The Importance of Encryption in the Modern World

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Over the summer, one of our members, Joshua, took a course on cryptography. He became interested and asked our other two members to join. We have developed a deep love for cryptography. The public should be aware of the significant battles, waged throughout history, to develop the modern internet. Encryption is a frontier because the struggle to make the internet lawful paved the path for contemporary technologies that we use today.

We started by reading "The Code Book" by Simon Singh,which summarized historical events regarding encryption. Once we established the base idea, we continued by looking for other sources to widen our field of view. We learned about information from sources that were easily accessible with Google. Once we had read credible sources, such as books, we used that to find more sources.

We began our project by brainstorming potential fields in which we could be interested. After doing some research on the subject, we chose to base our presentation at the National on a website. A website would be the best option for us because the internet plays a significant role in our study of cryptography. Additionally, by creating an interactive website, we might be able to demonstrate how cryptography functions work in practice on a website.

Asymmetrical encryption pushed the boundaries of communication and the fourth amendment. It also had an impact on the rise of espionage in times of war. The government used asymmetric encryption to spy on citizens in order to collect data. Even though the fourth amendment states that the government or any law enforcement cannot go at people's personal data without their permission, the police searched the defendant in the case's encrypted phone without his consent.

There are countless encryption-related historical events. One example is the attempted assassination of Queen Elizabeth I (the Babington Plot). This, however, failed because of poor encryption on the part of Mary I of Scotland, who got sentenced to death because of this. Poor encryption changed the course of history. In addition, encryption is extremely important in warfare. Military personnel need to be commanded without foreign intelligence knowing what they are doing. One example of this was the German U-boats during World War II. U-boats were successful because they were unexpected and the allies had no idea where they were. When it was cracked and the allies knew where the U-boats were, it was rendered ineffective.