Making Education Accessible

Targeted need-finding, points of view, and experience prototypes

Team

Alejandrina G.R.

Ammar A.

Ahmed S.

Abdallah A.

Problem

Education

+

Accessibility

Preliminary POV

We met Mehran. He's a Stanford professor

We were amazed to learn how much accessibility disabled students needed within the classroom

It would be game changing to use tech to enhance their in-class experience

Additional Need-Finding

Dean Hudson

- Blind engineer from the Bay Area
- Every task becomes more difficult
- Visually-impaired people can still be independent
- Mentioned the importance of usability over accessibility

Saad Ghani

- Hearing-impaired college student

Point Of View #1

We talked to Michael, a vision-impaired former Stanford student.

We were amazed to learn how some **simple technologies** remained **inaccessible** to the visually impaired in education

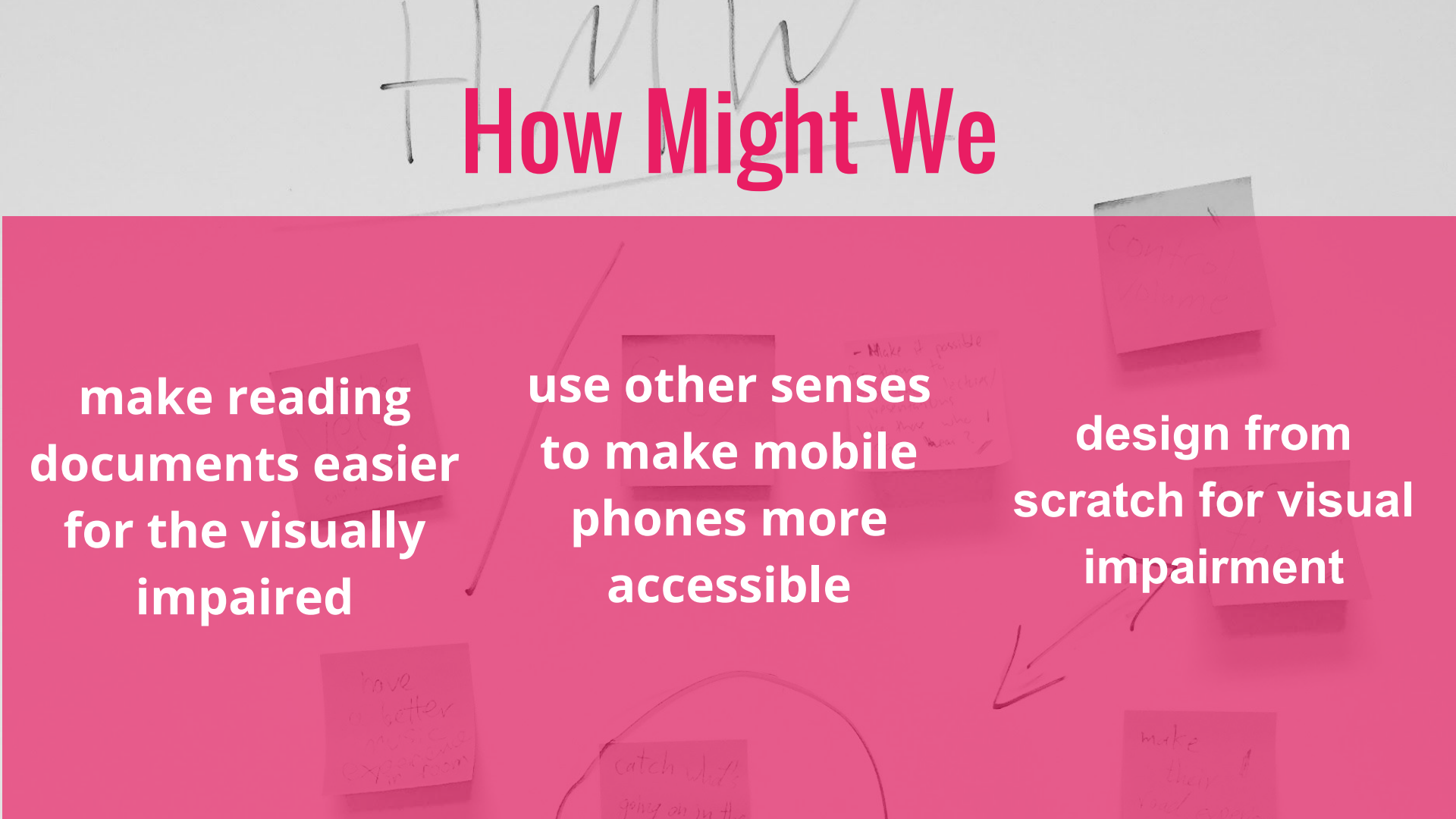
It would be game-changing if technology could help make education **universally accessible**

