Team HomeAide

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Faculty Member: Fabio Santos

The Team

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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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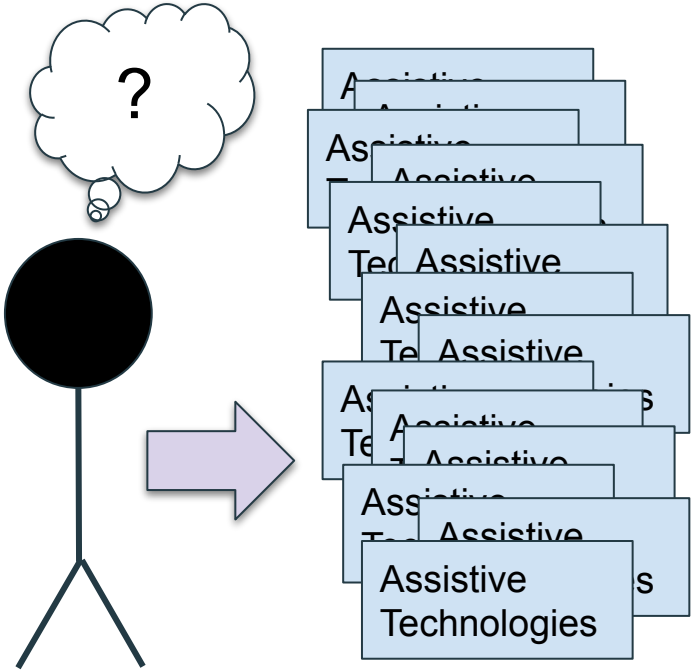
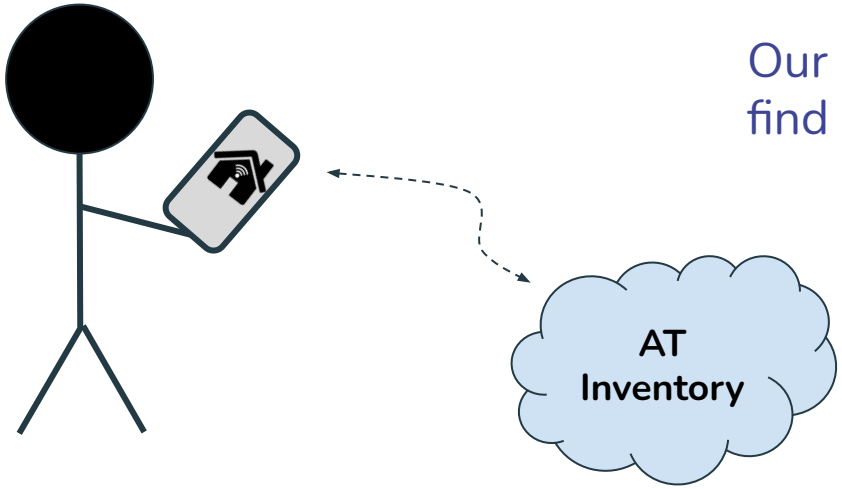
Problem

- 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:

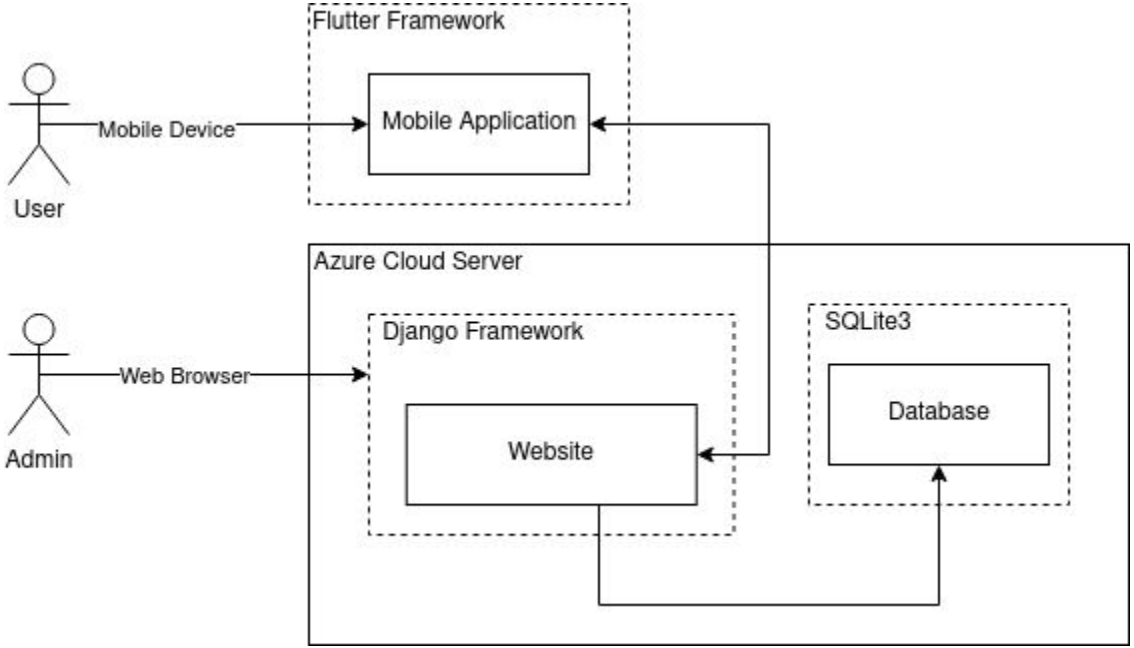
- Weekly meetings with our clients in the Fall Semester
- Research
- Documents

