

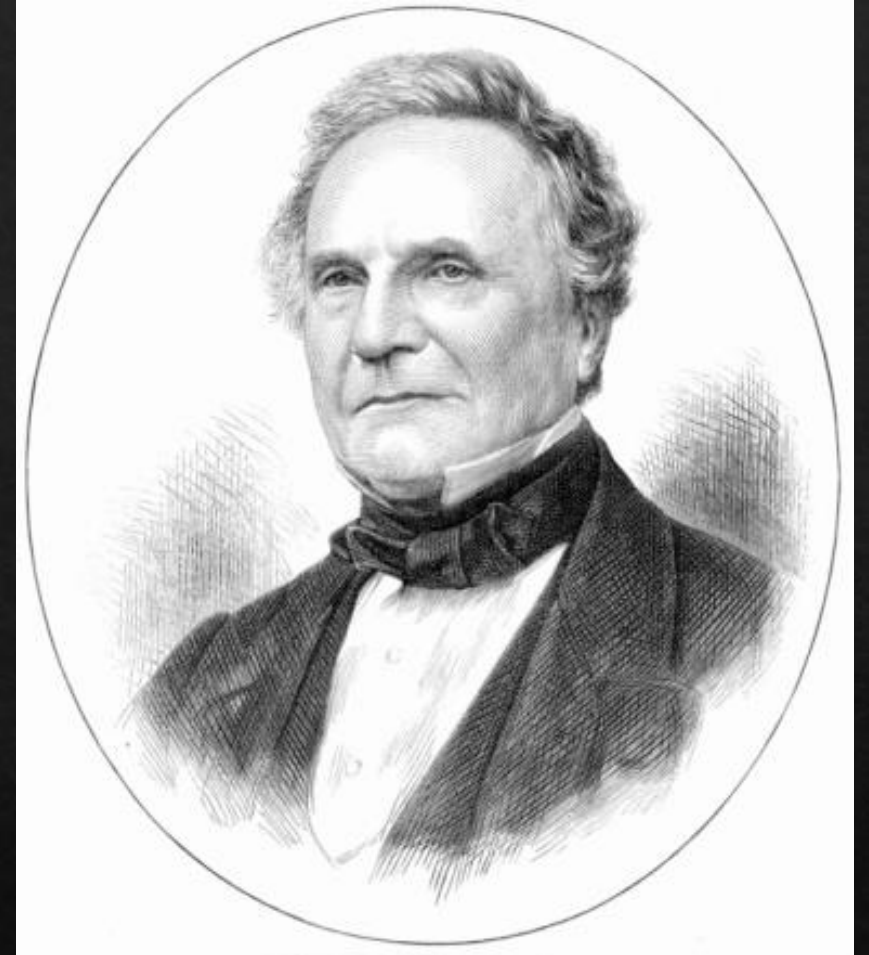
The background is a complex, abstract composition of overlapping, organic shapes in various colors including shades of purple, blue, green, and brown. Some shapes contain smaller, intricate patterns like dots or lines. The overall effect is a dense, textured, and somewhat ethereal visual field.

# Innovation Station | Computer |

Rico Siu

# Inventor & Purpose

- ◆ Inventor: Charles Babbage
- ◆ Past Purpose: The purpose of the computer was to do long mathematical calculations.
- ◆ Modern Purpose: The purpose of the computer is to perform calculations, store information, obtain data, and process information.



# When & why was it invented?

- ◇ It was originally invented between 1833 – 1871 by Charles Babbage.
- ◇ There have been considerable amounts of inventors afterwards with advanced improvements made to the computer which has improved efficiency, strength, quality, security, and overall design of the computer.

# Problems my innovation encountered

- ◆ A crucial problem my innovation encountered was security.
- ◆ Many computers have been infected and lots of information has been stolen like bank information, passwords, usernames, and any other sensitive information that was stored on the computer when it was infected by malicious hardware.
- ◆ Computers function correctly, until malware has been installed and ran onto the computer. Some of the other effects besides stolen information would include your computer to:
  - ◆ Slow down; computer crashes; error messages; occasional pop-ups; bad connection to WiFi

# First consequence to the problem

- ◆ Stolen information – Bank Information, Credit Card Information, Usernames & Passwords, Documents, and Images.
- ◆ Earlier versions of the computer hadn't faced much major ransomware attacks compared to recent years.
- ◆ (May 2017) WannaCry – This ransomware attack and costed an estimate of \$4 - \$8 billion in damage. It lasted four days and affected more than 200,000 computers in 150 countries worldwide. Attacks had affected hospitals, factories, companies, and other major industries dramatically.
- ◆ (June 2017) NotPetya – This ransomware attack was the most impactful attack and costed \$10 billion in damage to computers and industries worldwide.