How Might We

make reading documents easier for the visually impaired

use other senses to make mobile phones more accessible

design from scratch for visual impairment

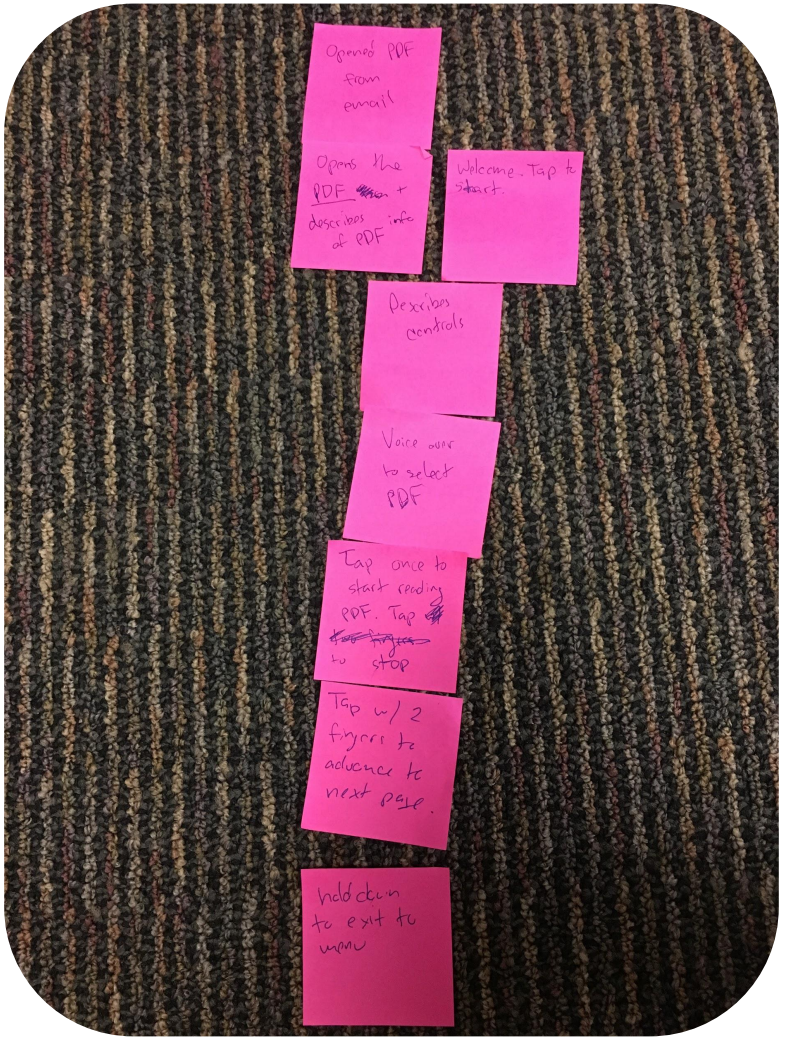


Experience Prototype

This is StudyBuddy, your guide, for a better studying experience. Let's get started.
In StudyBuddy, you tap to confirm, double tap to cancel

Tap once to start reading,
Tap again to pause,
Hold down to highlight specific parts,
Swipe right to increase speed,
Swipe left to rewind,
To get back to normal speed, just tap

App flow


Opened PDF from email
Opens the PDF + describes info of PDF
Welcome. Tap to start.
Describes controls
Voice cues to select PDF
Tap once to start reading PDF. Tap to STOP
Tap w/ 2 fingers to advance to next page.
Hold down to exit to menu

Assumptions

visually-impaired people would prefer natively accessible apps to voice-over

Results & Surprises

Worked…

Richness in features

Didn’t work…

Disliked learning new UI

Prefers adding accessibility features to existing apps

Function before form

Point Of View #2

We talked to Zina, a hearing-impaired Stanford student

We were amazed to learn how hearing accessibility technology detracted from the social experience in ed.

