

Team Visteon

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About Visteon

- * Auto parts supplier
- * Focused on climate, electronics, interiors, lighting
- * Our client contact:
 - * works in R&D, is responsible for “Gen 1” prototypes

Our Responsibilities

- * 1. Safety
- * 2. Thinking “outside the box”

“Design something new and useful, but
don’t make it distracting”

Research & Personas

Major Findings

Distractions

“I set my phone on the passenger seat and use it as a GPS”

Ambiguity

“I don’t really know the difference between something that should be fixed soon, or fixed immediately”

Information Overload

“When I look at my speedometer, I’m usually trying to check how much I’m over or under the speed limit.”

ROBERT SHOREHAM



"When driving, I prioritize safety above all."

**Senior Vice President from Battle Creek, MI
67 years old | 45 years of driving experience**

Backstory

Robert is an experienced driver and currently works as a Senior Vice President at Kellogg Company. He commutes 30 minutes to and from work daily, often early in the morning and late in the evening. Robert relies primarily on visual cues from the traffic flow and road conditions to adjust his driving. As a defensive driver and one who highly values safe driving, he does not distract himself by eating or using his cell phone once he starts driving. Robert routinely maintains his car in good conditions and keeps the gas tank full, so the dashboard warning signs only serve as reminders in case he is too busy to maintain the car.

Motivations

- Wants to drive as safely as possible
- Finds out directions to his destination before every trip, and does not use GPS
- Interested in keeping his car well-maintained and well cared for
- Wants straightforward information about his car and the road, with minimal extra clutter

Frustrations

- Wants to minimize distractions when driving
- Trouble with low light at night from the dashboard display and from traffic due to poor vision
- Has slower reaction time than he used to due to his older age
- Frustrated with erratic behavior by other drivers on the road

Ideal Experience

Robert gets in the car after a long day at work. He is a little tired, and stops to get a coffee rather than immediately getting on to the freeway. He's happy about making the stop, because it turns out that, due to rain, the roads are much worse than he thought. Armed with that knowledge, Robert drives a little slower on the freeway during his trip home. Luckily, there aren't many other cars on the road, so there is minimal worry about reacting to other drivers.



Robert's car

CARTER BENZ



"Driving with my friends and blasting music is my favorite thing to do."

**High School Student from Los Angeles, CA
18 years old | 1 year of driving experience**

Backstory

Carter lives with his parents in Los Angeles, California. He is a senior at Los Angeles High school. Carter's main responsibilities revolve around school. He has to drive himself and his sister to and from school, and drive to football practice.

Carter loves his new Honda Civic. He is excited about his first car and does everything that he can to maintain the car looking "nice": clean and cool. He feels confident to drive long distances. He often goes on road trips to San Diego (about a two hour drive without traffic and 4-5 hours with heavy traffic) When he drives to San Diego, he generally drives late at night to avoid traffic.

Motivations

- Main goal is to get from point A to point B in style
- Doesn't know much about cars, but wants his car to run and look nice
- Enjoys driving other people around in his new car, and sees driving as a fun activity
- Enjoys customization, and sees his car as a way to express himself.

Frustrations

- Often forgets to refuel, and typically runs near empty until he can find a gas station.
- Typically has to check Google Maps on his phone to find the nearest gas station
- Doesn't always know what the check engine light means
- Often busy and driving from place-to-place
- Typically experiences distractions while driving (passengers, music, text messages, etc.)

Ideal Experience

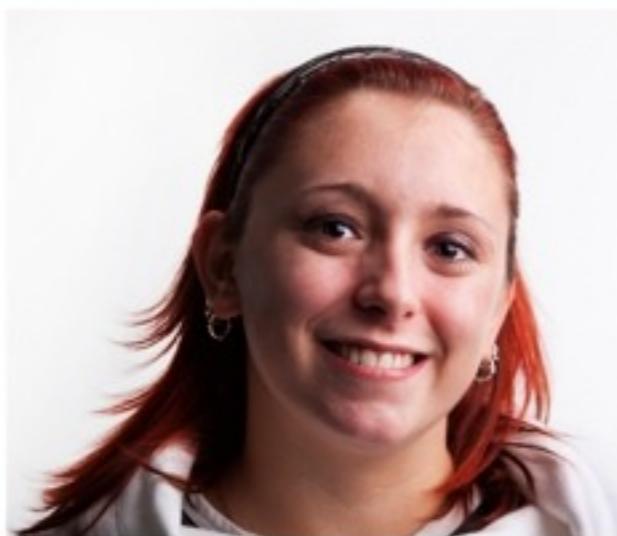
Without having any real destination, Carter and his friend get in the car and start driving. They think driving around listening to music is fun, even when driving without a destination in mind.

Carter likes to drive his friends, and listening to loud music on his mp3 player. After a few minutes of driving, all the friends figure out where they want to go, and they use their phone to get the address and directions from Google Maps.



Carter's car

ALLISON OTTO



**Third-grade Teacher from Milwaukee, WI
28 years old | 12 years driving experience**

Backstory

Allison is a 28 year old teacher living and working in Milwaukee, WI. She's been driving for 12 years, and considers herself a competent driver. She typically drives to and from work during rush hour, but occasionally stays late and drives home at night. While those trips take around 20 minutes, she sometimes takes longer trips to nearby Chicago with friends on the weekend.

