



# **WEEK I**

## **Fundamentals of the World Wide Web and Internet**

# Objectives Overview

Discuss the evolution  
of the Internet

Describe the purpose  
of an IP address and  
its relationship to a  
domain name

Explain the purpose  
of a Web browser and  
identify the  
components of a Web  
address

# Objectives Overview

Describe the  
types of Web sites

Identify and briefly  
describe the steps  
required for Web  
publishing

# The Internet

- The **Internet** is a worldwide collection of networks.



# Evolution of the Internet

- The Internet originated as ARPANET in September 1969 and had two main goals:

Allow scientists at different physical locations to share information and work together

Function even if part of the network were disabled or destroyed by a disaster

# Evolution of the Internet

**1969**  
ARPANET  
becomes  
functional

**1986** NSF  
connects  
NSFnet to  
ARPANET  
and becomes  
known as the  
Internet

**1996**  
Internet2 is  
founded

**1984**  
ARPANET  
has more  
than 1,000  
individual  
computers  
linked as  
hosts

**1995**  
NSFNet  
terminates its  
network on  
the Internet  
and resumes  
status as  
research  
network

**Today** More  
than 550  
million hosts  
connect to  
the Internet

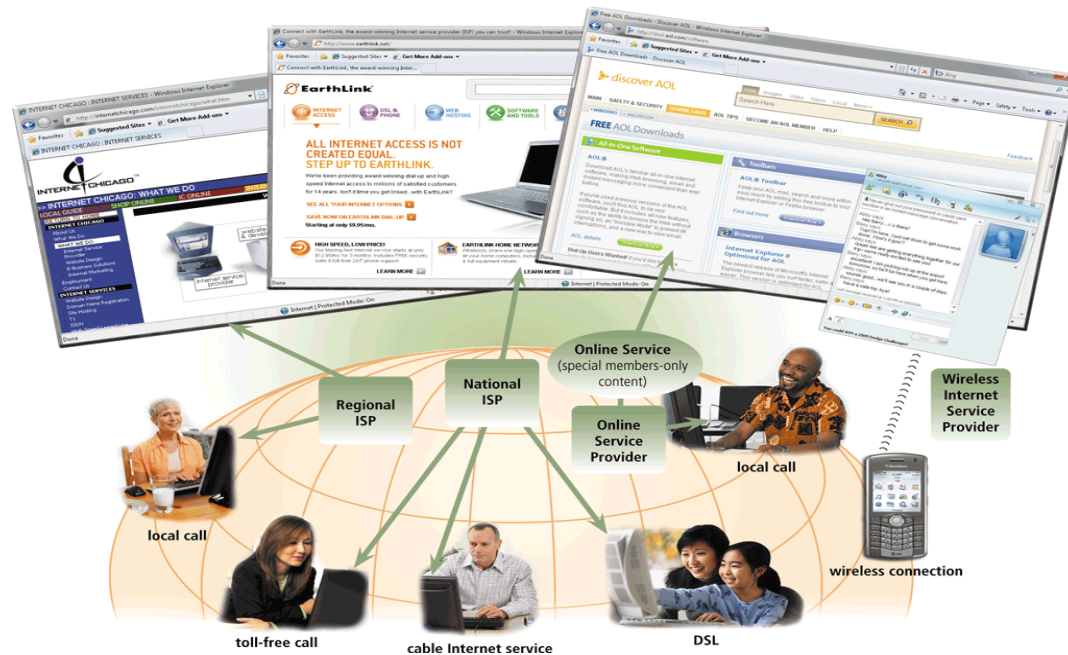
# Evolution of the Internet

- The World Wide Web Consortium (W3C) oversees research and sets guidelines and standards
- Why we need W3C?



