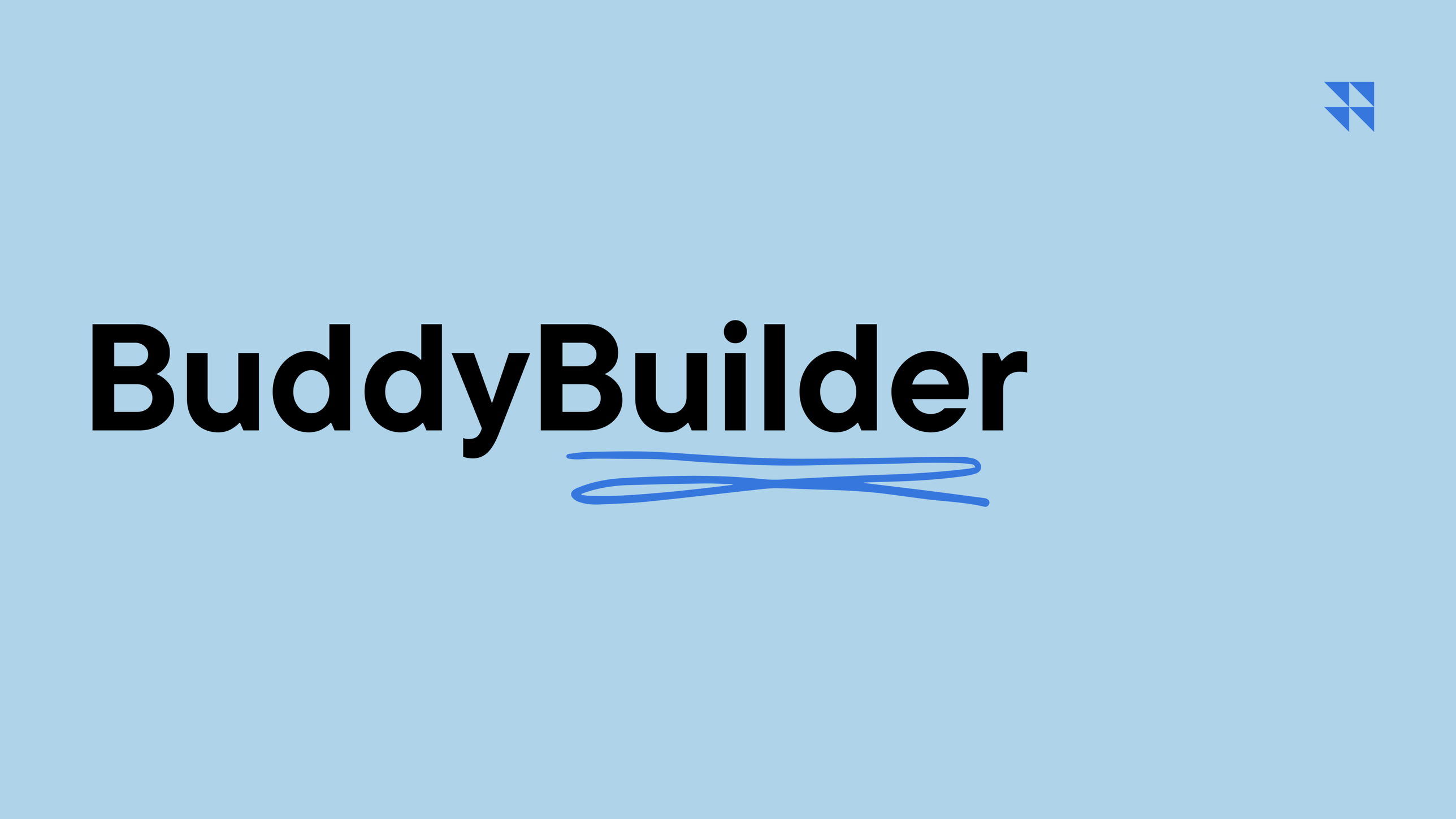
BuddyBuilder



The Team

Alex Lee

CS Masters '23

Derek Hwang

CS Masters '24

Harry Moran

CS Undergrad '23

Overview

1. Our story

a. *The need*

b. *Existing solutions*

c. *The mission*

2. How we solved it

a. *Implementation*

b. *Design Process*

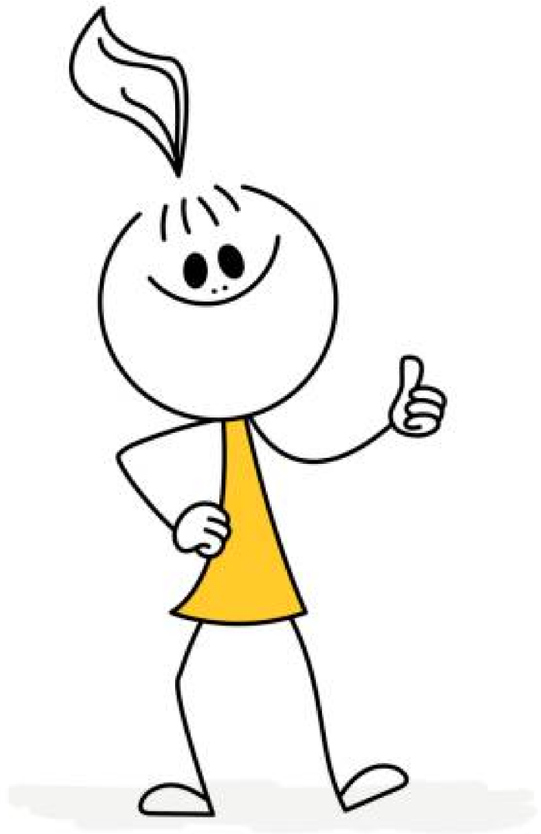
c. *Final Prototype*

3. Looking forward

