Justin Fischman

Benjamin Manning

CSEE 2200

25 April 2019

Team Role Report

**Introduction**

In the group we assigned ourselves to we did not assign specific roles to ourselves or each other. The entire project was completed by us mainly performing as one unit. However, for the sake of this report, I will be assigning roles that closely fit what each team member contributed to the project. In this case, I would say that I was the software developer. This is because I made the plans for us to meet every time, and I would ensure that we were on track and could finish. Along with this, I also installed everything that was necessary on the raspberry pi.

**The Project**

In the group we made, we followed a certain order of steps for the purpose of completing the project efficiently and with quality. The steps that we followed are outlined below.

Brainstorming:

During this part of the project, we were tasked with finding a product to make or improve upon for a disability. At first, we were thinking about putting google maps into a cane in order to help a blind person get around campus. However, after meeting with the Disability Resource Center, Jeff came up with the idea to do a smart mirror to help people with Obsessive Compulsive Personality Disorder.

Research:

During this stage, we came together as a group and researched Obsessive Compulsive Personality Disorder. The main component to this research was what the client goes through on a daily basis and we checked to see how a smart mirror may be able to help. The main thing it could help with was the persons need to be organized and have everything perfect. This research allowed us to create our criteria for success among other steps that were taken in the Engineering Design Requirements. Perfection and organization are major stress factors for people who struggle with OCPD, so the top priority is that the mirror works well and easily as to not cause a panic or anxiety, and looks good in order to make sure there is no reason for someone to despise looking at it.

Prototyping and Building:

In prototyping, the team had to build to scale figures of possible layouts for the mirror. We used balsa wood to make the scale representations as well as a cut plastic mirror. Along with the prototypes, we also made designs in software to render what the mirror and wood should look like in the end.

In building, we are dividing it in to two parts. The first part is the software. In the software, we are implementing Google Voice as well as display into the raspberry pi. This is so that the user can speak to the mirror as well as see weather for the day or look at their schedule. The hardware aspect of building will mainly be cutting the wood we get in order to fit the mirror. Outside of that, the only other part is the wiring. Overall, this process did not take very long at all.

**Team Role**

My role as the software engineer was at the core of this assignment because of the need of the consumer for the product to work properly. My job was to get the necessary programs running on the raspberry pi in order to make sure the mirror would work. However, I did more than just the software portions, as we all filled in where necessary.

Through the project, my team and I worked together to complete this smart mirror. My role in the completion of the mirror, in my opinion, was rather large. In the beginning I was always skeptical and was making sure that everyone on the team agreed that the path we chose was the best course of action and made the most sense. This lasted all the way through the brainstorming phase as I had to ensure that we were picking a product that would be beneficial to anyone that had OCPD.

Later on in the project, when we started prototyping, I began to make sure everyone knew that we were meeting at a certain time and place and developed a plan for the software. When we met, the goal was to get as much of the prototyping done as possible. First, we listed the materials, then I ordered what we needed. Next, I helped construct the replicas for the mirror. After constructing the replicas, it was left to me to create the 3-D renderings of the mirror on software.

After prototyping, I decided that it was time to start the programming for the display and voice portions of the smart mirror. For the most part, I set up the voice and display alone. During this process, I connected to the raspberry pi we were using and ensured that all of the proper software was coded for and ready to be used. This process took more time than I wanted it to due to us needing a different raspberry pi than the one we had. However, eventually, the software portion was done, and the rest of the hardware for that mirror had been ordered.

During the building portion of the project, I worked on the wood a lot to ensure the mirror would fit properly, the monitor could be inserted, the brackets would be held in place, the space left for the raspberry pi and speaker were big enough to hold them, and so forth.

Team Assessment Report

**Introduction**

In these groups, there were no official roles that were assigned to each member. Instead I am going on what they could be best called if they were given specific roles. In order to complete the project effectively, it was necessary that each of the group members be able to work well together and do what needed to get done. Through most of the project, the most important role was everyone because we decided to go in as equals. Therefore, everyone was going to contribute the same amount and we agreed that we could depend on each other. This became necessary as we started meeting during scheduled times and working further on the project. It was necessary for all of us to see what needed to be done from the beginning through the end. That started with the brainstorming and creation of the idea for the project and ended with the vide; however, there was not smooth sailing the whole way. Instead, there were waves; however, we worked hard to overcome them.

**Team Roles** (Outside of Mine)

To complete these modules, there were two other team members both currently being designated a role as we were all working as one unit and decided to be responsible for everything. Everyone in the group was necessary in order to complete the tasks that led up to the completion of the project. In this group of three, there were different roles for us all to develop into as we went further working on the smart mirror. The roles which I will be “assigning” currently include manager and hardware engineer.

Manager – Jeff Kelsch:

The job of the manager is to maintain time and make sure the product functions properly as well as make sure that everyone is on the same page.

Through the project, Jeff was not as much help as he should have been. The mirror was his idea; however, as soon as we stopped having mandatory class at the beginning of the semester, there was only a slim chance that we would see him. For example, there was a week when we had scheduled to meet two times, both his ideas, and he did not show up. To make matters worse instead of telling us in advance that he could not make it that day for whatever reason, he just never messaged us until we asked where he was. This incompetence set us back a good amount in the project. The only thing he did in the end that helped him redeem himself was trying to make it to meetings more and setting them up too. However, through the semester he did prove useful as he had an engineering class under his belt already where they prototyped, and in this stage, he was very useful because he was the only one that knew how to prototype and make the design. During brainstorming, when he was at our meeting, he contributed a lot of ideas to help us conclude with the smart mirror. However, he was still late or absent most days which did not help production. Overall, Jeff was very useful when it came to brainstorming and prototyping, but he should have helped more than he did.

Hardware Engineer – Muskan Sharma:

The hardware engineer in the group is supposed to make sure that the design of the product meets the standards that we set forth as well as build and design the product itself in order to meet the needs of the client.

In these modules, Muskan was a very helpful problem solver. Through the entirety of the project she always showed up. Along with this she would also help with the software or hardware development however she was able to. For example, she and I finished the software portion of the project together and she looked over everything to ensure that it looked good and would run like we wanted it to. Along with this, she played an essential role in researching as she did the majority of the research about what people with Obsessive Compulsive Personality Disorder go through and how we could help lessen their pain. Afterward, she made a large effort to ensure that the final product, when put together, was exactly what we needed it to be. Muskan was a great engineer because she did what her job entailed by building the compartments out of the wood that was provided and picked up wherever she was able to in order to help get the project done. For example, whenever Jeff was absent at our meetings, Muskan and I did what we could without knowing what exactly the idea was. In the end, she was essential to the project because of her detailedness and ability to do a little bit of everything.

**Team Derailers**

There were not many derailers while working on the project. For the most part, everything went according to the plan and we were able to follow instructions for some of the google software, setting up the frame for the mirror, and wiring and making everything that was necessary. The only major problem that we had was not knowing what we should be doing or not being able to work on anything for a good portion of the semester. This was due to Jeff’s absence, and because he had the idea in his head it was important that we would be able to meet with him. Eventually, the issue was addressed; however, it did not affect his attendance by very much. Eventually we were able to finish, though it was rushed. The only other derailer was that we could not start building anything until we had access to the FabLab which took some time due to the quiz and lecture that you must attend beforehand.