IoT as a Teaching Platform

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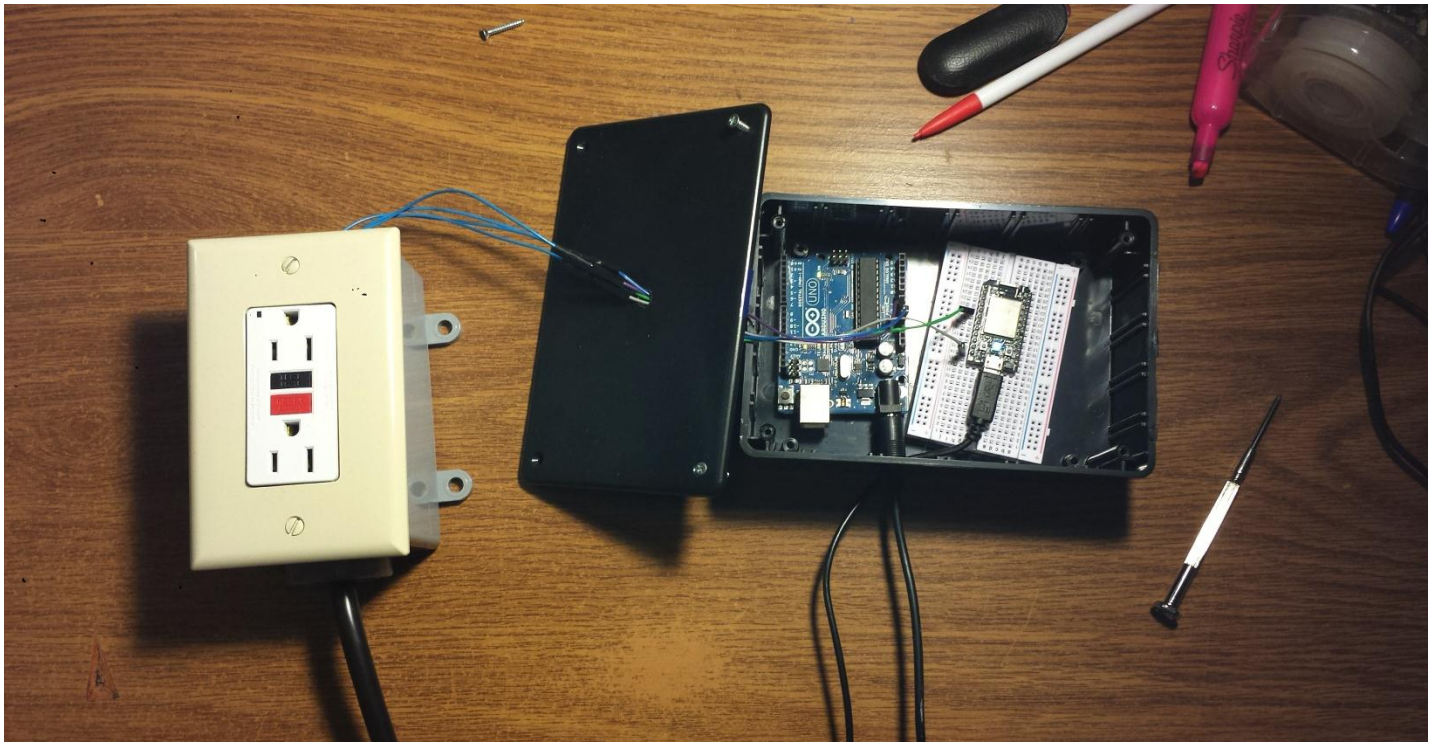
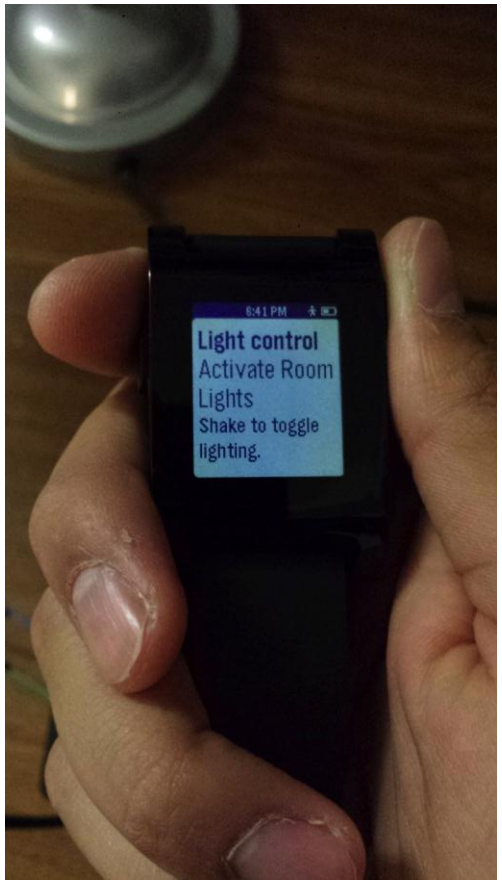
