Sensor Pod

Taiwan Forestry Research Institute (TFRI)

Ariana Tsai

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Proposed Research

- To set up an Android-based system that will monitor the aspects of a rainforest, such as humidity, temperature, and wind direction.
- Use Samsung Galaxy Nexus to capture audio, pictures, and videos.
- Use DataTurbine to send any captured media from the rainforest to different stations for more analysis.
- Use an IOIO board to maintain and be the basis of the sensors.

Progress (for Week 7)

- Went to LHC from 8/6 – 8/8 to try and set up the system, but found out that the new Vaisala weather station we had was broken. The computer could sometimes detect that the weather station was being connected (both types of connection: USB and serial), but could not sense any data from it.
  - Originally, I was unable to connect the weather station to the computer through the serial connection because my computer has a DB15. The weather station connects through a DB9. After I was given a DB9 to USB, I was able to connect all the wires, but unfortunately, I still could not get any data.
  - Tested out a new weather station that was borrowed. This currently works with no problems.
- Fixed the intervals set in the code that grabs data from the on board sensors and Vaisala, which was causing the application to freeze because of timing differences.
- Review some of the newer code and commented out a piece that was trying to grab data from non-existent sensors.
- Edited the tutorial for setting up the software to show easier solutions & and to show the functions of newer code.

Plans (for Week 8)

- Return to LHC on 8/13-8/14 to attempt to set up the system again. During this time, there will also be workers assembling the rack onto which parts of the sensor pod will be put onto. This will be set up onto a pole nearby the weather tower, for better stability and convenience. Once this is ready, data received from the system will be mirrored to the LHC server room, then to the TFRI server room.

- Give a quick tutorial on how to set up the software part of things and how to resolve errors.

Overall…

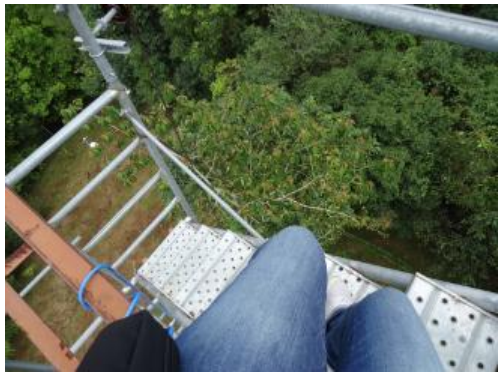
- The system works again after we have replaced the broken new Vaisala with the borrowed new Vaisala. The system can run crash-free for at least (most likely more) 1 hour with the solar panels, 1 ½ hours without the solar panels, and 2+ hours with only the phone capturing image and audio.

- The only thing left to do is to set up the system in the field and mirror the data.

Culture

There was a festival recently that celebrated the birthday of one of the spirits. Chinese firecrackers are set off every time a dragon passes through.

Culture



Climbed the weather tower in LHC again. On another note, curiously, you still have to pay if you enter and exit from the same MRT station…! I just experimented recently.

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