

When choosing my favorite person from the history of programming, many people come to mind. Firstly, there's Ada Lovelace, credited with being the first programmer by creating an algorithm to calculate Bernoulli numbers. Then there's Guido van Rossum, the man who created the Python coding language and was so influential in the Python and open-source community, he was crowned the, "Benevolent dictator for life". Both of these individuals were extremely influential and important towards the development of programming but they were just that, "individuals". The beauty of programming is not the individual, although individual programming prowess is important, but open-source, knowledge sharing, and collaborative research have always made a greater impact in computer science than any one individual. This is why when reflecting on the most important aspect of programming history, my first thought wasn't towards any singular person, but the ARPANET or ARPA research project. (the one time our tax dollars, (I don't pay taxes) didn't go to waste)

The ARPANET research project began in 1966 under the leadership of Lawrence Roberts. The project was centered around Paul Baran who developed packet-switching. Packet switching is when you break data into small packets and transmit that data. At that time, a close relative to packet switching, circuit switching, was used for phones but Lawrence thought, "what if we could use that on networks of computers?" (I barely understood this, don't quiz me on it)

After developing this idea and the rough drafts, Lawrence reached out to DARPA (Defense Advanced Research Projects Agency) and marketed the idea of a decentralized communication network that could survive even if parts of the network were damaged; which was a huge necessity during the 1960's when the Nuclear arms race started to reach its peak and there was major fear over a nuclear war and loss of infrastructure. Lawrence contacted the help of multiple universities such as Stanford, UCLA, UCSB, and University of Utah who collaborated closely in the development of the first fully functioning long distance information sharing network in just nine-months (would have been 8 if they allowed UT to help). Years after completing the network, they also created multiple network security protocols we still use today

such as the Network Control Protocol (NCP), the Transmission Control Protocol/Internet Protocol (TCP/IP), all terms I don't understand and won't pretend to.

What I love most about the ARPANET project is how it was the building block of everything we know today. Through the ARPANET we developed the World Wide Web to hold websites, and then we developed engines to search through the websites held on the Web and display them in order of importance to us. This then caused a rise in the manufacturing of computers since the search engine signified computers becoming more commercialized and consumer based. This then created the need for portable computers, which then created the need for chips that were both portable and powerful, and the list goes on. All the knowledge on Earth, all the knowledge on humanity, all the knowledge of everything we know and will ever know will probably be stored on the internet and long outlive us and which I find pretty poetic. It has only been about 50 years since the effective creation of the internet, and humanity has done so much, I can't even imagine what we'll do in another 50.