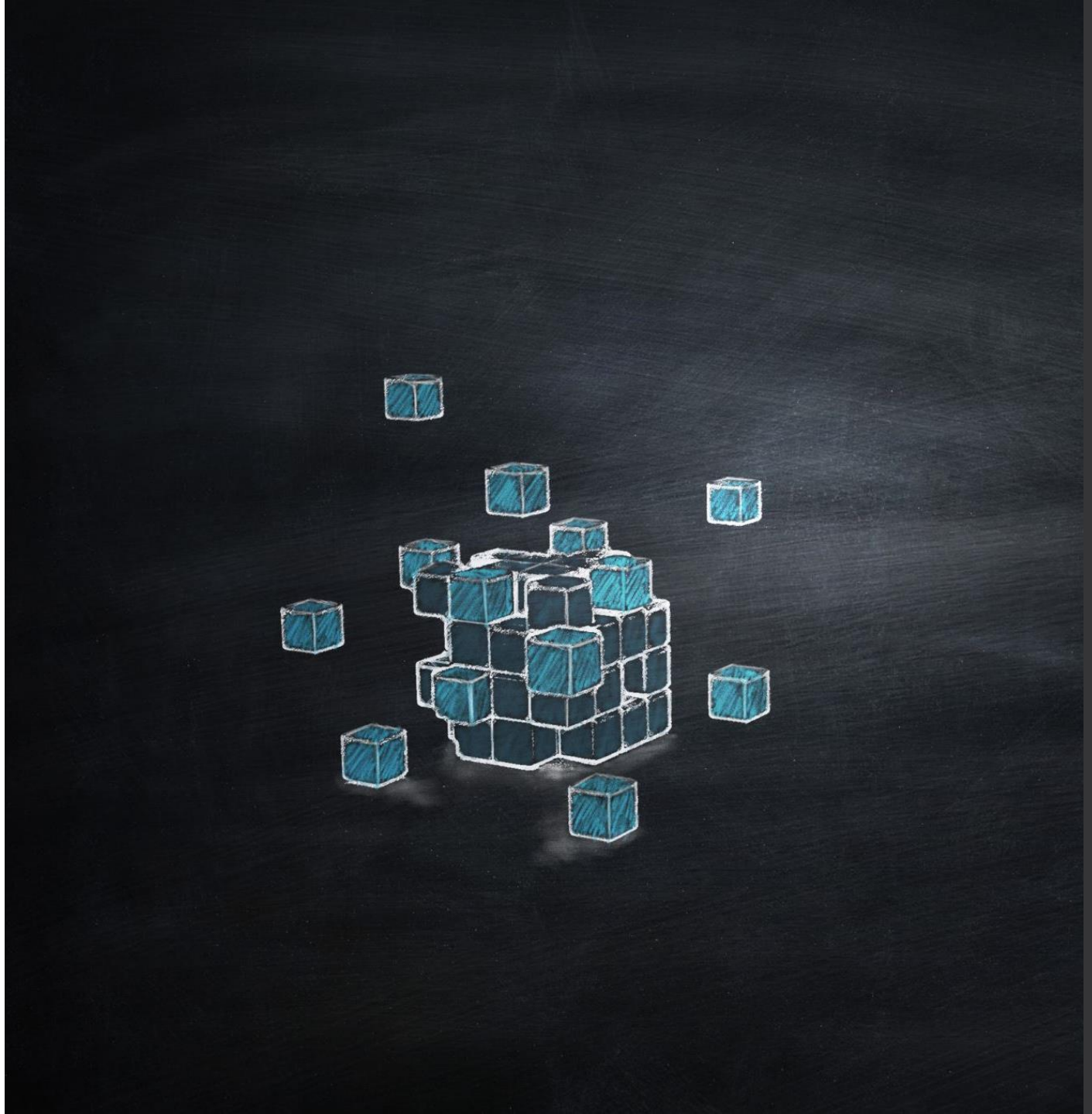
Pedestrian Interrupt Traffic Light

Embedded Systems Project

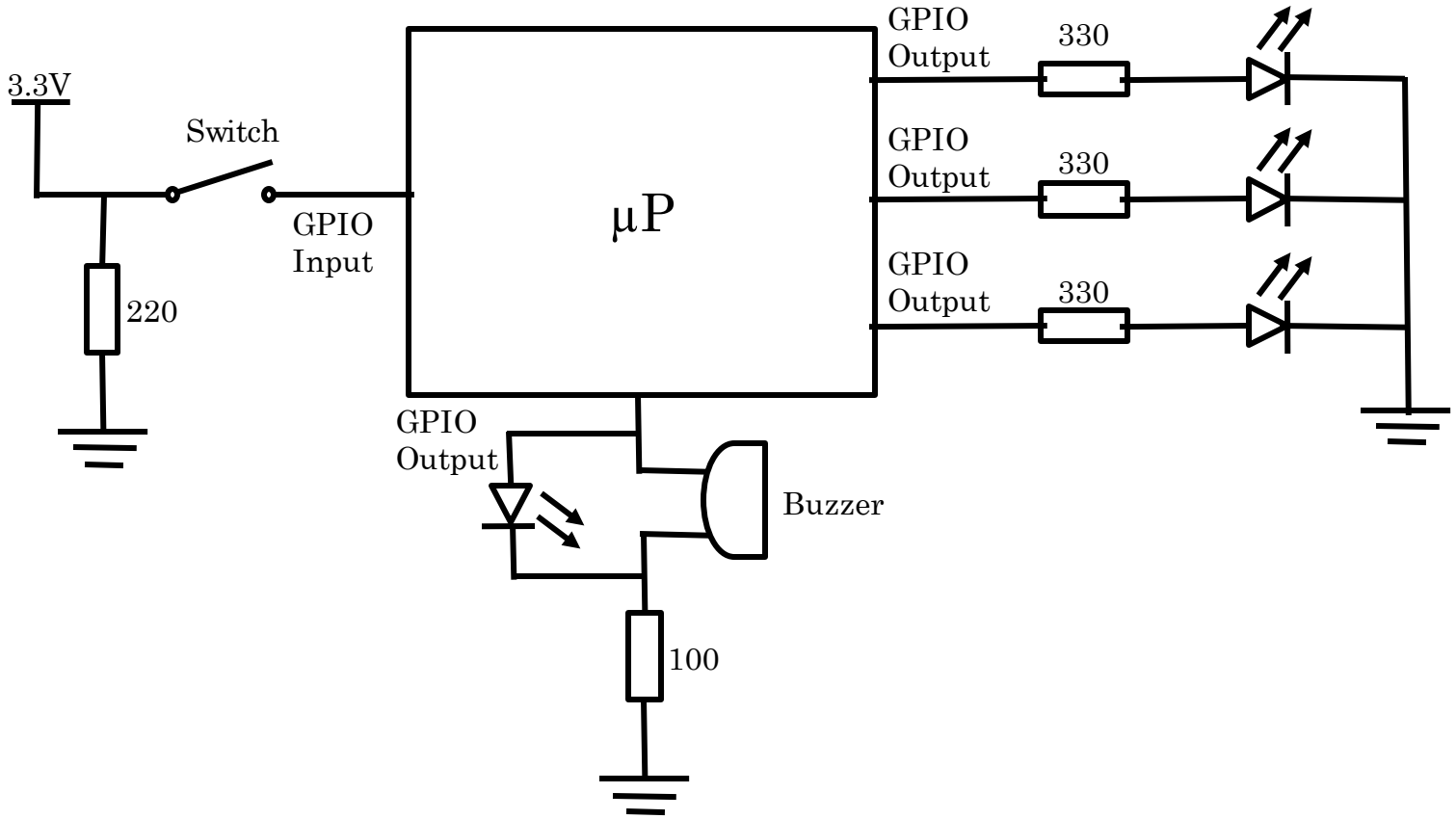
