

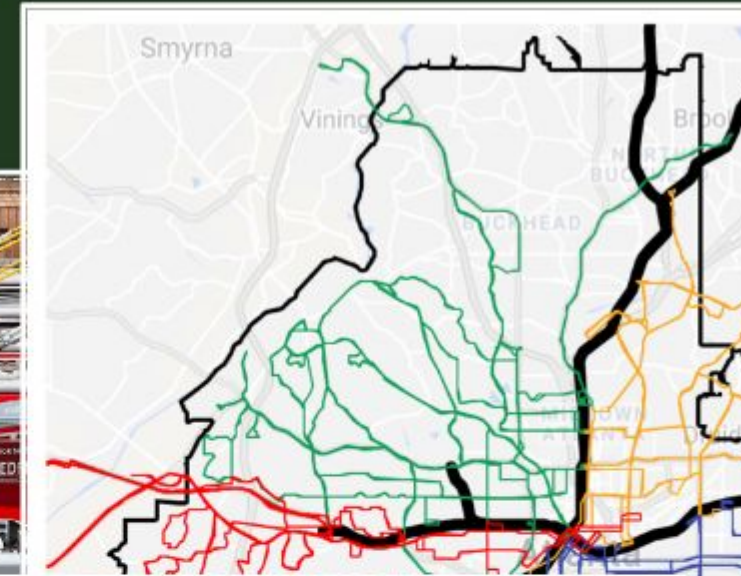


POVS AND EXPERIENCE PROTOTYPES

*Asa Kohrman, Marco Pizarro,
Max Vandervelden*

Problem Domain: Bus Systems and Networks

Max V



Marina POV

We met Marina, a commuter in her early-20s without a license who heavily uses public transportation

We were surprised to notice that she still checks the route after taking it daily

We wonder if this means that the buses and trains she uses are inconsistent and the transfers are stressful

It would be game-changing to have consistent schedules that line up between buses and trains



Atlas

*SFSU student who uses public
transportation & Uber to get around*

Average User

*“Reading the map that Google
Maps gives you can be confusing”*

*“It doesn't match what the signs at
the stations say, and that's why I got
mixed up”*

*“You experience a lot more
different people... it can be scary”*

*“You just gotta mind your own
business”*



James

GT student who primarily uses a car

Non-User

“Figuring out the bus system just isn’t worth it for me.”

“The timing is always bad. They don’t sync up. A bus will arrive at a station two minutes after a shuttle leaves for campus.”



Sarah

*NYU student who primarily uses the
NYC (Manhattan) subway system*

Average User

*“In NYC, I only take public
transportation.”*

[In GA]

*“The suburbs ...are super
spread out. Really, there’s no
option, ... there’s no bus.”*

*Buses are one of the only ways
to get in between boroughs.*

POV 1



Elsa

We met Elsa, a Stanford student in her 20s. She's a former tech employee who used an Apple shuttle instead of taking the train.

We were surprised that despite having the Apple shuttle available, she wishes she could take public transit, because it takes her out of natural social circle.

We wonder if this means that she wants a more social transit experience.

It would be game-changing to make a way for more people to interact on their commute.

POV 2



Marina

We met Marina, a commuter in her early-20s without a license who heavily uses public transportation

We were surprised that she has been hit on and sexually assaulted on the train, sometimes even by the same person.

We wonder if this means she constantly feels unsafe on public transportation

It would be game-changing to give her more peace of mind during her commute.

POV 3



Sarah

We met Sarah, an NYU college student who exclusively uses public transit in NYC.

We were surprised to notice that she frequently takes the subway but the bus once because of complicated schedules and poorly indicated lines.

We wonder if she feels limited in her ability to explore since she entirely takes the mainly North/Southbound subway.

It would be game-changing to reduce the learning curve and difficulty involved in exploring other metropolitan centers.

*HMW make spontaneous interactions
feel normal?*



How might we make buses as low effort as possible?



HMW make getting help on public transit easier?



Solution 1

A safety feature allowing you to share your ride and progress with a friend.

Critical Assumption

Most people have someone trusted they would want to share their location with.

Experience Prototype 1

Do people have trusted contacts?



We created a form that asked name, phone number, and a person's physical location. Then, we asked, in case anything happened to them during the interview, if they had someone they would like to share their information and location with.

Demo form

Some get to know you questions

Name

Short answer text

Dat

Month, day, year

Phone

Short answer text

Email

Short answer text

Where are you right

Short answer text

Where are you going after

Short answer text

In case anything happens to you, would you feel comfortable sharing this information with another person?

