

## *EE/CprE/SE 4920 STATUS REPORT 1*

*End of 4910 – 30JAN2025*

*Group number: sdmay25-04*

*Project title: Wireless Mesh Network for Pesticide Spray Monitoring and Mapping*

*Client: Claussen Lab- Iowa State University*

*Advisor: Nathan Niehart*

### *Team Members/Role:*

#### **Software Team**

- **Ashley Falcon:** IDEs and Microcontrollers, Group Communicator
- **Drew Scheidler:** Mesh Networking; Note Taker
- **Henry Hingst:** Mesh Networking; Group Leader

#### **Hardware Team**

- **Hector Perez Prieto:** Microcontroller; Circuit Design and Testing
  - **Yok Quan Ong:** Circuit Design and testing; Microcontroller
  - **Wesley Smith:** Circuit Design/Simulation; Microcontrollers; Note Taker
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### **Weekly Summary**

The overall objective of this week was to get back into the swing of working on our project. Our goals are to assign some objectives and improvements for the start of the semester. We analyzed the feedback we received from our faculty panel and discussed what we did well last semester and where we can improve.

### **Past week accomplishments**

We have no accomplishments for the previous week to report due to it being the beginning of the semester.

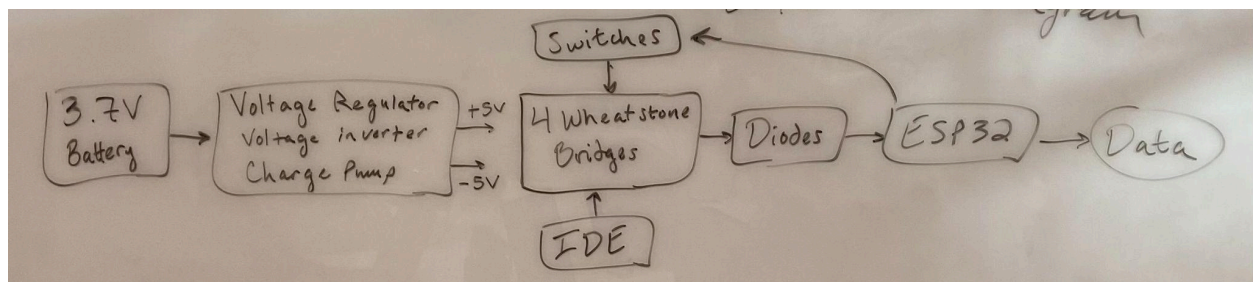
<b><u>NAME</u></b>	<b><u>Individual Contributions</u></b>	<b><u>Hours this week</u></b>	<b><u>Cumulative Hours</u></b>
<b>Ashley Falcon</b>	Set up advisor meeting time. Met with SW team to make plan. Began UI code.	<b>7</b>	<b>7</b>
<b>Drew Scheidler</b>	Worked on SD Card code. Met with software team to make plan.	<b>15</b>	<b>15</b>

<b>Hector Perez Prieto</b>	Looked into new designs for hardware	<b>6</b>	<b>6</b>
<b>Henry Hingst</b>	Met with software team to make plan. Worked on wireless mesh network	<b>6</b>	<b>6</b>
<b>Yok Quan Ong</b>	Research on switching circuit for hardware	<b>6</b>	<b>6</b>
<b>Wesley Smith</b>	Wheatstone Bridge Revision	<b>6</b>	<b>6</b>

### Plans for the upcoming week

- **Hardware Team**

- Four circuits able to measure 100 ohms - 200k ohms
- Research switching between circuits with transistor and research how that's done with the ESP32
- Look back into using a charge pump instead of voltage regulators and voltage inverters
- Create a more detailed block diagram than the current block diagram



- **Software Team**

- Henry - Continue working on trying to send and receive packets across network
- Drew - Continue abstracting SD and ADC code to component files to be called from main to take readings, perform operations, and save to SD card
- Ashley - Research UI and how we can get one to work for the MC to call functions and perform operations

### Summary of weekly advisor meeting

- We did not meet with our Advisor this week but are communicating with him to get a meeting time scheduled. We expect to meet with him next Tuesday.