

USNA STEM Center

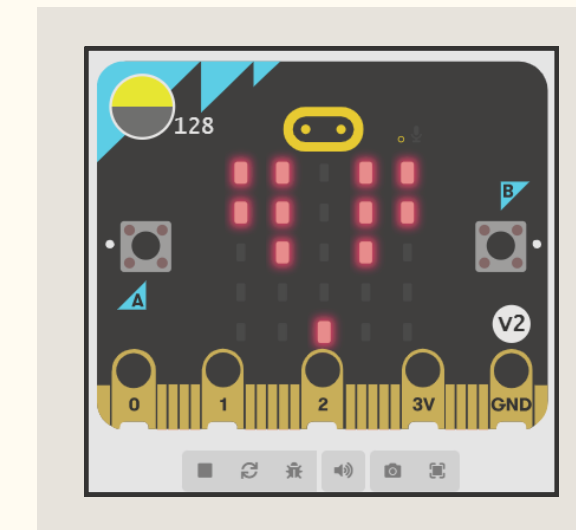
Naval STEM Education and Development

The USNA STEM Center is a US Naval Academy based outreach program, focused on addressing the national need for more young people to pursue careers in science, technology, engineering and mathematics.

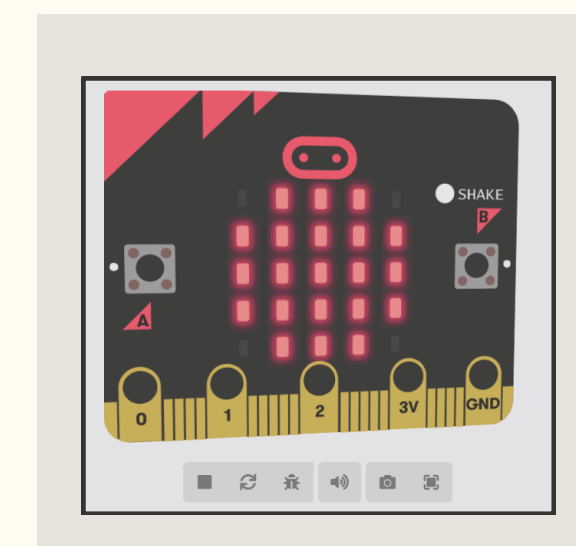
Microbit

Our primary deliverable came in the form of “Microbit” lessons. A Microbit is a small processor, akin to an Arduino or raspberry-pi, but designed for teaching kids how to code. Through many days of trial and error, we managed to produce four full-length lessons utilizing this technology, as well as an informative one-pager to teach new instructors.

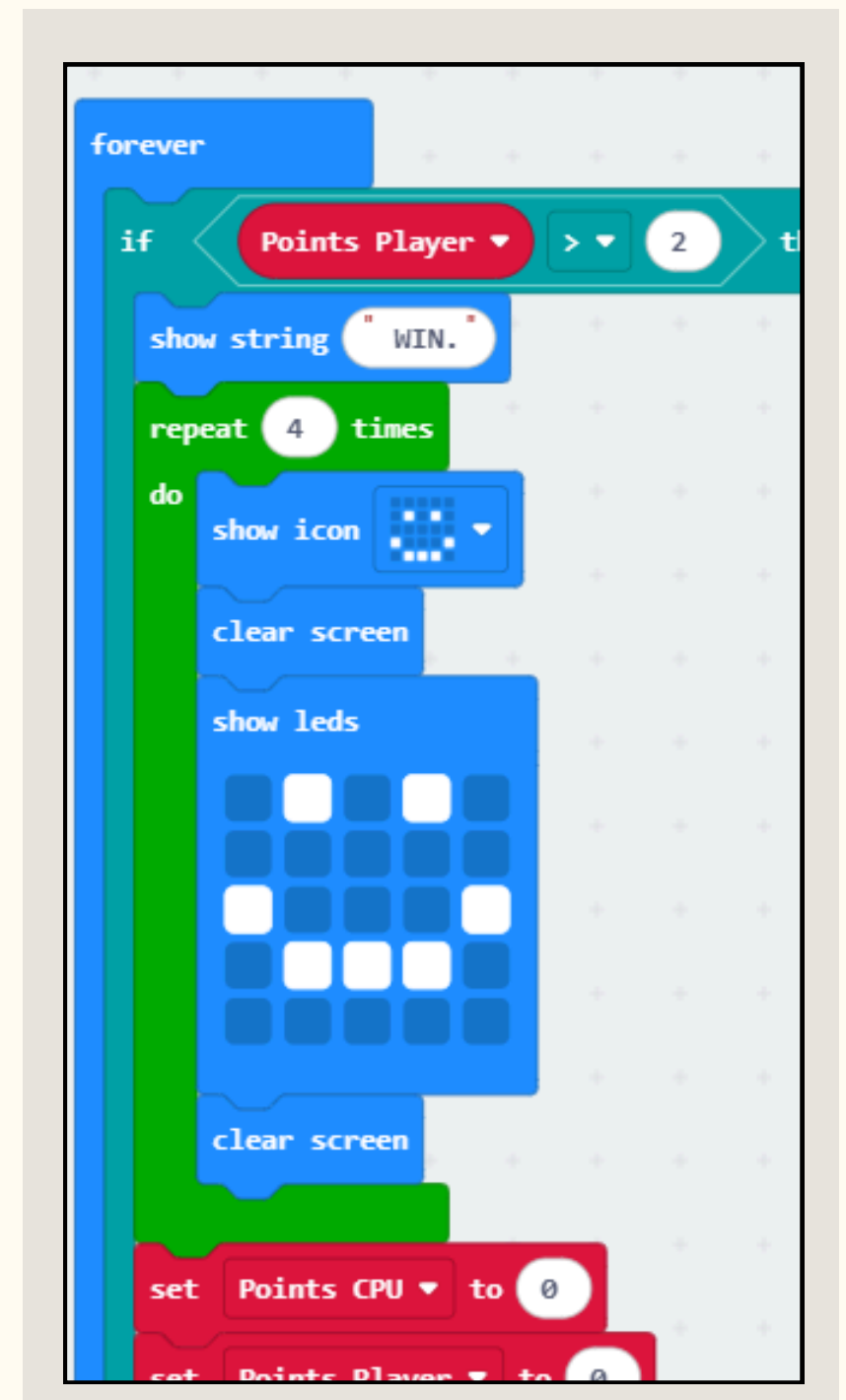
The Microbit uses block coding, which allows you to code basic functions without having to memorize syntax. A Microbit is capable of detecting temperature, sound, light level, direction, and motion. Its 5x5 LED matrix can display pictures, words, and numbers, and can also act as a light sensor.