# Evolution of the Internet

- An **access provider** is a business that provides individuals and organizations access to the Internet free or for a fee





# Evolution of the Internet

- An **IP address** is a number that uniquely identifies each computer or device connected to the Internet
- A **domain name** is the text version of an IP address
- A **DNS server** translates the domain name into its associated IP address

The diagram is contained within a light green rectangular box. It shows two rows of text. The first row is 'IP address' followed by a right-pointing arrow and the number '72.14.207.99'. The second row is 'Domain name' followed by a right-pointing arrow and the text 'www.google.com'. Below 'www.google.com', there is a bracket under the '.com' part, with an arrow pointing to it from the text 'top-level domain'.

|             |   |                    |
|-------------|---|--------------------|
| IP address  | → | 72.14.207.99       |
| Domain name | → | www.google.com     |
|             |   | top-level domain → |

# Evolution of the Internet

| Examples of Generic Top-Level Domains |   |
|---------------------------------------|---|
| Generic TLD                           | Intended Purpose  |
| aero                                  | Aviation community members  |
| biz                                   | Businesses of all sizes   |
| cat                                   | Catalan cultural community  |
| com                                   | Commercial organizations, businesses, and companies                   |
| coop                                  | Business cooperatives such as credit unions and rural electric co-ops |
| edu                                   | Educational institutions  |
| gov                                   | Government agencies   |
| info                                  | Business organizations or individuals providing general information   |
| jobs                                  | Employment or human resource businesses                               |
| mil                                   | Military organizations  |
| mobi                                  | Delivery and management of mobile Internet services                   |
| museum                                | Accredited museums  |
| name                                  | Individuals or families   |
| net                                   | Network providers or commercial companies                             |
| org                                   | Nonprofit organizations   |
| pro                                   | Certified professionals such as doctors, lawyers, and accountants     |
| tel                                   | Internet communications   |
| travel                                | Travel industry   |

# The World Wide Web

- The **World Wide Web(Web)** - worldwide collection of electronic documents (**Web pages**)
- A **Web site** - collection of related Web pages
- A **Web server** - computer that delivers requested Web pages to your computer
- **What is Web 1.0,2.0,3.0?**
- <https://www.youtube.com/watch?v=oZQdIc3YVul>

# The World Wide Web

- A **Web browser**, or **browser**, allows users to access Web pages and Web 2.0 programs

Internet  
Explorer

Firefox

Opera

Safari

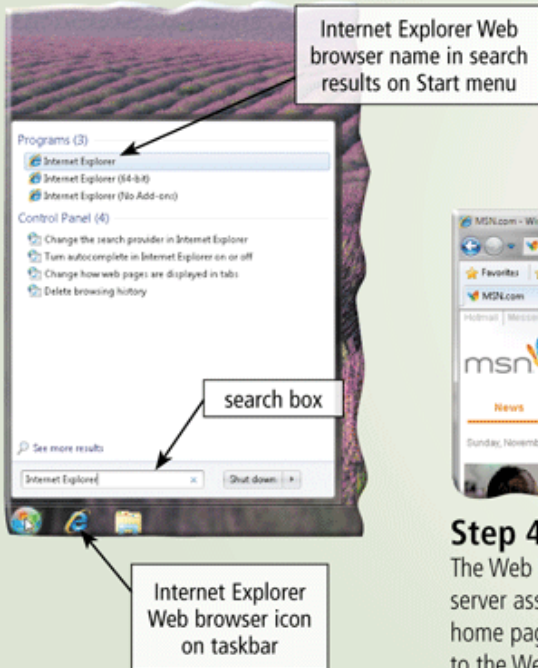
Google  
Chrome

# The World Wide Web

## How a Web Browser Displays a Home Page

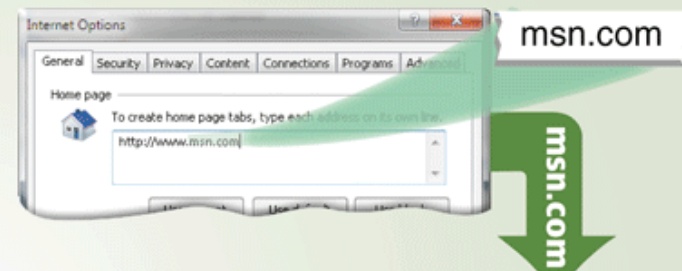
### Step 1

Start the Web browser software by clicking the Web browser icon on the taskbar or typing the Web browser name in the search box on the Start menu.



