



Exploring the 1960s: ARPANET

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ARPANET

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Explosive! This is the single word that can sum up the 1960s in American History. When people think of the 1960s, images of people protesting, fighting for civil rights, marches against war, as well as the hippie movement, widespread drug use and free love, all come to mind. The 1960s were perhaps the most provocative and inspired period in American History. There were such incredible and important social, political, and artistic expressions made that even today we can see the ideologies still standing tall. Ideologies like those put forth by Martin Luther King, Jr. that all men are created equal and to have *peaceful* marches against those imposed inequalities (Shabe). Parallel to the civil rights movement, there was the hippie movement that reigned in an entire counterculture; where new hair styles, clothing design, music, literature, art and contemporary ideals that shook the very foundation of the traditional, classical values that had been so well engrained into society.

With all the politically and socially charged movements that were actively going on in the 1960s, it is almost too easy to forget about the large amount of technology that was being developed and implemented by the United States. And technology is really what this essay is going to elaborate on. More and more automobiles were being built, radios and televisions were being bought at an exponential rate, and the young president, John F. Kennedy, has just declared that we would send a man to the moon and return home safely by the end of the decade. All of these were being directly influenced by the ever-improving and ever-evolving technology; America was leading the technological revolution. But even beyond the genius of these electrical and mechanical undertakings, there is a date in the 1960s that has been paramount to the success of America, to the world globally, as well as to me both personally and professionally. The date is October 1st, 1967 - this is the day that the ARPANET plan was started. Even though you may not have even heard about this important date in American history, its evolution is what we all employ practically every

single day – it is the Internet.

The year was 1964, and usually if you were working in big business you had a computer system sitting somewhere in the building. But it was not like today's computers, where fleets of machines are distributed throughout a company, with each of them interconnected to the next. You had a mainframe which did all the processing and held all the storage. And if you were lucky enough, you had several dumb terminals (access points) which were directly connected to the mainframe via a wire. These terminals allowed you to enter data into the storage array of the mainframe. You may be asking, "Well how did one company connect to another company?" And, the simple answer is, "They didn't." Networks as we know them now just did not exist. Computers did not talk to one another, and businesses were severely limited with long distance digital transactions; but all that was about to change. (Lawrence)

The day is October 1st, 1967 and the first ARPANET plan had been proposed. But what was ARPA and what was this "net" they were building? ARPA stands for **A**dvanced **R**esearch **P**rojects **A**gency and of course the **NET** was for network. The new agency was tasked with two challenging tasks. One was to create a new interface protocol (a standard way of transmitting data) that would be acceptable to each of the sixteen research groups. And two, to create a new networking technology that would support 35 computers at 16 different sites – with data transfer speeds of 500,000 packets a day. But why create a network in the first place? Well ARPA gave 5 reasons for creating a network. One reason was to have the ability to distribute load processing to multiple computers. Two, was to create some type of electronic mail system. And three was to allow remote data sharing. The fourth reason was to allow program sharing amongst multiple users. Finally, the fifth reason was to be able to remote into a computer system and use its resources - like programs, access data, and printers. Each of these concepts seem quite common-place now, many are house-hold activities that every computer user takes for granted these

days. But back then, the ideas surrounding networking computers, the kind of networks that would break the bounds of distance, were just visionary notions that would soon sweep the world by storm. The researchers had a vision and that vision was a well-connected world. Well the vision came to fruition, and I, you, America, and the world has benefited from its digital proliferation.

So how did I personally benefit from that day way back in October of 1967? I count myself so lucky to have been involved in computers and networking from such an early age. A little background on myself: I was a preacher kid growing up, and I received many *gifts* from the members of the church. From old radios, small piano keyboards, to tiny televisions and other electronic toys, I just felt blessed to have all these gadgets. I guess that is why I had such a love affair with electronics. The year was 1986 at Christmas time, and I received one such gift that would change my life forever, it was a VIC-20 (a beginner computer system). I was immediately hooked on computers and began looking for ways to make them bigger, better, and faster. It was only a few years down the road (after begging for another computer) that I saved up money and bought a TANDY-1000 which had a modem. The modem gave me the ability to *dial-in* to other computer systems and networks.

Once I was there, I was able to chat with other people (using IRC - internet relay chat programs), explore networks (through BBSs - bulletin board systems), and download data (using FTP and the text-based LYNX browser). I spent much of my youth as a digital junkie. How did October 1967 change my life? Well it provided me with thousands of hours of entertainment, knowledge seeking, and skill building activities that I would have otherwise had not of had the opportunity to be a part of. I most likely would not be the person I am today if the ARPANET project had not been created.

October 1967 also transcended my personal activities and allowed me to march into the professional world with my head held high. The year was 1993, and I eventually grew up and

left the confines of my own little computer world that I was living in. I found computer work at the college and country libraries and then on to a new local Internet Service Provider, Panhandle Online (ISPs were popping up everywhere at that time). I realized right away that my computer networking skills were in high demand. And I wonder now where would I be if ARPANET had never been created and evolved into the Internet. Even if the internet had come much later, a decade or so, or perhaps created by some other country, I wonder how my life would have been different. But it did not come too early or too late, but right on time for my professional career to take off. I consider myself very lucky to have had a personal computer hobby that grew into a wonderful IT career. I have been working in computer networking for almost 18 years now, none of which would have been possible without the creation of ARPANET.

Of course it was not just me personally or professionally that benefited from the creation of ARPANET. The entire world has become connected in ways that are all quite amazing. From the social networks of Facebook, Twitter, MySpace, etc., to having the ability to reference extraordinary large amounts of data using search engines like Google, Yahoo and Bing. Information and universal connectivity are literally only a computer keyboard away. The internet has brought the world together all under one roof, known as the World Wide Web. There is also a corporate side that allows businesses to connect to one another throughout the country or even across oceans; all businesses can benefit from the networking of two or more of their buildings. The mere amounts of digital transactions are now limitless. Something that is quite new in the digital, networked medium is online education. It is amazing now that colleges and universities can offer full degrees, online (for many disciplines), to almost anyone, anywhere in the entire world. All you need is a networked computer and to be a registered student and the education can be brought right to you. I have been in technology for quite a while and still find the online concept quite remarkable; just because of the far reaching effects that education will have on the world. I

believe the world would definitely be a different place without the ability to have been networked.

The 1960s were turbulent times to say the least. But the decade offered so much to our society that even today we can see the effects. Specifically, we are all benefiting from the visionary concept of networking one computer to the next through the ARPANET. There is no questioning it, our modern era would definitely be different if there was no internet. From the social networks and Google, to business transactions and online schools, everyone who comes in contact with the World Wide Web can become awe-struck just by the amount of resources available at their fingertips. And it all can be traced back to that date in history, October 1st, 1967 - the day that the ARPANET plan was submitted.

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