"I'm a confident driver."

Allison is a defensive driver, and is often frustrated by other drivers' erratic behavior. She tries to stick to the speed limit and be as aware of her surroundings as possible, in order to minimize the potential of an accident.

Motivations

- Attempts to drive at or around the speed limit
- Considers herself a defensive driver
- Wants to take care of her car
- Often relies on technology, such as Google Maps
- Wants flexibility and customization when it comes to her car
- Likes to multitask

Frustrations

- Lots of potential distractions (music, text messages, passengers, phone calls)
- No control over traffic or other drivers
- Reliance on alerts to notify her of car problems
- Driving in unfamiliar areas causes more distraction than usual

Ideal Experience

Allison gets into her car on Friday after her students leave for the day, and heads home to pick up her things. Getting back into the car, she picks up her two friends and puts on a new playlist for the drive to Chicago.

While she normally feels anxiety when traveling to the city, because of all the "crazy drivers," by leaving early and avoiding rush hour, the trip down I-94 is smooth and relatively uneventful -- just the way Allison likes it.



Allison's SUV

Visteon's Competitors

DELPHI

**Johnson
Controls**



Continental



Visteon's Competitors



Visteon's Competitors

Name of Competitors	Delphi Automotive LLP	Johnson Controls Inc.	Continental Automotive Group	Our prototype
Features				
Head- up display				
Speed Limit information				
Internet access				
Navigation system				
Traffic and weather alerts				
Driving statistics				
Maintenance details				

