The Internet

You would learn the basics of the Internet, how to effectively search for information online as well as how to evaluate the quality of information sources
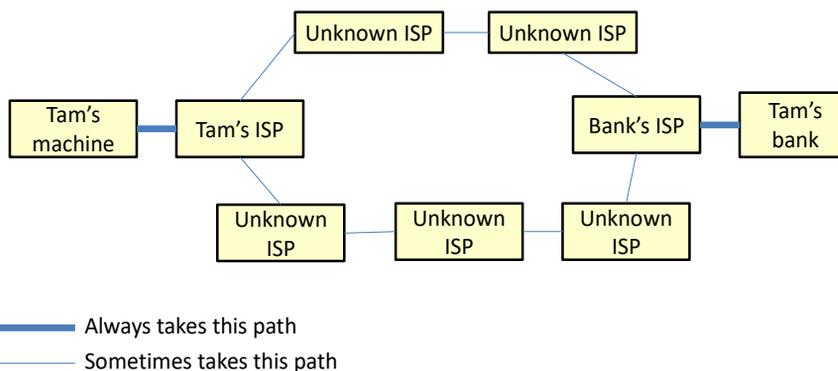

Design Of The Internet

- The original internet designed to connect computers and collaborate/interact with others
  - Consequently a common protocol was developed so connected computer nodes could communicate
  - This is still one of the major uses of the Internet today
    - Connect & interact: Mac, Windows, phone all connected and communicating through web sites like Facebook, Snapchat, Twitter etc.
  - The security of those connections weren't a consideration because access to the computers being connected was restricted (university researchers)
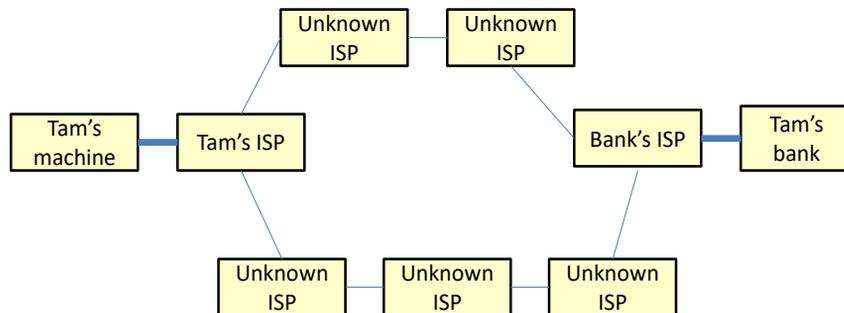
Internet Addresses

- You are not anonymous on the Internet
  - Don't think you can 'troll' (or do worse things) online with impunity
  - Methods of masking/disguising an IP address (e.g. "Tor") aren't infallible
- Each node (connected device) on the Internet has an address so that information can reach it "IP address" or "IP" for short.
- The address takes the form of a sequence of numbers
- But usually a more meaningful address is used in place of the numeric IP address by users.
  - e.g. www.facebook.com
- The IP address of your Internet devices at home is provided by your Internet service provider/ISP (e.g. Shaw, Telus etc.).
  - Using a free Wi-Fi network will allow your device to get an IP address from the host of that network.

Modern Consequence Of Historical Roots

- Information is typically routed among several computers and may take multiple paths even in one 'session'
- e.g., one session could consist of the viewing of a single video or even a single financial transaction.

