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INFO 200 BD

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Data Processing for Increased Driving Awareness and Oversight: User Scenarios

Scenario 1 (Ariane Qin):

Ariane and Jacob Qin are the proud parents of Vanessa and Matthew. For over 16 years they have balanced their hectic work schedule to raise two amazing children, but things are about to change. After her daughter turned 16 last week, Ariane is now anxiously sitting in the DMV while Vanessa is taking her driver's test. It is at this moment that reality begins to hit and she realizes that she wouldn't be able to protect her daughter out on the road alone. She wouldn't be there to tell her that she's drifting into another lane nor too slow down while cruising 45 on a 35 mph road. Like most parents, Ariane believes that Vanessa is a safe driver; however, she also is aware that teen car crashes are all too common on US roads. After Vanessa returns from her test with a wide smile on her face, Ariane tries to be ecstatic for her daughter but really can only worry about her safety.

Like all parents, Ariane just wants her child to be safe while behind the wheel. Therefore, after returning from the DMV she goes online to research potential solutions to her dilemma. After a quick google search and some side by side product comparisons, she sees that our product provides a whole picture evaluation of her daughter's driving habits and allows for her to create an admin account to monitor her daughter. After receiving the device in the mail, Ariane follows the simple instructions and plugs the sensor into the OBD-II port of her car. Next, she downloads the companion app on her iPhone and sets up her account. Vanessa does the same, but she also gives permission via the app for her mother to see her data linking the two

accounts. Ariane and Vanessa now sync their phones via Bluetooth to the sensor in the car. Instantly, information begins to be populated on the app including the car model, it's total distance traveled, location, and more. Both her and Vanessa's phones were now ready to collect the data outputted from the car sensor.

The UI that appears on Ariane's phone is nearly identical to Vanessa's except for the profile icon that appears in the top left on all pages. Pressing this button makes a profile menu appear which then allows Ariane to switch and view Vanessa's profile or any other profile she has permissions for.
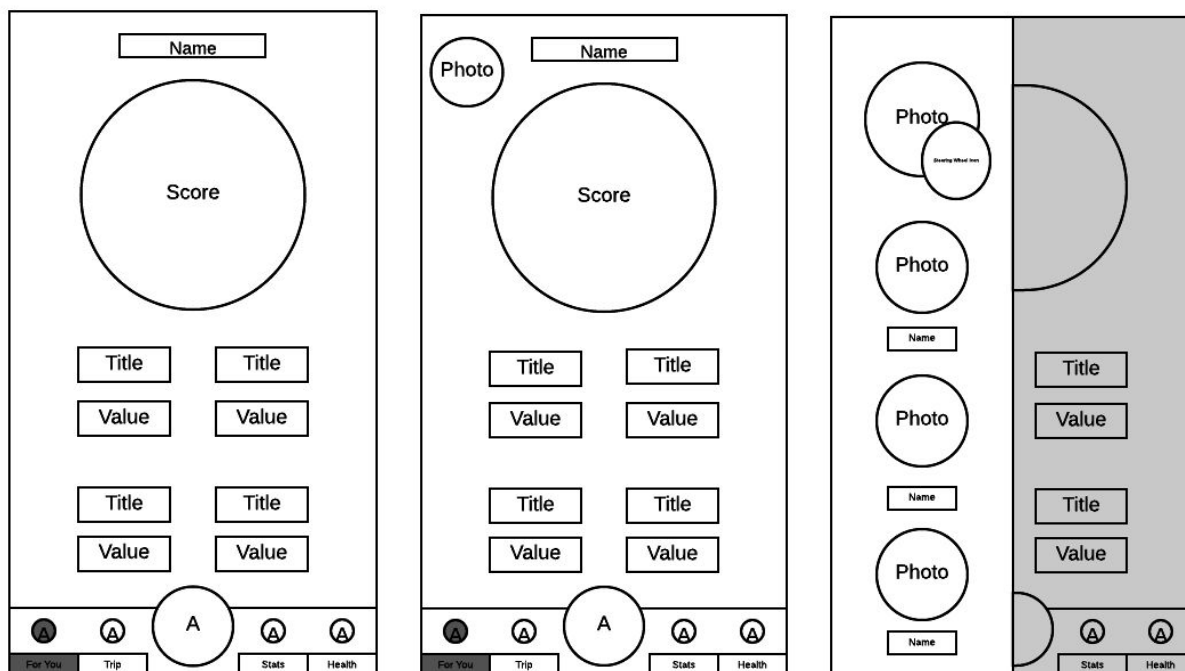


Vanessa's View (Daughter)   Ariane's View

Whenever Vanessa steps into the car, the sensor and phone would automatically connect via Bluetooth. With admin control of Vanessa's account, Ariane could set up various notifications

including when Vanessa started the car or reached her destination. After setting up their accounts, Ariane was now comfortable letting Vanessa drive on her own.

