Assignment 2c: Design Research Plan Check-In
CSE 440 Section AB | Distracted Drivers

Participant Background
Lynn is a soil scientist with the U.S. Forest Service, which is an agency under the United States Department of Agriculture. As a federal employee, her responsibility is monitor and analyze natural resources in the White River National Forest--a forest that covers 2.2 million acres in Colorado. She primarily drives herself in a 2016 Subaru Impreza for her work commute, errands, and leisure. Lynn also drives for work errands, such as attending meetings at distant offices or collecting soil samples as part of her field work in the White River National Forest. She checks out cars from a government-provided fleet, and she drives anything from a Ford truck, to a Jeep SUV, to a Nissan hybrid, based on availability.

We first conducted a fly-on-the-wall study of Lynn's driving behavior. In this part of our design research, we did not inform Lynn that we would be examining her actions while she drove from University District to Northgate, WA (a 20 minute drive.) Next, we conducted an interview to learn more about her background, driving habits, opinions on distracting behavior, and input on useful auto and driving metrics.

Findings
After the initial interview, we now have a list of common distractions people might have while driving: eating, conversations with passengers, the scenery and accidents on the road, mobile devices (e.g. via texting and making phone calls), and GPS navigation. We also discovered new technologies in cars could be both helpful (e.g. Siri) and distracting (e.g. Bluetooth music). We also learned that our participant was aware of potential distractions, but since she is confident in her driving skills, she does not seriously consider any consequences. Finally, we learned some people may be comfortable with car tracking devices, but uncomfortable with the possibility of a camera recording or "watching" them.

Tasks, Problems, & Opportunities
We had no issue establishing rapport or getting the information we wanted. Our interviewee was cooperative and willing to answer questions. With a semi-experienced driver, we uncovered issues we can start tackling, including texting, listening to music, eating, makeup application, and more. These are all distractions that we can try to mitigate with our design. Our participant explains that she uses voice recognition on her phone to avoid having to interact with her phone, which is another area we can explore in our design.

One of the apparent problems we discovered through this interview is that people might be uncomfortable with being recorded while driving. As our participant stated, "I don't like the idea of having a camera watching me." Privacy is a legitimate concern, especially since adversaries can obtain and manipulate data for illegal use. Our design relies on having the ability to see what the driver is doing, and therefore, we need to find a way to address this problem

Design Research: Future Inquiries
For our second participant--a casual driver with over ten years of driving experience--we still plan on using our current list of questions and using the fly-on-the-wall method. We will delve deeper into privacy concerns, such as device monitoring via a camera or sensor. We aim to understand the terms and conditions that will make a participant feel comfortable with a camera and sensor installed in the car. For our third and fourth participants, we plan to speak to professional drivers. We will conduct an interview with a *911 Driving School* instructor and conduct a fly-on-the-wall study and interview with a bus driver. Using the fly-on-the-wall method allows us to make observations on our participant's candid driving behavior and conducting an interview gives us insight into what participants really think about those behaviors and how they view the effectiveness and usability of our potential product.