussion groups and real-time chats. You can use newsgroups to post questions and ideas.

This type of Internet service is managed by the Network News Transfer Protocol (NNTP), which is used to distribute newsfeeds, or collections of articles, to newsgroups according to their subject of interest. Essentially, this protocol functions as a filter, sending pertinent news to interested users as it omits other subject areas.

Technology Handbook

Module 5

Online Connections and Communications

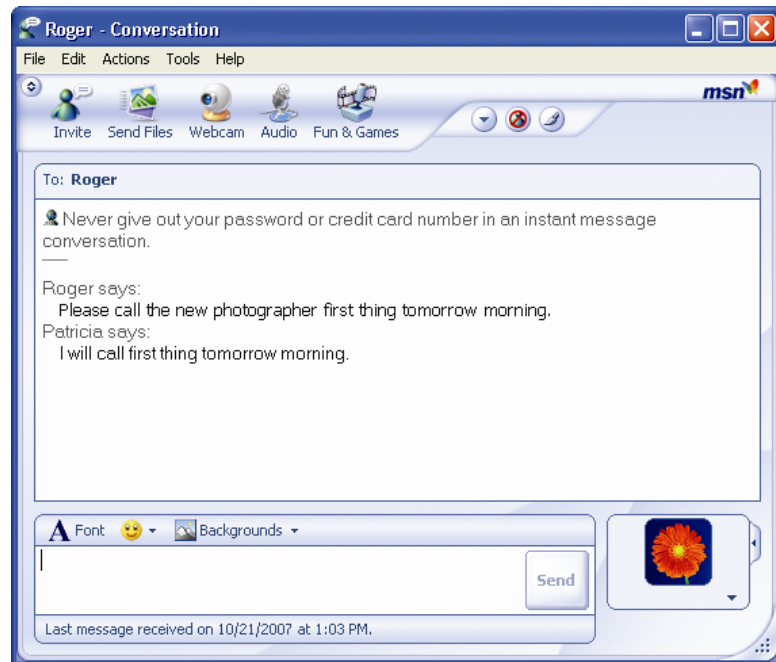
TIP

Usenet's subscribers can post messages on a huge "bulletin board" any time of the day or night.

To access a newsgroup, you need a program called a **newsreader**. Then you must subscribe to a newsgroup that interests you. This subscription is free of charge, but it is necessary so that your newsreader program knows to watch for new posts in that group. Usenet is one of the most well-known newsgroup services.

Instant messaging, another form of online communication, is like having a telephone conversation with text.

The person with whom you are communicating receives your messages as soon as you send them, and you receive their messages when they send them.



Technology Handbook

Module 5

Online Connections and Communications

TIP

Some instant messengers now include voice recognition, so typing is no longer necessary.

To some extent, instant messaging reduces the need for e-mail and long-distance phone calls. Most Internet providers offer instant messengers in which you can contact someone in real-time using his or her e-mail address.



✓ Tech Check

Answer the questions on a separate piece of paper.

1. **Define** Define e-mail.
2. **Explain** How are distribution lists and newsgroups different?
3. **Use** Send your teacher an e-mail explaining instant messaging.

Technology Handbook

Module 5

Online Connections and Communications

Key Terms

e-commerce
brick-and-mortar
click-and-mortar
click-and-order
business-to-consumer (B2C)
business-to-business (B2B)
consumer-to-consumer (C2C)

E-commerce

E-commerce, or electronic commerce, is the buying and selling of products and services over the Internet. Consumers use e-commerce to shop for certain products without leaving their home—they are able to search and pay for products that are delivered to their house. Businesses use e-commerce to reach more consumers, send information quickly, and have lower operating expenses.

In its inception, e-commerce was not very popular among consumers. Only a small percentage of Internet users bought products online because many were concerned about security issues involving e-commerce, such as the theft of credit card numbers that were used to pay for products on the Internet. As businesses made their Web sites more reliable, secure, and user-friendly, consumers began to experience the benefits of e-commerce. For example, shopping online allows consumers to quickly visit competitors' Web sites to compare prices of certain products. Online shoppers are also able to check the inventory of a product, instead of going to a store only to find that the product they want is out of stock.

Businesses also reap many benefits from e-commerce. On the Internet, businesses are able to sell more products without the expense of hiring additional employees or opening new stores. E-commerce also makes it easier for businesses to keep track of sales and customer information.

There are several different types of e-commerce. Depending on how it uses the Internet, a company can be assigned to one of the following categories:

Technology Handbook

Module 5

Online Connections and Communications

- **Brick-and-mortar** businesses do not sell their products on the Internet. They might have a Web site that describes their business, but they only sell products in physical locations.
- **Click-and-mortar** businesses sell their products both on the Internet and in stores. Many clothing companies are click-and-mortar businesses.
- **Click-and-order** businesses do not have any physical stores. They only sell their products on the Internet.

Different types of e-commerce transactions can be categorized as follows:

- **Business-to-consumer (B2C)** e-commerce involves businesses that sell their products online to individual consumers. Most click-and-mortar and click-and-order businesses involve B2C e-commerce.
- **Business-to-business (B2B)** e-commerce refers to transactions in which businesses use the Internet to sell products or services to other businesses, such as accounting services, business software, or production equipment.
- **Consumer-to-consumer (C2C)** e-commerce involves one person selling a product to another person.

TIP

Products listed on eBay are examples of consumer-to-consumer (C2C) e-commerce.

Technology Handbook

Module 5

Online Connections and Communications

TIP

Due to the popularity that e-commerce enjoys, consumers seem to believe that its advantages outweigh its disadvantages.