John H. Leseur

System Design

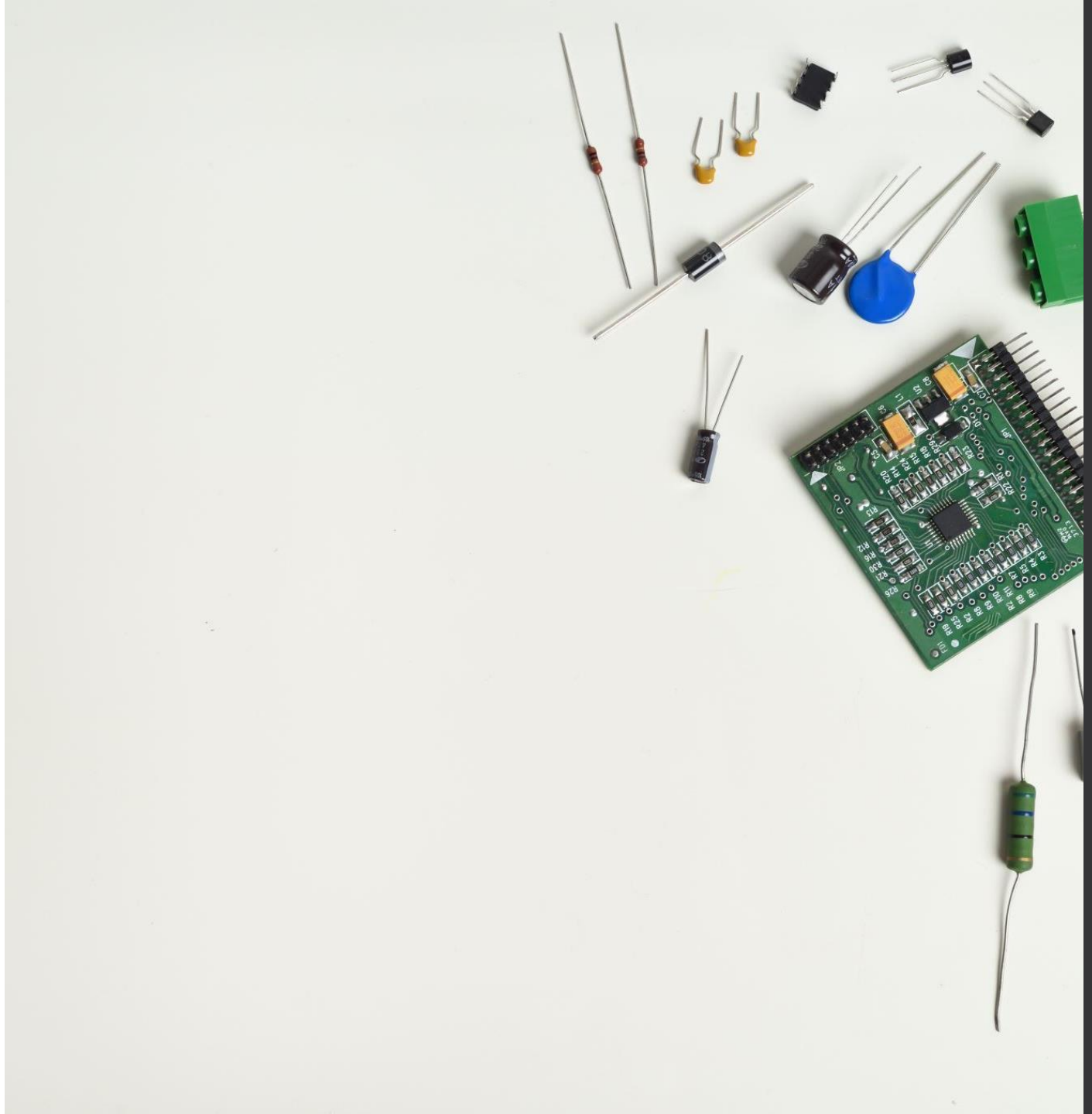


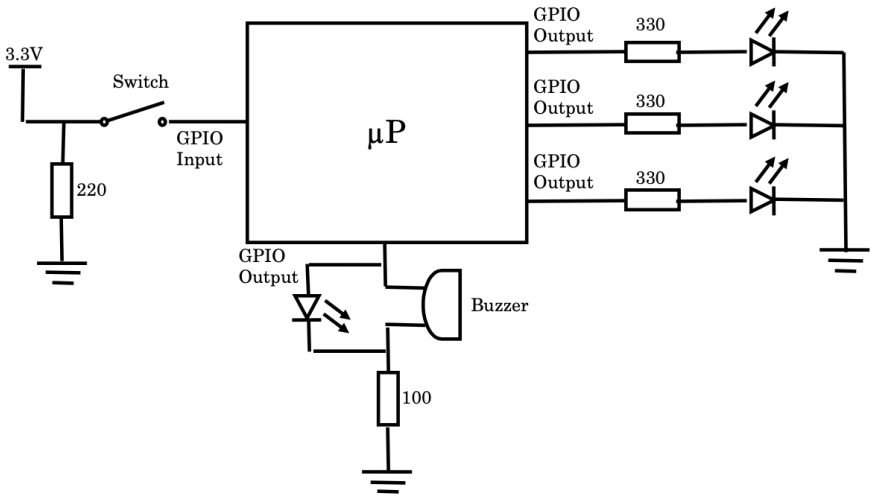
Items to Incorporate:

