

**ADDIS ABABA UNIVERSITY**

**ADDIS ABABA INSTITUTE OF TECHNOLOGY**

**CENTER OF INFORMATION TECHNOLOGY AND SCIENTIFIC COMPUTING**

**DEPARTMENT OF SOFTWARE ENGINEERING**

**THE WEB**

Submitted By: Rebecca Samuel

ID No: ATR/6554/11

Submitted To: Mr. Fitsum Alemu

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# **History of the Internet**

Before 1957, computers worked on one task at a time. With computers getting bigger and bigger, they had to be stored in special cool rooms. But then the developers couldn’t work directly on the computers anymore, specialists had to be called to connect the, this indirect connection to computers let to a lot of bugs. A remote connection had to be installed so that the developers could work directly on the computers. At the same time the idea of time-sharing came up, to share the processing power of one computer with multiple users.

In 1958, during the cold war, in order to secure America’s lead in technology the US founded the Defense Advanced Research Project Agency (DARPA). At that time Knowledge was only transferred by people. The DARPA planned a large-scale computer network in order to accelerate knowledge transfer and avoid the doubling up of already existing research; this network would become the ARPANET. Furthermore, three other concepts were to be developed, which are fundamental to the history of the internet: The concept of a military network by the Research and development (RAND) corporation in America, The commercial network of the National Physical Laboratory (NPL) in England and the scientific network, Cyclades, in France. The scientific, military and commercial approaches of these concepts are the foundations for our modern Internet.

The ARPANET’s development began in 1966. Universities were generally cautious about sharing their computers; therefore, small computers were put on front of the mainframe. This computer, the Internet Message Processor (IMP), took over control of the network activities while the mainframe was only in charge of the initialization of programs and data files. At the same time, the IMP also served as interface for the mainframe. Since only the IMPSs were interconnected in a network, this was also called the IMP-subnet. For the first connections between the computers, the Network Working Group developed the Network Control Protocol (NCP). Later on, the NCP was replaced by more efficient Transmission Control Protocol (TCP), the specific feature of the TCP is the verification of the file transfer.

Since the NPL network in England was designed on a commercial basis, a lot of users and file transfer were expected. In order to avoid congestion of the lines, the sent files were divided into smaller packets, which were put together again at the receiver; “Packet Switching” was born.

In 1962 American ferret aircrafts discovered middle and long-range missiles in Cuba, which were able to reach the United States; this stoked fear of an atomic conflict. At that time information systems had centralized network architecture. To avoid breakdown during an attack, decentralized network architecture had to be developed, which in case of loss of a node would still be operative.

Communication still used to work through radio waves that would have caused problems in case of an atomic attack: the ionosphere would be affected and the long-wave radio waves wouldn’t work anymore. Therefore, they had to use direct waves, which however don’t have a long range. A better solution was the model of a distributed network. Thus long distances could be covered with a minimum of interference, another milestone followed with the development of the French network “Cyclades”. Since Cyclades had a far smaller budget than Arpanet and thus also fewer nodes, the focus was laid on the communication with other networks. In this way the term “inter-net” was born. Moreover, Cyclades’ concept went further than ARPA’s and the NPL’s. During communication between sender and receiver the computers were not to intervene anymore, but simply serve as a transfer node. Cyclades’ protocol went through all machines using a physical layer that was implemented into the hardware, providing a direct connection with the receiver – an end-to-end structure.

Inspired by the Cyclades network and driven by the incompatibility between the networks, their connection gained importance everywhere. The phone companies developed X.25 protocol which enabled communication through their servers – on exchange for monthly basic charge. DARPA’s Transmission Control Protocol was to connect the computers through gateways and the International Organization for Standardization designed the Open System Interconnection (OSI) reference Model. The innovation of OSI was the attempt to standardize the network from its ends and the channel’s division into separate layers. Finally, the TCP assimilated the preferences of the OSI Reference Model and gave way to the TCP/IP protocol – a standard which guaranteed compatibility between networks and finally merged them, creating the Internet. By February 28, 1990 the ARPANET hardware was removed, but the Internet was up and running.

# **Observation of Popular Websites**

## Facebook

Facebook is an American online [social media](https://en.wikipedia.org/wiki/Social_media) and [social networking service](https://en.wikipedia.org/wiki/Social_networking_service) based in [Menlo Park, California](https://en.wikipedia.org/wiki/Menlo_Park,_California). Facebook was the start for many social media networks we have today. It has brought so many benefits such as connecting people all over the world, increasing possibilities of making money on the Internet, staying updated with latest news and information but it has also led to new problems like people creating fake Facebook profiles to stalk or spam people, time consumption, spreading fake news and loss of privacy.