It would be game-changing if we could make hearing accessibility technology more palatable

Experience Prototype

Instant captioning of speech

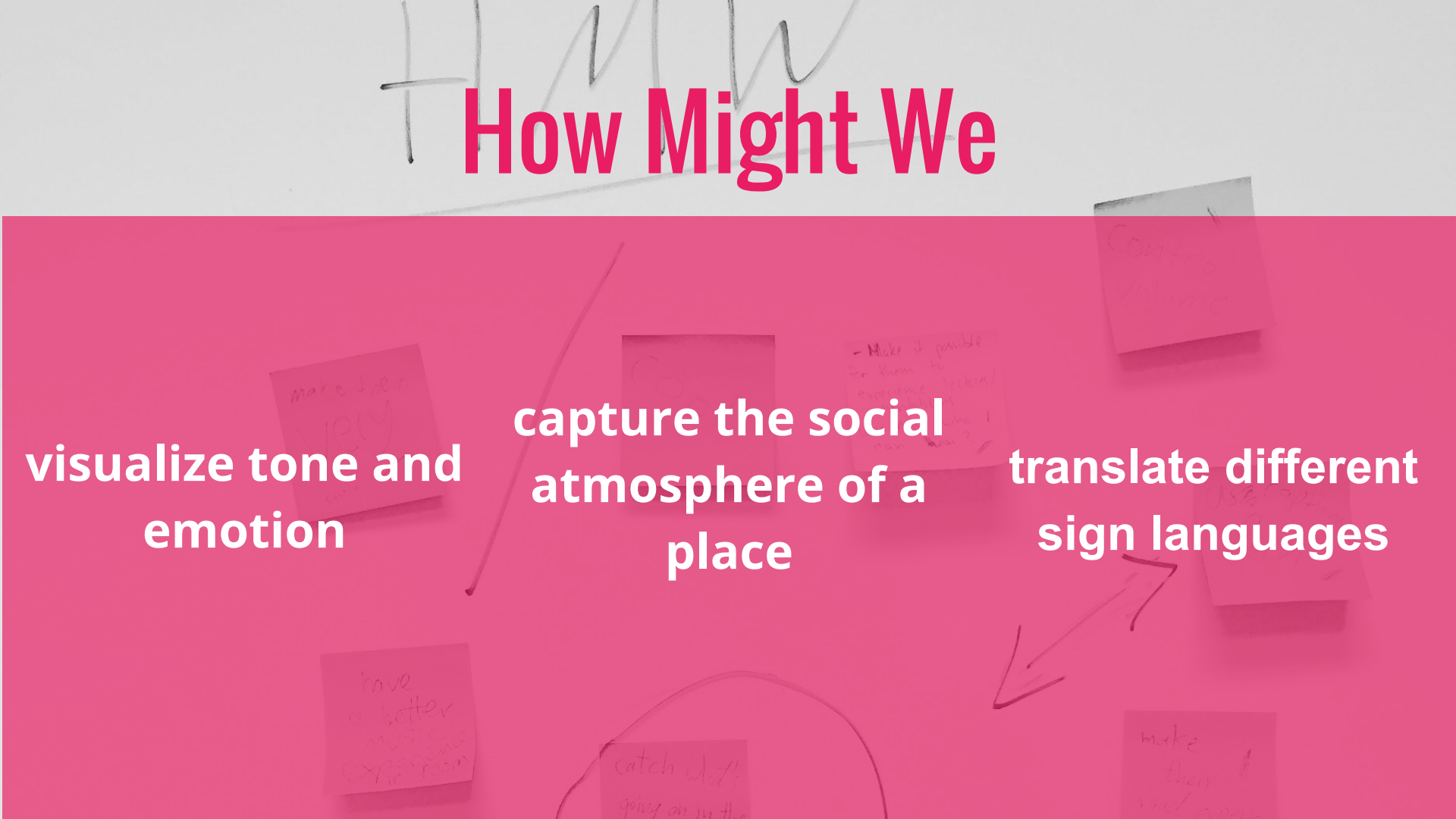
Enhances captions of a video or lecture by giving life to the captions - motion, color, and size

