Brandon Guttersohn
Week 2 Progress Report

Software Defined Networking on an Android Ad-Hoc Network

Completed:

- Explore and understand the AODV system
- Gain a broad understanding of SDN concepts
- Research specific SDN implementations (OpenFlow)
  - Read the whitepaper
  - Read and make notes of the switch protocol specification
- Design an algorithm to get a basic map of the network
  - Implement a new packet type to do so
  - Implement a class to manage mapping info
  - Implement the code to handle the new packet types and call the mapping manager
  - Add an Activity to control mapping requests and show received mapping data
- Consider methods of communication between the software service and the control program
- Consider the functions and location of the control program

Project Plan:

- Week 3:
  - Convert the multi-hop AODV application into a background service
  - Begin coding the control application, which will bind to the service
    - Or start it and communicate in some other fashion
  - Recode and improve the mapping code to work in the multi-hop framework (it is currently creating multi-hop maps in the single-hop framework).
  - If time permits, begin designing the flow-table modification protocol
- Week 4:
  - Finish the flow-table editing protocol
  - Finalize communication between the control program, ad-hoc service, and other nodes
  - More in-depth development of the control application
  - Complete anything that wasn't completed in week 3
- Week 5:
  - Design interface for other applications to send data via the ad-hoc network
    - ContentProvider in the control application?
  - Complete anything that wasn't completed in week 4
  - Test, Debug, Optimize, Clean-up, and document code
  - Look into additional Software Defined Networking features
- Weeks 6-10:
  - If any useful features are found, implement them
  - Begin working on paper
  - Continue testing and improving code
  - Buffer space if project falls behind schedule.