Each registered user on Facebook has a personal profile that shows their posts and content. Facebook provides several ways to find friends: using the search engine to look for a specific person, pull contacts from a web-based email account or browse and join networks and search for people. News Feed appears on every user’s homepage and highlights information including profile changes, upcoming events and friends’ birthdays.

Throughout the years, Facebook has been improving and updating its website, likewise the number of active Facebook users kept increasing. When it first launched in 2004, Facebook was just a website for Harvard students, the login page had “Harvard University” written in it. By 2005, it was opening up to other schools. Since 2006, anyone who claims to be at least 13 years old has been allowed to become a registered user of Facebook. The Mini-feed was also born in 2006, which was basically a play-by-play of one’s Facebook activity. The "like" button, stylized as a "thumbs up" icon, was first enabled on February 9, 2009, and enabled users to easily interact with status updates, comments, photos and videos. In 2011, Facebook launched a whole new design: You could add a cover photo, and the ticker of your friends' Facebook happenings now stayed docked in the right-hand side. Now we come to 2020, in which the company continues to move forward and dominate the social networking field.

## YouTube

YouTube is an American [video-sharing](https://en.wikipedia.org/wiki/Video_hosting_service) [platform](https://en.wikipedia.org/wiki/Web_platform) headquartered in [San Bruno, California](https://en.wikipedia.org/wiki/San_Bruno,_California). It was created by three PayPal employees as a video-sharing website on February, 2005. YouTube allows users to upload, view, rate, favorites, share, flag, report, comment on [videos](https://en.wikipedia.org/wiki/Video), and [subscribe to other users](https://en.wikipedia.org/wiki/List_of_most-subscribed_YouTube_channels). Available content includes [video clips](https://en.wikipedia.org/wiki/Video_clip), [TV show](https://en.wikipedia.org/wiki/TV_show) clips, [music videos](https://en.wikipedia.org/wiki/Music_video), [short](https://en.wikipedia.org/wiki/Short_film) and [documentary](https://en.wikipedia.org/wiki/Documentary_film) films, audio recordings, [movie trailers](https://en.wikipedia.org/wiki/Trailer_(promotion)) and [live streams](https://en.wikipedia.org/wiki/Live_stream). By using the YouTube search engine, users can search for any type of video. It also has a feature that recommends videos based on videos the user’s watch history: the recommended videos appear in boxes along with their titles so people can easily choose videos they want. YouTube has allowed people to learn any kind of skill, share useful or entertaining videos and earn money by sharing videos.

The early homepage in 2005 had only five videos, a search box, and a bunch of video tags to explore. Features like full-screen video view, subscriptions, video ratings, and personalized user profiles were added throughout 2005 and 2006, leading to various design and usability changes to the site layout and video player. 2010 saw the introduction of native live streaming infrastructure. In August of 2015, YouTube announced that the video view count will better reflect more accurate numbers as views come in. YouTube continues to grow and entertain/help users by adding different features to the website.

## Wikipedia

Wikipedia is a free, open content online encyclopedia created through the collaborative effort of a community of users known as Wikipedians. Anyone registered on the site can create an article for publication; registration is not required to edit articles. Jimmy Wales and Larry Sanger co-founded Wikipedia as an offshoot of an earlier encyclopedia project, Nupedia, in January 2001. Originally, Wikipedia was created to provide content for Nupedia. However, as the wiki site became established it soon grew beyond the scope of the earlier project. As of January 2015, the website provided well over five million articles in English and more than that number in all other languages combined.

Criticisms of Wikipedia include assertions that its openness makes it unreliable. Because articles don't include bylines, authors aren't publicly accountable for what they write. Similarly, because anyone can edit any article, the site's entries are vulnerable to unprincipled edits.

Wikipedia is a great invention that enables people to save time. Moreover, Wikipedia has lots of advantages as well as disadvantages. Some advantages in one context may be a disadvantage in another, taking example of the website being easy to edit. It is good to be able to edit and add information but somehow the information may not be reliable.

## Twitter

Twitter is an American microblogging and social networking service on which users post and interact with messages known as “tweets”. As a social network, Twitter revolves around the principle of followers. When you choose to follow another Twitter user, that user's tweets appear in reverse chronological order on your main Twitter page. Tweets are publicly visible by default, but senders can restrict message delivery to only their followers.

