

# **IM3080 Design and Innovation Project (AY2023/24 Semester 1)**

## **Individual Report**

Name: Samuel Loon Wei Hong

Group No: 3

Project Title: nIEMtendo

### **Contributions to the Project (1 page)**

- Project planning and organization
  - Liaising with group and supervisor for meetings
  - Sourcing for resources needed for project
  - Assigned roles and responsibilities based on team members' strengths
  - Overseeing the collaboration among the hardware, software and CV
  - Controlling budget for the project
  - Managed resources efficiently, ensuring the availability of hardware components, software tools, and team members.
- Hardware
  - Soldering of LED strips
  - Test circuitry
  - Assist in cutting wood
  - Assembly of outer casing
  - Oversaw the configuration and pin mapping all peripherals on the Arduino Mega.
- Software
  - Assisted team members in addressing complex bugs, employing debugging tools and methodologies to isolate and rectify issues efficiently.
  - Actively contributed to the development of the second snake game, coding key functionalities, logic, and game mechanics for the alternative game mode.
  - Facilitated the integration of different game modes into the project, ensuring compatibility and synchronization with the main codebase

## **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**

During the project, I actively engaged in problem analysis, which involved identifying, defining, and addressing various technical challenges. This process was integral to the successful execution of the project. I adopted a systematic approach to break down complex issues into manageable components, facilitating a clearer understanding of the core problems at hand. By conducting thorough analyses, I was able to identify root causes and devise effective strategies to tackle these challenges.

### **Point 2: Project Management and Finance**

In the realm of project management, I played a key role in coordinating team efforts and resources. I structured the project timeline, allocated tasks, and ensured adherence to deadlines. Additionally, I contributed to financial planning, evaluating budgetary needs for hardware components and tools required for the project. Managing finances involved meticulous planning and resource allocation, ensuring that the project remained within budget constraints while acquiring necessary materials to facilitate smooth progress. This experience honed my ability to balance project requirements with financial constraints, a crucial aspect of effective project management in engineering endeavors.