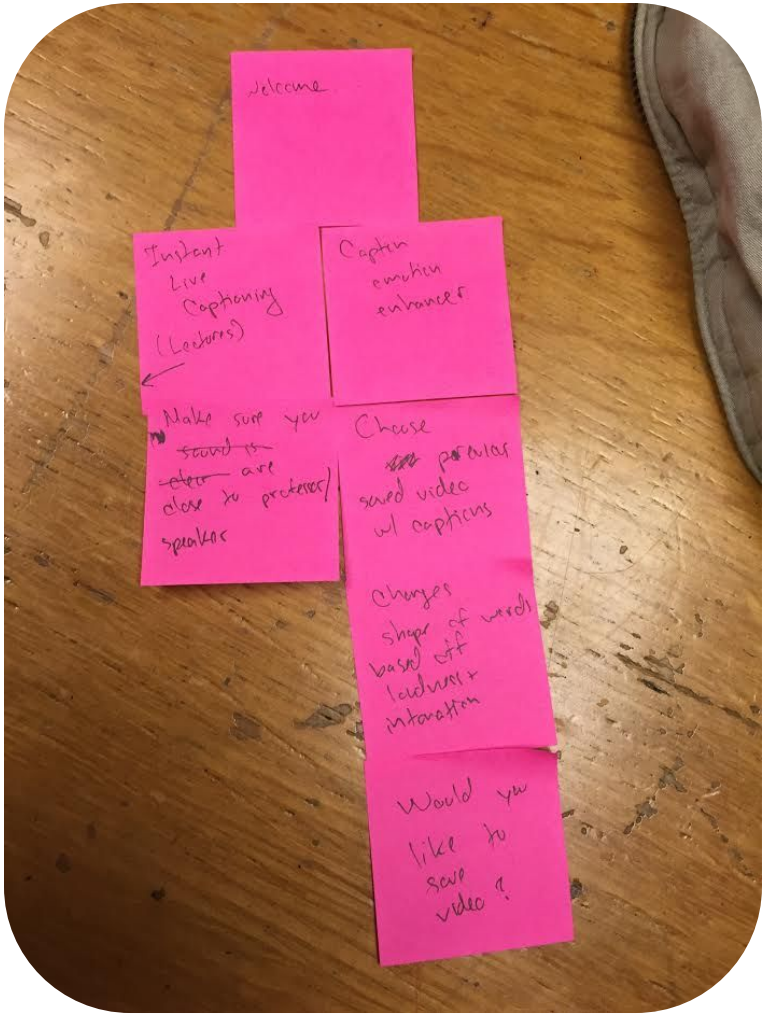
How Might We

visualize tone and emotion

capture the social atmosphere of a place

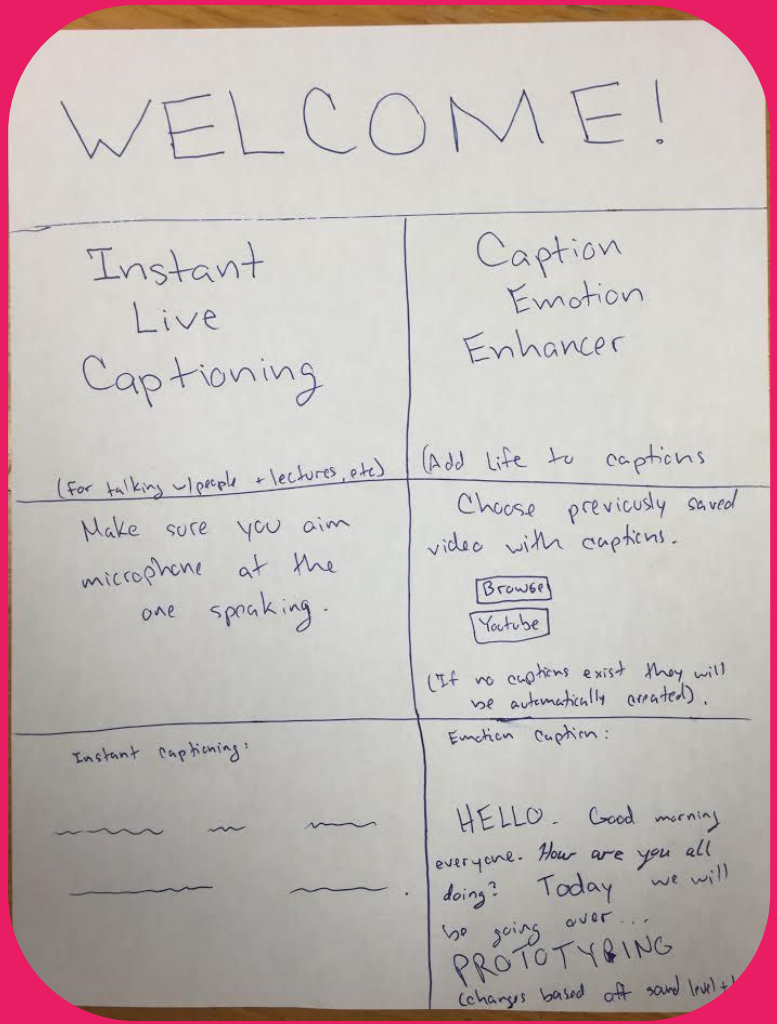
translate different sign languages




Welcome
Instant Live Captioning (Lectures)
Captin emotion enhancer
Make sure you ~~sound is~~ ~~clear~~ are close to professor/ speaker
Choose ~~[illegible]~~ previous saved video w/ captions
Changes shape of words based off loudness + intonation
Would you like to save video?

App flow

One-page representation of the app and all its screens.



Assumptions

captioning is prevalent

captions are unengaging

STANFORD

Results & Surprises

Worked…

Saad appreciated capturing emotions in captions

