

# Requirements and Analysis Document for training tracking app (android)

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version 1

## 1 Introduction

Moving past the time of the Corona pandemic and lockdowns, people start to get back to the gym. Therefore the demand for fast and agile training apps increases. The app provided by AEY investment group aims to give both experienced and inexperienced gym attendees. The tool to help with planning and tracking of workouts and progression. Through a sleek UI and easy functionality the aim is to, through the app, motivate the user to a more active lifestyle.

### 1.1 Definition, acronyms, and abbreviations

- PB/PR "Personal best/Personal record"
- reps "repetitions"
- sets "is the multiplier of repetitions separated by rest ex. 3 sets of 12 repetitions"
- 1-rep max "what is the heaviest someone can lift only 1 time"

## 2 Requirements

### 2.1 User Stories

#### **S1: Workout plan**

##### **Implemented**

- Yes/No

##### **Description**

As a user, I want to make a workout plan that contains x amount of workouts.

##### **Confirmation**

##### **Functional**

- Can I name my workout plan?
- Can I add/delete a workout plan?
- Can I see previously saved workout plans?
- Can I make changes to a saved workout plan?
- Can I add/delete workouts from the workout plan?

##### **Non-functional**

- User goes through a wizard-like process to create the workouts.
- I can delete workouts by swiping left then pressing the minus sign
- Creating and saving a workout plan should take no longer than [INSERT REASONABLE TIME HERE ]

#### **S2: Workouts**

##### **Description**

As a user, I want to be able to create workouts and add them to workout plans. I want to be able to add exercises, sets and reps to these workouts.

##### **Confirmation**

##### **Functional**

- Can I name my workout?
- Can I create workouts and add them to a workout plan?
- Can I delete a workout from the plan?
- Can I make changes to a preexisting workout?
- Can I add/delete exercises to workouts?

##### **Non-functional**

- I can delete exercises by swiping left then pressing the minus sign
- Creating and saving a workout should take no longer than [INSERT REASONABLE TIME HERE]

### **S3: Exercises**

#### **Implemented**

- Yes/No

#### **Description**

As a user, I want to be able to create exercises and add them to workouts. I also want the exercises to be stored in a database so that I can reuse them(when adding to workout).

#### **Confirmation**

##### **Functional**

- Can I add/delete exercise?
- Can I give a name to the exercise?
- Can I save the exercise for future use?
- Can I specify sets, reps, rest time for each exercise?

##### **Non-functional**

- Storing data should be done automatically.
- Creating and saving an exercise should take no longer than [INSERT REASONABLE TIME HERE]

### **S4: Current Workout**

#### **Implemented**

- Yes/No

#### **Description**

As a user, I want to create a current workout session where I can input data (weight, rep, sets) for each exercise.

#### **Confirmation**

##### **Functional**

- I can start a current workout by choosing a workout plan and then a workout from that plan.
- I can change information about the exercise such as sets, reps and weight during my workout.
- I can add exercises that weren't originally in the workout.
- Time that has passed since workout has started should be displayed(in minutes/seconds, and maybe hours/minutes/seconds eventually)
- After finishing a workout, the workout should be saved automatically.

##### **Non-functional**

- Finishing and saving a workout should be done within 5 seconds.(maybe to generous?)

### **S5: Saving PB's**

#### **Implemented**

- Yes/No

#### **Description**

As a user, I want to save my PB's and write down the date, weight and (reps?) as well as what exercise.

#### **Confirmation**

##### **Functional**

- I can add and update personal PB's for my account.
- After finishing a workout the app will check automatically if I have achieved a new PB on any exercise.

## **Non-functional**

### **Availability**

### **Security**

- Are other users able to see my PB's?

## **S6: PB graph**

### **Implemented**

- Yes/No

### **Description**

As a user, I want to see the progress of my PB's through a graph.

### **Confirmation**

### **Functional**

- Use the PB-data from an exercise and display it as a graph.

### **Non-functional**

### **Availability**

- The relevant PB-data can be accessed at the history tab

### **Security**

- Are other users able to see my graphs over PB's?

## **S7: Calculating 1-rep max**

### **Implemented**

- Yes/No

### **Description**

As a user, I want to be able to calculate my 1-rep max.

### **Confirmation**

### **Functional**

- Use a calculator and the following algorithm (insert here) to easily show the 1-rep max?
- A part of our PB section?

### **Non-functional**

- The user has 2 input boxes to write nr of reps and weight. The calculator shows the corresponding 1-rep max as output.

