FrogFit

Version 4.1

Revision History

The following is a history of document revisions.

Version	Changes	Edited
Version 1.0	Initial Draft	December 9, 2014
Version 1.1	Prototypes, Glossary	January 20, 2015
Version 2.0	Prototypes, Glossary	February 16, 2015
Version 2.1	Fixed Table of Contents, Glossary, and Prototypes	February 24, 2015
Version 2.2	Fixed version number, table of contents, database schema, System Architecture Diagram	March 16, 2015
Version 3.0	Table of Contents revision, grammatical corrections	April 26, 2015
Version 4.0	Table of contents revision, database schema revision, grammar fixes	May 5, 2015
Version 4.1	Remove .0, wording, grammar	May 5, 2015

Revision Sign Off

By signing the following, the team member asserts that he has read the entire document and has, to the best of knowledge, found the information contained herein to be accurate, relevant, and free of typographical errors.

Name	Signature	Date
Bryan Kribbs		
Geoffrey Adams		
Matt Ratliff		

Table of Contents

1 Introduction

1.1 Purpose
The purpose of this document is to provide the overall design for the FrogFit system. This document includes the design constraints, system architecture, schema design, UML models, and prototypes for both the mobile application and web portal.

1.2 Project Background
Living a healthy lifestyle has become a major focus in today's society due to the rising number of Americans with conditions linked to obesity, over eating, and living an inactive lifestyle.

There are many thoughts and products on the market that are used to help with this so-called epidemic. One such workout routine recently turned sport, is called Crossfit. According to their site, "The aim of Crossfit is to forge a broad, general and inclusive fitness."

For the growing number of people participating in Crossfit, there are plenty of systems that can show athletes where they are excelling but there is not a system that can identify the area of fitness that an athlete is deficient and give them a single, comprehensive fitness score.

FrogFit is designed to fill this gap in the market by allowing athletes and coaches to collect workout data and compare it to individual benchmarks or to gym benchmarks and provide them with a fitness score that defines their strengths and weaknesses.

1.3 Section Overview
Section 2 – Design Constraints – Defines the constraints associated with the design.
Section 3 – System Architecture – A Diagram depicting the overall architecture of the all components in the FrogFit system.
Section 4 – Schema Design – A visual representation of the design and constraints of the database.
Section 5 – Use Case Models – Shows user interaction with both application and web portal.
Section 6 – Prototypes – Wireframes of both application and web portal.
Section 7 – Glossary of Terms – Defines all the project-specific terms that are located throughout this document.

2 Design Constraints

2.1 Assumptions and Dependencies
The FrogFit system assumes the following:
- User has an Android mobile device.
  - Mobile device has adequate battery life.
  - Mobile device has Internet connectivity.
  - Mobile device has downloaded FrogFit application.
  - Mobile device operating system needs to be Ice Cream Sandwich (API 15) or higher.
- Mobile application assumes user has already created profile at a gym.
- Mobile application assumes user actively participates in Crossfit.
- Administrative website assumes user has obtained software.
- Administrative website assumes Internet connected device with web browser installed.

2.2 General Constraints
- Gym Constraints
  - User can only belong to one gym.
  - Gym must be using FrogFit software.
  - Administrative tasks can only be accomplished through the administrative website
- Mobile Constraints
  - Mobile device must be running Android (API 15) or above.
  - Mobile device must have Internet connectivity.
- Administrative Constraints
  - User must be given administrative privileges
- Workout Constraints
  - Workouts are limited to predefined Crossfit WODs

2.3 Development Environment
Programming
- Microsoft SQLServer 2012
- Microsoft SQLServer 2012 Management Studio
- Microsoft Visual Studio 2013
- ASP.NET 5 MVC
- Eclipse Luna with GIT plugin
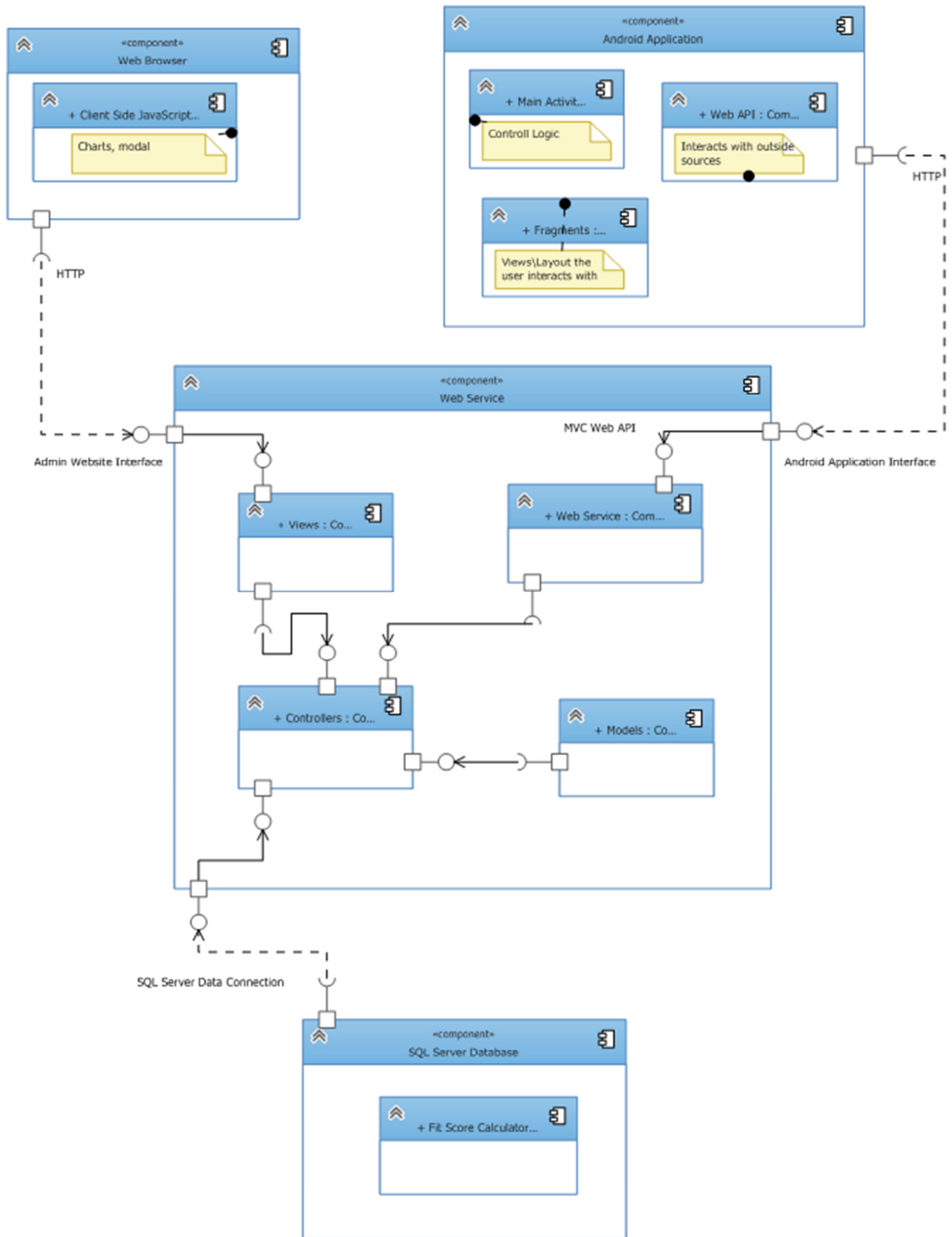- Android SDK Tools

