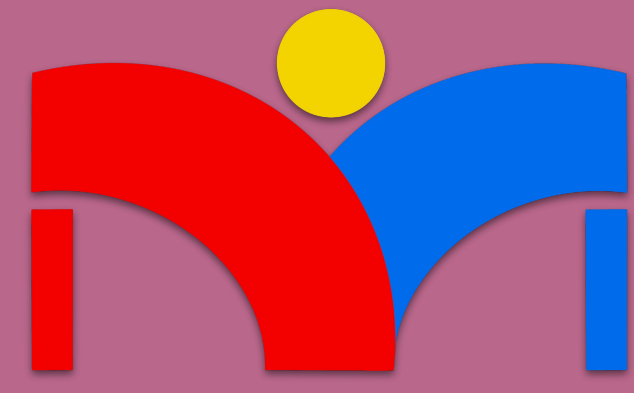


Diverse Makers



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Client and Sponsor

Dr. Jared Duval, Director, Playful Health Technology Lab



Team Mentor

Vahid Nikoonejad Fard, Researcher, SICCS

Problem Overview

Current issues in the STEM field have made it difficult for those with disabilities to gain access to hands-on accessible learning environments which they need to succeed. STEM education faces several key challenges:



Limited Access to Makerspaces
Lack of Accessible Learning Materials
Social Isolation in STEM Fields

Solution Overview

To address these issues, we've developed Diverse Makers a crowdsourced mobile app designed to bridge the gap between makerspaces and those with disabilities. Users can create profiles with customized accessibility settings, access accessible STEM content, and connect with makerspaces.

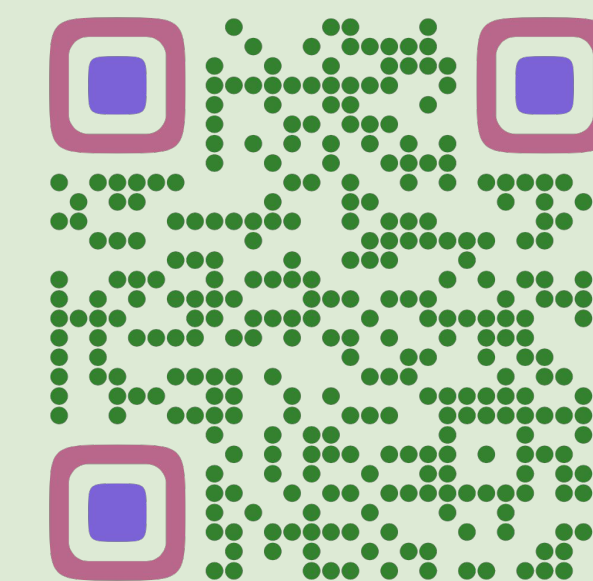


Only 3% of the STEM workforce includes individuals with disabilities, despite over 40 million Americans having disabilities.

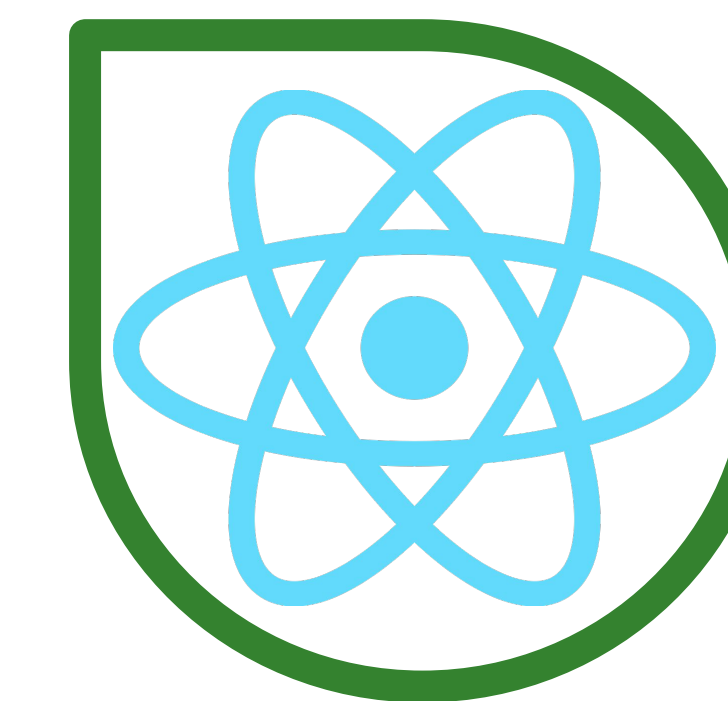
Our App serves as a centralized hub for accessible STEM education, connecting individuals with disabilities to makerspaces.