Always takes this path
Sometimes takes this path

Reasons For Multiple Paths Along The Internet

```
                    ┌──────────┐   ┌──────────┐
                    │ Unknown  │   │ Unknown  │
                    │   ISP    │   │   ISP    │
                    └──────────┘   └──────────┘

┌──────────┐   ┌──────────┐                    ┌──────────┐   ┌──────────┐
│  Tam's   │   │          │                    │          │   │  Tam's   │
│ machine  │───│ Tam's ISP│                    │ Bank's ISP│──│   bank   │
└──────────┘   └──────────┘                    └──────────┘   └──────────┘

            ┌──────────┐   ┌──────────┐   ┌──────────┐
            │ Unknown  │   │ Unknown  │   │ Unknown  │
            │   ISP    │   │   ISP    │   │   ISP    │
            └──────────┘   └──────────┘   └──────────┘
```
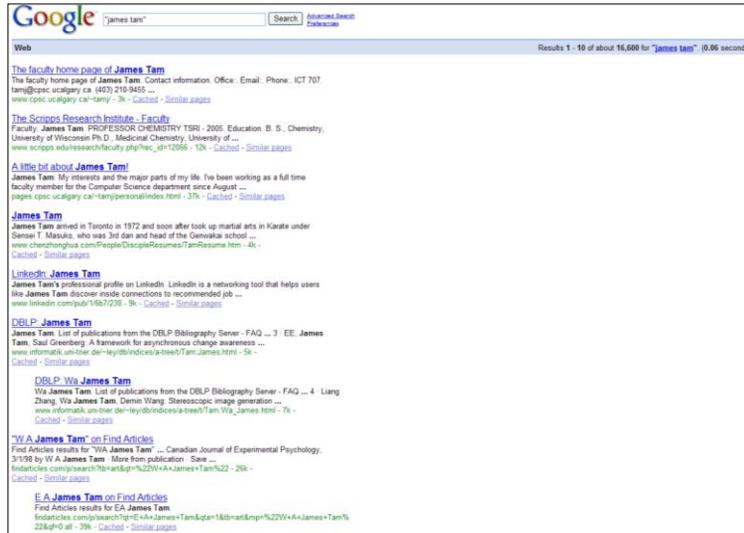
- Benefits:
  - Stability
  - Speed
- Need for an IP address
  - Information may need to be resent.
  - Each 'portion' (packet) of transmitted data needs to contain the IP address of the destination.

Searching For Information Using Google

- There are other search sites.
- Some may actually work as well as (or for some tasks – better than Google).
- We will talk about some of the advantages of some of these other sites later.
- Google however is by far the most popular search site and for simple/common searches it will probably provide at least reasonable results.

Search Websites Rank Results According To Relevance

Making Your Site More Noticeable (Higher Rank)

- Old approach (it still applies but it doesn't play as large a role as it used to in the ranking of search results)
  - Add relevant keywords to your page.
  - The frequency and location of keywords may play a role in determining relevance.
  - Trying to artificially rank your page higher in search results may result in a page being put at the bottom of the list (e.g. Your page is listed on page 100 out of 100 pages of results).
    - e.g., adding celebrity 'gossip' to my CPSC page may rank it higher but not relevant info for most visitors.
- Google "Page rank"
  - Links (to your site) also affect ranking ("cross links" between pages)
  - Popular/relevant pages linking to your page rank your page higher on search results than links from irrelevant pages.

Searching For Information On The Internet: Google

- Easy? Just type in what you're searching for…

- …you may get the information that you were looking for plus much more!

You Will Learn Strategies For Narrowing Your Search Results (This Is For Google But Largely Applies To Other Sites):

1. Reducing the number of unrelated results.
2. Explicitly avoiding pages with certain words.
3. Searching for information from select pages.

Employing These Search Strategies

- Many (but not all) of the features can be found through an "Advanced Search" subpage of the Google site.
  - http://www.google.com/advanced_search
- There are several options on this page (to be covered shortly):

Find pages with...	
all these words:	
this exact word or phrase:	
any of these words:	
none of these words:	
numbers ranging from:	to

Then narrow your results by...	
language:	any language
region:	any region
last update:	anytime
site or domain:	
terms appearing:	anywhere in the page
SafeSearch:	Show most relevant results
reading level:	no reading level displayed
file type:	any format
usage rights:	not filtered by license

Searching For Exact Phrases

- Sometimes you may be looking for information about a famous quote.
  - Want: "This was their finest hour!" – Winston Churchill

No quotes

Many results must be reviewed.