E-commerce does have some disadvantages, such as not being able to see the product with your own eyes, the increasing number of pop-up ads on Web sites, and unsolicited e-mail from companies that engage in e-commerce. In addition, e-commerce could lead to a drop in jobs for sales clerks, store managers, and other employees who are no longer needed as the number of physical stores is reduced or even eliminated.

✓ Tech Check

Answer the questions on a separate piece of paper.

1. **Summarize** How do consumers benefit from e-commerce?
2. **Identify** Give an example for each of the following: brick-and-mortar, click-and-mortar, and click-and-order business.
3. **Discuss** Name two disadvantages of e-commerce.

Technology Handbook

Module 5

Online Connections and Communications

Key Terms

smart appliance

smart house

wireless
technology

nanotechnology

Emerging Technology

Computer technology is constantly changing. Today, many workers carry a laptop PC, a cell phone, and a PDA. Single, small devices able to do the work of all three are gaining in popularity. With improvements in wireless technology, workers are able to work in many different places—the kitchen table, a park bench, or a lounge chair by the pool.

Smart appliances with computers that are connected to the Internet are also becoming a reality. Refrigerators could warn you when the milk is about to spoil, order more eggs for you, or schedule a repair visit. Microwaves could have an Internet browser to search the Web for recipes. Such inventions would lead to **smart houses** with networks that control Internet-enabled appliances. Technology already exists to automatically monitor and adjust lights, temperature, and TV or stereo volume. Smart houses might be able to open doors automatically for an elderly or disabled resident. A smart house might include motion sensors to track movement—if they detect no motion for a certain amount of time, the house could call for help in case the person has fallen or lost consciousness.

Most of the projected technological advances involve **wireless technology**. This technology relies on wireless zones, which allow people to access the Internet with wireless devices, such as laptops, PDAs, and digital cell phones. Indeed, wireless zones are already available in many locations, such as cafes, hotels, and convention facilities. For a small fee, customers are able to “connect” to the wireless network without needing to plug into anything.

Technology Handbook

Module 5

Online Connections and Communications

TIP

Perhaps one day wired networks, with all of the wires, cables, and plugs that accompany them, will be a thing of the past.

One of the major obstacles to the growth of wireless technology is security concerns. Currently, most wireless networks are not secure against hacking, since anyone with the adequate equipment can locate a wireless network's signal, tap into it, and become a part of the network. From there, the hacker can do what he or she pleases. This security threat exists because wireless network transmissions can radiate in all directions. A wireless network's signal may extend several hundred feet beyond the building in which it is used, allowing passersby to pick up the signal.

Some solutions to these security problems have been introduced. Wireless firewalls add an additional layer of protection, and encryption schemes convert the wireless network signals into a code that must in turn be decoded by someone else within the network in order to be decipherable. However, additional security measures are needed before wireless technology becomes the norm.

As security concerns regarding wireless technologies are addressed, the Internet will rely less and less on physical connections. With greater, perhaps unlimited, bandwidth, the Internet will become an even more valuable tool for communication and research. Medicine will most likely be practiced online. Surgeons will be able to use virtual reality systems and cameras to control surgical robots in order to perform surgeries remotely.

One of the most discussed emerging technologies is **nanotechnology**, which involves the development of molecule-size supercomputers.

Technology Handbook

Module 5

Online Connections and Communications

TIP

The application of nanotechnology will present various security as well as ethical concerns that will need to be resolved before it becomes commonplace.

This technology may result in paper-thin computers that will roll up and fit in your pocket, or wearable computers that are built into clothing. Eventually, doctors may be able to treat patients by injecting tiny robots that will single out and destroy diseased cells.

✓ Tech Check

Answer the questions on a separate piece of paper.

1. **Define** What is a smart appliance?
2. **Create** Draw a diagram of your own smart appliance. Label all of its features.
3. **Predict** Describe an invention that you think nanotechnology will make possible.

Module 5 Assessment

Online Connections and Communications

Key Term Review

Answer the following questions on a separate sheet of paper.

1. _____ is a system for sending messages and files electronically from one computer to another.
2. The Microsoft Office software that sends and receives e-mail is _____.
3. A(n) _____ is a list of e-mail addresses to which e-mail messages can be sent.
4. A(n) _____ is an online discussion group, or a group of individuals on the Internet with a common interest in a particular subject.
5. To access a newsgroup, you need a program called a(n) _____.
6. _____ is like having a telephone conversation with text.
7. _____, or electronic commerce, is the buying and selling of products and services over the Internet.
8. _____ businesses do not sell their products on the Internet; they only sell products in physical locations.
9. _____ businesses sell their products both on the Internet and in stores.
10. _____ businesses do not have any physical stores; they only sell their products on the Internet.
11. _____ e-commerce involves businesses that sell their products online to individual consumers.
12. _____ e-commerce involves one person selling a product to another person.
13. Appliances with computers that are connected to the Internet are called _____.
14. _____ relies on wireless zones to allow people to access the Internet with wireless devices.
15. _____ involves the development of molecule-size supercomputers.

Module 5 Assessment

Online Connections and Communications

Concept Review

Answer the following questions on a separate sheet of paper.

16. Like physical addresses, _____ function to identify the “mailbox” of the person to whom you are sending a message.
17. The _____ is used to distribute newsfeeds to newsgroups according to their subject of interest.
18. _____ ads on Web sites are one disadvantage of e-commerce.
19. Smart houses will have networks that control _____ appliances.
20. One of the major obstacles to the growth of wireless technology is _____ concerns.

Critical Thinking

Complete the following exercises to reinforce your understanding of the lesson.

21. **Explain** Write a paragraph in which you explain how you think e-mail has changed the way people do business and communicate.
22. **Predict** Name three additional features that a smart house might have.