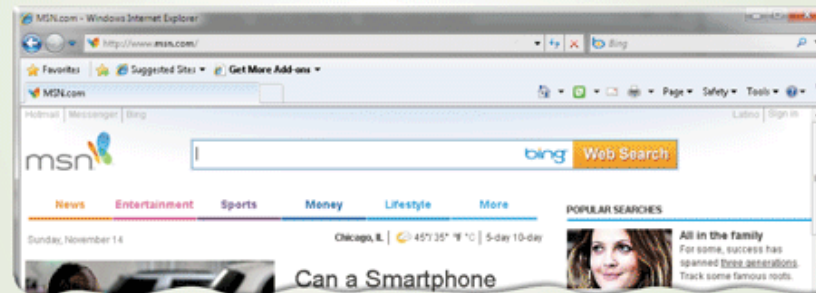
### Step 2

Behind the scenes, the Web browser looks up its home page setting. For illustration purposes only, the screen on the right shows the home page setting is msn.com.



### Step 3

The Web browser communicates with a server maintained by your Internet access provider. The server translates the domain name of the home page to an IP address and then sends the IP address to your computer.



### Step 4

The Web browser uses the IP address to contact the Web server associated with the home page and then requests the home page from the server. The Web server sends the home page to the Web browser, which formats the page for display on your screen.