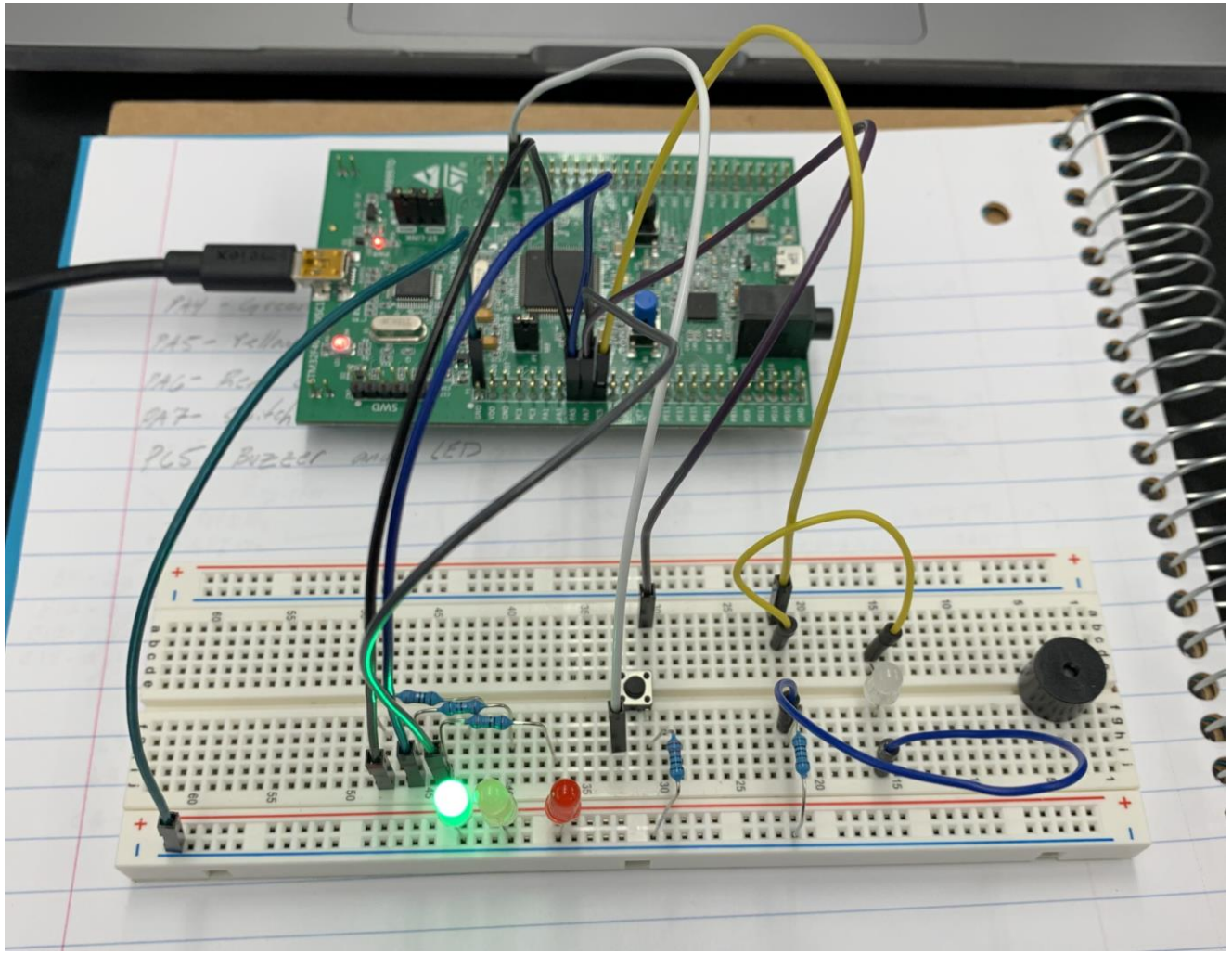
- Green LED
- Yellow LED
- Red LED
- A Switch for pedestrian input
- A Buzzer and LED for crosswalk indication



