

HW3: Git Computer History

Analog Computers From 1900s-50s

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1 Introduction

Analog computers were the earliest versions of computers, using hydraulics, mechanics, or electricity in order to transmit information and perform calculations. They are significantly slower than today's digital computers by a magnitude of several thousands, but were critical for calculations and cryptography used in both world wars and other applications. We believe that in order to understand the early evolution of digital computers, which emerged during the 1960s-70s, we must analyze the analog computers that originated during the first half of the 20th century[1].

1940s, two world wars were sparked within Europe and the surrounding seas, employing new weaponry and technologies never before seen. With the advent of rockets and airplanes capable of dropping bombs, communication between generals, platoons, armies were critical to computing victories. A secured network had to be built where parties could communicate, while being secured enough where the enemy could not peer in. Thus, living computer humans were brought in to design the first major cryptography breakthroughs in Germany, which eventually led to the first analog machines being used for war[2].

References

- [1] Wikipedia contributors. [Analog computer](#), 2022. Online; accessed 9-November-2022.
- [2] Computer History Museum. [Analog Computers - Computer History Museum](#), 2022. Online; accessed 13-November-2022.
- [3] Technology Trends. [History of Computing Hardware - Advanced Analog Computers](#), 2016. Online; accessed 15-November-2022.

2 Time Period

By the turn of the century, conflict was beginning to rile up across the world. Within the 1910s and

3 Computer Hardware

Analog computers are used by using the similarities of mathematics small-scale properties. These properties include things such as wheel motions, voltage and current of electrical components, and other mathematical physical phenomena. These computers model physical phenomena voltage and current as analog quantities. These analog systems create an electrical analog of other systems. These help the user of the computer to predict how a system of interest will behave. Many of these computers worked by using moving parts while in the current age of computers are all digital.[3]

4 Computer Software

The software industry is one of the largest and most influential industries in the world in this time period. It began as early as 1830s with Charles Babbage's Analytical Engine, but was actually established in the late 1950s, when the use of computers for business applications expanded rapidly creating a huge demand for the people that had some programming experience and knowledge. Gradually the entrepreneurial computer software and services companies of the 1950s and 1960s, grew dramatically through the 1970s and 1980s and became a market force, making some competition for the computer hardware companies. By the 1990s it had become the supplier of technical know-how that transformed the way people communicated, interacted, played and worked on their day-to-day basis

5 Conclusion

All of this knowledge about analog computers was exactly what we wanted to know. We were curious about what were the mechanisms behind these machines and how they operated during wars. We were surprised how they modeled equations and cryptography through electrical analog means.

References

- [1] Wikipedia contributors. [Analog computer](#), 2022. Online; accessed 9-November-2022.
- [2] Computer History Museum. [Analog Computers - Computer History Museum](#), 2022. Online; accessed 13-November-2022.
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