

# DASH



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<b>Novin Changizi</b>	writing, usability testing
<b>Melissa Khuat</b>	digital mockup, project manager

# Problem

Distracting behaviors while driving:

Texting,  
Calling,  
Scenery,  
Makeup,  
Drinking,  
Exhaustion...

## How bad can it be?

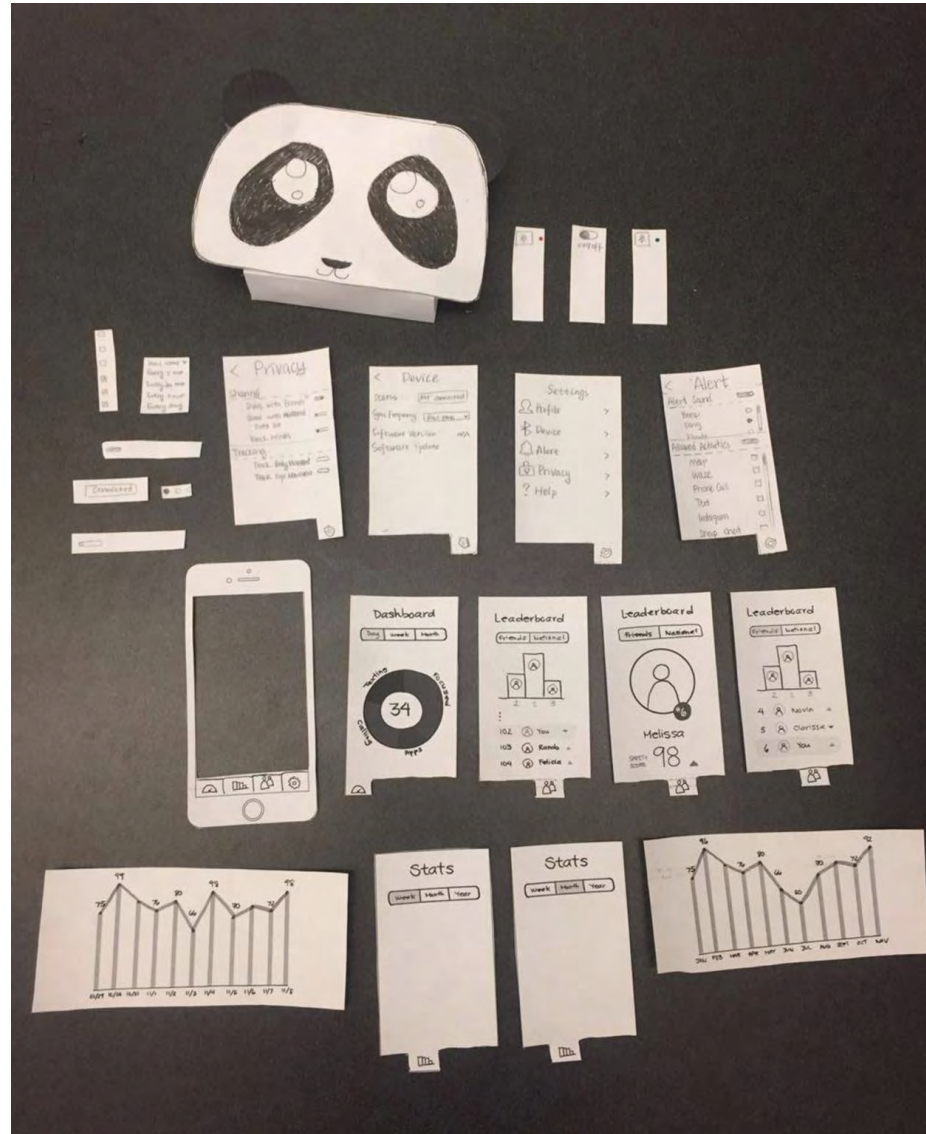
Each day in the United States, over **1,161** people are injured and over **8** people are killed in crashes that are reported to involve a distracted driver.

**How many of you still engaged in distracting behaviors while driving after the previous presentation?**



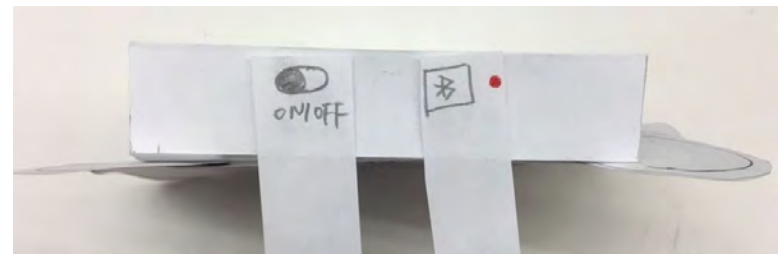
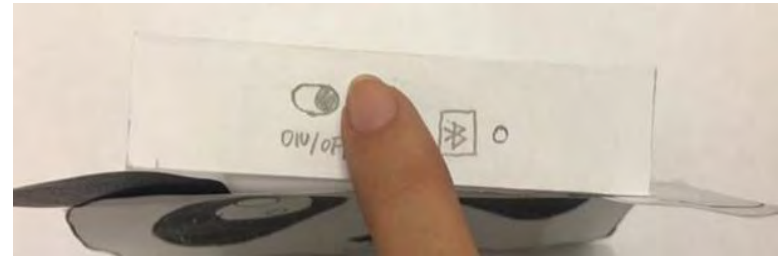
How can we encourage *and*  
reinforce safer driving habits?

# Initial Paper Prototype | OVERVIEW



# Initial Paper Prototype

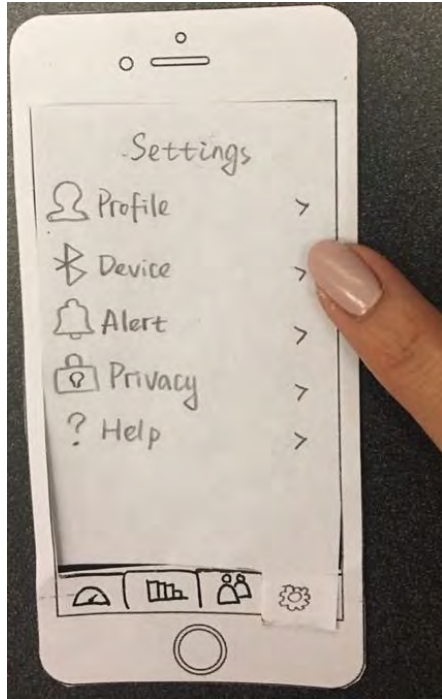
## TASK 1: PROCESSING & VISUALIZING DATA



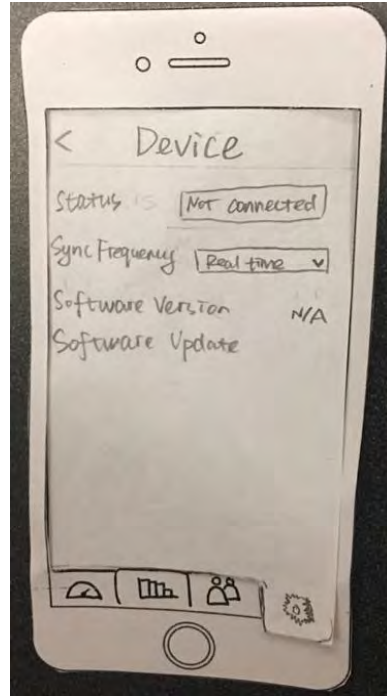
Turn on and connect device

# Initial Paper Prototype

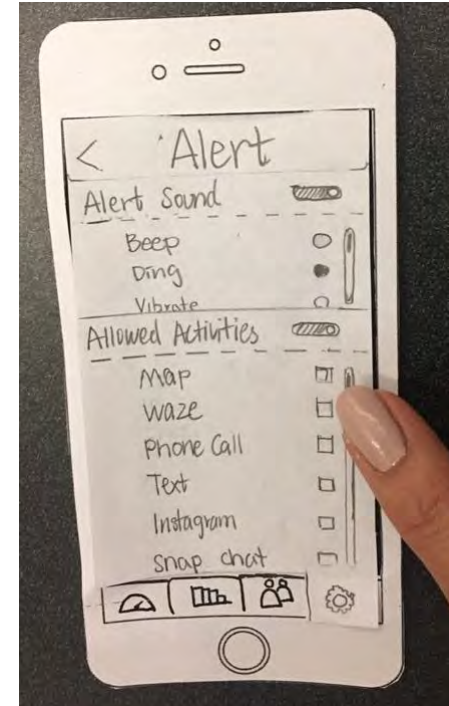
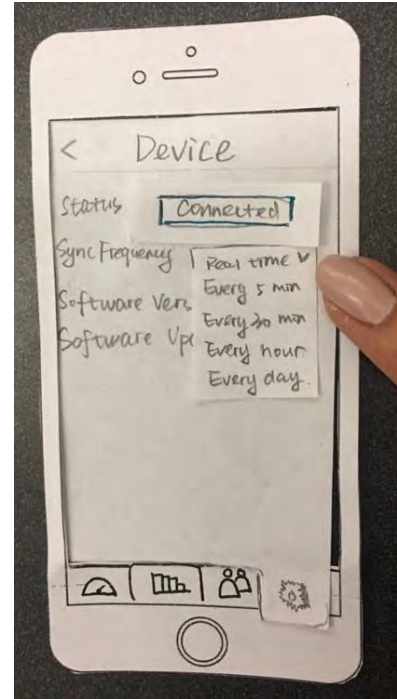
## TASK 1: PROCESSING & VISUALIZING DATA



