

Introduction to the Internet and Web

Internet

- It is the largest network in the world that connects hundreds of thousands of individual networks all over the world.
- The popular term for the Internet is the “information highway”.
- Rather than moving through geographical space, it moves your ideas and information through cyberspace – the space of electronic movement of ideas and information.

Internet

- No one owns it
- It has no formal management organization.
- As it was originally developed by the Department of defense, this lack of centralization made it less vulnerable to wartime or terrorist attacks.
- To access the Internet, an existing network need to pay a small registration fee and agree to certain standards based on the TCP/IP (Transmission Control Protocol/Internet Protocol) .

The uses of the Internet

- Send e-mail messages.
- Send (upload) or receive (down load) files between computers.
- Participate in discussion groups, such as mailing lists and newsgroups.
- Surfing the web.

What is Web?

- The **Web (World Wide Web)** consists of information organized into Web pages containing text and graphic images.
- It contains hypertext links, or highlighted keywords and images that lead to related information.
- A collection of linked Web pages that has a common theme or focus is called a **Web site**.
- The main page that all of the pages on a particular Web site are organized around and link back to is called the site's **home page**.

How to access the Internet?

- Many schools and businesses have direct access to the Internet using special high-speed communication lines and equipment.
- Students and employees can access through the organization's local area networks (LAN) or through their own personal computers.
- Another way to access the Internet is through Internet Service Provider (ISP).

How to access the Internet?

- To access the Internet, an existing network need to pay a small registration fee and agree to certain standards based on the TCP/IP (Transmission Control Protocol/Internet Protocol) reference model.
- Each organization pays for its own networks and its own telephone bills, but those costs usually exist independent of the internet.
- The regional Internet companies route and forward all traffic, and the cost is still only that of a local telephone call.

Internet Service Provider (ISP)

- A commercial organization with permanent connection to the Internet that sells temporary connections to subscribers.
- Examples:
- Prodigy, America Online, Microsoft network, AT&T Networks.

How to access the Web?

- Once you have your Internet connection, then you need special software called a browser to access the Web.
- Web browsers are used to connect you to remote computers, open and transfer files, display text and images.
- Web browsers are specialized programs.
- Examples of Web browser: Netscape Navigator (Navigator) and Internet Explorer.

Client/Server Structure of the Web

- Web is a collection of files that reside on computers, called **Web servers**, that are located all over the world and are connected to each other through the Internet.
- When you use your Internet connection to become part of the Web, your computer becomes a **Web client** in a worldwide client/server network.
- A **Web browser** is the software that you run on your computer to make it work as a web client.

Hypertext Markup Language (HTML)

- The public files on the web servers are ordinary text files, much like the files used by word-processing software.
- To allow Web browser software to read them, the text must be formatted according to a generally accepted standard.
- The standard used on the web is Hypertext markup language (HTML).

Hypertext Markup Language (HTML)

- HTML uses codes, or tags, to tell the Web browser software how to display the text contained in the document.
- For example, a Web browser reading the following line of text:

` A Review of the Book<I>Wind
Instruments of the 18th Century</I>`

- recognizes the `` and `` tags as instructions to display the entire line of text in bold and the `<I>` and `</I>` tags as instructions to display the text enclosed by those tags in italics.

Addresses on the Web:IP Addressing

- Each computer on the internet does have a unique identification number, called an IP (Internet Protocol) address.
- The IP addressing system currently in use on the Internet uses a four-part number.
- Each part of the address is a number ranging from 0 to 255, and each part is separated from the previous part by period,
- For example, 106.29.242.17

IP Addressing

- The combination of the four IP address parts provides 4.2 billion possible addresses ($256 \times 256 \times 256 \times 256$).
- This number seemed adequate until 1998.
- Members of various Internet task forces are working to develop an alternate addressing system that will accommodate the projected growth.
- However, all of their working solutions require extensive hardware and software changes throughout the Internet.

Domain Name Addressing

- Most web browsers do not use the IP address to locate Web sites and individual pages.
- They use domain name addressing.
- A **domain name** is a unique name associated with a specific IP address by a program that runs on an Internet host computer.
- This program, which coordinates the IP addresses and domain names for all computers attached to it, is called **DNS (Domain Name System) software**.
- The host computer that runs this software is called a **domain name server**.

