

Smart House update status

Here is my update,

This week i have been working on implementing the current sensors and the system code that reads the current sensors. Instead of building a rectifier I wanted to first try and produce the correct results from code. The current sensors are outputting a 2.5v signal which goes up or down based on the direction of the current. The code im working on is taking the abs value which it strays from 2.5v and does an averaging calculation on it. I'm right in the middle of working on this code, if this doesn't work out I will need to build a rectifier or possibly something with z-diodes attached to the output of the current sensor. Things are moving along, I will continue to work on it over fall break since I've been lagging behind lately.

-Todd

Dario

I have been working on getting the code to be able to display/gather the information from the sensors and at the same time able to control the power strip. The issue I am running in is that my Wi-Fi connection would get lost if to many requests are sent to it and since I am checking if the power strip is on before I issue a command to turn it on which requires to have a refresh on the webpage it refreshes the whole process which at that time gathers the data from the sensors. When that happens sometimes I lose the connection on the Wi-Fi, it comes back itself with the updated data but it causes it to be unreachable for some period of time. I think the reason for that is because at that instance I am utilizing too much power than I am supplying to Arduino, so I am currently working on also improving the power input so when the refresh happens it doesn't drain too much that ends up disconnecting the Wi-Fi shield. Also in parallel I am working on the sprinkler system side, got most of the parts ready started to build the pipe and to incorporate the sprinkler with it. Next thing I will work on once I get the sensor is to have it communicate with the Arduino and have it display the results of the moisture of the ground on the webpage. And then after that have it turn on based on the set parameters.

Levi Balling Status

All updates and changes can be viewed at the following git repo
<https://github.com/AshitakaLax/SeniorProject.git>

Hardware

I've completed the assembly of the following boards
Power Board, (completed previously)
Temperature Sensor Board,(completed previously)
Main Controller Board,(completed previously)
Bipolar Stepper motor Board,
Damper Board,

GARAGE_HVAC Board,
Sprinkler Board,

The following boards have been verified.
Power Board, (completed previously)

Cables have been made for most of the boards.

Software

Communication from computer to teensy2.0++ to execute commands.
Pin configurations and controls are still underway, but the outline has been made.
the following boards have been configured.

HVACGarage.c
Damper_Control.c
Sprinkler.c
TempSense.c
mainControl.c

Still need to add
bipolar control
everything is going well.

Christopher:

Hardware

Finished soldering connections for wires to LEDs and laser trip wire.

Software

Found Python library for communicating over serial connection. The management server process will be called Agnes.

I didn't accomplish very much on the project this week, on account of being sick for several days. Still kind of under the weather, but I should be better soon.

Things I intend to work on by end of next week over fall break: 1) Get Django up and running on the server 2) design Python functions and classes to communicate over serial and sockets. 3) test Agnes' communications over serial and sockets to other machines. This will require getting a serial cable and getting login credentials on a school PC in the Senior hardware lab to use with the Levi's server. 4) identify all the elements of setting and status among all our different components. 5) code an initial webpage with Django that displays the elements in (4). 5) Install Mako templates into the Django setup—they are more powerful than Django's templates.