Scan the QR Code

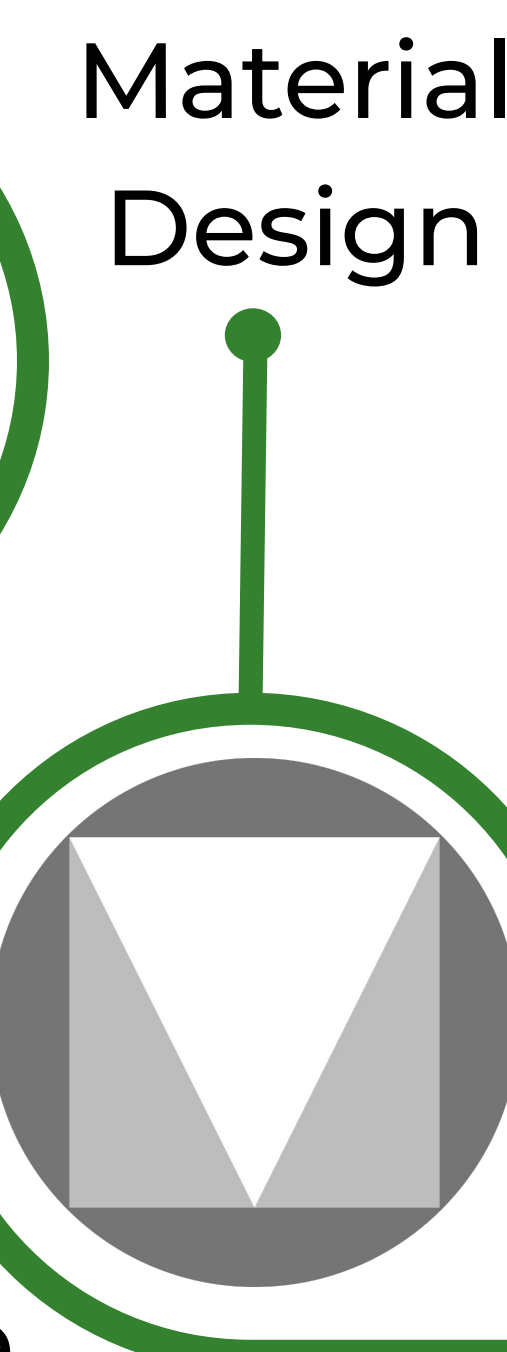
Visit our website and learn more about how we're making STEM accessible for everyone:



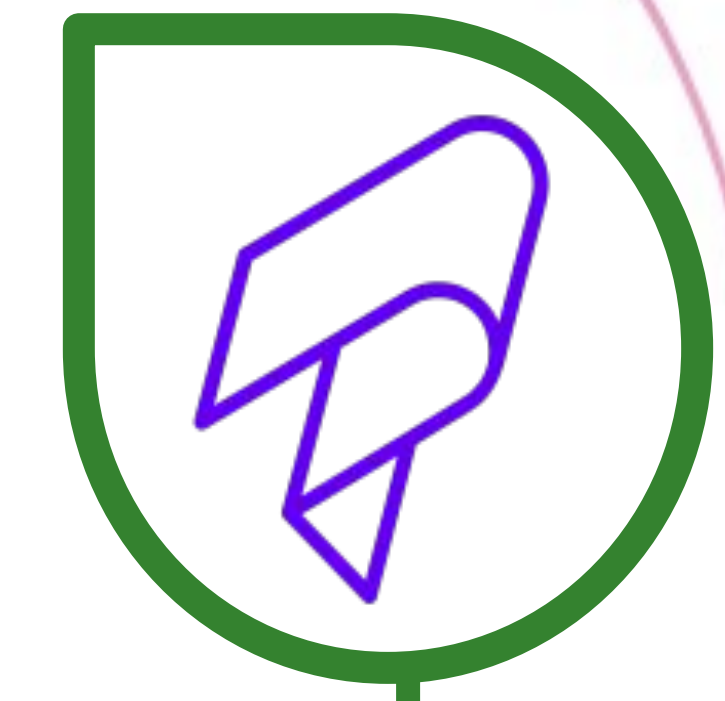
Technologies



Frontend: React Native



Material Design



Frontend: React Paper



Backend: Firebase

Technical Challenges

Nonintuitive Design

