

**ADDIS ABABA INSTITUTE OF TECHNOLOGY**

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**Web and Its History**

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# **History of the Internet**

## **Arpanet**

The internet traces its roots to a US defense department project in the 1960s with a desire to have armed forces communicate over a connected, distributed network. The military’s research arm, the Advanced Research Projects Agency (ARPA), began work on a communication project, which led to the creation of ARPANET, one of the earliest iterations of computers talking to each other on a network.

Arpanet eventually connected military installations, third-party contractors, and a handful of universities in the US. Some of the institute’s computer nodes that connected are University of California, the Stanford Research Institute and University of Utah. The first message sent was the word “lo;” the researchers were trying to type the word “login” and the system crashed after two letters.

## **Dial Up**

Dial-up pertains to a telephone connection in a system of many lines shared by many users. A dial-up connection is established and maintained for a limited time duration. The alternative is a dedicated connection, which is continuously in place. Dial-up lines are sometimes called switched lines and dedicated lines are called non switched lines. A dedicated line is often a leased line that is rented from a telephone company.

At this time, internet services, especially in the US, started to become more affordable. Although the first phone modem was invented in 1958 by Bell, which could just send data to other Bell devices, the first modem designed to use with a PC didn’t arrive until 1977. But it wasn’t until 1996 that we got the 56k modem, which let internet users surf the web at a blistering 56,000 bits per second.

## **Broadband**

Broadband Internet service truly is the most used form of Internet access because of its high access speeds; it is offered in four different forms, Digital Subscriber Line (DSL), also fiber-optic, cable, and satellite.

The DSL internet service makes its connection by utilizing unused telephone wires that cause no interruption to your telephone service. The speed you experience with a DSL connection varies with your distance from the switching station. Your speed will be slower the further away you are and faster the closer you are to the switching station and this may be a deciding factor when you attempt to select between a DSL line and a cable connection.

The broadband cable connection is provided by the local cable TV provider. Here the cable Internet connection speed varies with the number of users on the service at a specific point in time. Given a specific geographical area, users of the broadband cable service share the connection bandwidth which slows the speed the more users are on the system.

The newest broadband service is fiber-optic, which is the fastest Internet connection thus far. However, this type of Internet service is still in its infancy as its service areas are quite limited and because the laying down of the fiber-optic cable takes a while to complete. Wherever it is available, the cost not only competes with that of DSL and cable, but it provides a much faster connection than both of those services.

The last and slowest broadband service is provided by satellite. Although this is a good replacement for dial-up for those people living in remote rural areas, the installation costs are quite high, but the ongoing monthly charges are competitive to both cable and DSL.

## **Cellular Data and Wi-Fi**

There are usually two ways you can connect to the internet — Wi-Fi network or cellular data. While both of these uses radio waves, Wi-Fi covers a limited area and cellular data, on the other hand, let you connect as long as you’re in a geographical area covered by your mobile network carrier.

Generally, cellular or mobile data is the technology that lets you connect wirelessly using cell towers that transmit and receive radio signals. While the modern-day use of cellular data is starting to lean more on connecting to the internet, cellular network technology is the one that originally enables us to have calls or send texts wirelessly.

Cellular data has also evolved throughout the years. It started with the first generation(1G) which only supported voice formats and a speed of 2.4 kilobytes per second (Kbps).

Then came the second generation (2G) first hosted in Finland in 1991. The 2G telephone technology introduced call and text encryption, along with data services such as SMS, picture messages, and MMS. It had a speed of 50Kbps.

The introduction of 3G networks in 1998 ushered in faster data-transmission speeds, so you could use your cell phone in more data-demanding ways such as for video calling and mobile internet access. The term "mobile broadband" was first applied to 3G cellular technology. The maximum speed of 3G is estimated to be around 2 Mbps.

The fourth generation of networking, which was released in 2008, is 4G. It supports mobile web access like 3G does and also gaming services, HD mobile TV, video conferencing, 3D TV, and other features that demand high speeds. The maximum speed of a 4G network is 100 Mbps.

5G is a not-yet-implemented wireless technology that's intended to improve on 4G. 5G promises significantly faster data rates, higher connection density, much lower latency, and energy savings, among other improvements. The anticipated theoretical speed of 5G connections is up to 20 Gbps per second.

