# Tools for research: from information gathering to effective presentation



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#### شنبه ۱۸ آبان

سخنران	موضوع	ساعت پايان	ساعت شروع
پیش آزمون		۸:۱۵	٨:٠٠
دکتر دانشپور	مقدمه	٩:٠٠	۸:۱۵
آقای صفر پور	<b>آشنایی با نرم افزار</b> Word	١٠:٠٠	٩:٠٠
کار گروهی		۱۰:۳۰	١٠:٠٠
استراحت و پذیرایی		۱۱:۰۰	۱۰:۳۰
خانم پرتوی	<b>آشنایی با نرم افزار</b> Power point	۱۲:۳۰	11:54
کار گروهی		۱۳:۰۰	۱۲:۳۰
ماذ	۱۳:۳۰		۱۳:۰۰
دکتر ابراهیمی	نحوه جستجوی مطلب در بانک های اطلاعاتی	14:20	۱۳:۳۰
دکتر زاده وکیلی	<b>آشنایی با انواع مقائق</b> هTools for re	۱۵:۰۰	۱۴:۳۰

#### یکشنبه ۱۹ آبان

سخنران	موضوع	ساعت پایان	ساعت شروع
آقای گیتی	<b>آشنایی با نرم افزار</b> Excel	٩:٠٠	٨:• •
کار گروهی		۱۰:۰۰	۹:۰۰
استراحت و پذیرایی		۱۰:۳۰	١٠:٠٠
دكتر فلاح	<b>آشنایی با نرم افزار</b> Endnote	۱۱:۳۰	۱۰:۳۰
کار گروهی		۱۲:۳۰	۱۱:۳۰
ناهار و نماز		۱۳:۰۰	۱۲:۳۰
دکتر هدایتی	نحوه ارائه مطلب	14:••	۱۳:۰۰
ہ جمع بندی آزمون و جمع بندی		۱۵:۰۰	18:00





# What is the Internet?

-A massive network of networks -A networking infrastructure -It connects millions of computers together globally, forming a network in which any computer can communicate with any other computer as long as they are both connected to the Internet.

# What is the World Wide Web?

- a way of accessing information over the medium of the Internet.
- It is an information-sharing model that is built on top of the Internet.
- The Web also utilizes browsers, such as Internet Explorer or Firefox, to access Web documents called Web pages that are linked to each other via hyperlinks.
- Web documents also contain graphics, sounds, text and video.
- The Internet, not the Web, is also used for e-mail, which relies on SMTP, Usenet news groups, instant messaging and FTP.
- So the Web is just a portion of the Internet, albeit a large portion, but the two terms are not synonymous and should not be confused.

# History

- WWW or Web or W3 includes all information, text, images, audio, video, and computational services that are accessible from the internet
- July 8, 1999 Nature approximately 800 million pages of publicly accessible information(1)
- Web continues to grow, tripling in size over the past two years<sup>(2)</sup>

(1) Steve Lawrence & C. Lee Giles, "Accessibility of Information on the Web," Nature 400 (July 8, 1999), 107
(2) OCLC Office of Research, "June 1999 Web Statistics" Web Characterization Project

# More History

- Internet initially conceived in 1989 by Tim Berners-Lee at CERN (European Particle Physics Lab in Switzerland)
- Needed a wide variety of information to be shared and distributed to many different computers and platforms
- "Universal readership"

# **Internet** History

- Internet made up of thousands of networks worldwide
- No one in charge of Internet No governing body
- Internet backbone owned by private companies

# Web vs. Internet

- The Internet connects thousands of computers across the world, but it is the web that allows communication to occur
- Web abstraction and common set of services on top of the Internet
- Web set of protocols and tools that let us share information with each other

# Summary: Web vs. Internet

- What is the relationship between the web and the Internet?
- The Internet contains physical components
  - computers
  - networks
  - services

# Web Popular Because:

- Easy to use
- Easy to navigate
- Combines words, graphics, sound, video
- Easy to Publish
- Plethora of information
- Reach larger audience

# **Internet Providers:**

- Research and Educational Institutions
- Government and Military Entities
- Businesses
- Private Organizations
- Commercial Providers

### **Internet Protocols**

- Email (Simple Mail Transport Protocol)
- Telnet (Login to remote host computer)
- FTP (File Transfer Protocol) transfers files between server and client
- HTTP (HyperText Transfer Protocol)

