

Hitch Hiker

Final Project

Shia Liang | Punchet Sangnil | David Yang MHCID 512 02-15-2014



HITCH-HIKER

What is Hitch Hiker?

Hitch Hiker is a mobile phone application which help matches driver who need someone to carpool with passengers who need a ride and are planning to go the same direction. The application is intended to be used spontaneously for both passenger and driver. In other words, there is no need for pre planning for both passenger and driver. Passengers and drivers can use our application to find a ride/someone to carpool at the time they need. The pay would be based on the driving distance and would automatically be calculated by the Hitch Hiker App for ease.

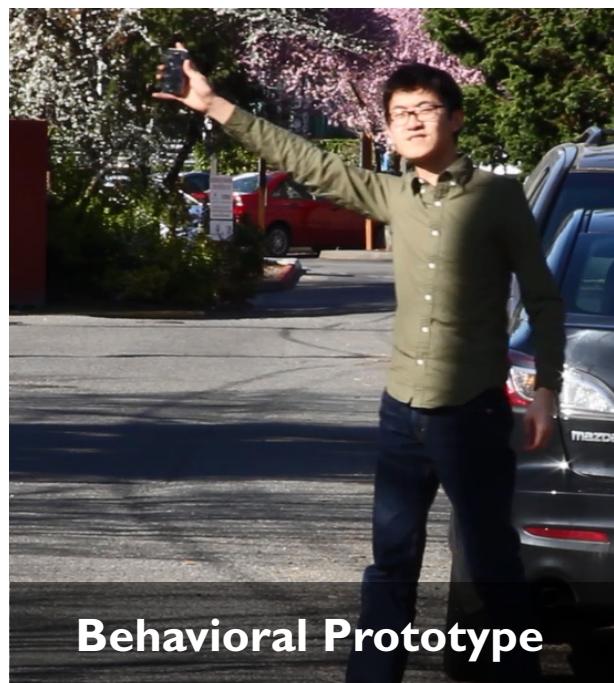
While we were implementing this system, we recognize that it is crucial for any driver who uses our application to be able to quickly identify passenger he supposed to pick up while he is driving.

Our interaction/experience research questions:

- 1.What would be the ideal experience using the Hitch Hiker app for both driver and passenger?
- 2.What would be the best interaction technique for driver to recognize passenger he is suppose to pick up?

Two prototyping techniques to answer these questions:

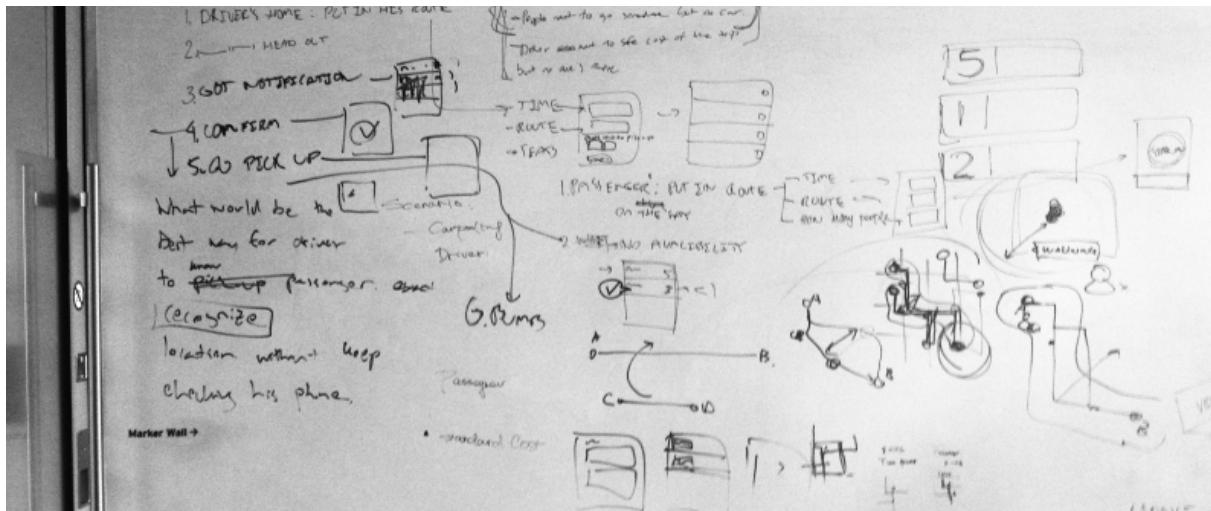
- 1.Video prototype: a tool for illustrating the experience using a product. We chose this tool to communication the ideal experience for driver and passenger using our application.
- 2.Behavioral prototype: a tool to quickly and cheaply test interaction of a product. We want to figure out the best way for driver to easily spot passenger he suppose to pick while he is driving.



