

sdmay23-15: Mobile Vehicle Cybersecurity with On-board Key Management

Week 6 Report

October 31 - November 4

Team Members

Baganesra Bhaskaran — *Gitlab Administrator*

Alexander Freiberg — *Client Liaison*

Aayush Chanda — *Advisor Liaison*

Michael Roling — *Documenter*

Chau Wei Lim — *Strategist*

Brian Goode — *Team Organizer*

Summary of Progress this Report

- We were able to finalize the design proposed and started working on the implementation
- Worked on the individual assignment given for each team member as needs some attention being part of the senior design class.

Pending Issues

- We face issues in the design to address the identification of hashed keys by each respective ECUs in the CAN network
- Looking at the expected deliverables, we also identified an issue with making use of CAN FD segments

Plans for Upcoming Reporting Period

- To address the issues that we encountered while started the implementation work, we have planned to meet with the client on discussing the design plan that we have right now.
- The team has also planned to research more on the lightweight authentication that we have derived our current design from, to find integration or usage of the CAN FD segment.

Individual Contributions

Team Member	Contribution	Weekly Hours	Total Hours
Baganesra Bhaskaran	Worked on developing the current design implementation where we faced a little challenge on how respective ECUs would be able to identify hashed keys. Worked with the team to finish up individual Ethics and Responsibility assignment which required team discussion	3.5	0
Alexander Freiberg	Designed testing mechanism to test the message security and ECU authentication	3	0

	aspects of our design using NaCl encryption and CRC. Researched most efficient methods of implementing NaCl encryption in python		
Aayush Chanda	Broke our high-level design ideas into lower-level concepts to aid in our implementation. Although we don't have the necessary data and info to create an entire lower level design, we were able to use research papers about our implementation idea to break apart the strategy as much as possible. Also looked into how to go about acceptance testing in the scope of our project.	4	0
Michael Roling	Discussed agile user stories for upcoming sprint, worked through Lightning Talk presentation, and covered details regarding the professional responsibility of our project.	4	
Chau Wei Lim	Researched on different perspectives of integration testing, decided to use Big-Bang Integration Testing to test our design, and worked on the upcoming lighting talk slides.	3	
Brian Goode	Was not able to contribute much to immense class work load. Involved in team discussion for the individual assignment on Ethics and Responsibility.	2	0

Gitlab Activity Summary

Nothing to report.