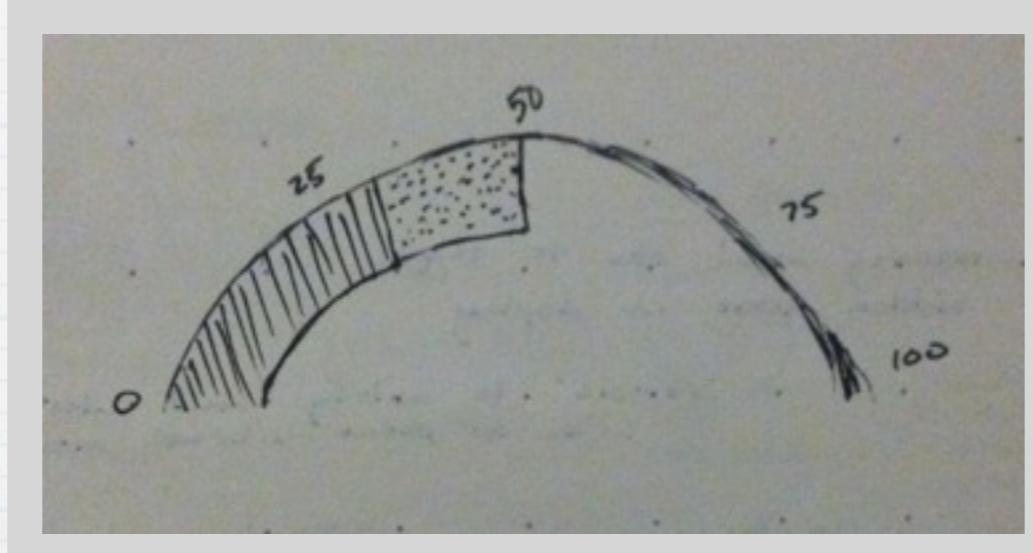
Design Ideas

Our Design Space



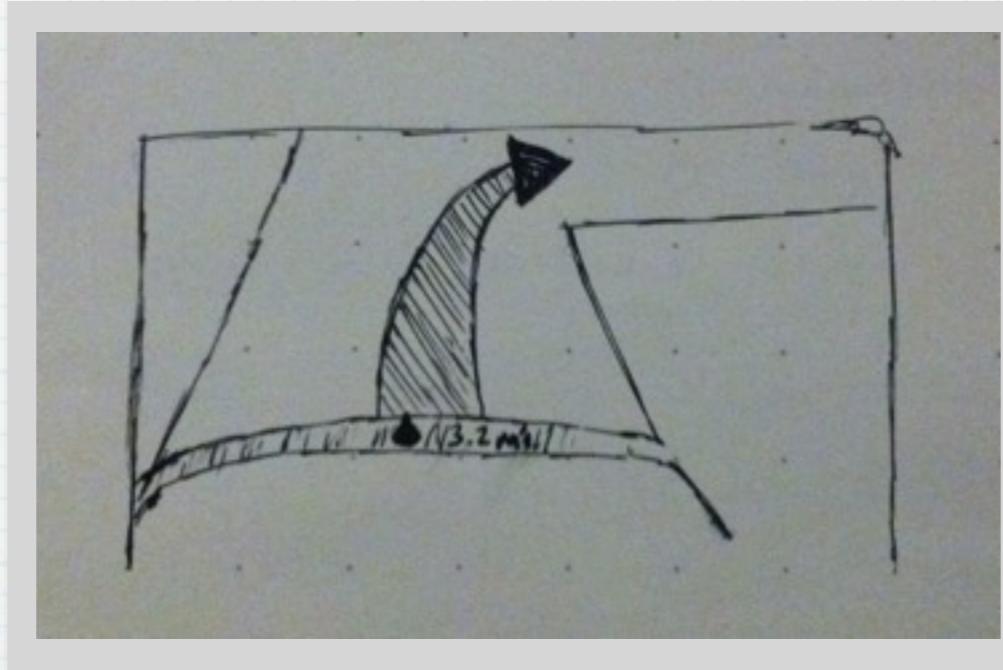
Design Ideas

Speedometer



Design Ideas

GPS/Heads-Up Display



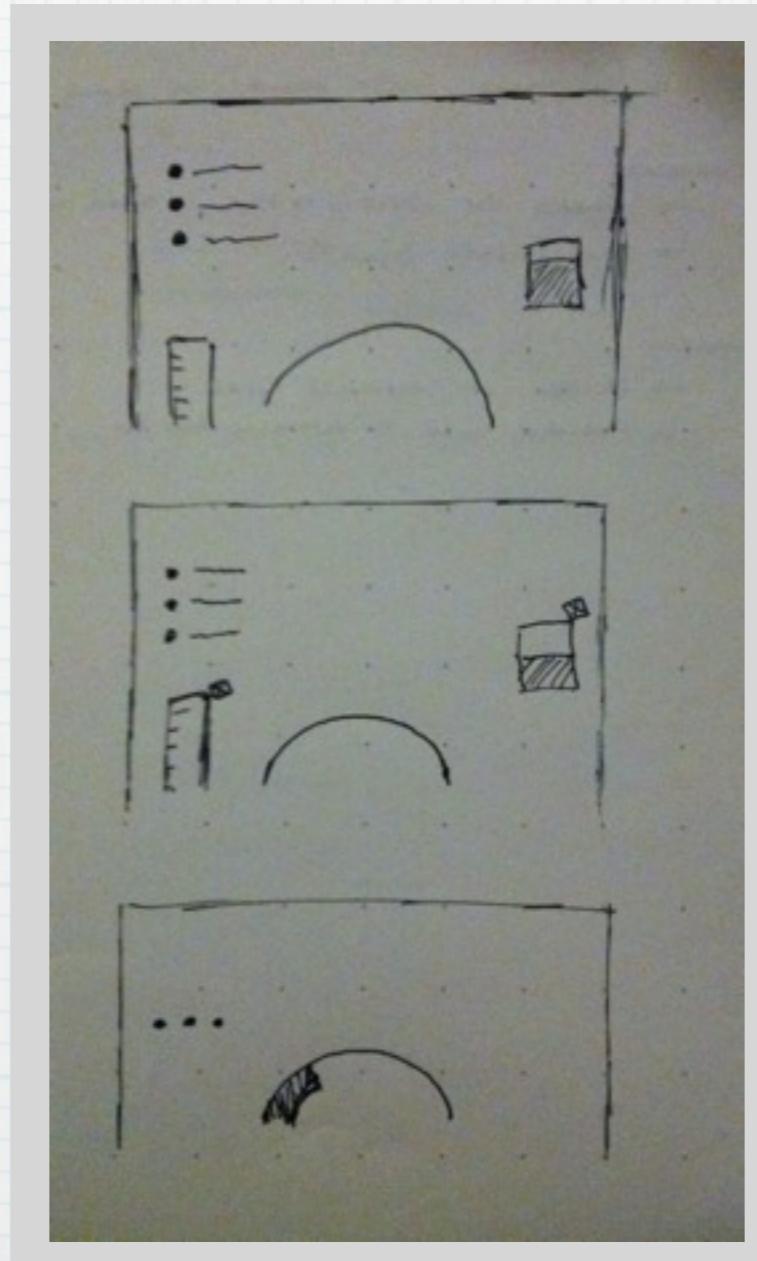
