

# **Final Project**

## **Deliverable 3**

### **SEG2105 - Intro To Software Engineering**

**Fall 2021**

**University of Ottawa**

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## Introduction

The purpose of this project is to develop a fitness class booking application for Android devices. The application aims to help a fitness center to digitize their booking services and to streamline communication. The team used various software tools including Java, Android Studio, Github and SQLite to achieve the project goal.

The application has three main users: an administrator, class instructors, and gym members. Gym members are able to search for classes and enroll/unenroll as desired. Instructors are able to schedule and edit classes. Lastly, an administrator can manage all users and classes.

In this document, we have outlined main features of the application along with various engineering design steps taken and how the team overcame challenges.

## Application Requirements

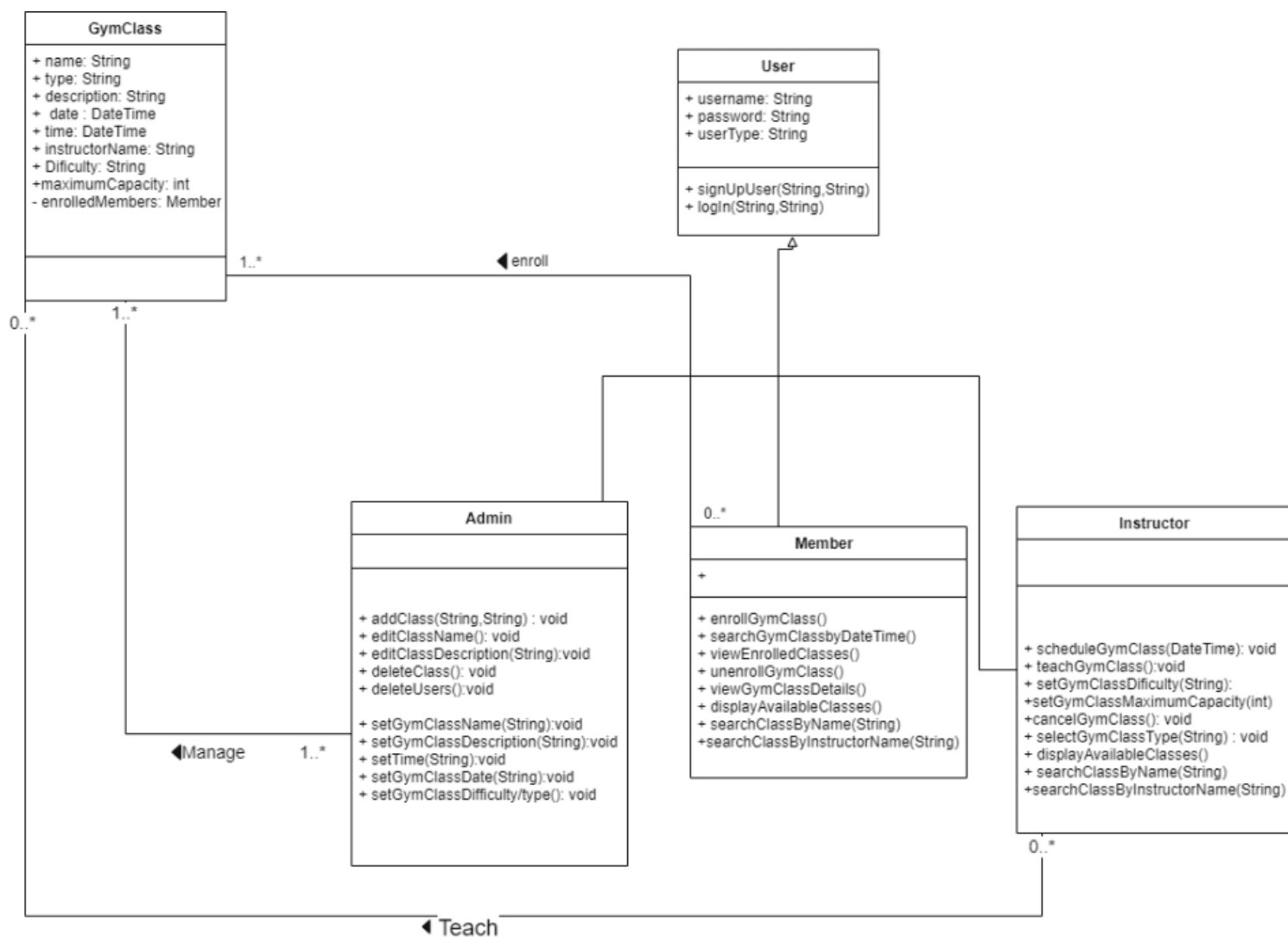
Users	Requirements
Administrator	<ul style="list-style-type: none"> <li>• Log into an admin account. (Username: admin / Password: admin123)</li> <li>• Create, edit, and delete types of classes to be offered by the fitness centre. <ul style="list-style-type: none"> <li>- Edit the class name and description and delete a type of class entirely.</li> </ul> </li> <li>• Delete accounts of instructors and gym members.</li> </ul>
Instructor	<ul style="list-style-type: none"> <li>• Create an Instructor account and log in.</li> <li>• Choose a class to teach by selecting the type of class</li> <li>• Add and edit the class day, time, difficulty, and capacity for a class they are teaching.</li> <li>• Cancel a class, which deletes the class details.</li> </ul>
Gym member	<ul style="list-style-type: none"> <li>• Create a member account and login.</li> <li>• View all available classes and all classes they are enrolled in.</li> <li>• Search for a class by class name or by day of the week.</li> <li>• Enroll and unenroll from classes.</li> </ul>