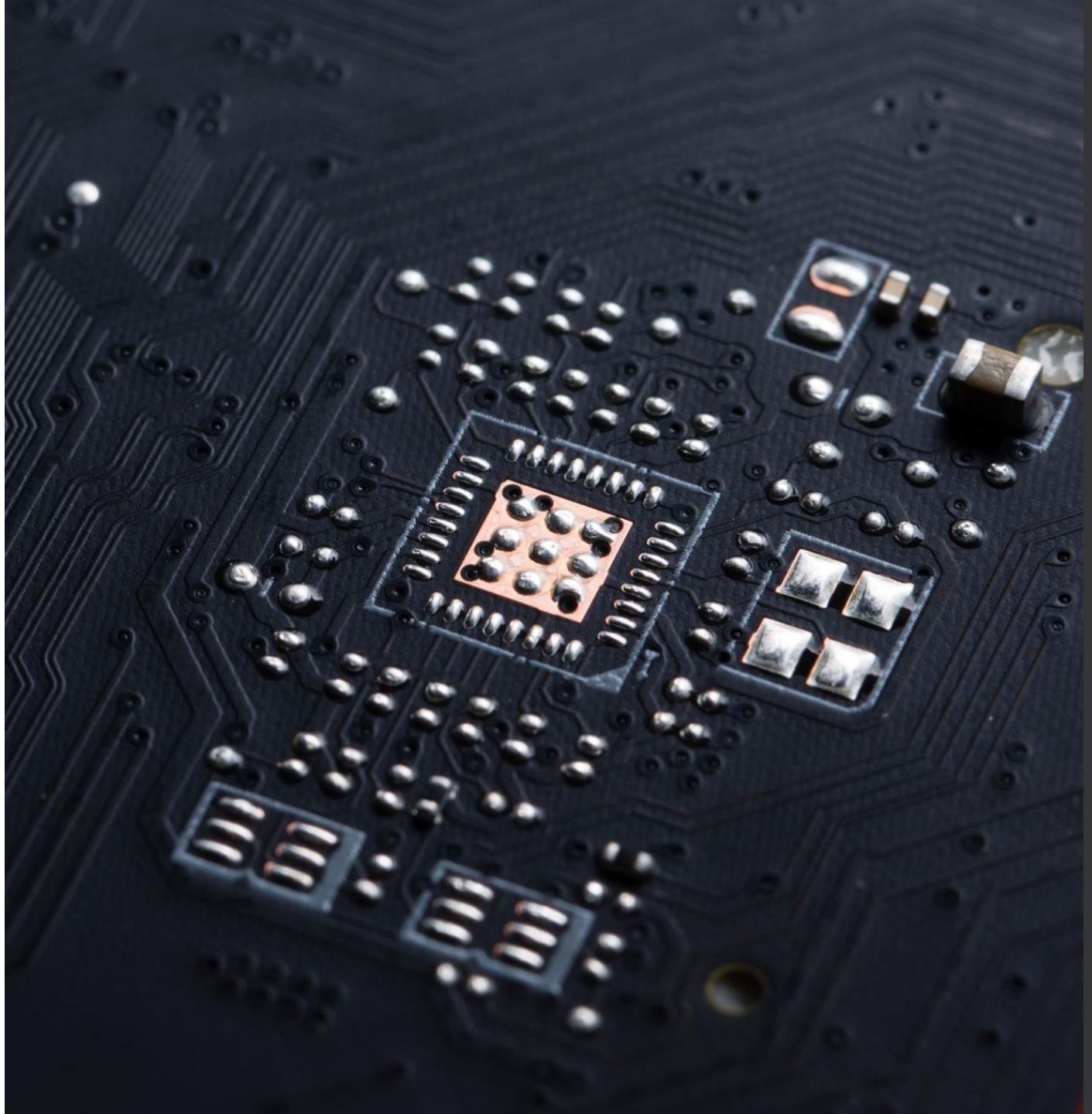
Prototyping



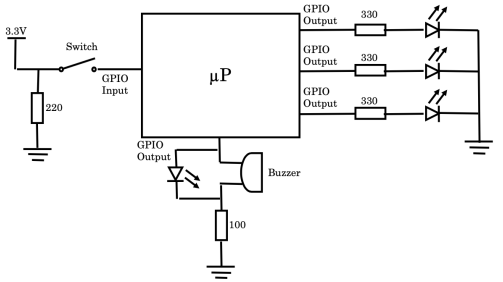

3.3V
Switch
220
GPIO
Input
μP
GPIO
Output
330
GPIO
Output
330
GPIO
Output
330
GPIO
Output
Buzzer
100