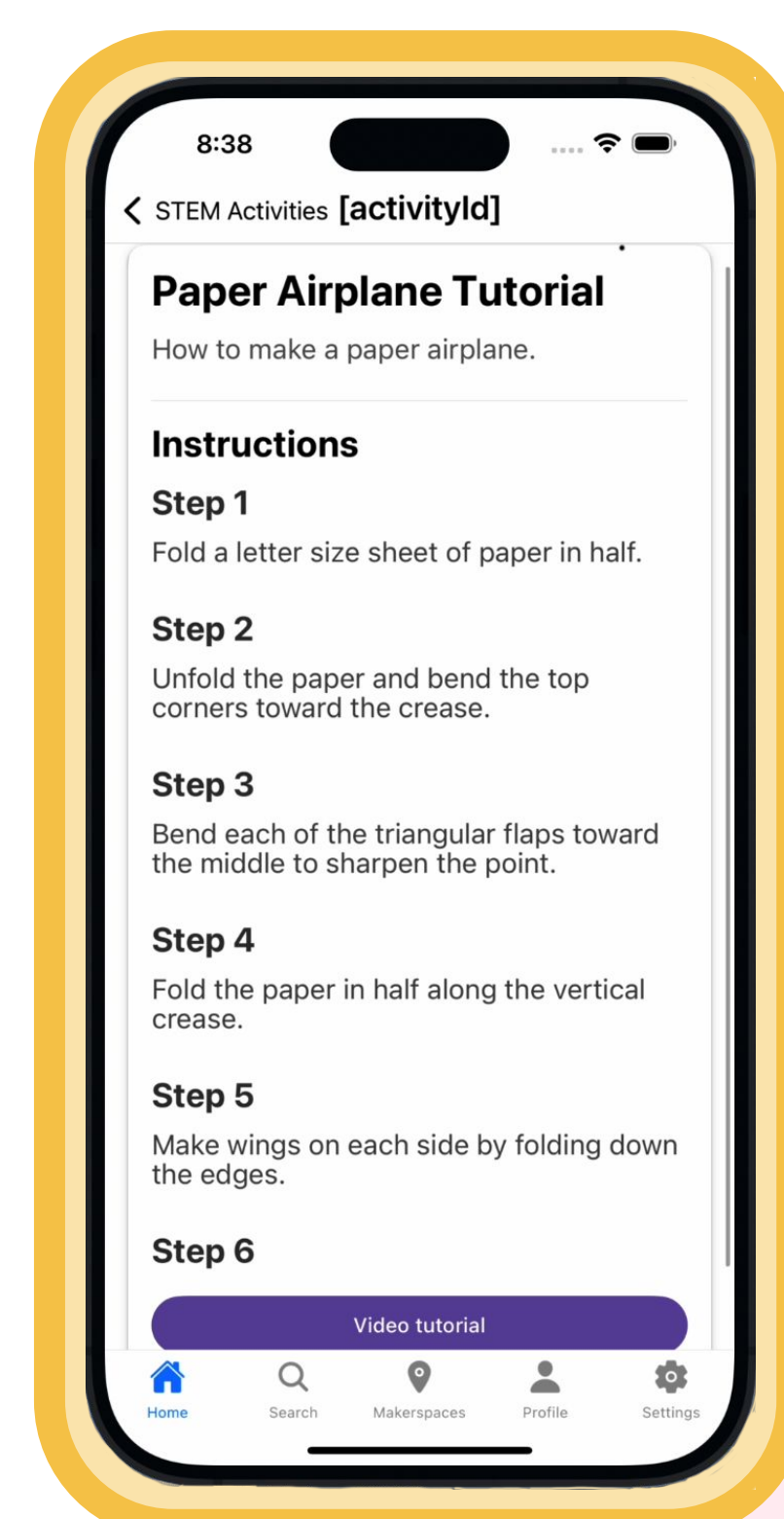
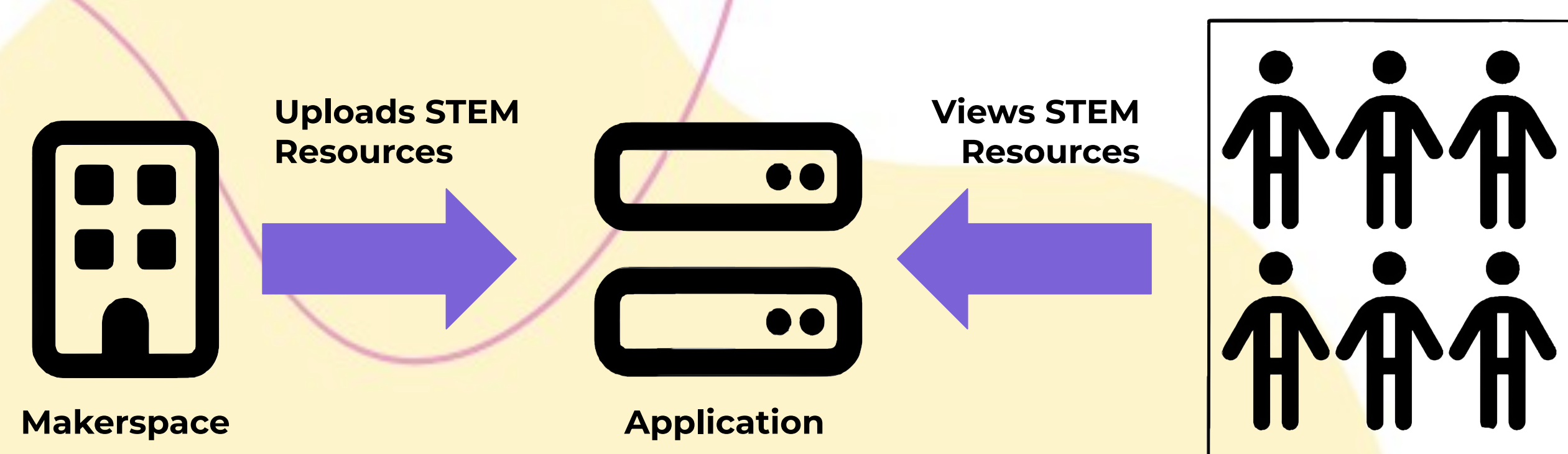
An intuitive app design was pivotal to ensure makerspaces could upload their resources to our app with ease