Domain Name Addressing

- Domain names can include any number of parts separated by periods, however most domain names currently in use have only three or four parts.
- Domain names follow hierarchical model that you can follow from top to bottom if you read the name from the right to the left.
- For example, the domain name gsb.uchicago.edu is the computer connected to the Internet at the Graduate School of Business (gsb), which is an academic unit of the University of Chicago (uchicago), which is an educational institution (edu).
- No other computer on the Internet has the same domain name.

Uniform Resource Locators

- The IP address and the domain name each identify a particular computer on the Internet.
- However, they do not indicate where a Web page's HTML document resides on that computer.
- To identify a Web pages exact location, Web browsers rely on Uniform Resource Locator (URL).
- URL is a four-part addressing scheme that tells the Web browser:
 - What transfer protocol to use for transporting the file
 - The domain name of the computer on which the file resides
 - The pathname of the folder or directory on the computer on which the file resides
 - The name of the file

Structure of a Uniform Resource Locators

The diagram illustrates the components of the URL `http://www.chicagosymphony.org/civicconcerts/index.htm`. Brackets are used to group the parts of the URL and label them:

- protocol**: Points to the `http` part.
- Domain name**: Points to the `www.chicagosymphony.org` part.
- pathname**: Points to the `/civicconcerts/index` part.
- filename**: Points to the `.htm` part.

http => Hypertext Transfer Protocol

HTTP

- The transfer protocol is the set of rules that the computers use to move files from one computer to another on the Internet.
- The most common transfer protocol used on the Internet is the Hypertext Transfer Protocol (HTTP).
- Two other protocols that you can use on the Internet are the File Transfer Protocol (FTP) and the Telnet Protocol

How to find information on the Web?

- A number of search tools have been developed and available to you on certain Web sites that provide search services to help you find information.
- Examples:
 - Yahoo → www.yahoo.com
 - Excite → www.excite.com
 - Lycos → www.lycos.com
 - AltaVista → www/alta-vista.com
 - MSN WebSearch → www.search.msn.com

How to find information on the Web?

- You can find information by two basic means.
- **Search by Topic** and **Search by keywords**.
- Some search services offer both methods, others only one.
- Yahoo offers both.
- Search by Topic
You can navigate through topic lists
- Search by keywords
You can navigate by entering a keyword or phrase into a search text box.

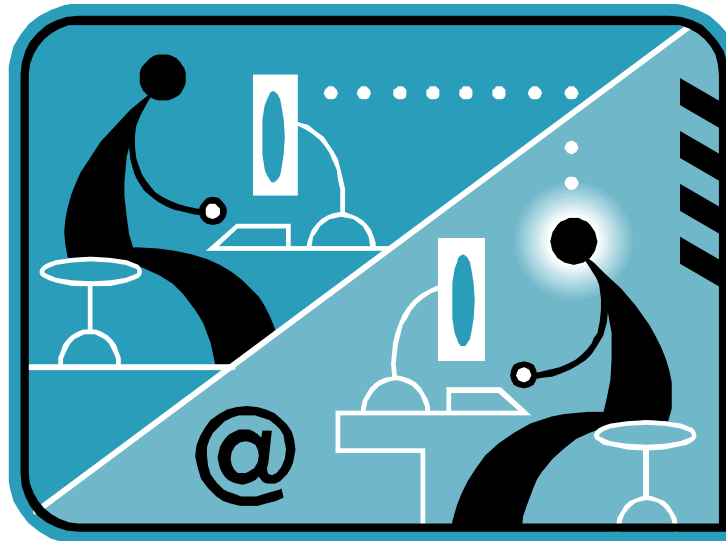
Email Basics



UWRTI@2018

What is email?

- short for electronic mail
- send & receive messages over the internet



What you need

- a computer with internet access
- an email account with a service provider such as Yahoo, Gmail, Hotmail, etc
- note: Microsoft Outlook and Apple Mail, are NOT email providers (which is why you can't email from library computers without an account)

Choosing an email provider

- Most common are Hotmail (Microsoft), Gmail (Google), Yahoo Mail (Yahoo!)
- For this class, we'll be using Gmail.



YAHOO!® MAIL

Setting up your email account

- Parts of an email address:
bwacharles@gmail.com
 - user name : bwacharles(you create your own)
(each is unique)
 - @ symbol : unique to email addresses (Shift key + 2)
 - email provider's name: Gmail
 - domain : **.com**

Password

- Something easy to remember, but difficult to guess
 - Do NOT use sensitive information, such as SSN, bank PIN, etc.
- Usually a combination of letters and numbers is best
- Verification questions in case you forget your password

Let's set up
our accounts!