a. *Key contributions*

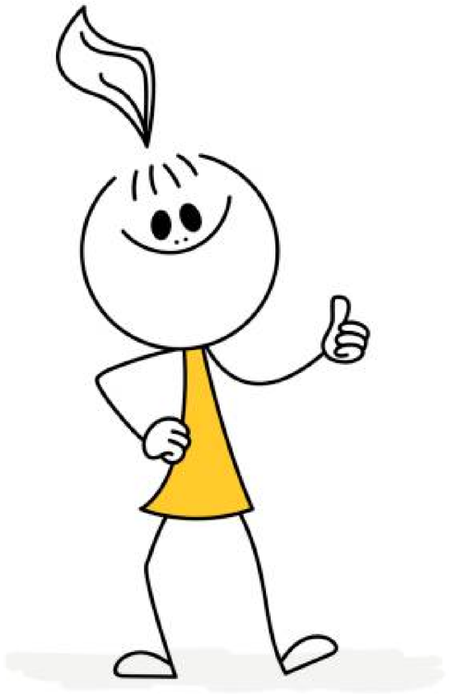
b. *Next steps*

Our Story



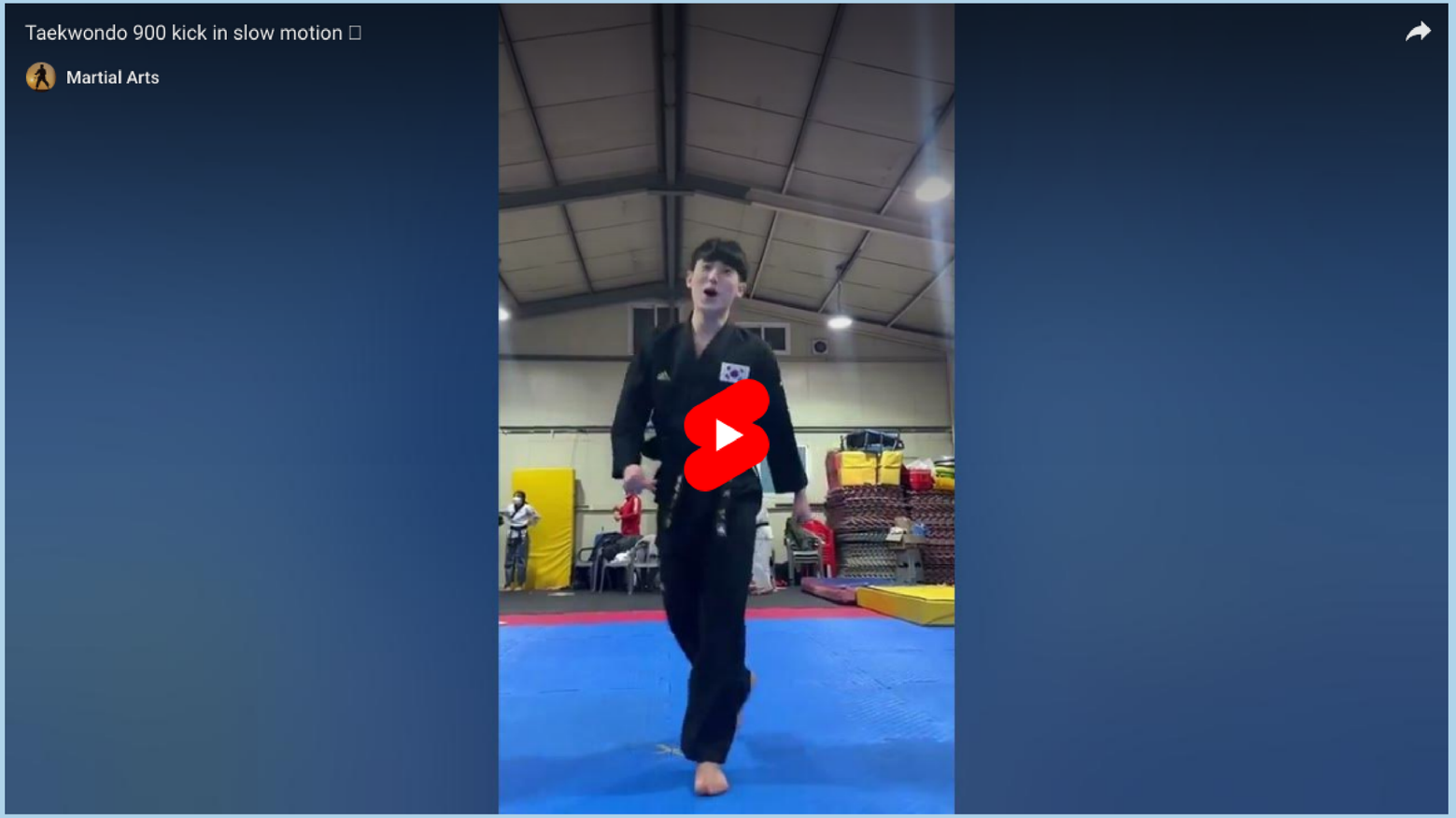
Meet Jenna

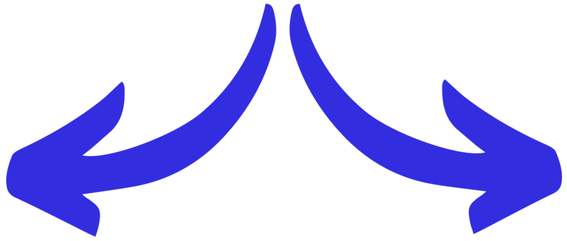
Jenna is...

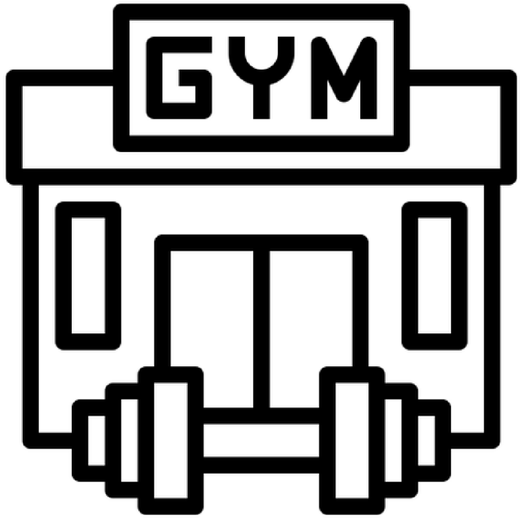


- Competitive Taekwondo athlete
- Improve specific spinning kick
- No biomechanics knowledge

The kick in question:







Physical Trainer

Gym

Physical Trainer

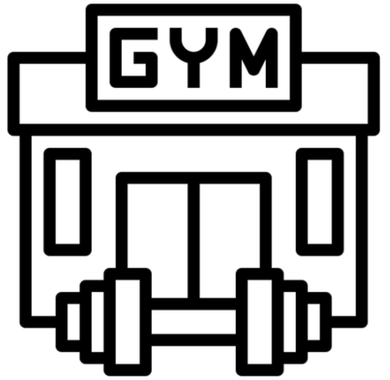
- Extremely expensive

- Difficult for niche sports

Physical Trainer

- Extremely expensive
- Difficult for niche sports

Gym



- Lack of expertise
- Zero injury adaptability

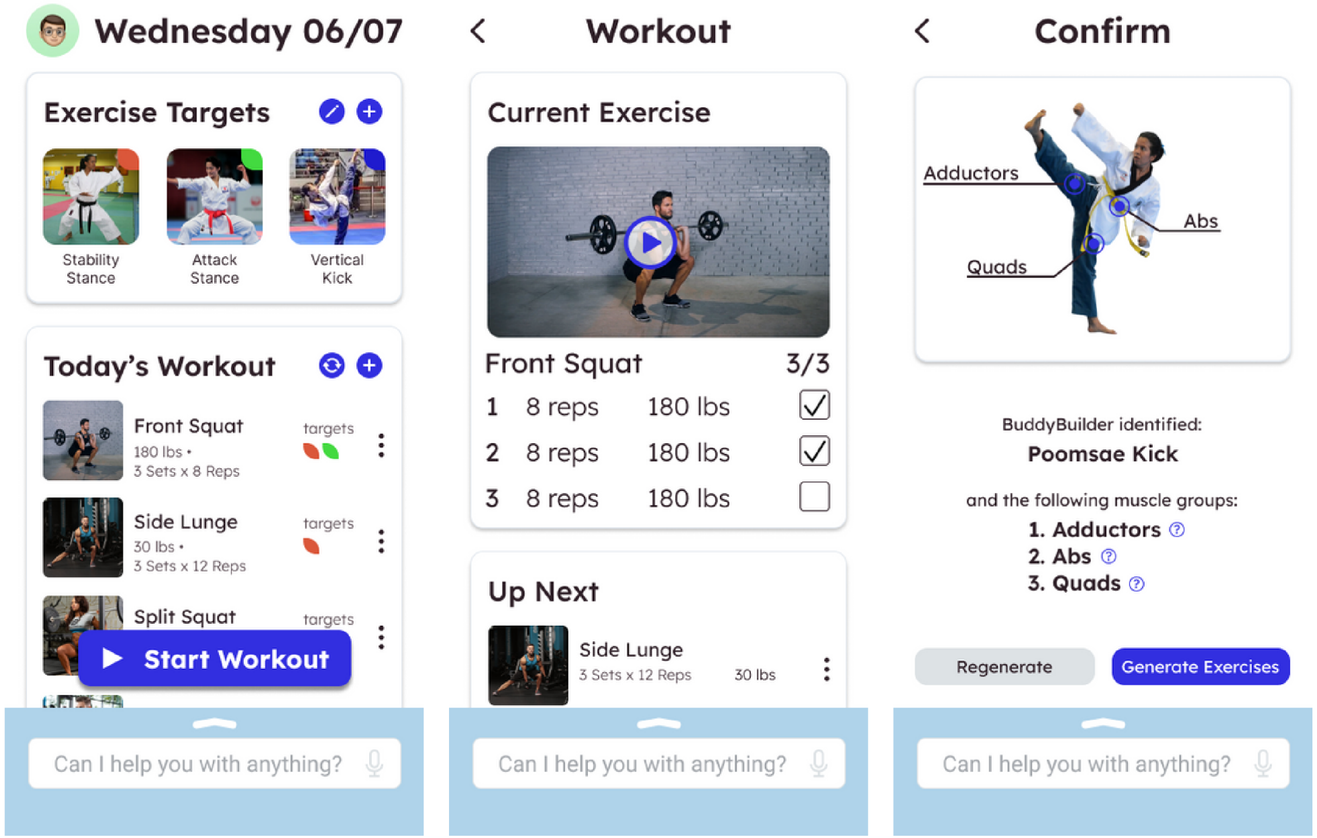
How might we create something that's as **easily accessible** as a gym but with the **knowledge and personalization** of PT?

The Mission

Improve the accessibility of physical training resources for student athletes in niche sports

How do we plan on doing this?