Server Connection and File Transfer
- CoreFTP / WinSCP
- CoRD / Putty
- Remote Desktop Connection
- Bitbucket

Productivity
- ➤ Camtasia
- ➤ Microsoft Office 2013
- ➤ Microsoft PowerPoint 2013
- ➤ Google Drive
- ➤ Sublime Text 3.0 System Architecture
- ➤ Join.me for video conferencing
- ➤ Paint

3 System Architecture Diagram

3.1 Major Component Descriptions

3.1.1 Mobile Device

The mobile device's primary role is to be an access point for athletes. The athlete will be able to view personal, historical, and fitness level data. The mobile device will provide the ability to maintain specific personal and workout data. Only athlete data and current fit score will be stored on the mobile device. All other data is accessed over the Internet in real time. The mobile device will be responsible for translating raw scores into useable workout data.
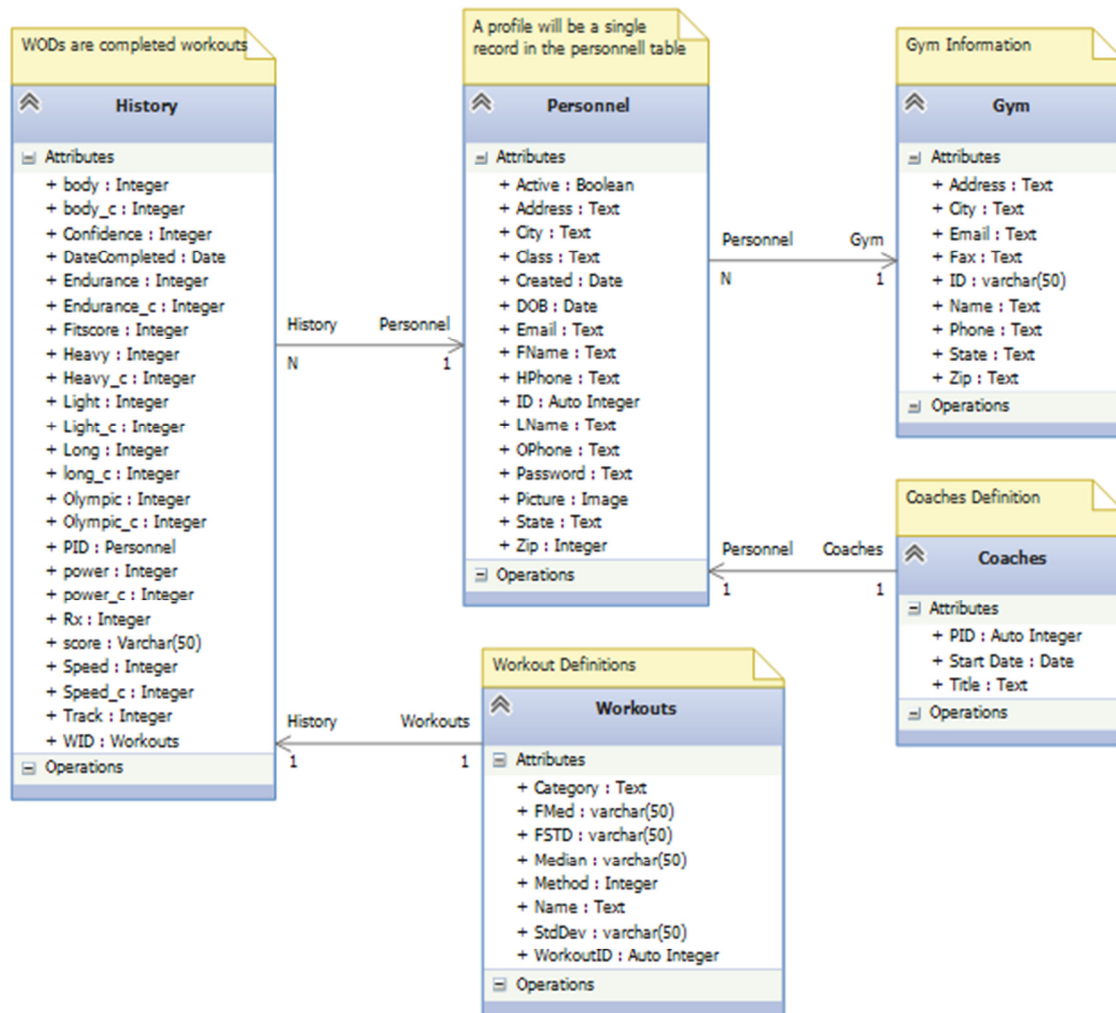
3.1.2 Administrative Website

