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

Name: Yap Qi Long, Marcel

Group No: Group 4

Project Title: Tetris Project

Contributions to the Project (1 page)

- Part of a 2-person design team to come up with the look and feel of the Tetris box.
- Designed the main design and layout of the box as well as the colours and font.
- Printed cut and glued most of the paper designs such as the 3D cubes, words, and titles.
- Bought supplies such as paint, paint brushes, acrylic for the cover of the box and other things.
- Painted the Tetris box and the controller box.
- Contributed to the hardware side by purchasing materials and led the implementation of the grid system to mount the LED Lights
- Measured and cut the rows and columns of the grid system precisely to prevent overlapping of light from LEDs
- Helped to solder and prepare the LED strips for mounting

Reflection on Learning Outcome Attainment

Reflect on your experience during your project and the achievements you have relating to at least two 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: Problem Analysis

In both the hardware and design of the Tetris project, there were many difficulties we faced along the way and through these problems, I have learnt to not ask for help instantly but rather ponder about the problem for a while and attempt to think of a solution first. Through this process I managed to come up with creative solutions. For example, nearing the end of the project, we were trying to mount the LED lights up inside the Tetris box. It was extremely frustrating and tiring as one of the group members was holding it up vertically while another was on the other side telling him which direction to move to align it perfectly, while I tried to glue on the LED board. I stopped, stepped back and thought for a moment, before coming up with the solution where the box should be placed on its front and a member lies on the floor looking up to see the alignment and the other would adjust the board. This eliminated the fight against gravity and made it much easier for us to adjust the board while I glued it into place. This is just one example of the many difficulties we faced, and I feel I have learnt a lot of critical thinking and problem solving skills throughout this whole 13 weeks of doing this project.

Point 2: Individual and Teamwork

I've learnt how different roles are needed for a big project like this. I've learnt from our leader, Shawn, how to delegate people and assign them to do different tasks while telling us about the end goal. From there, I've observed that even though everyone was doing their own thing and it seemed very haphazard, at the end of the 13 weeks, all the different parts came together to create the Tetris Project that I am very proud of. During the 13 weeks I became a leader in my own way when I headed the mounting of the LED lights. There needed to be a grid system in place to prevent light from overlapping and after I had finished with my measurements, which was done as an individual, I then gave tasks to others to help me accomplish the goal of making a grid system. I learnt to be patient and answer their doubts or questions with the assembling of the pieces to create the grid and once it was completed, I felt extremely proud and satisfied. Even more so when the grid system worked and separated the lights from the LED very well. Thus, I have learnt how to be a leader, how to assign people to do different small jobs, how everyone's role was important no matter how small, in order to achieve the bigger goal and in the end, it was very satisfying.