### **Availability**

### **Security**

## **S8: About Us page**

### **Implemented**

- Yes/No

### **Description**

As developers, we want to be seen in suits on our 'About Us' page.

### **Confirmation**

### **Functional**

- Can I find and view an "about us" page?
- Is there relevant information on this page?

### **Non-functional**

### **Availability**

### **Security**

**Story Identifier: S9**

**Story Name: Workout presets**

**Implemented**

- Yes/No

**Description**

As a user, I want to be able to copy certain workouts both from a set of standard workouts or other famous workout presets

**Confirmation**

**Functional**

- Have a (database) with standard and other known workout presets
- Ability to swap between workout presets

**Non-functional**

- These could be available at the same place as the user created workouts/exercises

**Availability**

**Security**

**S10: Setting options**

**Implemented**

- Yes/No

**Description**

As a user, I want to be able to change different settings.

**Confirmation**

**Functional**

- Can I change the color theme?
- Can I change measurement units?
- Can I change the app based on acceptability problems, like color blindness?

**Non-functional**

- The settings will be available at the settings tab. A usage of checkboxes or some other input box will be used for the different setting options.

**Availability**

**Security**

**S11:Startpage**

**Implemented**

- Yes/No

**Description**

As a user, i want to get some fun and inspiring information from the apps startpage

**Confirmation**

**Functional**

- Can I view a graph of some interesting performance of past workouts?
- Can I get some inspirational quotes/texts?