Let's compose an email!

- Click on COMPOSE

The parts of an email

- To : enter the exact email address of your recipient (remember: [name@provider.domain](#))
For multiple recipients, separate each address with a comma
- CC : carbon copy
- BCC : BLIND carbon copy – is anonymous
- Subject : the topic of your email – very important
- Body : the message of your email
- Attachments : the paperclip symbol - files or photos

Sending an email

- Communication can be tough with written correspondence. No body language or facial cues to help.
- Err on the side of too formal
 - Punctuation & spelling
 - Greeting & closing signature
- ATTACH a file from a flash drive
- Click on SEND to mail your letter
- Message will now appear in your SENT folder

Sending an email

- Once an email is sent, you cannot stop it or take it back
- Spell-check & proofread!
- Check your SENT box now.

DRAFT EMAILS & SAVING FOR LATER

- Drafts: When creating an e-mail the computer will automatically save your work periodically. If for any reason you should be interrupted (i.e. lapse in internet connection) you can retrieve your latest work what is called the DRAFT BOX.

Receiving email

- If you have any messages you should see them listed on the screen or in your Inbox
- At the top of each message is a header with information about the sender, date, and routing of each message.
From: bwacharles@gmail.com (Bwambale Charles)
To: you@yahoo.com
CC:
Subject: Email Basics class
Date: Mon, 19 May 2018 9:00

Replying to an email

- Reply vs Reply All
- When you click on Reply, your message will automatically be sent to the person who sent you the email (FROM field in header.)
- When you click on Reply All, your message will automatically be sent to the person who sent you the email AND everyone in the TO and CC fields in the header.

Forwarding an email

- When you click on FORWARD, you may share the email you've received by sending it to others.
- You may add your own message before sending.

Opening attachments







- Usually photos or documents
- If you don't know the sender, do NOT open the attachment
- SAVE vs OPEN file dialog box

Deleting email & trash can

- Once you've read an email, you must decide if you want to save it or delete it.
- Click on delete to send the email to the TRASH CAN
- The message disappears from your list of messages but is not truly deleted yet, so if you make a mistake you can get the message back.
- Just look in the Trash folder. However, once you exit the program, the messages are usually deleted for good.

Netiquette

- Common abbreviations
- Emoticons aka smilies

Emotion	Enter the keystrokes...	Result
Laughter	:-) or :) or :D	
Confused	:S	
Surprised	:o or :O or :-O or :^)	
Wink	;-) or ;)	
Sad	:(or :(
Angry	:@	

Privacy, viruses, & spam

- Privacy: CC vs BCC
- Viruses: Never open attachments from unknown senders.
- Safety: Never send personal financial information via email, even if it looks like a legitimate request from your bank or financial institution.
- Spam: unsolicited commercial email
 - Delete
 - Click on Report Spam
 - SPAM BOX on Yahoo

Chatting & texting

Texting Online

Is similar to texting using a cell phone but texts received can only be viewed once, then they are permanently deleted after being read. This is useful if you do not have a cell phone or will not be near your cell phone and need to communicate to another cell phone.

Chatting

This is real-time communication with no delay. Usually done with those you know online. Be selective who you chat with. As with spam and phishing, scams can occur with chatting as well.