Solution

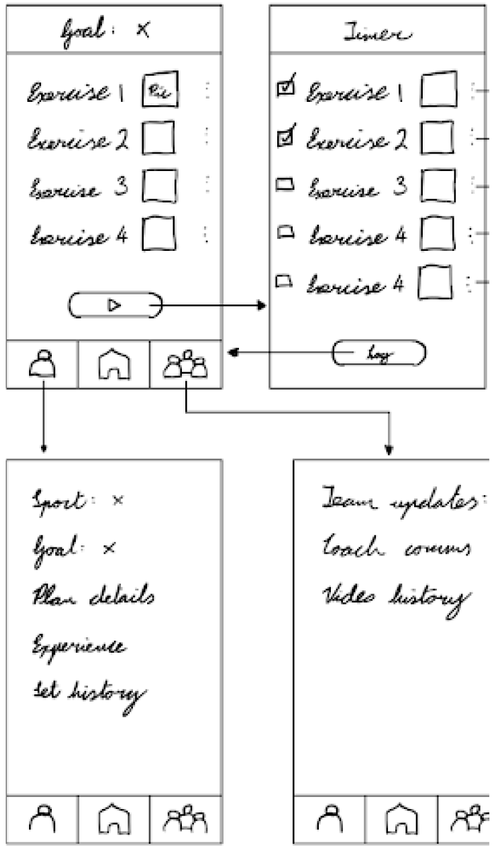


CV model that analyzes exercise video input and highlights muscles utilized

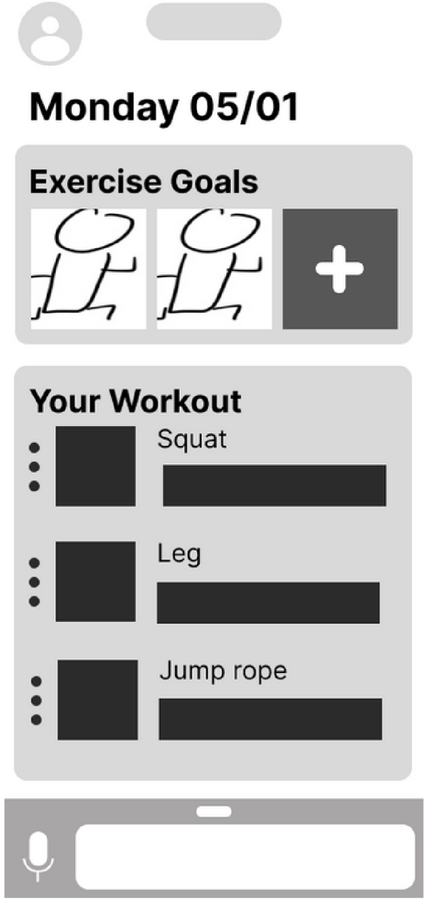
+

LLM that produces personalized workouts that target highlighted muscles

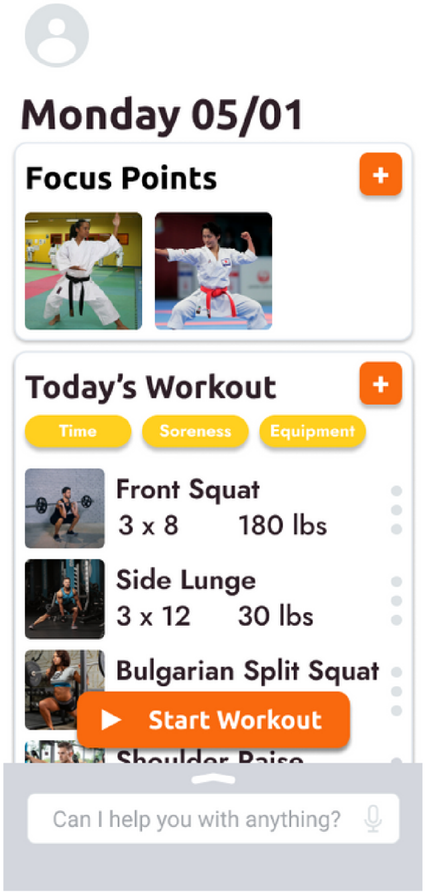
Design Process