# **Review of Websites**

## **Yahoo**

On the year of establishment, 1996, yahoo used a list like format to display the contents of its website. The yahoo logo was accompanied by other logos with somehow pixelated logos that redirected to other yahoo pages. Some of these logos include headline which redirected to news headlines, more yahoo which redirected to other yahoo services like yahoo mail. Below the logos were static and squared advertisements followed by a search bar and a few reference links. The following year yahoo decided to use two columns with a list format which are set side by side. In 1999, a third column with a light grey background and yellow highlighted titles. This third column included news highlights and other features like finding a product you would like to purchase or find a valentine when its valentines’ season. The solid circle bulletins used in previous versions was also deprecated. It seemed like they used a table like format which made the website look better organized and well-spaced. Until the year 2002 yahoo followed more or less the same format with a few tweaks such as Broadcast events which provided information like artist of the month, exclusive trailers and top movies. In the final months of 2002 yahoo changed the view. Yahoo decided to use a tabbed like table view for the right most column and started the purple background color. The table format still being intact the purple tabbed column added a somehow pleasing look.

In 2006, yahoo decided to go for the simplistic view of a website with the yahoo logo and the search bar with a couple of buttons set in a grey box view drifting away from the dominant purple view. It creates a home like and easy to use feeling. In previous years yahoo’s website felt a bit crowded and very basic. This update created a well improved look. Keeping the organization and spacing, content was reduced, compacted and to the point. On the left below the logo including box was information on update of the website and on the right was a columnated list of all the yahoo services. In mid-2010, the website looked a bit more like the modern-day website. Yahoo decided to drop the simplistic view and go for the contented website again. In the following years, yahoo gradually regained the purple view every time making the website look better.

## **Google**

Google started off with a website that was stacked, colored and unpleasing for frequent uses. The logos where somehow thickened and unattractive. Few blue backgrounded box-like structures seemed to crowd the webpage. In the initial stages google used to request for email address in order to send monthly updates but this feature was discarded form the website not long after its start. Throughout the years Google updated the website with improvements to the logo, search bar and button as well as reduction of features to implement a simplistic yet pleasing website structure.

## **YouTube**

When launched, YouTube required flash player to display full content. The layout had a large YouTube logo on the left top corner of the page with a tabbed like look with Home, Favorites, Messages, Videos and My Profile with a login information box below. The page had a predominantly blue background color. The website looked basic and less attractive. The same format was followed for the following years with a few changes such as adding advertisements on the side and changing colors. Every time YouTube made sure most of the page was put to use, either adding more content on the page or by expanding the existing content for better view. In 2007, the review stars for each video was added. This allowed users to determine a content that majority of the users recommended. Until 2009, the videos were merely arranged in a list like manner. However, in 2009 grid like view was established and made the spacing and website more efficient. In 2011, major color and position changes along with design improvements made the website look nice. The categories on the left most column the contents arranged in a grid manner and recommended videos on the right seemed to work for YouTube.

## **Seedr**

Seedr is a relatively new website started in 2016. It started off with a better look than all the above reviewed websites. The logo was well spaced and placed. Followed by a well thought and animated picture of the sun and clouds and a button with a video linked to it. Below this structure, on the left was a description of the page and its purpose and on the right with a login and register option.

# **The 12 Categories for Websites**

## **Portals**

* West Bend - https://www.thesilverlining.com/: A portal website used to create a seamless interaction between an insurance company, West Bend, and the customers.
* Carrefour Bank - https://www.carrefour-banque.fr/: Also, a portal website used to create seamless financial interaction between a bank, Carrefour, and the customers.
* AvMed - https://www.avmed.org/: A medical company hosted website meant doe users to find information and tools for better self-service in health-related matters.
* Federal Government Portal - https://www.grants.gov/: A website with the mission of allowing applicants for federal grants to apply for and manage grant funds online through a common website.
* Capella university - https://www.capella.edu/: A website hosted by an online university for allowing easy management of courses for both professors and students

