Jeffery Kelsch

# Role Report

In the beginning, the class was given simple instructions for a not-so-simple task: use the semester to devise and create a project that could help solve a common problem in the world. I decided to group up with two of my classmates, Muskan Sharma and Justin Fischman, and we decided that our semester-long project for the class was going to involve creating a mirror from scrap parts and installing a Raspberry PI in order to give it "smart" capabilities (i.e. tell the time, give the weather, list current news event, provide a calendar of daily tasks, etc.). We chose to create a smart mirror because we wanted to help people who had Obsessive-Compulsive Personality Disorder to be more organized and less stressed with their lives. Our line of reasoning was that people who had OCDP were very neat-picky and wanted things to go according to their standards, so by providing them with a smart mirror would get their day started on a positive note by allowing them to dress as they want while being able to plan out their day hands-free. The problem we chose was a group effort, but the idea for the project was mine, which made me the project manager.

As the project manager, my job was to create plans for how the project was going to be completed. After completing the Engineering Design Requirements where the group researched OCPD and various solutions, upon decided to create a smart mirror, I, the project manager, decided that most of the semester would be used to prototype, look through the code, and test

the product. To me, the most important part is the prototyping phase because it is the phase where we can test out the initial functionality of the product and make any changes to the build process as needed without worrying about messing with the actual product itself. It is a great phase to find flaws and fix them stress-free. After everyone was clear on what was expected of them during the build phase and I felt that the build process we came up with was feasible, we were cleared to start building. During the building process, we encountered a lot of problems that involved a lot of improvising from the original plan. I was hoping for this to not happen; however, due to having experience in this kind of project from being in high school robotics for four years allowed me to tackle the problems as they come up in a calm and organized manner that effectively used up my time. Now, as much as I wish I could say I was the best project manager out there, there were some low points.

Said low points were showing up slightly late and not communicating well enough with my teammates on how to get a certain task done when they were confused. While I am disappointed in myself and wish to take this experience to better myself in this role, I feel that despite all the obstacles we faced, my group and I meshed really well together and utilized our individual skill sets in order to create a unique and wonderful product that reflects all the hard work we put in this semester. I really enjoyed playing the role of project manager despite all the anxiety that comes with the job.

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# Team Assessment

Muskan Sharma:

Muskan is a hardworking and eager learner. Coming into this project, she said that she only had CAD experience and basic programming experience, but she also mentioned that she really wanted to be able to use all the equipment in the shop. This is why I, the project manager, made her the hardware lead. She was in charge of cutting some wood and assisting me in creating the frame and back compartment of the smart mirror. Before I continue, I want to mention that these roles that were given were followed loosely. Everyone was able to dabble in both the software and the hardware side of the project. Now, Muskan assisted Justin to set up the Raspberry PI so it could run the Magic Mirror Program. The Magic Mirror Program is the main brains behind displaying information onto the monitor through the Raspberry Pi. The second major software that impacts the success of our project is the open-source API for Google Assistant. We wanted to understand this code, so we spent some time messing around with the code. From this experience, we learned some very beginner Python. After we felt that the code was left, we went about actually building the mirror. Muskan was very helpful in cutting the pieces along the markings I provided her, and she assisted in clue the pieces down and holding them together. Overall, she is an awesome teammate who contributed a lot to the team's success.

Justin Fischman:

Justin was the programming brains of the group who was really good at what he did and hardworking. He would do anything you asked of him and really helped the project move along. Without Justin, Muskan and I would have probably messed up the programming part as we are both not as skilled at computer science as he is. Justin definitely streamlined the programming process. His amazing work ethic matches Muskans massive drive to learn how to work the shop's power tools. When Muskan was busy with other school work, Justin came through and helped me cut the finishing pieces as well as assist me in putting everything together. It was an added bonus that Justin could use some of the power tools as it saved time and allowed me to delegate tasks. Near the end, we were really fighting for time so having everyone working on something really helped us use our time effectively and efficiently so we could get done with the building process as soon as possible. Through Justin, I was motivated to come earlier and get a head start on the project so I could make everyone else's job's easier. I want to emphasize how diligent of a worker Justin is. If you want something done regarding programming or cutting some wood or gluing pieces together, you can count on him to get it down. Overall, Justin was a really fun and useful teammate to have. I am glad I was able to work with both Muskan and Justin because we had such a diverse background of talents that all meshed really well together.