Team HomeAide

Clients: Dr. Kelly Roberts, Jill Pleasant
Faculty Member: Fabio Santos

The Team

Seth Borkovec: Team Lead, Client Communications, Coder

Noah Baxter: Team Architect, Editor, Coder

Ethan Donnelly: Team Recorder, Release Manager, Coder

Courtney Richmond: Research Manager, Website Manager, Coder

Why This Project Is Important

- Over 65 million Americans age 60+ (~20%)
- 23 million (35%) of these have at least one disability
- 1000's of AT (Assistive Technologies) devices

How will people age safely in their homes when they don't have a means of discovering these products?

Institute for Human Development

Kelly Roberts, Ph.D., Executive Director
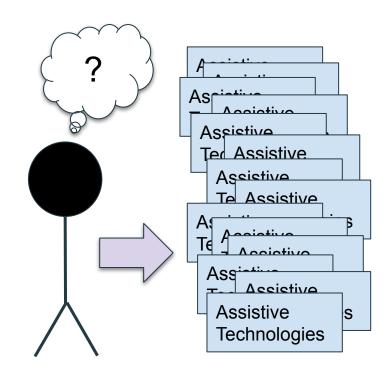Jill Pleasant, MA, OTR/L Associate Director

Mission:

- Enable people with disabilities

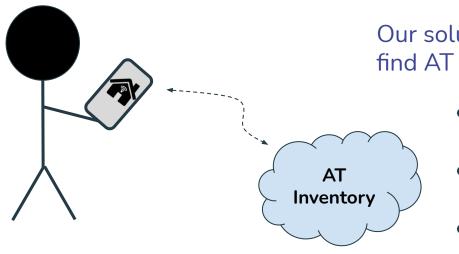- Promote full inclusion

- Enhance lives

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Problem

- So many assistive technologies exist
- Often a user needs a meeting with a real person
- Potential users are unaware

Solution Overview

Our solution is a mobile app to help people find AT (assistive technologies)

- Cross-platform mobile app (Android and iOS)
- Tailored AT recommendations to each user
- Central inventory of AT devices

Users will be happy to find the assistive technologies for their situation.

Implementation Overview
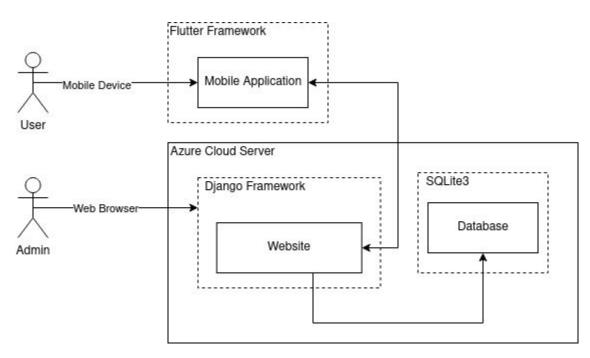
Requirements Acquisition:

- Weekly meetings with our clients in the Fall Semester

- Research

- Documents

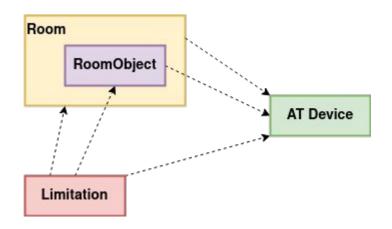# Implementation Overview

Key Requirements:

- User needs to be able to provide their general functional limitations
- User needs to be able to identify difficult areas in their home
- User information (limitations, profile) needs to be stored
- Application needs to be accessible
  - I.e., color blind mode, text-to-speech
- Application needs to recommend AT for the home area and user limitations
- Admins need to be able to add, remove, and edit information from a database

Implementation Overview

Implementation Details: Database
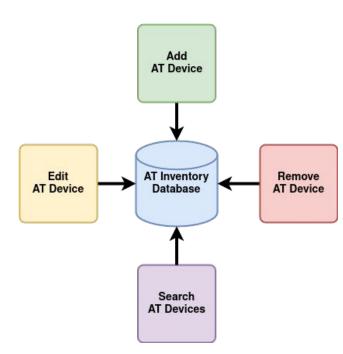
SQLite3 Database