Twitter was created in March 2006 and launched in July of that year. The service rapidly gained worldwide popularity. In 2012, more than 100 million users posted 340 million tweets a day, and the service handled an average of 1.6 billion [search queries](https://en.wikipedia.org/wiki/Web_search_query) per day. In 2013, it was one of the ten [most-visited websites](https://en.wikipedia.org/wiki/List_of_most_popular_websites) and has been described as "the SMS of the Internet". As of 2018, Twitter had more than 321 million monthly active users.

Twitter is a very simple social network because it allows individuals to be aware of everything that interests them, such as communities, celebrities or just people they know. However, twitter has disadvantages like False profiles, insults from people and spam on the network.

## Quora

Quora is an American [question and answer website](https://en.wikipedia.org/wiki/List_of_question-and-answer_websites) where questions are asked, answered, and edited by [Internet](https://en.wikipedia.org/wiki/Internet) [users](https://en.wikipedia.org/wiki/User_(computing)), either factually or in the form of opinions. The company was founded in June 2009, and the website was made available to the public for the first time on June 21, 2010. Users can collaborate by editing questions and suggesting edits to answers that have been submitted by other users.

Quora first became available to the public on June 21, 2010, and was praised for its interface and for the quality of the answers written by its users. Quora's user base increased quickly, and by late December 2010, the site was seeing spikes of visitors five to ten times its usual load. Until 2018, Quora did not show ads because ads can often be negative for user experience.

Quora is a great resource for providing its users not just with answers to their questions, but also an opportunity to network with other professionals.

# **Types of Websites**

## Portal Websites

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. Below are examples of portal websites:

* **Santander Bank, Retail Banking Portal**: <https://www.santanderbank.com/us/personal>

This site includes several retail banking features and ability to open new accounts and manage day-to-day banking operations.

* **University of Alabama at Birmingham (UAB) Medicine, Patient Portal:** <https://www.uabmedicine.org/>

AB's top-ranked medical professionals found a platform through which they can reach many visitors and actual patients with health concerns. Their site hosts a free patient portal with a directory of various healthcare providers categorized by specialty, gender and location.

* **Grants.gov, Federal Government Portal:** <https://www.grants.gov/>

The mission of Grants.gov is to allow applicants for federal grants to apply for and manage grant funds online through a common website.

* **Stanford University AXESS, Student and Faculty Portal:** <https://axess.sahr.stanford.edu/>

Stanford University developed a consolidated online platform called AXESS for the academic community to access information and record various transactions.

* **AutoZone, Employee Portal:** <https://www.autozone.com/>

AutoZone, the leading auto parts retailer, built an employee portal known as the Daily Online Communications (DOC) to help serve its 47,000 store employees.

## News Websites

An online newspaper is the online version of a newspaper, either as a stand-alone publication or as the online version of a printed periodical. Here are examples of news websites:

* **Cable News Network (CNN):** <https://edition.cnn.com/>

CNN is an American [news](https://en.wikipedia.org/wiki/News_broadcasting)-based [pay television](https://en.wikipedia.org/wiki/Pay_television) channel owned by [AT&T](https://en.wikipedia.org/wiki/AT%26T)'s [Warner Media](https://en.wikipedia.org/wiki/WarnerMedia). CNN launched its website, CNN.com, on August 30, 1995. The site attracted growing interest over its first decade and is now one of the most popular news websites in the world.

* **New York Times:** <https://www.nytimes.com/>

The New York Times is an American newspaper based in New York City with worldwide influence and readership.The New York Times began publishing daily on the [World Wide Web](https://en.wikipedia.org/wiki/World_Wide_Web) on January 22, 1996, offering readers around the world immediate access to most of the daily newspaper's contents.

* **Fox News:** <https://www.foxnews.com/>

Fox news is an American [cable television](https://en.wikipedia.org/wiki/Cable_television) [news channel](https://en.wikipedia.org/wiki/List_of_news_television_channels). Introduced in December 1995, the Fox News website features the latest coverage.

* **Washington Post:** <https://www.washingtonpost.com/>

The Washington Post is a major American [daily newspaper](https://en.wikipedia.org/wiki/Daily_newspaper) published in [Washington, D.C](https://en.wikipedia.org/wiki/Washington,_D.C.). Washingtonpost.com is a one-stop news, information and entertainment resource that helps users make sense of Washington, the Web and the world.

* **The Guardian:** <https://www.theguardian.com/international>

The Guardian is a British daily newspaper. As of May 2013, it was the most popular UK newspaper website with 8.2 million unique visitors per month.

