

Meeting 5: Feb 17, 2022

Agriculture Data System

Questions:

- Challenges with LoRa packet receipt
 - We plan to engineer in redundancy as a safety measure, but would also like to improve hardware/system reliability so we don't have to rely as heavily on the failsafe as we would have to at this stage
- What does Professor Schafer know about resources available to us for 3D printing?
 - Equipment, materials, potential human help and/or troubleshooting
- What do you think the biggest challenge ahead of us is? Is there any obstacle that you see that you feel we are underestimating or overlooking?
- How do you think we are doing, based on the pace and current timing of our work completed thus far?

Newly Completed:

- Board Re-Design without ADC and Potentiometer
 - Save space, effort, cost
- Ordered Boards and Parts (~\$300 left over)
 - Have enough parts to use them for the final board if we choose to stick with these parts (as a precaution in case parts were to go out of stock)
 - Expect costs of \$50 for remaining boards, then sensor costs and cost of casing and other physical build
- Website set up and key documents uploaded
- Successful initial LoRa transmission of sensor readings, though not consistent

Action Items:

- Develop initial server functionality with the ESP32 to display some hard-coded information
 - Learn more about html capabilities and functionalities
 - Ensure we know which library(ies) can help us with this task
- Improve reliability of LoRa transmission
 - Research to understand whether the cause is our code, physical build, or the parts themselves
 - Iterate until reliability goal is met
- Improve website display to have links and not just embedded pdfs
 - Explore alternative formatting options for the top page and website in general
- Construction of board upon arrival
- Power testing and Power Consumption Matrix construction from tests