Aastha Chawla
Dr. JAK
ENGR 110
3 June 2019

Reflection #3

Personally, ENGR 110 gave me great exposure to the tech industry on a smaller scale. The stories I hear from my dad and my brother, who both work in the industry—as Director of Research & Development and Technical Lead Engineer, respectively—are that in general, engineers are given certain constraints/criteria about a project and a deadline to complete it. The engineers or their technical manager gives progress updates to the customers/investors until the project is ready for launch or implementation. Similarly, our community partner presented us with the project idea, the guidelines, constraints, and criteria, and she gave us some rough deadlines for the project. Our job, as engineers, was to implement her idea. This gave me a lot of useful experience in interacting one-on-one with the customer—Lindsey from the Center of Sustainability— as well as working on a project given constraints and certain criteria.

Having a customer by our side throughout the project-building process was a very new experience for me. Usually, with my prior experience as an app developer, I would think of an apparent problem in society and come up with an innovative solution in the form of an app. Then I would build and develop and change up constraints along the way based on my own (or the team's) resolve. In this case, the community partner identified the apparent problem and came up with the solution, and our job was to implement the solution that the community partner had devised, following each of her predetermined constraints/requirements as strictly as possible. In a way, having the community partner by our side eased the load for us, as we really only had to focus on the app, and bringing to market / advertising would not be our responsibility. However, in other ways, working for someone can be a minor impediment, as we did not have freedom to do certain things, such as creating accounts for the database and servers, purchasing an Apple Developer Kit, and storing all passwords with the Center for Sustainability. We were unable to finish the project solely because of these few restraints; other than this, the app's beta version is relatively complete.

As the team lead, I would send Lindsey weekly updates on the progress of our app. This gave me more experience as a project manager, as I was the point of contact for our group, and I spoke for our group's actions. Initially, communicating with our customer wasn't a big struggle; however, when it came to needing her input/advice on certain constraints, such as the price of hosting servers and databases, she was unresponsive. Eventually, we worked through this by setting meetings with her to speak in person. For instance, when all of us strongly disagreed on her input to remove allergens from the app entirely as it posed a liability issue, we set up a meeting with her to explain how we think allergens were important to have. We compromised on adding a list optional allergens, so instead of saying a food contains peanuts, a food will say "peanut-free," if applicable. Overall, maintaining contact and working through the required functionalities of the project went by relatively smoothly, as we had Lindsey and other members from the Center for Sustainability as a point of contact.

Working on the project also gave me a lot of exposure to new app development environments. Usually, I'm used to coding iOS applications in XCode, and for undergrad research, I am learning to use React Native. In fact, no one from the team had prior knowledge or experience using the platform Flutter or coding in Dart before. This was the biggest learning curve, as it it took us until about week 6 to get last quarter's project working on our own devices. This left us with only 4 weeks to fix the problems that currently exist in the project as well as to implement all the new features and functionality. Working with the team and coding together as a group was really helpful throughout the app development process. Specifically, we would sit in Heafey and connect one of our laptops to a TV monitor and walk through the frontend or backend part of the app in order to understand parts of the code. Overall, this was very useful, as we managed to get a lot of the app done this way. Specifically, this method is how we made scheduled posts work on the app, and how we walked through the bug of posting images on iOS.

In general, ENGR 110 gave me a more in-depth perspective of the impact a piece of technology or an engineered solution has on society. Our project, once launched across campus, will help to address SCU students struggling with food insecurity and will also lower SCU's carbon footprint, as limiting food waste results in a more sustainable campus.