Settings



Device Settings

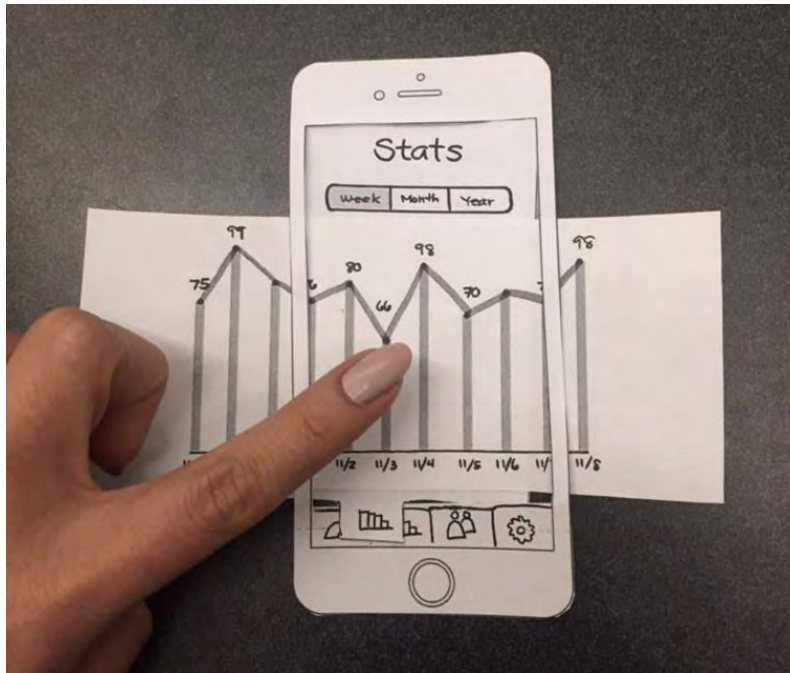


Alert Settings



# Initial Paper Prototype

## TASK 1: PROCESSING & VISUALIZING DATA

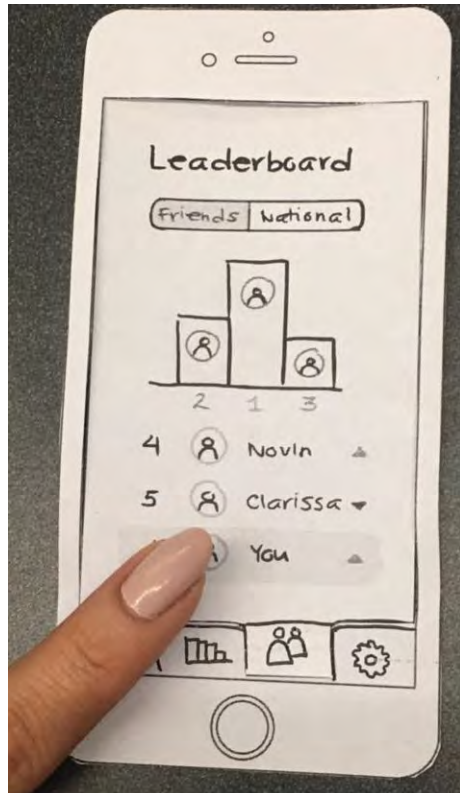


Dashboard Summary

Stats view → Scrolling for more → Switch to month view

# Initial Paper Prototype

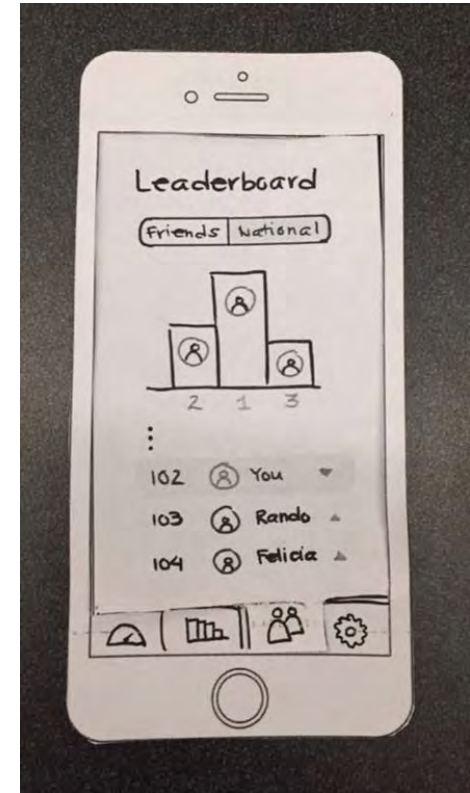
## TASK 2: Sharing & Comparing Driving Habits



Friend View of  
Leaderboard



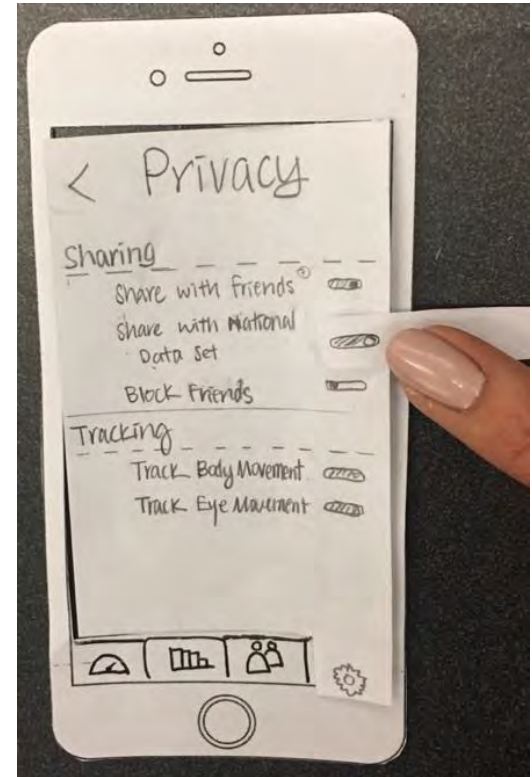
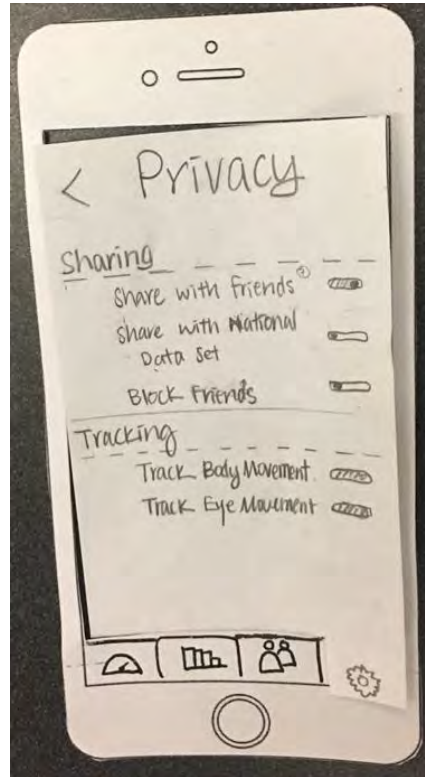
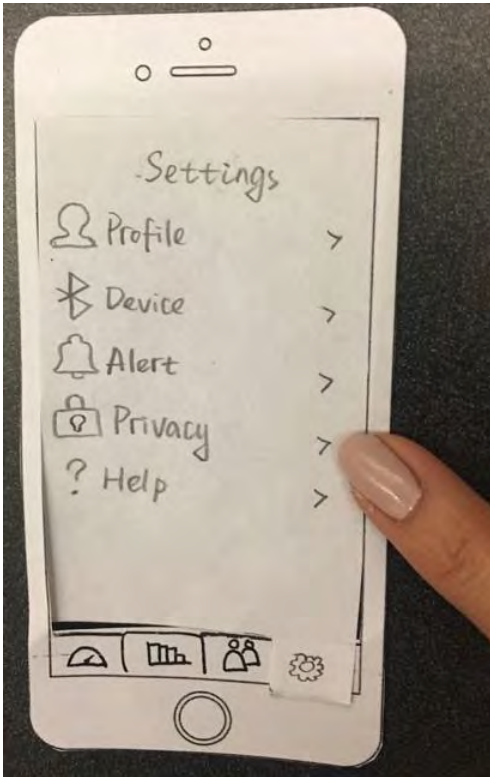
Individual Profile



National View of  
Leaderboard

# Initial Paper Prototype

## TASK 2: Sharing & Comparing Driving Habits



Privacy Settings

# Testing Process & Results

## PARTICIPANTS & METHODS

### Three participants

- Male and female

- First two males were inexperienced drivers

- Last was semi-experienced female driver (~5 years)

### Two parts to the test:

- How user would use it for the first time: installation, pairing

- How user would use it after a while: stats, leaderboard

# Testing Process & Results

## CRITICAL INCIDENTS

### Issues addressed:

- ▷ No affordance for clipping panda
- ▷ Inconvenient button placement on panda
- ▷ No details on how to connect panda
- ▷ “Allowed activities” settings encouraged illegal activities
- ▷ No detail view for data on stats or dashboard
- ▷ Stats graphs did not afford clicking or scrolling
- ▷ No capability to add/remove friends

# No Affordance for Clipping Panda

*So we added clips to the bottom*



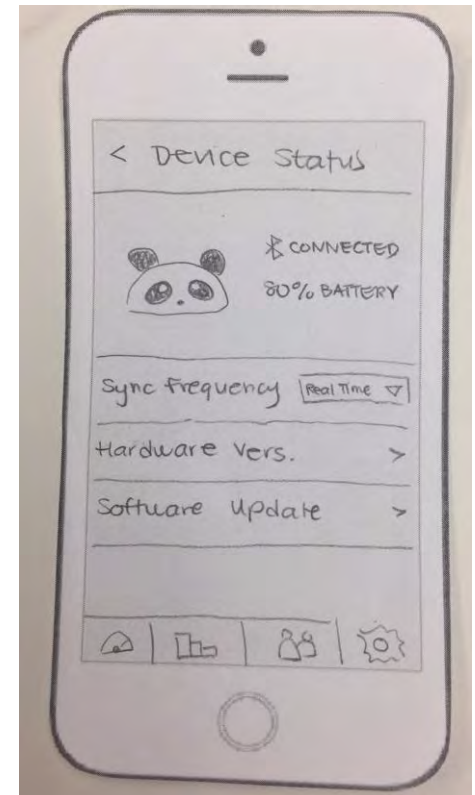
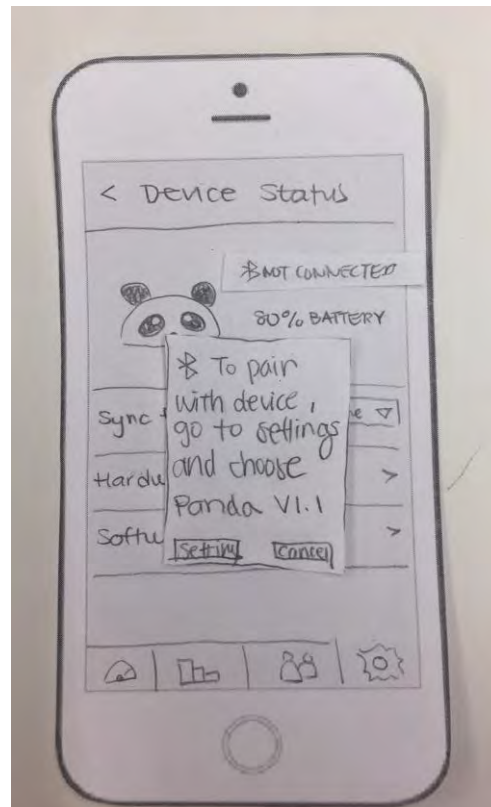
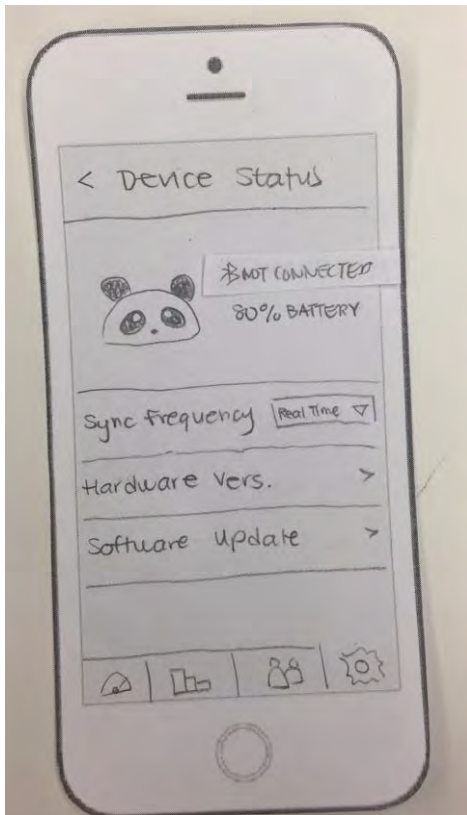
# Inconvenient button placement on the panda

