

# FPR Presentation

## SmartWheel

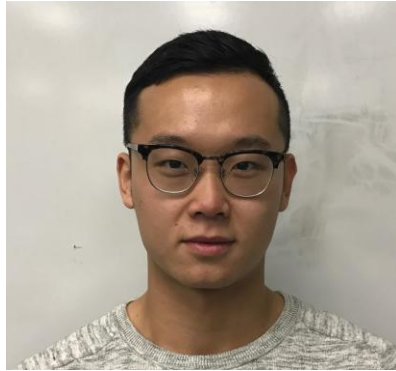
Bingjun Wang  
Yaroslav Burdin  
Bingze Li  
Jack Tam

Department of Electrical and Computer Engineering  
April 21, 2017

# Team Members



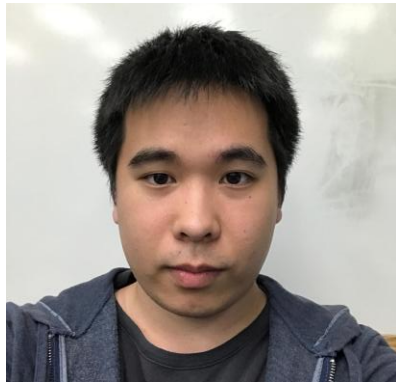
Advisor  
Lixin  
Gao



Bingze  
Li  
EE



Bingjun  
Wang  
EE

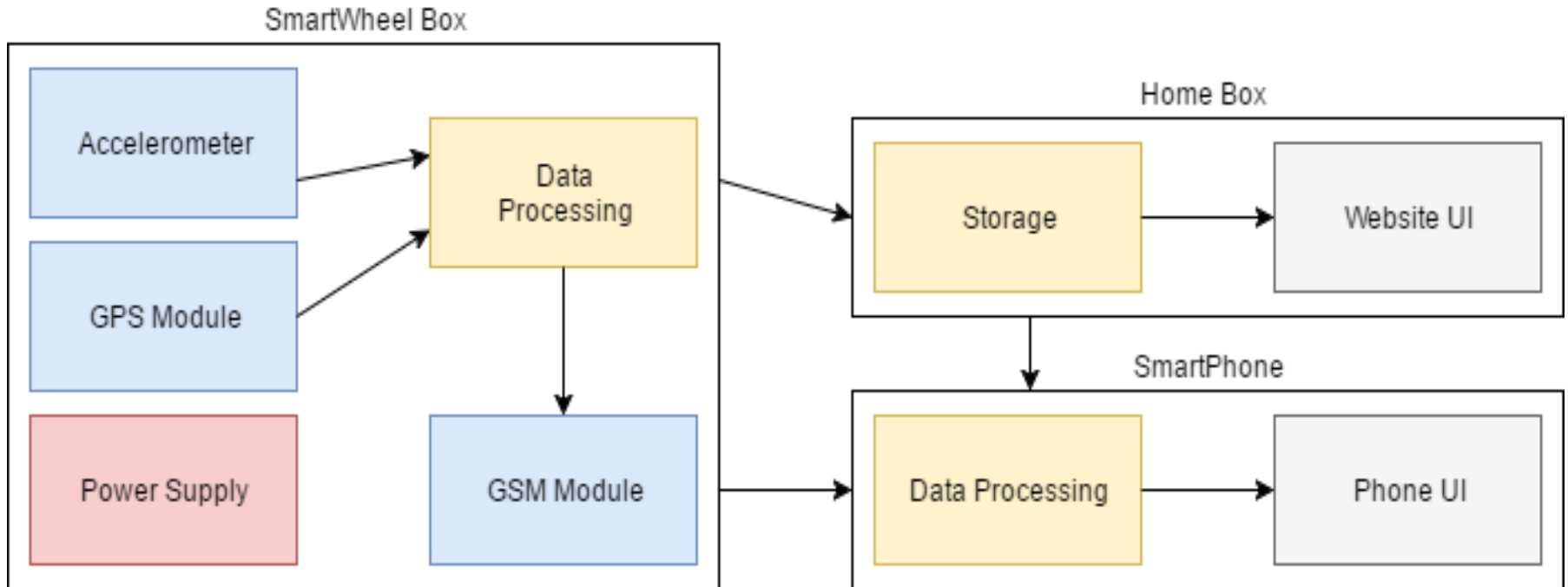


Jack  
Tam  
CSE



Yaroslav  
Burdin  
CSE

# Overview\ Block Diagram



## FPR Deliverables

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### Proposed Deliverables

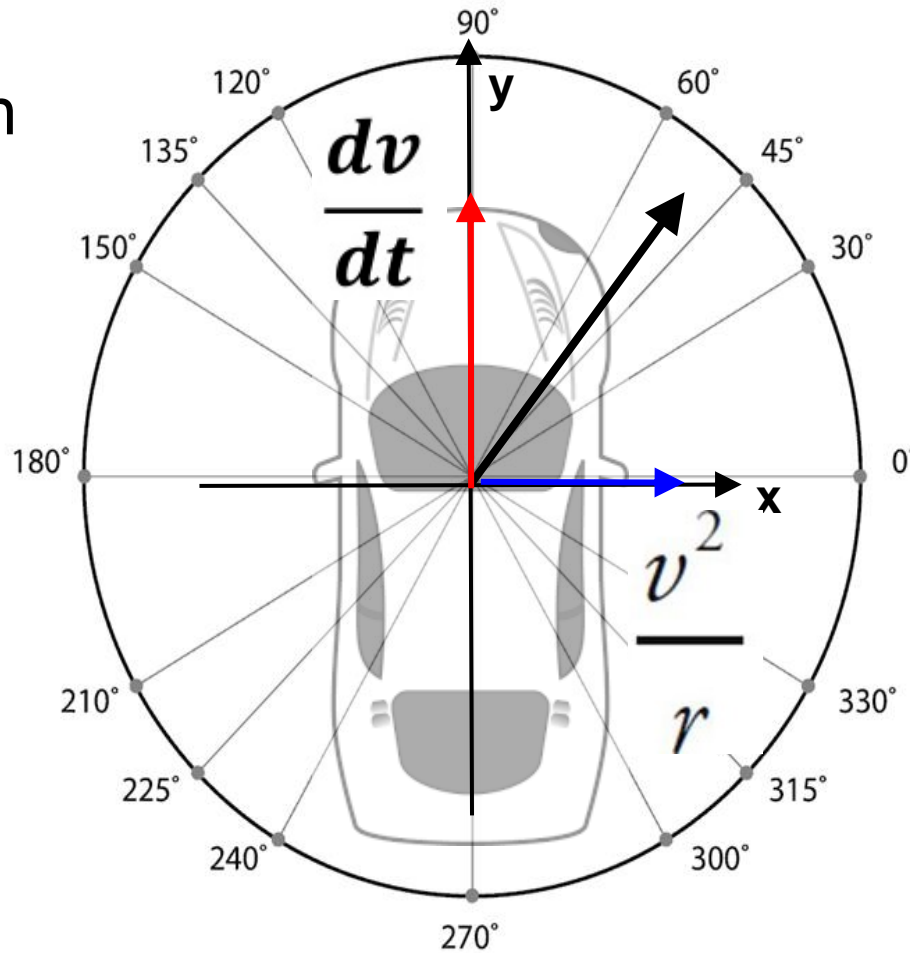
- Fully integrated system

### Added Deliverables After Feedback

- Phone Application Addresses
