

History of the Internet

On this web page, you will find information about the history of the internet, its creation, technology, and all the components that belongs to it, as well as important features and the people responsible for its development.

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The Internet

December 12th, 2020 by Alex V. Nunez



The Internet (or internet) is the global system of interconnected computer networks that uses the Internet protocol suite (TCP/IP) to communicate between networks and devices. It is a network of networks that consists of private, public, academic, business, and government networks of local to global scope, linked by a broad array of electronic, wireless, and optical networking technologies. The Internet carries a vast range of information resources and services, such as the inter-linked hypertext documents and applications of the World Wide Web (WWW), electronic mail, telephony, and file sharing.

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About the Authors

December 12th, 2020 by Alex V. Nunez

In this section, you will find relevant information about the authors of the web page, as well as their professional profiles and social network profiles.



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About the Project

December 12th, 2020 by Alex V. Nunez

On this web page, you will find information about this project, and all the tools used to create it.

This website is a project for the class of Introduction to Web Development (IS-117) in which we have applied the different concepts and programming languages for web design learned in class such as HTML, CSS, and Bootstrap.

In this project we have created our main structure using Bootstrap and HTML , and we have applied CSS to modified some properties of the main structure. Also, we have applied some concepts concerning the Golden Ratio, which helps us to define the right scheme for our website.

We have used GitHub for the control version of the project and also to host it. This project has been created by two people making use of the advantage provided by GitHub, which allows us to perform a collaborative job. Additionally, we have hosted the project to have it available online on the NJIT Web Server (AFS)

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The Invention of the Internet

December 12th, 2020 by Aayush Kumar

What is the internet:

It is the defining technology of our time. It enables millions of people with computers to communicate and connect. It's also the world's largest marketplace and information on almost anything and everything is available here.

Importance

Importance: Can be used as a tool of war to manage material and manpower (example: United Nations use of it in war against Saddam Hussain and Gulf War). It is a vital information link and helps carry uncensored news. Major communications tool, and gives instant access to things happening everywhere. Nobody controls the internet.

ARPANET

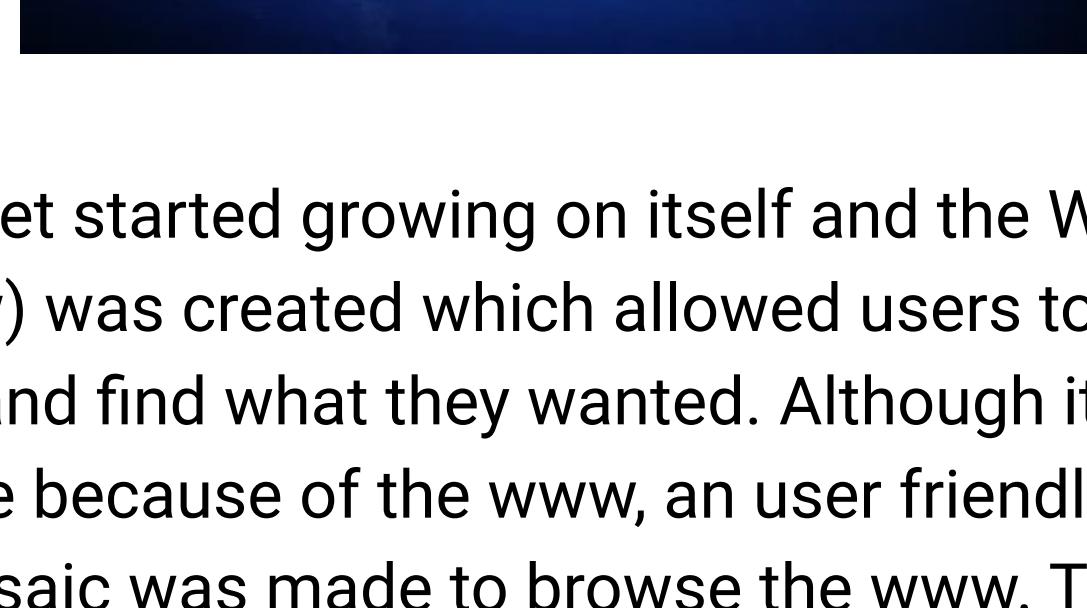
The idea behind the internet was initially envisioned by J. C. R. Licklider (his vision was that computers would allow us to communicate better, which would be better in sharing information among people). The firsts computers were the size of a room and were never meant for communications. In 1966 Bob Tylor of A.R.P.A(Advanced Research Projects Agency) had an idea, and wanted to build a network, or a single terminal for more than 1 computers to talk to each other. At the time all computers had their own terminal. He recruited Larry Roberts for this job(he had built the world's first experimental connection between two computers at MIT lab).