# **News**

* CNN - https://edition.cnn.com/
* Fox News - https://www.foxnews.com/
* NBC - https://www.nbcnews.com/
* Yahoo News - https://news.yahoo.com/
* The Washington Post - https://www.washingtonpost.com/

## **Informational Websites**

* Hopmonk Tavern Informational - https://zdca.thehybridcreative.com/project/hopmonk-tavern/
* FreshBooks - https://www.freshbooks.com
* Airbnb - https://airbnb.com
* Mint - http://www.mosaicartnow.com
* Mosaic Art - http://www.mosaicartnow.com

## **Educational**

* Lynda Tutorials - https://www.lynda.com/
* [**Bestessays**](https://www.bestessays.com.au/) - https://www.bestessays.com.au/
* [**Duolingo**](https://www.duolingo.com/) - https://www.duolingo.com/
* Udemy - https://www.udemy.com/
* TedEd - https://ed.ted.com/

## **Entertainment**

* Netflix - https://www.netflix.com/et/
* Hulu Plus - https://www.hulu.com/start
* Spotify - https://www.spotify.com/
* YouTube - https://www.youtube.com/
* Fandango - https://www.fandango.com/

## **Advocacy**

* Greenpeace USA - https://www.greenpeace.org/usa/: a global, independent campaigning organization that uses peaceful protest and creative communication to expose global environmental problems and promote solutions that are essential to a green and peaceful future.
* Change.org - https://www.change.org/ - is a petition website operated by for-profit Change.org, Inc.
* Alliance for Justice - https://www.afj.org/: a progressive judicial advocacy group in the United States.
* Stand for children - http://stand.org/: is an American education advocacy group. Founded in 1996 following a Children's Defense Fund rally the non-profit advocates for equity in public education.
* Barefoot College - https://www.barefootcollege.org/: Social Work and Research Centre, widely known as the Barefoot College is a voluntary organization working in the fields of education, skill development, health, drinking water, women empowerment and electrification through solar power for the upliftment of rural people, which was founded by Bunker Roy in 1972.

## **Blog**

* Wix - www.wix.com: Wix is a free website builder.
* WordPress - www.wordpress.org: Open source software which you can use to easily create a beautiful website, blog, or app.
* Weebly (www.weebly.com): Weebly is website builder that you can use not only to blog but also to sell products or showcase your portfolio.
* Medium (www.medium.com): is a multipurpose platform tackling diverse topics, where anyone with an account can write.
* Ghost (www.ghost.org)

## **Social**

* Facebook - https://facebook.com/
* Twitter - https://twitter.com/login?lang=en
* Instagram - https://www.instagram.com/
* WeChat - https://www.tumblr.com/
* Tumblr - https://www.wechat.com/en/

## **Content Aggregator**

* Alltop - https://alltop.com/
* Popurls - http://popurls.com/
* The Web List - https://theweblist.net/
* WP News Desk - http://wpnewsdesk.com/
* Blog Engage - http://www.blogengage.com/

## **Personal**

* Nia Shanks - https://www.niashanks.com/
* Ximena N. Larkin - https://www.ximenalarkin.com/
* Charlie Waite - http://www.charliewaite.me/
* Anna Santos - https://ana-santos.com/
* Joe Mcnally - https://portfolio.joemcnally.com/index/all

## **Marketing / Business**

* The Cunningham Team - https://www.greenvillescrealestate.net/
* Haus - https://madeinhaus.com/work/mindhunter
* Native Union - https://www.nativeunion.com/?ref=ecommdesign
* Le Garage - https://www.legaragebistrosausalito.com/
* Brass and Lantern Inn - https://brasslanternnantucket.com/

## **Wiki**

* Wikitravel - https://wikitravel.org/en/Main\_Page: Wikitravel is a web-based collaborative travel guide based on the wiki model.
* WikiHow - https://www.wikihow.com/Main-Page: WikiHow is an online wiki-style community consisting of an extensive database of how-to guides
* WikiBooks - https://en.wikibooks.org/wiki/Main\_Page: Wikipedia is a multilingual online encyclopedia created and maintained as an open collaboration project by a community of volunteer editors using a wiki-based editing system.
* Wiktionary - https://www.wiktionary.org/: Wiktionary is a multilingual, web-based project to create a free content dictionary of terms in all-natural languages and a number of artificial languages.
* Wikispecies - https://species.wikimedia.org/wiki/Main\_Page: Wikispecies is a wiki-based online project supported by the Wikimedia Foundation.