Yes

No

If so, what person would you like to share that

Short answer text

Results

Things that Worked:

- Both people shared their location with someone who would “freak out in the right way”

Surprises/Learnings:

- Felt comfortable sharing with *only* one person



Solution 2

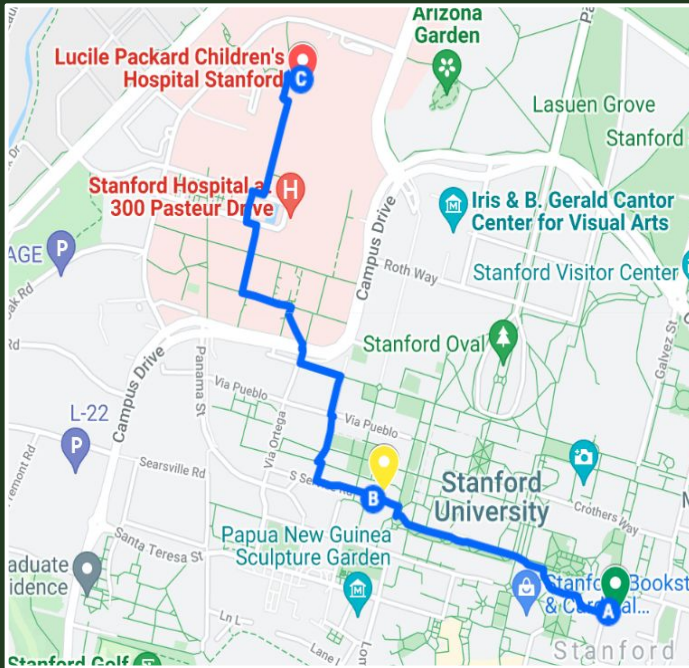
An intelligent GPS which gives real-time updates and suggestions before and enroute to a destination.

Critical Assumption

People won't memorize new routes before leaving.

Experience Prototype 2

How can we test how people visualize and approach/plan new routes?



Plan a route with two relatively unknown locations of similar distances.



Follow them, see how they navigate. How often do they use their real-time location?



Interview them and ask about their experience afterwards.

Results

Things that Worked:

- Confirmed that when exploring new *areas* people usually monitor their real-time location multiple times during the route in relation to their final destination
- Easier to monitor phone/real-time data when less directed (i.e. when driving)

Things that Didn't Work:

- Initial route to McCullough almost entirely memorized beforehand, was able to locate based on remembering close-by buildings
- Difficult to test scenario of navigating routes using *specifically* public transit

Surprises/Learnings

- Real-time data mostly not needed when been in general area before, can orient

Solution 3

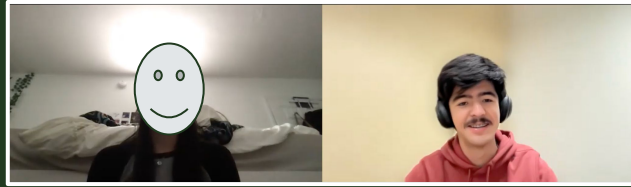
A chatbot that knows your location and can answer your questions during your ride.

Critical Assumption

People would want to interact with a chatbot instead of other ways of getting help.

Experience Prototype 3

How can we test how people visualize and approach/plan new routes?



Bus Chatbot

Context: You are on the bus and need help with something

pizarro@stanford.edu (not shared) [Switch account](#)

What would you like to do?

☐ What Bus am I on?

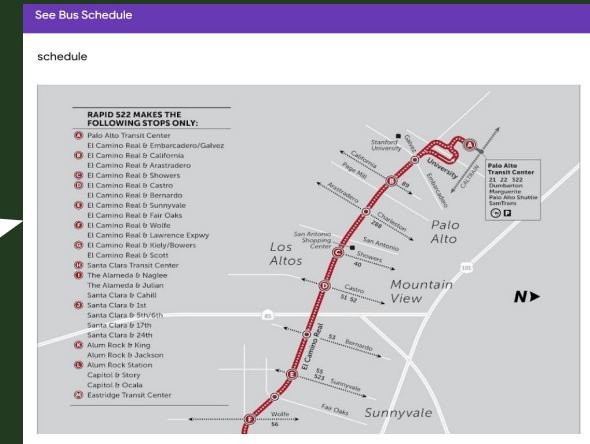
☐ See Bus Schedule

☐ I need immediate help

☐ How do I get to --?

[Next](#) [Clear form](#)

Never submit passwords through Google Forms.



What Bus Am I on?

You are currently on the 522 towards Palo Alto Transit Center

Immediate Help

Contacting VTA Services

What do you need help with?

.....

We tested this by creating a chatbot in Google Forms with set statements and asking users about their experience

[Link](#)

Results

Things that Worked:

- Confirmed that people would even want to interact with a chatbot instead of other options

"It was certainly easier to see these options all laid out."

Things that Didn't Work:

"If the chatbot were to give me step by step instructions, I feel like that would eliminate a lot of confusion."

"If there were an emergency I would probably just call 911."

Surprises/Learnings

- May be less intuitive for older/less technologically-experienced users



Solution

- We propose to combine Solution 3, the bus chatbot, with the real-time route planning features of solution 2
- *Who would be interested?*
 - Those who don't know how buses work
 - Those traveling longer distances who might otherwise only have a car as an option.
 - Those worried about their inexperience taking a new route
- *Who might this leave out?*
 - People with little exposure to technology
 - Older people
 - People w/o cellphones or other devices
 - People with bad cell service on buses

Summary

- While it confirmed our general assumptions, first prototype needs further testing of solution 1 for an actual public transit route to new areas
 - Solution would be most useful for exploring new *areas*, not general destinations
- The second prototype was effective in proving user interest, and a more medium-fi prototype would effectively tackle our tester's concerns
- The third prototype proved users are willing to send a person their location and information when they feel unsafe but should be tested in a specific route scenario

Next Steps

- Address the accessibility issues of our solution
- Narrow our scope, question of how to implement these features in combination with each other
- Build our website :)