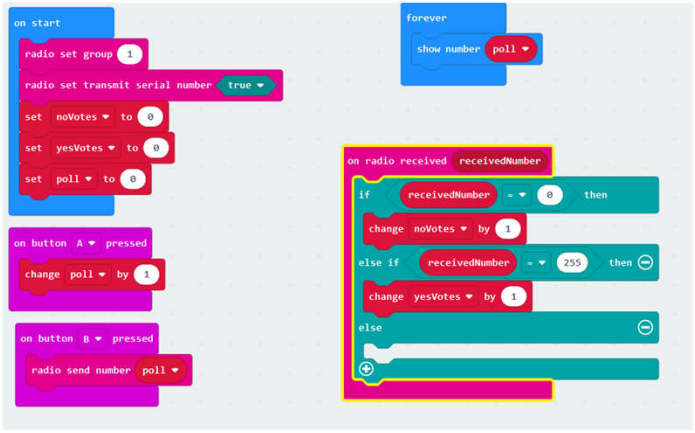
CEDAR Summer Outreach Camps and Programs

If you teach a teacher to program...

Summer 2021

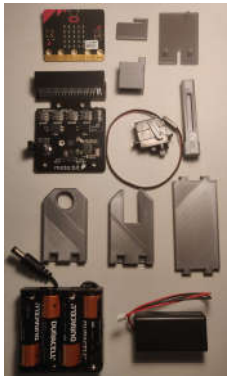
WySLICE

- This year, educators from all around the state and country were given opportunities to learn about computer science topics, as well as how to **incorporate Computer Science topics into their curriculums**.
- During the week-long camp, educators **worked with students from the University** to develop their computer science skills.
- They **finished the week with lesson plans** to incorporate computer science that they designed, while having access to all new and previous lesson plans.
- The **activities utilized Micro:Bits**, a small board that helps build computer science fundamental skills such as programming and designing algorithms.



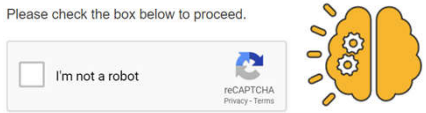
GenCyber

- We expanded the traditional experience by offering **direct teacher-student engagement sessions** and the chance to develop and tweak lesson plans directly after working with students.
- The first two days condensed previous years content to explore the Hand model of Cybersecurity. We utilized previous years' programming content to **expose beginners to the Micro:Bit platform** and provide the opportunity for more confident programmers to **develop a basic Micro:Bit solar panel assembly.**
- Teachers **collaboratively developed lesson plans** and iterated on those plans after the teacher-student engagement sessions.
- Ending the week, we **sent teachers back to their original communities to implement their own lessons** and experiences for students of all grade levels.



WySTACK

- High School STEM teachers throughout Wyoming participated in **one of four computer science research projects** each led by a COSC Department faculty member and supporting graduate students.
- Research projects included:
  - optimizing 3D printing parameters through AI,
  - exploring human movement as another way to perform a "CAPTCHA",
  - developing methods to distribute data throughout a drone swarm, and
  - capturing and then using brain waves as a method of authentication.



Challenges & Future Work

The cohorts for these programs typically grow each year, reaching more and more of Wyoming's educators and libraries. We plan to continue expanding these programs and reaching as many of Wyoming's educators as we can. Our goal is for Wyoming's K-12 educators to be as prepared as possible to teach Computer Science to their students.

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