# **Evaluating Websites**

## **Guidelines for evaluating websites**

Websites may be developed for various reasons. Despite the variance in content, there are certain guide lines it must follow. Guidelines for evaluating websites can be considered in two categories.

### **Guidelines for Content**

These guidelines focus more on evaluating the content on the website. Usually how well organized and reliable the information presented by the website are. The guidelines are:

* Authority: Basically, infers that developer(s) of the website should be clearly stated, contact information of developer(s) should be provided and developer(s) should state qualifications and credentials
* Purpose: The purpose of the information presented in the site should be clear. Some sites are meant to inform, persuade, state an opinion, entertain, or parody something or someone.
* Coverage: If one can view the information properly--not limited to fees, browser technology, or software requirement.
* Currency: Simply reviews if website is regularly updated and maintained. For this purpose, information such as date of creation and date of last update must be stated.
* Objectivity: Checks to see if website is biased or not.
* Accuracy: is mainly concerned with reliability of information presented, weather the presented facts are provided with proper references and how the fact presented compares to the ones presented on other websites.

## **4.1.2 Guidelines for Quality of Website**

* Design: Critiques the look and feel of the whole website.
* Technological aspects and interactivity: the site should use new technologies and the multimedia nature of the web to allow user interactivity and make the experience different
* Creativeness / Originality
* Content: the content of a website can be evaluated based on factors mentioned in section 4.1.1
  1. **Evaluation of Some Websites**
     1. **YouTube**
* Design: the design of YouTube looks well designed. The color selection, the positioning of the contents, the size of the video preview boxes and the icons all seem to combine well.
* Technological aspects and interactivity: the YouTube website has a very good interaction with users. Features like motioned preview of the video before opening the video, recommended videos, subscription, rating of videos and notifications allow for a seamless interaction.
* Creativeness / Originality: seems genuine and well thought of.
* Content:
* Authority: developers of YouTube website have been clearly stated as a company. It is stated on the left most bottom part of the page stated as @ 2020 Google LLC.
* Purpose: The purpose of YouTube is very general. It might be used for entertainment, informing and many others. This blurs the line of its purpose.
* Coverage: YouTube has both free and feed access, it can be accessed on any website besides the YouTube app.
* Currency: for the most part, YouTube seems to be well updated and maintained. The content also is up-to date.
* Objectivity: the website seems unbiased since most of its content is from users all over the world.
* Accuracy: the accuracy of information on YouTube may be inaccurate due to the reason mentioned above. Users from all over the globe may upload information. Sometimes, the information may not be accurate or referenced to an accurate reference.
  + 1. **Wikipedia**
* Design: this website has a basic looking and simplistic look. The content is packed and unpleasing to browse through.
* Technological aspects and interactivity: the website seem to have a static nature with no features to ease use.
* Creativeness / Originality: Creativity on the website can be considered low yet seems original.
* Content:
* Authority:
* Purpose: the purpose of Wikipedia is clear. It is to provide with information.
* Coverage: The website can be accessed through any browser aside from its application.
* Currency: the website can be considered current as it is updated often and the last date of update is stated as a plus.
* Objectivity: just as YouTube since the content is uploaded by diverse users, objectivity is not an issue here.
* Accuracy: again, just as YouTube, the accuracy of the information might be doubtable.
  + 1. **Instagram**
* Design: the Instagram website is simple, animated, easy to use and nice looking.
* Technological aspects and interactivity: with video like posts equipped with the same feature as YouTube, the Instagram users have little to do other than just enjoy the experience.
* Creativeness / Originality:
* Content:
* Authority: developer has been clearly stated as @ 2020 Instagram from Facebook.
* Purpose: the purpose lies between entertainment, providing information and social interactions.
* Coverage: as most modern-day websites, can be accessed from anywhere with any browser.
* Currency: kept updated and maintained well.
* Objectivity: similar to the above websites objectivity is not an issue.
* Accuracy: content may be inaccurate or unreferenced.

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