

ADDIS ABABA UNIVERSITY

ADDIS ABABA INSTITUTE OF TECHNOLOGY

CENTER OF INFORMATION TECHNOLOGY AND SCIENTIFIC COMPUTING

Fundamental of Web Design & Development

**Assignment One**

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March 2020

History of the Internet

The internet as we know is a large infrastructure whose complete history or evolution can not be described in a couple of pages. Therefore, I will be listing and describing key milestones and events related to the growth and evolution of the Internet starting from 1969.

The first practical schematics for the internet would not arrive until the early 1960s, when MIT’s J.C.R. Licklider popularized the idea of an “Intergalactic Network” of computers. Shortly thereafter, computer scientists developed the concept of “packet switching,” a method for effectively transmitting electronic data that would later become one of the major building blocks of the internet.

**1969: Arpanet**

The first workable prototype of the Internet came in the late 1960s with the creation of ARPANET, or the Advanced Research Projects Agency Network. Originally funded by the U.S. Department of Defense, ARPANET used packet switching to allow multiple computers to communicate on a single network. The major people responsible for the creation of the ARPANET were Lawrence G. Roberts and J.C.R. Licklider.

On the October 29, 1969, computers at Stanford and UCLA connected for the first time. In effect, they were the first hosts on what would one day become the Internet. The first message sent across the network was supposed to be “Login”, but reportedly, the link between the two colleges crashed on the letter “g”.

By the end of 1969, four host computers were connected together into the initial ARPANET, and the budding Internet was off the ground. Even at this early stage, it should be noted that the networking research incorporated both work on the underlying network and work on how to utilize the network.

**1971: Email**

Email was first developed in 1971 by Ray Tomlinson, who also made the decision to use the “@” symbol to separate the user name from the computer name (which later on became the domain name).

**1972: CYCLADES**

France began its own Arpanet-like project in 1972, called CYCLADES. While Cyclades was eventually shut down, it did pioneer a key idea: the host computer should be responsible for data transmission rather than the network itself.

**1973: ARPANET and E-Mail**

ARPANET made its first trans-Atlantic connection in 1973, with the University College of London. During the same year, email accounted for 75% of all Arpanet network activity.

**1974: The beginning of TCP/IP**

The idea of open-architecture networking was first introduced by Kahn shortly after having arrived at DARPA. This made 1974 a breakthrough year. A proposal was published to link Arpa-like networks together into a so-called “inter-network”, which would have no central control and would work around a transmission control protocol (which eventually became TCP/IP).

Four ground rules were critical to Kahn’s early thinking:

* Each distinct network would have to stand on its own and no internal changes could be required to any such network to connect it to the Internet.
* Communications would be on a best effort basis. If a packet didn’t make it to the final destination, it would shortly be retransmitted from the source.
* Black boxes would be used to connect the networks; these would later be called gateways and routers.
* There would be no global control at the operations level.

**1977: The PC modem**

1977 was a big year for the development of the Internet as we know it today. It’s the year the first PC modem, developed by Dennis Hayes and Dale Heatherington, was introduced and initially sold to computer hobbyists.

**1983: Arpanet computers switch over to TCP/IP**

This year was also a major breakthrough. In January 1, 1983 was the deadline for Arpanet computers to **switch over to the TCP/IP protocols** developed by Vinton Cerf. A few hundred computers were affected by the switch. The name server was also developed in ’83.

**1984: Domain Name System (DNS)**

The domain name system was created in 1984 along with the first Domain Name Servers (DNS). The domain name system was important in that it made addresses on the Internet more human-friendly compared to its numerical IP address counterparts. DNS servers allowed Internet users to type in an easy-to-remember domain name and then converted it to the IP address automatically.

**The Internet grows:** By 1987, there were nearly **30,000 hosts on the Internet**. The original Arpanet protocol had been limited to 1,000 hosts, but the adoption of the TCP/IP standard made larger numbers of hosts possible.

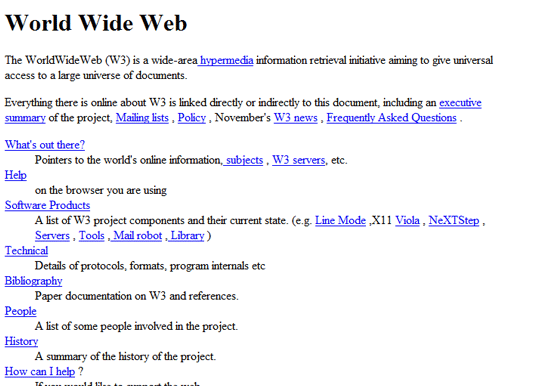
**1989: The proposal for the World Wide Web**

1989 also brought about the proposal for the World Wide Web, written by Tim Berners-Lee. It was originally published in the March issue of MacWorld, and then redistributed in May 1990. It was written to persuade CERN that a global hypertext system was in CERN’s best interest. It was originally called “Mesh”; the term “World Wide Web” was coined while Berners-Lee was writing the code in 1990.

1990 also brought about the first commercial dial-up Internet provider, The World. The same year, Arpanet ceased to exist.

**1991: First web page created**

1991 brought some major innovations to the world of the Internet. The first web page was created and, much like the first email explained what email was, its purpose was to explain what the World Wide Web was.

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**1993: Mosaic – first graphical web browser for the general public**

The first widely downloaded Internet browser, Mosaic, was released in 1993. While Mosaic wasn’t the first web browser, it is considered the first browser to make the Internet easily accessible to non-techies.

**1995: Commercialization of the internet**

1995 is often considered the first year the web became commercialized. While there were commercial enterprises online prior to ’95, there were a few key developments that happened that year. First, SSL (Secure Sockets Layer) encryption was developed by Netscape, making it safer to conduct financial transactions (like credit card payments) online.

In addition, two major online businesses got their start the same year. The first sale on “Echo Bay” was made that year. Echo Bay later became eBay. Amazon also started in 1995.

**1996: First web-based (webmail) service**

In 1996, Hotmail the first webmail service, was launched.

**1998: Google**

Google went live in 1998, revolutionizing the way in which people find information online.

**2001: Wikipedia is launched**

**2004: “The” Facebook openeds**

Facebook launched in 2004, though at the time it was only open to college students and was called “The Facebook”; later on, “The” was dropped from the name, though the URL **http://www.thefacebook.com** still works.

**2005: YouTube – streaming video**

YouTube launched in 2005, bringing free online video hosting and sharing to the masses.

**2006: Twitter**

Twitter launched in 2006. It was originally going to be called **twittr** (inspired by Flickr); the first Twitter message was “just setting up my twttr”.

**2008: “Internet Election”**

The first “Internet election” took place in 2008 with the U.S. Presidential election. It was the first year that national candidates took full advantage of all the Internet had to offer. Hillary Clinton jumped on board early with **YouTube campaign videos**. Virtually every candidate had a Facebook page or a Twitter feed, or both

**The Future?**

Where is the future of the Internet headed? I can only assume that the Internet will continue to grow. From basic developments to things like PPC advertising, the Internet has only become more impressive over time.