Unrelated websites show up: *Their finest hour*

Google [this was their finest hour] [Search] Advanced Search / Preferences

Search: ● the web ○ pages from Canada

Web   Results 1 - 10 of about 1,010,000 for this was their finest hour. (0.06 seconds)

This was their finest hour - Wikipedia, the free encyclopedia
The This was their finest hour speech was delivered by Sir Winston Churchill to the House of Commons of the Parliament of the United Kingdom on 18 June 1940 ...
en.wikipedia.org/wiki/This_was_their_finest_hour - 33k - Cached - Similar pages

Winston Churchill Speech - Their Finest Hour
Winston Churchill - Their Finest Hour ... Only three British divisions or their equivalent were able to stand in the line with their French comrades. ...
www.historyplace.com/speeches/churchill-hour.htm - 30k - Cached - Similar pages

Audio: Winston Churchill's "This Was Their Finest Hour" Speech
Audio: Winston Churchill's "This Was Their Finest Hour" Speech.
olc.spsd.sk.ca/DE/history20/unit3/finest.html - 1k - Cached - Similar pages

Video results for this was their finest hour
YouTube - Winston Churchill - This Was Their ...
1 min 43 sec
www.youtube.com
Freespace 2 SCP - Their Finest hour mission
9 min
www.youtube.com

Free MP3 Compilation: Best Of Netlabels: "Their Finest Hour", 2 ...
Let's share some music! Welcome back to the wonderful land of free netlabel sounds! After the international success of our first Best-Of-Netlabels-Edition ...
phlow-magazine.com/mp3-music-download/free-compilation/332-netlabel-compilation-their-finest-hour-2 - 49k - Cached - Similar pages

Searching For **Exact Phrases** (2)

- Enclosing the phrase that you are searching for in **quotes** will search for pages that contain only that specific exact phrase.
  - Any variations (e.g. order of words) should be excluded

The desired phrased enclosed quotation marks.

Fewer but more relevant results show up

Google "this was their finest hour"   Search   Advanced Se...
                                        Preferences
Search: ● the web ○ pages from Canada

Web   Results 1 - 10 of about 13,300 for "this was their finest hour". (0.07 seconds)

This was their finest hour - Wikipedia, the free encyclopedia
The **This was their finest hour** speech was delivered by Sir Winston Churchill to the House of Commons of the Parliament of the United Kingdom on 18 June 1940 ...
en.wikipedia.org/wiki/**This_was_their_finest_hour** - 33k - Cached - Similar pages

Winston Churchill Speech - Their Finest Hour
... and so bear ourselves that if the British Empire and its Commonwealth last for a thousand years, men will still say, '**This was their finest hour**. ...
www.historyplace.com/speeches/churchill-hour.htm - 30k - Cached - Similar pages

Audio: Winston Churchill's "**This Was Their Finest Hour**" Speech
Audio: Winston Churchill's "**This Was Their Finest Hour**" Speech.
olc.spsd.sk.ca/DE/history20/unit3/finest.html - 1k - Cached - Similar pages

YouTube - Winston Churchill - **This Was Their Finest Hour**
1 min 43 sec - 16 Mar 2008 - ✰✰✰✰✰
In 1940 Adolph Hitler had conquered all of Europe except for a small island off the coast of France who refused to be conquered. This island was all that ...
www.youtube.com/watch?v=ZvSSwHXprMg

Searching **Exact Phrases**: Advanced Search

No other combinations are possible (same as using quotes)

Advanced Search

Find pages with...

all these words:	
this exact word or phrase:	james tam
any of these words:	
none of these words:	
numbers ranging from:	to

Words That Are Commonly **Ignored By Google**

- **Stop words** are ignored by search engines such as Google:
  - **Common** words e.g. 'the', 'a', 'to', 'in', 'I'…
  - **Reserved** words e.g. 'OR;

- The search engine can be forced to **include the stop words**:
    1. Use **quotes**
  ```
  best places to eat in Calgary
  ```
  Vs.
  ```
  "best places to eat in Calgary"
  ```

    2. Use the **'plus' operator**. (Not available after Google+ came out)
  ```
  Star Wars I
  ```
  Vs.
  ```
  Star Wars +I
  ```

What If **More Than One Word** Can Be Used?