- Various Text Message Alerts
- SmartWheel Misposition Detection
- 3D Printed Case
- Web User Interface

## Accelerometer

Right Turn



# Smartphone Application

## Improvements

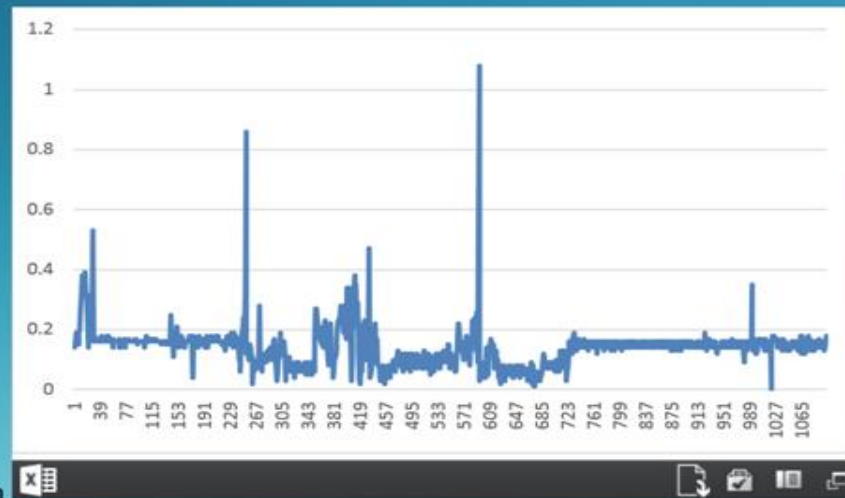
- Added more options for acceleration
- Added addresses
- Changed map to satellite view



## Website User Interface

### SmartWheel

We watch behind your wheels



Here is the Chart of your recent acceleration

you have  times dangerous driving

Remind User by Email: click [Here](#)

Take a look at the data history click [Here](#)

[Bookmark This Page](#)

## OneDrive



- Similar to google Drive.
- Gives the embed code for website programming.