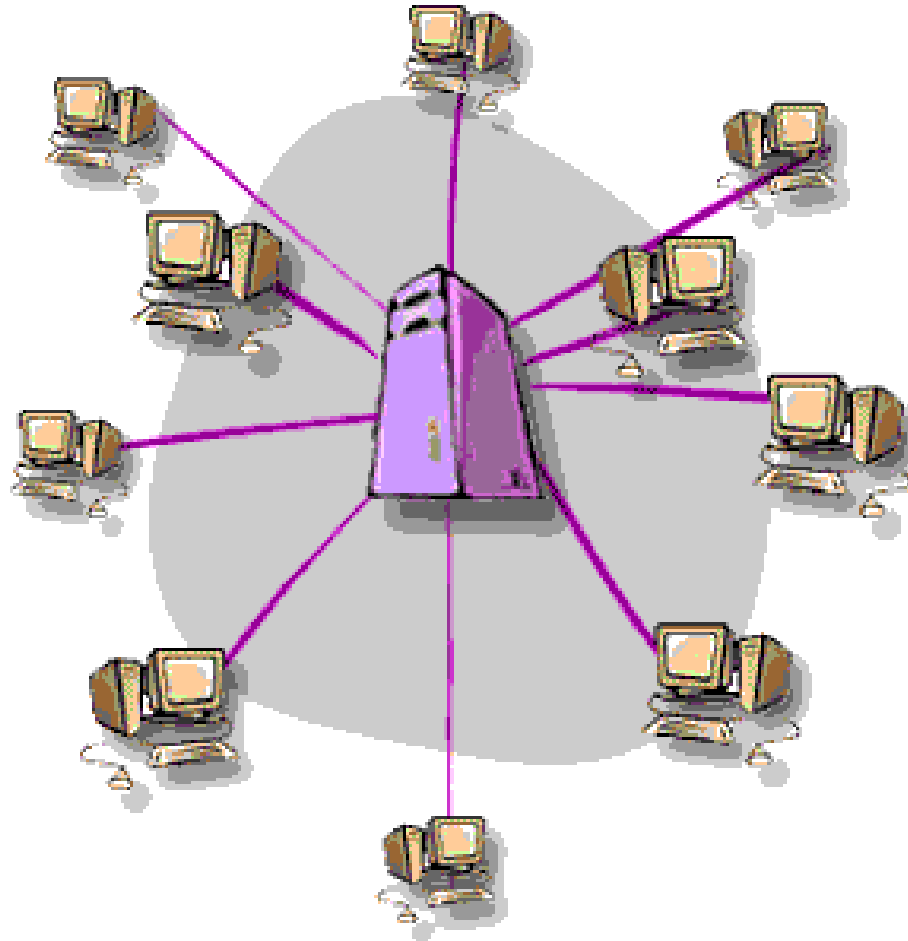
Important – Sign Out!



What is mailing list?

- Uses a mail address for disseminating newsletters.
- More importantly, for disseminating discussions.
- A centrally maintained mailing list is desirable.
- This is typically implemented by a mail reflector.
- Those people on the mailing list are called the subscribers.
- We can easily create FREE mailing lists for :
 - Sharing files.
 - Keeping in touch with family or friends.
 - Discussion groups