Larry Roberts believed he could use packet switching to transfer information, he asked 140 companies including At&t and IBM to bid on the project but it was refused, as they believed it wouldn't work. But a small company at the time: BBN wasn't sure either but they decided to try. They faced numerous problems such as:

how to stop the packets from circulating forever
when to stop at their destination
stop them from overflowing
how to find out where the problems were occurring and many other technical difficulties
Initially there were only 4 mainframe computers hooked into the network, but by April 1971 there were 18 connected to the network (ARPANET).

Application Softwares

At the time there wasn't much to do on the ARPANET beyond transferring data files among the members. The first application that changed information sharing and also made the internet more important and useful was email. The internet was not owned by anyone and had a tradition of sharing knowledge which allowed people to add to/ find mistakes and bugs and fix them; the rate at which new functionality could be added was very high. On June 9th 1992, the congress passed a bill taking the internet out of the hands of the government and into the public, and was soon signed into law. This unleashed a lot of commercial competition and progress.



The internet started growing on itself and the World Wide Web(www) was created which allowed users to easily navigate and find what they wanted. Although it was more accessible because of the www, an user friendly software called Mosaic was made to browse the www. The number of users skyrocketed as this allowed people to browse the internet and had a more visual effect. The internet is developing and advancing every other day.

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Browser Wars

December 12th, 2020 by Aayush Kumar

The internet during the 1900's was mainly for academics and research, scientists and there wasn't much that ordinary people could do on it. It was very useful to those who were using it, one of them was a student at University of Illinois named Marc Anderson.

He and his programming colleges were working on making the web easier to use, which resulted in "Mosaic", the world's first graphical web browser.

Mosaic and the rise of browsers

Mosaic was posted online and was freely downloadable, it became really popular and had millions of users. Jim Clark who was the founder of Silicon Graphics was interested in Mosaic and decided to bet a third of his networth to the project and contacted Marc Anderson who had graduated from college. Jim Clark and Marc Anderson had started a new software company and recruited people to build a team.

At the time though, Microsoft and Bill Gates were the most powerful in the technology field, and were on the verge of becoming the world's high tech emperor; but Jim Clark and his men were not going to let that happen so easily.