Process

Looking for opportunity

We had a quick brainstorm session to generate several design questions. Ultimately, we decided on "How can we make short-distance carpooling easier & more efficient". The problem space looked very promising for our final project with one week time constraint.



In depth discussion

We then discussed among ourselves the design question and map out potential problems in this space. We want to make sure that we have a good problem to tackle before going onto finding solution for this problem. We identify stakeholders: driver who needs someone to carpool and passenger who needs a ride. This initial mapping of the stakeholders allowed us to sketch out flow of interaction between them.

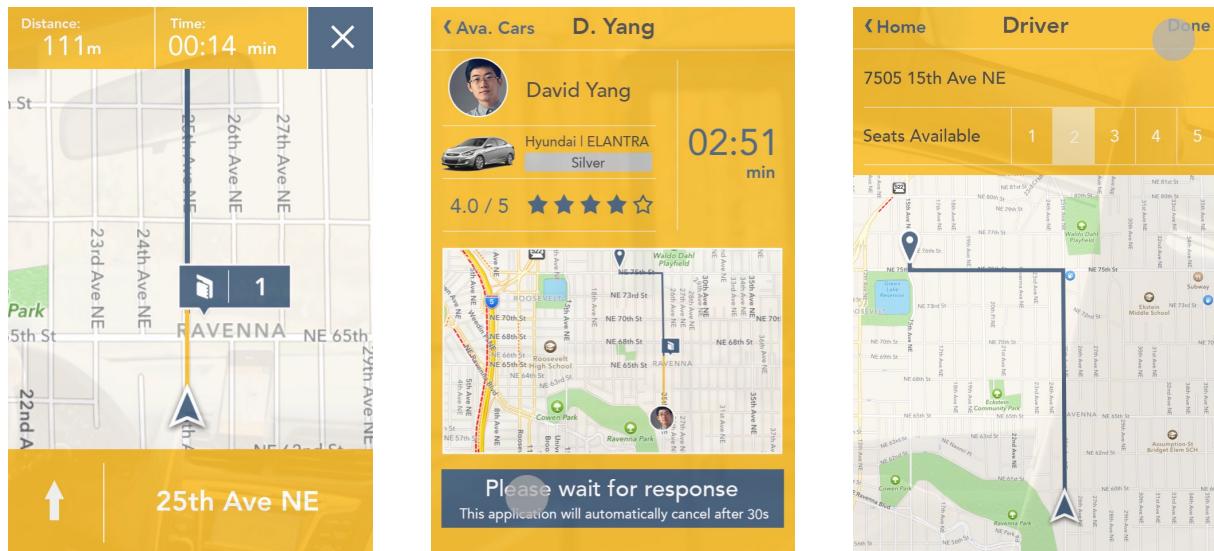
After we flushed out interaction flow of our application, we derived two research questions mentioned in the beginning of this document. We also decided that video prototype and behavioral prototype would be perfect prototyping technique to answer those questions.



