COMP195:

CS Senior Project

Big Gainz

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https://github.com/comp195/senior-project-spring-2022-big-gainz.git

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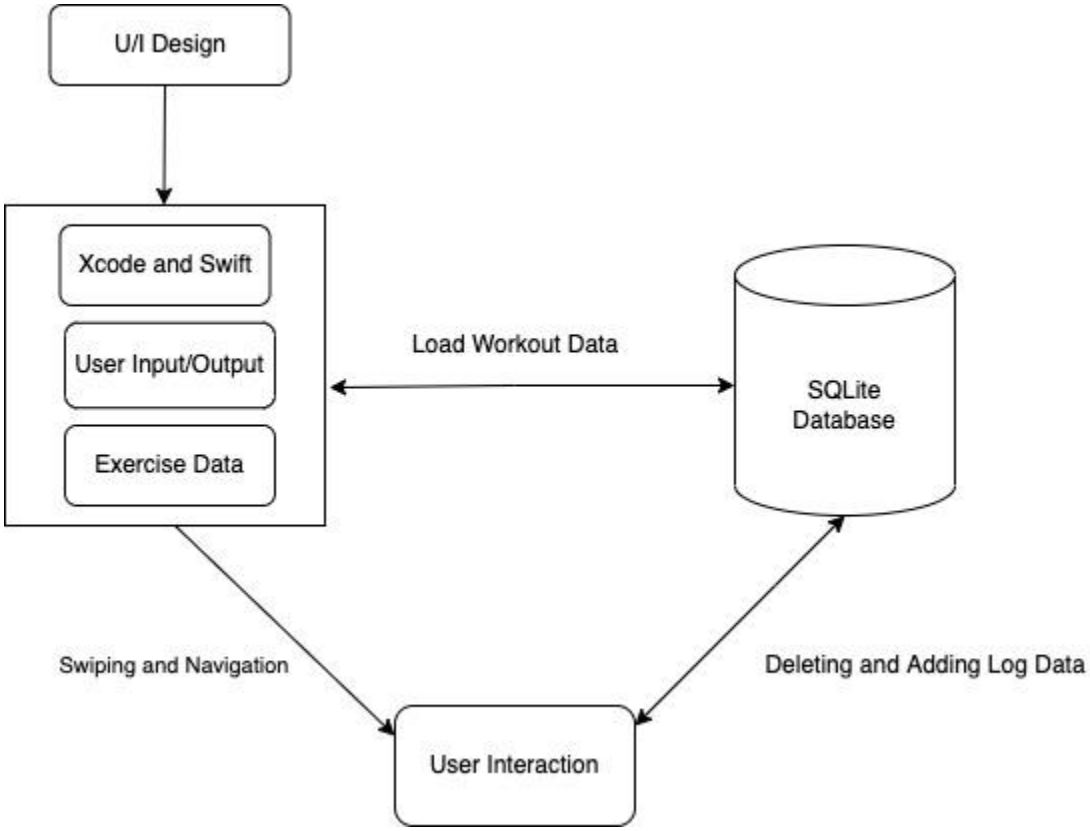
System Architecture



Hardware, Software, and System Requirements

A. Hardware Requirements:

- The mobile application will require at least 1 GB of memory
- Iphone 10 models and above
- Connect to Wifi/5G

B. Software Requirements:

XCode and Core Data will be needed for the software. The application must be able to send and store the data for the required categories.