The administrative website's role will be to serve as a hub for all administrative capabilities. The administrator will be able to perform all mobile application tasks as well as maintaining all gym, personal, and workout data. The administrative website will also provide a view of overall gym performance (e.g., average workout score and top performers).
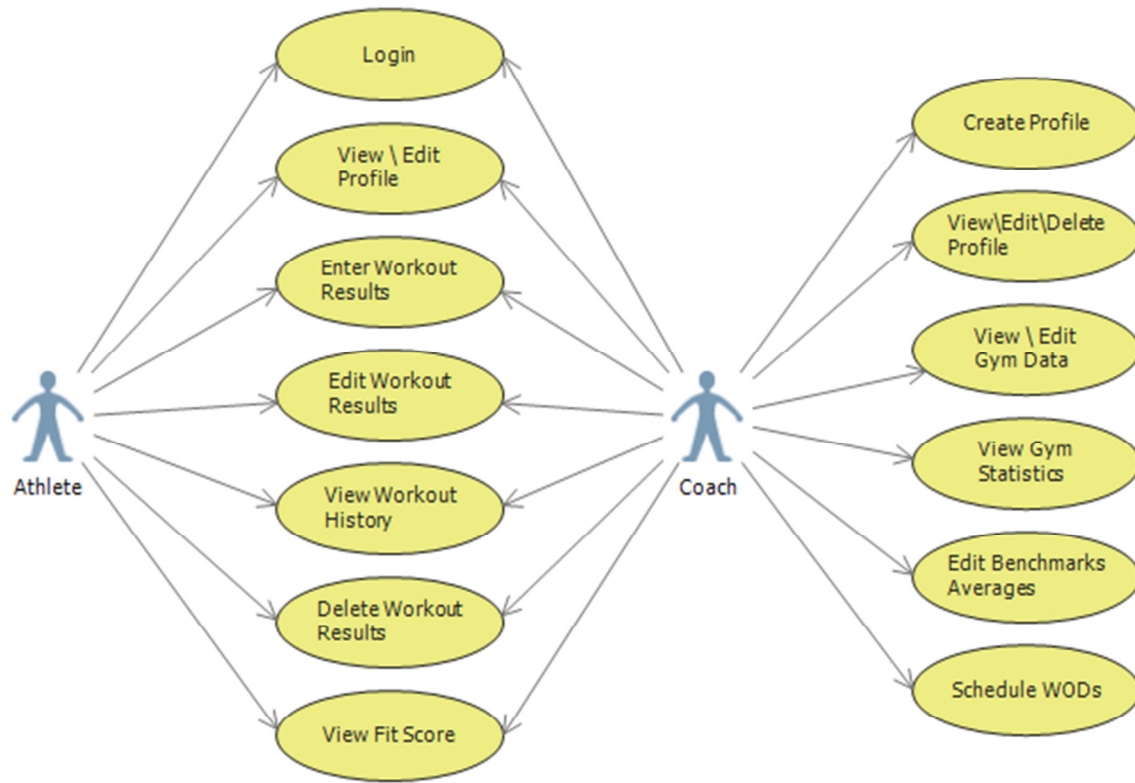
3.1.3 SQL Database Server

The SQL database server's role is to be the primary storage location for all gym and athlete data (e.g., raw workout scores and login credentials).
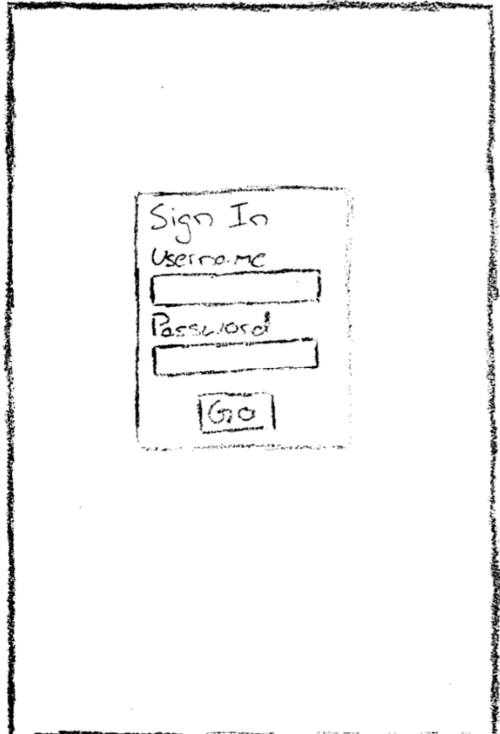
4 Schema Design

WODs are completed workouts

History

Attributes
+ body : Integer
+ body_c : Integer
+ Confidence : Integer
+ DateCompleted : Date
+ Endurance : Integer
+ Endurance_c : Integer
+ Fitscore : Integer
+ Heavy : Integer
+ Heavy_c : Integer
+ Light : Integer
+ Light_c : Integer
+ Long : Integer
+ long_c : Integer
+ Olympic : Integer
+ Olympic_c : Integer
+ PID : Personnel
+ power : Integer
+ power_c : Integer
+ Rx : Integer
+ score : Varchar(50)
+ Speed : Integer
+ Speed_c : Integer
+ Track : Integer
+ WID : Workouts

Operations

A profile will be a single record in the personnell table

Personnel

Attributes
+ Active : Boolean
+ Address : Text
+ City : Text
+ Class : Text
+ Created : Date
+ DOB : Date
+ Email : Text
+ FName : Text
+ HPhone : Text
+ ID : Auto Integer
+ LName : Text
+ OPhone : Text
+ Password : Text
+ Picture : Image
+ State : Text
+ Zip : Integer

Operations

Gym Information

Gym

Attributes
+ Address : Text
+ City : Text
+ Email : Text
+ Fax : Text
+ ID : varchar(50)
+ Name : Text
+ Phone : Text
+ State : Text
+ Zip : Text

Operations

History N — Personnel 1

Personnel N — Gym 1

Personnel 1 — Coaches 1

History 1 — Workouts 1

Coaches Definition

Coaches

Attributes
+ PID : Auto Integer
+ Start Date : Date
+ Title : Text

Operations

Workout Definitions

Workouts

Attributes
+ Category : Text
+ FMed : varchar(50)
+ FSTD : varchar(50)
+ Median : varchar(50)
+ Method : Integer
+ Name : Text
+ StdDev : varchar(50)
+ WorkoutID : Auto Integer

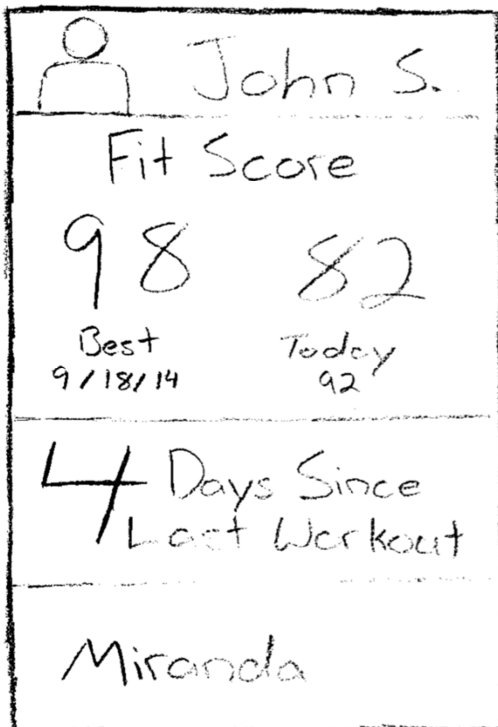**Operations**

5 Use Case Models

6 Prototypes

6.1 App Prototype

Login Screen
- First screen displayed when app is started.
- Use your credentials to access app's home screen.

