



ADDIS ABABA UNIVERSITY

ADDIS ABABA INSTITUTE OF TECHNOLOGY

Lecture One Based Assignment

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# **The History of the internet**

The Internet that we use today is a relatively old technology. The internet has its origin in the efforts to interconnect computer networks that arose from research and development in the United States and involved international collaboration, particularly with researchers in the United Kingdom and France back in the 60s and 70s. It started as a way for government researchers to share information. Computers in the '60s were large and immobile and in order to make use of information stored in any one computer, one had to either travel to the site of the computer or have magnetic computer tapes sent through the conventional postal system, which prompted for the search of a better mechanism for sharing information.

Another catalyst in the formation of the Internet was the heating up of the Cold War. The Soviet Union's launch of the Sputnik satellite spurred the U.S. Defense Department to consider ways information could still be disseminated even after a nuclear attack. This eventually led to the formation of the ARPANET (Advanced Research Projects Agency Network), the network that ultimately evolved into what we now know as the Internet. ARPANET was a great success but membership was limited to certain academic and research organizations who had contracts with the Defense Department. In response to this, other networks were created to provide information sharing - NPL network was set up by Donald Davies in the UK, The Merit Network was a state funded networking project in the state of Michigan, and CYCLADES was a French research network designed and directed by Louis Pouzin. The first international packet switched network, IPSS (International Packet Switched Service) was created by the collaboration of The British Post Office, Western Union International and Tymnet. It originally covered a portion of the globe but by the 1990s, it was spread out worldwide.

The establishment of these networks depended on solving a variety of issues. One of the biggest was the issue of creating a centralized logical network by connecting separate physical networks. Early networks had used message switched systems that required rigid routing structures prone to single point of failure. In the 1960s, Paul Baran of the RAND Corporation came up with a method of transmitting information that divided the information into arbitrary packets, with routing decisions made per packet. Donald Davies separately incorporated this method into his own network and coined the term packet switching. Packet switching provided better bandwidth utilization and response times than the traditional circuit-switching technology used for telephony.

By using the packet switching transmission method and developing their own software for establishing links between network sites, the various networks were widespread across the globe by the start of the 1980s. These networks, although they could communicate with other computers in their own network, didn't have a standard way to communicate with other networks. To solve this, a new communications protocol was established called Transfer Control Protocol/Internetwork Protocol (TCP/IP). This allowed different kinds of computers on different networks to "talk" to each other via a universal language, hence the birth of the Internet. ARPANET incorporated the TCP/IP protocol on January 1, 1983.

The internet remained exclusively used for business and military purposes until the late 80s and early 90s. By the start of the 90s a lot of internet service providers had started selling network access for commercial use. The internet structure, the World Wide Web, that we commonly know today was invented by Tim Berners-Lee in 1989. Tim is also credited for developing the first web server and the first web browser called WorldWideWeb. More and more companies got into the internet business in the 1990s and a lot of web browsers and servers were developed as a result.

Until the early 2000s, the internet was mostly used for emails, mailing lists, online forums, and bulletin forums which displayed static content to the user and were running under Web 1.0. Around 2004 a concept of a dynamic version of the Web termed Web 2.0 started to surface. The term "Web 2.0" describes websites that emphasize user-generated content, usability, and interoperability. In the late 2000s, as mobile phones became more and more ubiquitous, the expansion of the internet was greatly reinforced. The internet is so widespread that since January 22, 2010 even the International Space Station in Earth's Orbit has been connected to the internet.

The internet has come a long way from being a research project that only a handful of computer scientists knew about. Nowadays, the number of computers connected to the internet has grown exponentially, and the number of users has risen to over 1.5 billion consumers. The world would not be what it has become today without the internet as it touches just about every aspect of how we live, work, socialize, shop, and play.

## **Website Observations**

**Google.com** – This is a well-designed website. It is very intuitive and loads very fast. It divides your search query results into a number of categories which makes finding the content you want really easy.

**Youtube.com** – this is a great video sharing platform. It has a lot of good content. It is very user friendly and sorts a custom homepage for each user. The recommendation algorithm has its faults but consistently tries to provide relevant content. The channel pages are really nice. Youtube allows its users to customize their own channel to their liking. The community section in each channel page also allows for polls, comments, and special posts that make communicating with the channel owners easy.

**Reddit.com** – this is one of the best designed websites in my experience. It is brilliantly organized into subreddits for better control and organization. Each subreddit has its own bots, admins, and rules. The bots make mistakes sometimes but they work quite well most of the time. The users are encouraged to behave accordingly in each subreddit because of the Karma and coin awarding systems. It was designed for sharing your ideas and connecting with people that share your interests and it is doing that very well.

**Wikipedia.org** – it is a well-designed website that serves its purpose well. It allows several interested parties to contribute to multiple articles and provide more accurate and up-to-date results. Its design structure is pretty basic but it has a lot of functionality to it.

