sdmay19-04: Open-Source Prototyping of 5G Wireless Systems for Smart Ag, Autonomous Veh
Week 15 Report
February 23 - March 1

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*

Summary of Progress this Report

- We had our weekly meeting.
  - The OAI team is continuing to work with OAI for the integration of the new GCS Algorithm.
    - They have been working to understand the OAI code. The newest version of OAI has presented some issues when compared to the reference version the OAI the we have been working with. The OAI team are reviewing the possibility to work with a older version.
    - We discussed the implementation of the CPS algorithm as a frame for geometrically and position prediction.
  - SUMO has imported a new Ames map smaller than the original one used in our first attempt. Simulated vehicles and provided their data, we are revising the data to provide x and y positions and adjust the time stamp of each data point.
  - However, we are moving in a different direction because we plan to run SUMO and OAI in parallel to achieve the mobile dynamics we need to test the new designed algorithm.
    - We will continue to try to extract this data is case we are not able to achieve this.
- We met with our adviser this week.
  - Discussed our road amp and we will need to redefine it.
    - We will have weekly tasks in the road map mode.
  - We discussed deliverables.
    - GCS algorithm.
    - GCS implementation in OAI.
    - Simulation study of SUMO and OAI after integration.
    - Rigorous experimentation of design and analysis of results.
    - We have been given more reading material to help us understand experiment design and experiment analysis.
    - SDR integration and experimentation.
    - Design document in regards of software architecture.

Pending Issues

- Understanding the OAI source code, OAI reference code, determine what version to move forward with.

- New GCS algorithm design
- SUMO integration into OAI for mobile dynamic data.

Plans for Upcoming Reporting Period
- Design new GCS algorithm.
- Integrate SUMO into OAI.
- Find the location where to integrate the new GCS algorithm into OAI.

Individual Contributions

Team Member	Contribution	Weekly Hours	Total Hours
Anthony Benson	Continued looking into OAI code for ways to integrate SUMO and implementing CPS algorithm. Met with group to further discuss new software structure and ways to integrate SUMO. Started outlining changes to files needed for implementing the CPS algorithm.	10	114
Hye-Sung Moon	Investigated the TraCI library in SUMO to integrate with OAI. Modifying the number of vehicles in SUMO and departure time. Discussed with a team and found a weekly plan.	15	191
Jaime Zetina	worked with Hye-Sung to modify TraCI files with in SUMO to mdify the parameters.	12	175
Jared Gorton	participated in group meetings and discussions.	4	115
Khanh Luu	- Slightly change the scope of implementing the algorithm. - Meeting with OAI group. - Decided what OAI version should we implement.	10	124
Ted Miller	Worked with the OAI group on getting SUMO integrated. Worked solo on creating part of the new system. This new part was seeing if items were to close geometrically as well as predictions for the future if things would be too close.	11	

Gitlab Activity Summary

Nothing to report.