Home Screen
- First page displayed once logged in the app.
- Displays your name, best and current FitScores, the number of days since your last logged workout, and your last workout.

☰ ⏻ FrogFit

Home
Log WOD
My WODs
Fit Score
Leader B.
Profile

Sign Out

Open Sidebar
- Side menu that allows you to navigate to different pages within the app.

Log WOD
☐ Today's WOD
| Search i |
WOD Name
Date: ☐ / / ☐
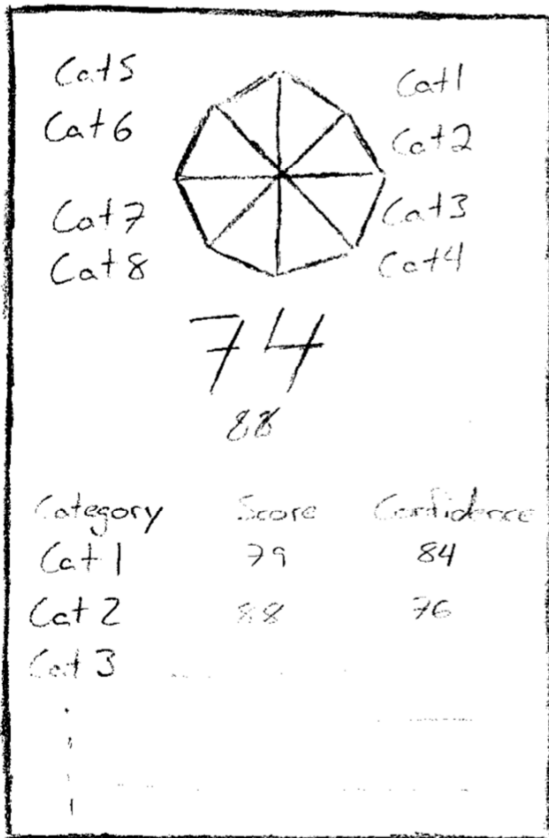Rx: ☐
Time: | ☐ |
Rounds: | ☐ |
Reps: ☐

| Submit |

Log WOD Screen
- Reached when you select Log WOD on the open sidebar.
- This screen allows you to log a WOD as an athlete.

My WODS Screen
- Reached by selecting My WODs in the sidebar.
- Displays the WODs that you have completed in the past.
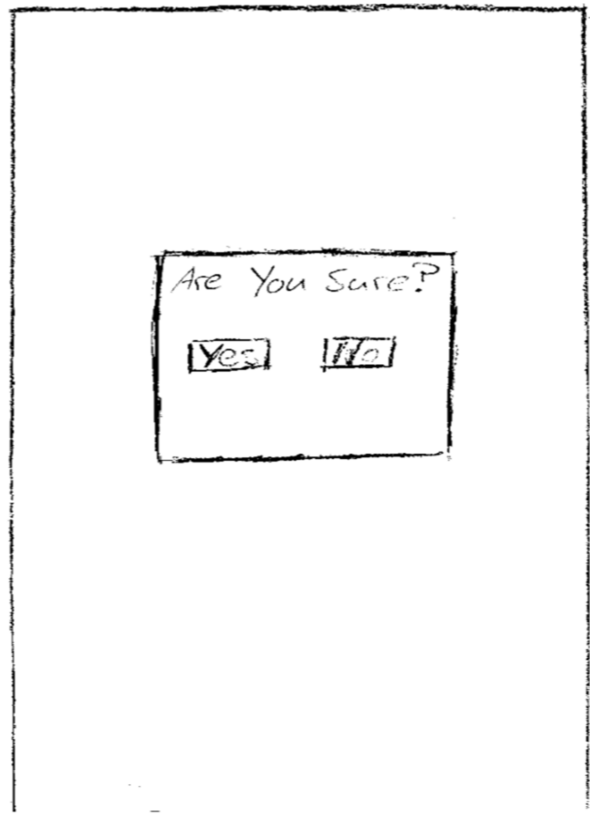

FitScore Screen
- Reached by selecting FitScore in the sidebar.
- Display's the athlete's overall FitScore along with the FitScore for each category.

Leeder Boords

Name | Score
John S. |
Bill M. |

Leaderboards Screen
- Reached by selecting Leaderboards in the sidebar.
- Display's the athletes that perform the best in the gym.

Are You Sure?

[Yes] [No]

Logout Screen
- Reached by selecting Logout in the sidebar.
- Brings up confirmation popup asking if you are sure you want to logout.

Login Screen

Actor	Athlete or Coach
Description	Athlete logs into the mobile application.
Triggers	Open mobile application

Home Screen

Actor	Athlete or Coach
Description	Displays FitScore data, days since last workout, name of last workout.
Triggers	Successful login attempt, pressing "Home" (see Sidebar Screen)

Sidebar

Actor	Athlete or Coach
Description	Displays buttons used to navigate throughout application.
Triggers	Pressing the menu icon at the top left of current screen or swiping from the left of the device.