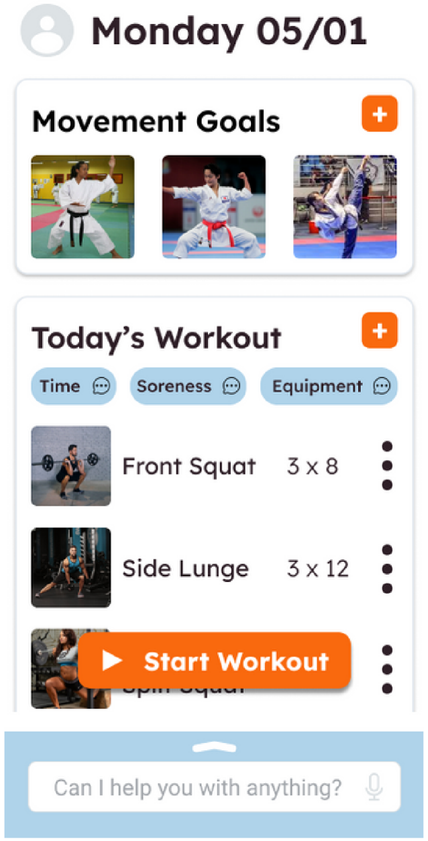
sketches



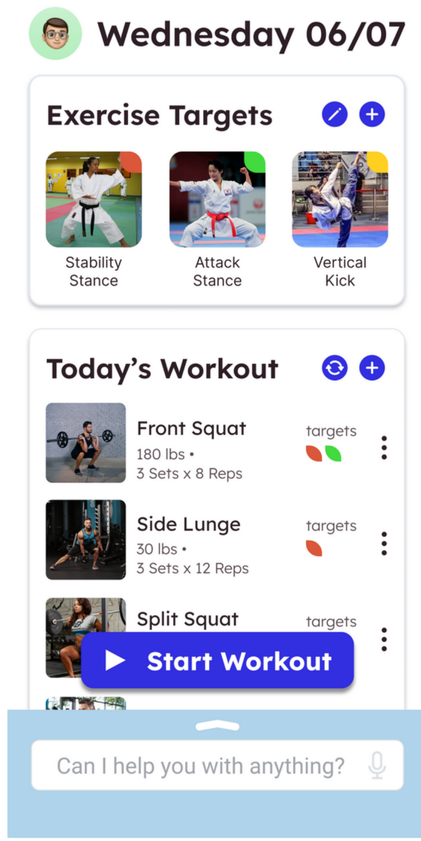
lofi



med-fi v1



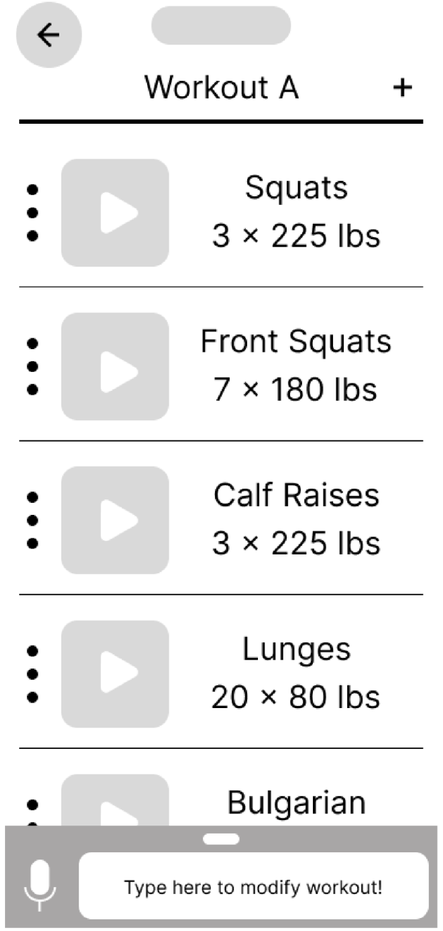
med-fi v2



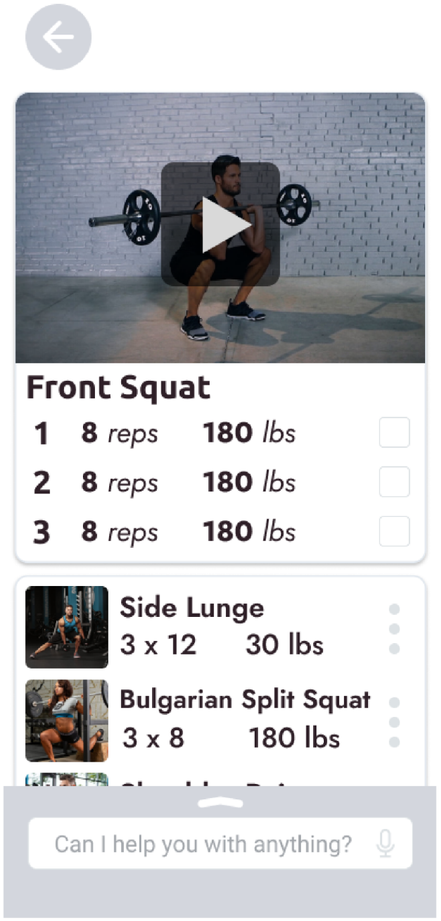
final med-fi

Major Design Changes

Active Exercise Video

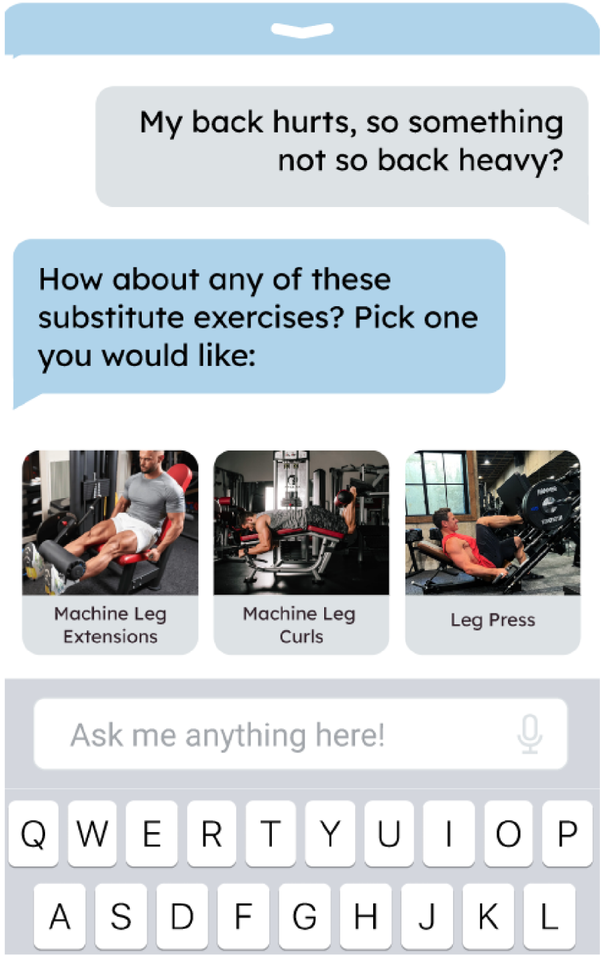


