Web Development

Overview
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Historical perspective

First computer (ENIAC)

Internet Protocols (TCP/IP)

Amazon

Facebook

Amazon EC2

ARPANET

World Wide Web

Google

Ajax

HTML5

1945   1970   1980   1990   2000   2010   2020

Military   Business   PC Era   Web 1.0   Web 2.0   Web 3.0
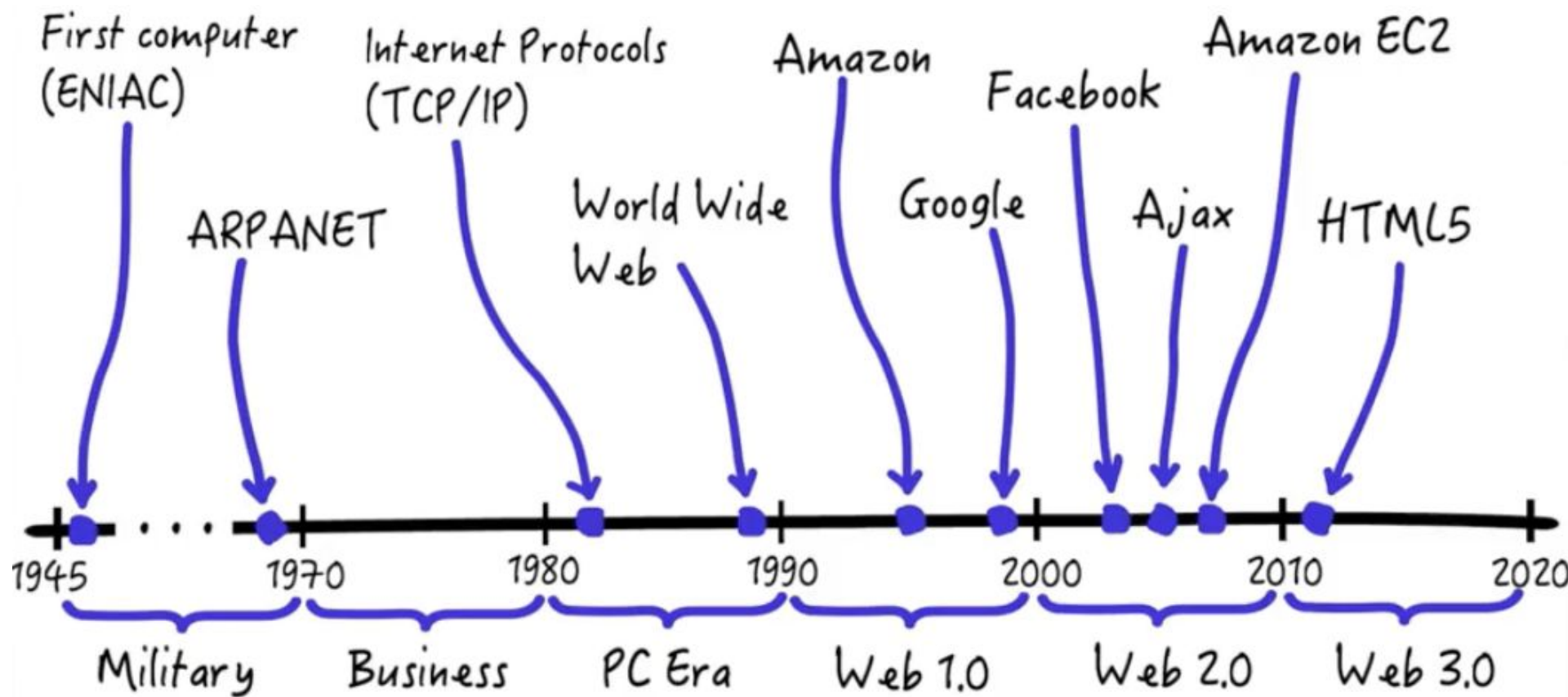
Military era (1945 ... 1970)

The history of web applications is really a history of computing, so let's start with the origins of computing. So on this timeline, I'm starting in **1945**. That's really, when computing started. And the first era that I'd like to talk about in computing, goes from about 1945 to 1970. And this is sometimes referred to, as the Military era of computing. The early computers were largely used for military applications. For example, at the close of the second World War, there were significant cryptography and could breaking efforts. One of the most important was led by a man named Alan Turing and he's considered the Father of Modern Computer Science. And the first general purpose, electronic computer called the **ENIAC**, the Electronic Numerical Integrator and Calculator was developed at the University of Pennsylvania and it was Developed in 1946, and was primarily used to compute artillery tables.

Then, in **1969**, the **ARPANET** was created. And this is a very important milestone for web and the internet. The ARPANET was a precursor to the Internet. It was funded by the United States, Advanced Research Project agency. And the interesting feature about this network, it was intended to be able to survive a nuclear attack. Thus, it was developed to be highly distributed. And this feature is one of the reasons that the internet continues to be such a successful network, is its highly distributed nature.