C. System Requirements:

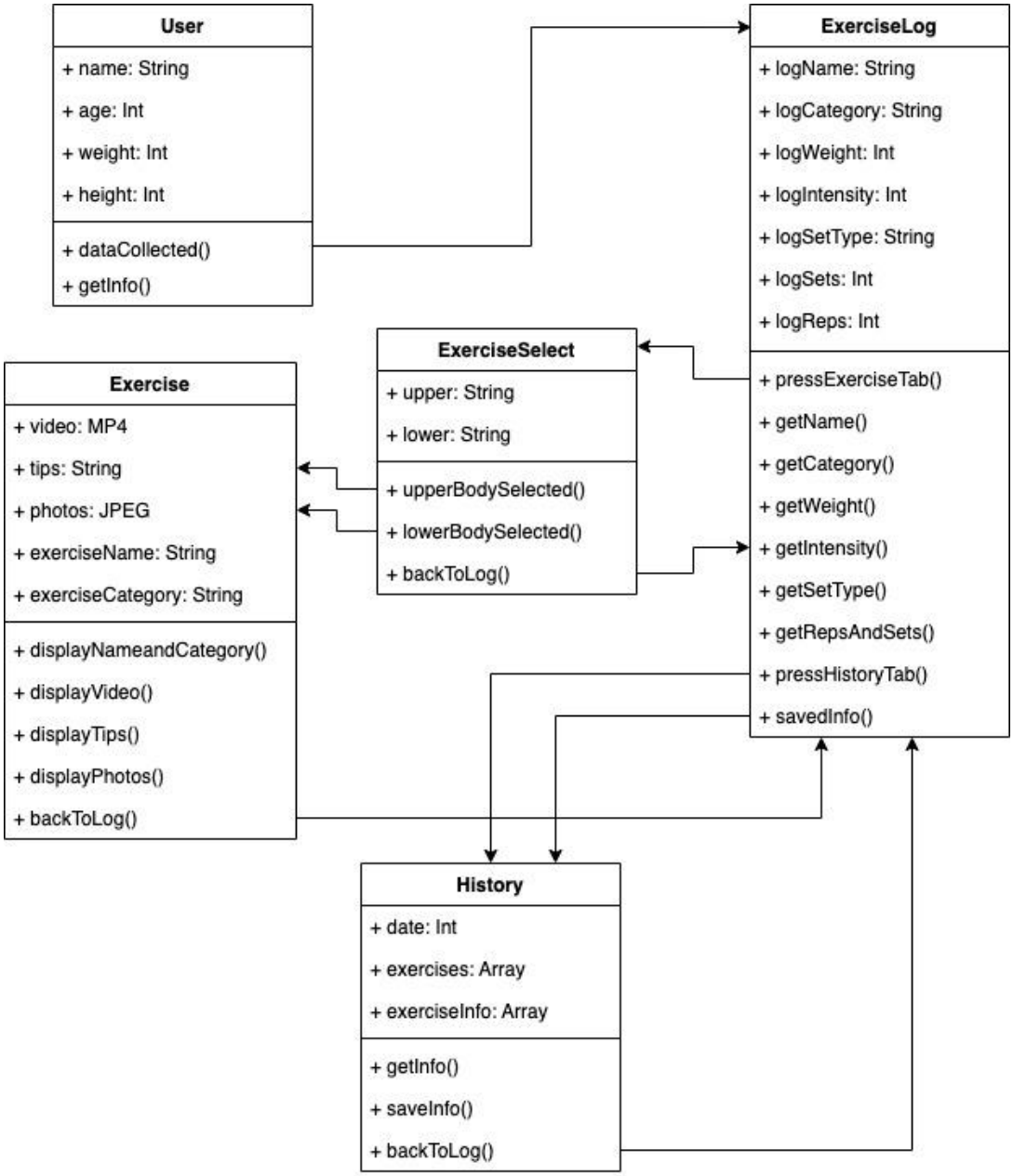
- iOS 15.0 and above

External Interfaces