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

Architecture Overview



Implementation Review: Completed Modules

App to Website Communication **1**	**App:** User Profiles **2**	**Website:** Inventory Management **3**	**App:** House Navigation **4**	**Website:** Search Algorithm **5**
Website: Admin Users **6**	Recommendation Algorithm **7**	**App:** Show Recommendations **8**	Security and Accessibility **9**	App User Feedback and Admin Messages **10**

Prototype Review

(live demonstration)

Challenges

- Sharing Recommendations
- State resource handling
- Accessibility options

Challenge:

Sharing AT recommendations

Resolution:

- App can generate a pre formatted email with relevant information
- App can generate a HTML webpage that can be used to print

Challenge:

How to handle storing the state resources in the database

Resolution:

Maintain links to Catada site listing information for each state

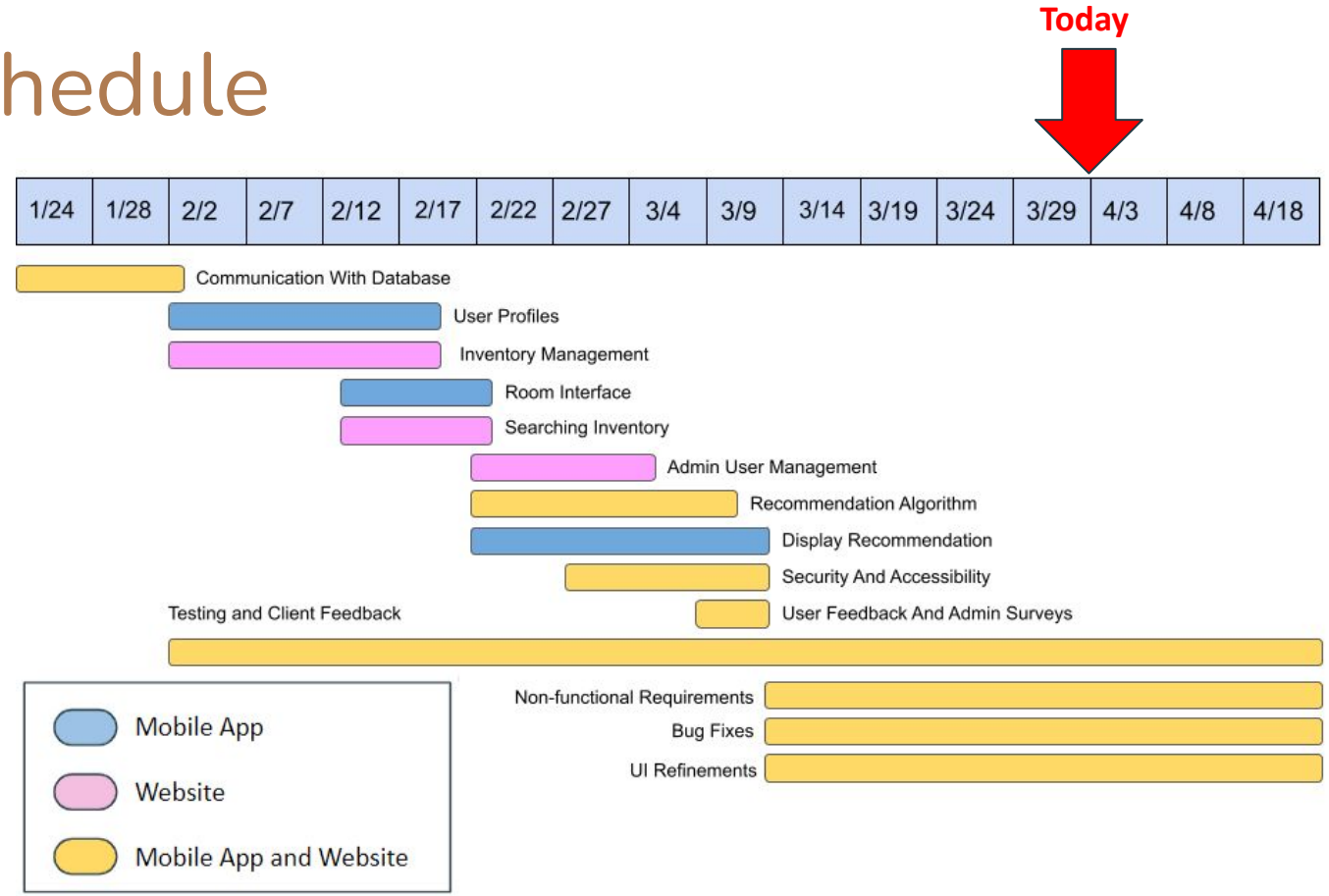
Challenge:

Their are not librarays for accessibility options such as text to speech and speech to text

Resolution:

Use the Mobile phones build in features to provide this functinality

Schedule


Today
1/24
1/28
2/2
2/7
2/12
2/17
2/22
2/27
3/4
3/9
3/14
3/19
3/24
3/29
4/3
4/8
4/18
Communication With Database
User Profiles
Inventory Management
Room Interface
Searching Inventory
Admin User Management
Recommendation Algorithm
Display Recommendation
Security And Accessibility
User Feedback And Admin Surveys
Testing and Client Feedback
Non-functional Requirements
Bug Fixes
UI Refinements
Mobile App
Website
Mobile App and Website

Testing Plan: Continuous Testing

Usability Testing:

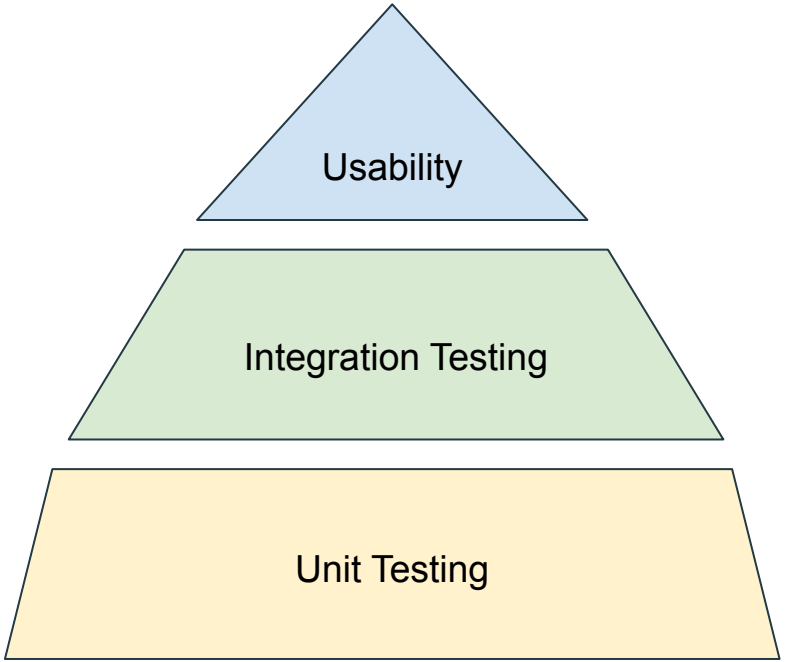
- Using the system

Integration Testing:

- Interactions among units

Unit Testing:

- Groups of functions with similar behavior



Usability Testing

End user testing:

- Have users perform tasks using app with limited guidance
- Observe what tasks caused users issues or took significant time

Website admin testing:

- Continuously give our clients update
- Clients gave constant feedback, we adjusted based on their comments

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