### www

- System of Internet servers that support hypertext to access several Internet protocols on a single interface
- Almost all protocols accessible on Internet are accessible on web (email - FTP - Telnet - etc)
- In addition, WWW own protocol: HyperText Transfer
   Protocol



- Hypertext means of information retreival
- Contains links that connect to other documents
- Links selected by user
- Virtual "web" of connections

# HTTP (cont)

- Produce HTTP through HTML
- HyperText Markup Language
- Way of writing or creating with "tags" added to tell information
  - i.e. <b> Bold </b> yields Bold

# AAA, the Internet

The Good thing about the Internet - Anyone can post things to the Web, can Blog, can create a Wiki, anything

The Bad thing about the Internet - Anyone can post things to the Web, can Blog, can create a Wiki, anything.



# What are Search Engines?

- Designed to assist you in searching through the enormous amount of information on the Web
- No single search tool has everything
- Each engine is a large database which utilizes different search techniques and tools (spiders or robots) to build indexes to the Internet (some also utilize submissions and administration)

# Search engines

- -There are two types of search engines:
  - Individual. Individual search engines compile their own searchable databases on the web.
  - Meta. Metasearchers do not compile databases. Instead, they search the databases of multiple sets of individual engines simultaneously

# HOW DO SEARCH ENGINES WORK?

- Search engines compile their databases by employing "spiders" or "robots" ("bots") to crawl through web space from link to link, identifying and perusing pages.
- Sites with no links to other pages may be missed by spiders altogether.
- Once the spiders get to a web site, they typically index most of the words on the publicly available pages at the site.
- Web page owners may submit their URLs to search engines for "crawling" and eventual inclusion in their databases.
- Whenever you search the web using a search engine, you're asking the engine to scan its index of sites and match your keywords and phrases with those in the texts of documents within the engine's database.



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### Search engines provide access to a fairly large portion of the publicly available pages on the Web, which itself is growing exponentially

 Search engines are the best means devised yet for searching the web. Stranded in the middle of this global electronic library of information without either a card catalog or any recognizable structure, how else are you going to find what you're looking for? • On the down side, the sheer number of words indexed by search engines increases the likelihood that they will return hundreds of thousands of responses to simple search requests. Remember, they will return lengthy documents in which your keyword appears only once.

CONS:

• Additionally, many of these responses will be irrelevant to your search.

# Metasearch Engines

- Metasearch engines are aggregators, sort of, of information that may be in multiple or one search engine.
- In one search you will be able to search all the major sources instead of having to search each separately.
- One of the search engines even searches SlideShare and Wikipedia in their main search.

This link explains list of Metasearch engines
 <u>http://en.wikipedia.org/wiki/List\_of\_search\_engines#Metasearch\_engines</u>

# Meta search engine in genetic

• http://www.pubgene.com

msn.

- http://www.gopubmed.org/w eb/gopubmed
- http://www.genieknows.com
- http://www.bejoor.ir

# Metasearch Engines

Metasearch engines are where you will find some of the more creative functions. For instance, iboogie sorts the results into subcategories, while blekko claims to have spam free searching.

Here are the metasearch engines to choose to use in your assignment:

- mrsapo
- iboogie
- ixquick
- Mamma
- Metacrawler
- Zapmeta
- Zuula

excite.

# "Meta" Search Tools

- Multi-threaded search engines
- Allows access to multiple databases simultaneously or via a single interface
- (-) Do not offer the same level of control over search interface and logic as individual engines
- (+) Fast
- (+) Improvements
  - Results sorted by site used for search, or location of Website

excite-

- Able to select search engines to include
- ability to modify results for research

Popular Meta-Search Engines

msn

Goog

- Dogpile
- Metacrawler
- Profusion
- SavvySearch

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# How to Choose

#### Consider

- Size of the database (# of URLs)
- Currency of the database (updates)
- Search interface
- Help screens
- Search features
- Results listed (# of documents retrieved)
- Relevance of results



#### **Evaluating Sources**

When evaluating any resource, consider:

 Author's bias, perspective • Type of source Credentials of author Credibility of the information • Use of language • Timeliness • Relevance to your topic

### Tips for Research

- In general, it is better to have more information than too little
- Look for a variety of materials
- Use a variety of keywords
- Look at the works authors use in their resource lists
- Use general and specific databases
- Plan for enough time to return to research in case your approach changes or you need more information

#### **Internet Search Suggestions:**

- Try different search engines
- Use a variety of keywords
- Use Boolean techniques, truncation and phrase searching
- Carefully evaluate web sites