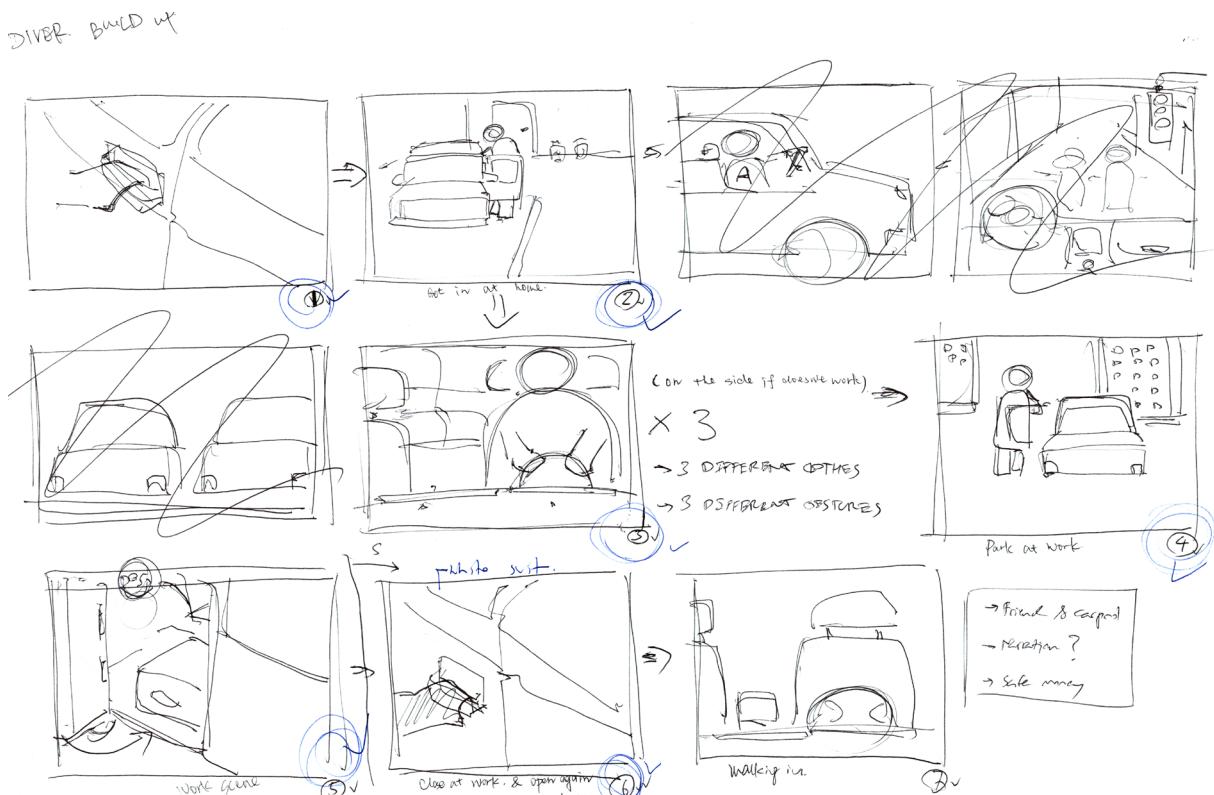
Prototyping

We prepared high fidelity interface mockup as well as storyboard before shooting our video prototype.

High Fidelity Interface Prototype:



Storyboard: #1-7



Storyboard: # 8-10

Story Board Finch Hiking.

Experience & Interaction Mean.

↓ What kind of Scenario?
What situation?

- What's the real interaction with the system
- Input information
- Output (Map)
- Control in the car.

↳ Interface Input Location
How many passenger
Confirm

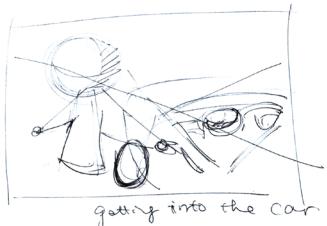
Interface.

Spontaneous Carpooling.

Driver:

Input, Navigation.

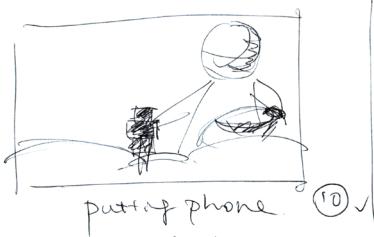
(9) short, Concise



getting into the car.