FitScore Screen

|	
Actor	Athlete or Coach
Description	Displays FitScore data, confidence level data.
Triggers	Pressing "FitScore" (see Sidebar Screen)

Log WOD Screen

Actor	Athlete or Coach
Description	Provides an outlet to enter and submit WOD data.
Triggers	Pressing "Log WOD" (see Sidebar Screen)

| My WODs Screen	
Actor	Athlete or Coach
Description	Displays history of WODs completed sorted by date.
Triggers	Submitting a WOD from the Log WOD screen, pressing "My WODs" (see Sidebar Screen)

Leaderboards Screen	
Actor	Athlete or Coach
Description	Displays athletes in gym sorted by performance.
Triggers	Pressing "Leaderboards" (see Sidebar Screen)

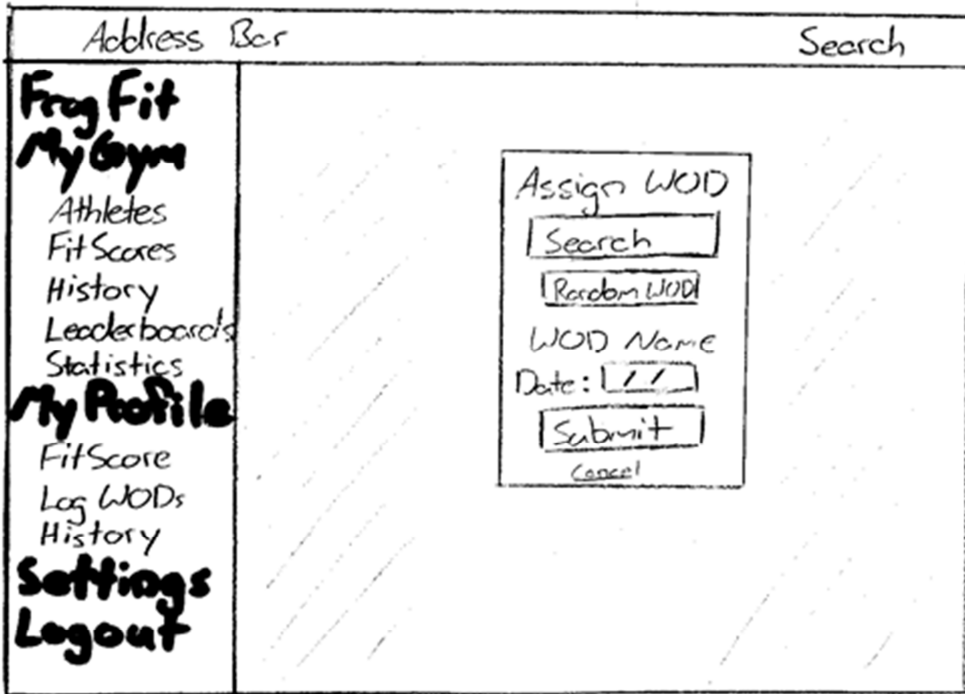| Logout Screen	
Actor	Athlete or Coach
Description	Displays "Are You Sure?" prompt for logout
Triggers	Pressing "Logout" (see Sidebar Screen)

6.2 Web Prototype
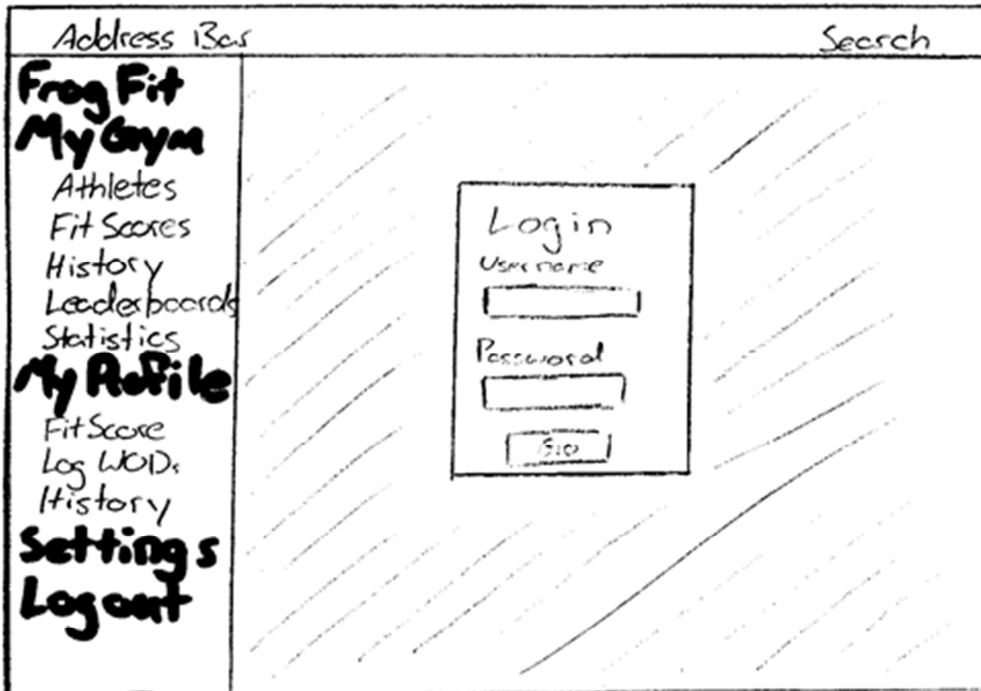
- **Login Page**- First thing you reach when accessing the site. Login to gain access to the rest of the site.
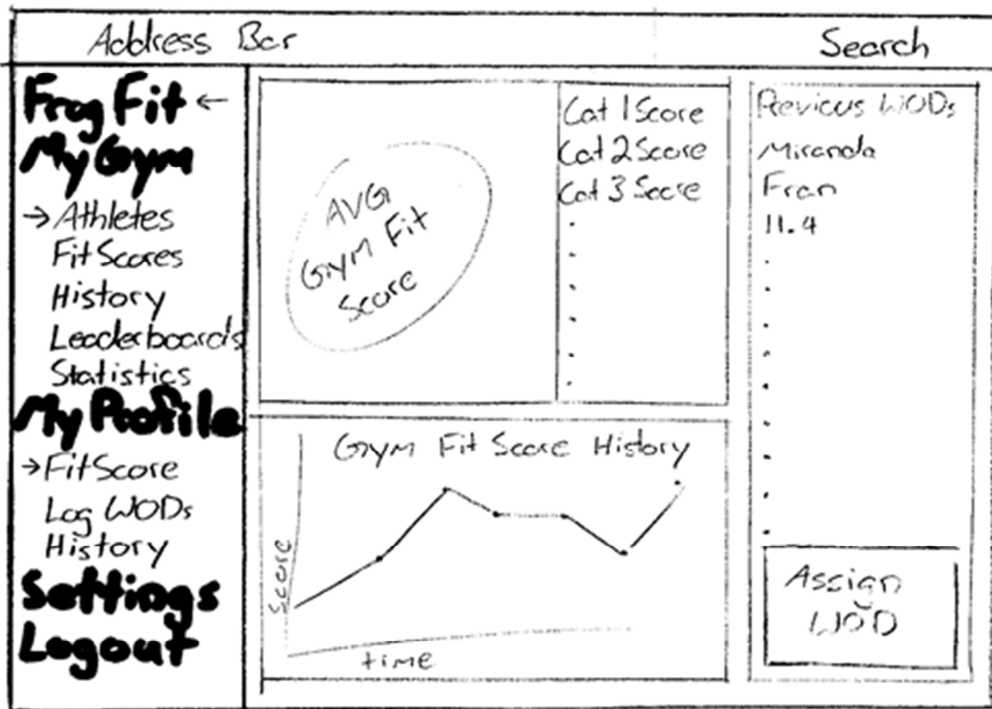

