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

Name: Ng Yew Jie

Group No: 7

Project Title: Flower scent

Contributions to the Project (1 page)

- **Research the types of sensors that is suitable for the project**

- **Testing of ultrasonic sensors and pressure sensors (Checking its functionality)**

- **Research methods on how to play MP3 files or play any form of sound**

- **Research on sound BGM and Sound FX**

- **Testing of code for PCM method and UART Module**

- **Editing of MP3 files and encoding the MP3 file for Pulse-code Modulation (PCM) method**

- **Tuning the amplitude of sound signal MP3 file**

- **Testing of BGM and Sound FX in the circuit at the same time**

- **Assisted the design team in preparing materials by reusing tube**

- **Assisted the design team to cut and make flowers**

- **Assisted in sawing away the wooden base to keep the wire**

- **Part of the planning for storyboarding of the video**

- **Directed & videography the video**

- **Wrote the introduction for the report**

- **Presentation speaker**

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: Problem Analysis
Being a sound team member, we faced many problems with the sound system in our project. Firstly, we are introducing a new feature into the project, and we need to research on how to bring in the new feature. However, we faced many issues such as sensor sensitivity (Ultrasonic) and power issue. We need to find solutions to solve the problem. We need to research again on the different type of sensors available in the market. Hence, we split the audio team in half to tackle the problem. One team will be trying to change the sensitivity of the ultrasonic sensor while the other team will need to look for another type of sensor. Ultimately, we managed to solve the problem with our problem analysis skills as we can identify the causes of these problems and solve them as a group.

Point 2: Lifelong Learning

Through DIP Project, I have learned many things which I can bring forward in my lifelong learning journey and my career. For example, being a big team of 10 members and we have no experience in Arduino, it is challenging to work together as we have different schedules, and it is very hard to split the work evenly. Hence, I learned that we must be understanding and support one another if one of them is facing problems. Through this experience, I also learned that no matter how skillful you are, you need to cooperate with your team due to the time constraint and you should not rely upon yourself only. I believe that we will experience this during our career journey, and we will always keep learning and improving ourselves.