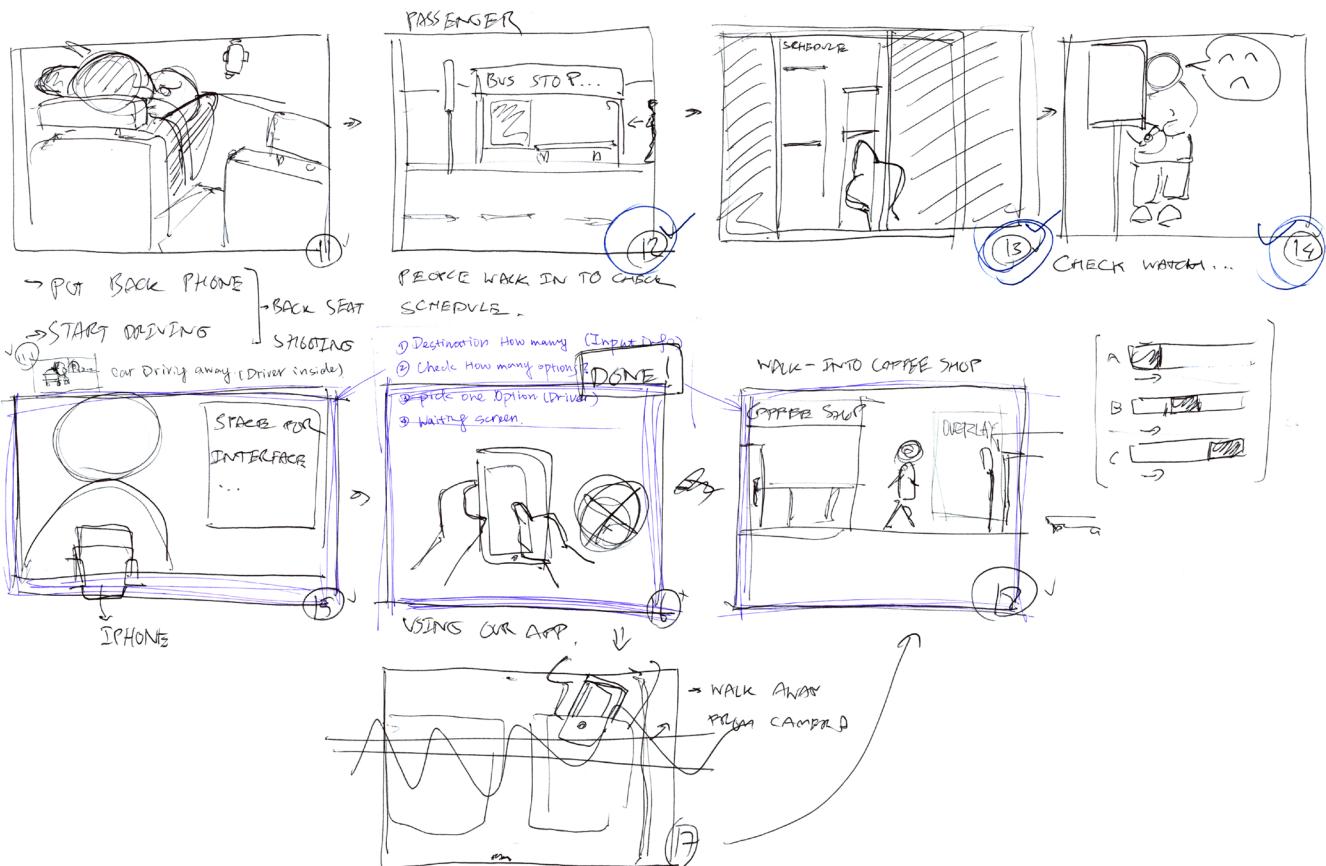


inputting.
(shot from outside
if necessary
is necessary)