Design Ideas

Gas Gauge



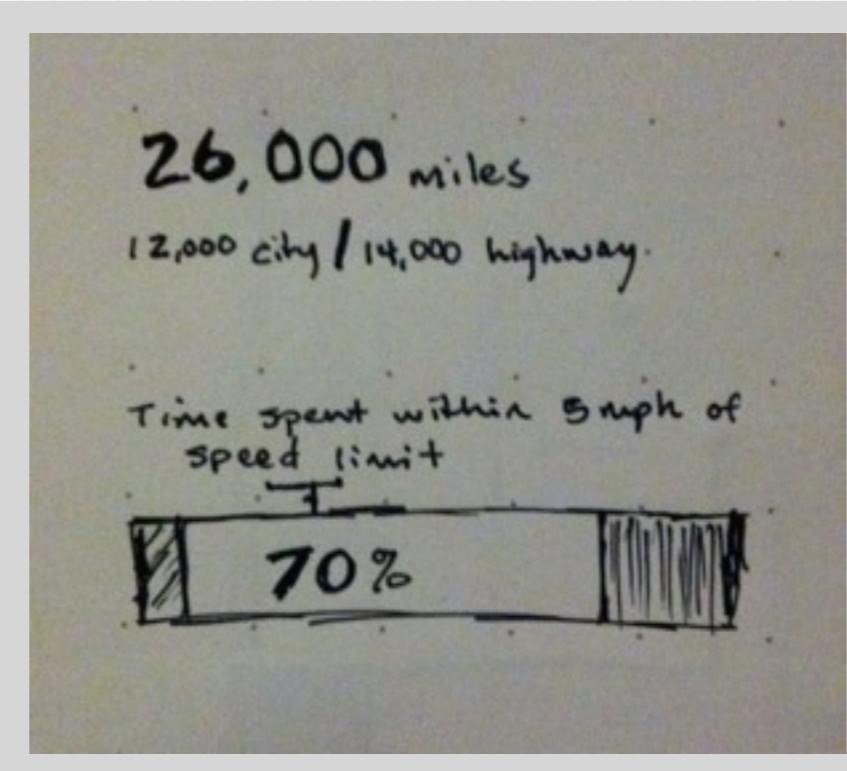
Design Ideas

Hide/Remove Elements



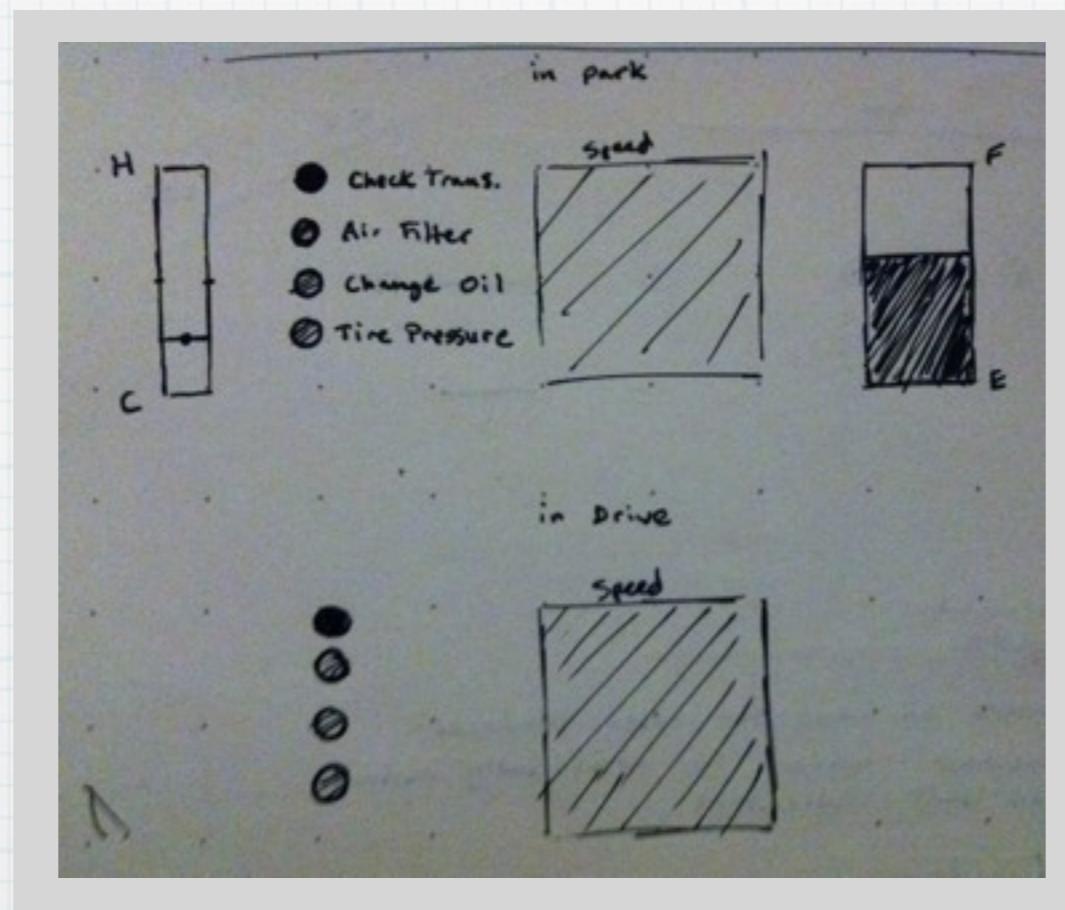
Design Ideas

Driver Statistics