Disability Negligence

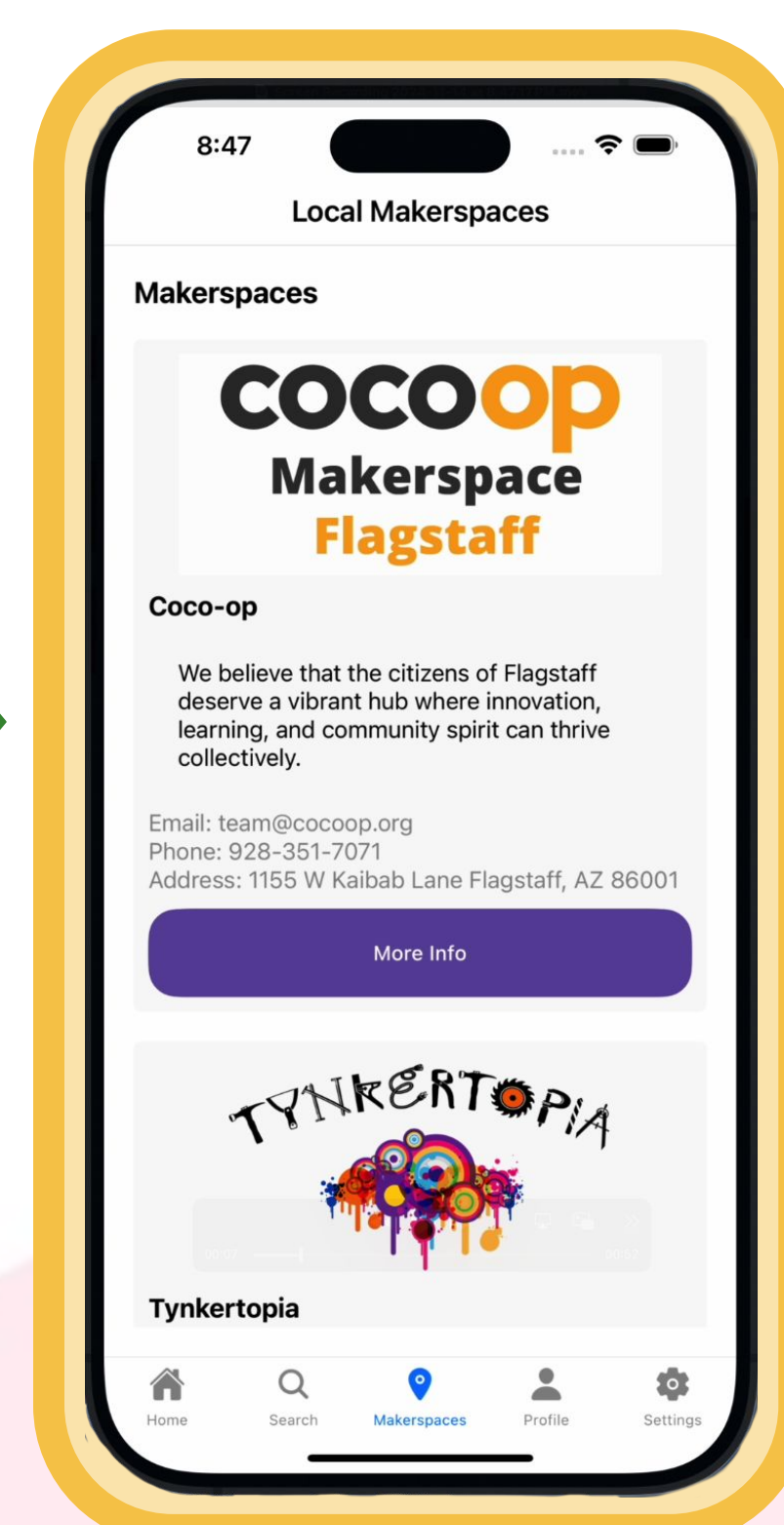
Ensuring we accommodated multiple disabilities to create the most accessible platform was vital for our app's inclusivity

