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Reflection

I initially applied to 2 programs at various universities which are; AFM (Accounting and Financial Management) and Software Engineering. At the time, I thought AFM was for me, but my parents urged me to also apply to Software Engineering. Over the last couple months, this class has changed my mind. Last week, I accepted an offer for Software Engineering at Western University. I struggled at the beginning of this class without our teacher, and relying on supply teachers that changed frequently. However, Mr. Brown was graciously willing to make some time and teach us. This motivates me to make something out of a situation like this. Spending countless hours on programming and non-programming assignments sparked an interest in the future of technology and its impact. I learned advanced programming concepts which encouraged me to begin studying more complex algorithms and data structures. A website where I learned all of my C++ is called W3Schools. Mr. Brown recommended it to me and I haven't stopped using it since. The environment of this class has been different from other classes to say the least. It has helped me be more efficient with my independent work and build my initiative skills. Having lots of time to spend on assignments and projects to help me hone my skills. This project-based approach is different from all of my other classes. In the situation that this class

was initially in, I feel like it was the best approach for students to learn more by themselves. Learning from a supply teacher that changes almost everyday would be difficult.

For our coding project, we initially were going to create a system where a patient books an appointment online, walks in and gets their face scanned by a camera. Then their medical history and their appointment details would show up on a computer monitored by a secretary. This idea stemmed from our experiences with long lines at clinics, emergency care, etc. Especially in Canada where healthcare is free, this seemed to solve a real world issue. However this made lots of sense theoretically, but practically, it was impossible. Finding a framework to help match what we want didn't work. However, how will we know that the information is accurate? So we scratched the idea and moved on to a program that helps with posture detection. Trying to stay on the topic of solving real life issues. This idea really came to surface after the Environmental Impact Presentation. We went into detail on the effect computers have on us mentally and physically. We came to the conclusion that your ergonomic workstation should have solutions to all the physical, posture related problems that it is causing. However, this is easier said than done. A study showed that someone on their laptop who really tried not to touch their face with their hands (study was done during covid to prevent the spread), ended up touching their face 16 times in one hour. Trying to fix a really strong habit is almost impossible, so my group and I created something that will remind you that your posture needs to be fixed. You can see the difference between our original idea and our final one. It was only possible with other assignments that we did during the semester. I learned that you need to be open-minded when you need to overcome these challenges. Allowing yourself to approach problems from different sides and seeing multiple perspectives with different solutions.

With my previous knowledge of coding, I only knew how to make websites with HTML, CSS and Javascript, along with knowledge gained from Hack Club with Python. I was able to make fun little games like hangman and a casino style slot machine game. The coding project that we brainstormed required frameworks. Frameworks that are cross platform and are multi-modal (video, audio, and sensor data). MediaPipe was perfect for that. It is used for real-time perception like estimating live, hand tracking, face detection, and other vision applications. MediaPipe is designed to perform real-time processing on both mobile devices and desktops. The framework is highly modular, allowing developers to use pre-built components (such as pose estimation or object detection models) or create their own custom components. MediaPipe supports multiple platforms, including Android, iOS, web, and desktop (Windows, macOS, and Linux). Learning what MediaPipe is and how to use it was my biggest accomplishment and challenge during the project because it has opened the world to a bunch of other frameworks that I can use for future projects. I have an idea of creating frameworks that benefit me in specific projects and the public as well. The level of complexity of future projects have risen a lot, but I enjoy the challenge. In the future, I want to incorporate AI into my projects. Similar to almost every application nowadays, AI has been more popular than ever. I would have to understand the basics of AI, choosing the right tools and frameworks, finding the purpose for the AI, developing a model and training, integrating, deploying and maintaining it.

With all the assignments I had during this class, I figured that organization would help me do better on these assignments. So I created a Gantt Chart that helped organize what I would do and when. At first, it was difficult because I didn't realize that I spend more time than I need to. I go above and beyond in researching and try to perfect every little detail. Some assignments really

fascinated me like Emerging Technology, Careers in Tech, and the Programming Project too. I developed such an interest, that when I was working on the assignments, I didn't realize that it had been hours. My friends made jokes about how I spent hours on an assignment that they just spent 30 minutes on and got a better mark for it. However, the knowledge that they gained from that assignment was little to none, whereas I really understood the specifics. That also came from the process of brainstorming to researching to deploying and finally presenting. My initial idea for the presentations and videos are completely different from what we submit. When an assignment is first given to us, I immediately write down my key ideas. If I am in a group, we research and talk about what we should go with. I really enjoy working with others because they are able to notice where I went wrong and I am able to do the same for them. Once we have the content, I am usually the person who designs the slideshow or the overall structure of the video. With the help of my group, we are able to put all our parts together and create a final product. This process has taught me how to work well with others and make their best come to life.