The Microbit can display a variety of images on its LEDs. This image is from our “Mouse” module.



This image is from our “Rock, Paper Scissors” module.



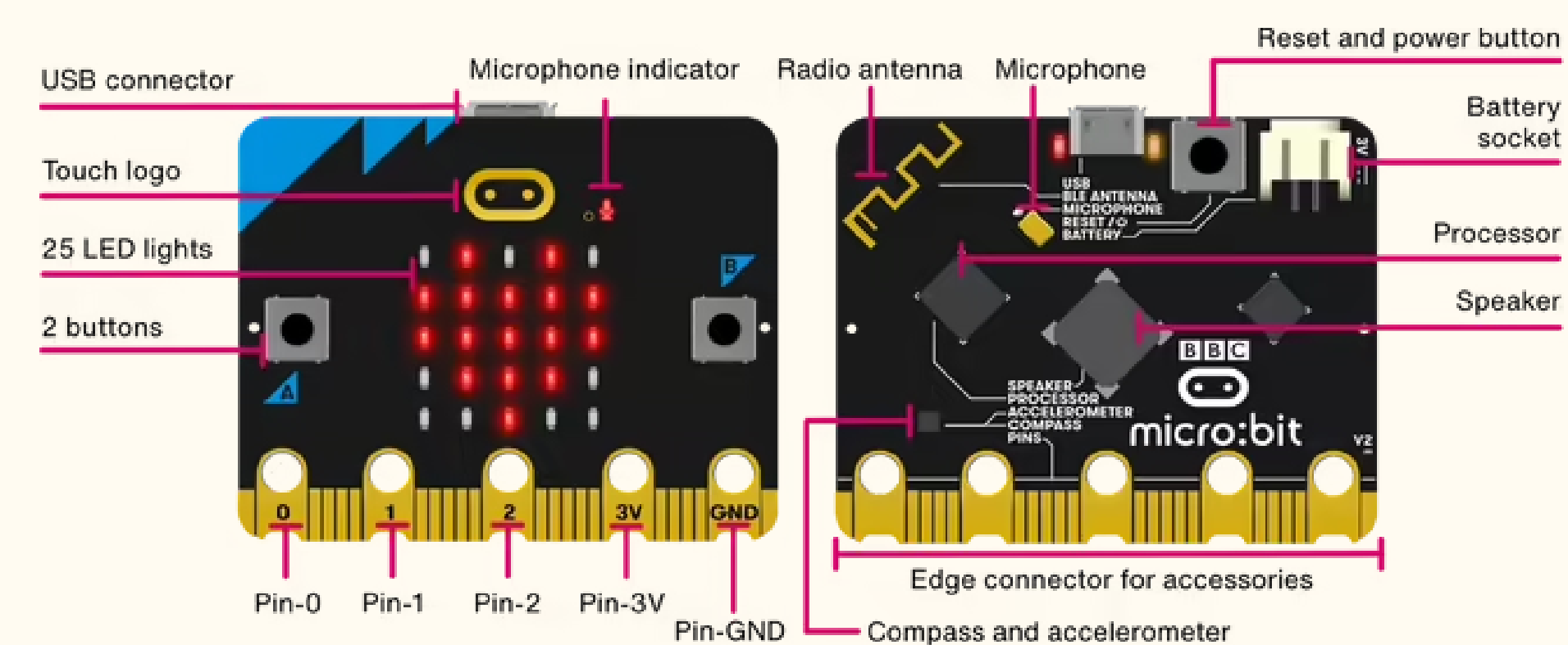
Middle & Elementary School Programs

The USNA STEM Center runs a variety of programs throughout the year, some of which we had the opportunity to help run;

USNA hosts the Maryland Regional SeaPerch challenge each spring, gathering SeaPerch teams from all over the state for a day of underwater robotics and STEM instruction.

In late spring, STEM Center staff, interns, and a group of midshipmen participate in a program called SHYP (Summer Hero's Youth Program). This program reaches out to middle schools throughout the DC-Maryland area, providing instruction in STEM through project-based learning.

Closer to summer the USNA STEM Center hosts events for Sea Cadets, the US Navy's Youth Development Program. There we provide instruction in STEM topics as well as information about the US Naval Academy



USUHS

We traveled to USUHS, the Uniformed Services University of the Health Sciences in Bethesda, Maryland to help teach kids about various health topics and their military applications.

We did two main lessons, prioritizing biotechnology and bioterrorism.

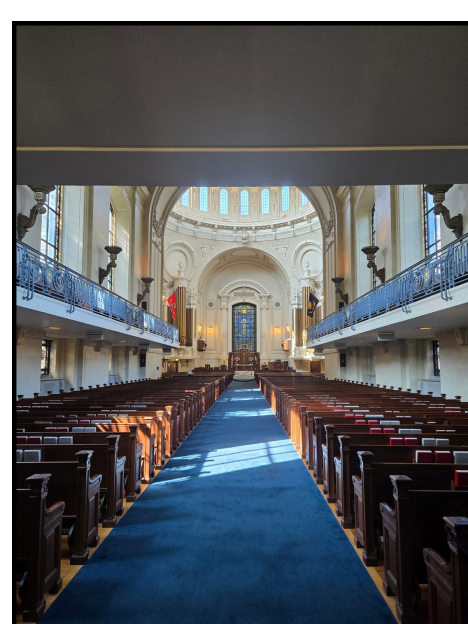


Working at the Naval Academy