- You only remember a part of a phrase and there is *more than one way in which the phrase may be completed*
- Example[1]:
  - `The world's longest` *runway*
  - `The world's longest` *undefended border*
  - `The world's longest` *beard*
  - Etc.
- The wildcard operator ***** allows *one or more words* to be substituted for the 'star' or 'asterisk'
- Example:
  - "`The world's longest` *****"

1 Example from: https://support.google.com/websearch/answer/2466433?hl=en

Using Multiple Wildcards

- Examples:
  - `a funny * happened on the * to the *`[1]
  - `Brad Pitt played the character * in *`

Searching A Range

- Searching numerical values within a certain min – max range
- Range operator `..` (multiple dots)
- Example:

  `Qatar History 2000..2009`

  `laptop $300..$500 canada`

Laptops & MacBooks | Best Buy Canada
https://m.bestbuy.ca › Home › Computers & Tablets › Laptops & MacBooks ▾
Best Buy Canada has great deals and sales on laptops & MacBooks - plus get free* shipping on all
orders over $35! ... SAVE $300 ... $339. $339.00. SAVE $260. Marketplace seller. ASUS ZenBook
14" Laptop - Grey (Intel Core i5-8250U ...

...

Laptop Deals - Laptop Deals | Dell Canada
https://deals.dell.com/en-ca/work ▾
Dell's Small Business Laptop Deals, Desktop & Server Deals. Get huge savings on ... Shop More
Laptops ... $449.51 (43% off). Dell Price ... $449.51 (41% off).

Range Searching: Advanced Search

Search criteria

Find pages with...

all these words: qatar history

this exact word or phrase:

Numerical range (same as ..)

any of these words:

none of these words:

numbers ranging from: 2000   to   2009

Searching Among Alternatives

- Use the **OR** operator
- Normally (default) when a word is typed into in the search box Google will try to find web pages that include **all** of those words.
- Example (searches for all words):
  - *<First word> <Second word>*   (There is an implicit AND, but there is no 'AND' operator with Google)

    `cute wallpapers cats dogs`
- Example (searches include alternatives):

    `cute wallpapers cats` **OR** `dogs`

    "Bruce Lee" **OR** "Little Dragon" **OR** "Lee Siu Lung"

    "Wayne Gretzky" **OR** "The Great One" **OR** "Number 99" **OR** "Number ninety nine"

Searching Among **Alternatives** (2)

- Note: Google is case sensitive in this situation! (OR must be upper case in order to search for alternatives).
- The following searches are not identical!

To be or not to be

Vs.

To be **OR** not to be

Example: Multiple Search Terms (Default)

Example: Multiple Search Terms ("OR")

Example: Multiple Search Terms, OR - No Caps

Searching **Alternatives**: Advanced Search

Find web pages that have...		
all these words:	Cute wallpapers	
this exact wording or phrase:		tip
one or more of these words:	cats OR dogs OR	tip

But don't show pages that have...

any of these unwanted words:		tip

Need more tools?

Results per page:	10 results
Language:	any language
File type:	any format
Search within a site or domain:	
	(e.g. youtube.com, .edu)

⊞ Date, usage rights, numeric range, and more

Advanced Search

All words that **must** appear same as "AND"

One or more of these words **can** appear (same as "OR")

Using 'OR': Exceptions[1]

- Google was designed to approximate how people think and behave when searching for information.
- Consequently exceptions to the rules are sometimes made.
- Example[2]:

  What you tell the Google: "For better" **OR** "for worse"
  What Google looks for: "For better **or** for worse"

1 From http://www.google.com/support/websearch

2 Google and other search engines may automatically assume you are looking for the Lynn Johnson comic strip (https://www.fborfw.com/) when you enter this phrase.

