

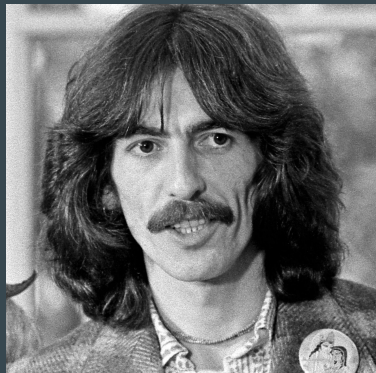
Need-finding

...

Mixed Reality

Team members

Exclusive photos from the team's archive



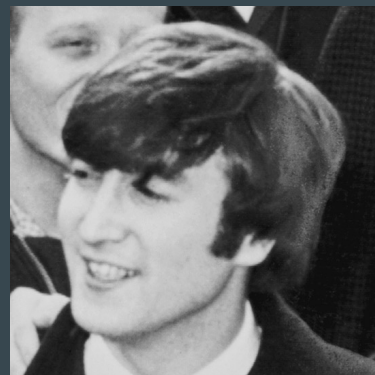
Abdallah Abuhashem



Ammar Alqatari



**Alejandrina
Gonzalez Reyes**



Ahmed Shuaibi

Problem

**Education +
Accessibility**

Need-Finding Methodology

Users

- Professors
- Differently-abled Students

Non-Users

- Educational experts
- Student peers
- Industry experts

Who To Interview?

Education Experts - Professors



Mehran Sahami
*Computer Science
Professor at Stanford*



Michael Chang
*Computer Science Lecturer
at Stanford and a previous
Stanford student*



Christopher Proctor
*Previous High School and Middle
School Teacher.
Current PhD student in Learning
Sciences Technology and Design*

Industry Experts



Sarah Herrlinger
*Senior Manager, Global
Accessibility Policy &
Initiatives, Apple*

Who To Interview?

Zina Jawadi - A Stanford student with pre-lingual hearing loss and a leader of accessibility organizations on- and off-campus

Mohannad Silwadi - Pursuing a bachelor's in Biology at San Jose State

Ayman Ibrahim - Pursuing a Masters in Mathematics at UC Berkeley

Some of the Questions Asked

1. How do you study/learn outside of the classroom?
2. What is the hardest part of studying?
3. Tell me a story of one of the worst experiences you have had preparing for an exam.
4. (With disability) What is the most difficult aspect of studying for you personally?
5. What is the most boring thing about studying? Could you tell me a story about the most cumbersome/annoying time you had reviewing/preparing for an exam?
6. Was the learning part in class or outside the class harder? Why?



Interview Results

Tensions

“I like hearing people’s sounds and laughter -- and you can’t do that with the FM system” - Zina

“Captions don’t have note or connotations” - Zina

“Professors don’t understand how to deal with disabled students” - Zina

“I didn’t want to take my laptop to class... which meant not taking notes” - Michael

“[Charter schools graduates] ends up in college, and they look around, they don’t see anybody anywhere who’s ever been in a neighbourhood like the one they grew up in” -Chris

Surprises

- “Education is not only about delivering facts, it’s also about the social and cultural side and we should focus on that” - Christopher Proctor
- “I couldn’t for the life of my time find an accessible PDF viewer” -Michael



Contradictions

- Is the problem about making delivery easier, or a positive digital atmosphere?
- “You should focus on solving the issue for a specific need” said Mehran, but later he said “What you might come up with probably will help people beyond these with disability”
- Michael mentioned that he didn’t like “Formal Processing” through OAE, but contacting professors directly wasn’t good for other students also

A black silhouette of a magnifying glass is centered on a dark blue background. The lens of the magnifying glass is a large circle, and inside this circle, the word "Analysis" is written in a white, bold, sans-serif font. The handle of the magnifying glass extends from the bottom right of the lens, ending in a rectangular grip.

Analysis

Empathy Map

Say

- Condensing notes to study
- **Whispering professors**
- **Inside class is a bigger problem**
- Searching the web was a pain
- Private schools have bad accessibility
- **Can't hear people laughing**
- Note taking
- **Social struggle**
- **I had to teach the teachers teach me**

Do

- **Made unsure gestures/ annoyed looking faces**
- Fluent
- Hunching
- Pausing constantly to think
- **Hesitation**
- **Checking phone**

Think

- Note taking is cumbersome
- Too much effort to get available resources
- **Teachers has an important role**
- **Technology indeed has a potential**
- **Needing a hacky way to do things normally**

Feel

- Felt annoyed
- **Awkward**
- Interested
- **Uncomfortable**
- Disadvantaged
- **Adapted**
- **Embarrassed**

Needs

- The need for those with disabilities to develop a comfortable social sphere.
- The need for those with physical disabilities to feel less embarrassed
- The need for those without these disabilities to understand and empathize with those who do

Insights

- Many felt dissatisfied at the state of accessibility in education for the disabled and clearly displayed their frustration.
- Many thought that technology will play a role in solving big part of the issue

Questions

There are a variety of ways to approach our issue; Should we tackle it in the manner of bettering the social sphere of the disabled, or focus on the remaining non-disabled community and find ways allow them to empathize with the disabled.

Summary

- Accessibility of education to those with disabilities is available, yet lacking.
- Making it accessible is a challenge for the disabled and difficult for professors to do.
- For those with physical disabilities, learning and developing a social sphere are unnaturally difficult.