

EE / CprE / SE 492 – SdDec21-20

IoT Smart Lights

Bi-weekly Report

10/11 – 10/25

Client: Dr. Manimaran Govindarasu

Faculty Advisor: Dr. Gelli Ravikumar

Team Members:

Hamza Mostafa Sayed Mahmoud	habdul@iastate.edu	Hardware Design
William Gavins	wpgavins@iastate.edu	Hardware Design
Xinlei Yu	xinleiyu@iastate.edu	Software Design
Nathan Orts	njorts@iastate.edu	Software Design

Summary:

- More features added to the GUI including file uploads.
- Binary Simulation files from PowerCyber Lab simulation can be stored locally with MySQL
- PCB first revision completed. Some issues with design and assembly have been identified for second revision.

Past Week Accomplishments

- GUI software
 - Finished functionality for connection page and image upload page.
 - Fixed user-uploaded files.
 - Made sure the UI works on the VM provided by Dr. Gelli.
- Software Scripts
 - Reconfigured database to adapt to integration. Added field “Relay”, “Parent_Relay”.
 - Modified mysql function to errors handling.
 - Moved the scripts and database to VM provided by Client and Advisor. Program can run on the VM.
- Hardware
 - Fixed Config issues with Xbee s2c wireless devices
 - Printed, and soldered components on test PCB, identified sections to improve and debugged connectivity.

Pending Issues

- Hardware
 - PCB BOM for Rev B
 - PCB Layout for Rev B
 - Hardware script persistent storage
 - Find more compact alternatives to parts.
 - Battery protection
- Software
 - GUI
 - Light configuration page incomplete.
 - View simulation page incomplete.
 - Software
 - N/A

Individual Contributions

Team Member	Contribution	Weekly Hours	Total Hours
William Gavins	Layed out PCB with parts, corrected the BOM. Ordered parts, printed, soldered, and debugged PCB. Fixed misconfigurations on Xbee s2c endpoints. Continued work on endpoint driver script.	15	50
Hamza Mostafa Sayed Mahmoud	Out due to personal circumstances.	0	10
Xinlei Yu	Python app development - Software/Hardware interfacing.	6	29
Nathan Orts	Python app development - GUI	15	41

Plans for Coming Week

- Nathan - Continue GUI development.
 - Complete light configuration page.
 - Work on integrating with other software components.
- Xinlei
 - Integrate with UI and Xbee coordinators
- Hamza - N/A
- William- Finish BOM 2, refactor PCB Layout, add QOL improvements for integration of endpoint driver script.