sddec22-10: Low Water Crossing Alerting

Week 2 Report
February 6 - February 13

Team Members

Dylan Blattner — *Team Member/Sensor Researcher*
Jacob Ross — *Team Member/Power Storage and Battery Researcher*
Brandon Choy — *Wireless Communications*
Tyler Rebischke — *Team Lead/Solar Lead*
Nithin Sebastian — *Team member/Signage and alerts researcher*

Summary of Progress this Report

Began researching key components of our device:
RF Communications
Water Depth Sensing
Solar
Signage/Alerting
Power Storage
Processor

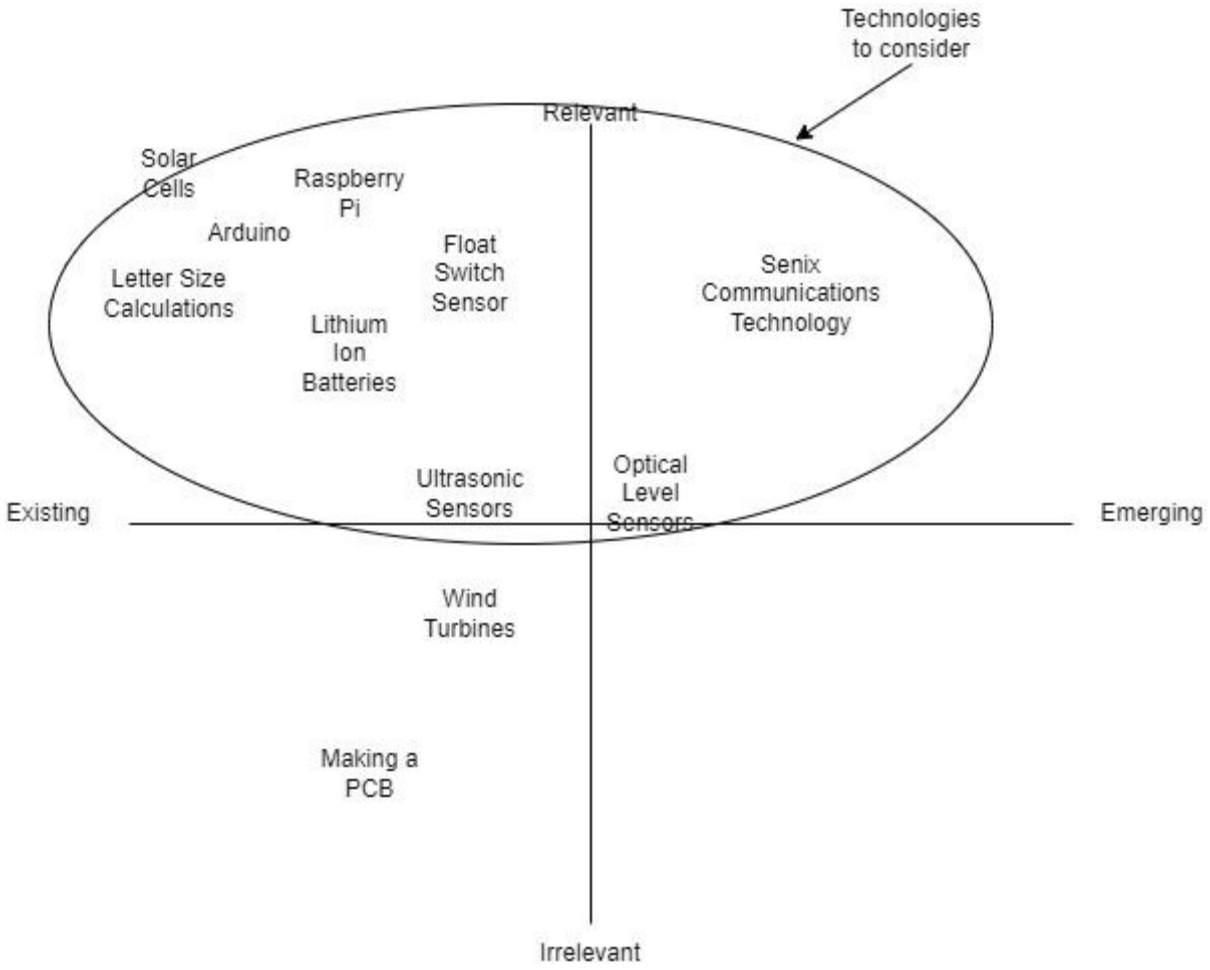
Pending Issues

None currently

Plans for Upcoming Reporting Period

Continue to research key components of our project and begin to brainstorm what specific needs we have

Technological Benchmarking Exercise



Individual Contributions

Team Member	Contribution	Weekly Hours	Total Hours
Dylan Blattner	Began researching different types of methods used to measure water level, found similar products online and used those to guide research overall, and helped begin researching RF communication	2	5
Jacob Ross	This week my main objective was to research power storage and batteries. My beginning focus was figuring out how energy is stored in batteries through solar panels which I was able to conclude that it inverts the DC to AC which is then used to power components. The other thing I focused on was how many batteries would we need so we could store enough energy during moments that we are not generating enough from the solar panels. This is a tougher question to answer as we need to figure out our power requirements	2	5

	before we can calculate the required amount of storage needed.		
Brandon Choy	Researched how RF communications function and the concerns we have to address that comes with it, found different implementations of similar technology that we come in contact with that we may not have thought about before.Discovered that we will need a fast processor or machine that can send signals quick and a powerful transmitter/reciever	2	5
Tyler Rebischke	Researched various solar system implementations and their possible power generation levels. The cheapest system we could buy would produce 12V and panels would cost around $100 per panel based on what I've found online. Using one of these systems would require the use of some sort of battery system also so that we can store extra power to use when the sun isn't shining. Larger solar power systems that produce more voltage will have a higher price point. We first need to evaluate the different system requirements that are needed for our planned product and scale the solar power generation system accordingly.	6	9
Nithin Sebastian	This week I looked into aspects on how to design our sign so that we can increase visibility from a driver from half a mile out. Using the information from a visibility chart, I calculated that, for maximum visibility from half a mile out, we would need to have a sign with letters that are approximately 64" tall(this does not seem feasible so we will have to discuss). Looking into current ways traffic signs are designed I found that our sign would have to be yellow, and as for lights, currently amber/yellow lights are used as the standard for warning lights. Begun trying to research how we would send a signal from our sensor to the sign to trigger/stop the lights on the sign	2	5

Gitlab Activity Summary

Nothing to report.