

# **Assignment #2: Needfinding, POVs, HMWs, and Experience Prototypes**

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# Introduction



Yuetong Wang



Alice Zheng



Liang Zhang

Tech Oriented

Design Oriented



# Transportation



# Initial POV



## POV : Russell

- We met someone who drives a lot, almost anywhere
- We were amazed to realize he drives for very short distances, even from Stern to Lag at night due to perceived safety issues
- It would be game-changing to increase perceived level of safety on means of transportation other than driving



## Points from Previous Interviews

- Seek of Info
- Attenuate Rush Hour
- Make commuting time more productive
- Make connections between transportation smoother



# Additional Interviews & Results

Irene



- Works at Amazon A9
- Drive everyday, 10am / 7:30pm
- Live at northern Mountain View

## Some questions we asked:

- What's your experience with Rush Hours?
- How do you make use of commuting time?
- Any unpleasant experience with public transportation?

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- What's your experience with Rush Hours?

“Not too bad due to flexible working time — but still sometimes get stuck near Google campus”

- How do you make use of commuting time?

“Colleagues usually listen to Audible. For me...”

- Any unpleasant experience with public transportation?

“It's hard for me to carry bikes onto Caltrain.”



# Revised POVs



## POV I : Kyu

- We met someone who relies on wheelchair and public transportation to commute between Stanford and San Francisco during summer
- We were amazed to realize that many accommodation facilities of public transportations are badly maintained, and there's no way to know the status of these facilities in advance
- It would be game-changing to enable users to easily and quickly look up accessibility information



## POV II : Chrissie

- We met someone who lives in Palo Alto and works in San Francisco
- We were amazed to realize she believes it is okay to be late for work since she noticed that her colleagues also got trapped in traffic jams
- It would be game-changing to attenuate rush-hour for better commuting experience



## POV III : Irene

- We met someone who spend 30-40 mins to drive to commute everyday
- We were amazed to realize even the commuting time is not significant, she still hopes to free herself from driving by having a self-driving car, so that she can work during this time
- It would be game-changing to allow commuters to spend their commuting time more productively



# Top Three HMWs



## HMW I : From POV I — Malfunctioning Facilities

- HMW enable passengers who may be affected by the malfunctioning accommodation facilities to learn about the situation in advance?
- HMW ameliorate passengers who encountered and were irritated by the situation?
- HMW provide alternative route for passengers affected by the malfunctioning facilities?



## HMW II : From POV II — Rush Hour Pains

- HMW reduce the overall traffic load on highway during rush hour?
- HMW encourage more people to share ride while going to work?
- HMW reduce the influence of accidents on the traffic speed?



## HMW III : From POV III — Commuting Time Productivity

- HMW reduce the commuting time?
- HMW make a car like an office?
- HMW encourage commuters to forget about work and enjoy the ride?



# Solutions & Prototypes



## Solution #1 : For HMW 2

- HMW encourage more people to share ride while going to work?
- Potential Solution :

We can build an app that allows drivers to share their route in real time and allow hitchhikers to request for ride sharing instantly.

# Prototype 1

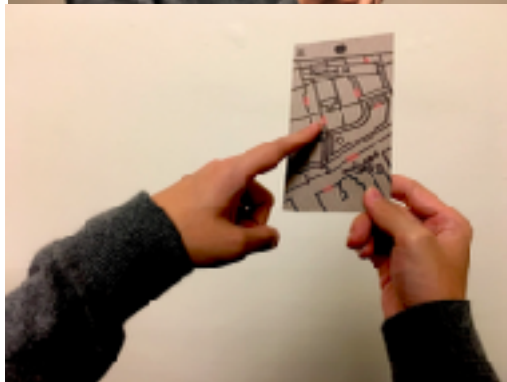


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# Prototype 1 : Interview

## Max

- Junior student at Stanford
- Mathematical and Computational Science Major



What worked ...