**Non-functional**

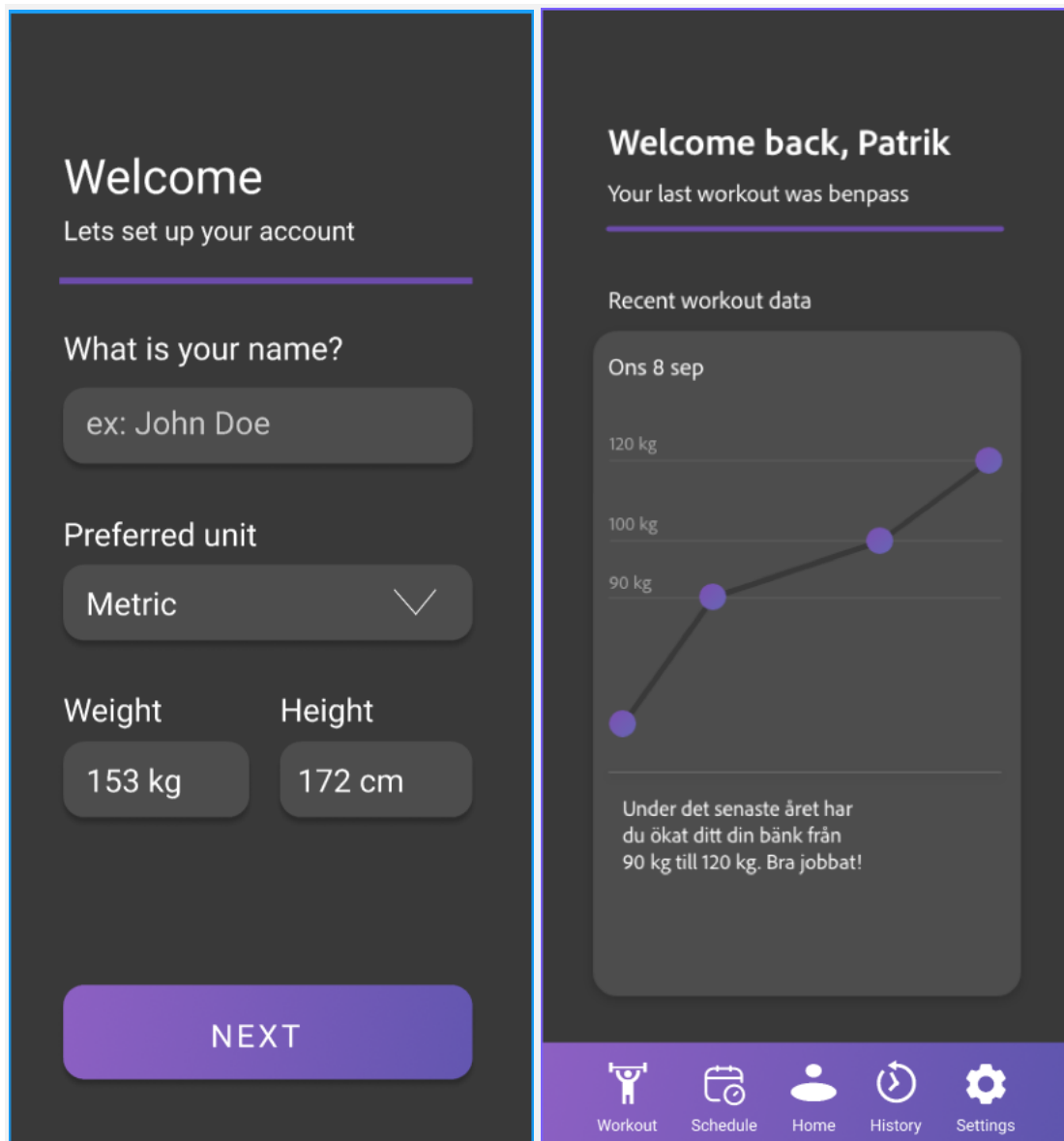
**Availability**

**Security**

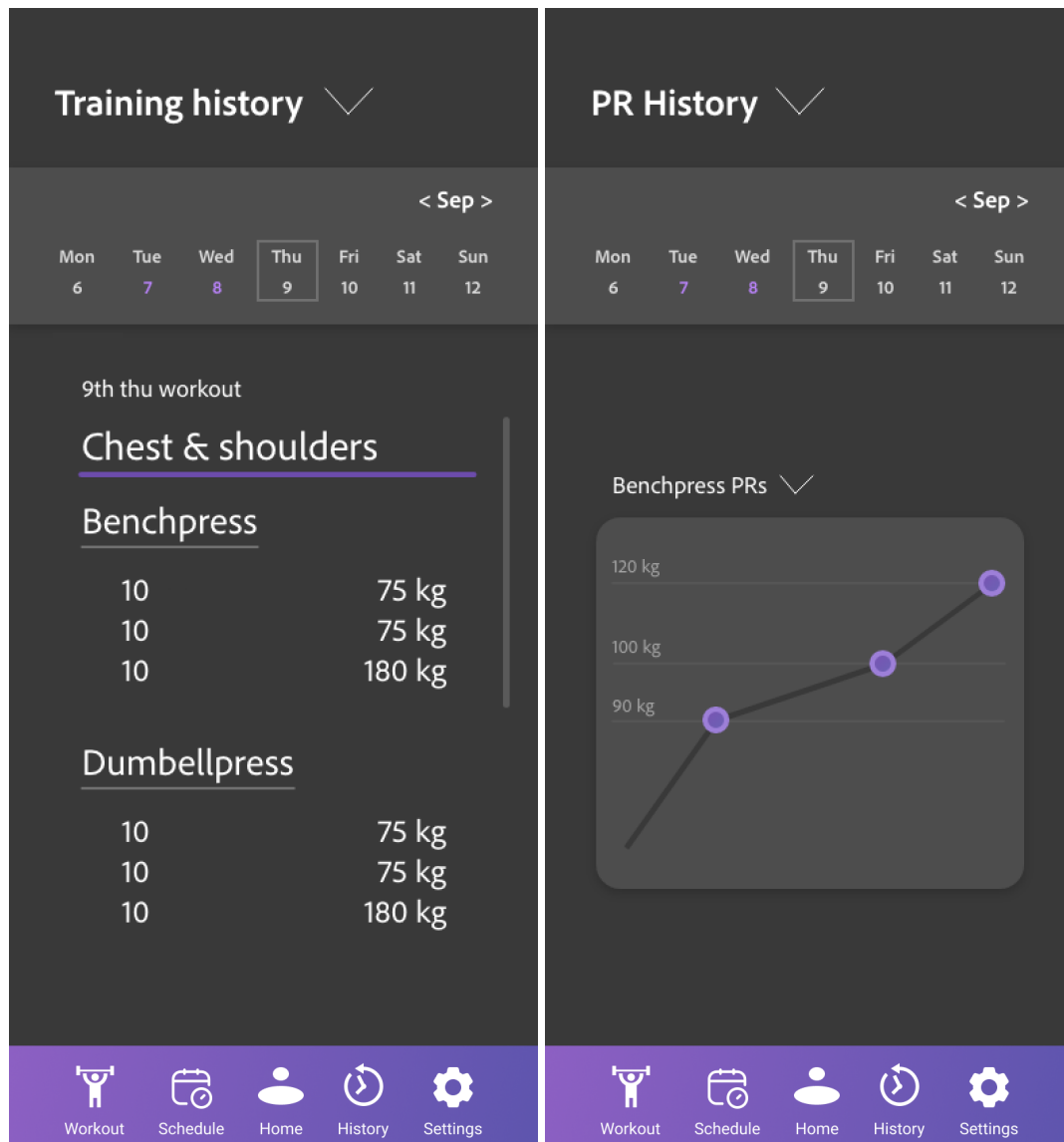
## 2.2 Definition of Done

- All the acceptance criterias are met for the user stories
- All the co-authors to the user stories commits are given
- The user story-specific code is merged to the main branch
- The code should be executable
- The code should be documented