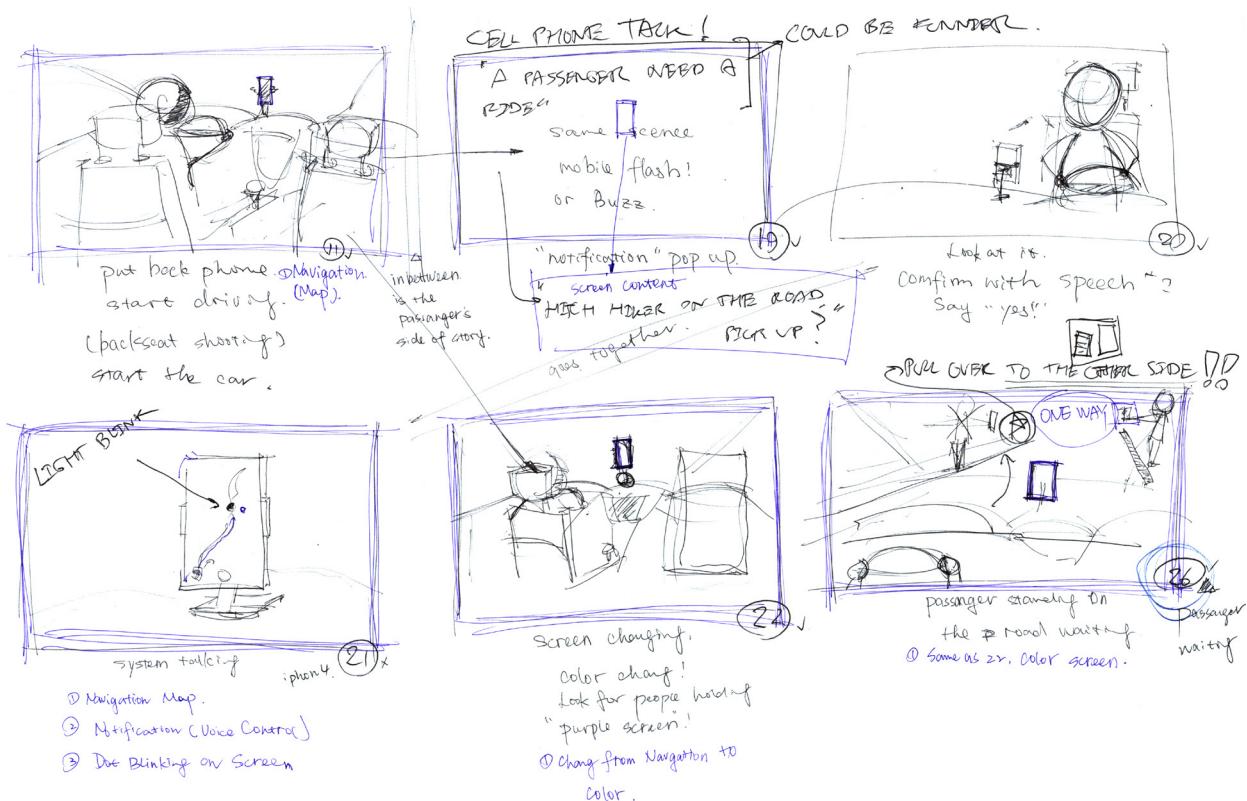


put up phone. (10) ✓
on the holder.