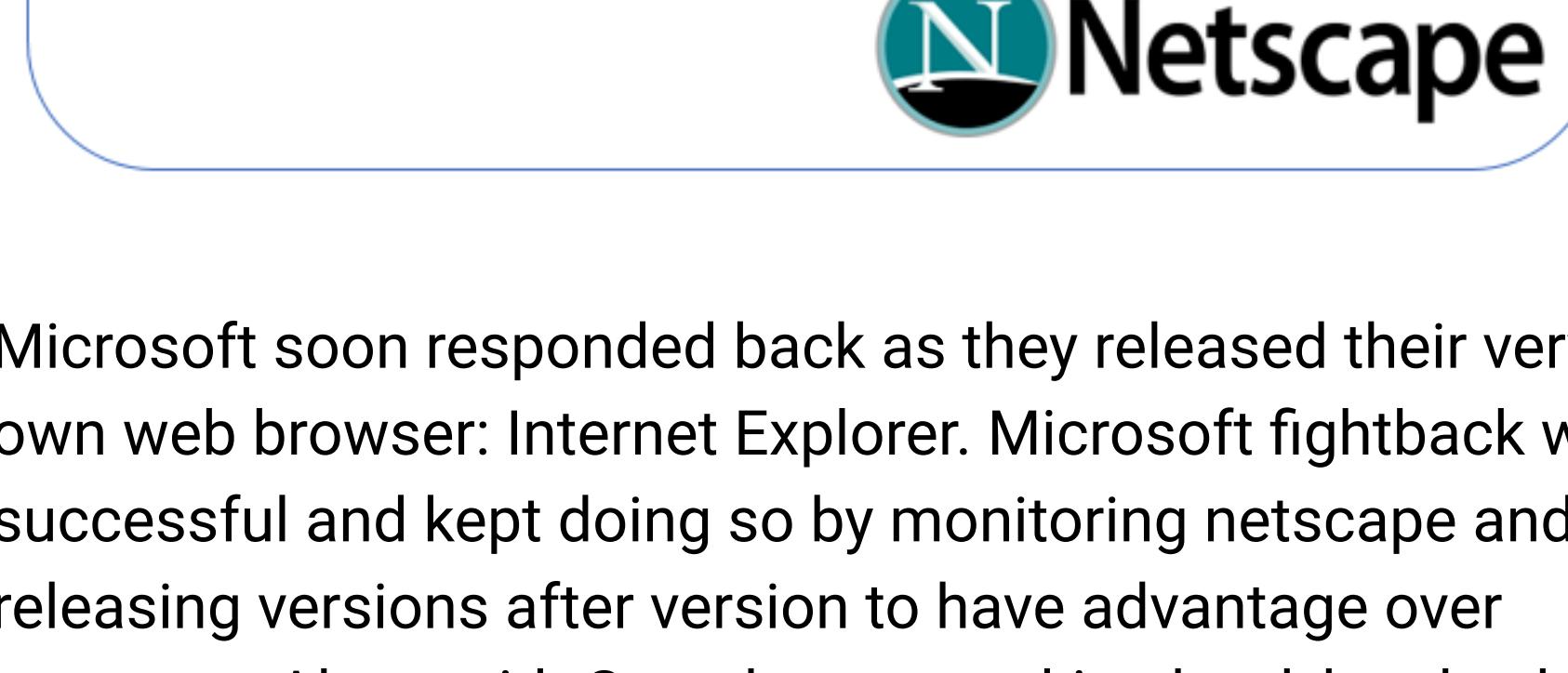
Netscape

After Mosaic, the team were working to build a new browser based on that to turn the internet into the future on commerce and communication called 'Netscape'. Netscape was finally released and was a huge success with millions of people downloading it, and microsoft being shocked.

Bill Gates realized how important the web is and found netscape as a new competitor, this was the beginning of the browser war

Microsoft vs Netscape

Netscape hired a lawyer named "Gary Reback" who immediately recognized the threats that the company was facing. There was a meeting between the two companies in which netscape claimed to have been threatened by microsoft, and were offered a million dollars to sell netscape and have unlimited access to all their technology, or else microsoft will copy everything from them. If this was true as claimed by netscape, then microsoft had broken the law(american antitrust laws). Netscape filed a lawsuit against microsoft. They were also making a lot of money that was being made by Netscape and they were skyrocketing. They had so much success that they were looking to take over microsoft and believed that microsoft technology was now on a downfall.



Microsoft soon responded back as they released their very own web browser: Internet Explorer. Microsoft fightback was successful and kept doing so by monitoring netscape and releasing versions after version to have advantage over netscape. Along with Gates's men working hard, he also had salesmen whose job was to have people buy their web browser than Netscape, and put Netscape out of business. The salesmen made sure to have PC makers install internet explorers over netscape. Due to financial advantage, internet explorer was free with Microsoft which made their shares in the market more than netscape. Internet Explorer had won the battle as they were more successful. For Netscape it was all downhill from there and was later acquired by the company AOL.