Juleh would use the application even though she doesn't *need* captioning

Didn't work…

Many people don't need captioning

Technical and institutional limitations

Point Of View #3

We met Chris.

He’s an education PhD student at Stanford.

We were amazed to learn that the social aspect of the educational process is as important as the didactic

It would be game changing if we could make disabled students and minorities feel that they fit in the school.

How Might We

create a positive digital social sphere

use crowdsourcing to make university students feel more welcome

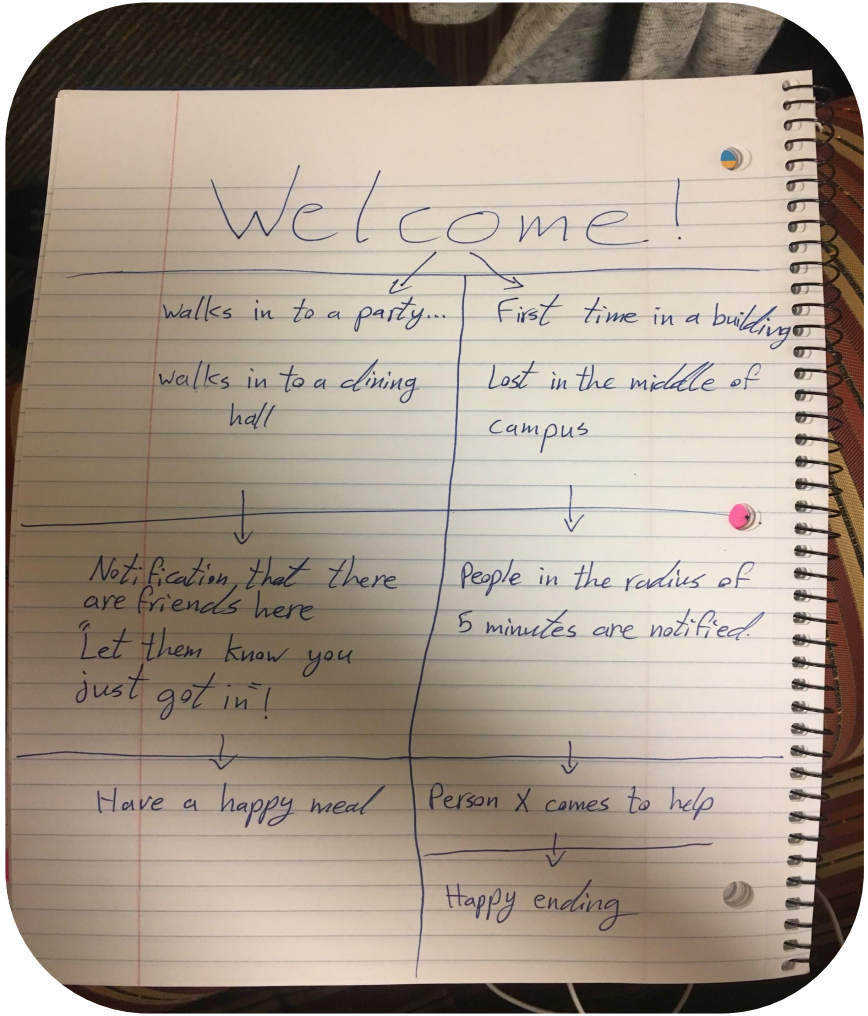
help students get engaged in the classroom

