



UNIFIED HACKATHON BOLSTERS INCLUSIVITY

Thanks to the efforts of a Fox Chapel Area High School senior, inclusivity opportunities are continuing to extend beyond social and athletic events and into the realm of science, technology, engineering, and math (STEM).

“For my generation, computing skills, including basic computer operation, computational thinking, and programming, have become a necessity,” says Arvind Seshan, who organized a Unified Hackathon held at the Carnegie Science Center in December. The hackathon joined students with and without disabilities in competition. “The program teaches the basics of computer usage to those who have not been exposed to computers. Those who are more familiar learn computational problem-solving and programming/mechanical skills. By appealing to and engaging kids at all skill levels, a Unified STEM program also creates a valuable collaboration opportunity because it allows more skilled students to instruct and communicate concepts to others. It helps students who start with less technical skills realize that they, too, can contribute in meaningful ways.”

More than 55 students and volunteers from 13 schools in Western Pennsylvania registered for the event. Volunteers included undergraduate students, graduate students, and faculty members from Carnegie Mellon University; graduate students from the University of Pittsburgh; staff from the Allegheny Intermediate Unit; and Adam Goode, a member of the Fox Chapel Area School Board who is a site reliability engineer at Google.

When students arrived in the morning, they were introduced to the theme of “smart homes” during the keynote address by Dr. Hope Chidziwisano from Carnegie Mellon University, who spoke on the use of technology in the home to solve societal problems, as well as some unintended consequences of the technology. Students then split into groups, selected a problem, and built and programmed a prototype using micro:bits, which are pocket-sized computers with an LED light display, buttons, sensors, and input/output features that, when programmed,



allow it to be interactive. Entries were judged based on problem selection, coding, prototype, presentation skills, and teamwork/inclusion.

“Inclusion was worth just as much as other categories on the rubric, as the goal of the event was to make sure that all students contributed to a team,” Arvind says. “Projects ranged from detecting intruders to automatic plant watering systems to automatic night lights.”

While he will be moving on from Fox Chapel Area upon graduation in June, Arvind says the Unified Hackathon is here to stay.

“With our pilot year now over, the goal is to host a Unified Hackathon at the Carnegie Science Center annually,” he says. “The collaboration with the Carnegie Science Center provides Fox Chapel Area with the unique opportunity to grow both the Unified Hackathon and Unified Robotics programs, and get more traction for them. We now have all the equipment needed in the district to successfully run both in future years. With collaboration, attention, and adaptation, we can make STEM for everyone.”