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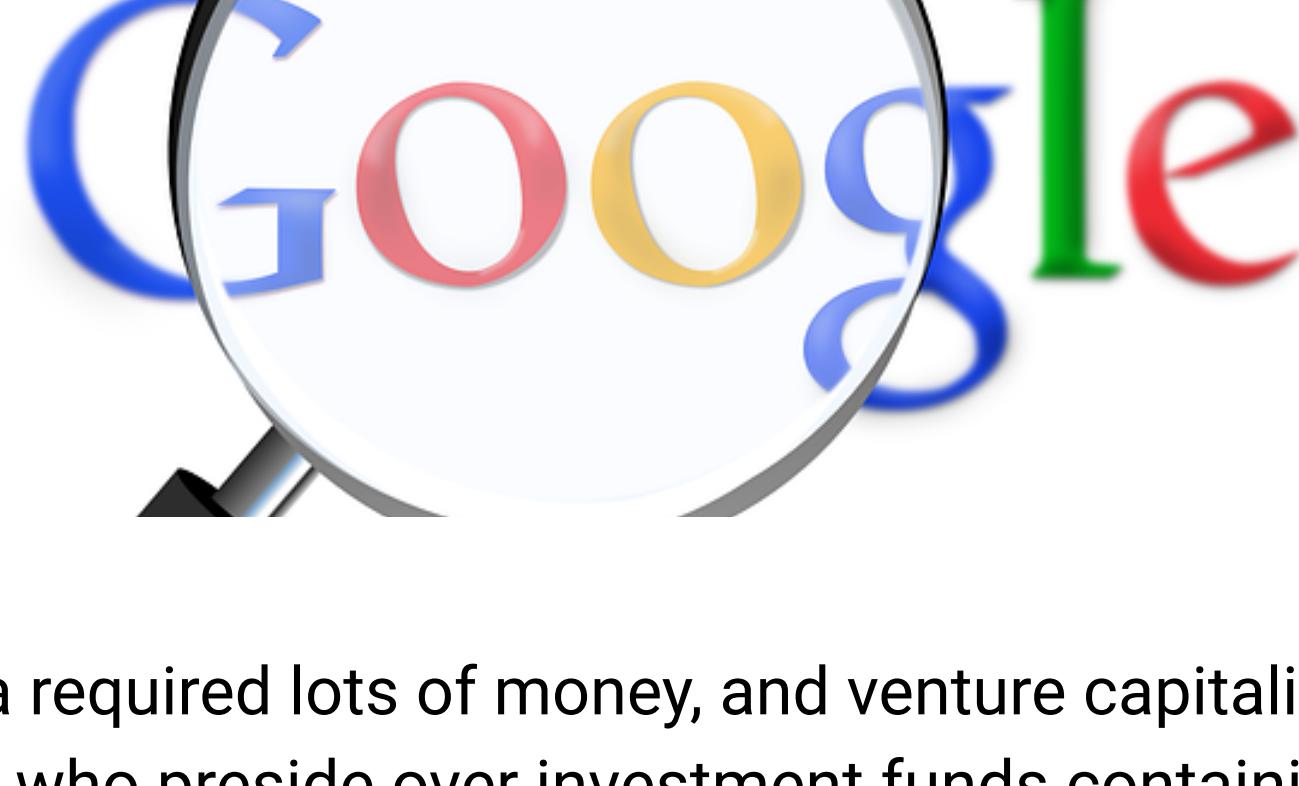
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Internet Search

December 12th, 2020 by Aayush Kumar

Before Google or any search engines, it was very hard to navigate around the web and easily find what one was searching for. One of the earliest search engines created and used was called "Yahoo", which was created by two college students. Jerry Yang and David Filo had an idea of creating a search engine, or a webpage, that makes it easier to navigate to websites.



This idea required lots of money, and venture capitalists are the ones who preside over investment funds containing billions of dollars. They are the deciding factor as to which startups are going to live and which don't. One of the most successful venture capitalists firms is Sequoia capital, and a partner of that firm Michael Moritz decided to have a look over the startup of Yahoo, and decided to invest in them.

Making money on the Internet.

At the time, nobody really made money on the internet/ used it for business or commerce. Yahoo decided to use advertisements as a way of income, and put banner ads on their website. The people using Yahoo were increasing which meant more advertising revenue for the company. Yahoo showed that making money on the internet was possible.

The web boom had begun with a lot of challengers to Yahoo, including their biggest rival called Excite. Excite was much more sophisticated and was easier to find websites as it was software based. But on both Yahoo, and Excite it was not as easy to navigate to pages, and required a lot of searching.

Google.

In 1997, the idea of Google was created by two college students, and it was much easier to find what one was looking for as compared to other companies. As compared to Yahoo and excite, Google allowed to find more relevant sites and was mostly done from recommending websites on a topic that was visited more. Google was looked at as just another search engine, and there were less sponsors, and every search company in silicon valley turned them down, including Excite, which had a chance to buy google but refused to.