Experience Prototype

find nearby friends

find urgent help

App flow


Welcome!
walks in to a party...
walks in to a dining hall
First time in a building
Lost in the middle of campus
Notification that there are friends here
"Let them know you just got in"!
People in the radius of 5 minutes are notified
Have a happy meal
Person X comes to help
Happy ending

Assumptions

students prefer company to being alone

students would want to meet their friends when they’re nearby

Results & Surprises

Worked...

people do struggle to find meal mates

recognized specific situations when they had the need in their own lives

Didn't work...

concerned about privacy

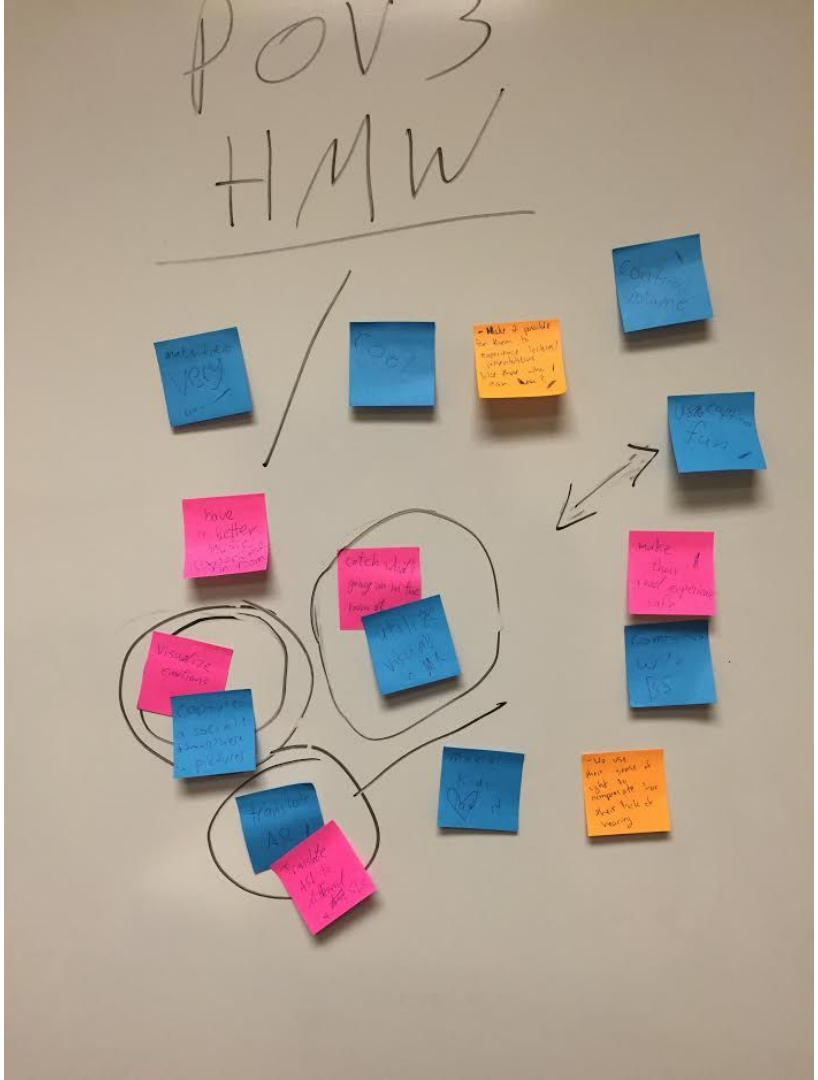
sometimes prefer being alone

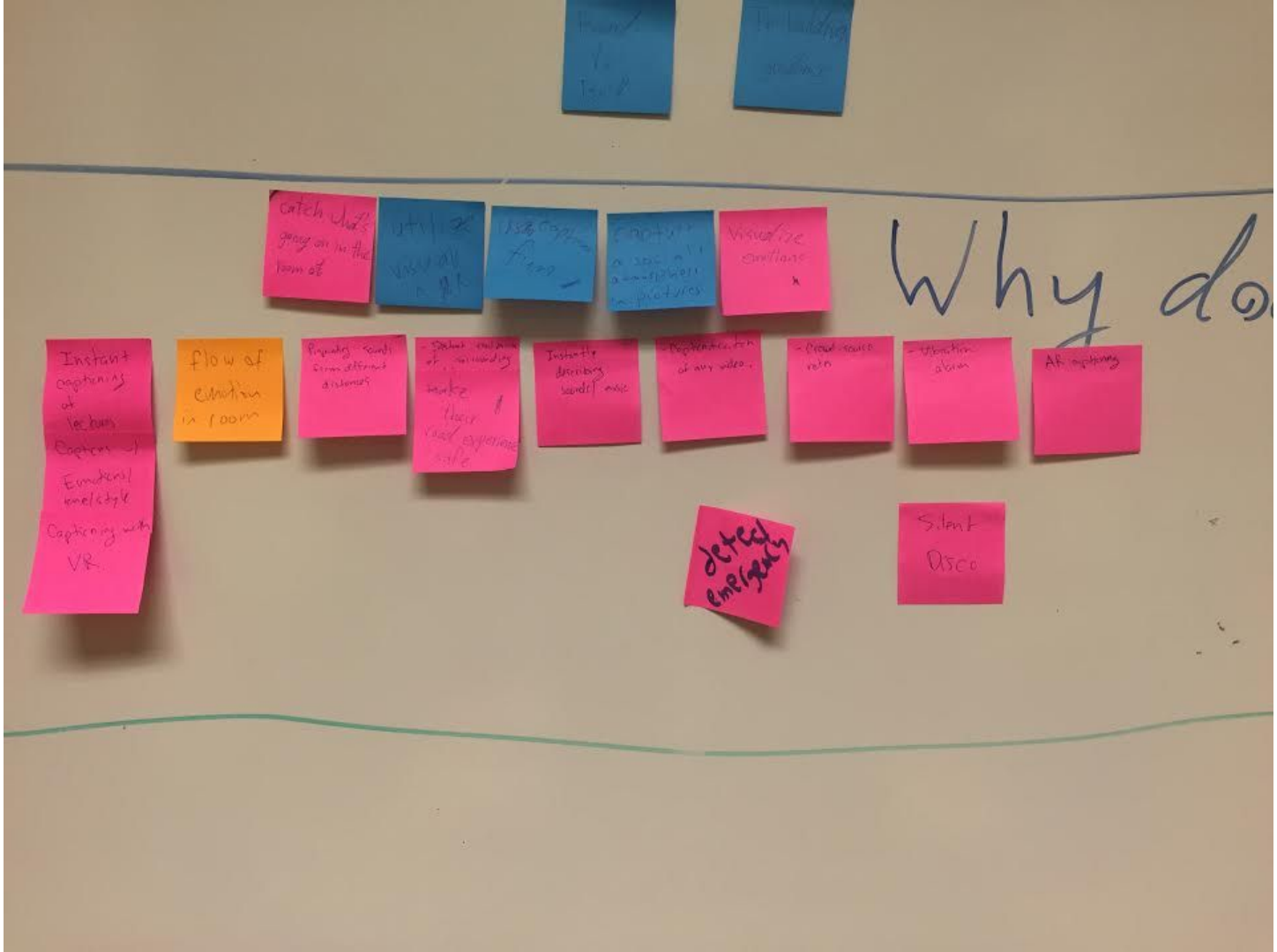
Conclusion

Prototype 2! (Fun Captions)

- Pain
- Impact

More pics...