*So we put the buttons on the left side*



# No details on how to connect panda

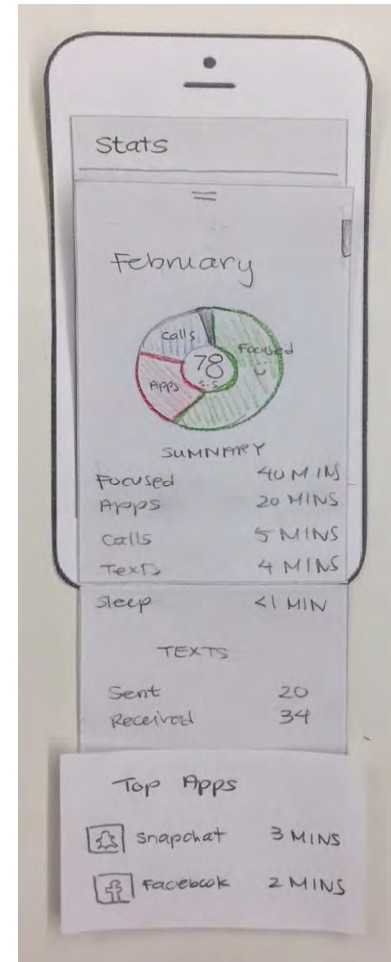
*So we added it to the settings*





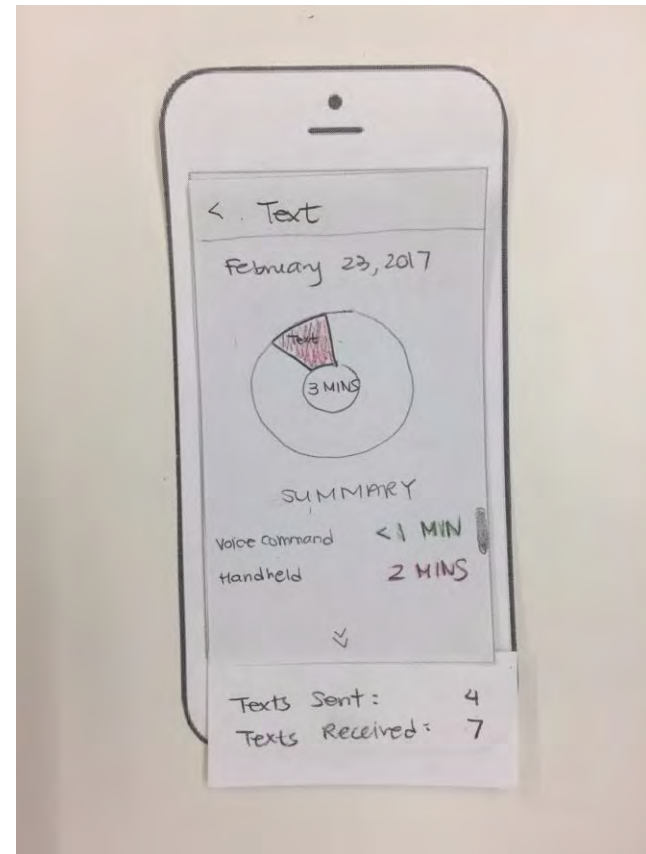
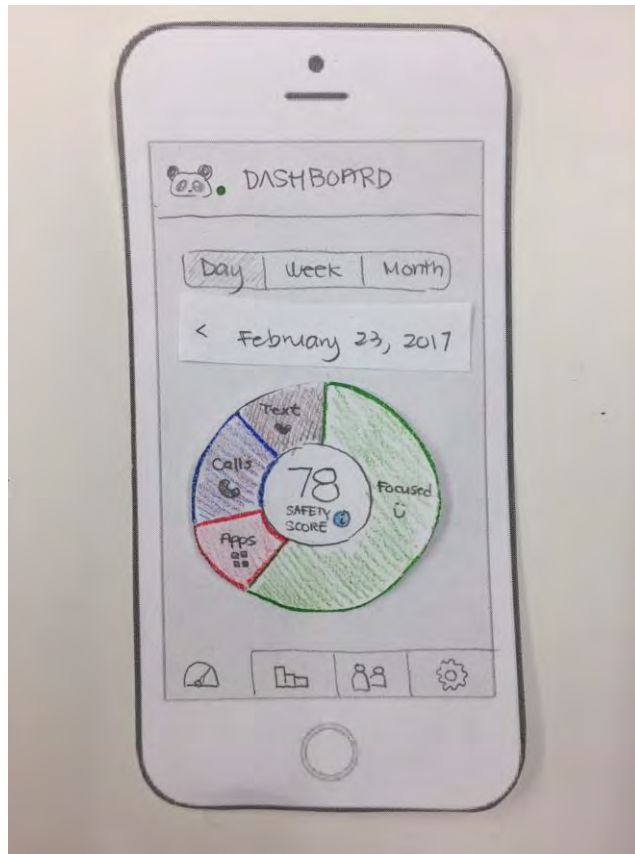
# “Allowed activities” settings permitted illegal activities

*So we added detailed stats about them instead*



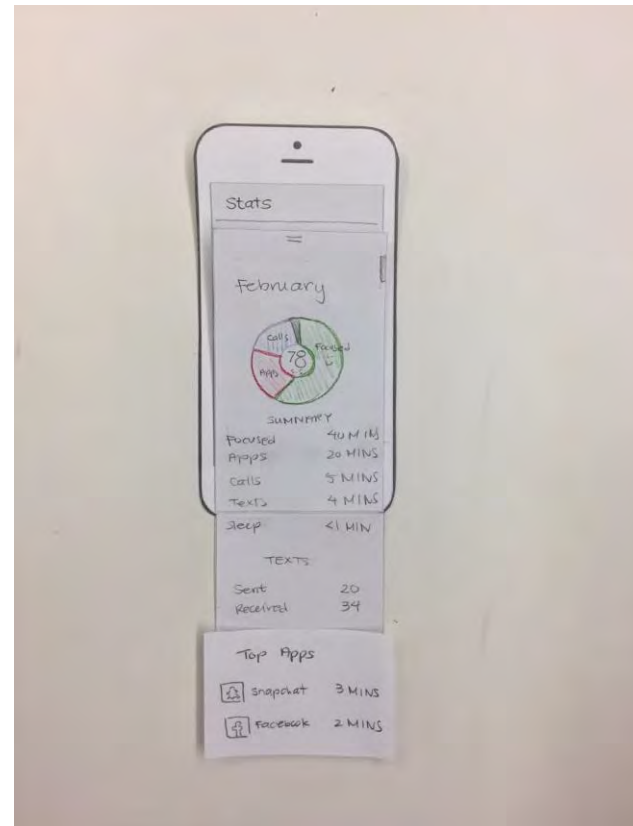
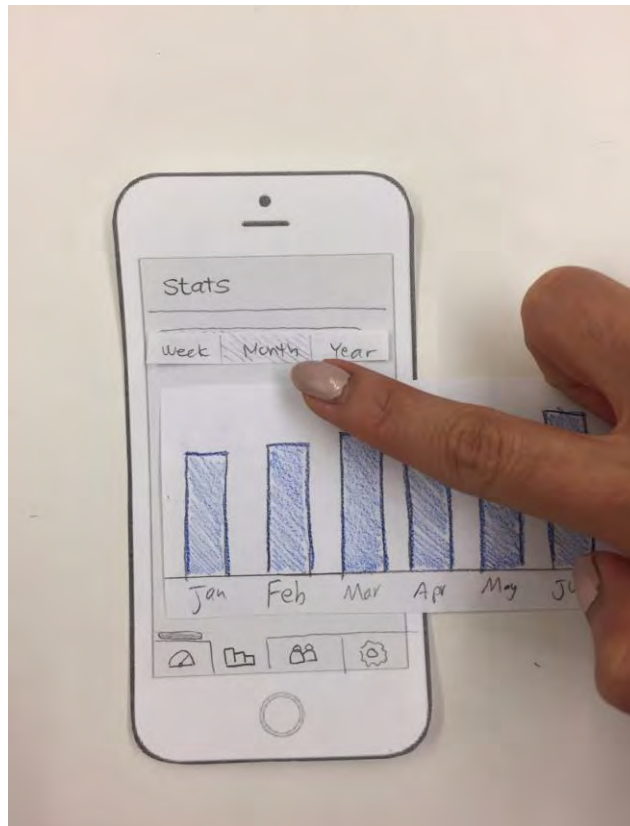
# No detail view for data on stats or dashboard

*So we added a detail view*



# Stats graphs did not afford clicking or scrolling

*So we made bars thicker and added a scrollbar*



# Final Paper Prototype |

## OVERVIEW



# Final Paper Prototype

## TASK 1: PROCESSING & VISUALIZING DATA

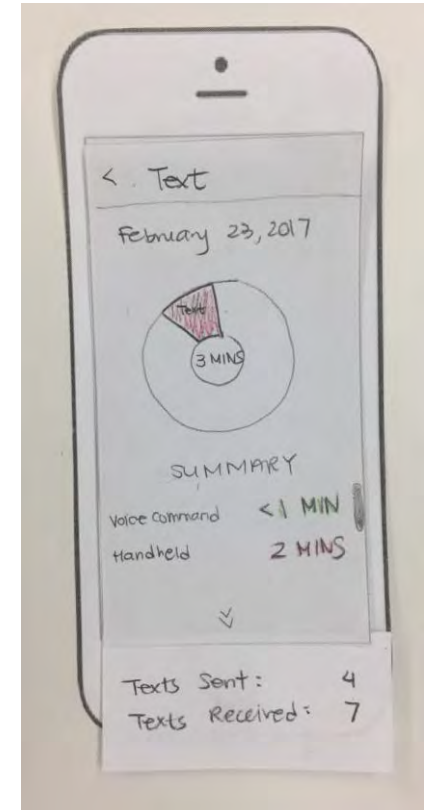
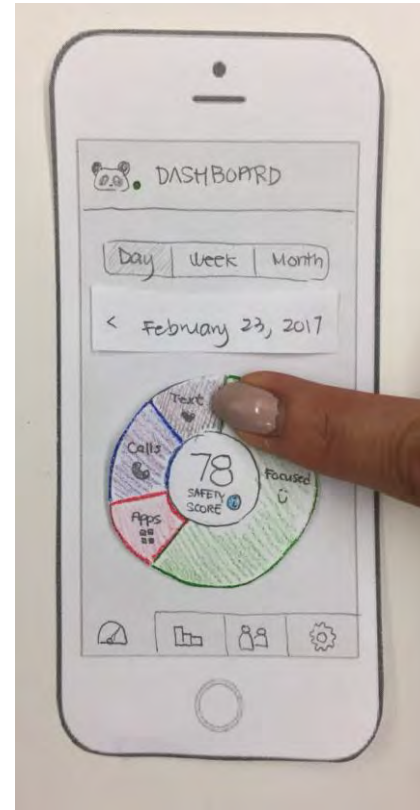