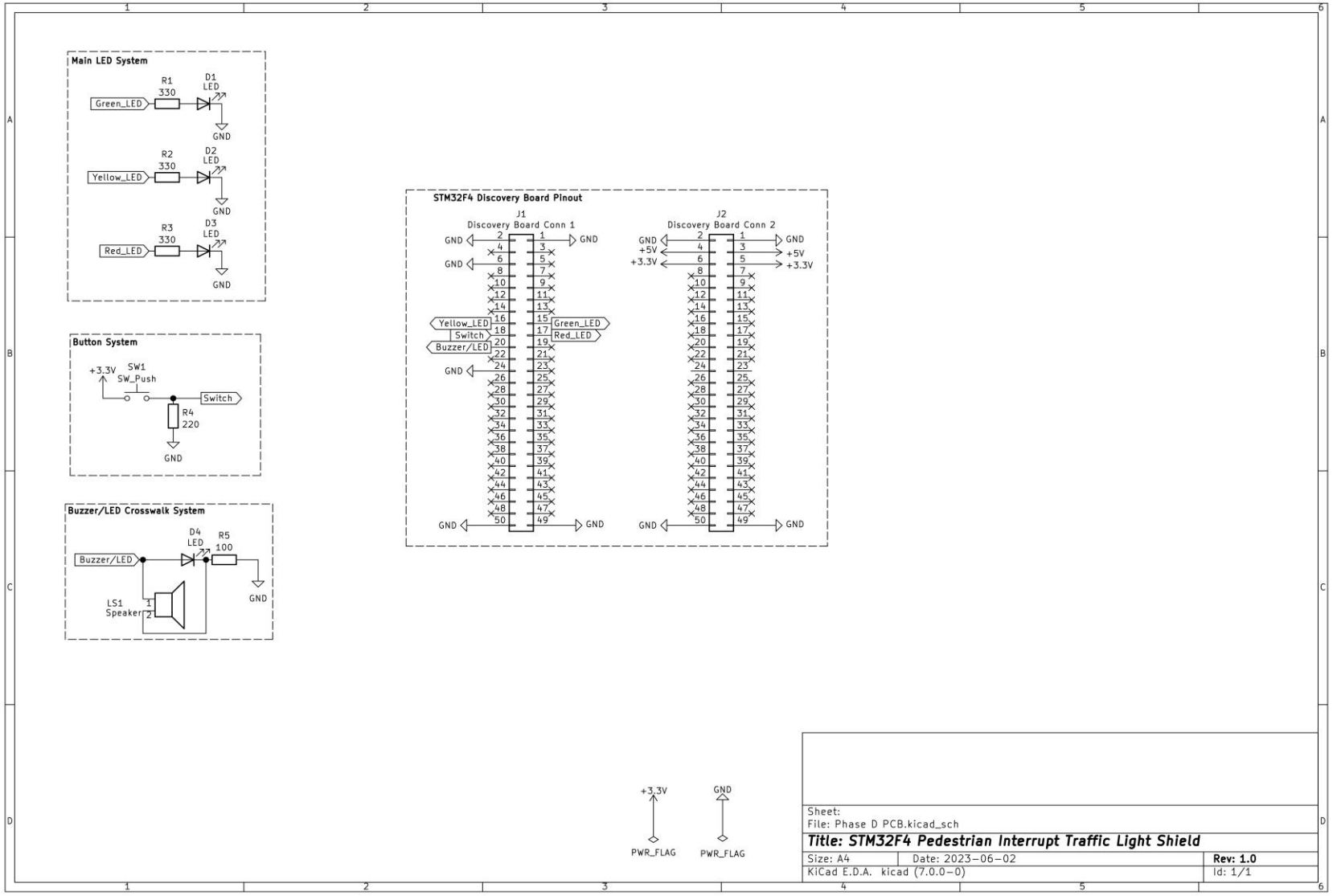


PCB Design

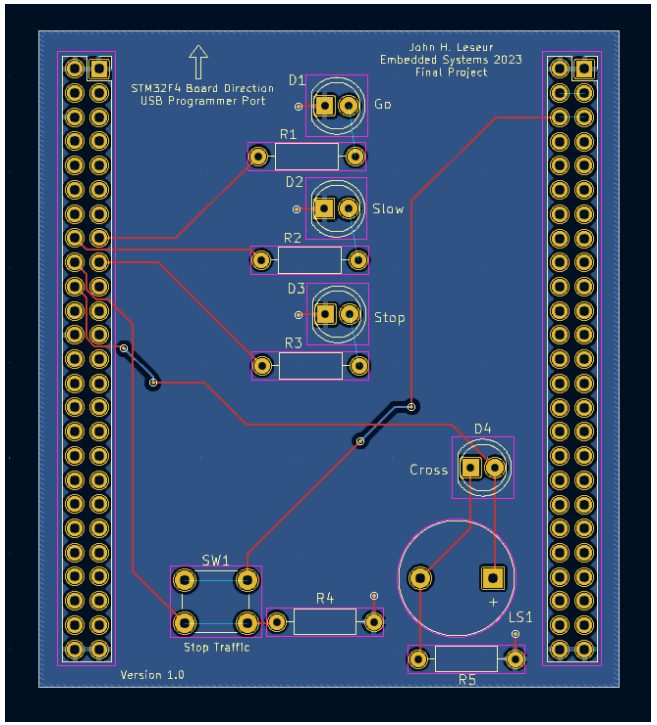


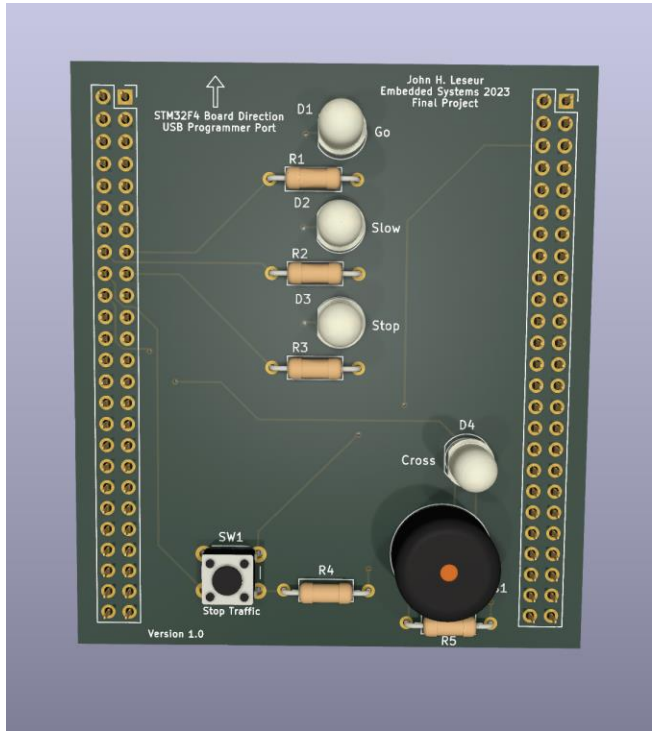