Application Architecture & Implementation

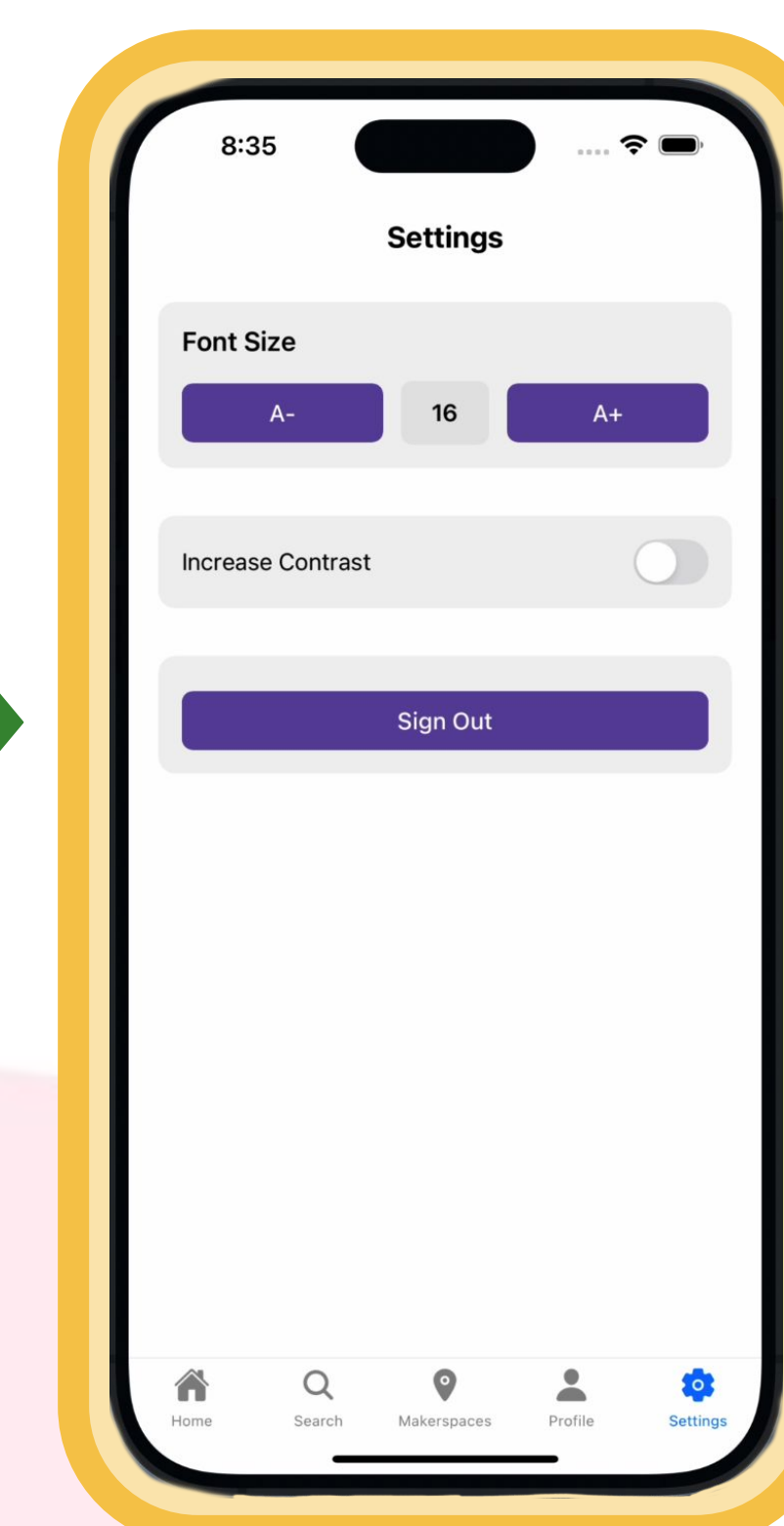
Our cross-platform application employs many crucial architectural components. These include an intuitive user interface for accessibility and navigation, a data access layer for STEM resource storage and retrieval, and a business logic layer for data validation.



Accessible STEM Activity



Makerspace Discovery



Accessibility Settings

Future Work



Looking towards the future, Diverse Makers could be developed into a robust social hub for STEM learning, connecting users with not just local makerspaces but each other, allowing disabled individuals to truly thrive in the STEM community.



Our app has the potential to break social barriers in STEM fields, empower users to pursue their STEM education, and create more diverse perspectives in the industry!