Clip on to Mirror  
Buttons & Light on the left side



# Final Paper Prototype

## TASK 1: PROCESSING & VISUALIZING DATA



New User  
Detailed View of Text



Dashboard

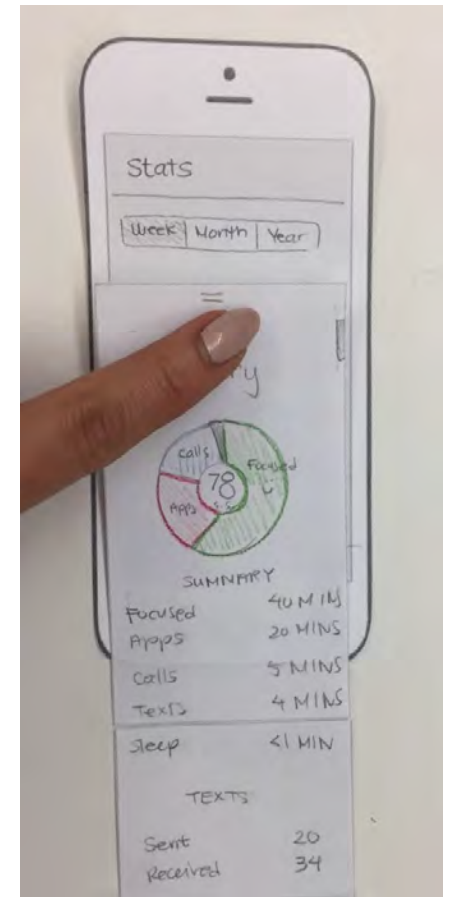
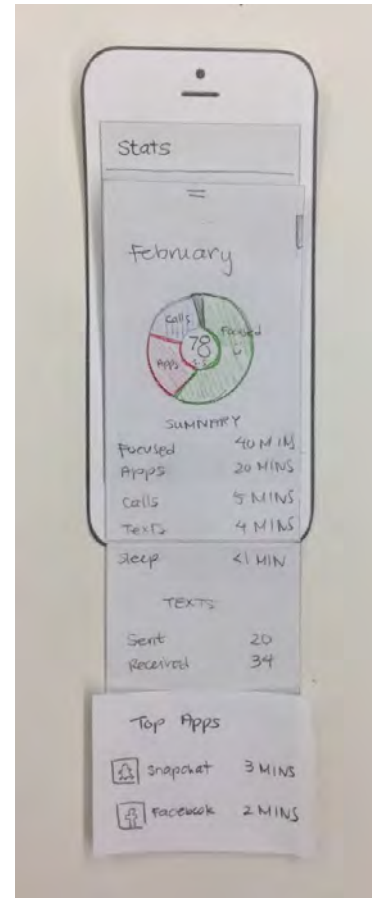
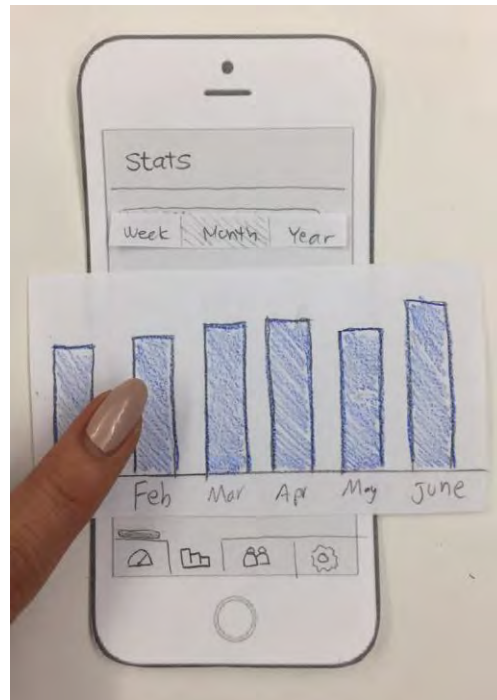
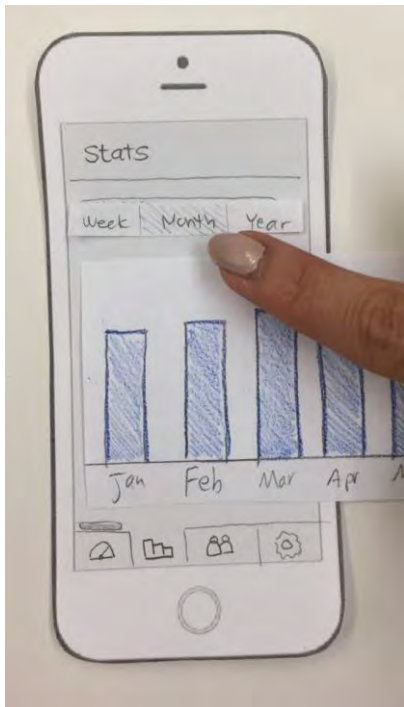


Click on Pie Chart



# Final Paper Prototype

## TASK 1: PROCESSING & VISUALIZING DATA



Monthly Stats  
Swipe Down



Click on Feb

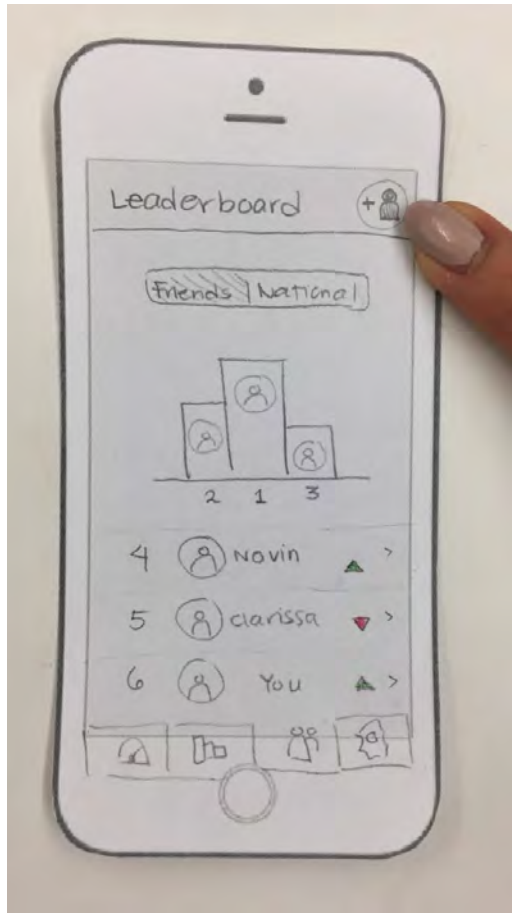


Detailed View of Feb

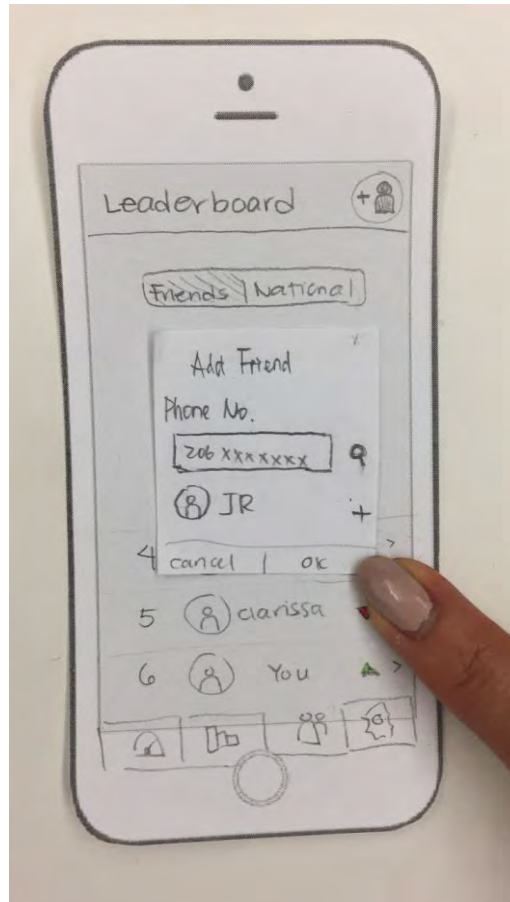


# Final Paper Prototype

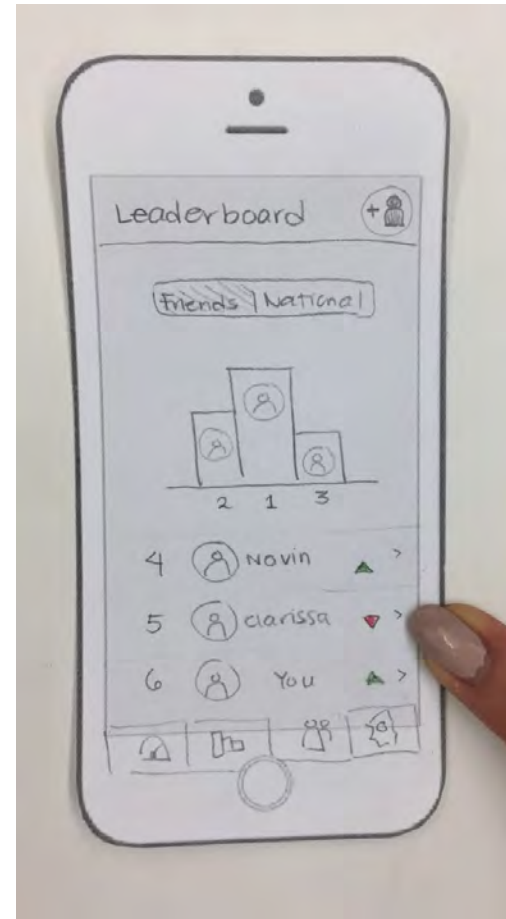
## TASK 2: SHARING & COMPARING DRIVING HABITS