On Vanessa's first trip out alone, Ariane opened the app and switched to Vanessa's profile to see how she was doing. She clicked the profile button in the top left corner and switched to Vanessa. Immediately she noticed that she already had a score after only a few minutes of driving. Vanessa currently had a 79, which the yellow circle indicated as a decent score. She wanted to investigate and clicked on the trips tab on the bottom, then the card marked today.
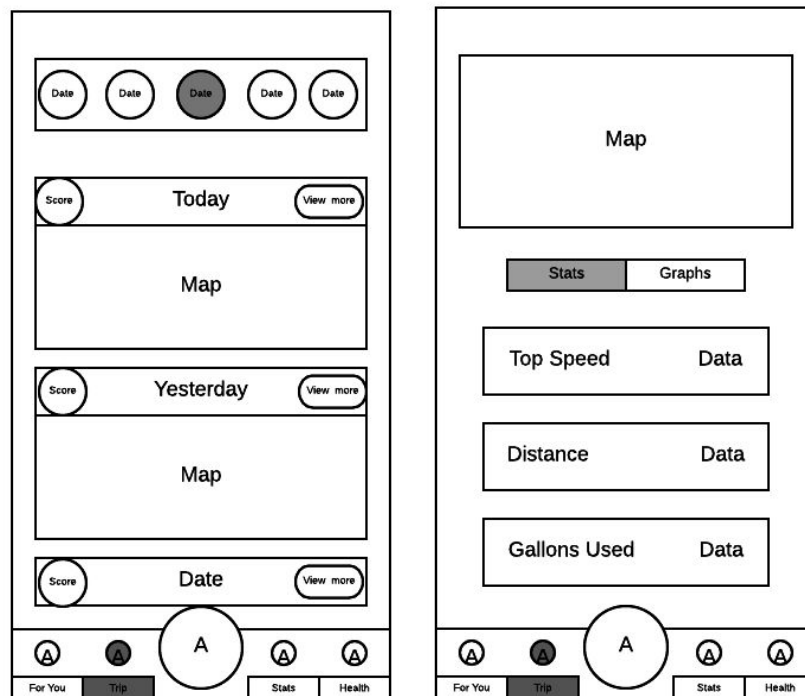
"Trip" Tab

Vanessa's current trip information appeared and she could instantly see some concerning things. Overall, Vanessa was doing fine, except for minor speeding. She clicked the arrow next to it to see more details where it revealed that she was consistently 5 mph over the speed limit. When Vanessa returned, Ariane was able to talk to her about her speeding and to enforce

better habits upon Vanessa. Ariane felt at ease knowing that even when she couldn't be in the car, she could make sure that her daughter was driving as if she was.

Scenario 2 (Jake Matthews):

Jake Matthews is a web designer from Portland, Oregon. On weekdays, Matthews spends up to two hours a day in his 2003 Ford Escape traveling to and from work. For him, being able to drive to his job is a necessity but his poor driving habits are putting that at risk. Matthews has previously been ticketed for speeding, driving under the influence, and driving recklessly putting his license in jeopardy if he is caught again. Because Matthews realizes that he needs to start changing his driving habits, he did a quick google search for a driving safety device and came upon our product. Seeing that the product would allow him to monitor his driving habits and rank his driving safety based on real data he decided to purchase it. For Matthews, he hoped to use the device to make him more aware of his poor habits in an effort to become a safer driver.

Like most drivers, Matthews does not purposely drive carelessly but can be unaware of it at the moment. His previous run-ins with the law have caused Matthews' to take his first steps towards changing and he was ecstatic when he received the car sensor in the mail. Opening the box revealed the small sensor that can be plugged into his Ford Escape OBD-II port. After quickly plugging the sensor into the car and then setting up his account via the companion app, Matthews was ready to start tracking his own driving habits.

As Matthews began to use the device on a daily basis more and more data was being collected on his driving habits. After reaching work each day, the application would notify him of his trip score providing him either positive reinforcement for his safe driving or notifying him of his recklessness on that trip. By clicking on the notification, the application would open to the

trip page and provide him with his driving statistics for that specific trip. The statistics would be shown based on the "severity" and greatest impact on his score. For instance, if Matthews hit a top speed of 100 mph on a 50 mph road, this statistic would be marked "severe" and would be shown at the top. Matthews also would be able to check his overall statistics by clicking on the 4th icon at the bottom labeled "Stats". In the statistics page, he can see his statistics in 4 different time frames: weekly, monthly, yearly, and lifetime. Additionally, he can see his statistics as data or visually through graphs.