KiCAD Schematic

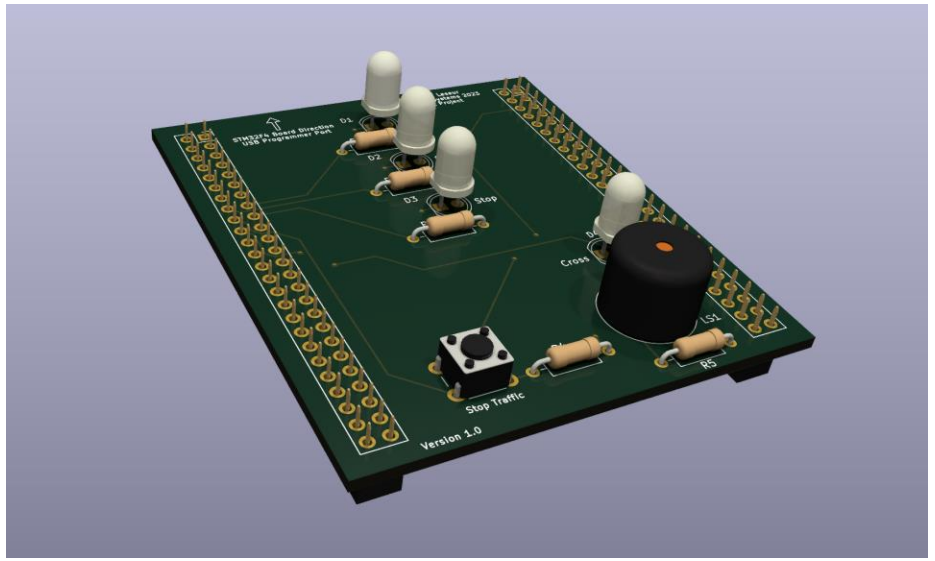


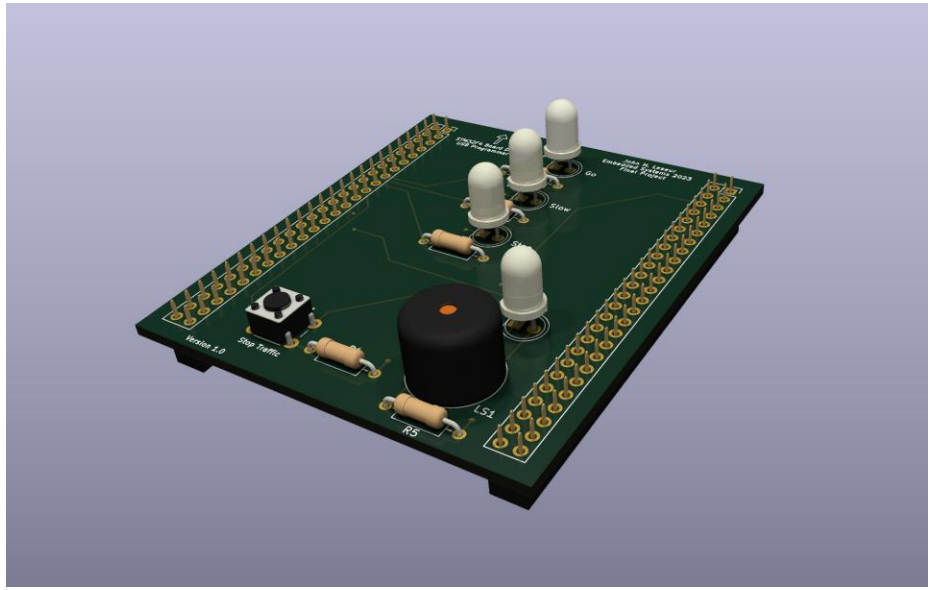


STM32 Shield/PCB