- Central inventory of AT devices
- Associations for the recommendation algorithm
- Flexible design for the room organization in the mobile app

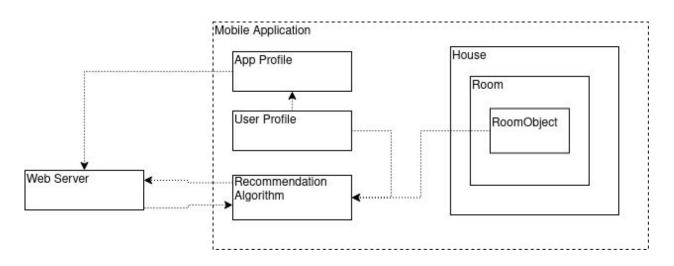# Implementation Details: Website

Django Framework

- Management of AT inventory
- Same strategy for Rooms,
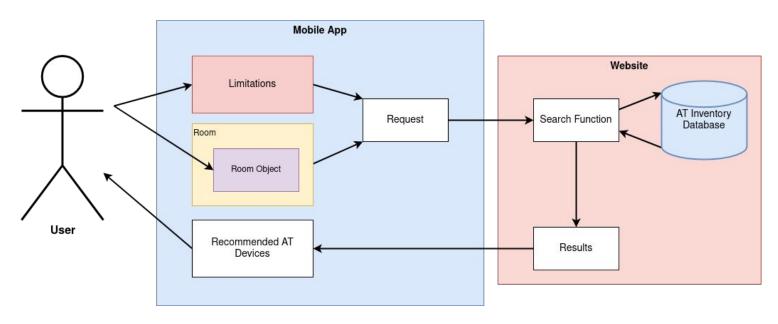 Room Objects, and Limitations
- Secure access

Implementation Details: Mobile App

Flutter Framework

Implementation Details: Recommendation Algorithm

Challenges

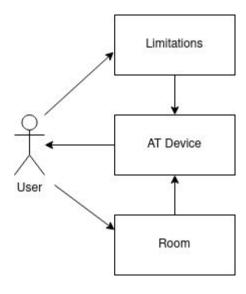- Giving users Recommendations
- Secure Communication
- App room layout

Challenge:
Giving User Recommendations

Resolution:
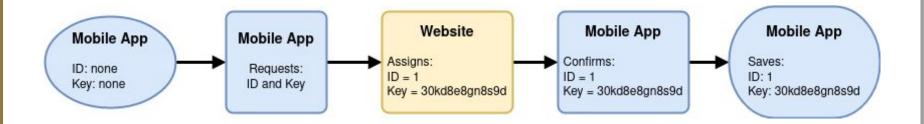Associate keywords with AT devices

Challenge:
Secure Communication

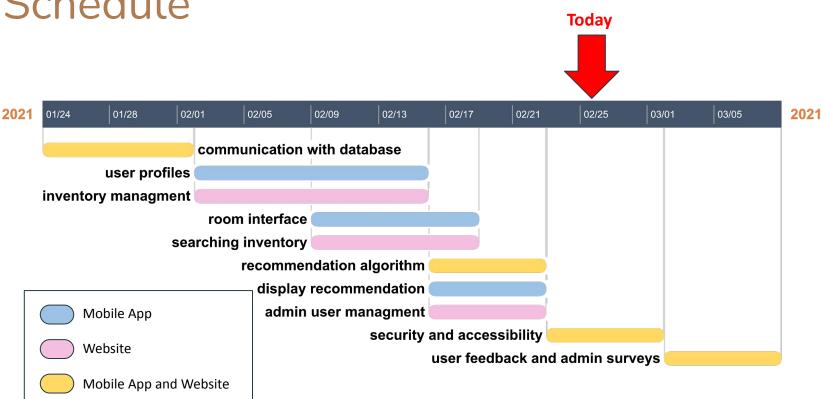# Resolution:
Custom Handshake Protocol

Challenge:

App Room Layout

Resolution:

Grid layout

Schedule

Conclusion

- There is currently no efficient means of connecting people with the proper AT
- We will create an mobile app that will pair individuals with the AT they need
- Key topics:
  - Implementation
  - Architecture
  - Challenges with Resolutions