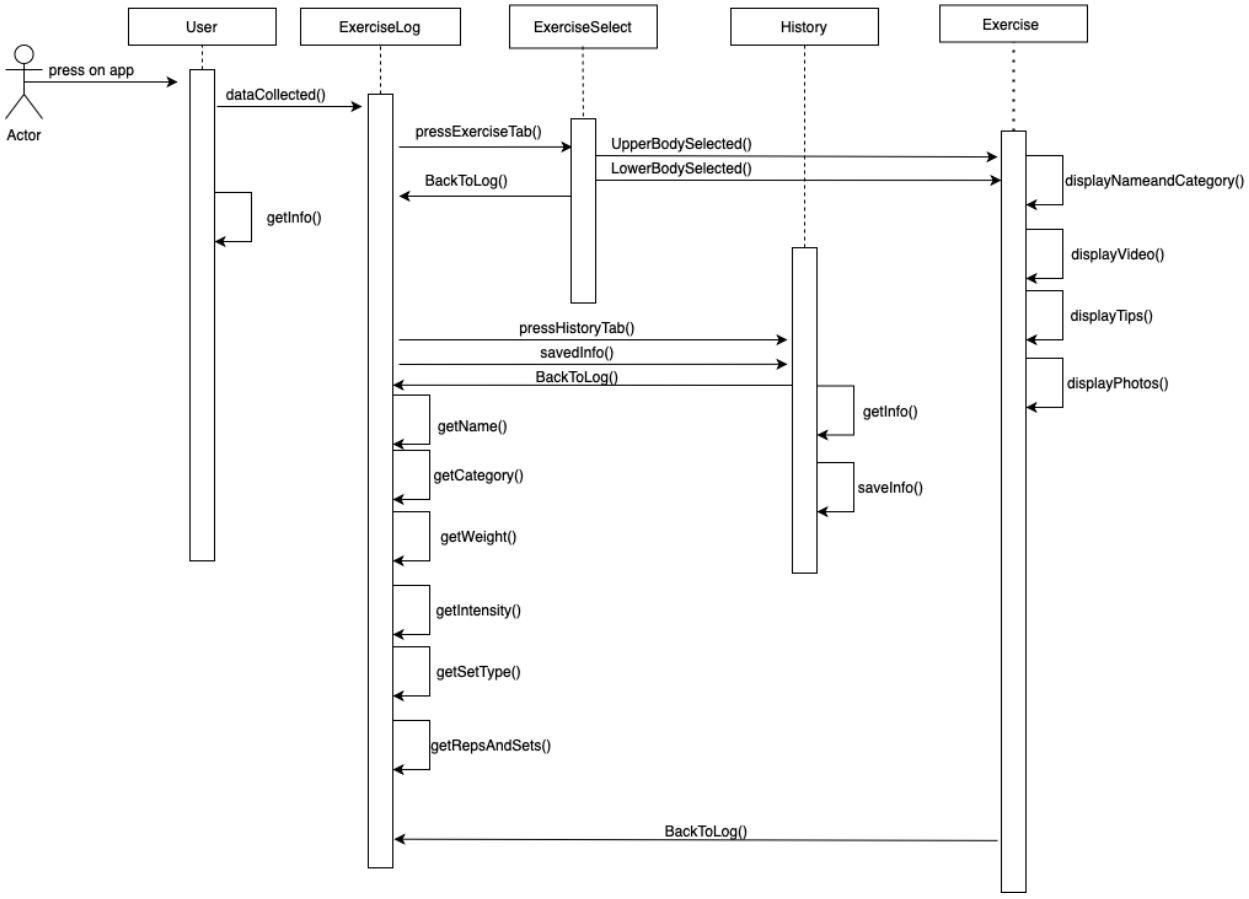
The mobile application will not require external APIs. This section is omitted.

