Present: Mack Hall, Jorian Bruslind, and Zach Bendt

Absent: N/A

ECE 342

2/7/19

Week 5 In-Class Group Meeting Notes

* Each member is ready for block checkoff #2
  + Mack - Current sensor block
    - Presenting code that allows signal to be read by ESP32 microcontroller
    - Showcasing accuracy of current readings + prolonged sustainability
  + Zach - Transformer block
    - Showcasing transforming wall power 120VACrms → 5VDC
      * Also showing voltage regulator transforming 5VDC → 3.3VDC
    - Will show XC30 connector can handle ~1A for sustained period
  + Jorian - Case block
    - Will showcase rendering of case to be 3D printed
      * Also will include animation showing how case is assembled
* 2nd PCB revision now has almost all components mounted/tested
  + Case can be finalized now that more exact dimensions are known
    - Case has been radically changed since last revision
      * Includes physical cutoff switch on the input plug
        + Also includes additional, disposable quick-acting 5A fuse
      * Includes additional room to completely enclose transformer
      * Introduces new, sleek design to minimize physical footprint
  + Analogue current sensors can now talk to microcontroller
    - Calibrated to deliver accurate current readings
    - Code utilizes a shift register to calculate an average over a short interval
  + I2C voltage and current sensing code is under development
    - Successful communications between MCU and sensor have taken place
    - More troubleshooting/development is needed
  + Further troubleshooting is needed for app related to switching relays on/off
    - Sometimes randomly loses connection to MCU
  + WiFi communication framework has begun development
    - Will utilize NodeRed servers to update voltage and current values to user
* Group meetings plan to continue every Thursday
  + Communication frequency and quickness in Slack and in-person discussions are satisfactory and should be continued
    - Any additional questions/comments/concerns are highly encouraged to be asked through these channels
* Next steps
  + Try to fix newly introduced app bugs
  + Try to fix I2C communication between current/voltage sensor and MCU
  + Introducing/developing WiFi capabilities
  + Mount/test final components to PCB
  + Stress test mounted components
  + Further revising/printing enclosure