Map

Stats	Graphs

Top Speed	Data
Distance	Data
Gallons Used	Data

For You | Trip | A | Stats | Health

Stats	Graphs

| Week | Month | Year | Lifetime |

| Title |
| Graph |

| Title |
| Graph |

| Title |
| Graph |

For You | Trip | A | Stats | Health

Stats	Graphs

| Week | Month | Year | Lifetime |

Top Speed	Data
Distance	Data
Gallons Used	Data
Hours Driven	Data
Quick Turns	Data

For You | Trip | A | Stats | Health
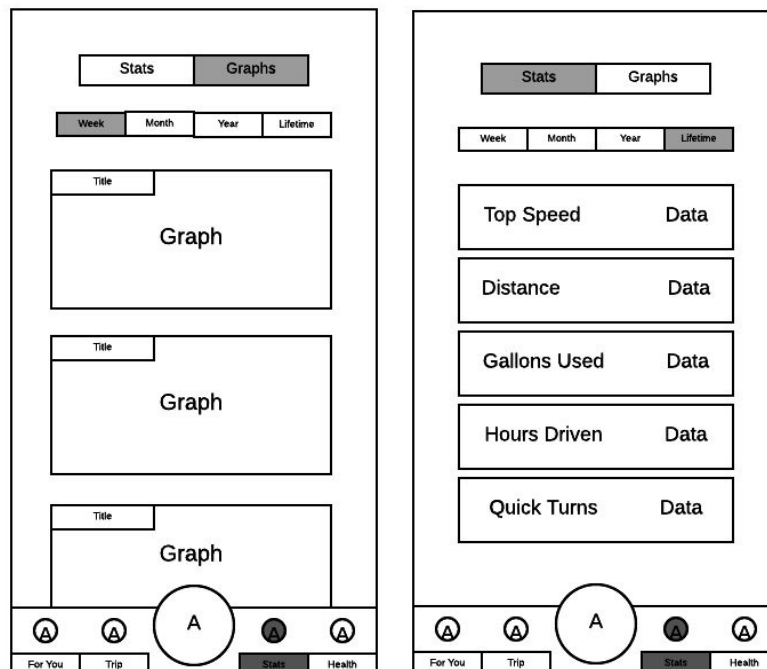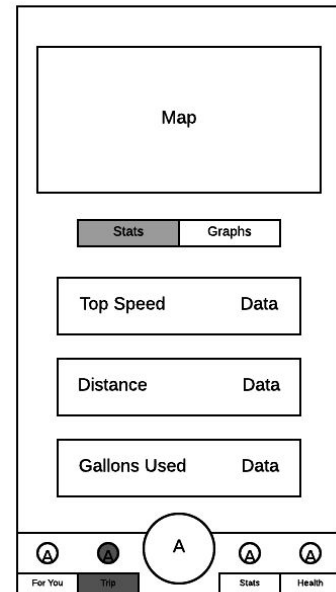
Image: Stats page w/ "Stats" or "Graphs" selected