Add Friend  
Friend



→ Find Friend

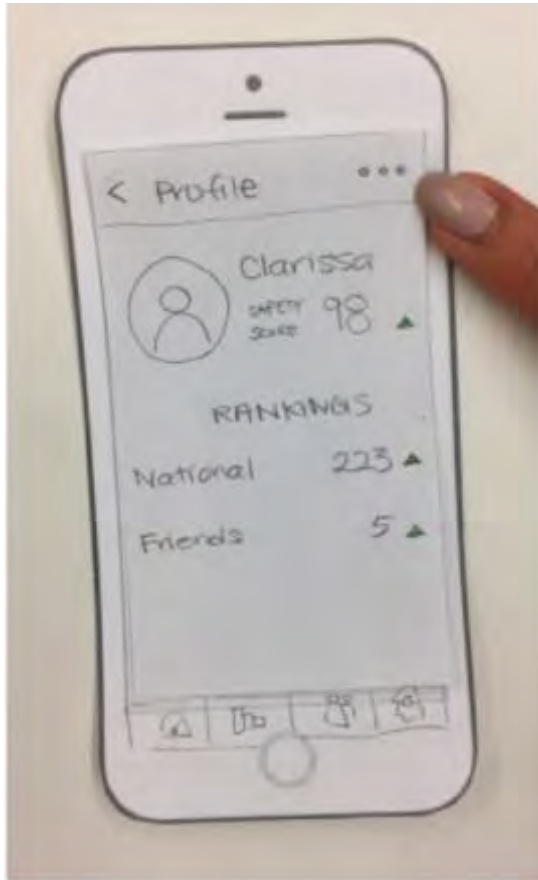


→ Checkout



# Final Paper Prototype

## TASK 2: SHARING & COMPARING DRIVING HABITS

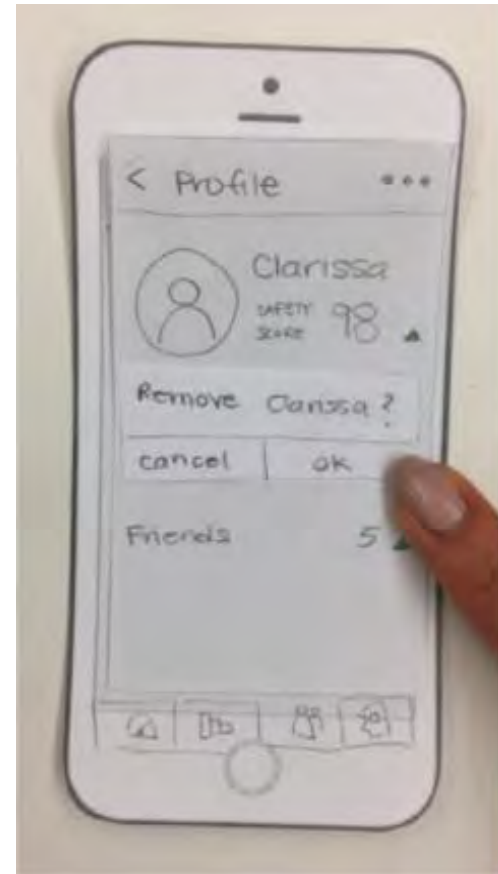


Option  
Remove Friend



→

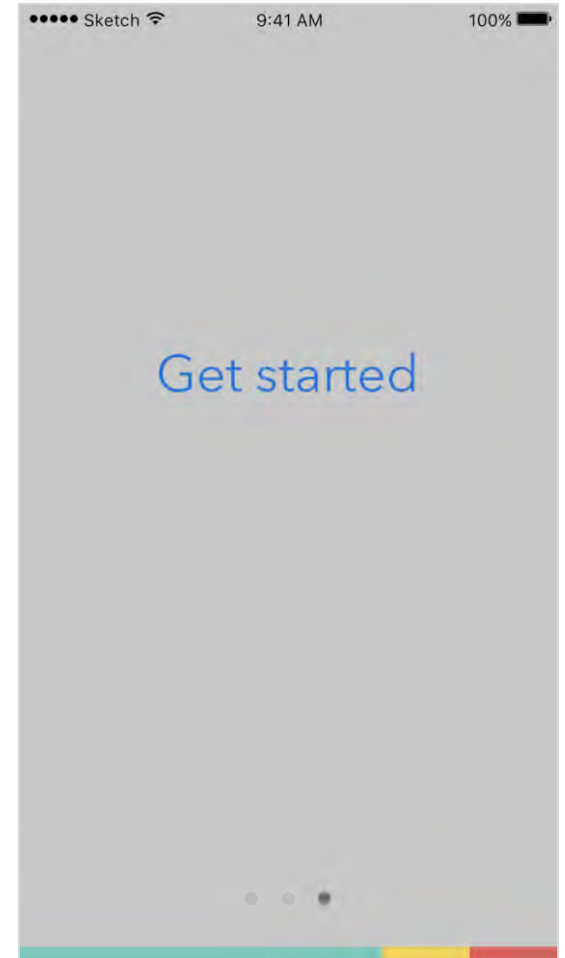
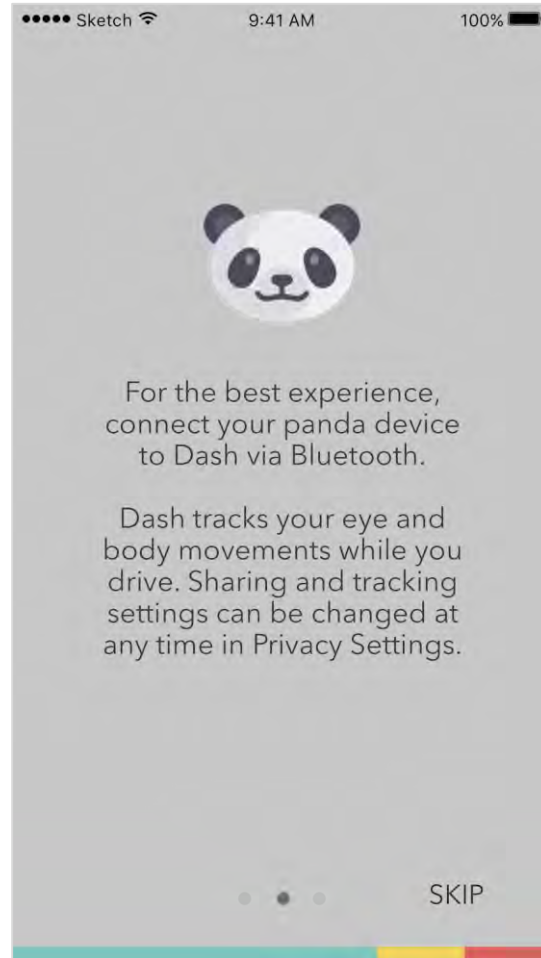
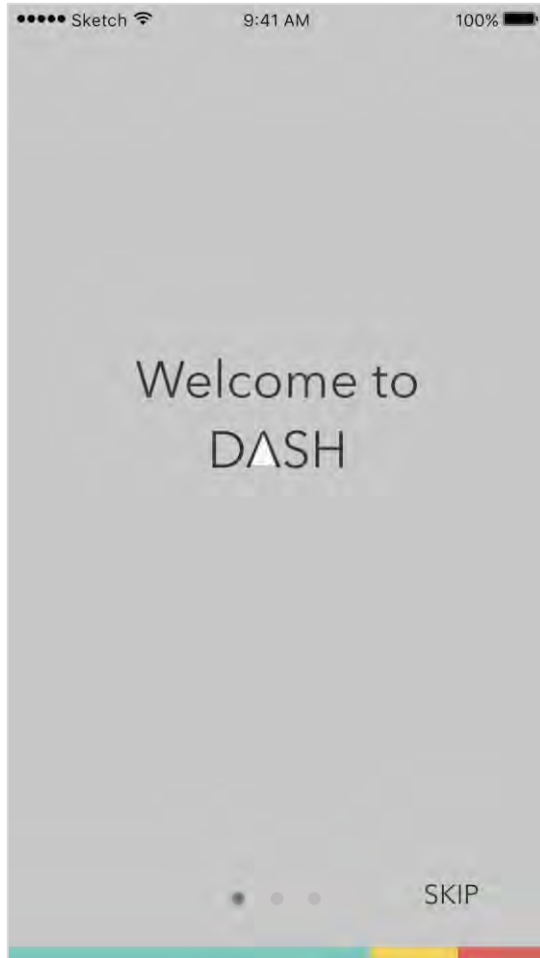
Pick Action



→

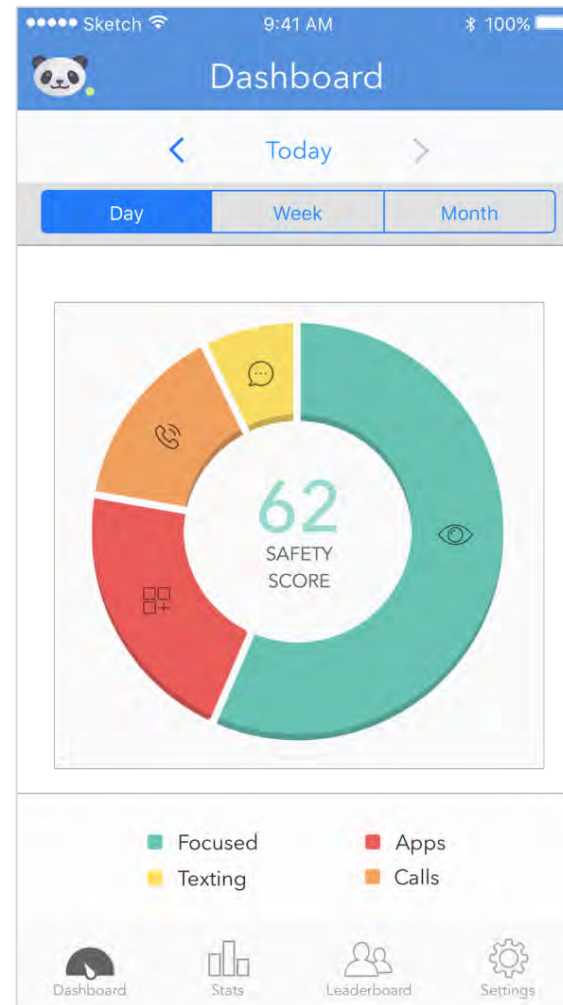
# Digital Mockup

## TUTORIAL



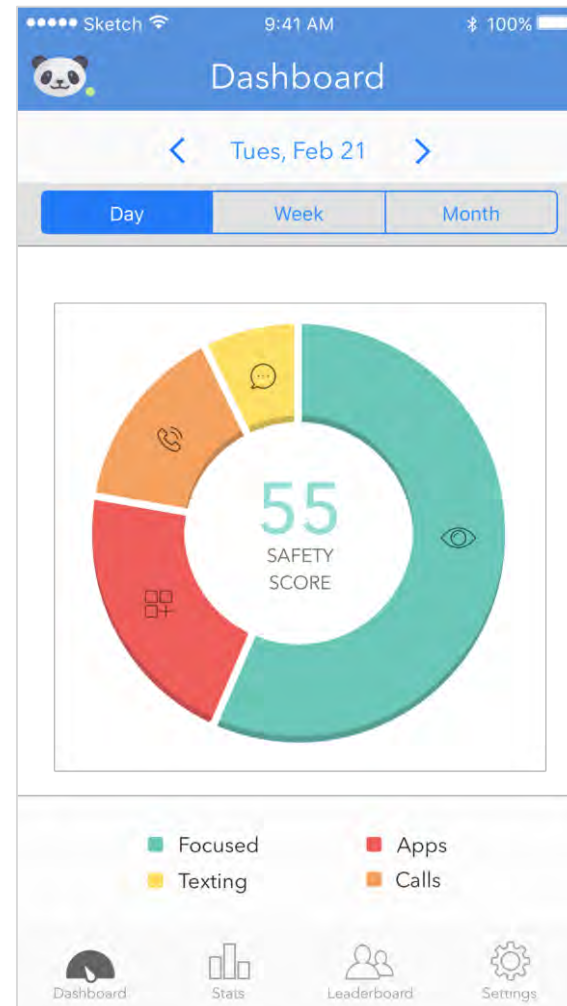
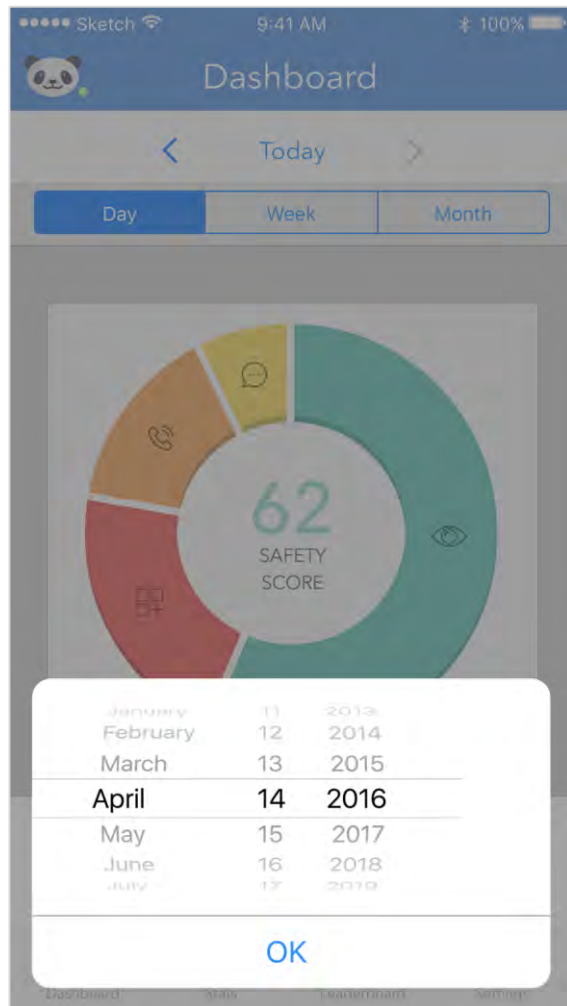
# Digital Mockup