• Use the search engine "Help" menu to save time

# Good Searching & Problems

- Each search engine searches differently
- Always look to see if there is an advanced search option
- Some search engines use proximity searching, which allows users to define the distance between keywords



Title links to abstract and possible source of full text

"Find it with OLinks" links to full text version

Link to articles that cited the work

Link to related articles



# Critique the Literature

- Is it relevant to my research?
- Is the study significant?
  - Strengths and weaknesses
- What theories or methods are used?
- Is the research biased by emotions or public opinion?
- Who is the target reader?
  - Public, academic peers, policy makers

### Search Strategies

• Determine your topic Formulate a working thesis • Check for background information • Develop a list of keywords and phrases Search in databases, on the Internet, in library catalogs • Evaluate resources Keep publication/origination information organized

# Determine Your Topic

- The course and assignment will guide your choice of a topic
- A topic that is interesting to you often works best

A very broad topic may need narrowing
A very specific topic may need expansion

# Formulate A Working Thesis

- A thesis states the focus of a paper
- A thesis can change during the development of the paper
- Sometimes your research will indicate a different approach
- Revision of the thesis can occur at any point in the research and writing process

# **Background Information**

 Encyclopedias, textbooks, dictionaries and periodicals provide background information for your research topic

 These sources help develop a list of keywords to use for searching in databases, library catalogs, indexes and on the Internet

# Keywords

- To develop a list of keywords, write down as many different terms related to your topic as you can think of
- Make the list as varied as possible
- You can combine keywords in your searches
- Use a thesaurus, your textbook, and encyclopedias for ideas

Generate a list of 12 to 20 words



### Several techniques for database, catalog and Internet searches include:

Boolean techniques
Truncation
Phrase Searching

### Search Tools

- Truncated search words
  - Marr\* = married, marriage, marry
- Boolean logic
  - · Use OR, NOT, AND



Boolean search techniques work in databases and on the Internet.

Use keywords in a variety of ways to refine your search.

A and B stand for key words or phrases.

The words "AND," "OR" and "NOT" are called logical operators.



# **Boolean Search**

AND: When you use "AND" between two terms, your results will include sources that show the two terms together in a source.

OR: Use "OR" to broaden your search by looking for several terms in a source whether they appear together or not.

NOT: Allows you to reduce the number of results you get from a search. This can be helpful if you want to exclude results related to your topic but not relevant to your thesis.



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# Truncation

• Use the root of a word to broaden your search responses.

• Using the root Psych\* will result in the following:

Psychology
Psychological
Psychologist
Psychiatry
Psychiatrist



 Using quotation marks ("") makes it possible to search for important phrases instead of individual keywords

Phrase: "San Francisco Earthquake"
As Keywords: San Francisco and Earthquake
Phrase: "Welfare Reform"
As Keywords: Welfare and Reform
Phrase: "Community College"
As Keywords: Community and College



#### Using AND, OR, NOT, with \* and ""

- o "Coll\*" AND "Welfare Reform" OR poverty NOT welfare
- Some databases or search engines may use symbols in place of the Boolean terms:
  - "Distance learning" + (and) technology (not) computers

# More About Search Engines

- Searches for matching terms (keywords or several keywords)
- Results "ranked" by relevancy (for some)
- Can search by
  - subject or category
  - keyword
- Learn about each search engine's description, options, and rules and restrictions



- Automatically places "and" between words (expands search)
- To reduce search -
  - add more terms in original search
  - refine search within the current search results. (adding terms to first words will return a subset of the original query)
- Exclude a word by using a sign
  - Example: to search bass but not speaker  $\rightarrow$  bass -speaker
- Does not support "or" operator
- Does not support "stemming" or "wildcard" searches
- Not case sensitive

# Phrase Searches and Connectors

- Phrase Searches are useful when searching for famous sayings or specific names "Gone with the Wind"
- Phrase Connectors are recognized
  - Hyphens
  - Slashes
  - Periods
  - Equal signs
  - Apostrophes
    - Example: mother-in-law

# **Stop Words**

- Stop words are ignored
- These rarely help narrow and slow down search
  - http
  - com
  - certain single digits
  - certain single letters
- to include stop words use [space]+
- Example
  - Star Wars, Episode  $1 \rightarrow$  Star wars episode +1
  - − OS/2 → OS/ +2

#### \*\*\*don't forget the space before the + - signs