- People care about efficiency
- White List is important — trust and safety

What didn't work ...

- People don't care much about Reward System

Surprises ...

- Time waiting for pickup is a defining factor

New Learnings ...

- Driver side concern focuses on economic benefits
- Riders care about accident liability

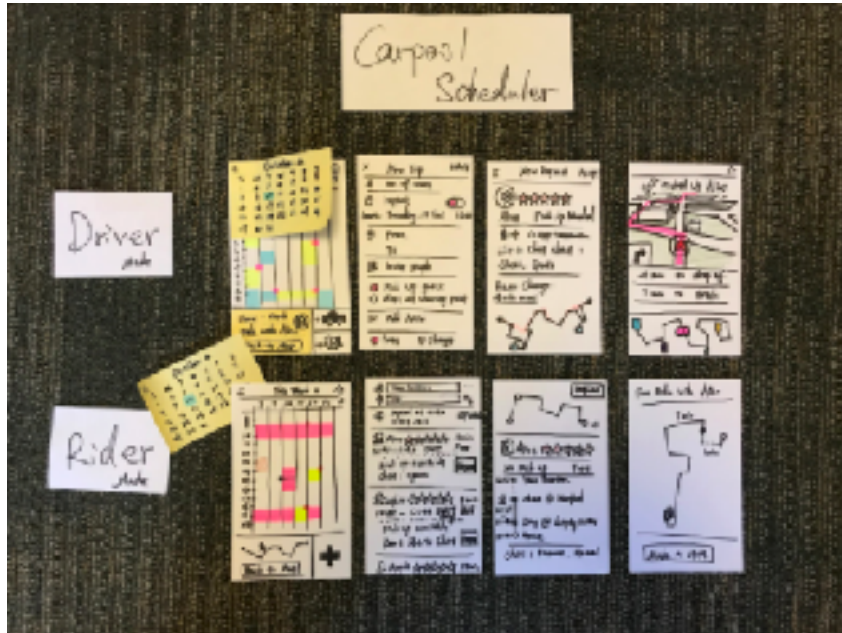


## Solution #2 : For HMW 2

- HMW encourage more people to share ride while going to work?
- Potential Solution :

We can build an app that allows drivers to post scheduled trip so that others can search for rides in advance, just like checking public transportation schedules.

# Prototype 2



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## Prototype 2: Interview

### Rui

- PhD student at Stanford Studying Construction Management.
- He did an intern in Washington last quarter and heavily relied on his car to go to places.
- normally drives alone



### What worked ...

- He really loved the rider mode of the app
- He is completely fine with sharing some schedule

### What didn't work ...

- He doesn't want to share ride with stranger
- He is worried about have nothing to say with the rider

### Surprises ...

- His first thought on people's incentive is the social aspect not the payment aspect