Mailing list illustration

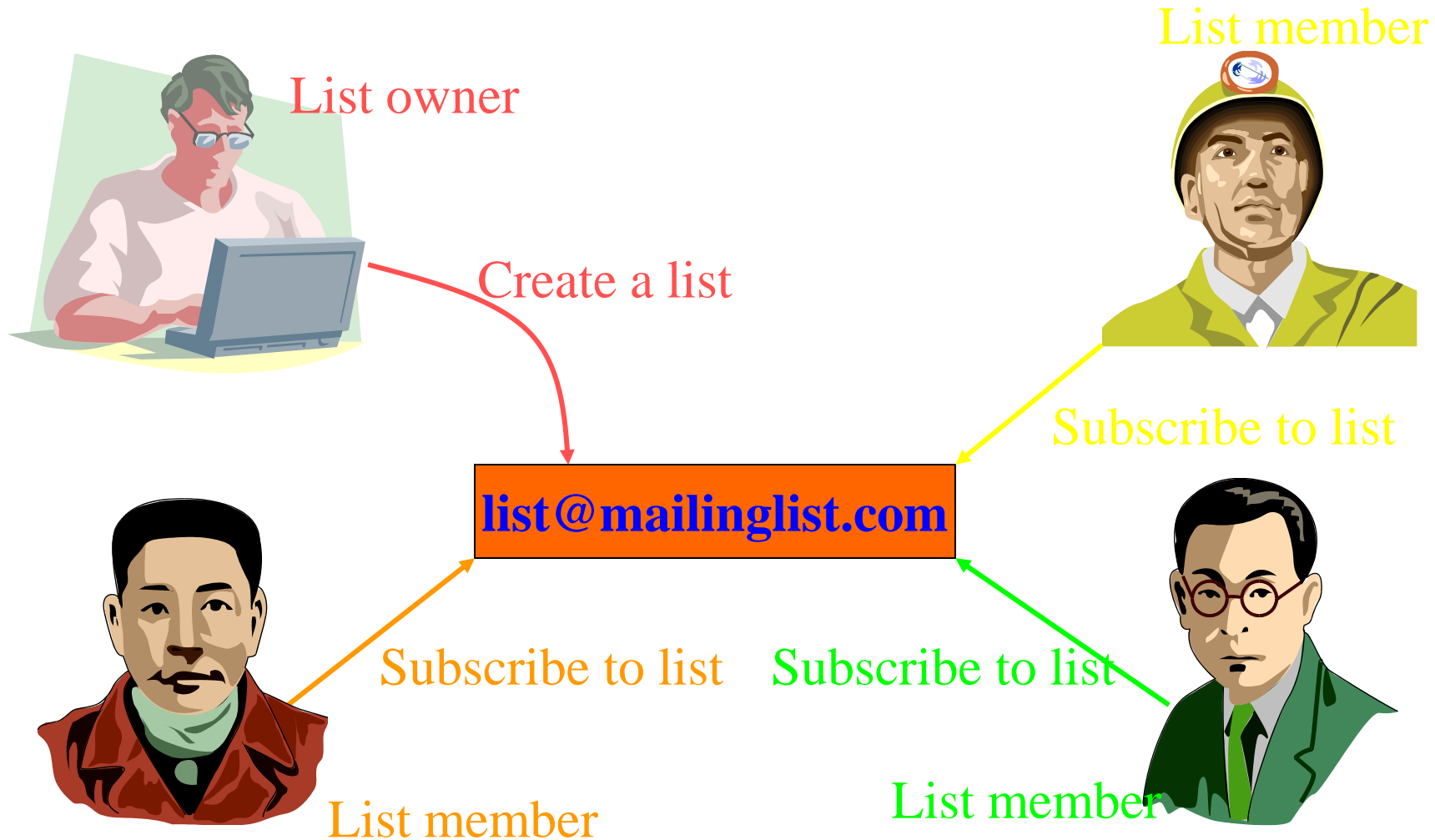


Any questions?

- Reference: www.learnthenet.com
- UWRTI@2018

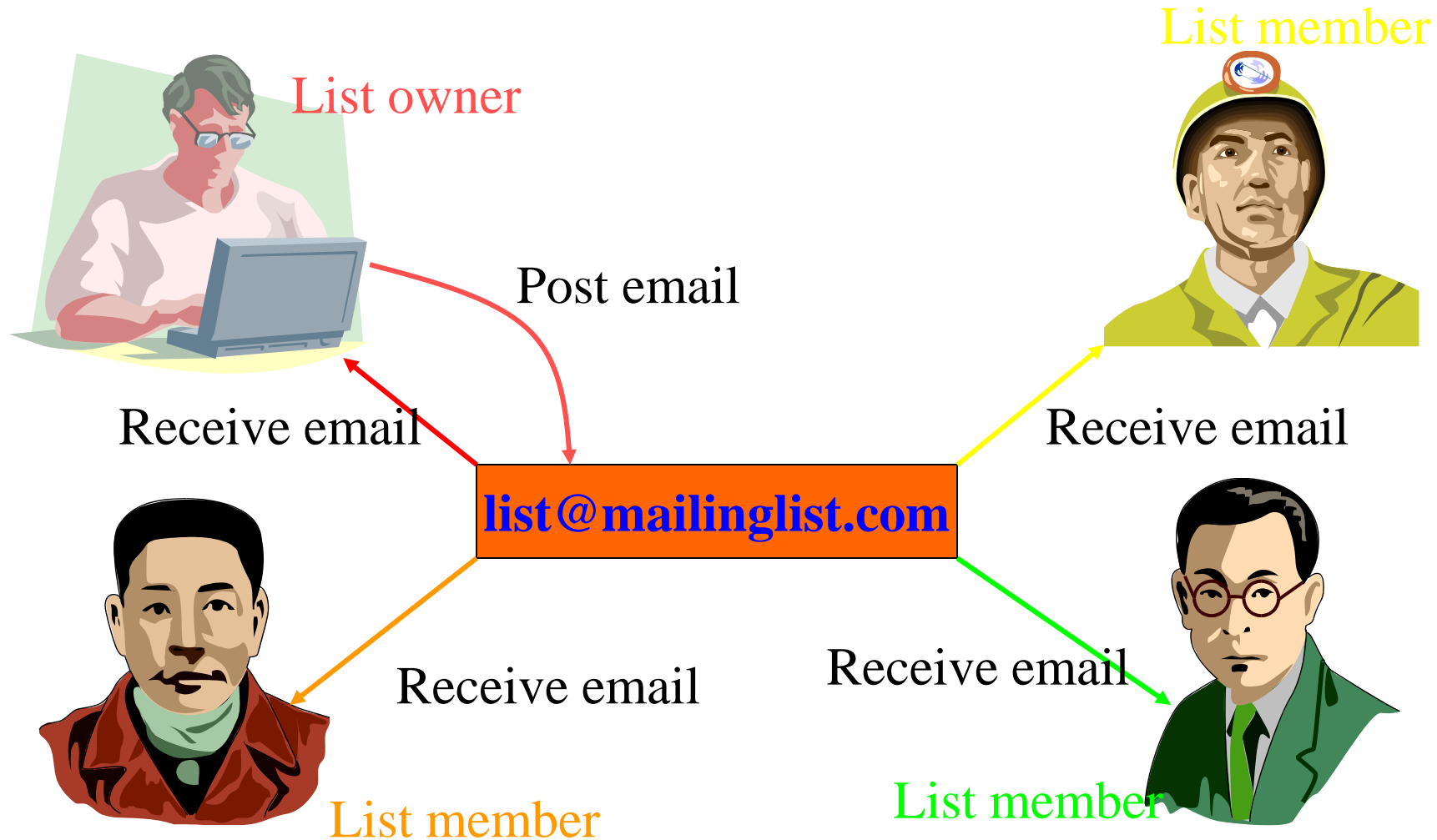
How does it work?