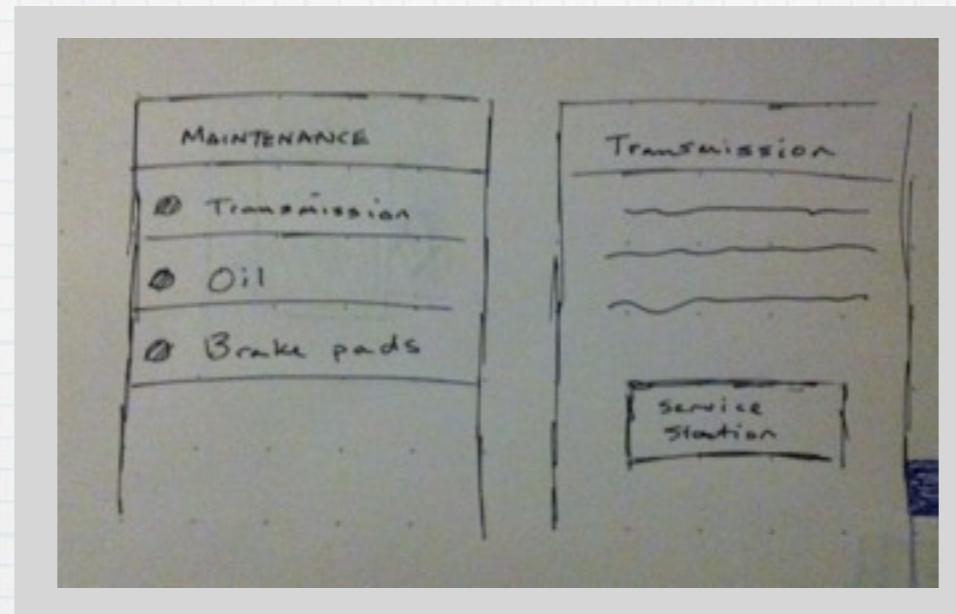
Design Ideas

Maintenance/Problem Alerts



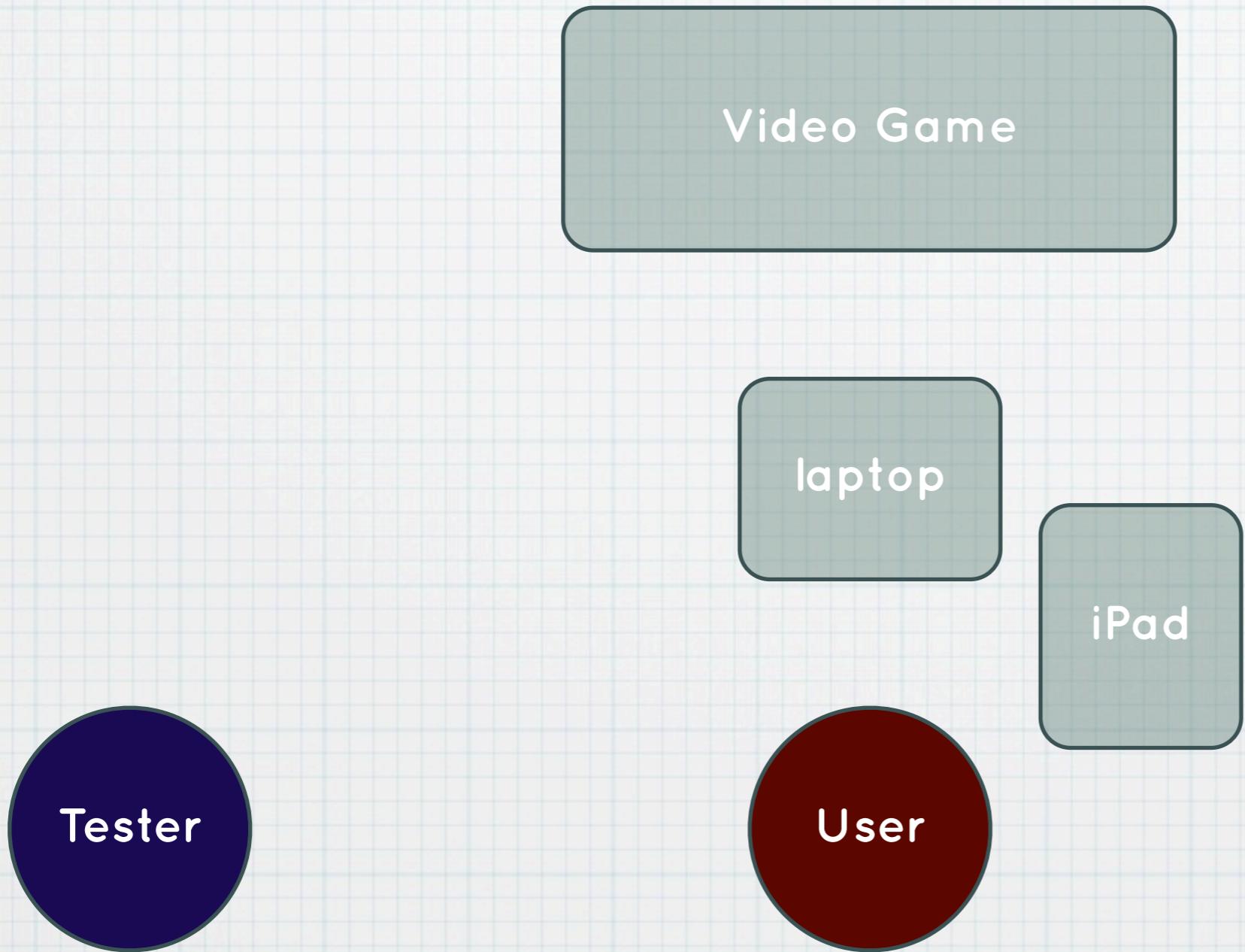
Design Ideas

Expanded Maintenance Info



Usability Test

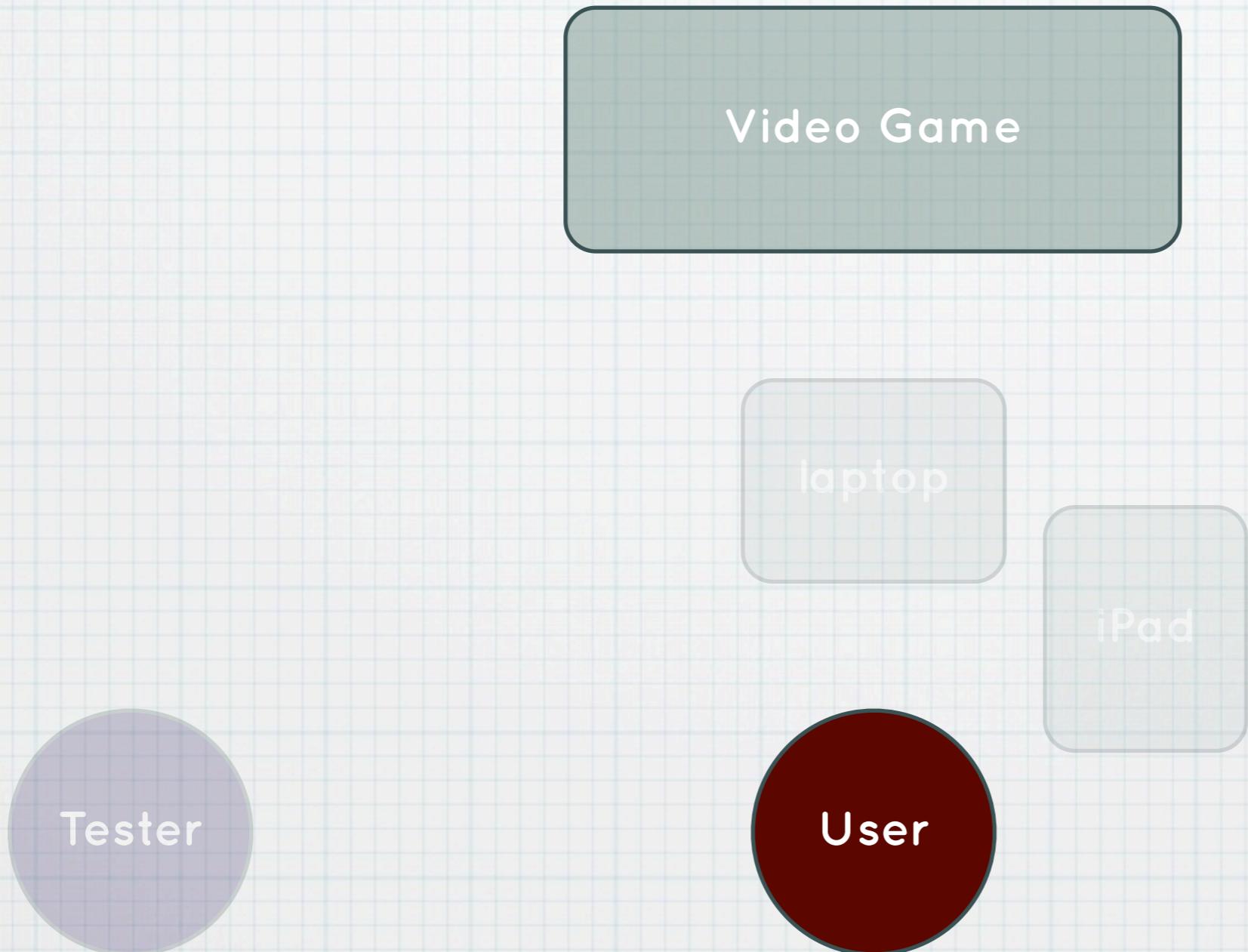
Usability Test Setup



Usability Test Setup



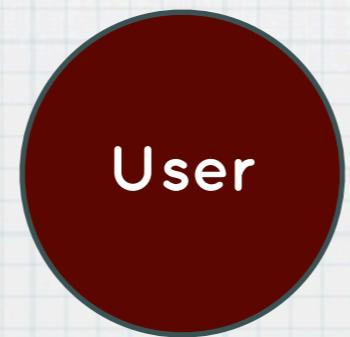
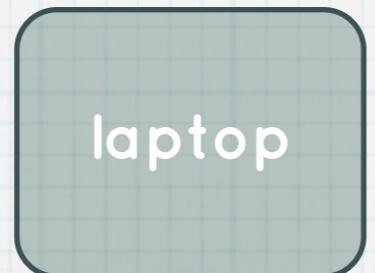
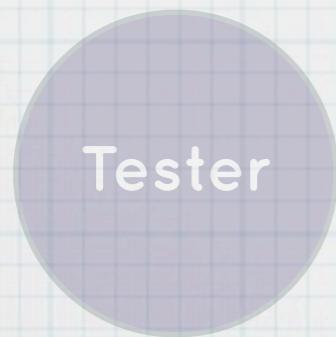
Before the Test



