

CS132: Software Engineering

HW4: PyQt Practice

Traffic Light Simulation

Create a traffic light simulation with two UI interfaces using PyQt5 or PyQt6. One interface is the control panel, and the other is the traffic light display.

Requirements:

1. Control Panel:

- The control panel should allow the user to set the duration for the three lights (red, yellow, and green).
- It should have "Start" and "Stop" buttons.
- Upon first opening, the user should set the durations and then click "Start" to begin the simulation.

2. Traffic Light Display:

- The display should show the three traffic lights (red, yellow, and green) along with a countdown timer displaying the remaining time in whole seconds.

3. Stop Functionality:

- When the "Stop" button is pressed, the traffic light should enter a flashing yellow mode.
- Only during this mode, the user are able to modify the durations for the three lights.

4. Operational Details:

- When setting the time, if the time of the yellow light exceeds the time of the green light or the red light, clicking "Start" then a popup will appear, showing that the time is not reasonable and ask to reset the time.
- Every time a traffic light starts, start with the red light.

Submission:

The deadline of this homework is June 2nd at 23:59. Please submit a zip file with name "CS132_HW4_Yourname.zip" electronically on BlackBoard, containing your **code** and a **Readme** that clearly claim how to run your code.