Subscribe a list



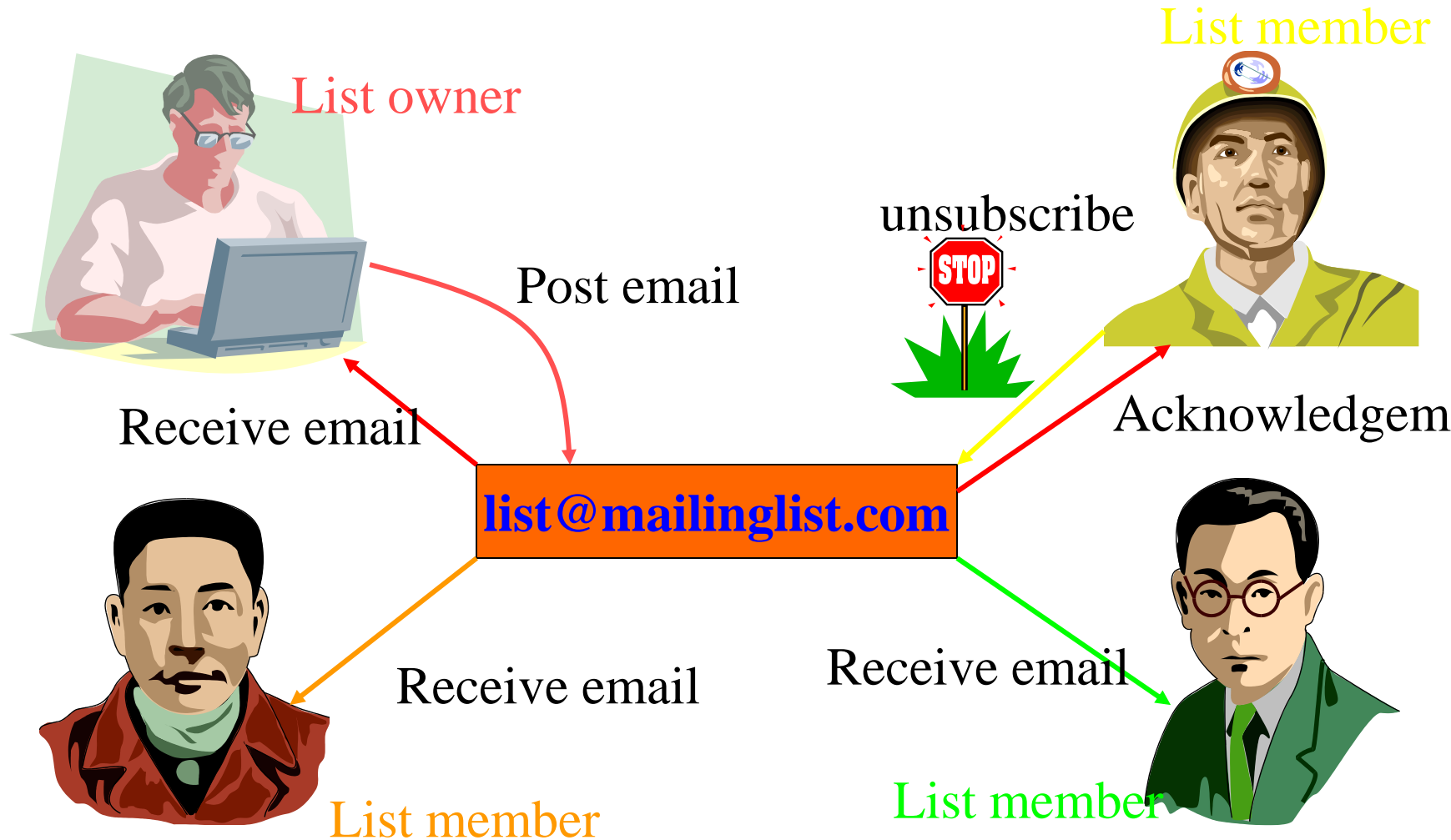
How does it work?

