

HISTORY OF NETWORKS, AND ITS EFFECTS ON CONTEMPORARY SOCIETY

Interestingly, a lot of important technological advances we live with today emerged to help a war effort or to protect ourselves from our “enemies”. Fear and money seem to be the basic ingredients for a great research catalyst.

One of the domains that greatly benefited from military and government investment is the research on communication and networks. A series of political circumstances forced these entities to accelerate such research in order to preserve one of the key aspects of their organisation: being able to talk to each other, uninterrupted, even in a time of great crisis. What that means is that in a situation where a portion of the communication infrastructure is rendered unusable, the entirety does not suffer (too much) from this loss, meaning communications could be redirected around the missing part and continue working seamlessly. This idea of an interconnected network has evolved to the Internet as we know it today.

BEGINNINGS OF NETWORKS

We can't talk about the history of networking and computers without mentioning Vannevar Bush's “memex”. In 1945 he published an article describing a mechanical device equipped with a screen, cameras, and microfilms that allow the user to store and consult a vast library of information extremely rapidly and efficiently. Data contained in the memex would be associatively linked to each other in order to make it easier to search appropriate content. This idea looks dangerously close to our modern computer and search engines and although memex was never actually built, will inspire many in the creation of the Internet and the web as we know it.

Although Bush had a great vision about the future possibilities of computers, more concrete examples of the evolution of networking start during the cold war. In 1951, project Whirlwind consisted of a network of radars and monitor centers built to monitor any Soviet missile action over the North Pole and is an example of one of the first basic computer network.

In 1957, after the Soviet Union launched the first satellite to orbit the Earth, Sputnik, emerged a crisis that precipitated the United-States to fund many projects to counter attack any possible new threat and how to survive them if it had to happen (on top of a nuclear war, they thought there was a possibility of

“orbital bombing”) . The ARPA (Advanced Research Projects Agency), created in order to assure the United States lead in technological advancements, gave birth to ideas such as having multiple nodes of communication (J.C.R. Licklider in 1962) in order to preserve its functionality in case of the failure of one or more locations. With the idea of packet switching (Leonard Kleinrock, 1961), which allowed communications to be broken down into smaller pieces that can be sent (routed) using various connections, the basics of the ARPANET were born. With the addition of IMPs (Interface Message Processor), that allowed an abstraction of the communication to any mainframe in the network and the NCP (network control protocol) that described a common way to communicate, Larry Robert was able to use the new network for long-distance communications in 1965.

If the years after ARPANET was created and in operation, new applications surfaced, which were not intended such as email which increased traffic on the network. In the hopes of making the system faster and more efficient Bob Kahn and Vint Cerf invented the TCP/IP (Transmission Control Protocol / Internet Protocol) in the 1970s.

After the protocol was adopted by a majority of computers, the Internet as we know it today was born.

ACCESSIBLE INTERNET

Up until 1991, being able to make use of these new networks was reserved to a select few. The interfaces of the computers that had access to the Internet were tedious to use and understand. Getting access to them was also not an easy task, plus there wasn't much to do or to see.

When Tim Berners-Lee invented the first browser, things were starting to look better in terms of accessibility. At the time, it was just for text documents, but things were going to change.

In 1993 was released the first graphical browser, named Mosaic, who then became Netscape. A year later it reached a user base of 65 million.

TODAY

It is undeniable that the Internet plays a important role in today's world. With the advent of all these web enabled phones, tiny laptops, public WI-FI, we are almost 100% of the time at arm's reach of being connected with millions of people and millions of documents.

The Internet has we use it today not only encompasses what the original creators indented it for, but has become a way of being socially connected, aware and active. So much that you expect anyone you meet in real life to at least have an email, if not a Facebook, a MySpace, or some Twitteroo.

Internet has become so central that you'd be insane to miss out on it. But why would you? Modern internet is successful because it's easy to get in to and use it, and it's really useful too. Come on, everyone has it...