IS 601 Homework 1

Dejing Kong

History of the Internet outline

Part 1

**The Invention of the Internet**

Compares to the Internet, no other industry in the history has grown so fast to touch so many lives, it becomes the key component of our culture and civilization soon beyond people’s imagination.

The idea behind the internet was envisioned by a psychologist named JCR Licklider, a professor at the Massachusetts Institute. His idea was that computers could be linked together which would allow us to communicate better and would be beneficial in sharing of information of the people.

The first computer were monstrously large and expensive devices that never intended to communicate. They might remain stand along computing machines for a long time if not soviet scientific superiority during the cold war spurred them into teamwork. In October 1957, the Soviet Union launched Sputnik made US. launch the research projects into space, include computer science. ARPA, a bureau at the Defense Department created under the Eisenhower administration took care of this program.

Then came Leonard Kleinrock, a graduate student at MIT, began applying queuing theory to data transmission. He displayed how packages of data would queue or line up at the nodes of a communications network as they transmitted through their way.

In 1966, Bob Taylor, a part of ARPA was doing some time sharing on a terminal. Time sharing was where several users were using the same computer operating system simultaneously. He envisioned a network where one terminal could connect to all the computers that were networked together. With $1 million in funding, Taylor recruited Larry Roberts to help him build and develop his ideas. At MIT, Roberts built the world's first experimental connection between two computers. Then, a company called BBN Technologies in Cambridge did take up the opportunity to help build the ARPANET which is a project tried to network 4 computers, at UCSB, SRI, UCLA and Utah. at the end of 1969, all 4 IMPs were connected and were able to transmit data and information through the network successfully. By 1971, there were 18 networks connected.

In March 1972, Raymond Tomlinson introduced email on the network. By 1972, There was almost 25 sites on ARPANET. On October 1972 ARPA demonstrated the computer network in Washington, DC.

In 1973 Vin Cerf and Bob Kahn teamed up to develop a set of rules to connect disparate networks together, called TCP/IP protocol.

In 1989, physicist named Tim Berners Lee at CERN Research Institute in Switzerland created the World Wide Web.

In 1992, Congress signed a bill that unleashed the Internet to the public for people to commercially use for whatever purposes they wanted. As a result, more individuals could use the Internet freely.

In 1993, Marc Andreessen developed Netscape, allow users to “browse” the Internet. This allowed the “web” to grow 341,000% shortly after.

Dates to the 21st Century, there are 11 million Space names and 70 million websites and it is still growing.

Part2

**Browser Wars**

Story starts from 2 dacades from now, Marc Andreessen, a student from University of Illinois, Chicago, envisioned a way to make the Internet accessible to ordinary people. He tried to creat a graphical web browser called Mosaic for free. It was very successful and quickly became very popular.

Jim Clark, founder of Netscape contacted Marc and make him joined Netscape, then Mosaic became one part of Netscape. The booming of the Netscape became worrisome for major tech companies, including Microsoft.

Bill Gate, the CEO of the Microsoft, was an ambitious engineer and businessman. He wanted to make PC at every home, workplace, running Microsoft software. Netscape’s rising up draw his attention, Gates realized that he needed to make a browser himself.

Netscape hired antitrust lawyer Gary Reback in order to defend themselves from Gates’ legal wrath. Reback noted that Gates had come after many fledgling companies and destroyed them. Reback was famous for coming after Microsoft.

The war started gentally, Microsoft got in touch with Netscape to set up a meeting which lasted six hours. According to Microsoft, it was a great meeting. It was very relaxed as they discussed how Netscape could work with Microsoft. Netscape, on the other hand, had a very different view of how the meeting went. After this meeting, Netscape immediately contacted Gary Reback, to file a lawsuit. Shortly after this, Netscape made an initial public offering.

This put Microsoft in awkward position, the only thing they could do is to focus on its own development of the web browser—IE. Their employees worked 24/7 to get the browser deployed. When it was released, Microsoft made deals with PC to stop installing Netscape on their machines. They threated to cancel their Windows license if Netscape or other software were installed. Due to this agreement and Microsoft giving their browser away for free, Internet Explorer grew to 80% of users using IE instead of Netscape. Netscape lost the battle.

However, there are no winners in such a war. An antitrust lawsuit placed against Microsoft after this. Gates was found guilty and Microsoft’s stock market valuation dropped by billions overnight and Bill Gates lost his CEO position.