## Contribution and Roles

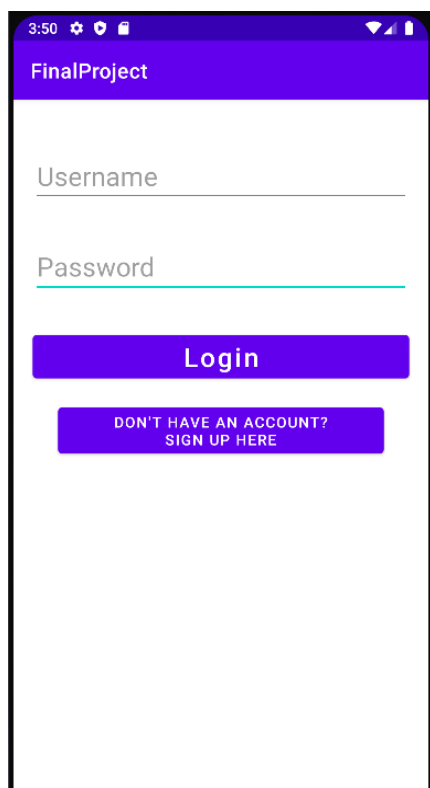
The original group consisted of Christopher, Ludovic, Sam, Nimisha, David. However, despite our best efforts we were unable to get meaningful contributions from Nimisha and David. After some conversing we decided our best plan of action was acquiring two new members, and letting go of both David and Nimisha. On November 19th we gained Jin and Muhammad, who quickly adapted to the new team and begun making many contributions to the project. Their presence in the chart below reflects when they joined our team. One thing to note is their ability to understand someone else's codebase and contribute to it.