With the ability to monitor his driving behaviors via the app paired with immediate notifications sent after driving a trip, Matthews would be able to start identifying and correcting some of his poor driving techniques. Whether it is learning how to accelerate more gradually to increase his "Acceleration score" or remaining under the speed limit, Matthew's would be able to track his progress and continue to raise his overall driving score.
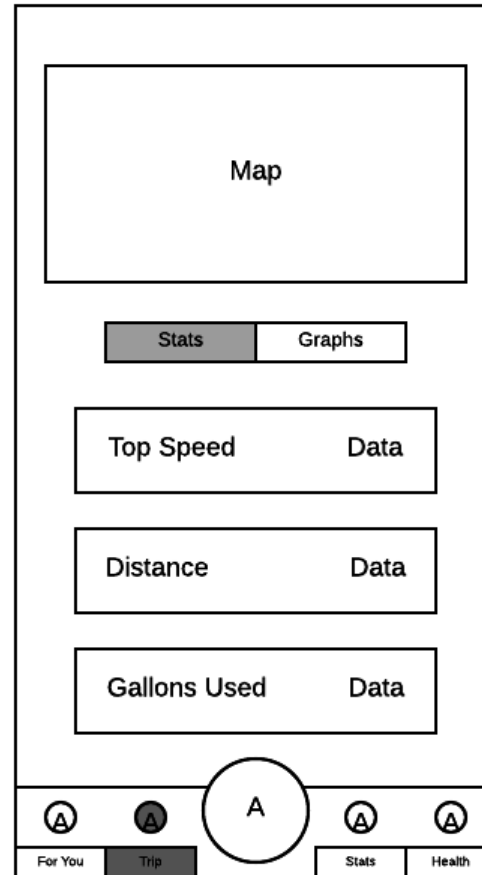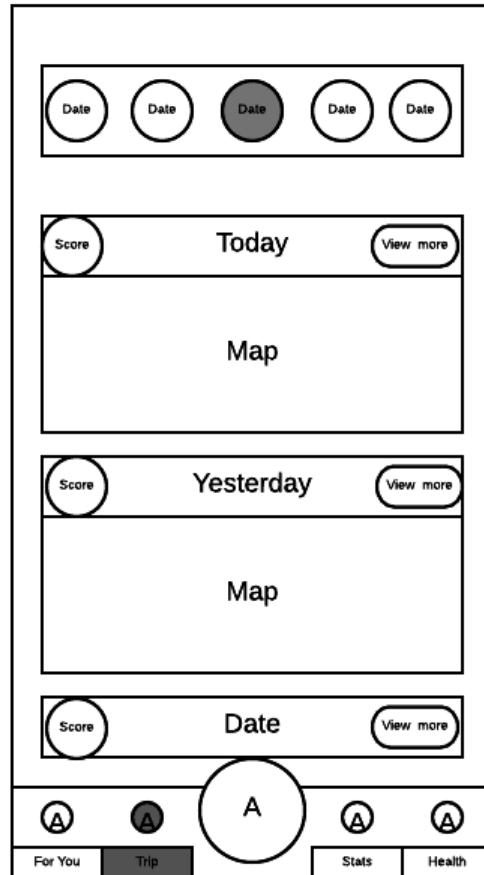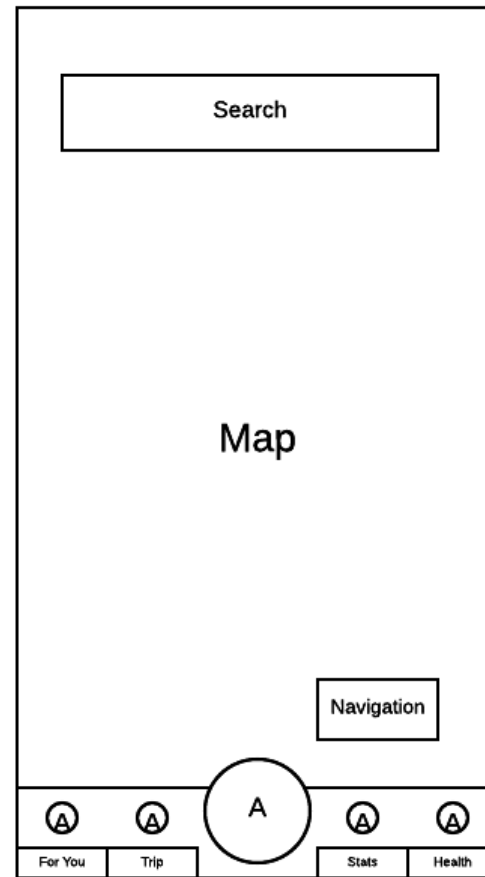
Profile Wireframes
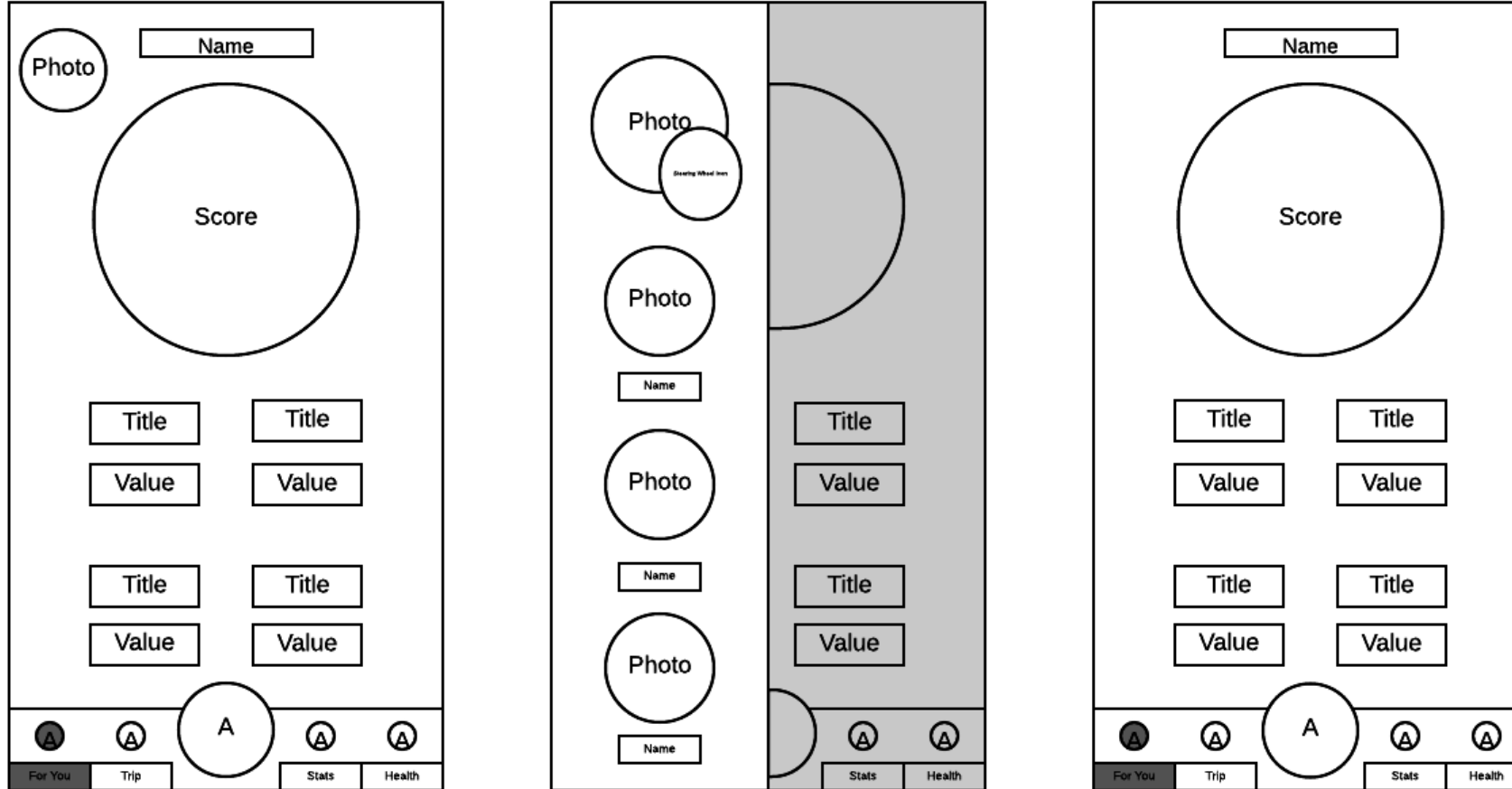
Multi-user Profile (admin)

