IM3080 Design and Innovation Project (AY2023/ Semester 1)
Individual Report

Name: Joshua Pok Ze Kai

Group No: 3

Project Title: nIEMtendo

Contributions to the Project (1 page)

1) Collaborated with software team to code starting screen for snake game

2) Coded an endscreen with scrolling text and score as well as retry and home buttons. Screen not implemented in the end due to complexity as well as library compatibility

3) Helped to design & paint exterior casing of nIEMtendo

4) Helped with developement of code for the score/timer screen

5) General debugging and software fixes

6) Contributed to promotional video and presentation for final presentation

7) Ideation for project and game variations.

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: _____State the area: Engineering Knowledge

Through this project, I have gained both knowledge and experience in Arduino, coding in C++, and coding for LEDs. This is my first project involving Arduino and LEDs and I had to learn how to connect the LED strips to the Arduino, as well as the different libraries and commands needed to properly control the LED strip.

Point 2: _____State the area: Problem Analysis

Throughout the project we encountered many coding issues, such as LEDs not displaying what we intended to display, or moving differently from what we anticipated, or simply not showing at all. In order to solve these issues, we had to figure out different ways of analysing the code, to get to the root cause of issues and solve the problem. These methods include output testing, algorithm analysis or simply commenting out code line by line till the problem was solved.

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