IM3080 Design and Innovation Project (AY2022/23 Semester 1)
Individual Report

Name: Shawn Koh Jun Jie

Group No: 4

Project Title: Project Tetris (Interactive)

Contributions to the Project (1 page)

- Point of contact between group and supervisors, including all pre-project admin work
- Teach and supervise soldering
- Soldered LED strips
- Heat shrink and insulated LED strips
- Assist in the design team in their cut-outs
- Delegated jobs to group members
- Supervised overall project flow
- Tested the circuitry
- Next tile LED Soldering
- Helped with cutting out the hole in the box
- Helped with the mounting of the LED board to the box as well as the mounting of the back door

Reflection on Learning Outcome Attainment

Reflect on your experience during your project and the achievements you have relating to <u>at least two</u> of the points below:
    (a) Engineering knowledge
    (b) Problem Analysis
    (c) Investigation
    (d) Design/development of Solutions
    (e) Modern Tool Usage
    (f) The Engineer and Society
    (g) Environment and Sustainability
    (h) Ethics
    (i) Individual and Team Work
    (j) Communication
    (k) Project Management and Finance
    (l) Lifelong Learning

Point 1: Project Management and Finance

As the group leader of this project, I have learnt to delegate various task to my group members based on their strengths to ensure a smooth project flow. I also kept the team on target weekly to ensure that the project could be completed on time. We managed to finish the project based on the amount of time we were given, and I feel that is a great accomplishment for me as it is proof that my style of leadership and delegation has worked. In terms of finance, I felt that the standard operating procedures for approval and claims was extremely lengthy and would stifle the project progress, hence I decided to let 2 of my group members, Khai Ming and Marcel, to handle the claims since they were using their own money to purchase the logistics and I would oversee the approval process. I believe that this arrangement has drastically reduced the amount of time and overhead with regards to the approval and claim process.

Point 2: Problem Analysis

During the project duration, we encountered many hiccups along the way. As the group leader, due to my previous experience in managing LED strips and the Arduino, I would use my experience to come up with possible solutions to my group's problem, no matter whether it belonged to hardware, software, or design. If my possible solutions were deemed unfeasible, my group mates and I would take our time to brainstorm and come up with a solution. Due to the intricacies of the project, especially on the software front, the solutions that I suggest might be lackluster. However, I feel that they can form a good basis for an actual solution for the team to come up with. One such instance was when the hardware team hit a roadblock with regards to the quality of the audio output. Using my experience in Digital Signal Processing as well as Analog Electronics, we designed various filters, digitally and in analog to try and solve the problem. Despite not being able to solve

the problem, it is clear here that we were able to identify the problem with the audio and we tried to solve it within a time limit.