## TASK 1: VISUALIZING & PROCESSING DRIVING DATA



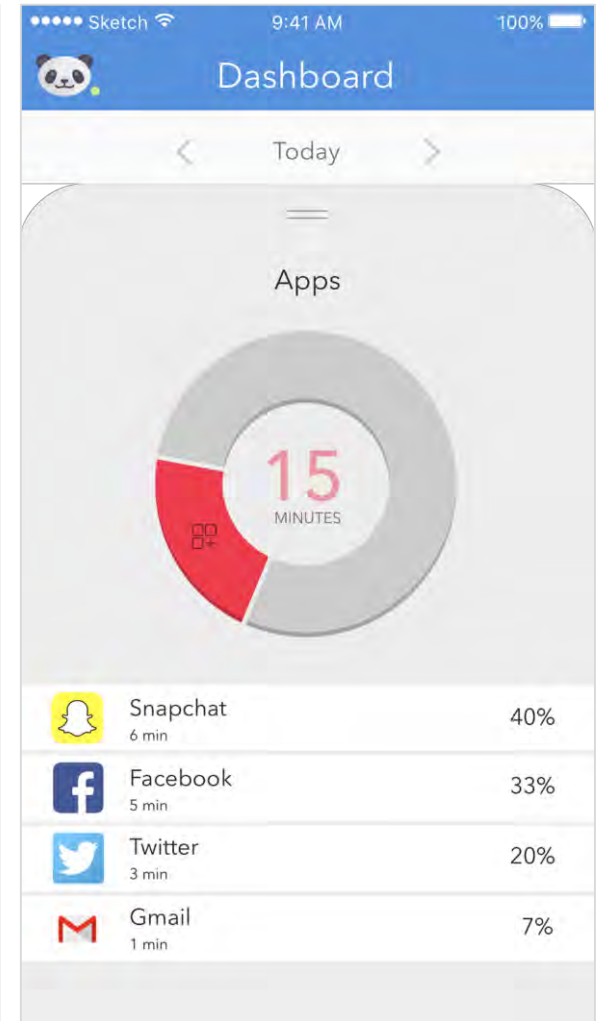
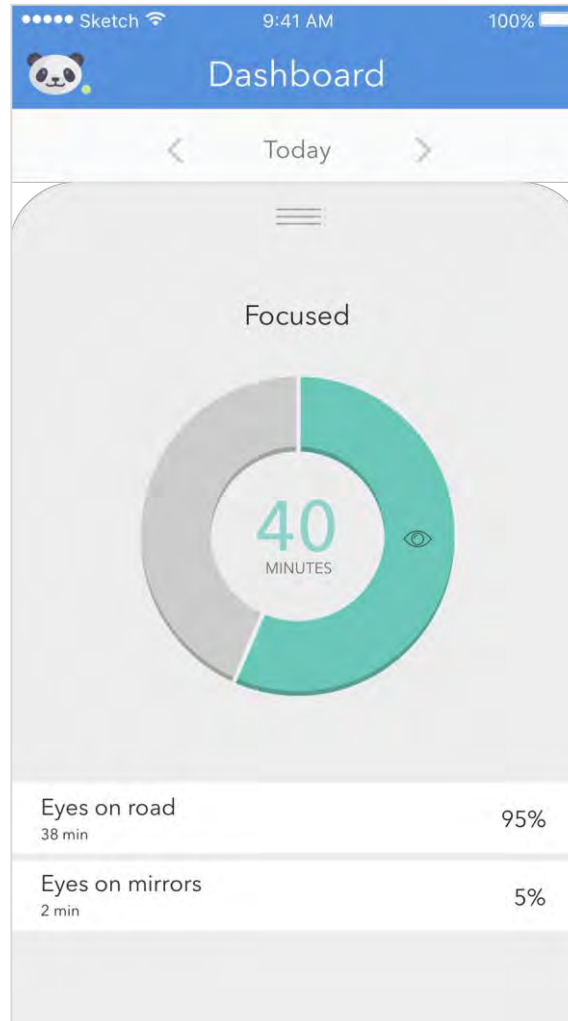
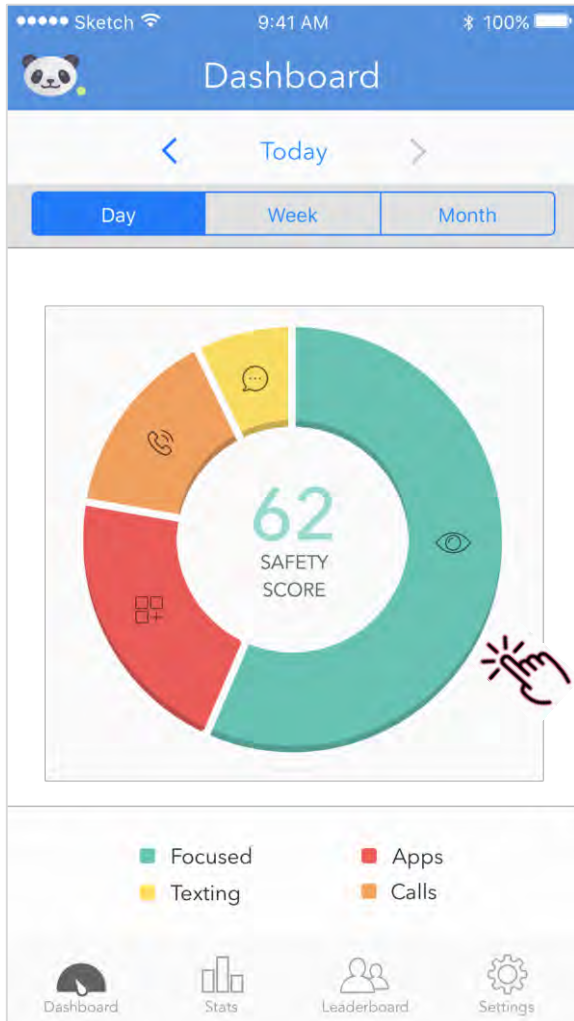
# Digital Mockup

## TASK 1: VISUALIZING & PROCESSING DRIVING DATA



# Digital Mockup

## TASK 1: VISUALIZING & PROCESSING DRIVING DATA



# Digital Mockup

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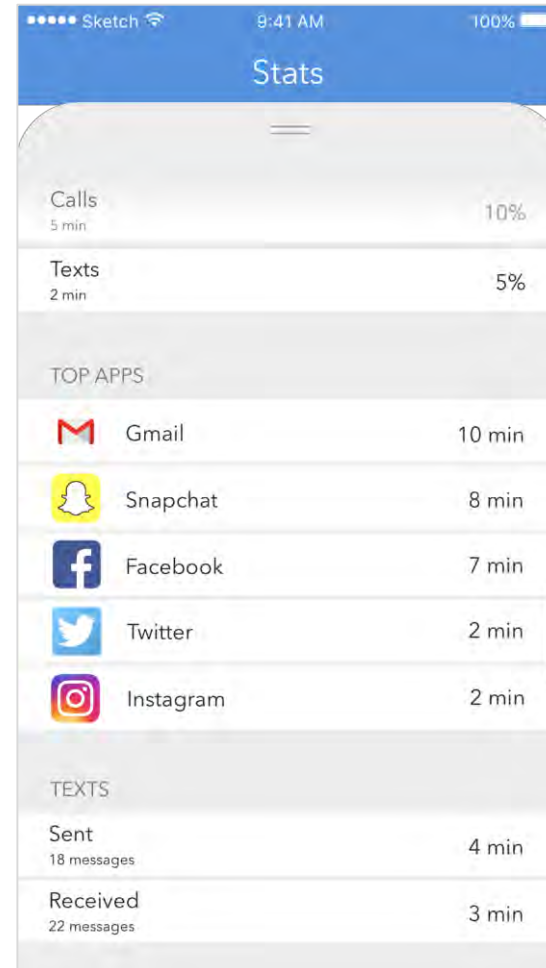
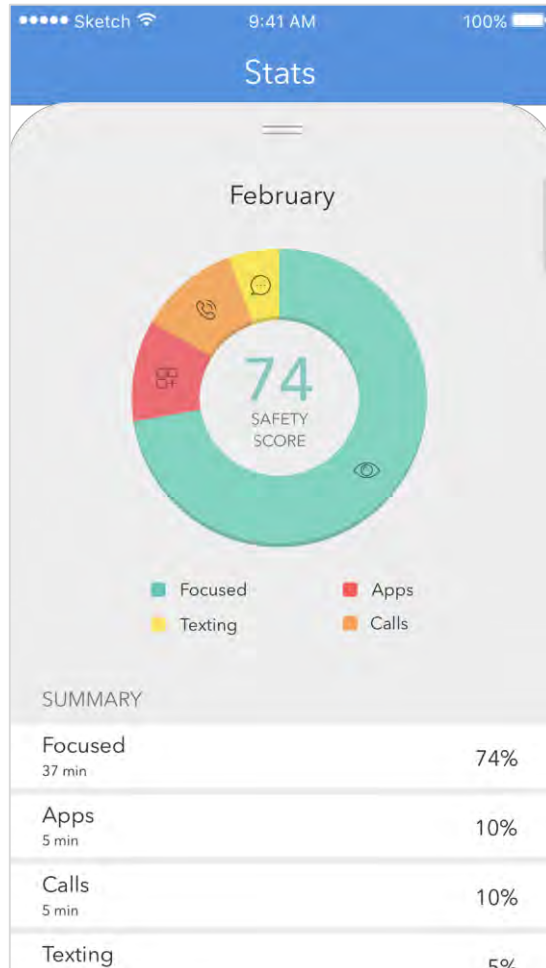
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## TASK 1: VISUALIZING & PROCESSING DRIVING DATA



# Digital Mockup

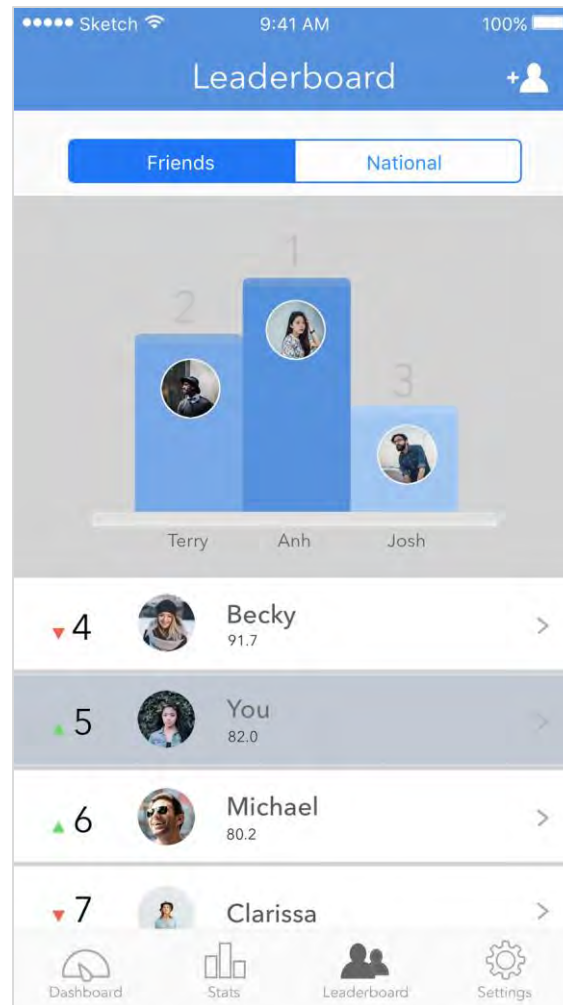
## TASK 1: VISUALIZING & PROCESSING DRIVING DATA





