CSCI1300 Fall 2021
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Project 3 Report

1. **How did you prepare for the project?**

My project was the game "Where in the code is Carmen Sandiego". I started preparing for the project by first reading the project 3 overview and thinking about how I was going to start working on the project. One thing that caught my attention is the probability portion of the game. There would be probability involved during events such as misfortunes, attacking the hacker, etc. Probability was something that I was still confused about implementing, so I decided to read the textbook and make sure I understood how to implement it. Other than that, the concepts in the project such as classes/objects and arrays were concepts I was familiar with. I looked over my Project 2 to review these concepts. I would say what prepared me most for the project was understanding the game. Although it might seem simple, understanding the game was detrimental to my success. After I really understood the game, it helped me get started on thinking how I would implement it into code. I also prepared for my project by doing the code skeleton. The code skeleton was the staple of my project. I created the rest of the project by building off of the classes I made.

2. **How did you develop our code skeleton? In what way(s) did you use your code skeleton?**

I developed the code skeleton by thinking about which parts of the project would be easier if I dedicated a class for them. For example, the most time consuming class I made was the Player class. I made the Player class it's own class because the player has many different attributes such as name, Dogecoins, computer parts, etc. Making the player class was something that made the project more simple and easier for me to figure out how to implement. Adding on to that, making Best Buy its own class was something that just made sense to me. Best Buy had attributes that stood out, which includes the prices for all of the different items. Although it doesn't sound like Best Buy has a lot of attributes, in my class I had 13 private members which were the costs of all the different items. The other two classes weren't as important but still served a purpose. I made a class for the Hacker which only contained two private members, name and server room number. I also made a class for NPC which was just about whether the NPC was neutral, friendly, or an enemy.

As I said earlier, the code skeleton was really the driver of my project. I centered everything around my classes, specifically the player class. All of my classes interacted with one another. For example, when the Player enters Best Buy and buys items, there were many factors that I needed to implement. Whatever the player wants to buy depends directly on how many dogecoins they have, the quantity of how much parts they want to buy (can't exceed a certain number for each part), and the cost of the item. These factors involve both the Player class, which contains dogecoins and computer parts, and the Hacker class, which contains the costs of all the items the Player could buy along their journey.

3. **Reflect on how you could have done better or how you could have completed the project faster or more efficiently?**

I could have completed the project faster by making myself reread and understand how the game works. It sounds simple, but when I first started coding the game, I was overcomplicating how the game actually worked. Something that I should've paid closer attention to was the Map class. This was the most important class and I brushed over it until I needed to use it. I regret not paying closer attention to the MapDriver.cpp file that was provided because the outline in this file was actually how I ended up making my game. Adding on to that, I regret not paying closer attention to the flow chart (provided to us) earlier into my planning phase. This really simplified the whole process of the game which would've saved me time had I realized its importance earlier.

4. **In addition, write a paragraph answering the following question, in the context of the Project in CSCI 1300: Did you have any false starts, or begin down a path only to have to turn back when figuring out the strategy/algorithm for your Final Project program? Describe in detail what happened, for example, what specific decision led you to the false starts, or, if not, why do you think your work had progressed so smoothly. In either case, give a specific example.**

I had a couple false starts, but I think overall my work progressed smoothly because I spent a lot of time thinking about what the algorithm should be. I also went step by step using the flowchart as guidance. For example, in my driver program, I would start at the beginning of the game and then program the game onwards. A specific step I distinctly remember was the visiting Best Buy part of the game. The algorithm for this part was very tedious for me to create because I didn't realize all the different components there were to the Best Buy. I also did not know about "passing by reference" which delayed my thought process and how I should program the best buy. In a way, this was a false start. After I finished this component of the game, I was stuck thinking about how the server rooms work. It was hard for me to figure out how I was going to organize the game.