Water Telemetry

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CSCI Senior Series Starting Spring 2020

This project is getting taken over by Morgan and Elana.

1 Business Requirements

Customer is from camp a computer science bootcamp. Erik Freithem is a cyber security professor collecting students for a team to create a water telemetry device. Children don't know much about computer science or electrical engineering or cyber security. This is a fun and educational way to get them involved in STEM fields at a young age, while also bringing education to a younger audience. A satisfying solution should educate the children of the camp. This can be seen in the way they observe the data that they collect themselves throughout their time in camp. This kids bootcamp is aimed to teach the younger generations about the importance of computer science and benefits the market by getting kids interested in an ever-growing field. Could be an expense if any of our physical devices were damaged by the kids attending this camp. Training actual employees at the camp would also be risky, due to the possibility of mismanagement.

2 Vision of the Solution:

For computer science kids bootcamp who are ages 8-12 interested in computer science the Water Telemetry Team using raspberry pi stored in a Nalgene bottle that students can use to study the water quality around the Puget sound and Salish Sea that helps us track the bodies of water surrounding us and teach kids computer science aspects unlike other nerd camps our product will be tailored to the needs of the camp. We will be using this in a children computer science camp to teach them about cyber security. Teaching them how to interact with technology and learn cyber security so that as they get older, they are better prepared to deal with their information being out in the open for others to access. We assume these kids will have their folks/guardians around them to help them understand what they are working on. We also assume the parents have some technical experience.

3 Scope and Limitations

We are offering: An app that process the information, hardware that reads its environment data and records it and software that works on the telemetry hardware. We are making sure that this piece of equipment will be modular, easily accessible to those wishing to work on it in the future and allow the product to constantly evolve with the needs of the camp. We won't be focusing on creating features to the system that are flashy just to get someone's attention. We want this system to be an educational tool that is easy for young children can access not a shiny new toy for them to play with.

4 Business Context

The place hosting the camp will benefit from this software because it will help them provide the camp with great resources tailored to what the camp specifically needs. The camp will benefit because they will be able to provide children with science experiences that will hopefully encourage them to further their scientific studies. The children attending the camp benefit because they will be having a fun and have a solid learning experience. One priority we must ensure is that the Nalgene bottle devices we build for this project must be able to withstand the general rowdiness of children. This could include dropping it, throwing it, or having the bottle be smacked into hard surfaces. We must also ensure that the interface of our app is user friendly enough to appeal to kids. The operating environment will be a smart phone that the user will have to download our app onto it. The user will also have our Nalgene bottle device that we will have built. The bottle device and the app will connect via Bluetooth.