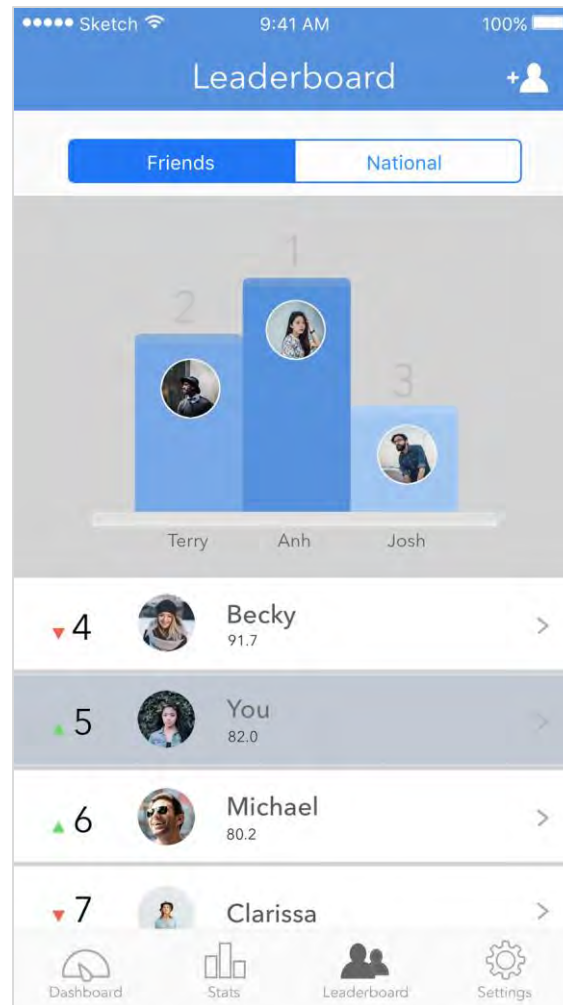
# Digital Mockup

## TASK 2: SHARING & COMPARING DRIVING HABITS



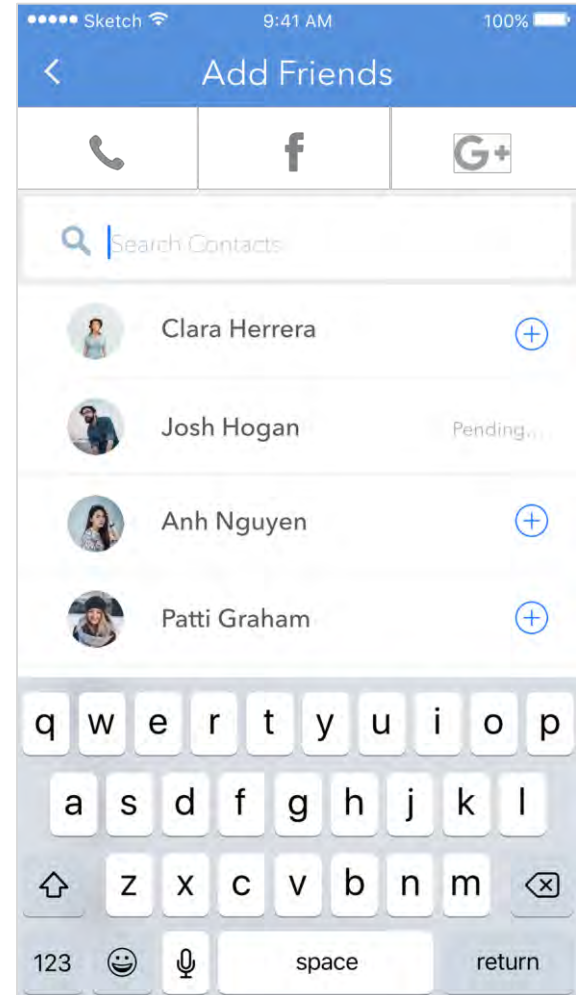
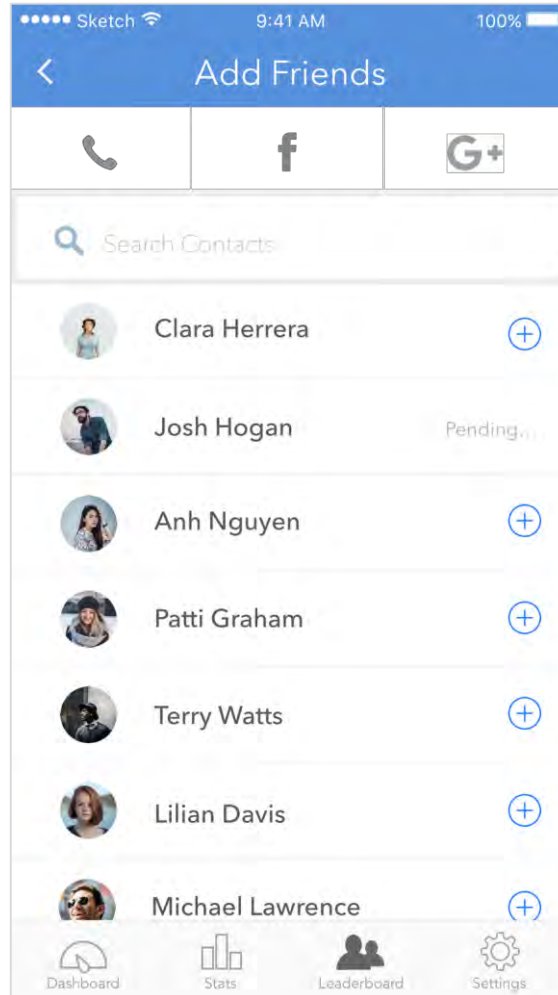
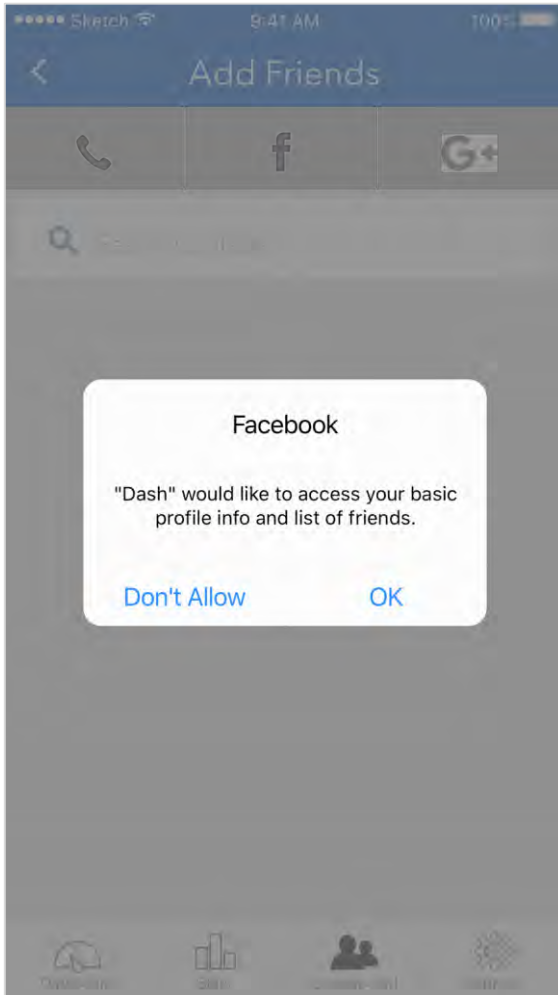
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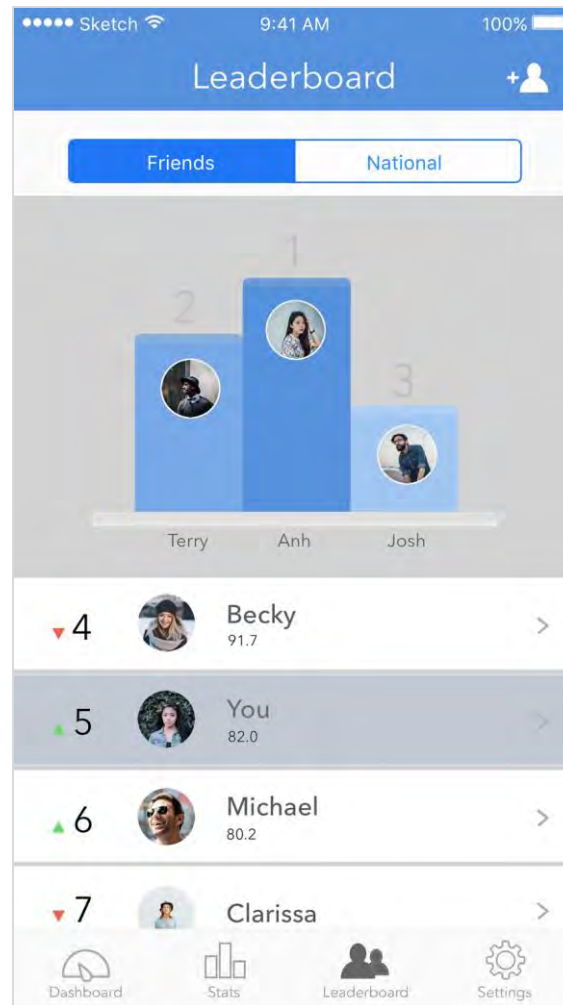
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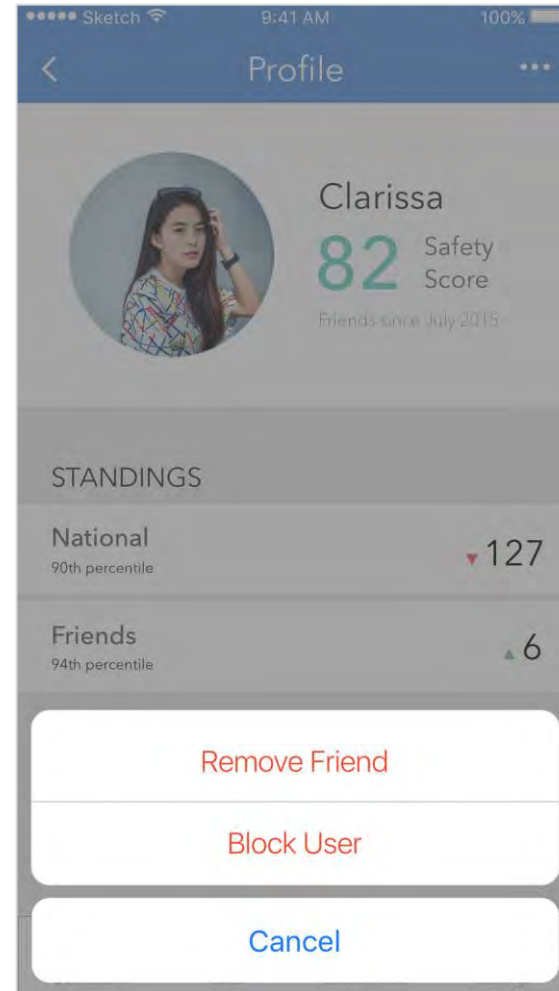
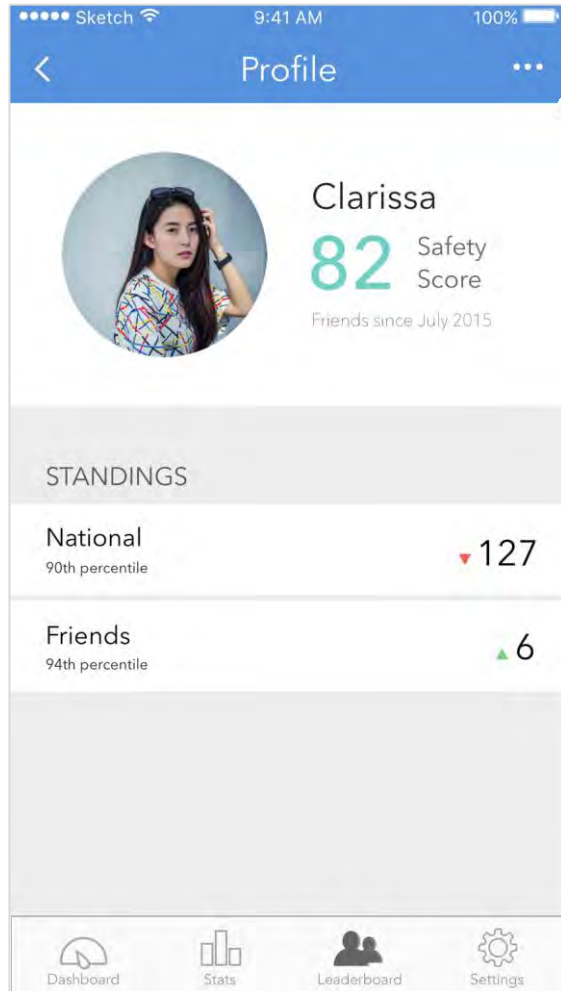
# Digital Mockup