Software Design

A. Class Diagram/Specifications:



B. Interaction Diagram:



C. Design Considerations:

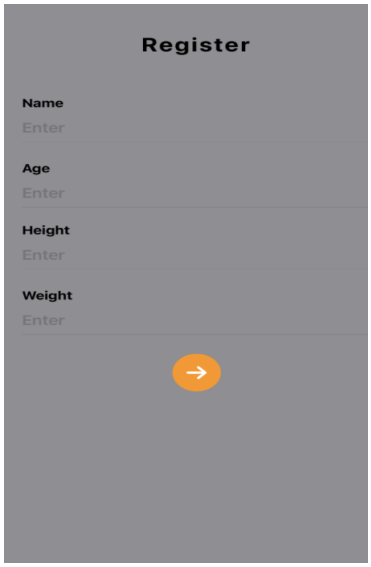
The design of our mobile application is to make the system as feasible as possible for the user. To start off, the user is able to log as many workouts as they want within the ExerciseLog class. When the user wants to enter their data, a numbers Keyboard will appear for them to input numbers. The mobile app will let the user swipe left on their logs if they wish to delete them. The Exercise Log will have a timer and add a log button on the bottom corners. Once the timer button is pressed, the timer will pop up with a start and stop function after being pressed. Once the user is finished with the specific exercise, the log will be saved to the database and into the History class. The top left corner button

will have the History and Exercise tab. The History class will have all of the user's previous logs to refer back to. Exercise tab is considered to be the Exercise class and will consist of all body categories for the user to view new exercises that they would like to try. The exercise they select will display a video and tips to demonstrate how to do the exercise properly. Exercise recommendations can be sent to the Exercise log so that the name of the exercise will instantly pop up for them to try the exercise. All of our buttons will be pressed in order to access them. Our design is simplistic, so the user can quickly access their log and view exercises while enjoying their workout.

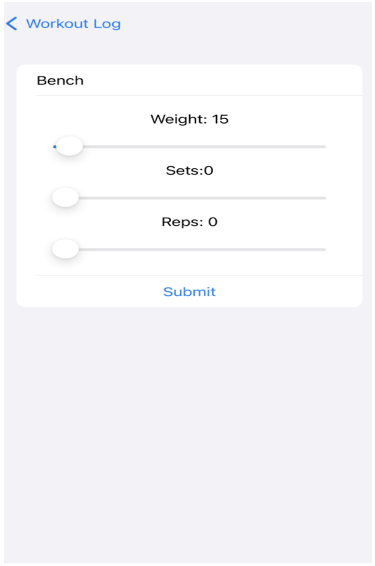
D. User Interface Design

Logo:

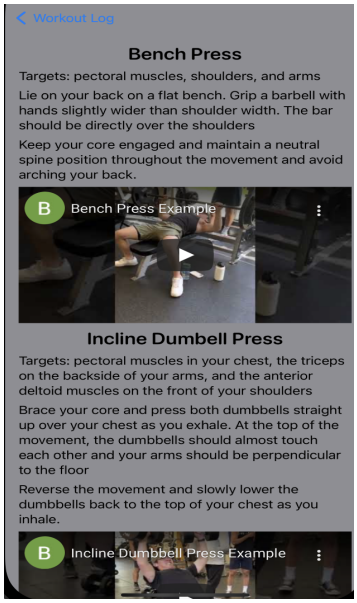
User Registration:



User Workout Input:



Tips/Videos:



Glossary of Terms

Sets - A group of consecutive repetitions.
Reps - One complete motion of an exercise.
Intensity - How much effort you give for an exercise.
Lbs - Unit for pounds.
Form - A specific way of performing a movement.
Super Set - Two exercises done back to back without any rest between them.
Drop Set - At the end of your set, drop weight 20% and perform reps to failure.
Rest Pause Set - After a set, rest 15 seconds, go again to failure.
AMRAP - As many reps/rounds as possible in a given time.
Eccentric - The motion of an active muscle while its lengthening under load.
Isometric - Static contraction of a muscle without any visible movement in the angle of the joint

References

1. YouTube. (n.d.). *How to make an app for Beginners (swiftui)*. YouTube. Retrieved February 6, 2022, from https://youtube.com/playlist?list=PLMRqhzcHGw1YqPh-ggQHJPAUxdHov_uNJ
2. YouTube. (2021, January 31). *SQLite - how to use sqlite in swift*. YouTube. Retrieved February 6, 2022, from https://www.youtube.com/watch?v=s32FuDBGBf8