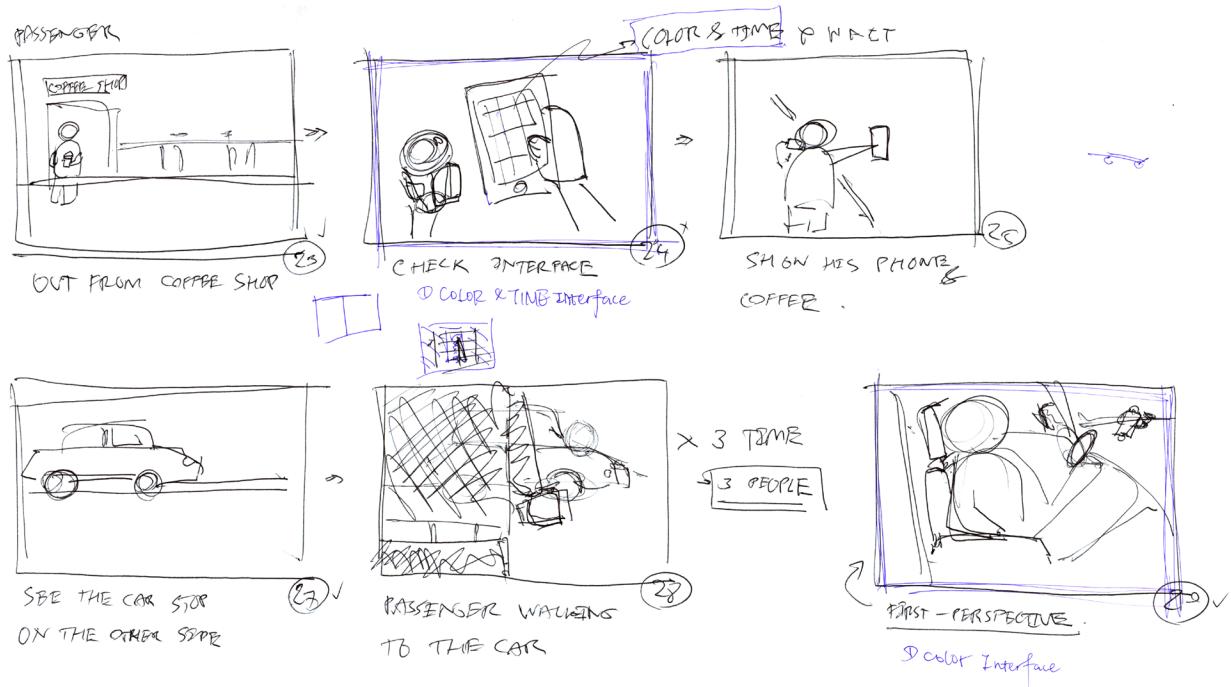
Storyboard: # 11-18



Storyboard: # 19-22



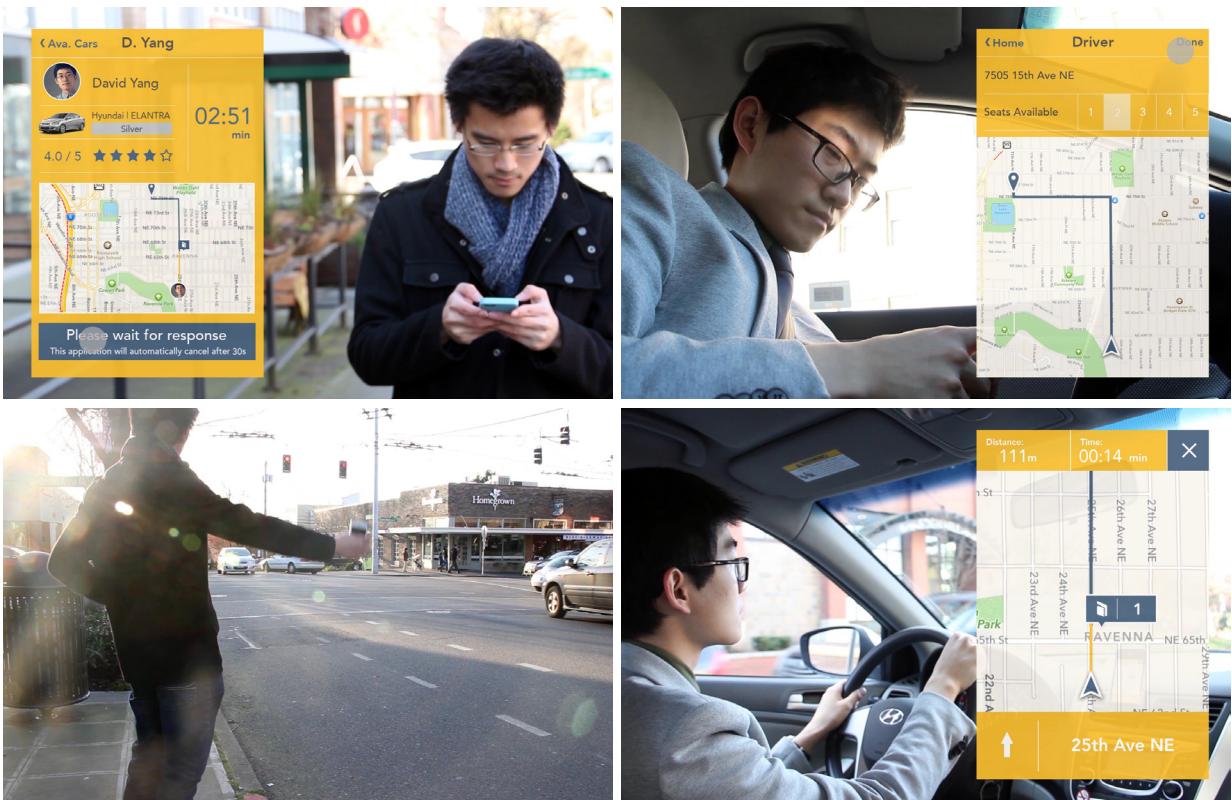
Storyboard: # 23-29



Video Prototype:



Finish Shots:



Behavioral Prototype:

We had two of our classmate to participate in our behavioral prototype. Below is our summary from the testing.

User Testing Result Summary:

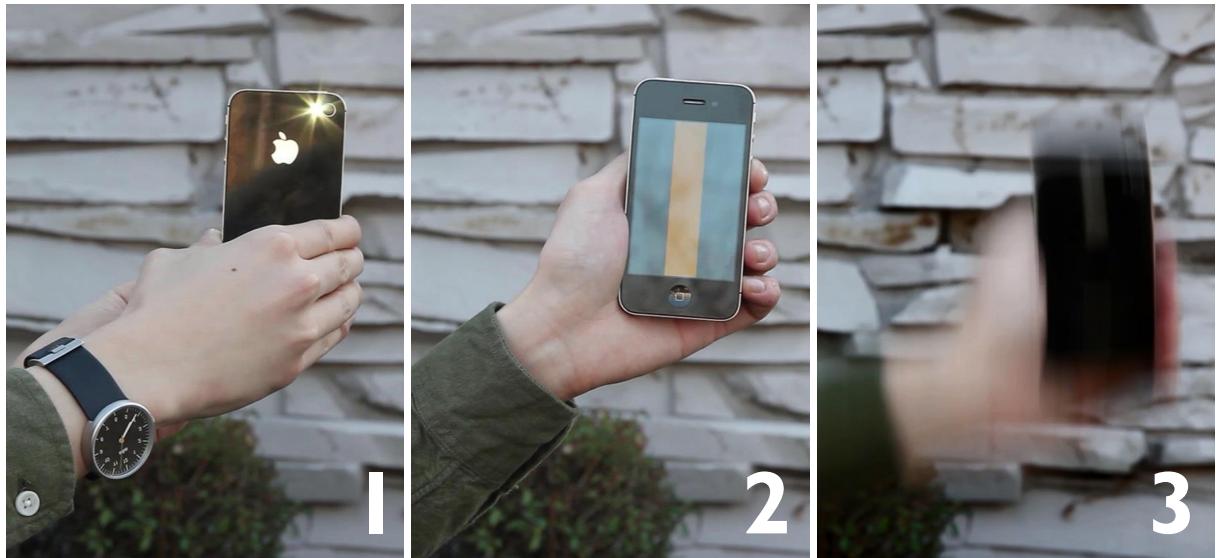
As we stated earlier in this report, we looked for the best interaction technique for driver to recognize passenger he is suppose to pick up. Furthermore, the method used by passenger should not distract other cars on the road. We had three different types of interaction which we tested with behavioral prototype.

