

CPSC 315 - Homework #1

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Timestamps

09/11/2020 - 05:21:00 PM

I'm still learning LaTeX so bare with me on some of the formatting. Overtime I will improve.

09/12/2020 - 07:50:10 PM

Some questions were hard to understand but I worked to the best of my ability. I didn't expect the reading to be decently long so my summary may be cut in some areas but I got the gist of what was said.

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*Dedicated to @QuesoGrande a.k.a. Jared D.

1 Chapter 1 Summary

Being the year 2020, information is obtained so easily and so readily through any means necessary. Whether it be through our phones, computers, even refrigerators (yes it's real). Technology is rapidly evolving everyday. Sadly with every innovation, there is always someone, something, some person ready to stomp on the idea, make money from it, or worse *spy on us*. The way we adopt technology is how things are innovated. People will choose ease over convenience any change they get. Whether we adopt such a radical change so quickly (*i.e. smartphones*) or such a slow change over time *i.e. personal computers* there are always advantages and disadvantages to each piece of technology invented.

Technology has the ability to also transform us as humans. There is most likely going to be self-driving cars within 30 years from now that driving won't even be a concept for people anymore. Whether that is a good or bad thing is up to self-interpretation. It's widely known that long-term memory is important to human beings as it exercises our muscles in the brain and help keep us functioning. Technology is starting to replace a lot of the way we function as humans. It's not always for the worse however. Ease when it comes to livelihood isn't a bad thing in fact it helps humans stay relaxed and motivated. Changing our daily habits also helps us as humans stay active and keep our motors running. Technology is changing our perceptions of the world and it constantly keeps out aware of the world around us. Weirdly enough, the book mentions how the Amish know that technology is something that could potentially be a hazard to the world so they carefully examine technology before adopting it.

There have been many huge milestones in technology that forever changed the world. While there are the simple ones including the invention of internet and personal computers, but there are bigger milestones that stand apart. The manual calculator is also called the abacus helped humans count with arithmetics over 2000 years ago. Later mechanical calculators were invented as a way to count very easily and was very useful for businesses to be able to add up transactions and take inventory which we now do to this day. Later down the line, the cash register was invented as a way to count money very easily during transactions and speed up the process drastically. Punched-card tabulation helped corporations take information very easily for records (especially for sensitive information). Once the year 1951 hit, commercial computers were invented by Ferrnanti which helped determine the election of Eisenhower which human experts could not accurately predict. After the invention of the commercial computer, people were eager for a faster way to be able to program on one. IBM was able to

develop higher-level programming language which led to FORTRAN, a high-quality compiler. Each new invention helped aid the creation of a higher quality and more efficient iterations. Milestones were made in networking as well. Starting as early as the telegram which allowed people to communicate across states through Morse code. Later on the telephone which allowed audio communication which is still used to this day. Typewriters helped create the keyboard which we still use as a primary typing tool. Cloud computing made a huge jump starting at IBM which today is now readily available by anyone in the world with a computer and internet capability. The internet alone is considered one of the greatest and worst technological inventions in the world because of its wonderful and horrible use cases for many people. It is appropriate to say that technology (not just computer-based technology) is what drives change and helps create a better society but it isn't always the best thing for the world.

2 Review Questions #1-11

1. Today is considered the Information Age because of how we have readily available information that we can get quicker than most people can think through their brains. Whether that be talking to Siri or searching on DuckDuckGo.
2. Mathematic tables helped develop autonomous calculating machines because the more complex a problem got, the less time people wanted to spend calculating. Nowadays, we are able to create programs that can calculate faster and more accurately than the smartest man in the world.
3. In the 1950s, we finally saw the first commercial computer which helped aid many companies financially. This is the time-frame of World War II, where we were destined to create bigger and better systems than any competing countries. The growth of the mechanical calculator helped aid creating a computer-based calculator that was able to help businesses keep inventory stock as well keep financially balanced.
4. What led IBM and Burroughs Adding Machine Company to dominate their markets was innovation. Each company was able to create something bigger and better than their competitors (which were very few

and far between). Just like businesses today, we constantly see competition and competition strives to make these companies innovate in their fields.

5. Radar helped stimulate advances in computing by being a simple way to track weather patterns, control the skies through aviation, and help map the world and the areas around us whether it be through maps or through aviation.
6. The Cold War helped bring about the personal computer because it was more of a widespread concept and idea. More successful concepts such as the microprocessor and higher-level programming helped aid people to an open onset of new ideas especially through Bill Gate's BASIC.
7. Europe was a more dense and industrial place than British Isles so the telegram would need to be widespread across various companies which is why semaphore telegram could have been more used there..
8. The telegraph was a very quick way of sending coded messages to people sometimes even quicker than telephone or wireless networks but was very limited in its way to convey messages. Telephones are a nice way to hear the voice of others however it used to require being connected at home and could cost a lot more money. Wireless networks is currently the superior way to convey messages however it has its ability to allow other unwanted people to read private conversations.
9. Berners-Lee's system of hyperlink text was built on top of TCP/IP protocols which can connect any two computers through the internet which is still used today by every computer that can communicate online. Every PC has a unique public IP based on their location which is how we are able to traverse through the Internet and play online video-games.
10. Four examples of how a social condition influenced the development of new information technologies include World War II, the Cold War, The Great Depression, and the Vietnam War. Most of these are wars because war is one of the major innovative factors because it drives competition.
11. Social change brought about the adoption of new information technology in many ways. One of them being the invention of the mechanical calculator as it allowed people to calculate problems quicker and help

their businesses thrive. Another would be the invention of the commercial computer which similar to the mechanical calculator helped the creation of jobs and people able to easily work for businesses through computing technologies. The last two would be the request for social reform after the Vietnam War showcased real footage of warfare which many people disapproved of and lastly the need for equality of races and sexes requiring more demanding work amongst the people of the world.