Reflective Essay

Over the past two months I have learned a lot when it comes to programming, artificial intelligence, composition and time management. Programming is where I learned the most since this is the first time in my almost two and half years of programming where I have had to write code to compose music and to create a MIDI file. While I had created programs that have created and outputted to text files, I have never done it with a MIDI file and it was not as hard as I expected it to be. After looking up the functions and reading a tutorial on how to create one, it did not take me as long as I thought it would to create a MIDI file and to create music with it. It helped me to understand computers better since I did not know that it was actually possible to create music using MIDI file code. With this I was able to develop my own music using functions that I developed using the MIDI file code.

When I decided to take this course, I was really excited to learn different artificial intelligence techniques. After completing this project, I was able to learn more about this interesting field. From this project I was able to learn more about evolutionary algorithms, what they entail and what they can do when you implement them. With this project I learned a type of algorithm called an Evolutionary Algorithm, derived from Darwin’s Theory of Evolution, and how it can be applied to something I love: music. This was something I never thought about using while in Artificial Intelligence until I started doing research on AI and music composition. Along with learning more about artificial intelligence I was able to increase my knowledge about music composition and what it means to compose a piece of music. Through research I was able to discover different types of basses that are used in music and different ways to compose music in order to make sure dissonance is either nonexistent or reduced. This helped me a lot to understand music better than I did previously and learning how to add these musical aspects was a lot of fun. Overall it was interesting and very enjoyable to develop different theory techniques using computer science and math.

Finally the last aspect I learned was how to manage my time well when it comes to long projects. When I am doing a regular computer science project it is usually easy for me to budget my time well since it is due within a week. However with this project being due in more than two months, I really needed to figure out a schedule that worked well in order to not procrastinate and end up having to rush the entire project and not get some of the functions I wanted to implement. I was actually able to figure out a schedule that worked well by setting specific things that I wanted done by a due date and treating these as assignments due at the end of the week. This was allowed me to spend my time wisely and not waste it doing other activities I was not supposed to be doing. With this schedule, I was able to implement everything I wanted to and a little more. This type of scheduling was useful and I will be using it after I leave Ursinus and enter the workforce.