- **Home Screen-** Once logged in, this will be your initial screen.

- **Assign WOD Modal**- Reachable by clicking the "Assign WOD" button on the home screen. Allows user to assign WOD to athletes.
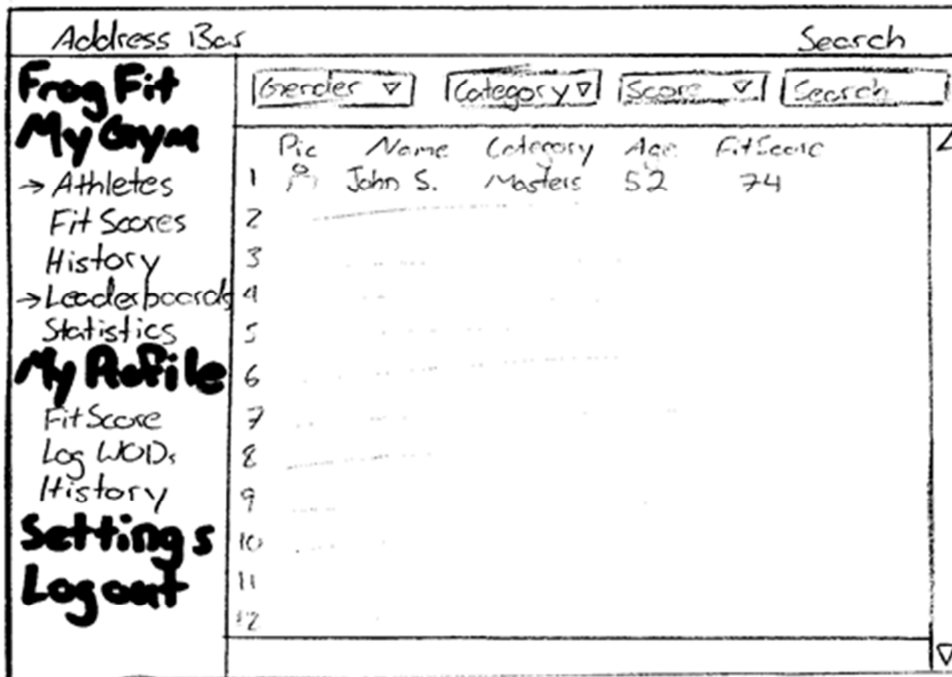