## Informational Websites

Informational websites are those sites that are created in order to provide a customized and branded resource for potential and active customers, members, investors and so forth. Examples are:

* **Trip Advisor:** <https://www.tripadvisor.com/>

This site is like a city guide search engine that helps you find the city’s best restaurants and “things to do” while you are away from home.

* **Internet Movie Database (IMDb):** <https://www.imdb.com/>

IMDb has got information on movies, TV shows, movie release dates, trailers, casts and even plot summaries.

* **WebMD:** <https://www.webmd.com/>

WebMD has wealth of information on various health conditions, symptoms, medicines, procedures etc.

* **eHow:** <https://www.ehow.com/>

With more than a million How-to articles and over 0.17 million videos, ehow.com provides step by step information on a variety of topics ranging from home improvement and gardening to investing, travel, shopping, healthcare, small businesses, etc.

* **Mashable:** <https://mashable.com/>

Mashable is one of the world’s most informative websites for all the latest stuff ranging from the latest in technology to trending news stories.

## Business/ Marketing Websites

The purpose of a service-based business website is to convince website visitors that they should become customers of the service company. Examples are:

* **Soundstripe:** <https://soundstripe.com/>

Soundstripe offers well-produced quality songs and sound effects at a fair price.

* **Kraftful:** <https://www.kraftful.com/>

[Kraftful](https://www.kraftful.com/) creates apps for companies who develop smart devices like thermostats, lights, and other appliances. They build software so their clients can focus on hardware.

* **Poetic:** <https://poetic.io/>

[Poetic](https://poetic.io/) helps businesses grow with custom software and other technologies.

* **Nalen Ayurveda:** <https://www.nalenayurveda.com/>

[Nalen Ayurveda](https://www.nalenayurveda.com/) sells specialized skin care products.

* [**The People Vs Coffee**](https://www.thepeoplevscoffee.com/)**:** <https://www.thepeoplevscoffee.com/>

[The People Vs Coffee](https://www.thepeoplevscoffee.com/) is a pop-up Australian coffee shop, puts plenty of visual flair into their one-page design.

## Educational Websites

Educational websites can include websites that have games, videos or topic related resources that act as tools to enhance learning and supplement classroom teaching. Examples are:

* **EdX:** <https://www.edx.org/>

EdX is an online learning destination and MOOC provider, offering high-quality courses from the world's best universities and institutions to learners everywhere.

* **Academic Earth:** <https://academicearth.org/>

This website gives huge array of academic options to students from traditional to contemporary studies. It provides online degree courses from accounting and economics to engineering and also carries material on niche subjects like behavioral psychology.

* **Khan Academy:** <https://www.khanacademy.org/>

Khan Academy is an online coaching website. Students who cannot afford a coaching can refer to this website. It gives a win-win situation to the students by giving them the liberty to learn on their pace, as it has a personalized dashboard to gauge the progress report.

* **Big Think:** <https://bigthink.com/>

Big Think has over 2,000 fellows who have received great fame in their forte. These experts write articles and record tutorials for the students, later the content is further refined by the editorial team of the website, giving authentic material to the students.

* **Coursera:** <https://www.coursera.org/>

Students can find big universities and a sharable electronic Course Certificate. Courses include recorded video lectures, auto-graded and peer-reviewed assignments, and community discussion forums.

## Entertainment Websites

These websites are designed to be easy to navigate and frequently updated in order to keep users coming back for more information. They can be made more engaging by using dynamic content, such as videos, podcasts, slideshows, etc. Below are examples:

* **E! online:** <https://www.eonline.com/>

[Eonline](http://www.eonline.com/) is the most popular entertainment news source, providing us with information about almost **everything that deals with the entertainment world.**

* **Netflix:** <https://www.netflix.com/et/>

[Netflix](http://www.netflix.com/) is the world’s leading Internet television network with more than 36 million members in 40 countries enjoying more than **one billion hours of TV shows and movies per month, including original series.**

* **Spotify:** <https://www.spotify.com/int/why-not-available/>

Music on this site can be browsed by artists, albums or created playlists as well as by direct searches. The thing that makes Spotify so appealing is its interface, which is friendly and fun to use.

* **Variety:** <https://variety.com/>

Recognized and respected throughout the world of show business, Variety is [the premier source of entertainment news](http://variety.com/).

* **Rotten Tomatoes:** <https://www.rottentomatoes.com/>

[Rotten Tomatoes](http://www.rottentomatoes.com/) is a website devoted to **reviews, information, and news of films**,**** widely known as a film review aggregator.

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