Member	Deliverable 1		Deliverable 2		Deliverable 3	
	Roles/Contributions	%	Roles/Contributions	%	Roles/Contributions	%
<b>Christopher, Delongchamp</b>	Created GitHub, Tasks, SQLite DB, UI	33%	Created Tasks, Implemented DB queries, Instructor Search and Class Viewing	20%	Created Tasks, Implemented DB Queries, Final Report	20%
<b>Jin, Kim</b>		N/A	Unit Testing	20%	Final Report, Unit Testing	20%
<b>Ludovic, Provost</b>	UML Diagrams, Login System, Class editing, Member creation and editing.	33%	Field Validation, Instructor Class Creation, Class Cancelling, Class Editing,	20%	Member Class Searching, Enrollment, Unenrollment, bonus	20%
<b>Muhammad Zoraiz, Nasir</b>		N/A	UML Diagrams	20%	UML Diagrams, Unit Testing	20%
<b>Sam, Mulvey</b>	Login System, Class Creation, Class editing, Member creation and Editing.	33%	Field Validation, Unit Testing	20%	Final Report, app testing	20%

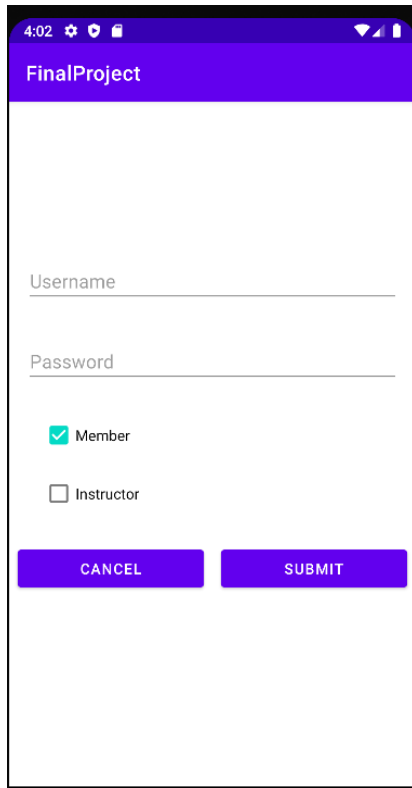
# UML Design



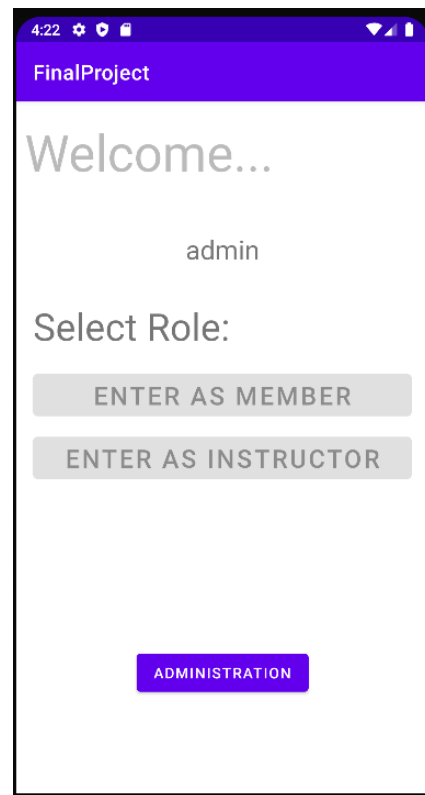
## Application Screenshots



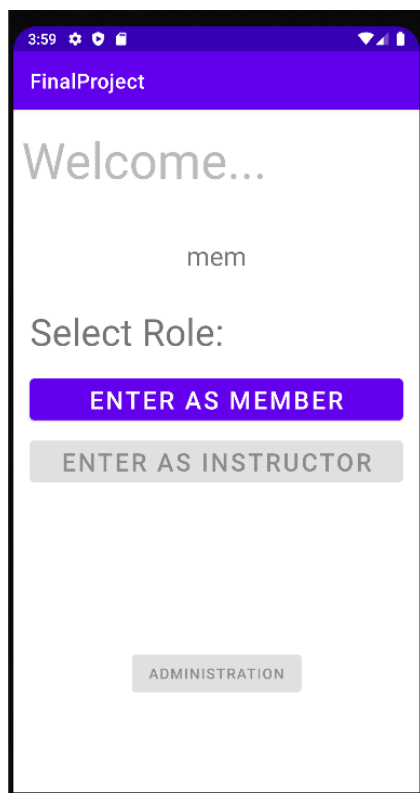
Application Home Page



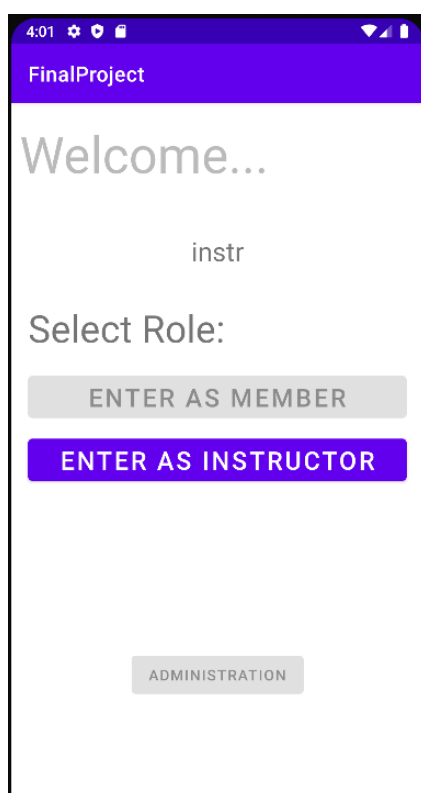
Sign up Page  
(can choose either or both)