The Advanced Research Projects Agency Network (ARPANET) was an early packet switching network and the first network to implement the protocol suite TCP/IP. Both technologies became the technical foundation of the Internet.

https://en.wikipedia.org/wiki/ARPANET

Business era (1970 – 1980)

About **1970 to 1980** and this is primarily the business era for computer. This is where corporations begin to make use of computers for things like accounting, payroll, inventory. This type of things. Now these computers were very expensive and so, a person generally did not own a computer, it was businesses that were making use of these computers.

PC ERA (1980 – 1990)

In this era, it did become possible for the common man to own a computer.

The computers in this day were primarily used for Word processing, spreadsheets, a very simple applications. And then, they started to find their way into the business as well. Now, the one of the most important things that happened in terms of the Internet was, where the internet protocols were developed.

The TCP/IP internet protocols which are still in use today were developed in 1982. Now, I should mention that in 1981, this is when the IBM PC was released and that kind of created the Eco system that we're used to around the use of personal computers, so that slightly preceded the creation of these internet protocols. And then in 1989, Tim Berners Lee, while he was working at CERN developed the, well conceived of the idea, I should say, of the **world wide web**.

Web 1.0 era (1990 – 2000)

So, Tim Berners-Lee, in **1990** created the first web server and website that existed on the internet.
In addition, Amazon was created in 1995 and Google in 196. I should mention that in 1994, there were only about 10,000 websites. In 1993, there were only about 600. So there was quite a bit of growth from 1993, 600 websites to 1994, 10,000 websites. And then, by January of 1996, they were 100,000 websites. So, things were growing at an exponential rate in terms of these websites at that time. I should mention, that the websites themselves were really kind of **static**.

At this point in time. They were pretty simple websites, and there was a massive amount of hype and valuations, that were attributed to these internet base companies. So their stocks went up and up. And then, there was a .com bursting of this bubble, that occurred towards the end of this era and it was the stock market collapse around this and people kind of ran away from these internet based companies.

WEB 2.0 ERA (2000 – 2010)

The web really was more important than ever and there were some very exciting applications that were popping up. They were using the **web as a platform**. In other words, they were providing services and using web services as a part of the Web Applications and they were creating network assets from user contributions **Wikipedia** as a good example of this. Users were able to come together to collaborate, to create these applications that had tremendous value on the Internet. And I should also mention, that this is the time period during which software really rose above the level of a single device. In other words, above the level of a personal computer. Prior to this, it really mattered what type of computer you had whether or not the software you had would run on that particular computer. With the web that all started to change, particularly with Web 2.0. So some of the things that happened during this time period, **Facebook was founded**. In addition, the **Ajax** technology was came to be used heavily by Google. And one of the most important things with regards to cloud computing was that **Amazon EC2**, the elastic cloud compute service became publicly available and this really was the beginnings of **Cloud computing**.

WEB 3.0 ERA (2010 – NOW)

The next era, well. I'm going to refer to that as **Web 3.0** and what happened during this time period is, **HTML5** has been released. HTML5 standardized and created a very nice user experience for those who are using web applications. In 2012, the web grouped to have 634 million websites and e-commerce sales topped $1 Trillion worldwide. In **2013**, the index web contained **4 billion web pages**. Also this was known as the year of **responsive design**, because it became very popular to create web designs that would scale their layouts according to the type of device you were using. If you were on a desktop versus a mobile phone, you would get a different, the website would be delivered to you according to the device you are using. In **2014**, for the first time, mobile applications had counted from more than half the time spend viewing and using digital content. What also happened at this point in time, is *the number of mobile connected devices actually exceeded the number of people on the Earth*. This trend became so important, this movement to mobile computing, that Google now boosts the ranking of mobile-friendly webpages, if you conduct a search from a mobile device.

This internet of things is forming, now every device can be connected to the internet. And systems are becoming more intelligent, like "If liked this, you may also like this..."

Web App Characteristics

WEB 1.0

- Static web pages
- The first web-based business model
- The company that created Netscape
- Microsoft created Internet Explorer
- [Browser Wars](#)

The first web browser was called the Worldwide Web, and it was developed by Tim Berners-Lee in 1990. But the real explosion in popularity of web applications started with the release of the first graphical, or GUI-based web browser, which was called Mosaic. And this was released in 1992.

WEB 2.0

- Interactivity (Ajax)
- Social networking, online ecommerce, wikis…

What Ajax does is it allows for web pages, and thus, web applications, to change content dynamically, without the need to reload an entire page. So this made web applications much more responsive.

WEB 3.0

- Intelligent Web
- Recommended systems, semantic web, mobile-friendly, IoT
- Cloud computing
- Web-Enabled devices
- Powerful web frameworks