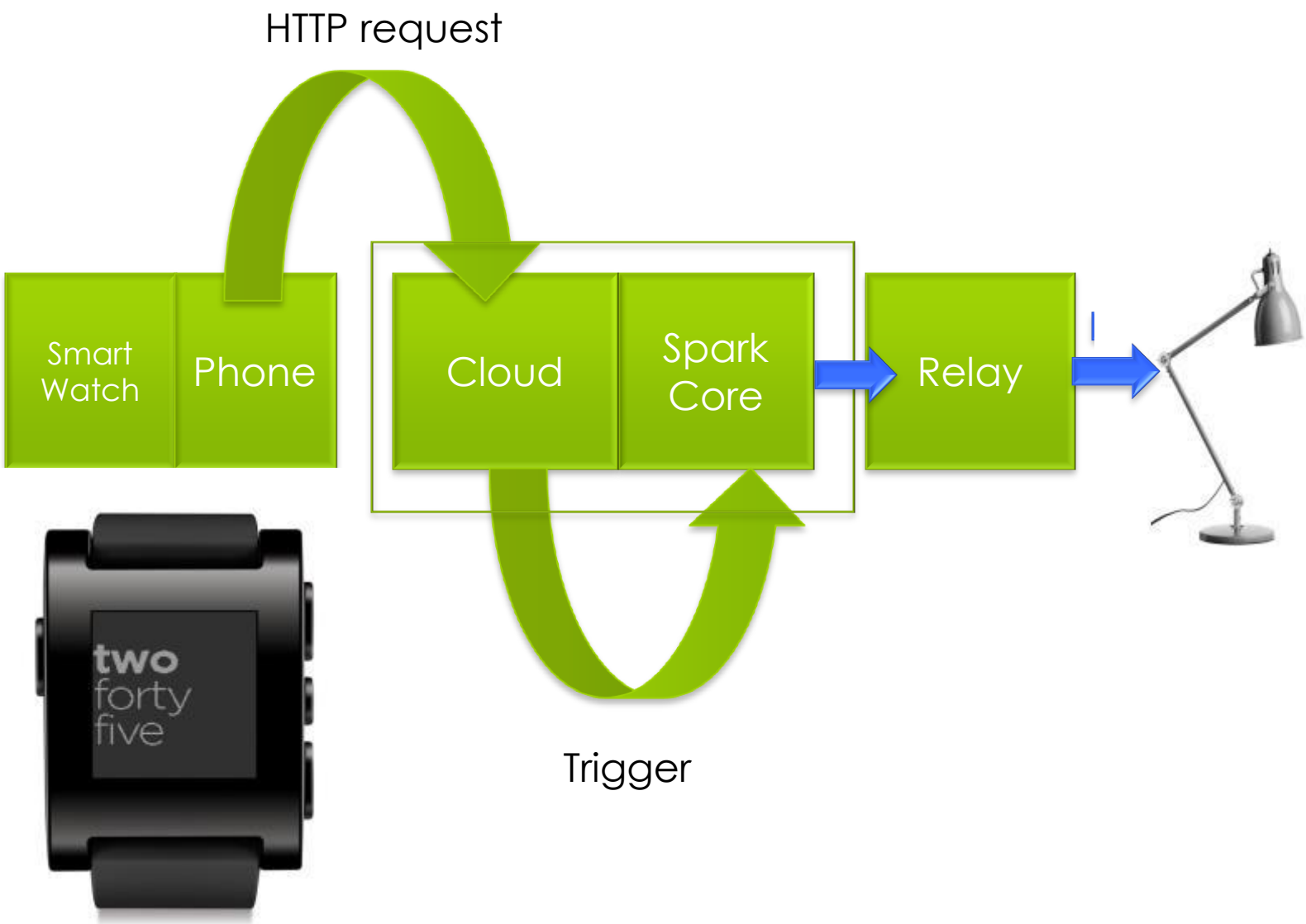
Control System



Watchapp


6:41 PM
Light control
Activate Room
Lights
Shake to toggle
lighting.