# Second consequence to the problem

- ◆ Lost Data – Corruption, Shutdowns, Hard Drive Damage, and Liquid Damage.
- ◆ Corruption is a major security issue as it makes the file(s) unusable and you cannot recover the corrupted data unless you use tools online to uncorrupt files.
- ◆ Shutdowns is a major security issue as the computer shutdowns with you doing nothing to make it shutdown, and thus makes all your data you were working on or had opened and wasn't saved become lost. As well, in the unlikelyhood of a power outage and your computer isn't a laptop the same thing will occur. But now this isn't as big of a deal as most programs have an 'Auto-Save' feature.
- ◆ Hard Drive Damage isn't too big of an issue as hard drives are more secure and protected nowadays but, if you've ever dropped your laptop, or it has been hit you may have higher risks of damaging your hard drive which contains all of your data stored on your computer. If the hard drive is broken, then you will have lost your data. Fortunately, nowadays there are solutions to this issue such as OneDrive which stores your data on the cloud.
- ◆ Liquid Damage isn't too big of an issue, but most computers aren't waterproof and if you spill your drink or any sort of liquid on your computer it can cause it to malfunction depending on how much liquid was spilled onto your computer. If your computer does stop working due to it, you may lose your data stored on that computer.

# Third consequence to the problem

- ◆ Fake Identities
- ◆ This is a major issue that is happening every single day and lots of people have been affected by it. The reason it is a major issue is because people have gotten their sensitive information like bank details and or money stolen because of this.
- ◆ There are people known as 'scammers' and what they do is trick you and use that for their own benefit. Usually how this occurs is through pop-ups and ads. These pop-ups and ads will open in a new tab on your browser and sometimes open a new browser window and there'd be a message saying your computer has been compromised or has a virus and that you need to call this number and get support by "Microsoft" or any other technology company. They then trick you and tell you that you need to pay for the service and protection which is usually between \$50 - \$400.
- ◆ As well, people pretend to be somebody you know in order to obtain personal information for any malicious reasons.

Solutions that have been utilized in order to take the innovation to where it is today!

- ◆ Malware Protection Software – Malwarebytes, McAfee, Bitdefender, Norton, etc...
- ◆ Customizability – There are computers where there are different components varying in price and performance and that makes each computer unique as some computers can perform quicker than others. As well, you can build your own PC and customize it to your liking and decide how well it performs as well as the price.
- ◆ Convenience – Slim, Efficient Components, Security Measures.
- ◆ Variations – Laptops, Tablets, PC's – This includes quality of the machine and any unique features it has.





# How do the current solutions help the innovation function?

- ◆ Positive Consequences:
- ◆ It helps function by keeping the user safe online. Malware protection helps keep the user safe for any dangerous sites and files you may have downloaded.
- ◆ It helps function by allowing travel of the device for those who are always moving around for any specific reason. Computers such as laptops and tablets are easily accessible and can be taken anywhere as they are compact and fit in a lot of things. This helps as some jobs require you to use technology, but also move around.

# How do the current solutions help the innovation function?

- ◆ Negative Consequence:
- ◆ The price for computers. Although, there is more security, and computers are more efficient and reliable the price gets higher and higher for computers these days. Some people can't afford computers that are efficient and reliable for what they need and are usually stuck with either older models of computers or ones that don't function the way they need it to. A comparison would be:
- ◆ ASUS L402WA-EH2 I - (\$400. It can perform simple tasks, but it cannot take on several things at a time and will start to lag or function slower than before if more programs are opened)
- ◆ HP Spectre x360 (2020) - (\$2,100. It can perform several tasks super efficiently and can handle lots of things at once.

# Future of the Computer

What my innovation would look like in the future:

Imagine this is a projected keyboard and is made out of lasers. This keyboard will have absolutely no delay when you tap one of the projected keys outlined in a laser of your color. As well, it can be projected anywhere and allows for flexible use and allows you to virtually access your computer anywhere in your room. It is different from a bluetooth/wireless keyboard as you're able to split the keyboard however you like to enable efficient usage.



This monitor is a super high resolution and has an amazing refresh rate. As well, this monitor adjusts its angle and height automatically depending on who is a registered person of the computer. You can enable/disable this feature too. Also, it has 99.98% color accuracy which is perfect for anybody who works in an industry dealing with color or images. The monitor is also flexible and can be turned into an fixed into a shape you desire within 5300x1080 and can be flipped vertically. Lastly, this monitor has built-in components that are nano sized and have super good performance.

# How it functions, and why it's better

- ◆ It functions like a projector. This is super useful as parts of the computer such as the keyboard, monitor, and mouse can be moved around like a projector screen to allow for flexibility for those who prefer a different layout and or find it more comfortable in a different way. This design is better than what we have now as laptops have a fixed keyboard and some people may find themselves too close to the screen which is unhealthy and can damage their eyesight. As well, having the ability to virtually access your computer within a fixed space (within visibility like a bedroom) which is great for convenience. As well, this design is better as it's ultra-thin and allows for transportability and will perform extremely better than what we have now as technology will evolve exponentially. Also, as it will be made from light and other ultra-thin materials, the computer will be waterproof as most of it will be lasers and plasma which will allow for longer life expectancy. As well, there will be different designs like full on computers, and miniature versions that can be easily accessed by pulling it out of your pocket and tapping on the watch like item and project a screen and keyboard to type on.

# Positive Consequences and how it better serves our world!

- ◆ Positive Consequences:
- ◆ Efficiency – Reliability – Convenience – Accessibility
- ◆ A lot of jobs now require technology, and, in the future, everything will rely on technology as everything is evolving. Also, this will better serve our world as a lot of schools use textbooks and other in-hand items to educate students. This will help as students no longer need to carry around heavy textbooks all day long and go to their lockers as it's a waste of time and energy. Students can easily carry around computers that weigh like feathers and will relieve the stress on shoulders. Plus, lots of people prefer using technology over reading textbooks which means their learning will be effective and productive.

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