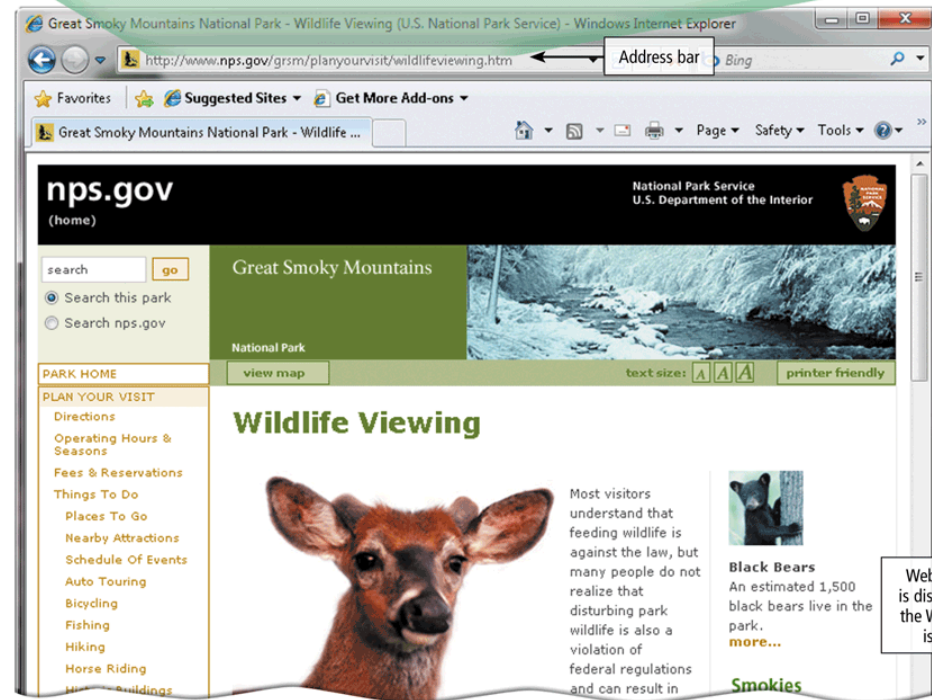
207.68.172.234

# The World Wide Web

- A Web page has a unique address called a **URL** or **Web address**

protocol      domain name      path      Web page name

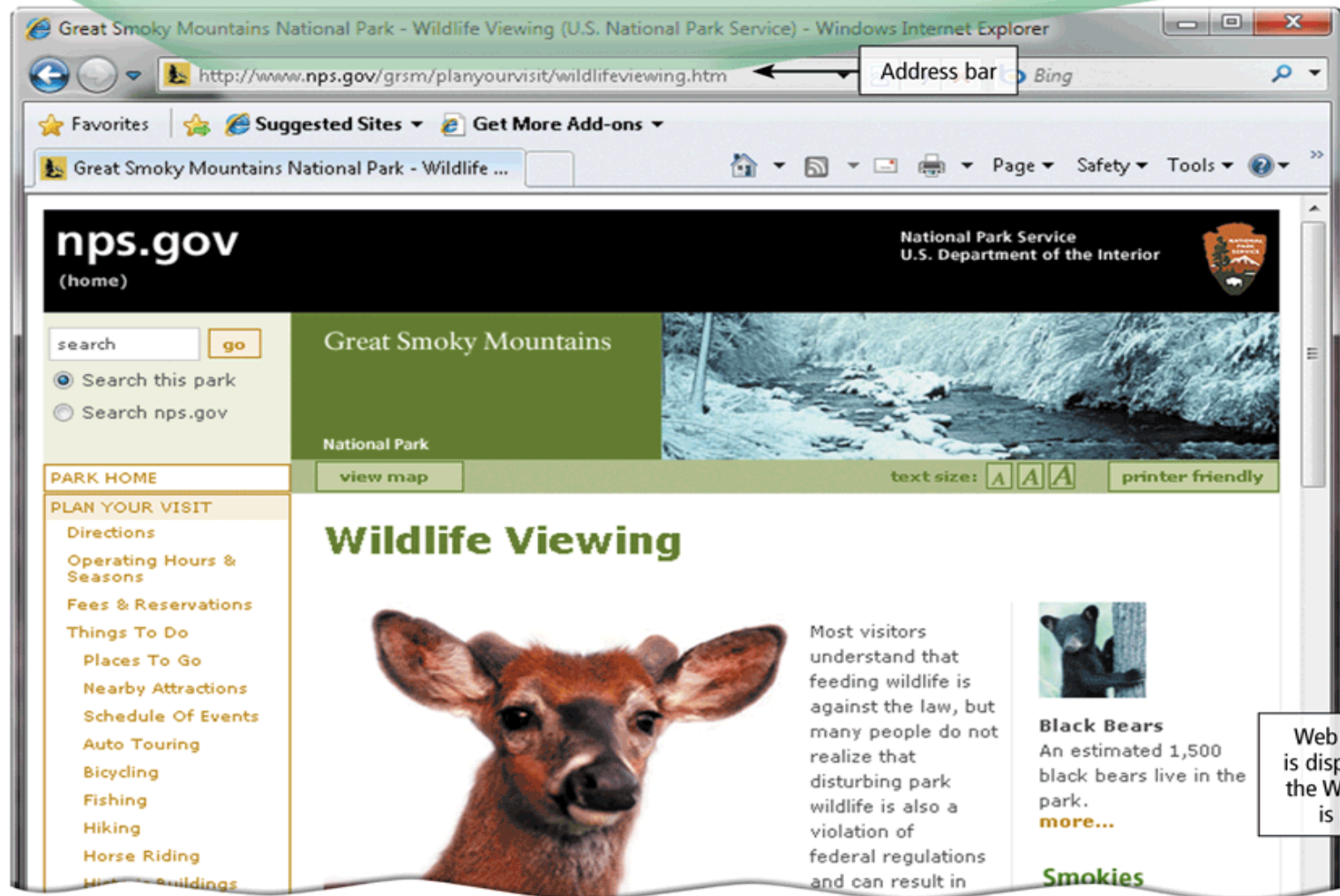
**http://www.nps.gov/grsm/planyourvisit/wildlifeviewing.htm**





protocol      domain name      path      Web page name

**http://www.nps.gov/grsm/planyourvisit/wildlifeviewing.htm**



Reference: <http://usabilitygeek.com/the-difference-between-web-site-usability-and-accessibility/>

# The World Wide Web

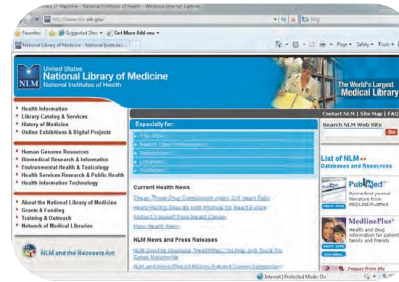
## There are thirteen types of Web sites