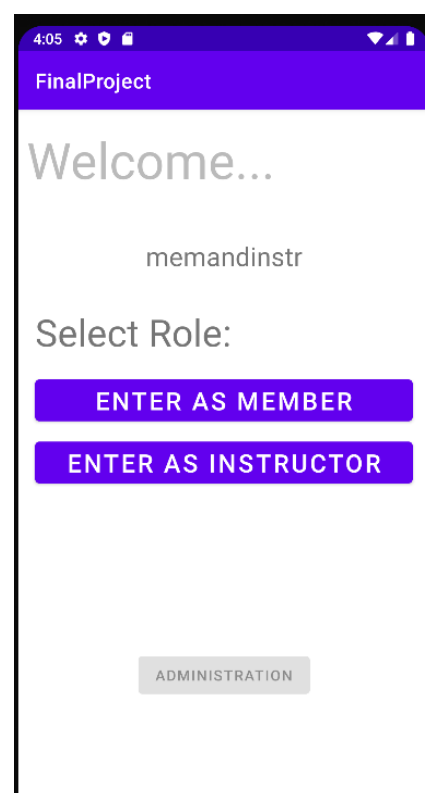
Admin Welcome Screen



Member Welcome Screen

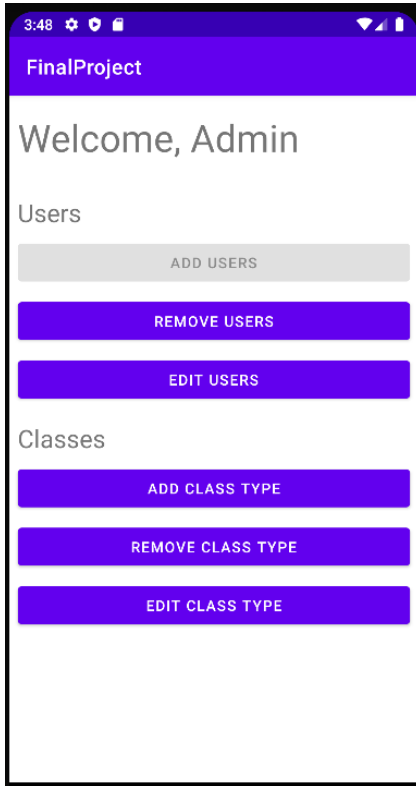


Instructor Welcome Screen

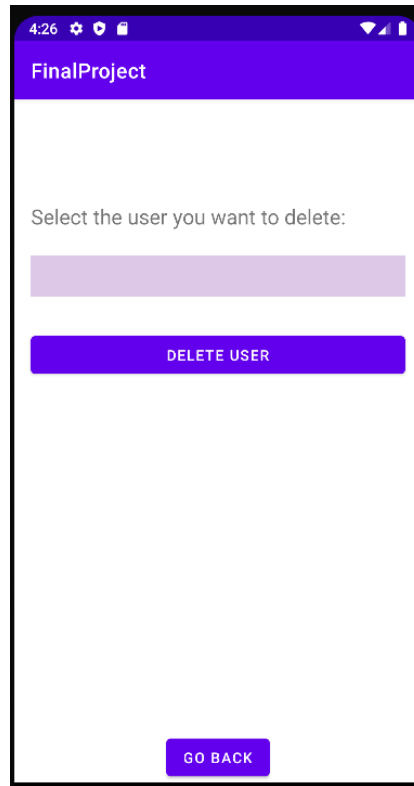


Multiple Role Welcome Screen