Post email to a list



How does it work?

Unsubscribe a list



Web-Based Chat

- With the development of Java-based servers, browser plug-ins and HTML-based chat.
- Simply means – Chatting on the web
- Easy to use – chat everywhere
- You should first create an account
- Login and then join the chat session.

Web-based Chat - Figures

The image displays two side-by-side screenshots of the Yahoo! Chat interface, showing a web-based chat room in Microsoft Internet Explorer.

Left Screenshot (Health & Wellness Chat Room):

- Browser:** Microsoft Internet Explorer, Address: http://chat.yahoo.com/c/dhtml/
- Page Title:** Yahoo! Chat
- Navigation:** Links (Yahoo Mail, CSC1720, Old homepage, Dictionary, RTHK), Search, Favorites, Media, Go.
- Chat Room:** Health & Wellness. Topics include: A.D.D. Support, Alternative Medicine, Cancer Chat, Depression Support, Friends of Bill W., Health Lobby, HIV/AIDS, NA Chat and Fellowship, Pregnancy, Stop Smoking Support, Support and Recovery, Weight Loss Support, Yoga.
- Chat Log:** Arastafarian: *Don't get smart.* garg_deepali30 left the room. robinhood222001: **any nerd who thinks that vc is peice of cake?** c0mputer_g0ddess: hold on...LMAO zella2u joined the room. just4christ27358: **hmm haha** longhard14 left the room. brainondrugz joined the room. Arastafarian: *such peurile nonsense won't earn you respect* manu_ash17 joined the room. Arastafarian: *robinhood222001 do you have a question?* robinhood222001: **yeah**
- Footer:** Copyright © 2001; Yahoo! Inc. Privacy Policy - Terms of Service

Right Screenshot (Programming Chat Room):

- Browser:** Microsoft Internet Explorer, Address: http://chat.yahoo.com/c/dhtml/
- Page Title:** Yahoo! Chat
- Navigation:** Links (Yahoo Mail, CSC1720, Old homepage, Dictionary, RTHK), Search, Favorites, Media, Go.
- Chat Room:** Programming. You are in Programming:1. Help - Exit.
- Chat Log:** Pick your language: C++, Java, Visual Basic. Arastafarian: *Don't get smart.* garg_deepali30 left the room. robinhood222001: **any nerd who thinks that vc is peice of cake?** c0mputer_g0ddess: hold on...LMAO zella2u joined the room. just4christ27358: **hmm haha** longhard14 left the room. brainondrugz joined the room. Arastafarian: *such peurile nonsense won't earn you respect* manu_ash17 joined the room. Arastafarian: *robinhood222001 do you have a question?* robinhood222001: **yeah**
- Chatters List:** a_freakin_insomr, alishah_gha, Arastafarian, ashi2201, ashish_c_c, brainondrugz, c0mputer_g0ddess, ccheung2, ch_sukan, fujiki27yokohama, guoyeah2001, jackthehacker10, janeotron, just4christ27358, manu_ash17, maya_n_nair, muthamil_selvar.
- Footer:** eHealthInsurance. MAJOR PLANS INSTANT QUOTES BEST PRICES SUPERIOR SERVICE

Yahoo! Group?



- Share files, photos, mailing list, ...

