

**sdmay19-16: Smartphone App to Detect TwD (Texting while Driving)**

Week 6 Report

Feb. 11 - Feb. 17

**Team Members**Kristina Robinson - *Project Lead*Andrew Knaack - *Lead Designer*Sara Mace - *Meeting Scribe*Lucas Golinghorst - *Test Engineer*Ryan Baker - *Architect*Derek Clayton - *Report Manager*

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**Summary of Progress this Report**

The focus of this reporting period was to eliminate errors in our android environment that were hindering coding progress. Once these errors were resolved, work continued on the proprietary texting application module, trying to get its layout correct and messages to display correctly. Considerable work was conducted on the speedometer module, tweaking its readings and outputs to be usable by humans. Documentation work was conducted by those working on the camera module while work was started to separate the seat belt detection component from the tensorflow demo to be used in the camera module. A summary was written on a research paper with important information that impacts the centripetal acceleration module.

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**Pending Issues**

- Further work must be conducted on proprietary texting application
  - Speedometer displays unstable readings, must be solved for reliability
  - Messages in texting application do not appear properly in list view
  - Image processing module needs to display rectangle around seatbelts
  - Some members are having difficulty using android studio and git
  - A way to apply tensorflow demo to project must be implemented
  - Code for centripetal acceleration module must be updated with findings
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**Plans for Upcoming Reporting Period**

Kristina - Continue touching up the proprietary texting application so it can be ready for integration with finished modules.

Andrew - Find a way to stabilize speedometer readings so they can be used reliably in a moving vehicle to determine velocity

Sara - Continue working on the proprietary texting application with Kristina and figure out how to get the messages properly in the listview.

Lucas - Develop image processing module that will draw a rectangle around the seatbelt in a still image.

Ryan - Looked into a few dozen image databases to find one for seatbelts, but no luck unfortunately. Also looked into how to use git through Android Studio. Attempted to find a way to separate the seatbelt object detection from the Tensorflow demo.

Derek - Use information gathered from research paper to propel experiments in searching for best way to calculate centripetal acceleration and implement said experiments into code.

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## Individual Contributions

Team Member	Contribution	Weekly Hours	Total Hours
Kristina Robinson	Fixed errors with android code that prevented development last week and then continued development on proprietary texting application.	8	27
Andrew Knaack	Created basic speedometer example with data read-outs. Distilled text-watching into its own proper module (can now be integrated into any activity).	8	32
Sara Mace	Helped fixed errors in android code. Attempted to get the messages to show properly in the listview but had no luck.	8	28
Lucas Golinghorst	Attempted to find a way to separate the seatbelt object detection from the Tensorflow demo. Uploaded demo to git and created new branch for camera detection module. Made conceptual diagram for camera detection module progress point 1.	8	27
Ryan Baker	Continued to research Tensorflow versions. Continued exploring tensorflow demo and Tensorflow API.	9	27
Derek Clayton	Wrote a summary of the research article: "Texting and Driving Recognition exploiting subsequent turns leveraging Smartphone sensors. Indicated important facts/ideas learned as well as concerns regarding the paper and group's experiments.	7	26.5
		Total Group Hours:	167.5

## Gitlab Activity Summary

Kristina fixed merge conflicts and errors on the proprietary texting app [7 changed files, 18 adds, 13 dels](2/11)

Andrew made a Speedometer branch with human-readable output [4 changed files, 99 adds, 1 del](2/12)

Ryan created a new branch for the image processing app (2/13)

Kristina worked on fixing message layout on proprietary texting app [7 changed files, 90 adds, 64 dels](2/14)

Andrew changed speedometer module output in kilometers [1 changed file, 6 adds, 4 dels](2/14)

Andrew separated text watcher from example code [5 changed files, 138 adds, 90 dels](2/14)

Andrew changed main activity to alleviate merge problems [2 changed files, 2 adds, 29 dels](2/14)

Andrew changed speedometer to read in /hr rather than /s [1 changed file, 18 adds, 7 dels](2/14)

Lucas add TensorFlow demo app to the repository [303 changed files, 3099 adds, 0 dels](2/17).