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## sdmay19-04: Open-Source Prototyping of 5G Wireless Systems for Smart Ag, Autonomous Veh

### Week 12 Report

February 2 - February 8

### Team Members

Anthony Benson — *Chief Engineer: OAI Simulations*

Hye-Sung Moon — *Chief Engineer: Hardware Systems/SUMO Simulations, Client/Adviser Liaison*

Jaime Zetina — *Engineer: Hardware Systems Testing, Report Manager*

Jared Gorton — *Engineer: Software Systems Testing*

Khanh Luu — *Chief Engineer: SUMO Simulations, Client/Adviser Liaison*

Ted Miller — *Engineer: Software Systems Testing, Meeting Scribe*

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### Summary of Progress this Report

- Our server has been rebuilt by ETG with the corrected version of ubuntu 16.04.2
    - o We have installed the OAI and begun to run the built-in simulations.
    - o OAI is reviewing the OIA code's C-make files and C files from source code and code provided from the professor.
    - o SUMO has been installed but has suffered a delay due to SUMO server downtime for maintenance we are waiting for the server to come back on line. While we are waiting for the server to come back on line, we are looking for other options to complete the task.
  - We have met with our adviser
    - o We discussed the current state of the project. We are on tack with the time line however we may be falling behind if we do not pick p the pace.
      - 📖 Discussed the implementation of OIA source code
      - 📖 Encouraged to review the UCS papers to help derive the new UCS and CPS algorithms.
      - 📖 Discussed the short comings of the SUMO installation and how to move forward. Once we find a different way to get the source files or the SUMO server comes back on line, we need to simulate the 100 car dynamics with the imported maps
      - 📖 Discussed similarities of static network and vehicle networks and how they are used in ad hoc networks vs cellular networks with D2D communication. They all have some form of PRKS either the PRKS model or the GPRKS model and depending if they are mobile or static, they will implement either UCS or CPS algorithms in conjunction with PRKs.
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### Pending Issues

- 📖 Understanding the OIA source code, OAI reference code, and beginning to manipulate it.
- 📖 CPS algorithm
- 📖 SUMO simulation.

## Plans for Upcoming Reporting Period

- 👉 Make progress with CPS algorithm
- 👉 Simulate SUMO within Ubuntu

## Individual Contributions

Team Member	Contribution	Weekly Hours	Total Hours
Anthony Benson	Studied UCS algorithm code. Made notes about important functions in existing code. Discussed with other team members what might be needed to implement CPS algorithm using UCS algorithm code as a base.	10	84
Hye-Sung Moon	Finished installing SUMO on server. Importing Ames map on server. Looking into the SUMO code to find a way to integrate with OAI.	10	146
Jaime Zetina	Worked with Hye-Sung to finished installing SUMO and importing maps to our Ubuntu Operating system. looking into methods to integrate SUMO and OAI.	10	138
Jared Gorton	worked with OAI team to install OAI onto server and reseaching the OAI code. reviewing CPS materials.	8	91
Khanh Luu	- Installed low latency kernel in server. - Installed OAI on server ( have not verify it yet) - Examine OAI code	8	94
Ted Miller	Meet with everyone in the group. Worked on getting OAI on the server up and running. Managed the account on the server a bit. Looked at the OAI code.	7	

## Gitlab Activity Summary

Nothing to report.