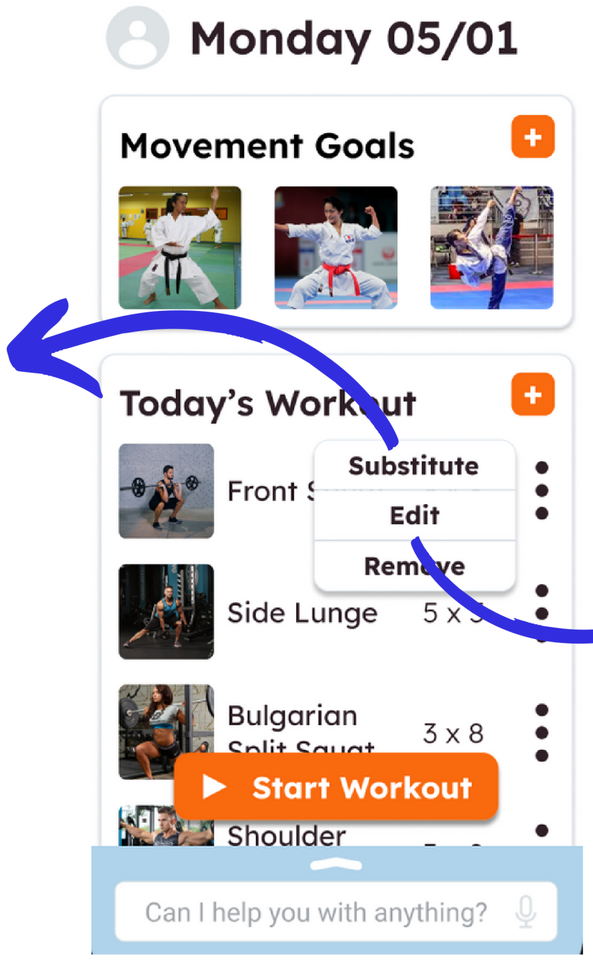
lo-fi

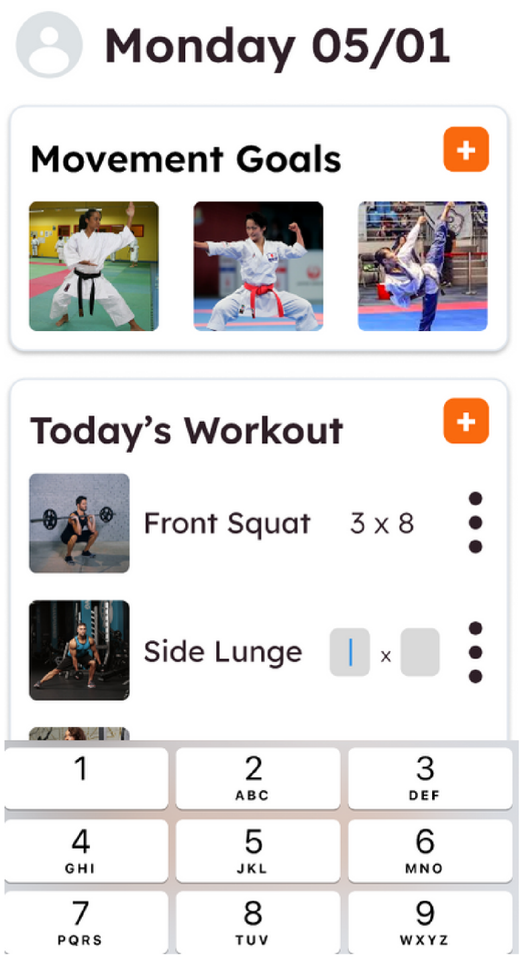


med-Fi v1

Added Edit / Substitute Flow

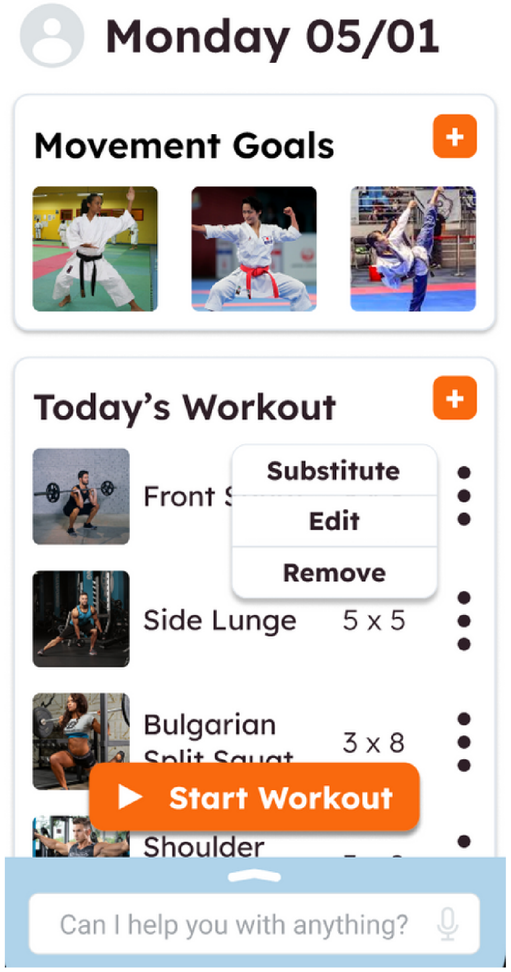




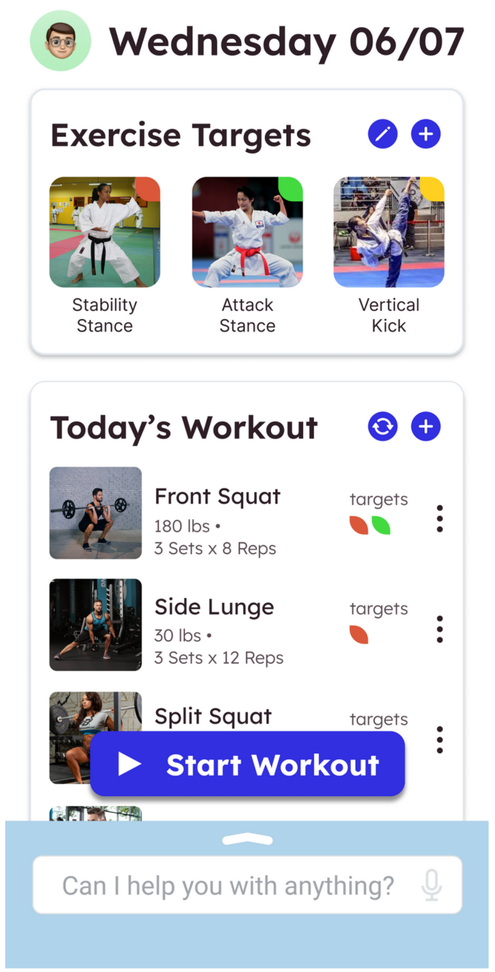


med-fi v2

Updated Design System

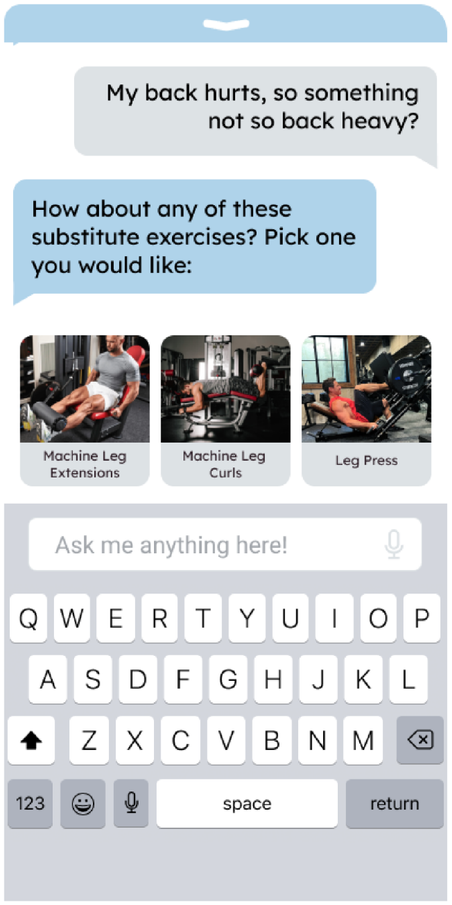