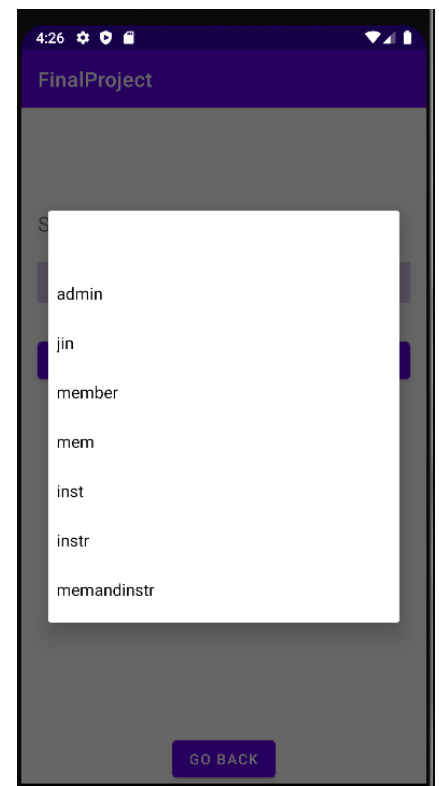
## Admin Features



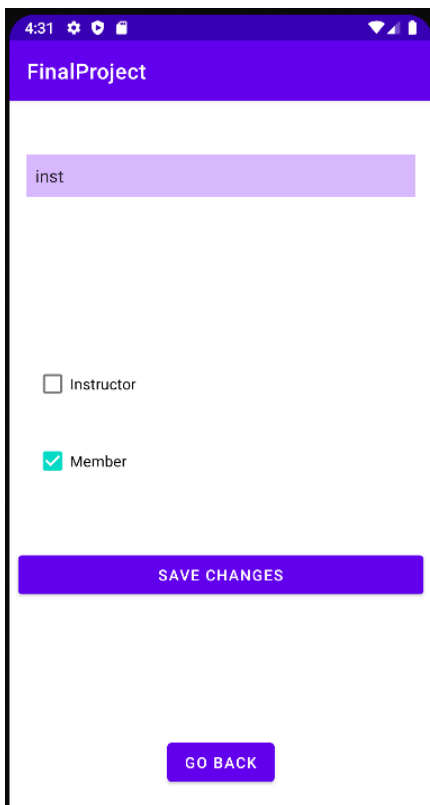
Admin Main Screen



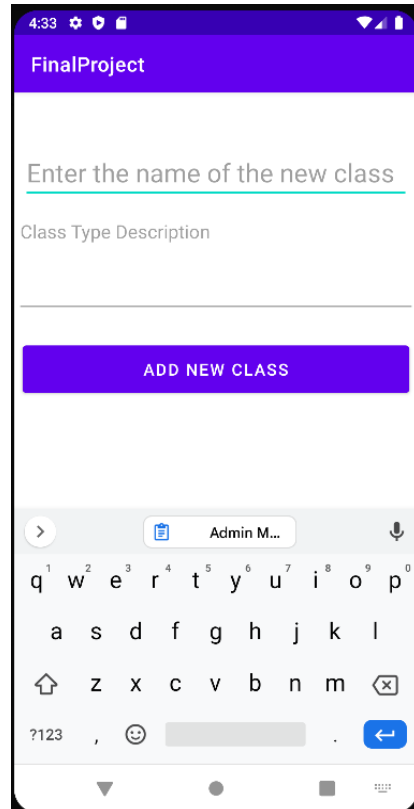
Delete User



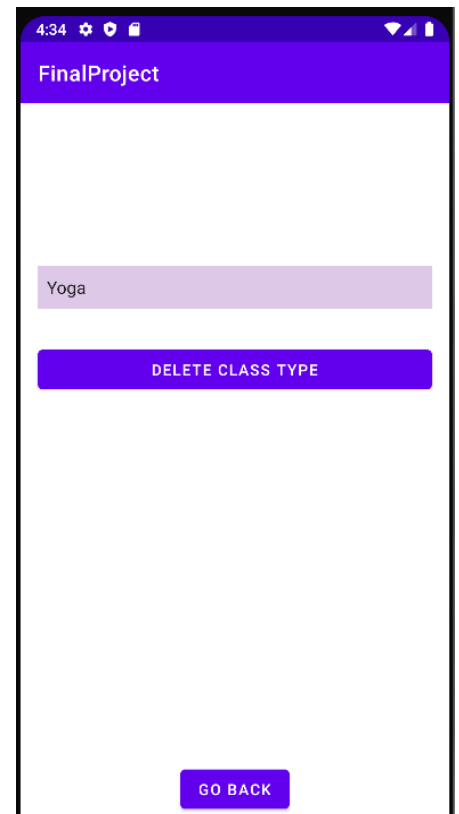
Deleteable Users List  
(cannot delete admin)



