

p-gym (or p-reworkout)

All-in-one gym app connecting workout enthusiasts

Project Manager:

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Project Overview

As our independent SURP (Summer Undergraduate Research Program) project, we began the process of developing an iOS app designed to enhance the gym experience, using the Pomona gym (CARW) as a direct model. The app serves as an all-in-one tool for anyone interested in working out, offering key features to make exercising and going to the gym more accessible and enjoyable. Key functionalities include presenting gym information (such as opening hours, equipment availability and usage instructions, and room booking options) and user-interactive tools like a calendar for logging workouts and planning fitness routines. We also want to introduce a social feature that connects users with workout partners or groups, as we believe it will foster a sense of community and serve as motivation. If time allows, we hope to incorporate AI/ML to offer personalized workout recommendations based on fitness goals, interests, and more.

Tech Stack

- Frontend:
 - Swift (for iOS)
 - SwiftUI
- Backend:
 - Swift
 - Vapor (Swift-based server-side framework)
 - Databases:
 - PostgreSQL (relational data)
 - Firebase (real-time data)
- User Management, Authentication, Real-Time Communication:
 - Firebase
- APIs:
 - Google Calendar API

- Testing:
 - XCTest (Swift unit and UI testing)
- AI Recommendation (uncertain as of current time if will be implemented):
 - kNN, Random Forest, Neural Networks

Ethical Considerations

If we implement workout recommendations based on user data, we will ensure that datasets are inclusive and sourced from reputable, diverse origins to avoid bias. The app aims to promote positive fitness practices, helping users build healthy relationships with exercise and reduce any anxiety associated with working out alongside others in a shared space. We will securely handle personal information.

Team Structure

- Target Team Size: *6 students*
- Subteam Structure:
 - One team
- Organizational & Collaboration Frameworks:
 - Notion, Slack, Google Calendar, Github

Timeline

Week 1	Interviews
Week 2	Onboarding and Set up
Week 3	Wireframing and UI design (figma)
Week 4-5	Gym info display and room booking <ul style="list-style-type: none"> - Backend: construct backend APIs - Frontend: implement main page interface, display available slots
Week 6	User Profile <ul style="list-style-type: none"> - Backend: implement Firebase for authentication and form database to store user profile info - Frontend: create sign-up/log-in page, link to backend data to build profile UI
Week 7	Workout Log <ul style="list-style-type: none"> - Backend: set up database for logs, data syncing - Frontend: implement calendar view UI
Week 8-9	Buddy matching <ul style="list-style-type: none"> - Backend: develop matching algorithm, chat feature - Frontend: preference questionnaire, chat UI

Week 10	Testing and finishing touches
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Project Member Requirements

Since a lot of what we're doing is new to us, the PMs, as well, we believe that this project could be a great opportunity for beginners to get hands-on experience. That is why we are only asking for basic experience in any programming language (Python, Java, or JavaScript preferably since they are close to SwiftUI). Additionally we really need help with UI/UX design, so any experience in design or working with UI/UX tools would be a big plus. Familiarity with mobile app frameworks and Git is helpful but not required. Most importantly, we're looking for people who have a collaborative mindset and are eager to learn and grow with the team!