**Facebook.com** – it is a very widespread website that is a platform for connecting people and sharing ideas and media content. It is organized well and is very intuitive. Each user has a custom feed that's generated by the pages the user likes and follows. Sharing information is very easy and smooth.

## **Websites on Each Category**

**Web Portal:** A web portal is a specially designed website that brings information from diverse sources, like emails, online forums, and search engines, together in a uniform way. Some examples include:

yahoo.com

msn.com

canada.com

askmen.com

igoogle.com

**News:** These types of websites provide you with news from around the globe, free of charge. They let the user choose the news to read as opposed to watching or listening to everything on the radio and television. Some examples include:

cnn.com

bbc.com

nytimes.com

theguardian.com

reuters.com

**Informational:** Websites which are created to provide a customized and branded resource for potential and active customers, members, investors, and so forth. These websites are usually content and design driven. Some examples include:

tripadvisor.com

imdb.com

howstuffworks.com

webmd.com

britannica.com

**Business/Marketing:** Websites that serve as online portals for facilitating online transactions of goods and services through means of the transfer of information and funds over the internet.

amazon.com

skillshare.com

merchbar.com

lenovo.com

shopify.com

**Educational:** Include websites that have games, videos or topic related resources that act as tools to enhance learning and supplement classroom teaching. They can also be used to take courses on various disciplines at home.

coursera.org

khanacademy.org

udemy.com

edx.org

codecademy.com

**Entertainment:** Blend entertaining interactive functionality and content including live video streaming, video chat communications, multi-player gaming, music and videos streaming, with social networking service such as social graph management, forums, reviews, ratings, and geo-location options.

youtube.com

netflix.com

fanfiction.net

spotify.com

vimeo.com

**Advocacy:** Websites which try to influence public policy, societal views, and resource allocation decisions within political, economic, and social systems and institutions.

childrenintherapy.org

barefootcollege.org

change.org

hrw.org (Human Rights Watch)

peta.org

**Blog:** Is an online journal platform where a writer or a group of writers share their views on an individual subject.

wordpress.com

medium.com

ghost.org

blogger.com

wix.com

**Wiki:** Are knowledge base websites on which users collaboratively modify and structure content directly from a web browser. A wiki is run using wiki engine which is a type of content management system.

wikipedia.org

fanlore.org

galaxiki.org



wikihow.com

openstreetmap.org

**Social Network:** Are online platforms which people use to build social networks or a following of other people who share similar personal interests or are interested in their brand.

facebook.com

twitter.com

linkedin.com

soundcloud.com

flickr.com

**Content Aggregator:** Are websites that collect different content including news articles, social media posts, images, and videos on particular issues from around the web and makes them accessible in one place.

feedly.com

answers.how

alltop.com

popurls.com

flipboard.com

**Personal:** Are websites created by an individual to contain content of a personal nature rather than content pertaining to a company, organization or institution. They can be used for informative, entertainment, and career marketing purposes.

hannahsilverton.com

adamhartwig.co.uk

[andrevv.com](http://andrevv.com)

[thomasjfrank.com](http://thomasjfrank.com)

[tanmade.com](http://tanmade.com)

## **Guidelines For Evaluating a Website**

The guidelines outlined below serve as criteria for evaluating a website based on its design, credibility, and overall experience. Applying these 6 guidelines will help users get quality information from the internet by helping them identify reliable resources.

### **TECHNICAL CONSIDERATIONS**

- Verify that the Web site's important capabilities, such as graphics or animations critical to the subject matter, can be utilized with the technology you have available. Some sites require more advanced browsers.
- The page should be stable, that is, consistently available.
- All the links and special features such as audios must be functioning; it is disconcerting if "Error" messages appear.
- If there is a fee for using the site, the site should provide a secure way to send payment.

### **PURPOSE**

- A site's purpose should be clear, and its content should reflect that purpose, be it to entertain, educate, or sell.
- Advertising should not overshadow the content.

### **CONTENT**

- A site's content should be comprehensible, appropriate, and of value to the intended audience. Awards won by a site may suggest quality but may also be little more than advertising banners for the issuing agencies.
- There should be enough information to make visiting the site worthwhile. Information on how often the site is visited may indicate its usefulness.
- Although there may be variations in how information is ordered, the organization should generally be logical.

- Sites that promote social biases (e.g., gender, racial, or religious biases) should be rejected or critically reviewed.
- If there are large amounts of information on the site, there should at least be a site map or outline of topics that allows users to find topics and move among them easily. A search function for locating information within the site would also be useful.
- The information should be current, accurate, and regularly updated. A "last updated" notification is a useful feature.
- Copyright information is useful if you anticipate copying a substantial amount of the content for dissemination.
- Links to more information on the topic should be provided.
- Graphics should be relevant and appropriate to the content.