Research Question:

What would be the best interaction technique for driver to recognize passenger he is suppose to pick up?

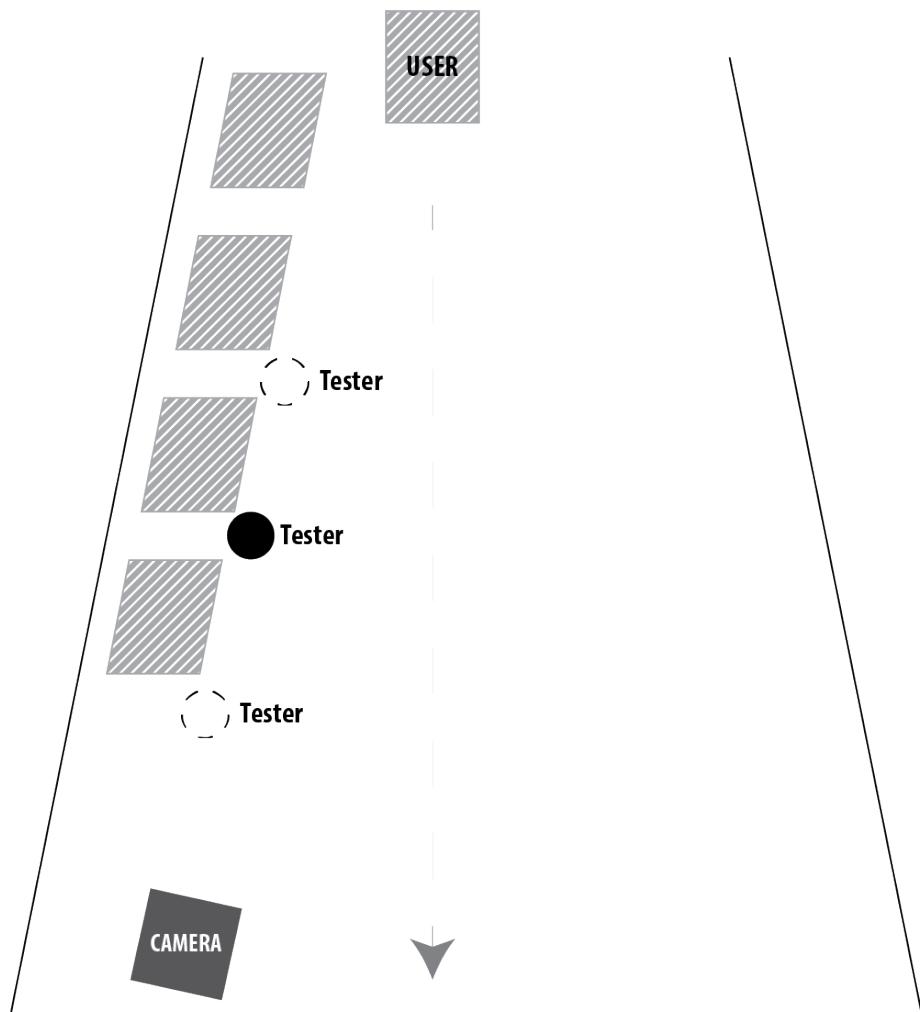
Interaction methods:

1. Using flashlight on mobile devices to get the driver's attention.
2. Specific color pattern on passenger's screen.
3. Arm gesture by the passenger.



