**Tier 1 Support – Stoplight Control System**

**Overview**

• **System:** Raspberry Pi running the Stoplight Control system.

• **Components:**

• **Flask Server:** Serves the web interface (HTML/JS/CSS).

• **GPIO Control:** Uses the gpiod library to control stoplight LEDs.

• **User Interface:** Allows users to turn the system on/off, select manual or automatic modes, and update light durations.

**Common Issues & Quick Troubleshooting**

1. **System Power Issues**

• **Symptoms:** The system does not turn on or off.

• **Steps:**

• Verify that the “Turn On” or “Power Off” actions update the UI.

• Check the Flask logs using: journalctl -u stoplightv2.service -n 50 --no-pager

• Confirm that the /turn\_on and /turn\_off endpoints return success.

• If hardware issues are suspected, verify the LED connections and wiring.

2. **UI State Does Not Match System State**

• **Symptoms:** The UI controls or modals do not reflect whether the system is on or off.

• **Steps:**

• Open a browser and visit: http://<pi-ip>:5000/get\_system\_state

It should return a JSON object, e.g., {"system\_on": true} or {"system\_on": false}.

• Clear the browser cache or do a hard refresh (Ctrl+F5).

• Check the browser console for any JavaScript errors.

3. **Auto Mode Not Starting or Stopping**

• **Symptoms:** Automatic cycling does not start or stop as expected.

• **Steps:**

• Check the Network tab in your browser’s developer tools to see if POST requests are sent to /start\_auto and /stop\_auto.

• Verify that these endpoints respond with JSON status messages (“running” or “stopped”).

• Ensure that the system is on before starting auto mode.

4. **Settings Update Failures**

• **Symptoms:** Light duration settings are not updating.

• **Steps:**

• Ensure that all input fields contain valid numerical values.

• Test the /update\_settings endpoint manually using a command like:

curl -X POST -H "Content-Type: application/json" -d '{"green":3,"yellow":2,"red":3}' http:*//<pi-ip>:5000/update\_settings*

• Check the Flask logs for any errors (e.g., conversion errors or missing data).

**Escalation Guidelines**

If Tier 1 support cannot resolve the issue, please escalate the problem with the following details:

• **Description:** A brief summary of the issue and observed symptoms.

• **Reproduction Steps:** Clear instructions on how to reproduce the problem.

• **Logs/Network Data:** Attach relevant Flask log entries, error messages, and network request details from the browser’s developer tools.

• **Recent Changes:** Note any recent changes (such as code updates or wiring modifications).