Excluding Words

- Return search results excluding (or "not including" specified words)
- There may be times when you want Google to exclude from results certain words or phrases.
- This can be done with the **subtraction operator** (subtract the words that follow the operator from search results).
- Example:
  "James Tam"
  Vs.
  "James Tam" **–**Calgary
- An alternate approach is to use the 'NOT' operator
  "James Tam" **NOT** Calgary

Excluding Words: Advanced Search

Find pages with...

all these words:	
this exact word or phrase:	james tam
any of these words:	
none of these words:	calgary
numbers ranging from:	to

Exact search phrase

Excluded word (same as -, NOT

Example Results: AND, OR, Subtraction (NOT)

Search phrase	Operator	~num. results
"james tam"		63,200
"james tam" -"computer science"	NOT	49,300
"james tam" AND "computer science"	AND	13,400
"james tam" OR "computer science"	OR	229,000,000

Site Specific Searches

- Useful when a webpage is large and/or not well organized:
  - Searching the current webpage
  - Searching the entire site (and only that site)

Searching The Currently Viewed Web Page

<CTRL>-<F>
(Edge, IE, Firefox)

Searching One Website

- Involves searching one entire site (and *not just the page* from the site that is currently loaded into the web browser). Results from other sites will not be shown.
  - Use the '**site**' keyword
- Example:

Search only the University of Calgary website for the desired text

Results are only from the University of Calgary website

MSOffice update | News & Events | University of Calgary
www.ucalgary.ca/news/utoday/jan20-09/MSOffice
Jan 20, 2009 - These include: Excel Levels 1,2,3, and Excel Macros and VBA; Word 1, 2, and 3;
PowerPoint 1 and 2; Access 1, 2, and Access Macros and VBA ...

University of Calgary Continuing Education
www.ucalgary.ca/cted/campaign2013/201501-newsletter.html ▾
Microsoft Macros and VBA Level 1. Feb 4 ICT 427. Main Campus. Sketching Interiors Feb 4 INT 114.
Main Campus. Procurement and Contract Management

Co-op & Internship Employer Testimonials | Faculty of Science ...
www.ucalgary.ca/science/undergraduate/co_op_internship/employer_testimonials ▾
In return the students gain an enormous amount of knowledge in Oil & Gas, data management, learn
many technologies that we use such as C\C++, VBA, ...

Searching One Website: Advanced Search

Find pages with...

all these words:	
this exact word or phrase:	nursing
any of these words:	
none of these words:	
numbers ranging from:	to

Information sought

Then narrow your results by...

language:	any language
region:	any region
last update:	anytime
site or domain:	www.ucalgary.ca

Site being searched (same as 'site')

Online Documentation: Google Operators

- (Last accessed Jan 2020)
  - https://support.google.com/websearch/answer/2466433?hl=en

Other Search Websites: Google Comparison

- Google (Alphabet)
  - Overall the most frequently used search site (~75% - 95% searches occur via Googles)
  - Pros (Google)
    - Text search:
      - Now: generally good
      - Past: clearly superior to similar sites
    - Maps/geographical – can't be beat especially with extensive street and satellite views
      Bing: rotating '360' degree street side view (not the same experience)

  - Cons (Google)
    - Complaints about biases in ranking e.g. competitors to Google are ranked lower
    - Privacy/tracking issues (may be more than you think, not just 'ads')

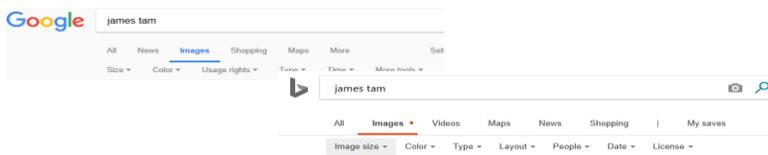## Other Search Websites: Google Comparison

  - Cons (Google continued))
    - Privacy/tracking issues (may be more than you think, not just 'ads')
      - Example (location and time map):
        - https://www.cnbc.com/2017/11/20/what-does-google-know-about-me.html
      - "Why Google's Spying on User Data Is Worse than the NSA's"
        - https://www.huffpost.com/entry/why-googles-spying-on-use_b_3530296

Other Search Sites: Microsoft Bing[1]

- www.bing.com
- The results from text searches (e.g. "Who will win the Stanley cup" +2019) are often comparable to Google (some claim Bing is greatly superior)
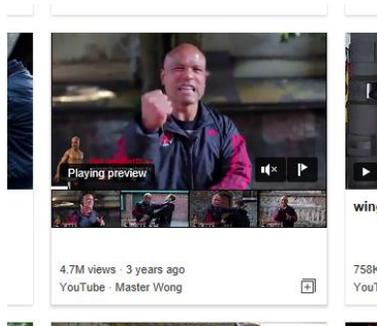- The search tabs (e.g. images) provide similar search parameters