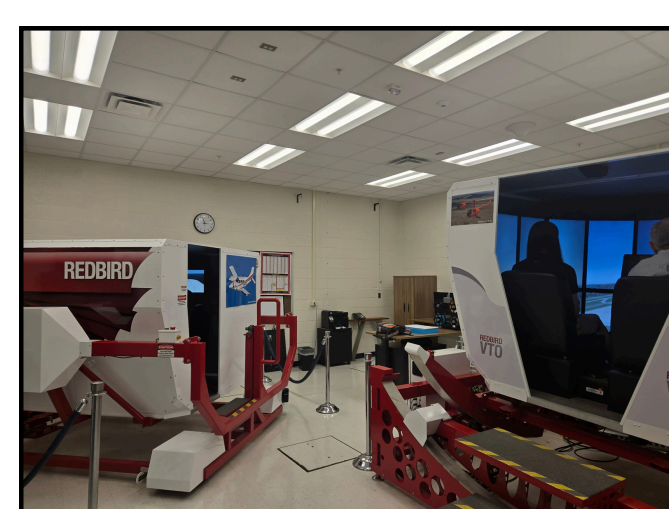
We worked at the Naval Academy in Annapolis, Maryland, where a stunning waterfront meets state-of-the-art technology. We were constantly surrounded by some of the most beautiful and fascinating experiences imaginable, whether those be the Chapel, John Paul Jones' tomb, or one of the many research labs. Working with the USNA Stem Center allowed us to not only expand our confidence, improve our teaching abilities and learn scientific topics, but also gave us the opportunity to talk to professionals in a variety of fields and get a better understanding of the research environment.



John Paul Jones' tomb, who is often referred to as “The Father of the Navy”



The inside of the Chapel. Near the dome there are busts representing a variety of the world's cultures



Flight simulators, located in one of the many USNA research labs



The USNA Space Systems Engineering Lab, located just below the STEM Center office

SET Sail

SET Sail is a STEM Outreach program that the USNA STEM Center runs every year, providing two week-long professional development trainings to teachers based all around the world. Training focuses on the use of project-based learning within a variety of topics, such as engineering design, chemistry, physics, math, robotics, programming, biology, and more.

