GLOBAL WISCONSIN IDEA PROGRAM

A summer course for advanced Chinese and American high school students to explore the future of environmental sustainability, social robotics, and digital games

Field trip to Sector 67 (July 20)

After our session on robotic "brains" with Arduino circuit boards and programming, the next step to building a robot is figuring out how to hook up the electronics to the motors and the sensors that make it work!

But since walking, talking robots are incredibly difficult projects, we will create small kits from Adafruit Industries, learning how to safely use a soldering iron to melt metal and make (hopefully) good electrical connections. Building kits offers the an experience in soldering, a fundamental skill necessary for building robots but also things like fixing laptops, repairing headphones, and hacking all kinds of electronics. Students are starting to realize that everything electrical is really just a series of little systems that work together to do amazing things, much like a lifelike robot is composed of a few small motors and an electronic brain to make them move in concert.

Chris from Sector67 presented four kits to choose from: a pencil that transforms drawings into sound (Drawdio), a cell phone charger that runs on AA batteries (Minty Boost), and a universal off button for any TV around the world (TV-B-Gone).

The best part of building a kit is learning how to place the electronic components on the bare circuit board, in the right spot, and soldering them up without any mistakes. At the end of the session, even with nineteen students simultaneously learning to handle hot soldering irons and put tiny pieces together in a permanent fashion, we had everything working well with very few mistakes.

Posted: July 20th, 2011   Tags: class field trips, social robotics
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