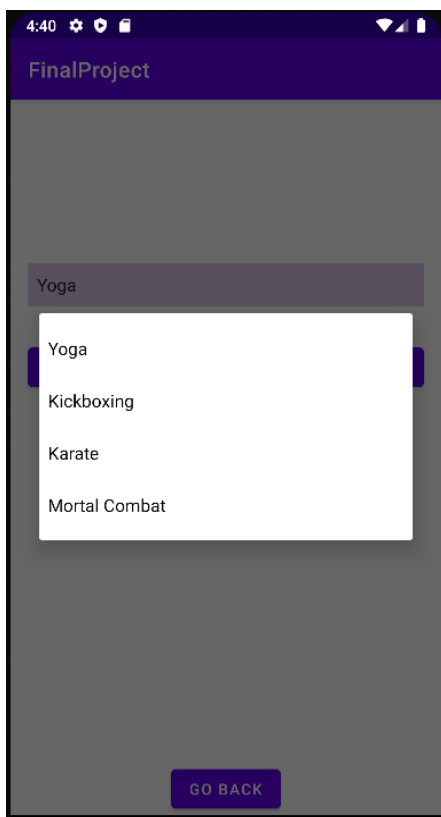
Edit User



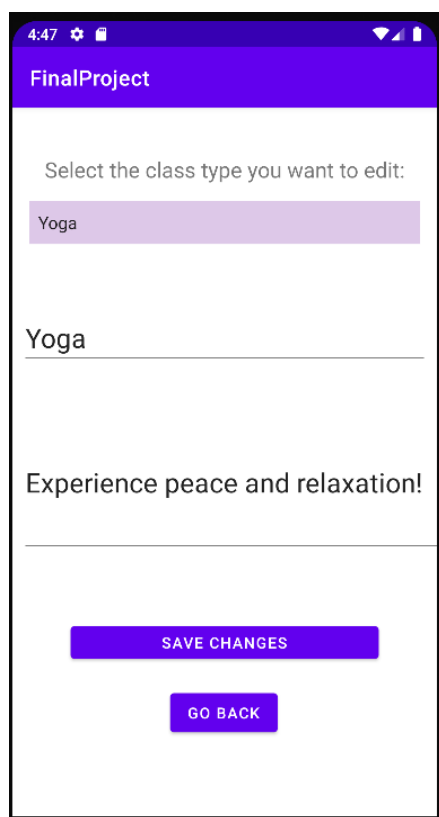
Add New Class



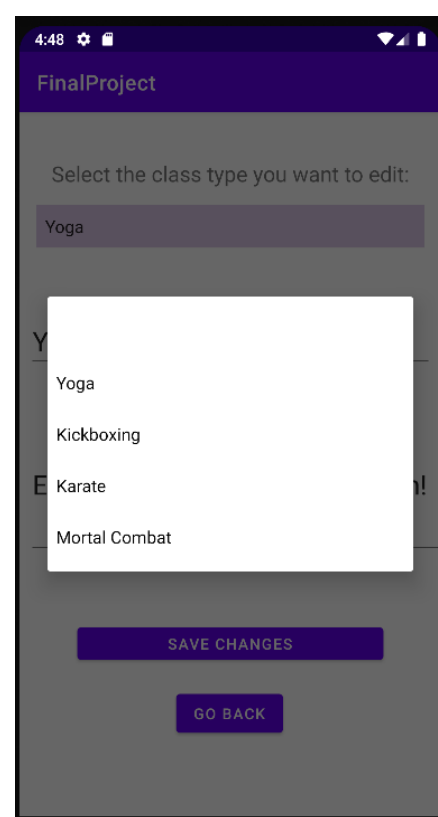
Delete Class



Deletable Classes List

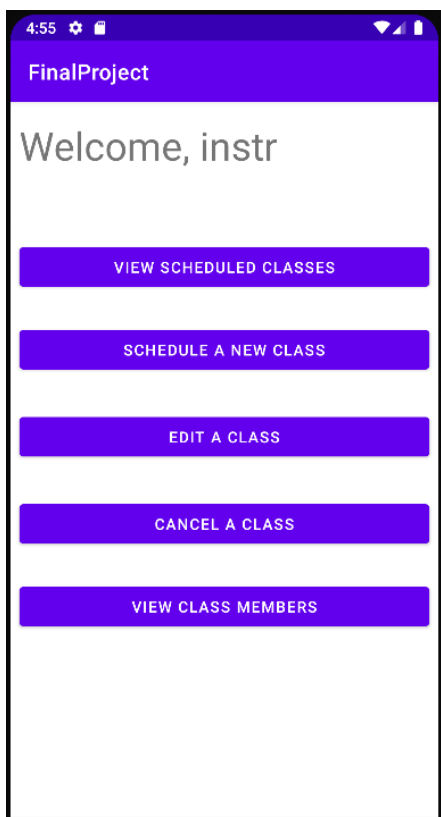


Edit Classes

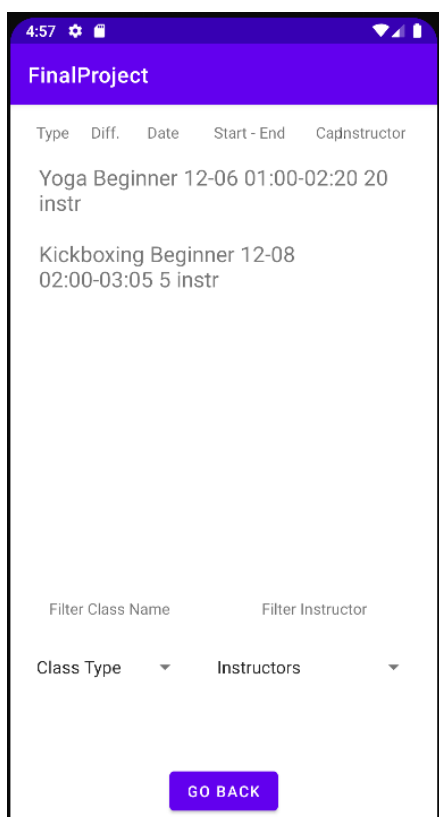


Editable Classes List

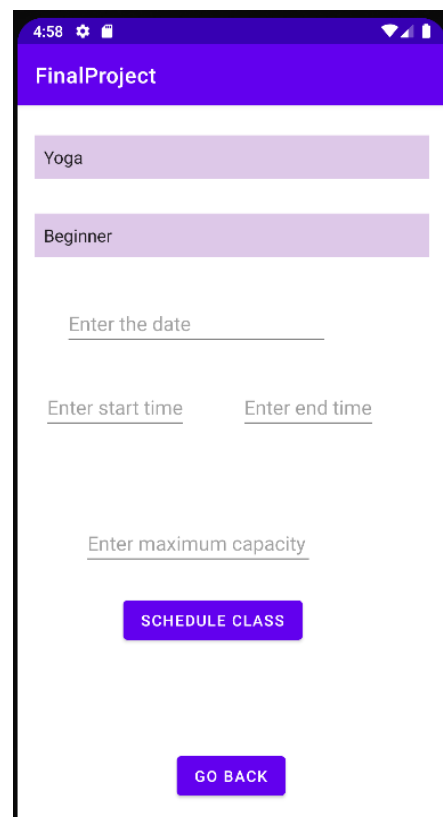
## Instructor Features



Instructor Main Screen



View Scheduled Classes



Schedule a New Class



FinalProject

Class List

ID: 1 Yoga Beginner 12-06 at 01:00-02:20

Difficulty

Beginner

Date

12-06

01:00 Until 02:20

Capacity

12

SAVE CHANGES

GO BACK

Edit a Class

FinalProject

ID: 1 Yoga Beg. 12-06 at 01:00-02:20

CANCEL THE SELECTED CLASS

GO BACK

Cancel a Class

FinalProject

id: 1, Yoga Beginner, cap. 20

jin

mem

GO BACK

View Class Members

## Member Features

FinalProject

Welcome mem! You are logged in as member.

VIEW CURRENT CLASSES

SEARCH NEW CLASSES