1 References (Accessed Sept 2018)
- http://blogs.cornell.edu/info2040/2016/10/17/bing-vs-google-seo-and-search-algorithms/
- https://www.pcworld.com/article/2685215/websites/the-4-reasons-i-switched-from-google-to-bing.html
- https://www.cnet.com/news/so-i-put-google-and-bing-in-the-ring-guess-who-won/
- https://help.bing.microsoft.com/#apex/18/en-US/10001/-1
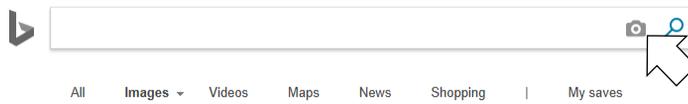
Other Search Sites: Bing (2)

- Bing video: includes a 'preview' feature of videos

- Google video: includes a visual 'closed captioned' search criteria

Other Search Sites: Image-Based Searches (Reverse Image Searches)

- Yandex: www.yandex.com
  - Largest technology company and largest search website in the Russian Federation[1]
  - It's biggest 'claim to fame' is the quality of it's image-based searches
    - Image-based search (reverse image search): Instead of typing text criteria when looking for pictures online you can upload a picture and the search website

    - Other search websites also have this feature (e.g. Google, Bing. Tineye etc.) but the results may not as useful.

1 "Yandex, Russia's biggest technology company, celebrates 20 years". The Economist. *September 30, 2017.*

Student Discussion

- Why/when would you use the image-based search feature?

- Are there any drawbacks/personal security issues (current or future) for websites that include image-based searches as a feature?

Google's Image-Based Search

- Reference (last accessed Sept 2018)
  - https://support.google.com/websearch/answer/1325808?hl=en
  - "**How reverse image search works**
  - When you search using an image, your search results may include:
    - Similar images
    - Sites that include the image
    - Other sizes of the image you searched for"

Privacy And Web Searches

- Many search sites tracks your searches - wired.com
  - "Google saves all your searches"
  - "Google records what you say every time you speak to it"
  - "Google tracks and records your location"
- It should be possible to remove the stored information but you have to take the time to learn how to do it (opt-in by default is the norm)
- What about "private browsing" modes provided in web browsers
  - It prevents information being stored on your local computer
  - That is, it prevents *other users of that computer* from seeing what you've done, what sites that you've been to

References
1. https://www.wired.co.uk/article/google-history-search-tracking-data-how-to-delete
2. https://www.cnet.com/how-to/how-to-prevent-google-from-tracking-you/

Private Search Websites

- Private search websites claim that none of search information is retained.
- Example: Duckduckgo.com
  - Description (from their website)
  - "We don't store your personal information"
  - "We don't follow you around with ads"

Finding And Evaluating Information

- This section is crafted for students who need to conduct research for an undergraduate course e.g., writing a paper
  - But the principles can be applied when researching information for personal reasons because it may improve the quality of the results (e.g., "Are there technical reasons as to why a MAC is any more or less secure than a Windows-PC?")
- Finding: Where to look for information
- Evaluating: Determining the quality of information?

Finding Information

- When conducting formal research (or even research for undergraduate courses) information sources should be evaluated for quality
  – Not all sources of information are equal in terms quality.
  – Contrast: a private individual's personal blog (opinion) vs. a website containing the current research being conducted by the experts in a particular field.
- Where to start?
  – Check with your course instructor: what level of research is expected?
  – Books
  – Journals and conference proceedings (may be too much for undergraduate courses)
  – Online: websites

Journals And Conference Proceedings

- JT: for most undergrad courses you would probably look at journals/conferences for 5xx level course (if at all)
- Publications that describe the latest theories and research produced by domain experts
- The quality of publications can vary
  – Which ones are at least reasonably good ones? Start with the instructor's publication list and look at the journals and conferences in which this person has published.