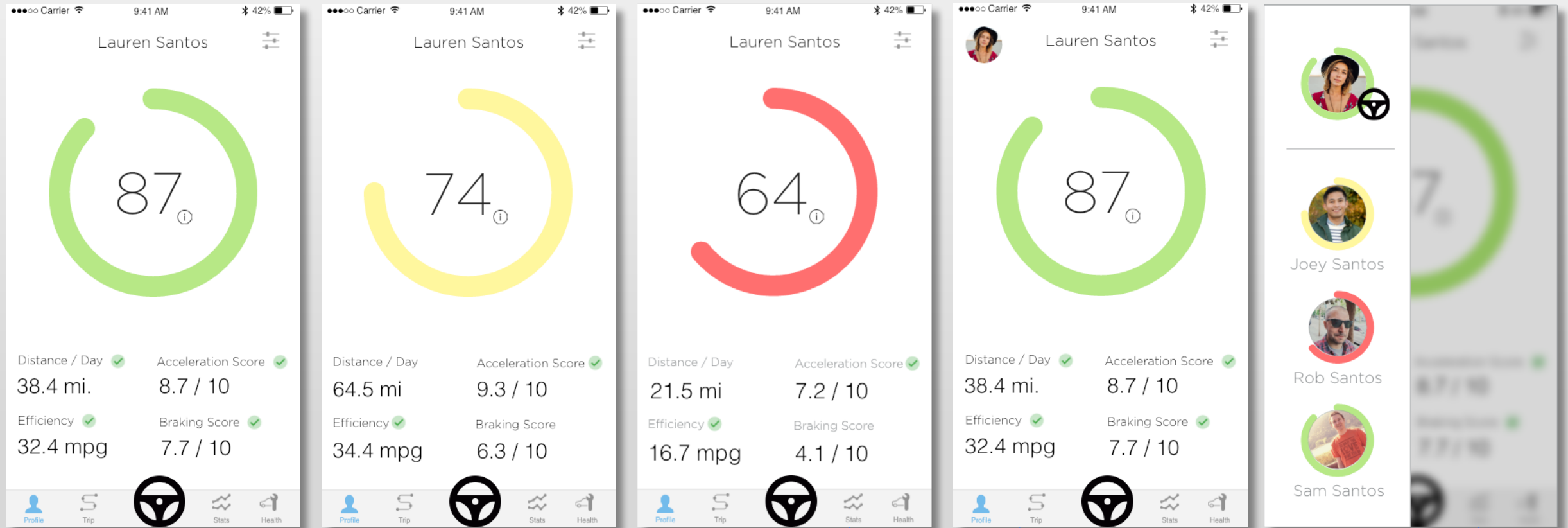Single User Profile

Trip Wireframes

Navigation Wireframe
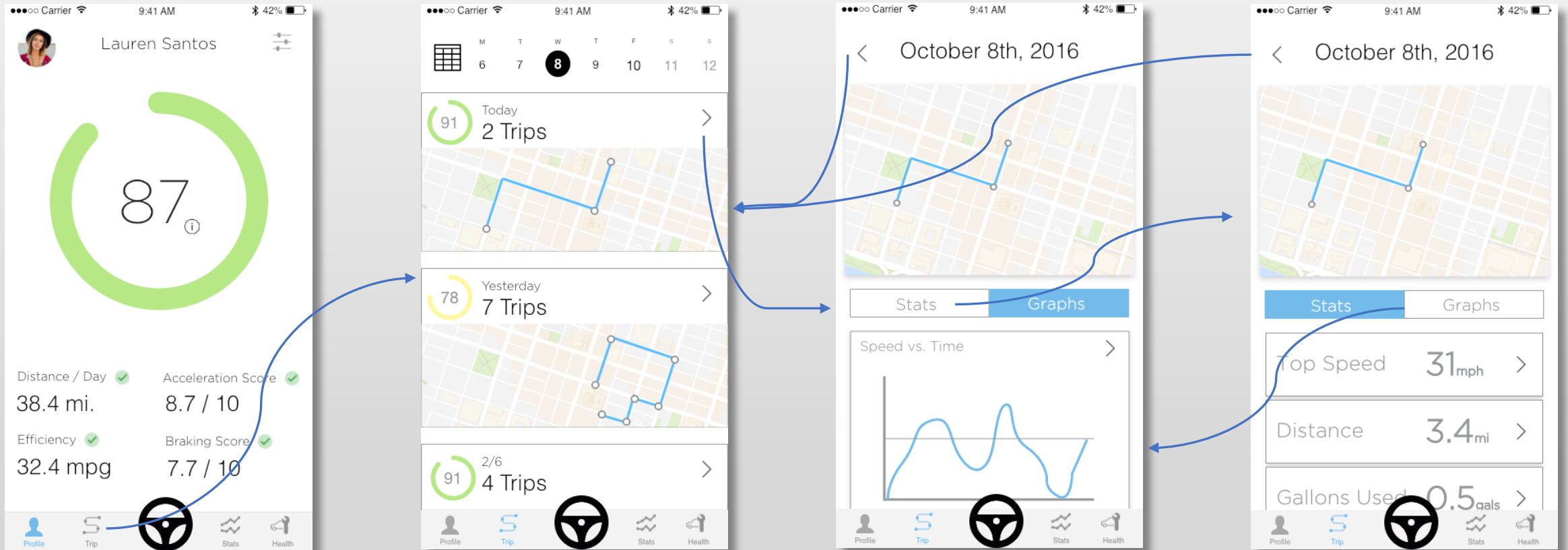
Statistics Wireframes