Member Main Screen

FinalProject

Enrolled Classes

1 Yoga Beginner 12-06 01:00-02:20 20 i..

Tell us why you are leaving:

UNENROLL

GO BACK

View &amp; Unenroll Enrolled Classes

FinalProject

Search All Classes

2 Kickboxing Beginner 12-08 02:00-03..

Boxing, but with kicks!

SEARCH

name of class

ENROLL

GO BACK

Search &amp; Enroll New Classes

## Lessons Learned

Challenges in this project were numerous, but nevertheless conquered. The initial challenges took the form of organizing work. None of the original group had much experience with Github, and none of us had any experience with Android Studio. On top of that most of the group had never dabbled in SQL or Firebase, so part of this project required members to learn how relational databases work and then immediately implement their new skills with this app.

Besides knowledge challenges, we had some interpersonal issues. As mentioned before, we had some members in our group who made no meaningful contributions to the project. One would sit in on group calls, and never communicated anything, another contributed some background images that were later removed due to not fitting in. We tried to remedy the situation by contacting the TA and Professor, but their efforts towards the project did not change. Thankfully Ludovic was keen on getting the most out of our five person group, and helped us recruit new members.

Another issue we ran into was the representation of relational databases in our UML diagrams. While objects were easy to represent, the existence of tables and records caused some confusion in how they should be portrayed.

We also had some difficulty working on the assignment because of the lack of in-person communication. We mostly remedied this issue by constantly screen sharing our work, but it pales in comparison to sitting down with someone and looking over the code.