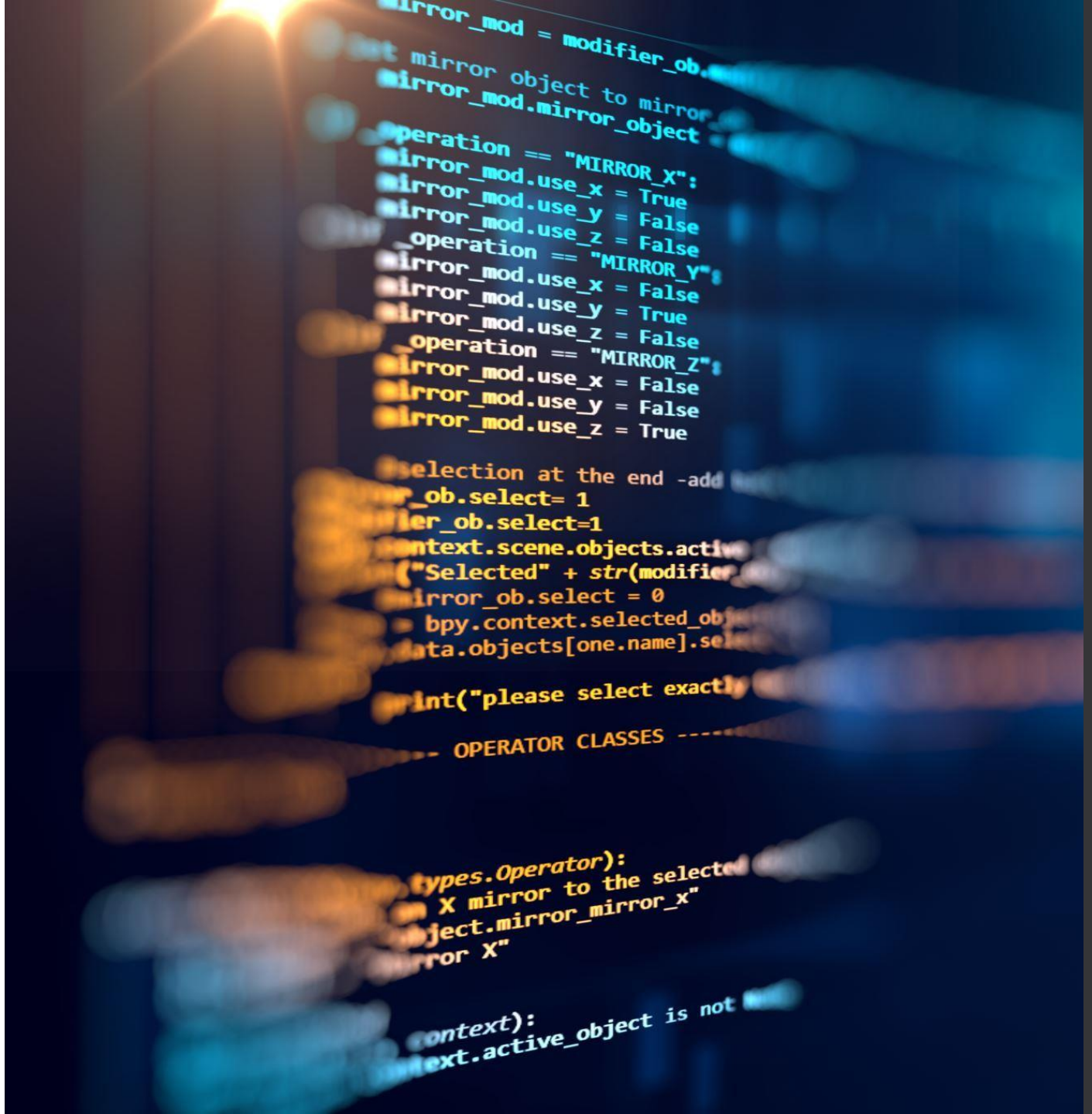








Software Development

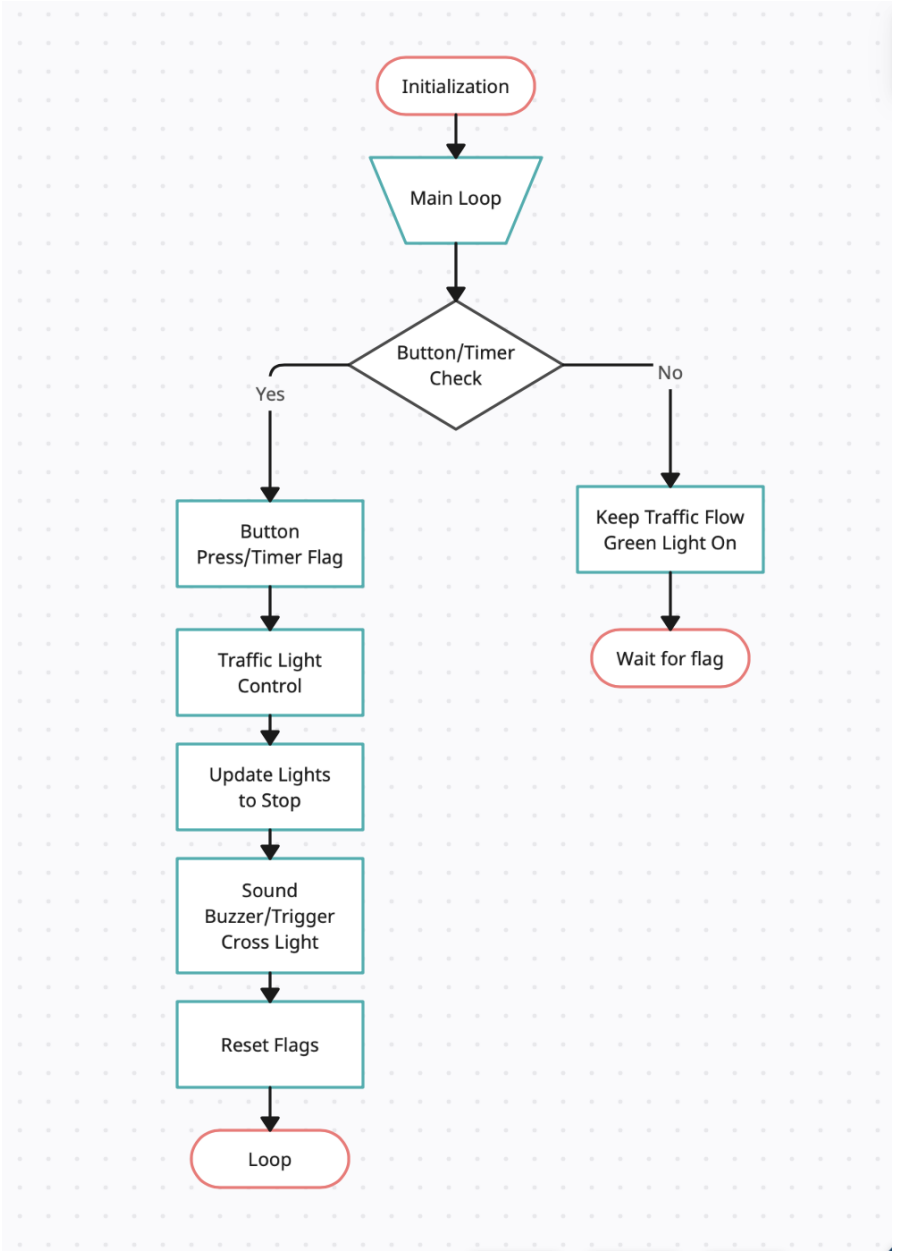


Simple Flow Diagram

Interrupts Used:
- Button ISR_Flag
- Timer ISR_Flag

Crosswalk lasts for 10 seconds before is back on.

Timer Interrupts every 10 seconds



Final Implementation