Car Health Wireframe

Photo

Model

Car
Icon

Score

Stats	Sensors

Top Speed	Data

Distance	Data

Gallons Used	Data

A

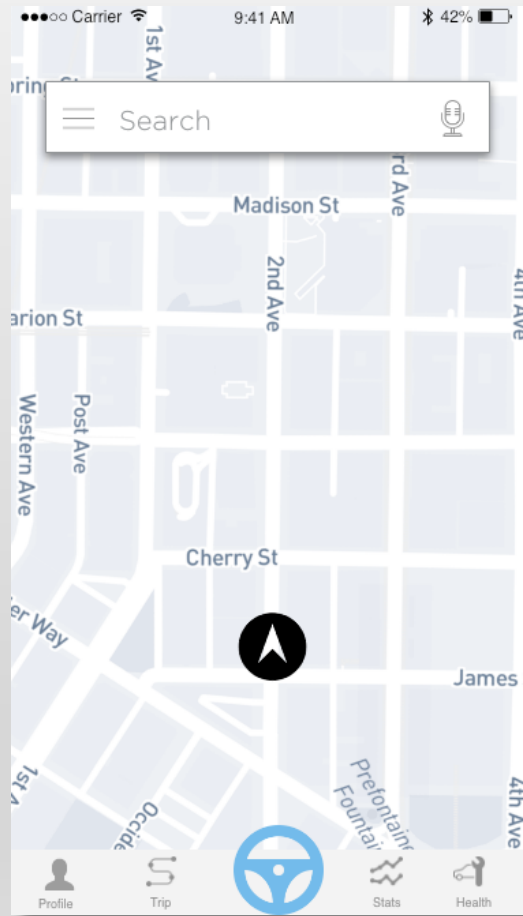| For You	Trip		Stats	Health
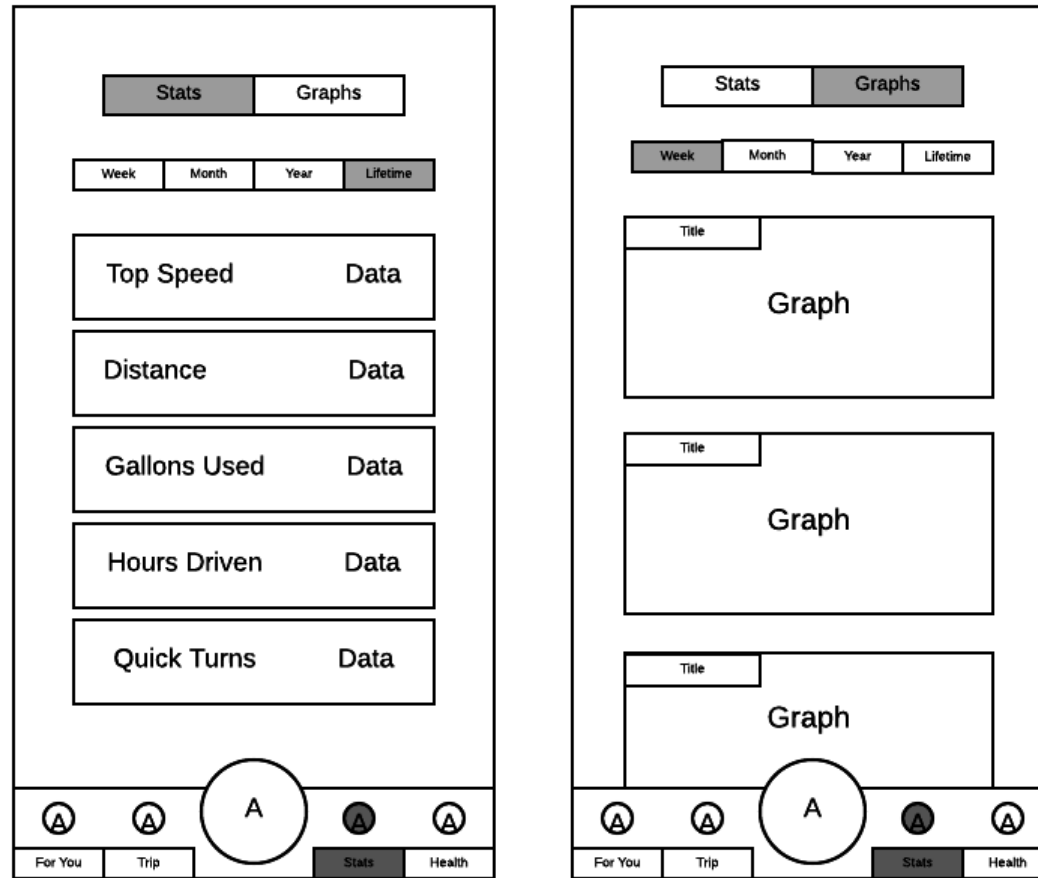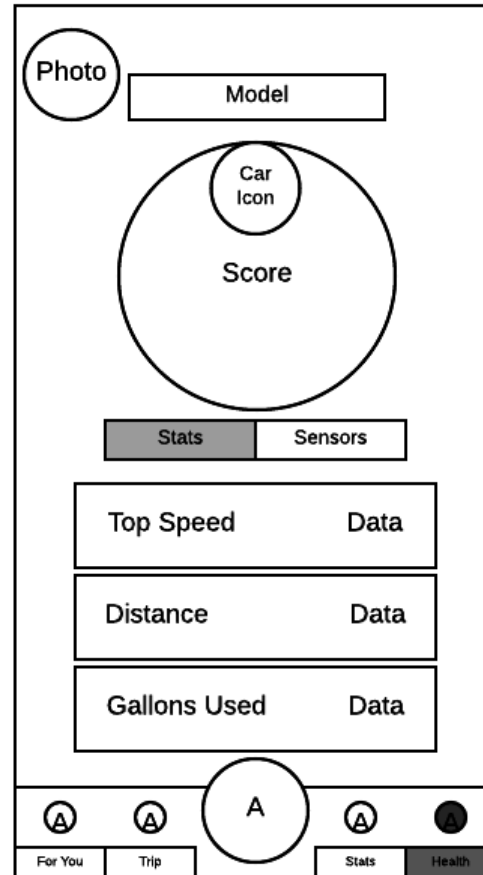
Profile Prototype Storyboard
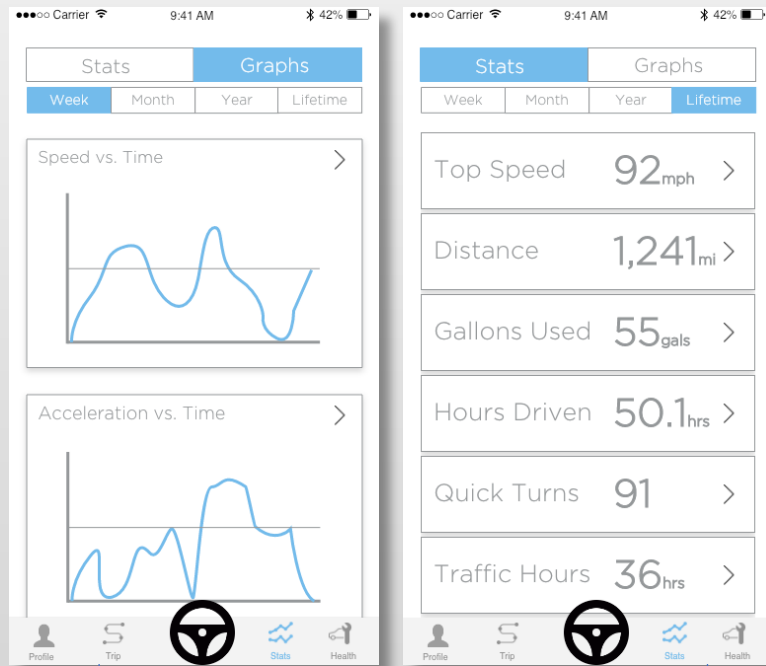