### **AUTHORSHIP/SPONSORSHIP**

- The name of the individual or group creating the site should be clearly stated.
- The Web site author or manager should provide contact information for users to make comments or ask questions.
- Where applicable, reference sources for information cited should be provided.
- Sites that clearly violate copyright statutes or other laws should not be linked, listed, or recommended.

### **FUNCTIONALITY**

- Language used in messages and instructions should be clear, concise and easy to understand.
- The skills required to use the site's features should be appropriate for its intended audience.
- Navigation within the site should be easily carried out. Required "plug-ins" or other helper applications should be clearly identified, and navigational buttons should be of a consistent shape and location. Links should be descriptive of the content, and link text items should sound like invitations to content, not "click me/this/here."

- If a search function is available, instructions for conducting searches should be provided.
- There should be consistency in the use of features such as headers, backgrounds, fonts, and colors, particularly when they act as thematic pointers (e.g., sub-headings use a smaller font than major headings).
- A text-only option is useful for sites with a lot of graphics; otherwise, download time may be too lengthy. Generally, wait time should not exceed 15-20 seconds.
- If necessary, look for features catering to the needs of special populations such as visually impaired and hearing-impaired users. For example, images conveying important messages such as page titles or links should come with alternative text (text that is displayed when the cursor moves over the image), so that visually impaired users using screen readers will hear the relevant text when the cursor is over the image. Audio clips that convey important content (such as lyrics or announcements) must have optional links to readable text for hearing-impaired users.

## **DESIGN/AESTHETICS**

- The site design should be appropriately appealing to its intended audience.
- The text should be easy to read, and not cluttered with distracting graphics, fonts, and backgrounds. There should be appropriate "white space," that is, space that is not occupied by text or graphics.
- The design elements and features on the site, such as searchable databases, animations, graphics, sound files, and transitional pages, should be labeled and explained clearly.
- The site should make use of conventional rather than cute but confusing features. For example, hypertext should be in blue text rather than buttons without accompanying text.
- Links should not lead to so many levels that it is difficult for users to get back to the page they started from.
- Sometimes the same site looks different on different browsers. Colors, graphics, and text may change. If you are looking at a Web site on your own computer, check to see how it will appear on the computers that other users, such as students, will be using.

- The color scheme should not be too gaudy and hurtful to the eye. Most experts recommend that a site contain no more than four colors, with a limit of seven throughout the site. Some suggest that a site contain both warm colors (e.g., red, orange, yellow) and cool colors (purple, blue, green). The most important consideration, however, is whether the colors distract from the main message.
- The colors may also need to be appropriate for color-deficient users, who tend to see everything in shades of green and grey, so check to see whether important messages are conveyed by differences or changes in color.
- A site has better readability if dark text appears on a light background, or vice versa. If pages need to be printed, pages using light backgrounds and dark text will produce better hard copies than pages with dark backgrounds and light text.
- Large images should be presented in thumbnail versions, with links to the larger versions

We can't expect a website to always fulfill the guidelines mentioned above, but as a general rule of thumb, a website's quality improves as the more guidelines it fulfills.

## **Website Evaluations according to the guidelines above**

I've chosen to evaluate Reddit and Youtube because they are the websites which I commonly use and enjoy. I'll be giving both sites a score from 10 based on each guideline and will give a brief explanation why.

Website	Technical Consideration	Purpose	Content	Authorship	Functionality	Design
Reddit.com	9/10	10/10	10/10	10/10	8/10	10/10
Youtube.com	9/10	7/10	10/10	10/10	9/10	10/10

I gave both the sites a 9/10 on the technical consideration because they only fully support recent version of web browsers. It is worth noting, however, that they support older web browsers better than other popular websites like facebook.

I gave reddit a 10/10 on the purpose section because it has lived up to its purpose and doesn't force advertisements to the users' experience. Youtube however is filled with annoying adds and that has prompted me to give it a 7/10.

They both deserve a 10/10 on the content guideline because they fulfill on the criteria under that guideline.

I gave reddit an 8/10 because it isn't quite as intuitive and the search function isn't elaborated well in the website. Youtube got a 9/10 because although it fulfills the other guidelines, searching for content needs some elaboration.

Both the sites deserve a 10/10 on design because they are constantly trying to make the look of the website better and make functions smoother.

## **Resources**

<https://www.internetsociety.org/internet/history-internet/brief-history-internet/>

[https://en.wikipedia.org/wiki/History\\_of\\_the\\_Internet](https://en.wikipedia.org/wiki/History_of_the_Internet)

<https://www.tandfonline.com/doi/full/10.1080/23738871.2016.1157619>

[https://www.usg.edu/galileo/skills/unit07/internet07\\_02.phtml](https://www.usg.edu/galileo/skills/unit07/internet07_02.phtml)

The WayBack Machine