

Water Weather Station Vision and Scope

(pre-existing project)

Western Washington University
Advisor: Erik Fretheim
Kaitlyn Rice, Garrett King, Emma Geary

1. Project

The Salish Sea Water Weather Station project was created to introduce middle schoolers to cyber security concepts, as well as collect environmental data for public use. The project consists of a waterproof device with a variety of environmental sensors, a mobile app to retrieve data from the devices, and a website to view collected data. Each year, WWU and the SEA Discovery Center together host a cyber security summer camp for about 60 middle schoolers. Each student is given a device to place in the Salish Sea, from which they connect the mobile app via Bluetooth to collect data from the environmental sensors on the device. The app then transfers the data to the Firebase database where it can be stored, synced, and viewed on the website by students, scientists, and the public.

2. Vision

The vision for the Salish Sea Water Weather Station project is to integrate the fields of environmental sea research and computer security into a singular cohesive unit for middle school students. Attendees of the SEA Discovery Summer Camp at Western's satellite campus in Poulsbo, WA will work towards collecting environmental data from the system while also being introduced to critical components and concepts of computer security often unseen for example password and data encryption and user verification. Our team will continue to iterate upon the previous groups work to improve the app and website.

3. Goals

This project is on-going and has already been worked on by multiple teams. Our team will implement a more appealing and responsive web design which will provide a better user experience and comprehension of collected data. We will also add a display feature on the app to show the data retrieved from the device. This will allow users to view and analyze data at the location. The app design will be cohesive with the website.

4. Stretch Goals

As an ongoing project, subsequent releases will likely include features for ease of use and access. Other refinements like improving efficiency of the mobile and web app and stronger data security measures.

Commented [BP1]: How? Is there a mesh network of the buoy? Wifi? Bluetooth? CDMA?

Commented [BP2R1]: how does the mobile app talk to them?

Commented [BP3]: Who owns?

Commented [BP4]: Okay, this is the third time its mentioned: I am going to need more detail. This could be a good spot

Commented [BP5]: Do we already have a list? maybe throw the 3 main ones in here.

Commented [BP6]: Aka the device in the Salish Sea?

Record of changes

Version Number	Date	Author/Owner	Description of Change
1.0	01/18/2023	Kaitlyn Rice	Original
2.0	01/18/2023	Kaitlyn Rice	Corrected comments made
2.1	01/18/2023	Kaitlyn Rice	Made above changes