Week 1

**Clement**

Completed : Successfully got LED blinking to work using dsPIC

To-Do : Finalize pcb design and debug pwm code

**Lauren**

Completed :

To-Do : Check switch design, make part list for pcbs, work with Tarik on how the PCB should be designed/overlook schematics.

**Nathan**

Completed: Mostly done with Front-End (few tweaks)

To-Do: Make the Apps User Unique, update Firebase so that its easier to authenticate the user from the microcontroller

**Tarik**

Completed : PCB mostly done and dusted. System functions with a few problems.

To-Do : Fix trace width problem by increasing the axillary traces.Setting the current load to 8A output results in some traces burning. Implement a DAC to fix the unresponsive feedback problem. Previous feedback system did not provide enough voltage with 3.3V to affect the output of the DC-DC converter.

Week 2

**Clement**

Completed : MCU code kind of working, currently debugging. PCB design 95% finished, just need to double check everything

To-Do : order pcb, finish debugging mcu, resoldering perf board with different mosfets (bc realized mosfets I was previously using might have been the problem) and testing h bridge again.

**Lauren**

Completed : Checked switch and sensor designs.

To-Do :order pcb, order parts, and connect to wifi and friebase

**Nathan**

Completed: Changed Firebase Database from connecting to all users, to connecting to one user. This means that the user has to login to the app, the authentication will check them in, and then the app speaks to the backend on who the current logged-in user is.

To-Do: Fix general bugs and touch up front-end design, also helping Lauren connecting ESP32 to backend database

**Tarik**

Completed : Completed Sensor and Switch PCB’s. The sensors are semi-integrated into the main DC-DC converter such that the system can read the voltage and current before and after the converter as well as being able to disconnect the DC-DC converter of the system.

To-Do : Complete integration of sensor and switch into main PCB. Still working to find a solution to the feedback problem. I believe I can use an ADC, but the problem comes when the output of the ADC will go into the feedback which would in turn affect the power supply.

Week 3

**Clement**

Completed : PWM continuous now, but oscillating at very low frequency. Obtained new MOSFETs. Found a compatible transformer. PCB Design

To-Do : Debug PWM code, solder new MOSFETs to test h-bridge

**Lauren**

Completed : None, Lap Top died Friday/Saturday trying to recover

To-Do : Reconnect Esp32 and wifi code, send out pcb board design

**Nathan**

Completed: Mostly done with the front end design and implementation

To-Do: Connect with ESP32, get data to and from, be able to categorize the data and get it displayed for the user

**Tarik**

Completed : Control system perfectly operational. Trace widths addressed and fixed. Whole subsystem works as intended. Moving on to integration. Sensors fully integrated.

To-Do : Continuing integration of different subsystems. Will add the switch to my main PCB. Will create the battery sensor and switch PCB.

Week 4

**Clement**

Completed : PWM fully functioning and accurate. New MOSFETs soldered, testing h-bridge using PWM wave.

To-Do : Driver working last semester but no output right now, currently debugging. Order PCB after everything is finished being tested.

**Lauren**

Completed : Reconnected to esp32 and connected to wifi, PCBs ordered with help of Tarik

To-Do : Order parts today. Connect to A&M wifi and firebase, edit code to output correct voltages and currents

**Nathan**

Completed: Front End design

To-Do: Organize the backend, connecting to ESP32 and helping test wifi connection

**Tarik**

Completed : Laurens PCB finalized. Battery PCB designed and finalized. Ordered Laurens PCB and the battery PCB.

To-Do : Waiting for a part footprint to be completed before i finish integration and send in my PCB order. Then I will send in my finalized PCB design.

Week 5

**Clement**

Completed : Tested and validated one side of h-bridge using mcu. PCB design

To-Do : Test entire h-bridge and order PCB

**Lauren**

Completed : Ordered parts

To-Do : Still working on connecting ESP32 to firebase without arduino

**Nathan**

Completed: UI Front-End

To-Do: Try and get communication from ESP32 to firebase

**Tarik**

Completed : Battery sensor, Microcontroller, and integrated DC-DC converter PCB designed and ordered. Battery and Microcontroller PCB arrived.