- **Athletes and Leaderboards** – Both the athletes and leaderboards page will be formatted this way. They will both list the athletes with their category, age, and FitScore. Clicking on the athletes name will give more details about the athlete.
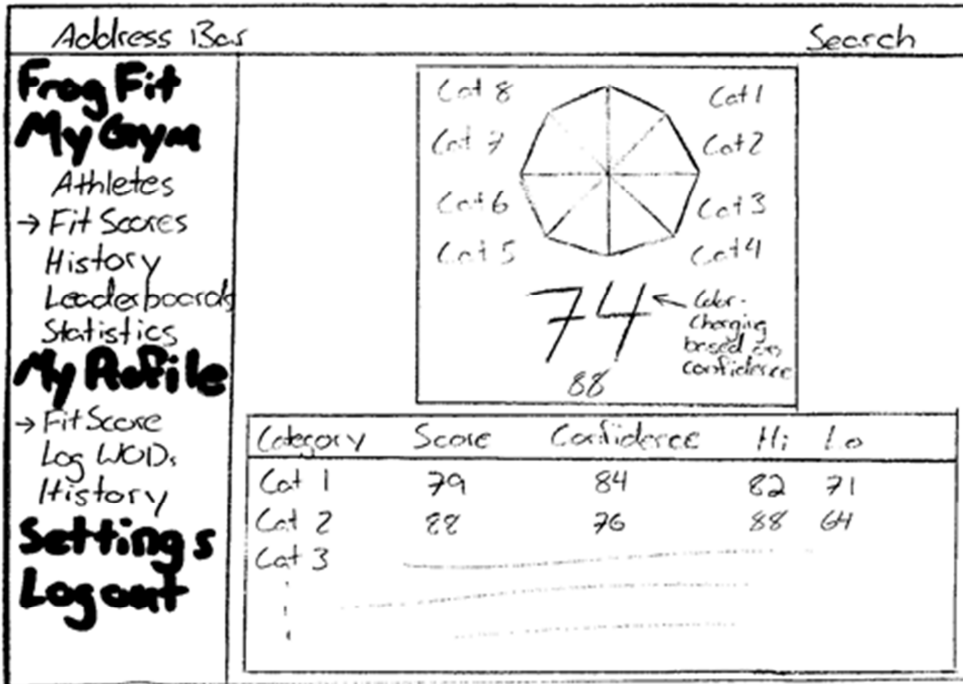
- **FitScore Screen** – Accessed by clicking the FitScore or FitScores button on the navigation bar. Displays the gym or athlete overall Fitscore breaking it down by category.
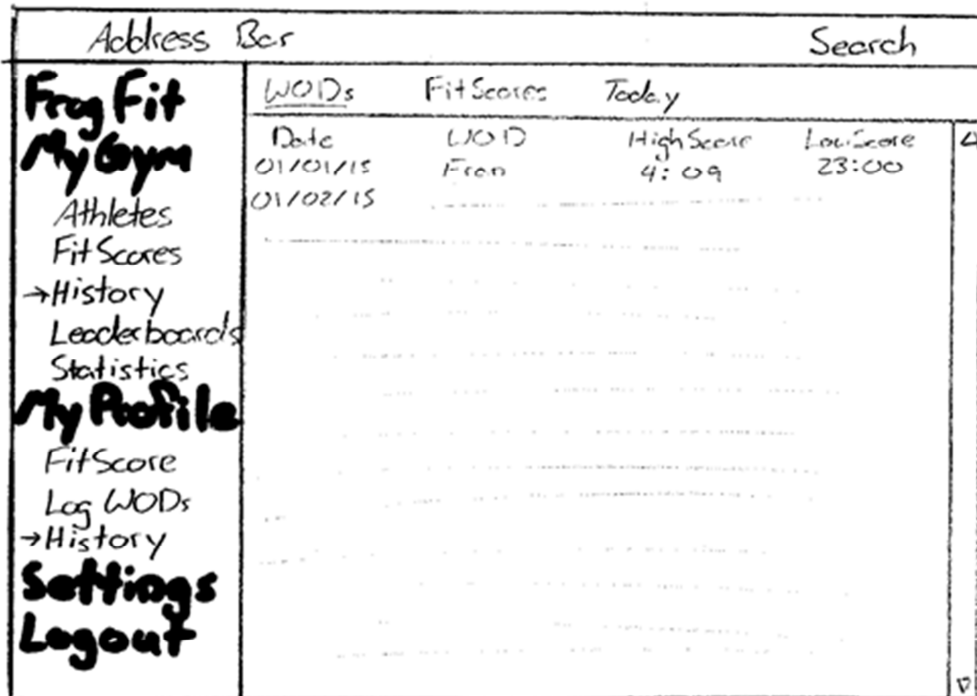
- **History Screen** - Reached by selecting History under either My Gym or My Profile. Display the previous WODs that have been completed, their date of completion, and the high and low scores of the WOD.
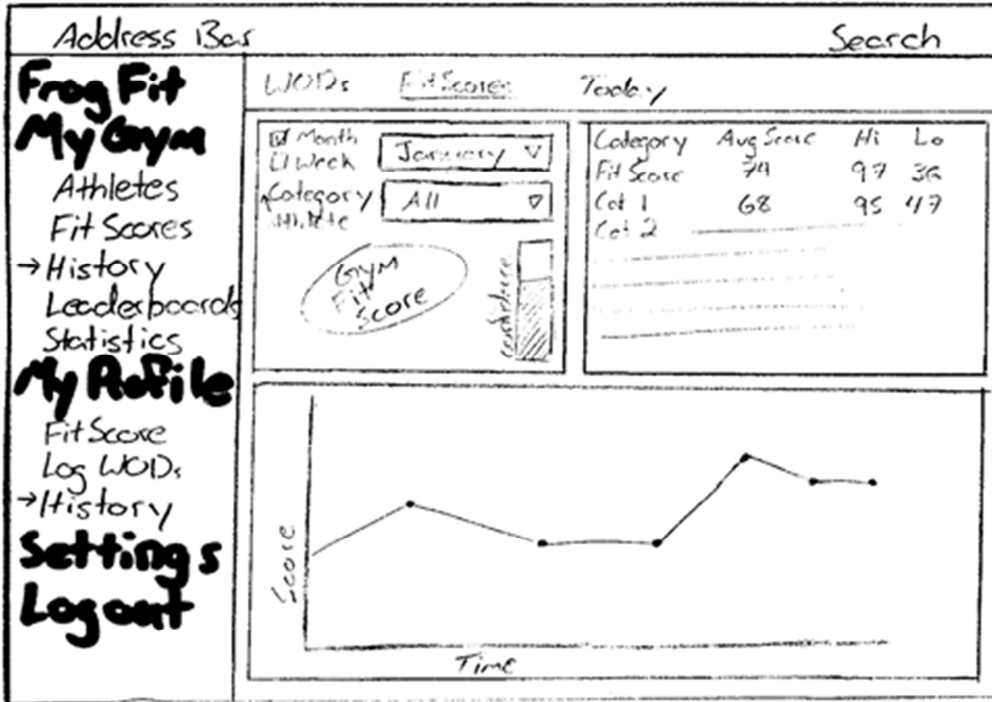
- **History Detail Screen** – Reached by selecting a WOD on the History page. This screen will give details about the selected WOD
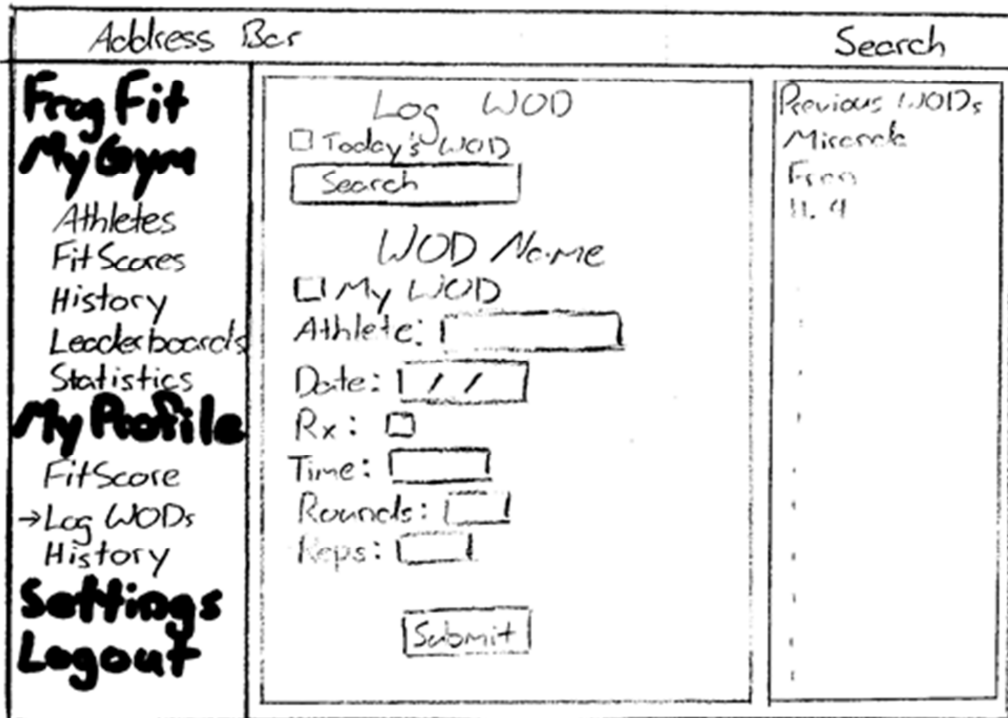
- **Log WOD Screen** – Reached by selecting Log WOD. Allows coaches to log a workout that has been completed by an athlete.
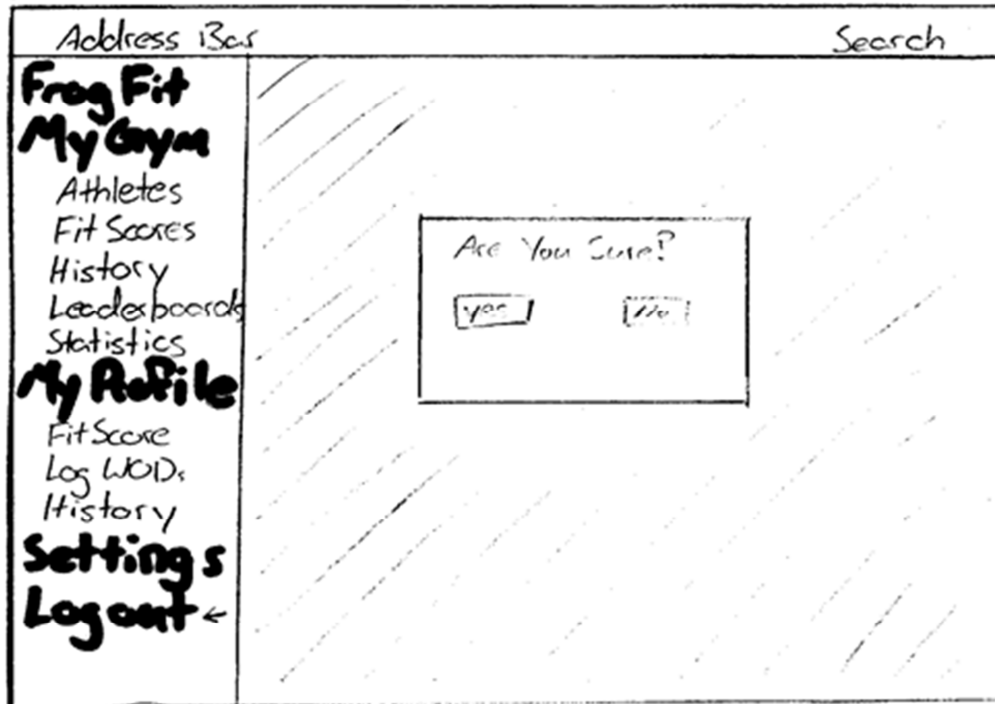
- **Logout Screen** – Reached when Logout is selected on the navigation bar. Confirms that you would like to Logout of FrogFit.