## 3D Printed Case (TinkerCad)



- Free to Use
- Saving .STL Files Online
- Easy for Beginners

## Indicator and Reset Button

### **Indicator:**

Blink: connect to serve

On: working

Off: stop working

### **Reset Button:**

Reset Python code



# Specifications

Specification	Proposed	Actual
Dimensions	11x8x5 cm <sup>3</sup>	11.5x8.5x4.5 cm <sup>3</sup>
Weight	250 grams	340 grams
Battery Life	12 hours	16 hours
Unit Price	<\$150	<\$120
Text Message Alert Delay	<15 seconds	< 10 seconds
Storage Capacity	72 hours of driving	14 days of driving
Server Connection Radius	>15 meters with a wall between	>70 meters in open area; > 32.5 meters with a wall in between.

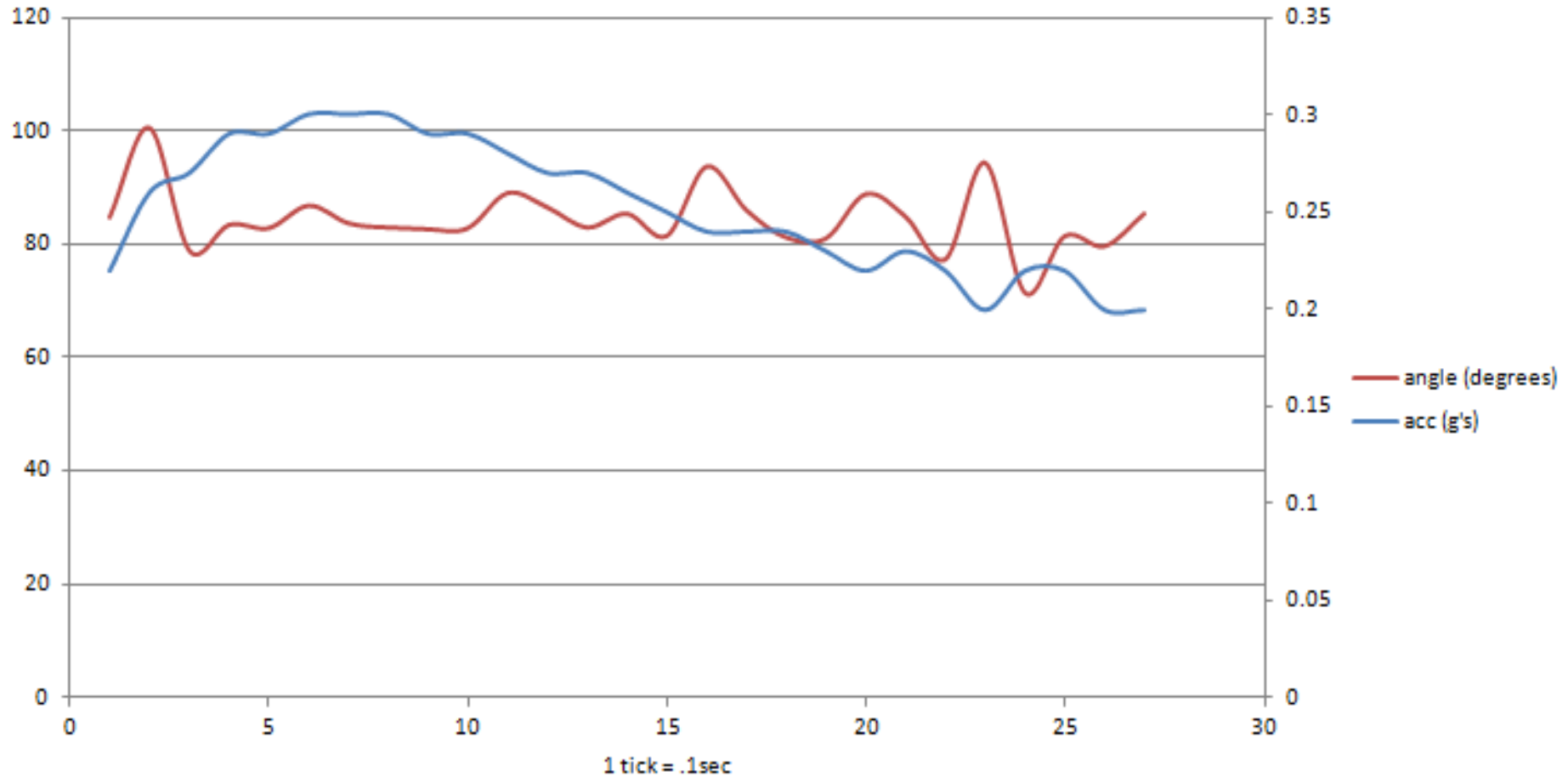
# DEMO

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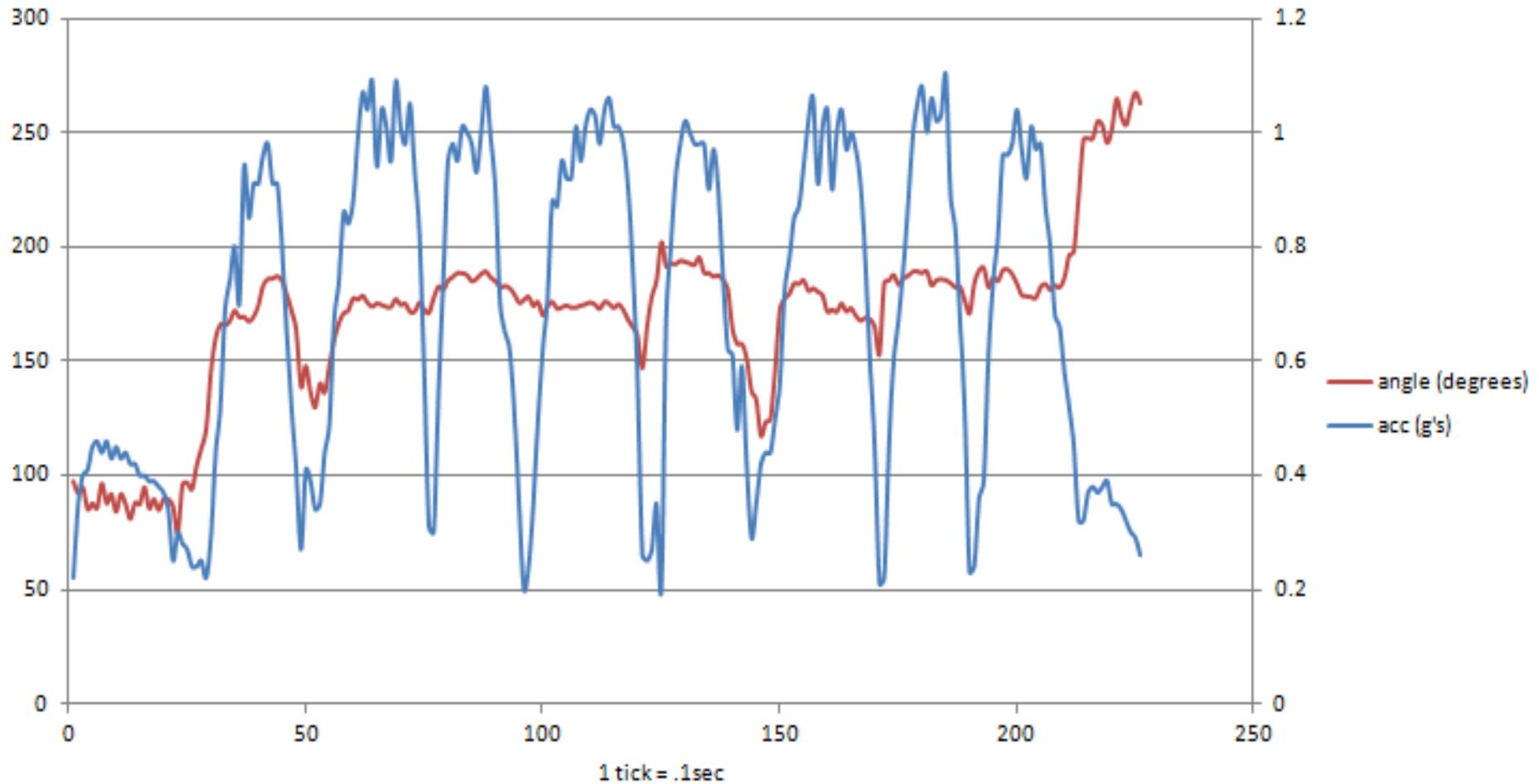


Thank You!

# Safe Acceleration



# Dangerous 8 Left Turns





# Wiggling, Dangerous Acceleration/Deceleration

