The Hackathon Journey

Jon Steelsmith, Tyler Hall, Michael Bachmann and Colin Allen
SBCC Computer Engineering Club

- SBCC needed a hardware centered club
  - Computer Science and Electrical/Mechanical Engineering

- Great response from the students
  - Consistently having 15 - 30 people show up at meetings

- Hands on experience through workshops and group projects
  - Hackathons are a great way for people to learn and get real experience
CalHacks (UC Berkeley Hackathon)

- Team (Tyler Hall, Jon Steelsmith, Colin Allen, Michael Bachmann) first formed for CalHacks 2014, October 3-5.
- Over 30 students from SBCC attended.
- We created a proof-of-concept for an extensible Internet of Things (IOT) mesh network using cheap radio transceivers ($1.50/each retail), with AES-128 encryption. Won Most Innovative Hack from Jawbone.
- SBCC Computer Engineering club sponsored by Intel, and Texas Instruments.
HackCC (City College Hackathon)

- Attended by Jon Steelsmith and Tyler Hall, November 7-9 2014.
- Further developed mesh network to tie into email and support more devices.
- Won 1st place prize, and several sponsor's prizes.
Attended by Tyler Hall, Jon Steelsmith, Colin Allen, and Michael Bachmann, January 30 - February 1, 2015.

We completely rebuild the mesh network from scratch, and made several entirely independent modules that broadcasted live data to a database, updating graphs on a website in realtime.

Called project “EcoNode”, and focused on environmental data such as temperature, humidity, precipitation, water flow, and soil moisture.

Won Citrix Grand Prize of 1st place, and opportunity to attend HackNTU in Taiwan with our flight tickets paid for.

Another SBCC team won Best IOS App.
HackNTU (National Taiwan University Hackathon)

- 1,200 students attended, including ~20 international students from Santa Barbara, New Jersey, Michigan, and Canada.
- We planned to do something totally different from what we had done at past hackathons. After much deliberation, we came up with the idea of an autonomous drone for search and rescue.
- We were in Taiwan February 14-23. The hackathon was February 21-23. We brought everything we wanted to use at the hackathon with us.
- FLIR gave us some cutting edge infrared cameras to use at the hackathon.
- We built a quadcopter and successfully piped the data through the entire system. This strong proof of concept won us 3rd place.
Sponsorship Success

- Having success from the hackathons we were able to meet great sponsors
  - Many have donated:
    - Money
    - Equipment
    - Support
    - Publication
- With the support from Sponsors we are able to put on workshops to help students learn more about CE
Question and Answer

- How did we do it?
- How long did we prepare?
- What was the competition like?
- How did the experience impact us personally?
- What are our plans for the future?
Thank you!