## TASK 2: SHARING & COMPARING DRIVING HABITS



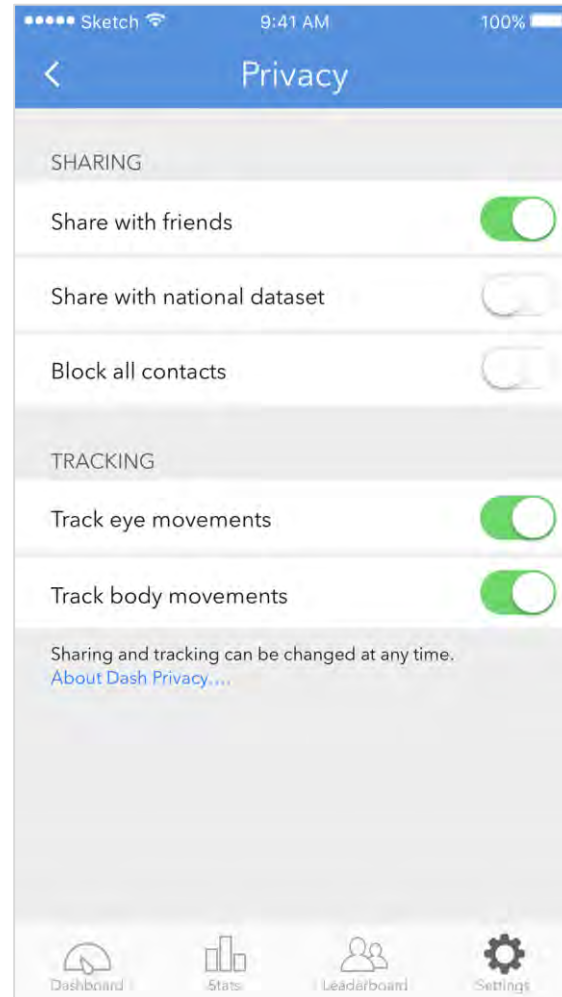
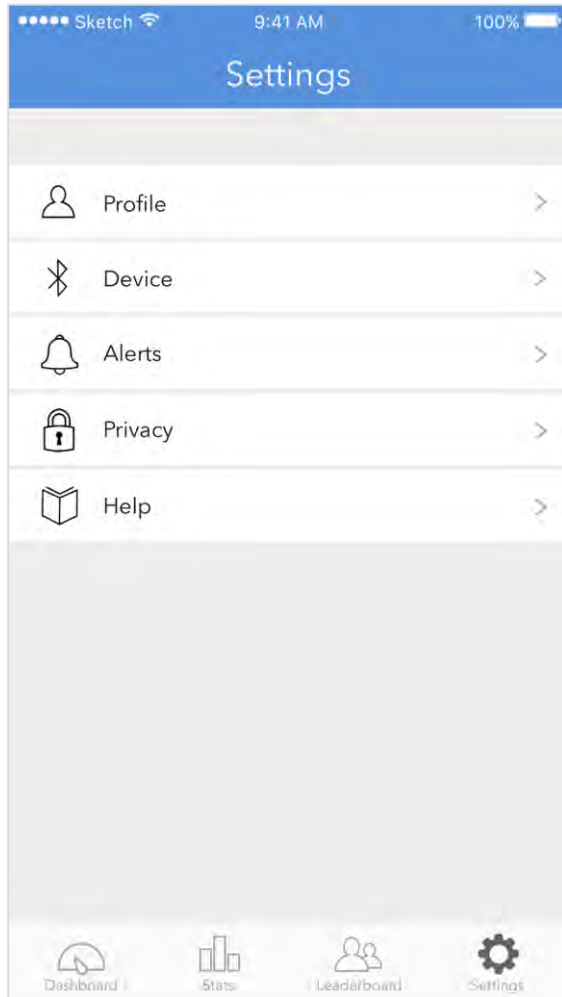
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## TASK 2: SHARING & COMPARING DRIVING HABITS



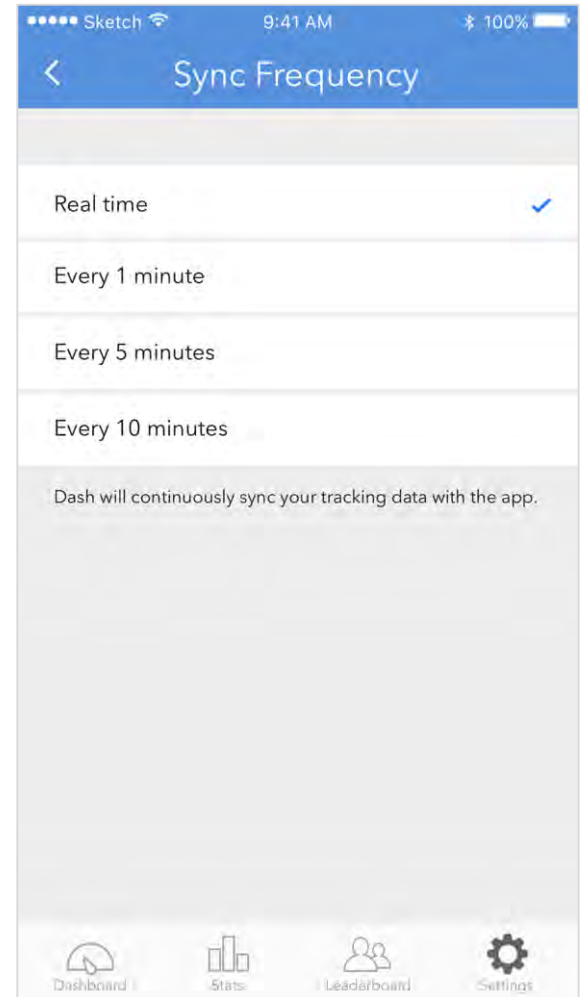
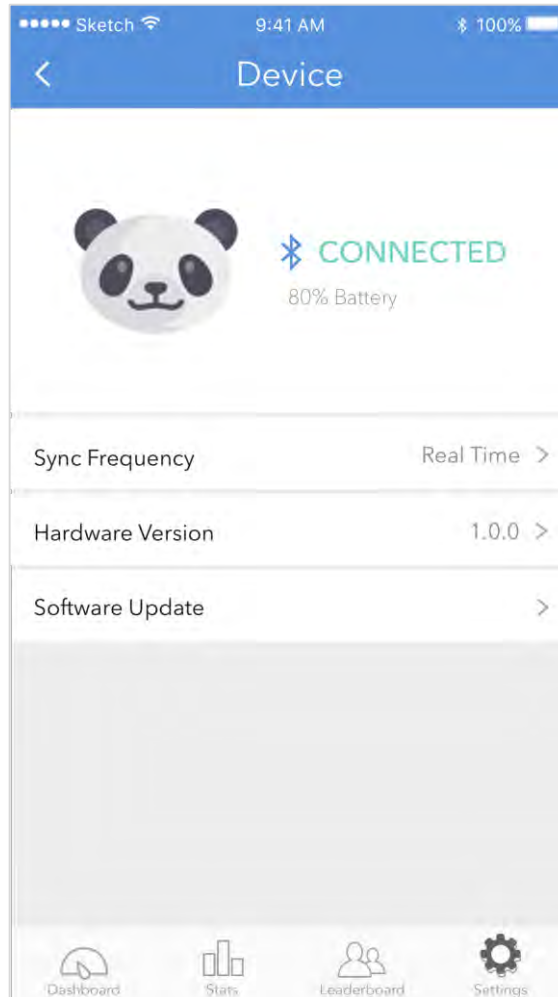
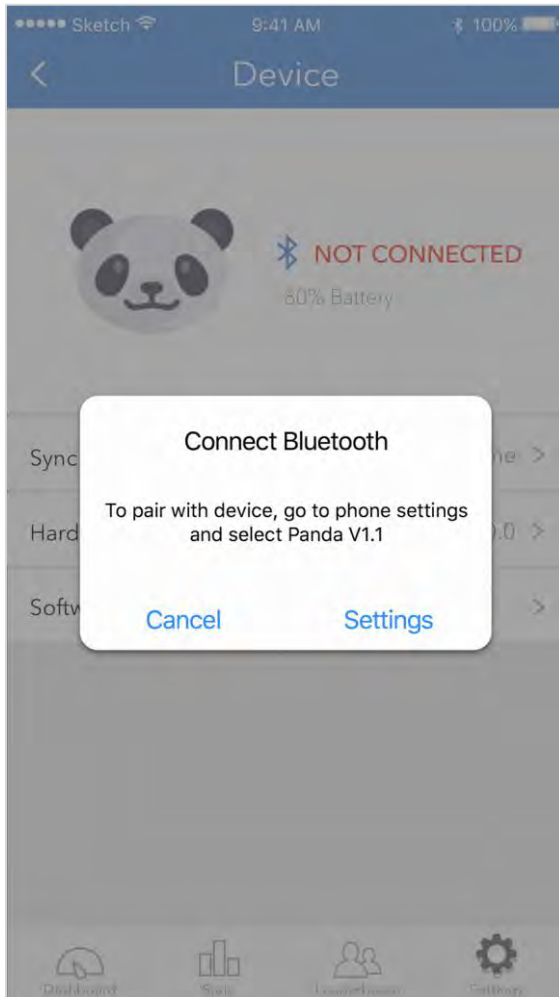
# Digital Mockup

## SETTINGS



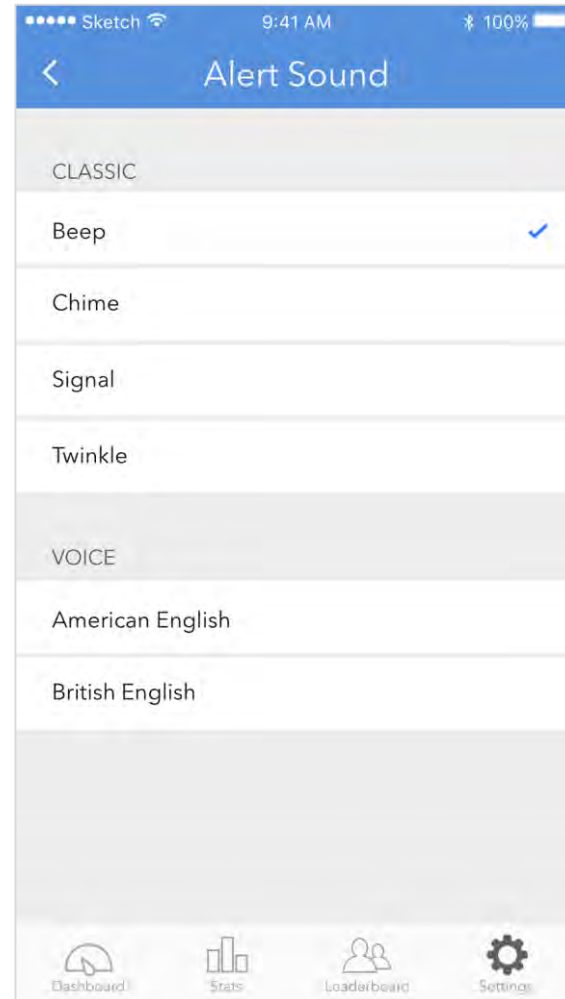
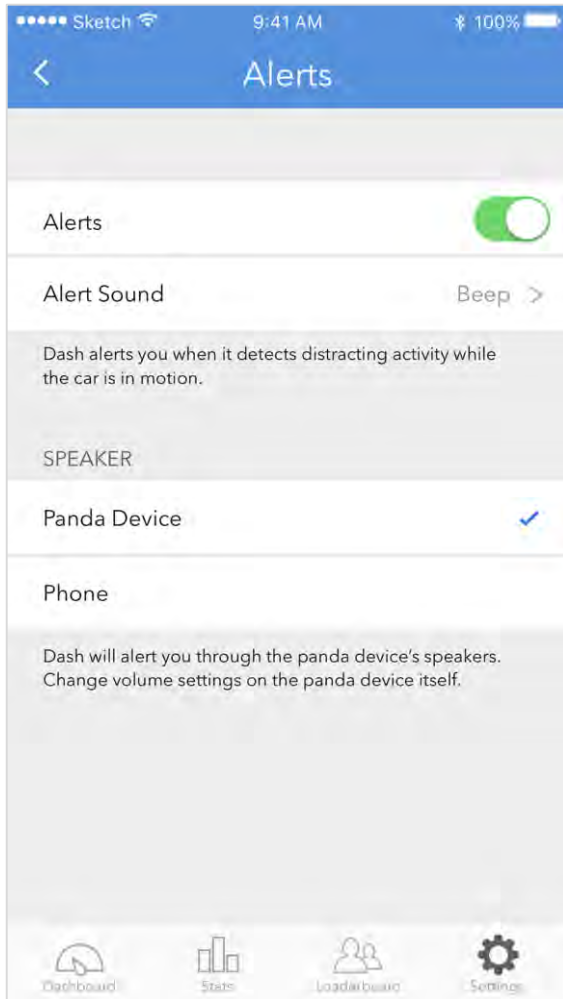
# Digital Mockup

## SETTINGS



# Digital Mockup

## SETTINGS





# Summary

- Initial design is never perfect
- Prototyping and iterative testing are extremely effective in identifying areas of improvements
- Stay low fidelity!

DASH



*Questions?*