med-fi v2

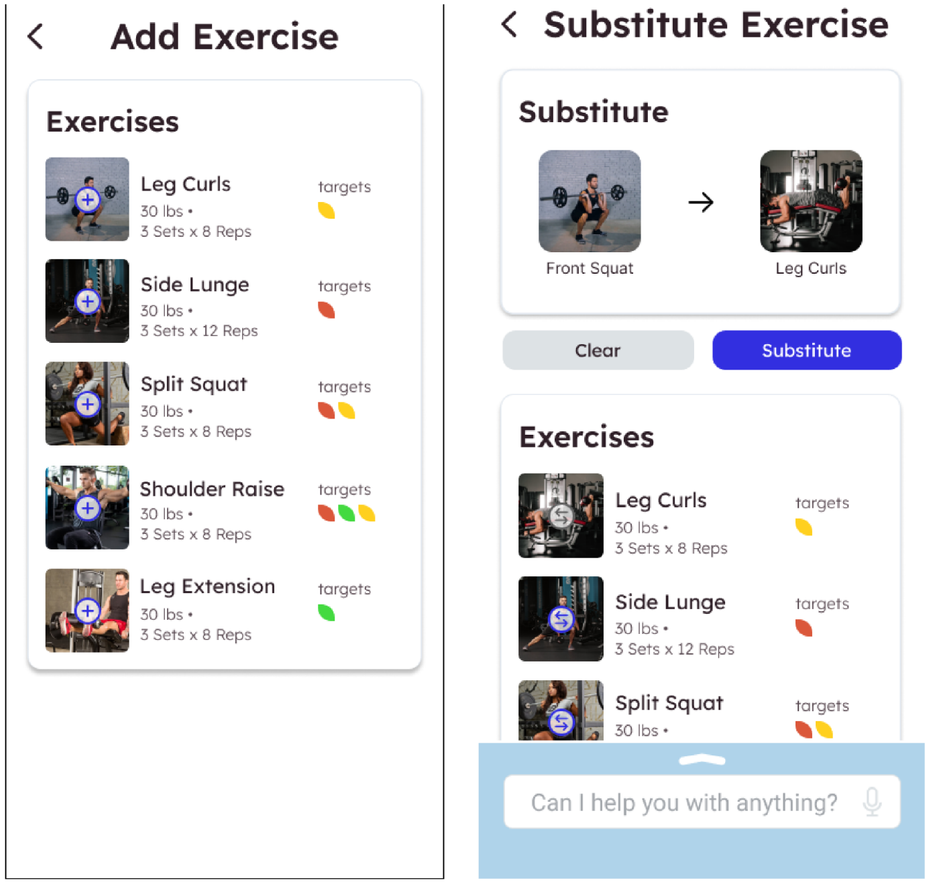


final med-fi

Add / Substitute Exercise UI



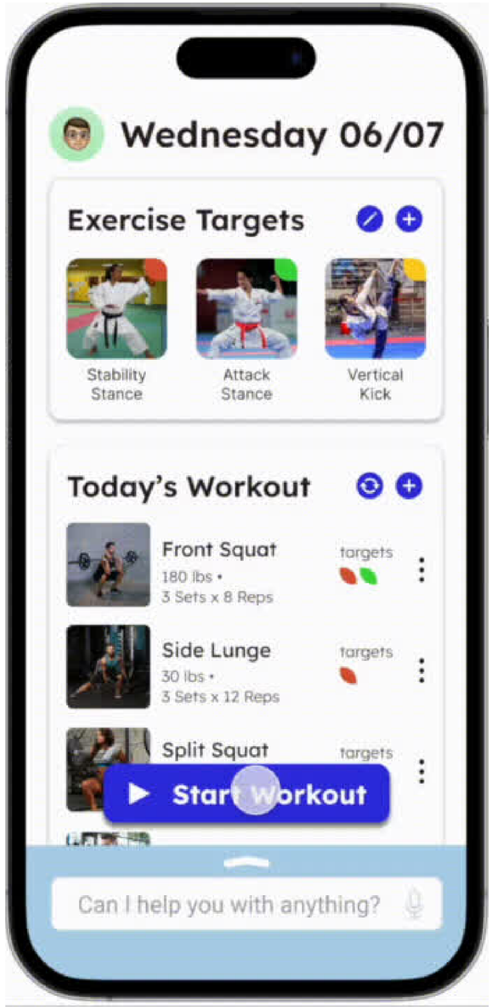
med-fi v3



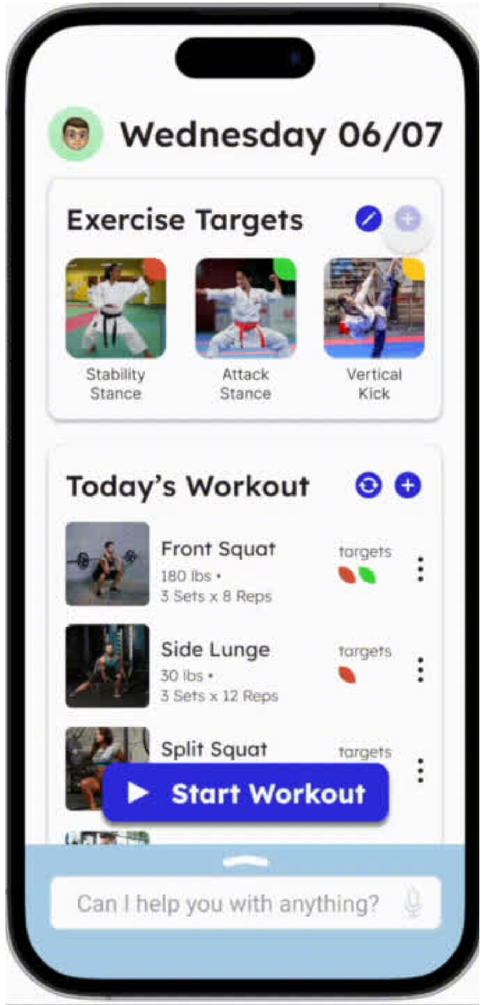
final med-fi

Tasks

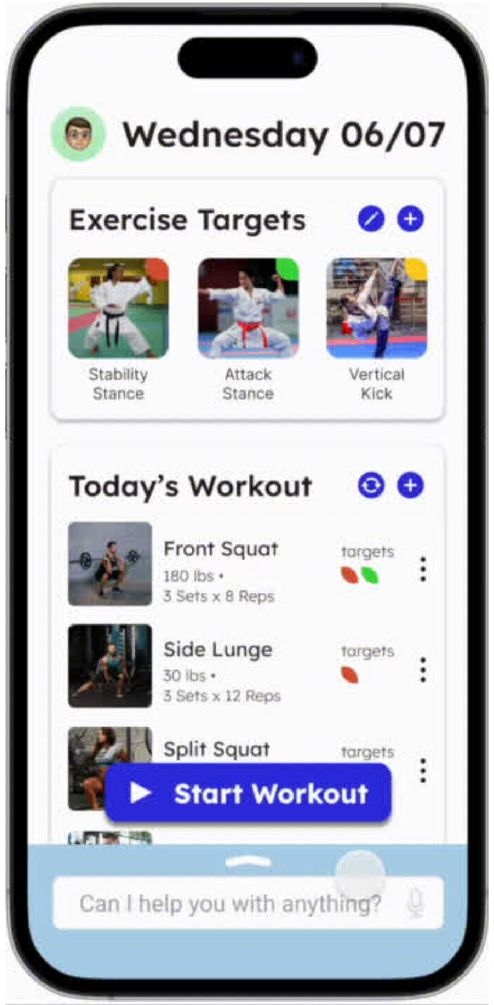
Simple Task: User wants to start an exercise