Yahoo! Groups - Microsoft Internet Explorer

File Edit View Favorites Tools » Address <http://groups.yahoo.com/> Go

Back Forward Stop Home Search Favorites » Links [CSC1720 Introduction to Internet](#) [RTHK - TV](#)

Welcome, Guest [Register](#) - [Sign In](#)

Yahoo! Groups

Sign In

New users
[Click here to register](#)

Registered users
[Sign in!](#)

What is a Group?

One mail address? Website that allows you to...

?Share photos & files, plan events, send a newsletter
?Stay in touch with friends and family
?Discuss sports, health, current events, and more

[?Start a new Group!?](#)

Join a Group

Search

[Business & Finance](#) [Hobbies & Crafts](#)
[Employment, Investments, Industry...](#) [Antiques, Collecting, Models...](#)

Editor's Picks

It's time to treat yourself.
[Dessert-Lovers](#) Come on, you deserve it!
Members: **433**
Category: [Desserts and Sweets](#)

[AnHerbGarden](#) Grow fresh herbs for your culinary masterpieces.
Members: **280**
Category: [Herbs](#)

Internet



Virtual Community

Social Media and Social Networking

Social Networks

- ✘ A social network site allows people who share interests to build a 'trusted' network/ online community. A social network site will usually provide various ways for users to interact, such as IM (chat/ instant messaging), email, video sharing, file sharing, blogging, discussion groups, etc.
- ✘ The main types of social networking sites have a 'theme', they allow users to connect through image or video collections online (like Flickr or You Tube) or music (like My Space, lastfm). Most contain libraries/ directories of some categories, such as former classmates, old work colleagues, and so on (like Face book, friends reunited, Linked in, etc). They provide a means to connect with friends (by allowing users to create a detailed profile page), and recommender systems linked to trust.

Popular Social Networks

- ✘ Face book - A social networking website. Initially the membership was restricted to students of Harvard University. It was originally based on what first-year students were given called the “face book” which was a way to get to know other students on campus. As of July 2007, there over 34 million active members worldwide. From September 2006 to September 2007 it increased its ranking from 60 to 6th most visited web site, and was the number one site for photos in the United States.
- ✘ Twitter- A free social networking and micro-blogging service that allows users to send “updates” (text-based posts, up to 140 characters long) via SMS, instant messaging, email, to the Twitter website, or an application/ widget within a space of your choice, like MySpace, Facebook, a blog, an RSS Aggregator/reader.
- ✘ My Space - A popular social networking website offering an interactive, user-submitted network of friends, personal profiles, blogs, groups, photos, music and videos internationally. According to AlexaInternet, MySpace is currently the world’s sixth most popular English-language website and the sixth most popular website in any language, and the third most popular website in the United States, though it has topped the chart on various weeks. As of September 7, 2007, there are over 200 million accounts.

Social Networks: History

- “Sociograms” were invented in 1933 by Moreno.
- In a sociogram, the actors are represented as points in a two-dimensional space. The **location** of each actor is significant. E.g. a “central actor” is plotted in the center, and others are placed in concentric rings according to “distance” from this actor.
- Actors are joined with lines representing ties, as in a social network. In other words a social network is a graph, and a sociogram is a particular 2D embedding of it.
- These days, sociograms are rarely used (most examples on the web are not sociograms at all, but networks). But methods like MDS (Multi-Dimensional Scaling) can be used to lay out Actors, given a vector of attributes about them.
- Social Networks were studied early by researchers in graph theory (Harary et al. 1950s). Some social network properties can be computed directly from the graph.
- Others depend on an adjacency matrix representation (Actors index rows and columns of a matrix, matrix elements represent the tie strength between them).

Technology : LinkedIn

- **What is Your Network?**

When your connections invite **their** connections, your Network starts to grow.

Your Network is your connections, their connections, and so on out from you at the center.

- **How do you classify users?**

Your Network contains professionals out to “three degrees” — that is, friends-of-friends-of-friends. If each person had 10 connections (and some have many more) then your network would contain 10,000 professionals.

How do you see who is in your Network?

- LinkedIn lets you see your network as one large group of searchable professional profiles.

The Web as a Social Network

- Social networks are formed between Web pages by hyper linking to other Web pages.
- A hyperlink is usually an explicit indicator that one Web page author believes that another page is related or relevant.
- The possibility to publish and gather personal information, a major factor in the success of the Web
- **Two Major Tasks**
 - **Social Network Extraction from the Web**
 - **Social Network Analysis**
- Social Networking Services (SNS).
 - Friendster; Orkut