Single User Profile

Multi-user Profile (admin)

Trip Sequence Prototype Storyboard

Navigation Prototype Storyboard
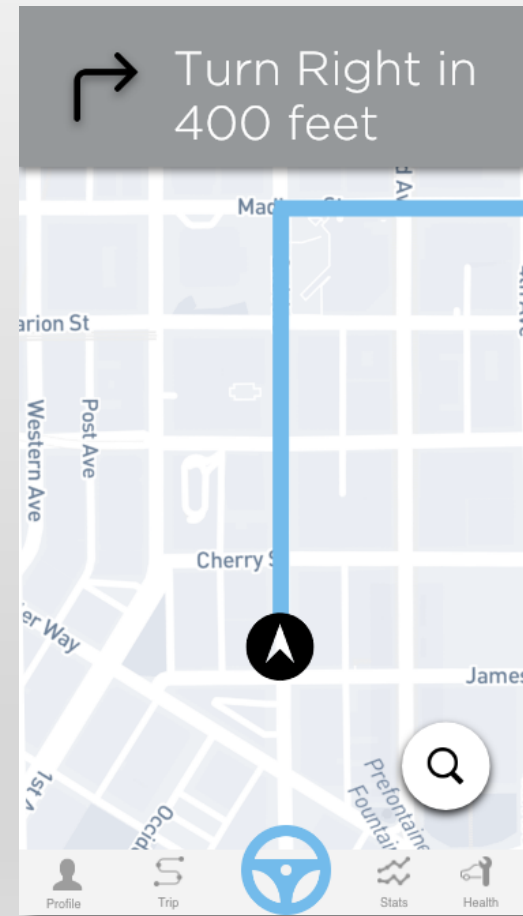
Statistics Prototype Storyboard

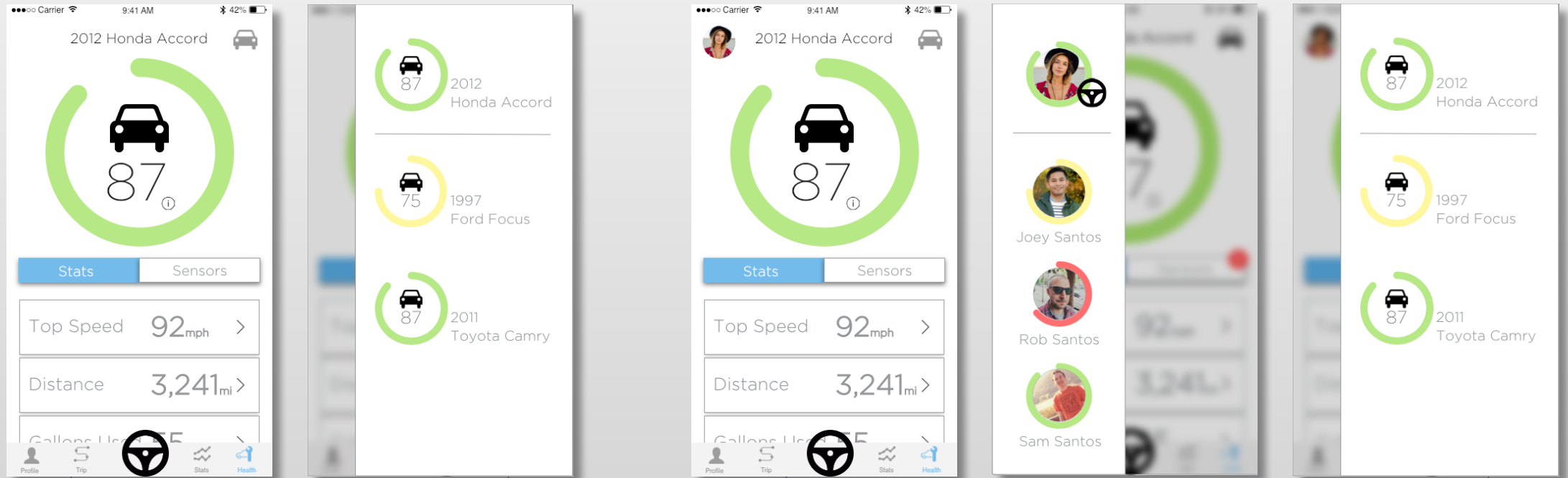Single User Profile

Multi-user Profile (admin)

Car Health Prototype Storyboard

Single User Profile

Multi-user Profile (admin)