Free Use of the System

Tasks

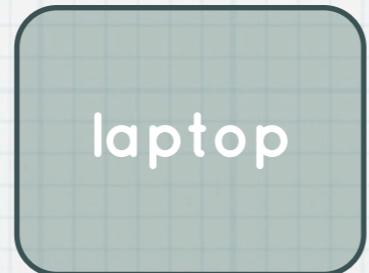
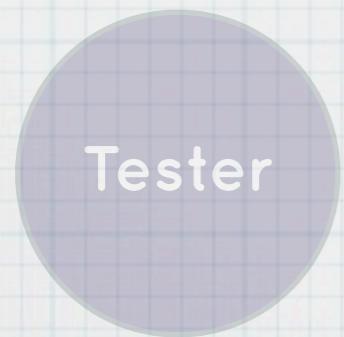
- Edit display
- Set GPS
- Read about alerts



“Driving” Session

Tasks

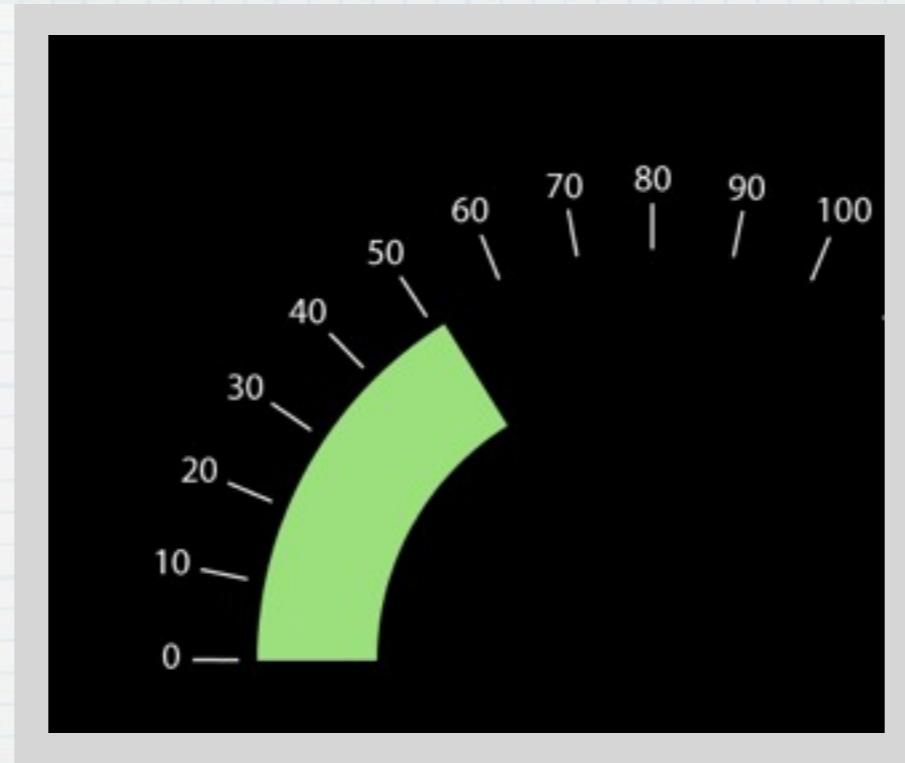
- Speed/speeding
- Low fuel alert
- GPS update