Setup:

We set up the test in a long road with cars parked on the side in university village. David as the tester will show up in any spot between cars on the road side. Tester will only show himself when the user come close enough. Also, there is a camera setup behind the tester to record the tester's movement.



On the other side, we ask our users to sit in the car with the other tester, drive along the road, and ask them if they can clearly notice the tester. We tested with each user all three interaction methods. For the sake of saving time, we did not ask our user to stop the car to pick up the tester on the road. Because the main purpose of this test is to compare these three interaction methods, it did not affect the test whether or not the user stop the car.

We also set up a iphone on the dashboard in the front of the car to record the reaction from the user and the conversation inside the car.

Test Result:

After the test, we found that the **most effective way to make the driver to notice the passenger is to use body gesture**. First of all, flashlight is not strong enough during the day. According to the participant, the flashlight is not the main thing that catch his eye.

"I thought he's taking a picture of me."

"I can't see it until the last second."

"It's hard to see in the day time."

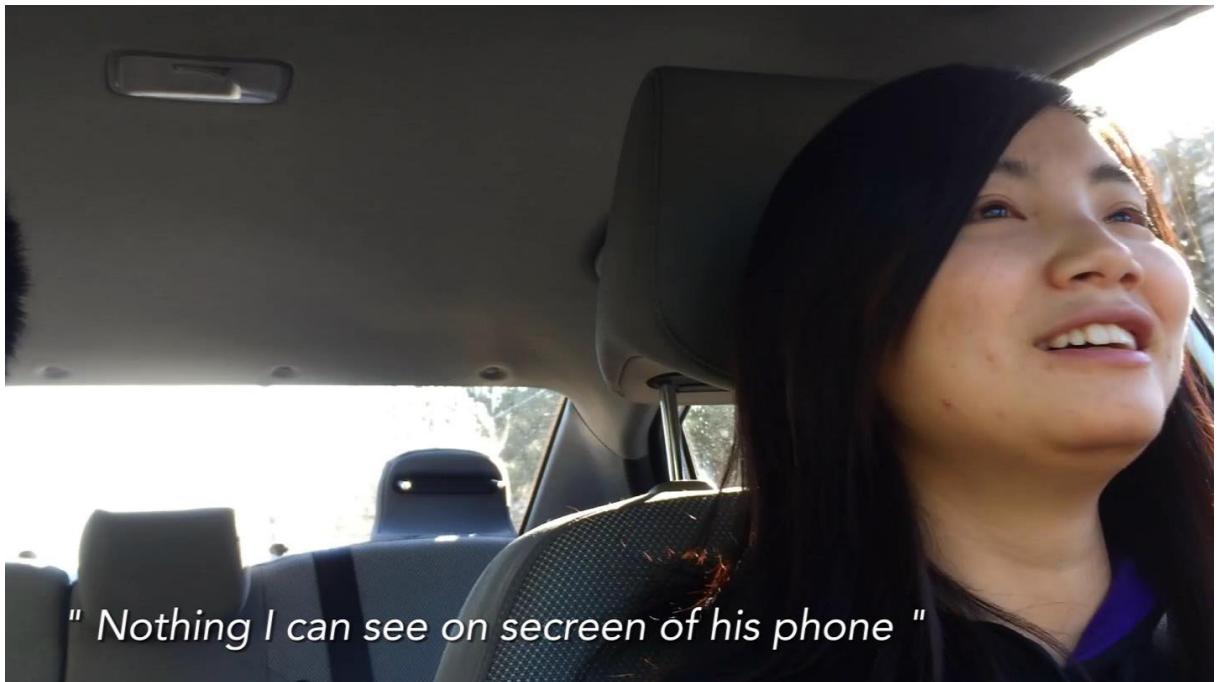


"I thought he was taking a picture of me."

Secondly, the color bar on the screen is not visible enough for both participant. The can only see tester holding his cell phone on the road, the content on the screen is no clear for the driver.

"Nothing I can see on the screen of his phone."

"The fact he was holding his phone is all I can see."



" Nothing I can see on screen of his phone "

Lastly the **gesture is the most effective way** in communicating the tester's location. Both participants found the waving gesture very effective, they can easily tell the location of the tester. Also they both understand that the tester is trying to stop them.

"That's pretty obvious. It is obvious that I should pick him up."

"It's like a convention, if someone wants to stop the car, they wave."



" It is obvious that I suppose to pick him up. "

Interestingly, both of the user mention the waving gesture as convention. People are used to this kind of gesture, when someone is waving to a car, they are assumed to need help or try to stop the car.