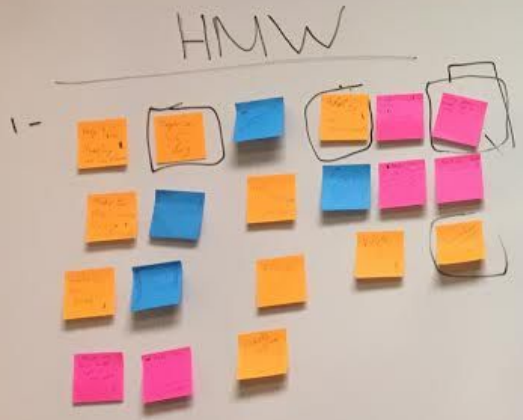

POV 3
HMW

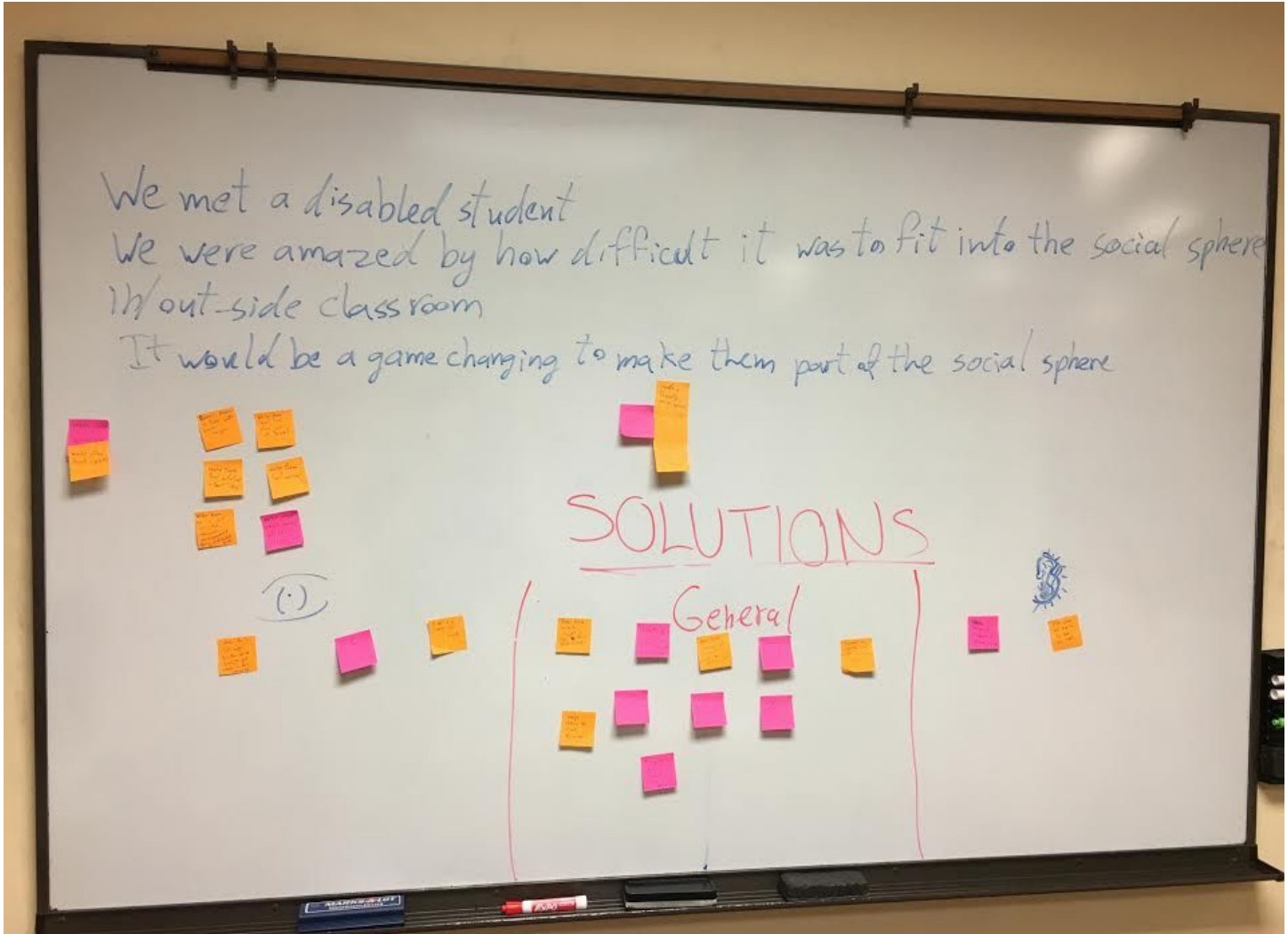

Why do
Instant captioning of lectures
flow of emotion in room
detect emergency
Silent Disco
AR captioning

PM

We met A visually impaired person (That doesn't work at Apple)
We were surprised to know that he needed so much help in regular daily life
It would be a game changer to provide a way to easily assist and regulate his daily activities

HMW




We met a disabled student
We were amazed by how difficult it was to fit into the social sphere
w/out-side classroom
It would be a game changing to make them part of the social sphere
SOLUTIONS
General