Tasks

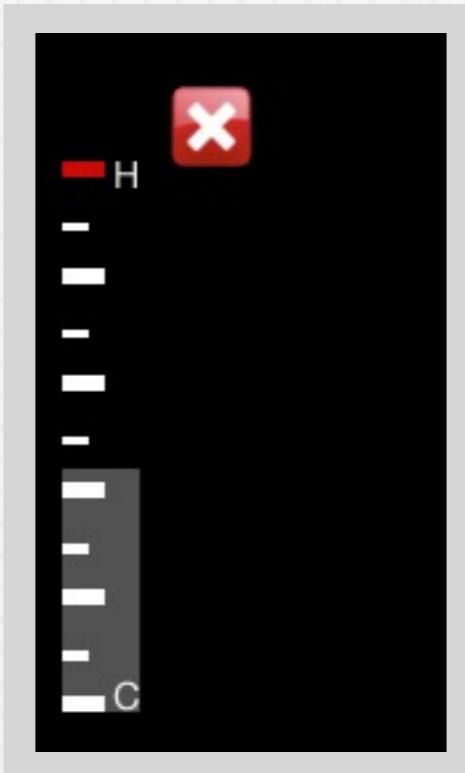
Identified Issues

No ‘below speed limit’ indicator



Identified Issues

Use of touch elements on dash display



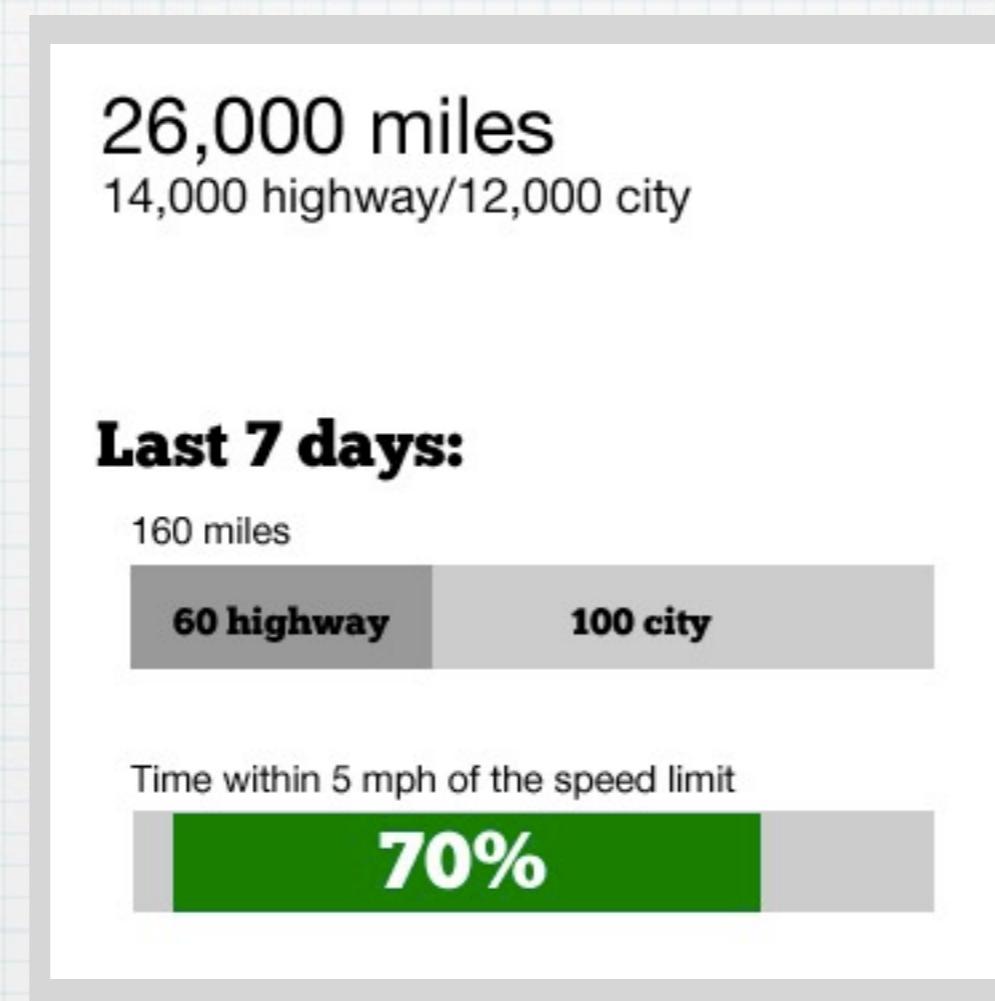
Identified Issues

Imprecise indicator of exact amount of fuel left



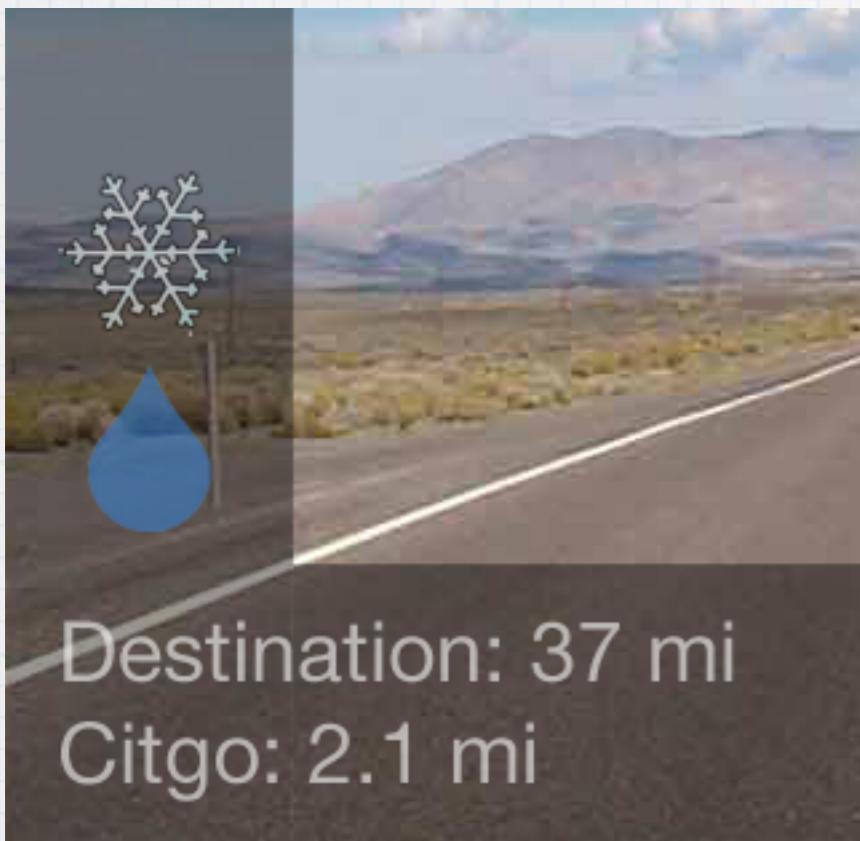
Identified Issues

Driver statistics not particularly useful



Demo

Heads-Up Display



Next Steps

- * HUD background noise
- * Visual cues from speedometer
- * New elements

Thank You!