A picture containing wall, indoor, microwave, oven

Description automatically generatedInternet is defining technology of our time. By the pioneers of Internet, it is considered as the revolution that is at par with wheel, fire and language. We can communicate and connect via emails, newsgroups, chatrooms and what not. No invention is history has grown so fast to touch so many lives. This is something we did not see with telephones, automobiles or with printing press as well. What we are using write now is the evolved version of the internet. The internet in its preliminary form was not intended to be used as a source of information.

The Internet got its start in the United States as a government weapon in the cold war just after Russia launched its First satellite, Sputnik 1 in 1957. As a result, US president created bureau at defense department named The Advanced Research Projects Agency (ARPA) to surpass them. The team of scientists and researchers authorized by ARPA was looking for the solution to the limitations of Circuit Switching used in telephone. In circuit switching, the communication gets lost if the connection path gets broken. This was the matter of national security in early 60’s since the threat of nuclear attack by Soviet Union was live. In 1962, a scientist from MIT and ARPA named J.C.R. Licklider proposed an idea of Galactic Network; a network of computers that can talk to each other. Such network would enable government leaders to communicate even if the Soviets destroy the telephone system. While at ARPA he convinced his successors at ARPA, Ivan Sutherland, Bob Taylor, and MIT researcher Lawrence G. Roberts, of the importance of this networking concept.

A picture containing Ferris wheel, ride

Description automatically generated

Leonard Kleinrock at MIT published the first paper on packet switching theory in July 1961. Kleinrock convinced Roberts of the theoretical feasibility of communications using packets rather than circuits, which was a major step along the path towards computer networking. The other key step was to make the computers talk together. In late 1966 Roberts went to ARPA to develop the computer network concept and quickly put together his plan for the “ARPANET”, publishing it in 1967. In August 1968, after Roberts and the ARPA funded community had refined the overall structure and specifications for the ARPANET, an RFQ was released by ARPA for the development of one of the key components, the packet switches called Interface Message Processors (IMP’s). The RFQ was won in December 1968 by a group headed by Frank Heart at Bolt Beranek and Newman (BBN). As the BBN team worked on the IMP’s with Bob Kahn playing a major role in the overall ARPANET architectural design, the network topology and economics were designed and optimized by Roberts working with Howard Frank and his team at Network Analysis Corporation, and the network measurement system was prepared by Kleinrock’s team at UCLA. Due to Kleinrock’s early development of packet switching theory and his focus on analysis, design and measurement, his Network Measurement Center at UCLA was selected to be the first node on the ARPANET. All this came together in September 1969 when BBN installed the first IMP at UCLA and the first host computer was connected. Stanford Research Institute (SRI) provided the second node. By **April 1971**, ARPANET had 18 such main frame computers. Computers were added quickly to the ARPANET during the following years, and work proceeded on completing a functionally complete Host-to-Host protocol and other network software.

In **October 1972**, Kahn organized a large, very successful demonstration of the ARPANET at the International Computer Communication Conference (ICCC). This was the first public demonstration of this new network technology to the public. It was also in **1972** that the initial “hot” application, electronic mail, was introduced. In July, Roberts expanded its utility by writing the first email utility program to list, selectively read, file, forward, and respond to messages. From there email took off as the largest network application for over a decade. This was a harbinger of the kind of activity we see on the World Wide Web today, namely, the enormous growth of all kinds of “people-to-people” traffic.

Graphical user interface

Description automatically generated with medium confidence

The original ARPANET grew into the Internet. Internet was based on the idea that there would be multiple independent networks of rather arbitrary design, beginning with the ARPANET as the pioneering packet switching network, but soon to include packet satellite networks, ground-based packet radio networks and other networks. The Internet as we now know it embodies a key underlying technical idea, namely that of open architecture networking. The idea of open-architecture networking was first introduced by Kahn shortly after having arrived **at ARPA in 1972.** A packet switched computer networks multiplied in 70s. However, it became more difficult for them to integrate into single worldwide ‘Internet’. So by the end of 1970, By the end of the 1970s, a computer scientist named Vinton Cerf had begun to solve this problem by developing a way for all of the computers on all of the world’s mini-networks to communicate with one another. He called his invention “Transmission Control Protocol,” or TCP. (Later, he added an additional protocol, known as “Internet Protocol.” The acronym we use to refer to these today is TCP/IP.) Cerf’s protocol transformed the Internet into a worldwide network.

Throughout the 1980s, researchers and scientists used it to send files and data from one computer to another. However, this network was still between scientists and researchers from different universities and labs. In 1991 the Internet changed again. Tim Berners-Lee introduced the World Wide Web: An Internet that was not simply a way to send files from one place to another but was itself a “web” of information that anyone on the Internet could retrieve. Berners-Lee created the first browser and the Internet that we know today.

In 1992, a group of students and researchers at the University of Illinois developed a sophisticated browser that they called Mosaic. (It later became Netscape.) Mosaic offered a user-friendly way to search the Web: It allowed users to see words and pictures on the same page for the first time and to navigate using scrollbars and clickable links.

That same year, Congress decided that the Web could be used for commercial purposes. As a result, companies of all kinds hurried to set up websites of their own, and e-commerce entrepreneurs began to use the Internet to sell goods directly to customers.