The two college students finally found an investor: Andy Bechtolsheim who was very impressed with google and wrote them a check of \$100,000 on the spot. This check was followed by a couple of other investors including John Doerr paying them 12 million.

Google's advertising technique.

Google's advertising technique was different and not just banner ads, they would display ads/recommend certain companies by figuring out what the user is interested in, which was done by seeing the keywords they entered into the search engine.

Example: whenever someone typed in 'cars' into the search engine, it would show 'BMW' on the first page/ line, as 'BMW' would pay google to do so. This would give the users a good experience of less ads, as well as get money to promote another company's product. This was known as 'paying for placement'.

Google made a lot of money and their value increased a lot. In 2004, the company went public.

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Dot Com Bubble

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Amazon was launched in the summer of 1995 and around the same time that Pierre Omidyar was working on an online auction site. This website was going to be "eBay". Both Pierre Omidyar and Jeff Bezos(founder of Amazon) saw the web as a place to do business.

Both Amazon and eBay saw instant profit, in just a month of release.

Rate of Growth.

The rate at which it was growing can be compared to various other inventions such as: after the invention of the radio it took 38 years before a large number of people started using it, for TV it took 13 years, but as for the internet it took only 4 years before it had 50 million users. Not only the quick popularity success, but the rate at which it was growing/developing was also very high.

Amazon and Ebay.

Amazon 2 years after release mainly sold books, had few revenues but not a lot of profit, but Jeff Bezos claimed Amazon to be one of the biggest bookstores and claimed the company had a lot of potential. Many people did not believe the company was going to last while others believed that it was the future and had a really good model. Bezos reduced prices whenever he could and believed that profits could and should be sacrificed temporarily in favor of rapid growth.



Meanwhile the ipo window opened up for eBay and the company saled right through it beyond anyone's expectations. The same with Amazon was seen as predictions by analysts caused high success in the market. With Amazon and eBay being successful inspired others to their own startups, especially with so much potential in the market.

The Collapse.

A lot of money was being thrown around in different things like advertisements, and at least 1 new ecommerce venture was brought into the world everyday. The kids running these new companies were inspired by amazon's and ebay's "get big fast" methods but not successful. They did not have a grasp of the strategy or business knowledge.

The internet bubble was building up, with a lot of money in line. The collapse of the market is exactly what happened, and was also what caused the 'black friday'. It was the single greatest collapse in the industry of the stock market. The majority of blame fell onto Wall Street.

The only major ecommerce companies that survived and were able to continue making profits were ebay and amazon, this was mainly due to its early start and aggressive marketing.

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People

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The internet is all about communication/ connecting individuals or connecting individuals to information.

Youtube.

Before websites like youtube, it was almost impossible for the average person to get into the T.V industry. It was a system that decided on its own what would get on to the air. But now, this is accessible to everyone mainly because of youtube, which has given everyone their own broadcast tower, and don't have to rely on big media companies to be heard.

Digg.

Digg is a news website, but unlike other news which is decided by the publisher as to what the people see, what land on Digg's front page is decided by the people. The more people who vote for a given story, the more prominent it gets on the site.

Music industry.

Music/sound industry was another major thing that was affected by the internet. Before any applications came out for music, people bought records containing albums, and could not pick out specific songs to buy. The Mp3 was created which allowed people to download music off the internet and save it on their pc. This was really helpful and allowed people to download music, but it was still hard to search for specific songs on the web.

Shawn Fanning created a website called Napster was a website which allowed computers to talk and share music with computers of other users, this meant that if someone had a mp3 of a song that was wanted, it could easily be found on napster just by typing in the name of the song, and it would be downloaded onto the hard drive straight from theirs.

Napster effect.

Napster had exploded as people could download any music they liked for free. The record companies and music artists were not too amused by this and filed lawsuits against napster. The reason for such frustration was because music artists were not able to make profits nor where the record sellers.



The decision from the court was final, napster had to be shut down immediately. Although napster had shut down, it had encouraged steve jobs and itunes to make its own music store where songs were sold per piece, with strict copyright protection.

There are also web pages that don't look for high profits and just want to make it easier to connect and communicate freely, like craigslist and wikipedia which are free websites and allow users to use it freely.

This was an era in which the content was created by the crowd, this era was known as the web 2.0 people either created content or were involved somehow in changing the web.

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