Tristan Pommering Individual Assessment

My individual contribution to the project was primarily app framework, adding additional app features and UI improvements unrelated to visual design. I created all the pages, and their initial design set up the buttons and implemented a way to update the picture upon things being changed. This was especially helpful when I implemented the ability to modify hold difficulty allowing the changes to take effect right away to the user. While I was not the rock climber of the group (Ethan was) I had him get photos from his time out and I would take them and run various app testing both within the emulator and on my phone directly and reporting any bugs and issues to the team.

I built upon app development skills which is what I initially wanted to do this project for since I never was part of the app development process for mobile phones. It was a good learning experience. I was able to implement most of the features we wanted inside the app and noticed a few bugs that improved the app overall when they were fixed. The only major obstacle was trying to implement a crop feature in the app. This had to be postponed until further notice due to more critical features and changes needed to get the app ready for the expo with promised features rather than quality of life ones.

When we started this project as a group we wanted to build a mobile app that uses AI features to create a curated path for a user who is presented with a bouldering problem. We were able to accomplish this and add every main feature we wanted in the app. User profile that is saved, the ability to save and reload paths generated earlier, have users annotate the image they selected to pick a start and end point as well as optional difficulty modifiers, we were able to use blob detection to identify colors, and finally we used A* pathfinding to generate the path. While A* was not our initial idea we wanted to use genetic algorithms to solve these problems but quickly found out that most mobile devices don't have the computing power to run such a design.

My original role in the group was to work on the AI part of the project. That changed when we realized that the team rock climber should be more fit to work on that issue since they understand the routes and difficulties better than the rest of the group, so we had to reform our group roles, and I switched to testing and app framework. With that said I feel like the role change gave me an easier role than I was expecting and felt like work wise my hours spent were tackling less difficult problems. I would like to give special recognition to Ethan Reed who was the team rock climber who took on the role of the AI pathfinding and he was faced with a difficult task of implementing a way to use a form of A* for each limb

while also preventing weird things from happening with the pathfinding as well as visualizing it. He worked on the most critical and important part of the entire project.