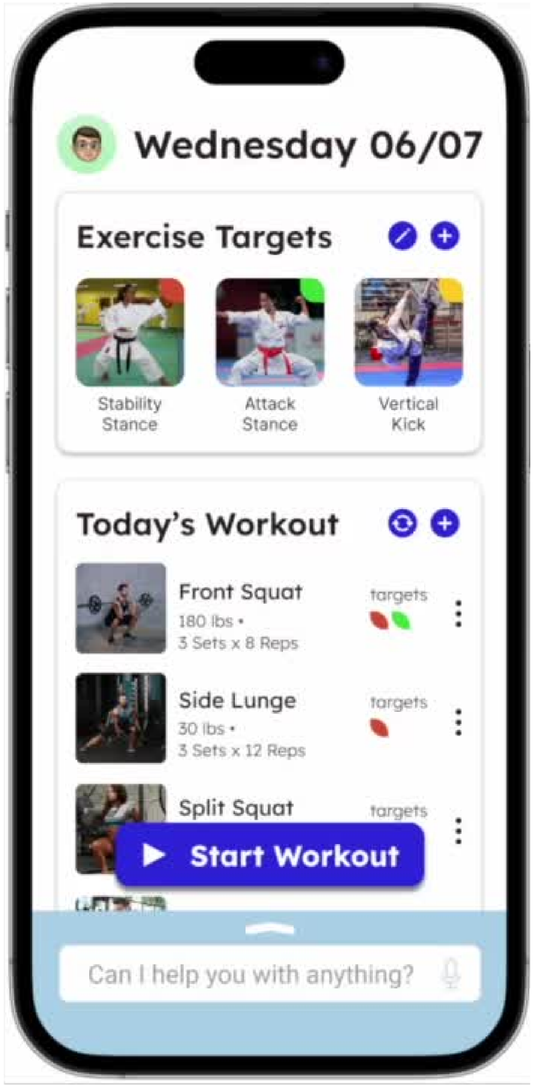
Moderate Task: User wants to generate an exercise plan to meet their strength goals



Complex Task: User wants to request alternative exercises of varying intensity



Demo


Wednesday 06/07
Exercise Targets
Stability Stance
Attack Stance
Vertical Kick
Today's Workout
Front Squat
180 lbs •
3 Sets x 8 Reps
targets
Side Lunge
30 lbs •
3 Sets x 12 Reps
targets
Split Squat
targets
Start Workout
Can I help you with anything?

Next Steps

1. More user testing on chat-bot and integrate it further

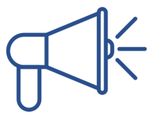
2. Incorporate workout scheduling

3. Investigate feasibility of CV muscle identification

Summary

Key Innovation: AI generated workouts from video input + chat interactability

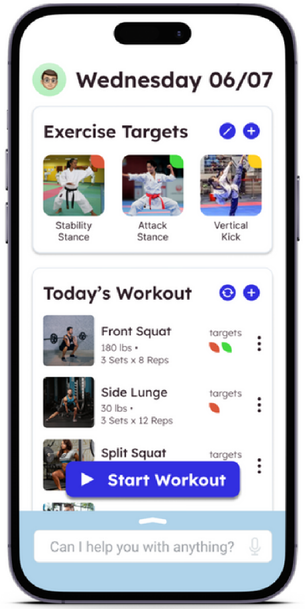
Immediate Impact: demonstrates feasibility of AI PT



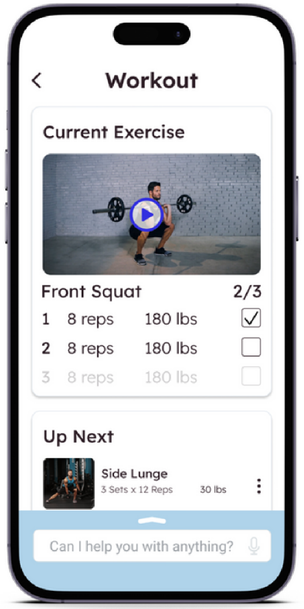
Long-term Impact: inspire AI projects to pursue greater accessibility in sports

Buddy Builder

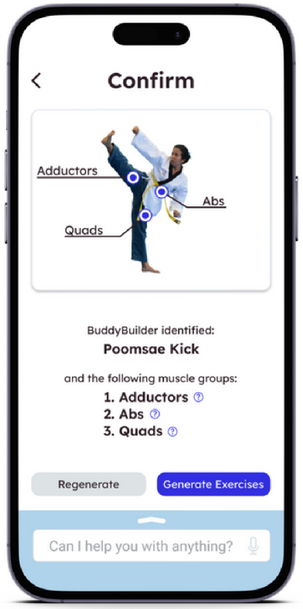
AI fitness app working to improve the accessbility of physical training resources for student athletes in niche sports



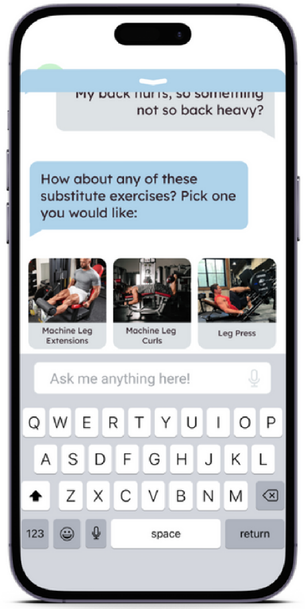
Work Towards Exercise Targets



Track Your Workout Progress



Personalize Workouts with AI and Vision



Get Assistance with LLM Chatbot