Journals And Conference Proceedings (2)

- Overall the quality of the information is generally good
- Since it is written by 'experts' for 'experts' it may be difficult for the typical student to read and understand
- Examples of good conferences (in case you're curious):
  - http://www.sigchi.org/conferences/   "User-friendly technology"
  - http://cscw.acm.org/   "Technology to support groups"

Books

- Books: First look at the intended audience
  - General population books: with no background knowledge in the domain?
    - e.g., "A brief history of time" by Stephen Hawking
    - Probably too rudimentary for use in post-secondary courses.
  - Students: high school or post-secondary textbook
    - May be at an appropriate level of detail (for the latter category) if you just want general knowledge of a topic (e.g., instead of taking a course)
    - Probably not specialized enough if you need to write a detailed term paper for a course
    - e.g., you are taking CPSC 203 there is a brief hardware introduction but the introduction is not sufficient if you need to write a paper on the specific hardware needed for high-end gaming computers

Online: Websites

- Even more than the other sources, websites vary greatly in quality
  - The publishers of conference may host websites describing the latest research conducted by the experts
  - On the other hand: anyone can make their own website about a particular topic
- Some things to keep in mind when evaluating the quality of a website:
  - Who is the author:
    - Widely regarded expert in the field (but some experts write about other areas)
    - Industry expert (which field, is it similar to the one described in the website)
    - Does the person have any apparent conflicts or agendas e.g., a CEO of a computer manufacturing company writing a review of laptops (sometimes affiliations are not so obvious)
    - https://www.quora.com/What-does-Google-know-about-me/answer/Gabriel-Weinberg
    - Are points backed by facts? Are those facts citing reputable sources?
      - Some present opinions as facts.

Online: Websites (2)

- Who is the intended audience of the website (Will you be able to use the information)
  - Expert researchers? (Example: conference/journal papers)
  - General population? (Example: News outlet, specialized magazine)
  - Combination? E.g., www.mayoclinic.org, http://www.hopkinsmedicine.org
- If the content is produced by a university or reputable research group then it's probably *correct*
  - E.g., Mayo clinic, Johns Hopkins
  - But may or may not be targeted specifically to a 'general' audience and be of insufficient depth for your research
- In general **use websites with a strong degree of a caution**.

Some Scholarly Websites

- Scholarly source (commonly used definition): research work that's been published in a 'peer reviewed' journal or conference.
- Peer reviewed (from https://www.merriam-webster.com): "process by which something proposed (as for research or publication) is evaluated by a group of experts in the appropriate field "

Some Scholarly Websites[1]

- **Google scholar**: Google search that only returns results from scholarly sources
  - scholar.google.com
- **Base**: Information is selected and reviewed by Bielefeld University.
  - base-search.net
- **Academia**: users share scholarly research and follow the research of others.
  - academia.edu
- **RefSeek**: searches books, encyclopedias, newspapers, professional journals and websites (JT: is it 'peer reviewed')
  - refseek.com

1 Source: "Technology in Action (15E)": Evans, Martin, Poatsy: Page 113

Some Scholarly Websites (2)

- Caution:
  - "Using these websites doesn't mean you don't have to check facts, but it does provide you with an excellent starting point for your research" - "Technology in Action (15E)": Evans, Martin, Poatsy: Page 318

Other Websites When Researching Information[1]

- **ResearchGate**: "Founded in 2008 by physicians Dr. Ijad Madisch and Dr. Sören Hofmayer, and computer scientist Horst Fickenscher, ResearchGate today has more than 6 million members."
  - https://www.researchgate.net/
- **Microsoft Academic Search**: "Microsoft Academic Search is an experimental research service developed by Microsoft Research to explore how scholars, scientists, students, and practitioners find academic content, researchers, institutions, and activities."
  - https://www.microsoft.com/en-us/research/project/microsoft-academic-search/

1 Source: https://alternativeto.net/software/google-scholar/

Wikipedia

- "**Wikipedia** is a collaboratively edited, multilingual, free Internet encyclopedia…" – from www.wikipedia.org
- Anyone can contribute
- "Many eyes view it" (and presumably check the quality)
- Question for students: Is this a good quality source of information when researching a topic?
  - Some students: "It's great I use it everyday" (I've even heard this from the occasional post-secondary instructor).
  - Other students (paraphrase): "It's a waste of time to talk about Wikipedia, *everyone* knows you shouldn't use stuff from there!"

