

EE / CprE / SE 492 Weekly Report

February 06 - February 13, 2024

sddec25-08

Smart Home Control Unit for Energy Optimization

Faculty Advisor / Client: Md Maruf Ahamed

Team Members:

- Alexander Ryan
- Mitchell Jensen
- Arie Kraayenbrink
- Gamage Binula Karunaratne
- Erik Schmidt

Summary of Work:

During this work period, the team made progress on multiple project components. The dimmer circuit was successfully constructed and is ready for programming and testing. Access to critical project infrastructure was reestablished, including VM access with ETG, JIRA board updates, and design website updates. Work also advanced on the zone controller design, the finalized PCB layout for the sensor, and preparations for PCB printing. Team members collaborated closely on the light dimmer circuit, while efforts continued to resolve access issues with the Home Assistant server.

Work Period Accomplishments:

- Dimmer circuit successfully built, ready for programming and testing
- VM access reestablished with ETG; user permissions updated.
- JIRA board access restored and project plans updated.
- Access to design website obtained and new membership information added.
- Continued work on the zone controller design and provided input on dimmer circuit.
- Progress made on PCB design for the sensor, including improvements and planning for ETG printing.
- Team collaboration between Mitchell and Binula on light dimmer development.

- Ongoing attempts to resolve SSH and server access issues with Home Assistant.

Plans for Coming Week + Action Items:

- Alexander Ryan- Figure out issue with ssh and HA server. Rebuild react app and ensure the infra is still good to go.
- Mitchell Jensen - Continue work on Light dimmer with Binula, programming and testing
- Arie Kraayenbrink- Continue working on the zone controller.
- Gamage Binula Karunaratne - Continue working on the Light Dimmer with Mitchell, Programming and Testing.
- Erik Schmidt- Work on finalized PCB design for the sensor, planning ETG PCB printing and final design

Pending Issues:

- Alexander Ryan- No issues
- Mitchell Jensen- No Issues
- Arie Kraayenbrink- No issues
- Gamage Binula Karunaratne- No issues
- Erik Schmidt- No issues

Individual Contributions:

Team Member	Contribution	Weekly Hours	Total Hours
Mitchell Jensen	Worked with Binula on building dimmer circuit	4	6.5
Arie Kraayenbrink	Worked on the zone controller and provided design details on the light dimmer	5	11
Binula Karunaratne	Assisted Mitchel with building the light dimmer circuit.	4	5.5

Erik Schmidt	Worked on PCB design for sensor, testing and improving current design.	4	7.5
Alexander Ryan	Re-upped VM access with ETG and updated user permissions to allow us to log in. Reestablished access to the JIRA board and updated plans. Got access to and updated the design website for the new membership. Attempted to get access to the HA server, still unsuccessful	6	9