To-Do : Wait for parts to arrive and solder PCBs when the time comes. Start looking into AutoCAD for 3d design of the housing.

Week 6

**Clement**

Completed : Debugged h-bridge. Found that the driver blew largely due to PWM.

To-Do : Debug and fix code so that this doesn’t happen on the circuit board.

**Lauren**

Completed : Connect to ESP32 to wifi tamu

To-Do : Connect to firebase and recieve/get data

**Nathan**

Completed: N/A

To-Do: Connect my ESP32 to vscode and cloned github (lauren’s project) in order to help test the backend

**Tarik**

Completed : All PCB’s arrived, half way through solder them

To-Do : Solder the rest of the PCB’s then start validating integration.

Week 7

**Clement**

Completed : PCB design completed and ready to order, found solution to fixing PWM

To-Do : Add deadband gap to PWM code

**Lauren**

Completed : Connected to ESP32 to firebase get and post data, tested switch/sensor PCB, and worked with ESP32 PCB

To-Do : Fix ESP32 PCB and make a function to convert

**Nathan**

Completed: N/A

To-Do: N/A

**Tarik**

Completed : PCBs soldered

To-Do : System has some problems, I’m debugging the whole system. I fixed a short with lusher during blitz, but there is another problem with the gate driver.

Week 8

**Clement**

Completed : PCB and all parts ordered, deadband gap successfully implemented

To-Do : Solder and test

**Lauren**

Completed :

To-Do :

**Nathan**

Completed: N/A

To-Do: N/A

**Tarik**

Completed :

To-Do :

Week 9

**Clement**

Completed : Deadband gap successfully implemented, reordered new PCB (arriving today 3/20)

To-Do : Solder and test

**Lauren**

Completed :

To-Do :

**Nathan**

Completed: Connected ESP32 to laptop and able to send data to the backend

To-Do: Start sending multiple pieces of data to the backend (battery level, DC Ouput, AC Output, current, voltage, and power data)

**Tarik**

Completed : Switch fixed. Boards now supplies the correct power.

To-Do : Fix current sensor on the board.

Week 10

**Clement**

Completed : PCB fully soldered

To-Do : Test and validate

**Lauren**

Completed :

To-Do :

**Nathan**

Completed: N/A

To-Do: Complete setting up ESP32 environment on VScode. Having problems completing this step. After this, restructure code to be sent to the backend.

**Tarik**

Completed :Fixed current sensor problem. Ordered final updated board and parts

To-Do : Figure out how to design enclosure. Solder new board and final integration tests.

Week 10

**Clement**

Completed : Testing and debugging, output looks as expected

To-Do : Resolder new PCB to see if mosfet will smoke again

**Lauren**

Completed :

To-Do :

**Nathan**

Completed: N/A

To-Do: Finally setup environment on laptop for ESP32 and vscode. Trying to get backend database setup

**Tarik**

Completed :Fixed current sensor problem. Ordered final updated board and parts

To-Do : Figure out how to design enclosure. Solder new board and final integration tests.

Week 11

**Clement**

Completed : Resoldered a new board (mosfet doesn’t smoke anymore), output looks as expected

To-Do : Hook up to transformer, test with a load

**Lauren**

Completed : Soldering Rx andTx cables to flash using USB-TTL

To-Do : Connect to laptop and start uploading data

**Nathan**

Completed: N/A

To-Do: Ordered new ESP32, waiting for that to come in and test if past ESP32 was the problem

**Tarik**

Completed : ordered enclosure, PCB arrived semi-soldered

To-Do : ASk lusher for help soldering hard parts, test board.

Week 12

**Clement**

Completed : Tested with transformer connected to system

To-Do : Find out why there is a significant power loss

**Lauren**

Completed :

To-Do :

**Nathan**

Completed: Got ESP32 in

To-Do: Test that the code will be sent to the database, configure code to match what's needed for the front-end

**Tarik**

Completed : System works, was able to test using a small DC supply

To-Do : continue working on the enclosure. Full test using the large DC supply.