CS 3750

Navigating Campus with Mobile Disabilities

A project aiming to facilitate convenience of campus navigation for students with mobile disabilities at Georgia Tech

Team #1
Preston Akwule, Christian Hughey, Kristen Ingram, Terrance Law

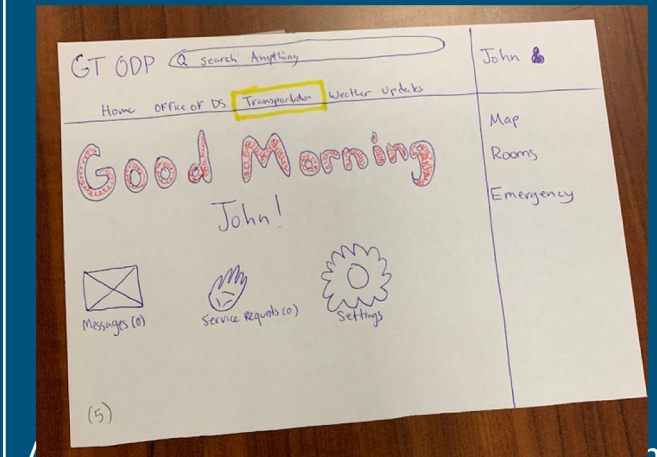
User Group & Problem Space

- There are many navigational challenges and limitations encountered by students with disabilities on Georgia Tech's campus.

- Supported by:
  - Interviews: Dynamic factors like the constant construction at Georgia Tech can suddenly block a pathway, thus "leading to inconvenience to students with mobility issues."
  - Observations: Buildings or pathways on campus can be difficult to maneuver, like a library hallway that is too narrow for a wheelchair.
  - Content Analysis: Existing solutions and accommodations are limited; for example, students with disabilities cannot reserve a stingerette on demand.

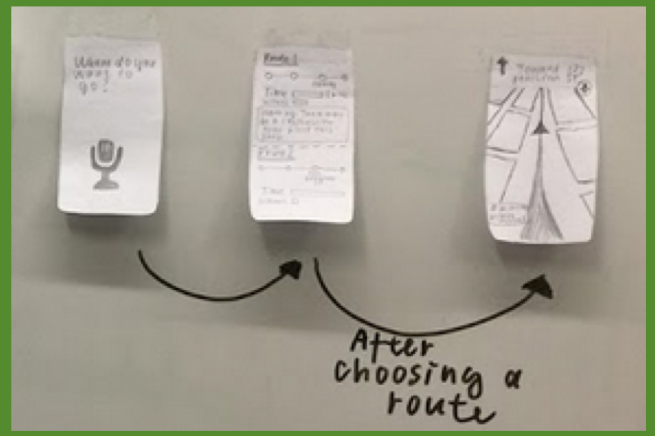
Design Alternatives

Online Disability Portal



A comprehensive website containing information for disabled students to properly function and navigate campus.

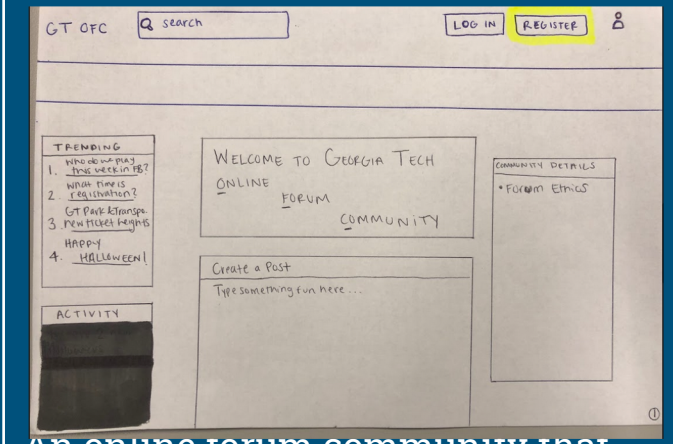
Mobile Application



A mobile application that allows students with mobile disabilities to navigate their space more effectively

Winner!

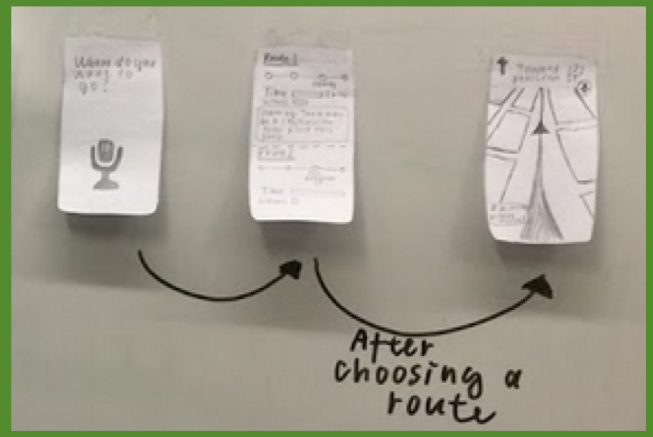
Online Forum Community



An online forum community that allows students who face similar obstacles and adversities with mobile disabilities to interact

Design Alternatives

Mobile Application



A mobile application that allows students with mobile disabilities to navigate their space more effectively

Favored in design sprint

Potential for daily use

User convenience

Feasibility of design and implementation

User Testing Plan

Methodology

"Wizard of Oz" method. A script will provide precise instruction for how user testing will be completed for each individual.

User Testing Plan

Four Types of Design Feedback

1. Feedback on design interaction

   by watching what the user does and at what points they really have to think about what to do

User Testing Plan

Four Types of Design Feedback

2. Feedback on match between system and real world

Look for comments like “This look familiar” or maybe even “This is similar to google maps.”

