

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

Week 4 Report

October 17 - October 21

### Team Members

Baganesra Bhaskaran — *Git Administrator*

Michael Roling — *Documenter*

Aayush Chanda — *Advisor Liaison*

Chau Wei Lim — *Strategist*

Alexander Freiberg — *Client Liaison*

Brian Goode — *Team Organizer*

### Summary of Progress this Report

- We had the virtual CAN attack simulation run during our internal meeting today, and clarified some questions that team members had.
- Worked on the base design ideas that we have in mind, and mapped out 3 of them on a high-level (CRC field, CAN data packets overview)
- We were able to decide to study few design in-depth to get to know how to implement it in the binary files that can be capture in a CAN network

### Pending Issues

- Few member have little virtual machines setup problems which we were able to solve it during the internal team meeting

### Plans for Upcoming Reporting Period

- Need to communicate with client on our high-level design findings and figure out the exact implementation and deliverable needed for this project
- The team will work in-depth on research papers to build upon the high-level design idea we have.

### Individual Contributions

Team Member	Contribution	Weekly Hours	Total Hours
Baganesra Bhaskaran	Setup the virtual machine in my local machine, test for CAN communication and monitor unsecure CAN binary files to understand the attack in-depth, Get some professional documents done for the class submission, arranged team meetings, Help the team to conclude or decide on 3 high level design ideas to progress further in the project	3	0

Michael Roling	Became familiar with VM tools to simulate our software, re-aligned agile development goals/timelines, and assisted team documentation for potential solutions to our project.	3.75	
Aayush Chanda	Worked on Design Doc sections 4.1.2 and 4.2.1 and helped with creation in some options for design decisions.	4	0
Chau Wei Lim	Contributed some design ideas based on the research papers read, was able to finalize the team's decision. Worked on Design documentation Section 4.2.1 for the senior design class assignment.	3.5	
Alexander Freiberg	Researched differences between AES-128 encryption and NaCl encryption and their effect on data transfer speeds; assisted in setting up simulation VMs on teammates personal machines	3	0
Brian Goode	Working with VM tools to run simulations on the car/CAN software, work on writing project documentation for strategies and plans	3	0

### Gitlab Activity Summary

Nothing to report.

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