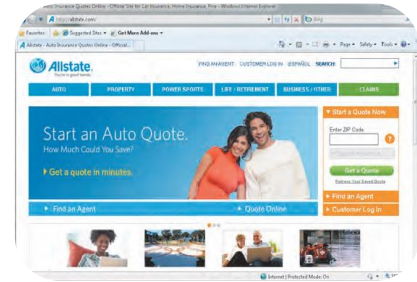
Portal



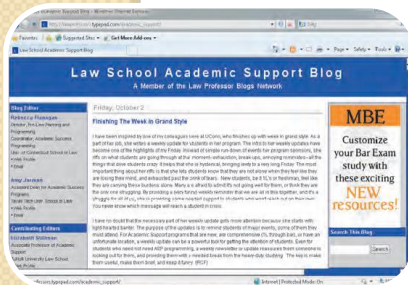
News



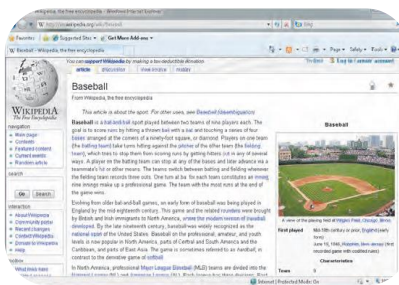
Informational



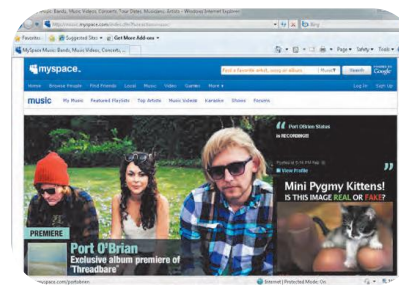
Business/Marketing



Blog



Wiki

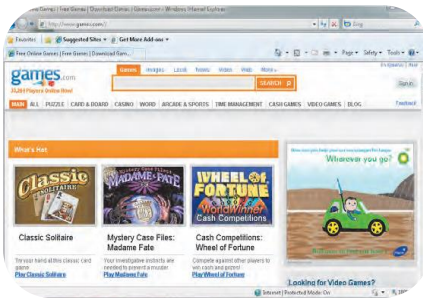


Online Social Network

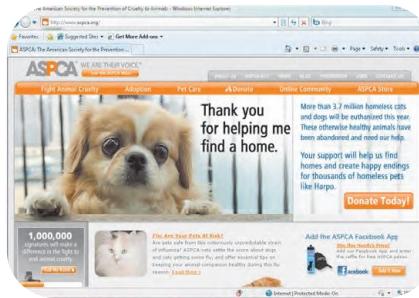


Educational

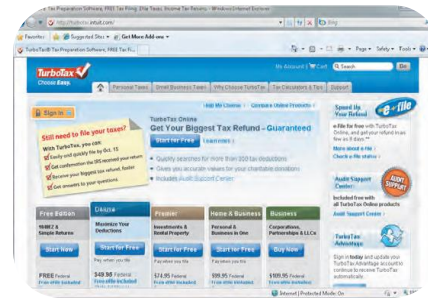
# The World Wide Web



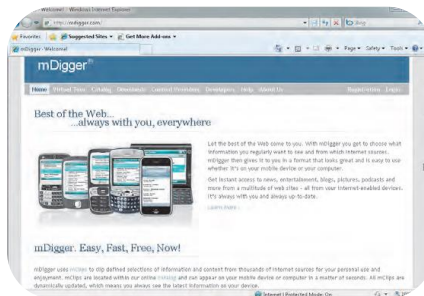
Entertainment



Advocacy



Web Application



Content Aggregator



Personal

# The World Wide Web

- **Web publishing** is the development and maintenance of Web pages



**Plan a  
Web site**

**Analyze  
and  
design a  
Web site**

**Create a  
Web site**

**Deploy a  
Web site**

**Maintain  
a Web  
site**



# Summary

**History and  
structure of  
the Internet**

**World Wide  
Web**