### New Learnings ...

- The white list feature can be essential for some users



## Solution #3 : For HMW 1

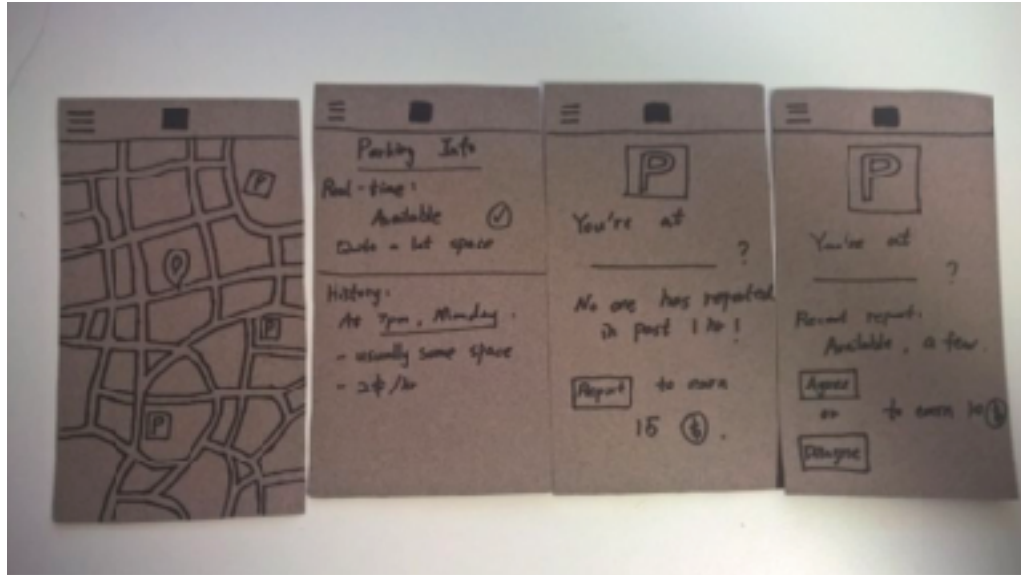
- HMW enable passengers who may be affected by the malfunctioning accommodation facilities to learn about the situation in advance?
- Deviate from the original HMW — but we got inspiration there!
- We focus on parking information instead, based on interviewer's feedbacks



## Solution #3 : For HMW 1

- Gather information related to parking (e.g. availability; cost; environment...) from users
- Inform other users based on their future plan and past habit
- In-app reputation & “financial” system : motivate users to report information they have.

# Prototype 3

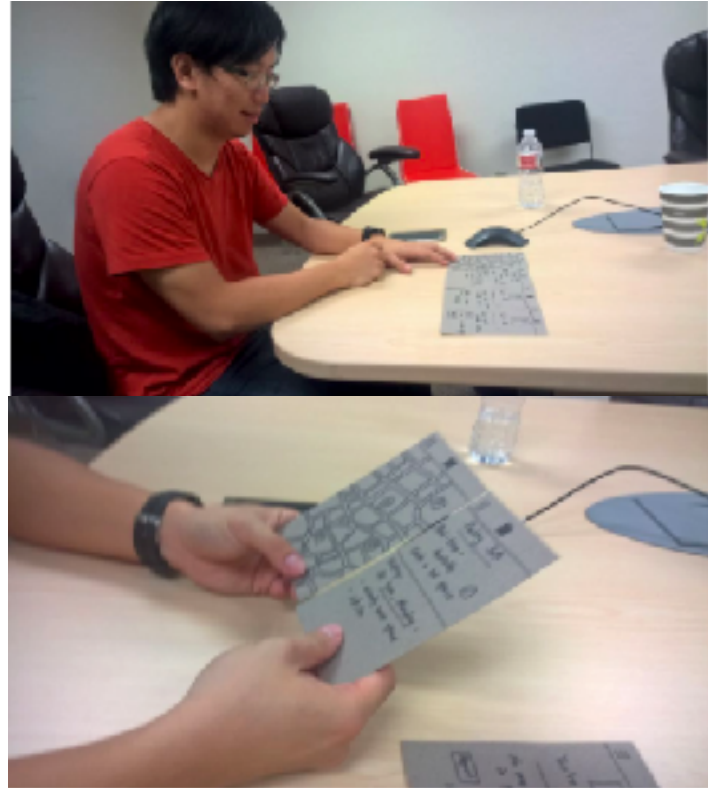


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## Prototype 3 : Interview

### Arthur

- Tech-lead at Datavisor, Inc.
- Drive to work everyday
- Have lived in Bay Area for ~ 7 years



### What worked ...

- People do spend time find parking places
- People are willing to provide information

### What didn't work ...

- Drivers can't click often during driving
- Drivers don't want using two apps together (One for navigation, one for find parking)

### Surprises ...

- Sometime parking 1~2 miles away

### New Learnings ...

- When a parking lot is full, no time to report
- No GPS inside parking structure



# Conclusion



## “Ultimate Carpool app”

- Combine Prototype 1 and 2
- Prototype 3 seems limited in scope



**Thank You**