User Testing Plan

Four Types of Design Feedback

3. Feedback on flexibility and efficiency of use

Look for verbal cues that suggest inflexibility such as “That will be hard to touch that button as that time in a wheelchair.”

User Testing Plan

Four Types of Design Feedback

4. Non-verbal feedback

    Through facial cues (e.g., confusion) and body language (e.g., head scratch) to pinpoint potential areas for redesign

User Testing Data and Results

U3: could see himself using this product because it would be hard to find good routes

U2: the process is “pretty smooth” and “easy to complete”

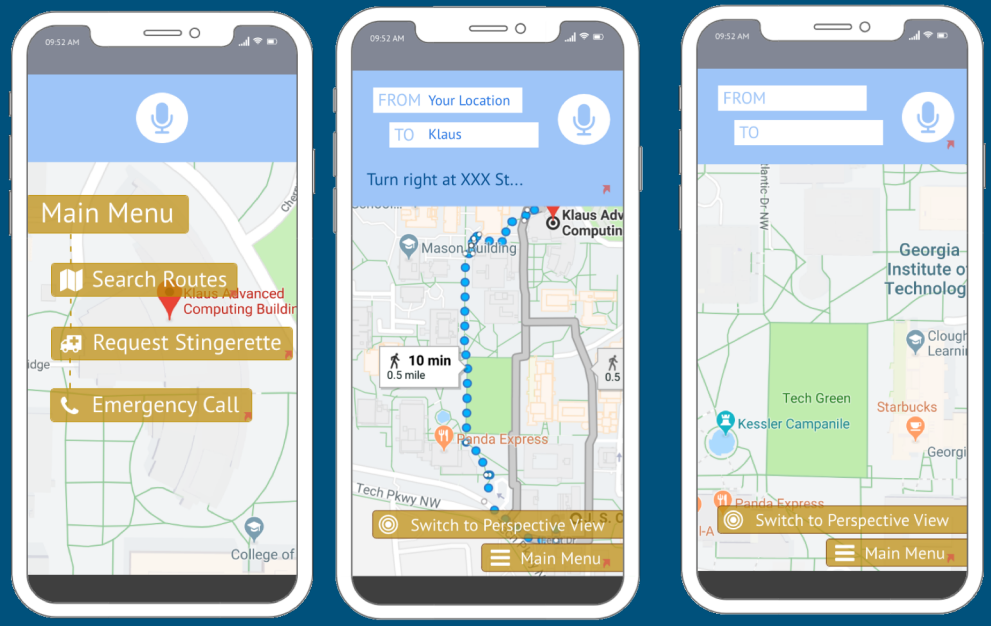
User Testing Data and Results

U1, U3, & U4: besides speech interaction, should allow users to interact using their hands

U3: This app asks the user “too many questions about the same subject”

Prototypes

https://balsamiq.cloud/sovcnqq/p9tn9sj/r966B



Original Prototype

Final Prototype

Prototypes

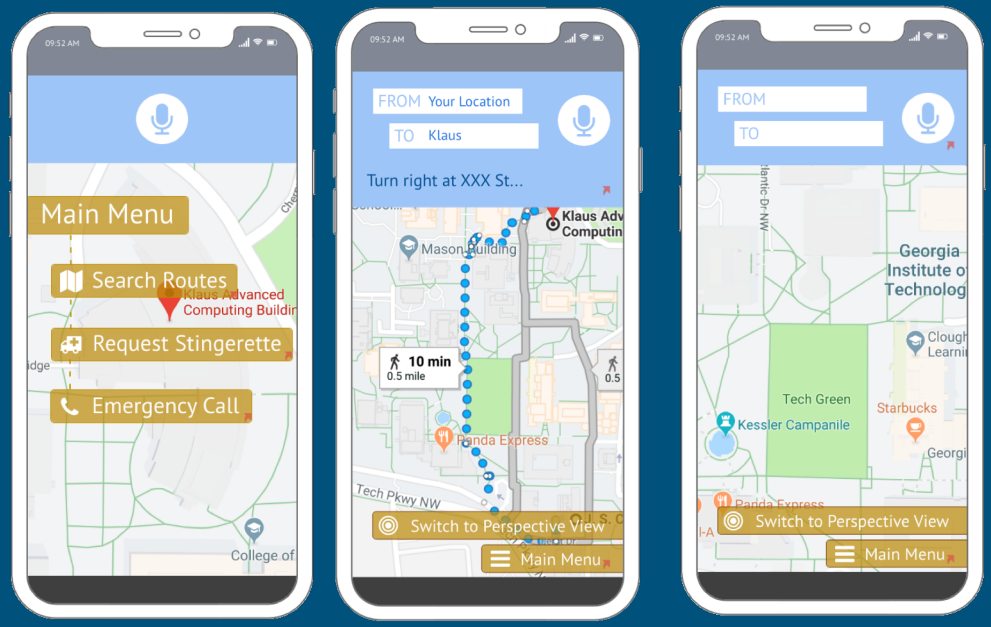
Some design considerations

Support touch on top of speech

Ask fewer questions

Offer options on the first screen

https://balsamiq.cloud/sovcnqq/p9tn9sj/r966B



Final Prototype

Team takeaways

- The more the merrier! Increased productivity comes from quantity (lots of design ideas and feedback is better than a little).

- Ask questions. Deliberately seek out opportunities to grow as a designer by asking questions about your prototypes and during brainstorming feedback sessions.

- Have fun!