Appendix 1: Reflection on Working as a Group

REFLECTION ON WORKING AS A GROUP

ELEN4012A – EIE Investigation 2022 – Jesse van der Merwe (1829172) – Group 22G05

This project required learners to create groups of 2 to not only work on the final investigation, but also create tender bids, project plans, etc. After forming a group with Robyn Gebbie (2127777) at the beginning of the year, we quickly got started on researching all the available project outlines from various lecturers (supervisors). After a few weeks, we met to decide on our top three. After some debate we narrowed it down to five options, and thus our first group hurdle was reached; which three topics to bid on?

We decided to contact the respective supervisors via email to ask questions clarifying anything we were unsure of from the project descriptions. Fortunately, this allowed us to narrow down our list of five to the final list of three! From here we got together and wrote the tender bid outlines for the three top projects. We then split the workload of finishing and finalising these bids and did the rest at home.

After submitting our three tender bids, we waited anxiously for the final allocations. We were lucky to get our second choice: "Which Hand?", supervised by Dr Aharonson. We then met to discuss the project brief and scope. Soon we met with our supervisor to continue this discussion. We then divided up the work of creating the project plan and completed our sections at our own individual pace, within a determined time frame. Finally, we met again to combine, finalise, and submit the Project Plan document.

This would quickly become the norm for us, as we both preferred to work on our own and then later meet up (often with our supervisor) to discuss, compare and finalise. These "meetings'' were almost exclusively online, using either Discord or MS Teams as the VOIP and screen-sharing software. Our supervisor encouraged us to turn on our cameras to provide more engagement and interactivity. This was wonderful until my internet became too poor to keep up with the live video feeds. We were able to effectively use both Discord and MS Teams as group work platforms by having multiple channels in which we sent and shared various important resources, data, documents, and even just reminders and to do lists.

I utilised GitHub as the basis for all my code and data storage. It was very convenient for me to have a detailed history and way in which to revert to previous versions of code. In future group work environments, I will encourage all group members to join the same repository on GitHub to share, edit, collaborate, and monitor each other's code. GitHub has incredibly useful groupwork tools: code reviews, source control, repository branching, detailed history logs, to name a few.

During the actual project, Robyn and I worked well together. We split the work as equally as possible:

- Robyn focused on researching and implementing a more technical and mathematically complicated data analysis method.
- I focused on improving the existing data pre-processing code as well as implementing a simpler data analysis method.
- We both did background research to ensure a basic overall understanding of the topic at hand. This was especially important since this is a biomedical topic, and neither of us did biomed.

I believe that we utilised many of the strengths of group work. Not only did we split the workload, but we did it in such a way that played to our individual strengths. For example, since I graduated from game design engineering, I already had a better understanding of the Python programming language. I thus volunteered to tackle the image pre-processing section as it required me to navigate another student's code, and this was easier to do with a basic understanding of the language.

Our time management was well thought out, implemented, and relatively strict, while still giving each other flexibility and support if needed. However, our initial Project Plan did not fully grasp the scope or complexity as intended by our supervisor. Specifically, we had included machine learning as a requirement, but after discussing further with our supervisor we came to understand that only image processing and computational analysis of the results was actually required to answer the investigation question. This meant that our original Project Plan was incorrect and needed to be updated. Fortunately, once we came up with a new Project Plan the timeline and schedule were followed leaving plenty opportunity for us to meet with our supervisor and get feedback before each of the milestones of this project. Such milestones included the project presentation and Open Day.

While Robin and I were happy to work individually on our parts of the project and then get together to discuss, combine and conclude, I do think there was room for more collaboration to better streamline the process of working in a group. Thus, in the future I will ensure to include more frequent group check-ins as well as more time to review each other's work before the project is finalised.

It was a pleasure to work with Robin in this final investigation project. We were thrown into the depths of a challenging biomedical investigation question, but we truly learned an incredible amount during this process while trying to produce high quality engineering work.

Vered Aharonson was a fantastic supervisor who never failed to answer any question. She was available pretty much all the time via e-mail and always keen for a video chat on MS Teams, even when she was travelling the world attending research conferences. Both Robin and I are very grateful for her input, support, and guidance. We hope we did her proud in this project.