IoT Home Light Control



IoT for Students

- Opportunities for students to learn emerging technologies are often limited
- Many high school students have potential – but are limited by access to technologies
- The field of IoT is one that requires a large developer base
- Giving students access to IoT learning systems enables them to develop creative applications

Standardization of Infrastructure

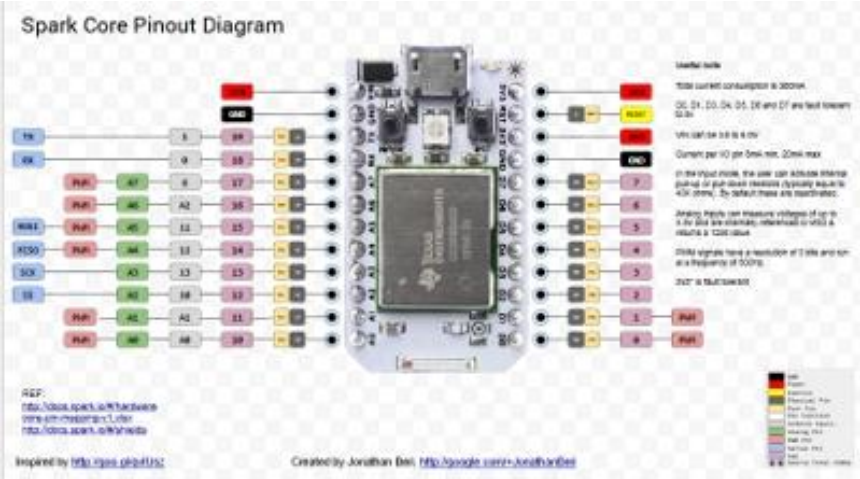
- A standardized IoT development infrastructure for students would help to expedite the development process
- Standard infrastructures also aid in teaching across multiple platforms
- Teaching methods would be portable across educational institutions

Current Model

- Take a CS class
- Most high school classes are exclusively software/programming focused
- Few colleges offer entry-level systems engineering classes for getting students interested in engineering

A Better Solution

- IoT-based solutions to get hardware exposure
- Engage students with physical hardware as well as coding experience
- Create projects that benefit them -- show how systems work with real components



Benefits

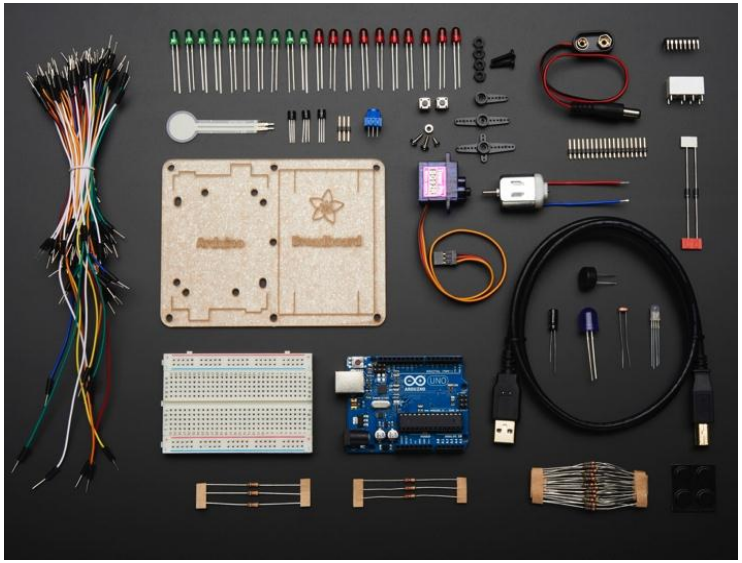
- IoT based learning gets students interested in hardware
  - APIs allow for teaching applications in many non-engineering disciplines

Pilot Program

- Bellarmine College Preparatory – High School in the Bay Area
  - Phase 1: A makerspace for students – gives access to technology
  - Phase 2: Classes
    - Taught by students, for students and faculty
    - Provides educational material for students to build on

Going further

- Create an IoT education kit that utilizes various components to give a full introductory experience to IoT



Contact

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- Internship anyone?