Login Screen	
Actor	Coach
Description	Coach logs into the web outlet.
Triggers	Navigating to FrogFit website.

Home Screen	
Actor	Coach
Description	Displays gym FitScore data, log of previous workouts.
Triggers	Successful login attempt, pressing "FrogFit" on sidebar.

Assign WOD Screen	
Actor	Coach
Description	Provides an outlet to designate a WOD for the gym.
Triggers	Pressing "Assign WOD" from the home screen.

Athletes Screen	
Actor	Coach
Description	Displays list of athletes with along with their basic data.
Triggers	Pressing "Athletes" on sidebar.

Leaderboards Screen

Actor	Coach
Description	Displays list of athletes with along with their basic data sorted by performance.
Triggers	Pressing "Leaderboards" on sidebar.

FitScore Screen

Actor	Coach
Description	Provides real time gym FitScore data along with categorical scores and confidence scores.
Triggers	Pressing "FitScore" on sidebar.

History (WODs) Screen

Actor	Coach
Description	Displays history of past assigned gym WODs along with basic scoring data for each WOD.
Triggers	Pressing "History" on sidebar then pressing "WODs" from the menu bar.

History (FitScores) Screen

Actor	Coach
Description	Displays an in depth view of gym FitScore history. (Can be arranged by week, month, year, etc.)
Triggers	Pressing "History" on sidebar. Then pressing "FitScore" from the menu bar

History (Today) Screen

Actor	Coach
Description	Displays real time WODs as athletes in the gym complete them.
Triggers	Pressing "History" on sidebar then pressing "Today" on the menu bar.

Log WOD Screen

Actor	Coach
Description	Provides an outlet to enter and submit WOD data.
Triggers	Pressing "Log WOD" on sidebar.

Logout Screen

Actor	Coach
Description	Displays an "Are You Sure?" prompt before logout.
Triggers	Pressing "Logout" on sidebar.

7 Glossary of Terms

Administrative Web Portal - Internet web page that gym owners\managers use to update the content on their FrogFit site.

Android - An open-source operating system used on mobile devices.

ASP.NET MVC – Open source web application framework used to create applications.

Benchmark Workout – Workout designed to measure and benchmark an athlete's performance and improvements through repeated and irregular appearances in a workout of the day. Benchmark workouts can be in one of the categories; Girls, Heroes, Notables.

Categories – There are eight fitness categories that are considered when creating an overall fitness score.
- Body Weight
- Endurance
- Heavy Weight
- Light Weight
- Long
- Olympic Lift
- Power Lift
- Speed

Class – Classification system for athletes. The classifications include Beginner, Intermediate, Advanced, and Master.

CoRD – A remote desktop application used on Macs.

Crossfit - Strength and conditioning program that is by design broad, general, and inclusive.

Microsoft SQLServer - A relational database system designed for business or enterprise environments.

Remote Desktop Connection – is one of the components of Microsoft Windows that allows users to take control of a remote computer or virtual device over a network connection.

REST – (REpresentational State Transfer) is an architectural style that is used in the development of light-weight Web services.

Rx – When a workout is completed "as prescribed" by the coach. This includes doing the correct movements, weight, and rounds. Also known as, Rx'd.

Web API – An application programming interface for both the webserver and web browser that allows retrieval of structured data.

WinSCP – is a secure FTP client for Windows with features that include FTP, SSL/TLS, SFTP via SSH, and HTTP/HTTPS support.

WOD – (Workout of the Day) A set of movements that athletes will complete for a given day.