ECE 388 Lab 3

**Abstract**

For this laboratory experiment, our goal was to design, develop and prototype the climate control and room occupancy semester project. A working prototype has to be developed from this lab in order to move to the next step of the project which includes Eagle schematics and PCB designs.

**Introduction**

The objective of this lab was to develop a working prototype of the semester project. The microcontrollers, sensors and actuators were explored in detail last lab and were chosen carefully to meet the climate control and room occupancy needs. In this lab, the controllers, sensors and actuators had to be designed to work as a whole to prototype. A schematic design had to be designed of our projects hardware by characterizing sensors, control elements, actuators and other supporting hardware. Test scenarios, along with testing setups and procedures, were developed. The following components were used in the prototype development and construction:

* Adafruit Metro Mini 328p
* Breadboard and jumper cables
* PIR Motion Sensor
* 1602A Character LCD
* … Temperature/Humidity Sensor
* LED
* … Relay