Wikipedia (2)

- Many 'eyes' view but are those the 'right eyes'
  - Some topics require expert knowledge e.g., 'Rocket science'
- Anyone can edit:
  - There is no guarantee that the experts in the area will be viewing, let alone actively editing Wikipedia documents
  - Furthermore the document that you view one day may not be the same one that you view on another day
  - Side note: Actively study the history of changes of a document and compare differences?
  - Subject to bias - extreme cases of "vandalism" has lead to "lock downs"
    - Yes files can be secured (locked) from further edits but consider what's the point of a wiki (anyone on the web can edit)

Using Wikipedia

- Similar to regular encyclopedia or perhaps a newspaper article it's a distillation of different sources of information.
  - Generally it is not accepted as a direct primary source (don't directly cite a Wikipedia article in your research paper).
- It may be a **starting point** to find good sources of information.
  - You may be use the sources listed in Wikipedia references to learn about topics and to list in your citations.
- Example: "Human-Computer interaction"

Footnotes [edit]

1. ^ Card, Stuart K.; Thomas P. Moran; Allen Newell (July 1980). "The keystroke-level model for user performance time with interactive systems". *Communications of the ACM* **23** (7): 396–410. doi:10.1145/358886.358895.
2. ^ Carlisle, James H. (June 1976). "Evaluating the impact of office automation on top management communication". *Proceedings of the June 7–10, 1976, National Computer Conference and Exposition.* pp. 611–616. doi:10.1145/1499799.1499885. "Use of 'human-computer interaction' appears in references"
3. ^ a b c Hewett, Baecker, Card, Carey, Gasen, Mantei, Perlman, Strong; Verplank. "ACM SIGCHI Curricula for Human-Computer Interaction". ACM SIGCHI. Retrieved 15 July 2014.

Wikipedia cites a good research conference (usability "user friendly" technology)

Using The University Library

- Services provided for students:
  - From the UC library website, formerly it was http://library.ucalgary.ca/student-support)
    - "As a student attending the University of Calgary, you have access to the books, journals and online resources of a major research institution. Your subject librarians are available for research assistance as well.
    - Your University of Calgary ONEcard is your library card, and gives students the following privileges:
      - Borrowing books with a loan period of two weeks for undergraduate students and a term loan for graduate students
      - Interlibrary loan
      - Off-campus access to Library Research Databases"

Online Web Search Without The Library

- The general Internet user does not have a license to access many good online resources.
- After finding the publisher of the article: Journal of American Medical Association you must pay to see the contents.

If you just 'Google-It' you have pay $30

The University Library: Online Resources

- The publications of many journals, conference proceedings, online books can be accessed "for free" (licensed) through the university portal:
  - Requires login with the UC login credentials.
  - Combine the library licensing with an online web search:
- Use regular search websites to find the relevant paper.
  - E.g., "Direct Stimulation of Angiotensin II Type 2 Receptor Initiated After Stroke Ameliorates Ischemic Brain Damage" – found via Google scholar
- Then access the content of the paper through the university portal

Authentication Is Require To Access The Article

After This Section You Should Now Know

- Some factors that can determine the ranking of search results
- Techniques for more effective web searches using Google:
  - Searching for exact phrases: using quotes
  - How to include "stop words" in searches: quotes
  - How to use the wildcard: *
  - Searching ranges: ..
  - Searching for alternates: OR
  - Excluding words and phrases: - (subtraction operator)
  - Conducting site specific searches:
    - Finding content within the webpage currently viewed: 'find in page'
    - Searching for content within a particular website: site

After This Section You Should Now Know (2)

- Some of the strengths of other search websites as compared to Google: Bing, Yandex, Duckduckgo.
- How to evaluate the quality of information: journals/conferences, books, websites
- Examples of some scholarly websites
- How the university library can complete online searches

Images

- "Unless otherwise indicated, all images were produced by James Tam

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