Part3

**Internet Search**

In 1994, Jerry Yang and David Filo, who were graduate students in Stanford University, founded Yahoo. they created a website named "Jerry and David's Guide to the World Wide Web". The Guide was a directory of other websites, organized in a hierarchy, as opposed to a searchable index of pages. In April 1994, Jerry and David's Guide to the World Wide Web was renamed "Yahoo!". The word "YAHOO" is a backronym for "Yet Another Hierarchically Organized Oracle". The yahoo.com domain was created on January 18, 1995.

As time went on, a competitors emerged and impacted the search engine world incredibly. Excite was one of Yahoo's top competitors. Founder Joe Kraus had a different idea for Excite’s creation. Rather than Yahoo’s method of manually compiling links, Excite used software to query links of the searched term. Excite might have started at the bottom of the search engine popularity, but that quickly changed and became Yahoo’s main competitor as they each fought to be the best search engine.

At almost the same time, another search giant was born, in 1996, another two Stanford University students Larry Page and Sergey Brin start a project to better organize internet search results. The duo made an algorithm that ranks pages based on the number of other pages that link back to it. They initially called their project “Backrub” but quickly change the name to Google, as a play on a mathematical symbol.

In 2000, Google begins selling advertising through a program called Google AdWords. It offers marketers the opportunity to purchase relevant keywords that appear next to search results. The revenue from these ad sales will help propel Google to one of the richest companies in the world.

Google went public on August 19, 2004 on the Nasdaq sales market. It went from zero profit to three billion dollars annually in a five-year time span making it one of the fastest growing company. Google is a top tech company and is constantly improving. The Google campus is full of free food, games, bean bag chairs, to make it a fun and friendly environment to the employees.

Part4

**Dot Com Bubble**

With the growing technology by late 1990s, people are turning their sight from radio, tv to the internet. Essentially, the Internet became even more successful and there were more users than ever. Amazon and eBay were also very successful companies. Overall it only took the Internet 4 years for there to be over 50 million users.

Part of this is in thanks to Moore’s Law and the silicon chip. Moore’s Law is a statement that claims that the speed and power of integrated circuits will double every 18 months, aka growing exponentially over time. Transistors became smaller and smaller and allowed for faster and more efficient technology. Once Moore’s Law was seen to be true, it continued to hold true over the years. Additionally, Metcalfe’s Law also came into play. Metcalfe’s Law is the number of users is proportional to the number of connections in the system. The more user there are, the larger the network becomes. And the larger the network becomes, the more powerful and useful it can be.

With Amazon and eBay taking off in the newly established ecommerce marketplace, capitals and business giant started its capital injection. With billions of dollars being pumped into the industry a bubble, deemed the Dot Com Bubble, was created and stocks of Amazon, eBay, and other ecommerce sites sored.

Dot Com Bubble was burst in 2001, many Internet companies had to shut down and other big companies that did survive still hurt from the burst of the Dot Com Bubble. After the burst of the Dot Com Bubble, Wall Street was felt to blame. Companies like Amazon and eBay were able to escape the bubble bursting and go on to become successful, but others were not so lucky.

Part5

**People**

Nowadays, one of the most important functions of the internet is the interactions between the users of the web. Websites such as Napster, YouTube, Facebook, and MySpace made a great impact on how people interacted with each other online, publish their own content, or download others’ content.

In 1990s, MP3 format was invented, it compressed the music data file allowing for easy transfer across the internet. David Weekly as a pioneer of online music transfer, launched an MP3 sharing website at Stanford as a freshman. Others include Cabel Sasser created MP3 player audio and Justin Frankel created MP3 player Winzip.

In late 1990s, a small startup company named Napster started to make efforts in the online music area. Napster programmed a way for mp3 files to be exchanged among people and download it into your computer. Once it was released among a few people, more and more people got a hold of it and unleashed the phenomenon of downloading music from online. Napster the way it is put fantastic power in the hands of individuals and while this power can be turned into profit there are those whose aspirations are deeper more altruistic.

Then it came the rise of YouTube in 2005-2006. Youtube was founded by Chad Hurley Bought buy Google for 1.5 billion dollars. YouTube's platform intention was for it to be a place where people could "broadcast" themselves and provide and view other people's entertainment. A long with the controversy of the copyright issue, the Youtube still grows rapidly by the enthusiasms of the users.

However, internet and the technology along with it, changes our society with the huge power just as we said in the first sentence, it becomes the key component of our culture and civilization with no others could compare with. It is hard to predict the direction of its future, but we all still looking forward to more incredible revolutions that internet will bring to us.