## 2.3 User interface

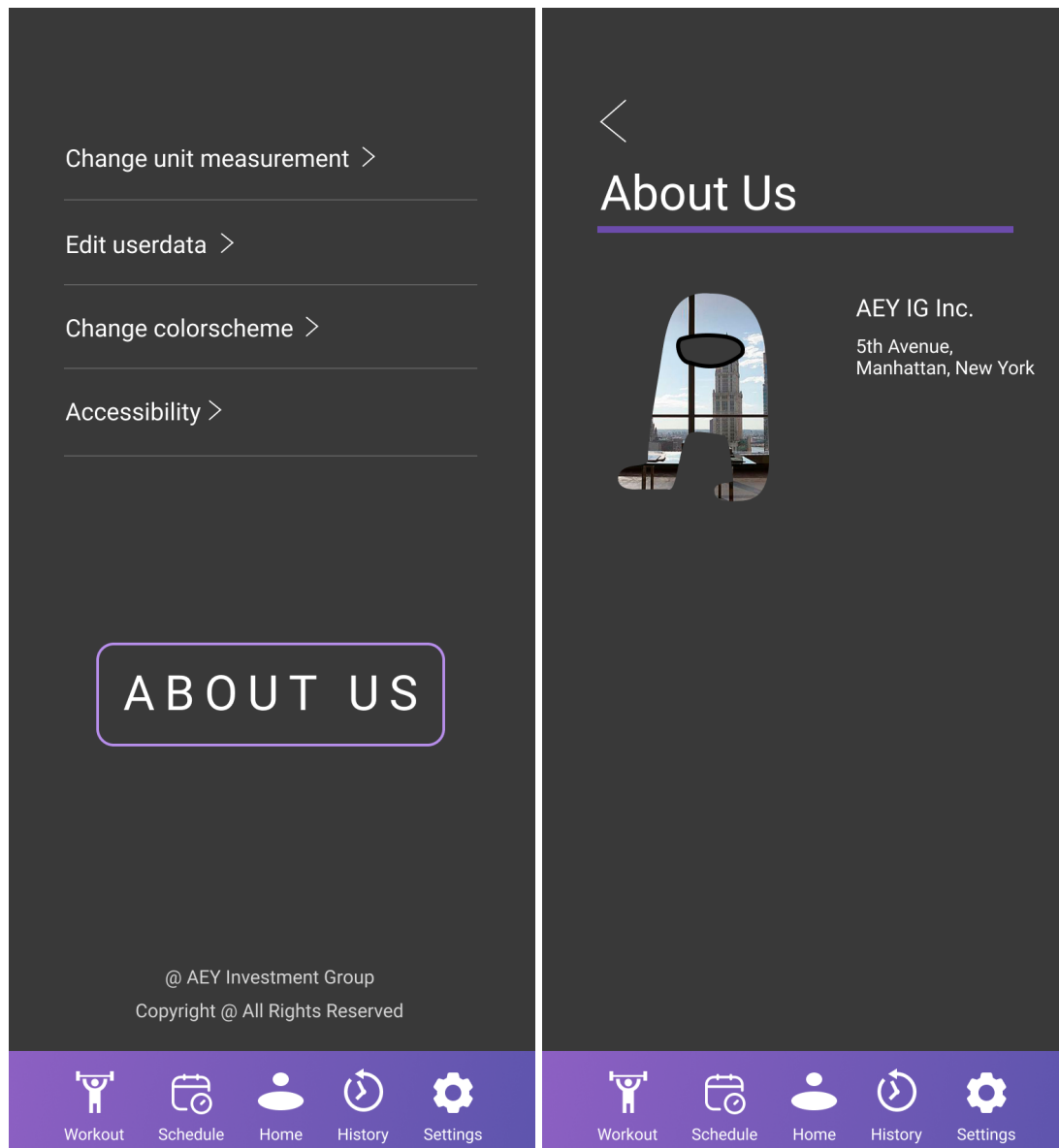


The first time using the app, the user needs to provide some information (left). The application is divided into 5 tabs as seen in the bottom navigation menu (right). The one in the picture is the "Home"-tab and provides some motivating information.

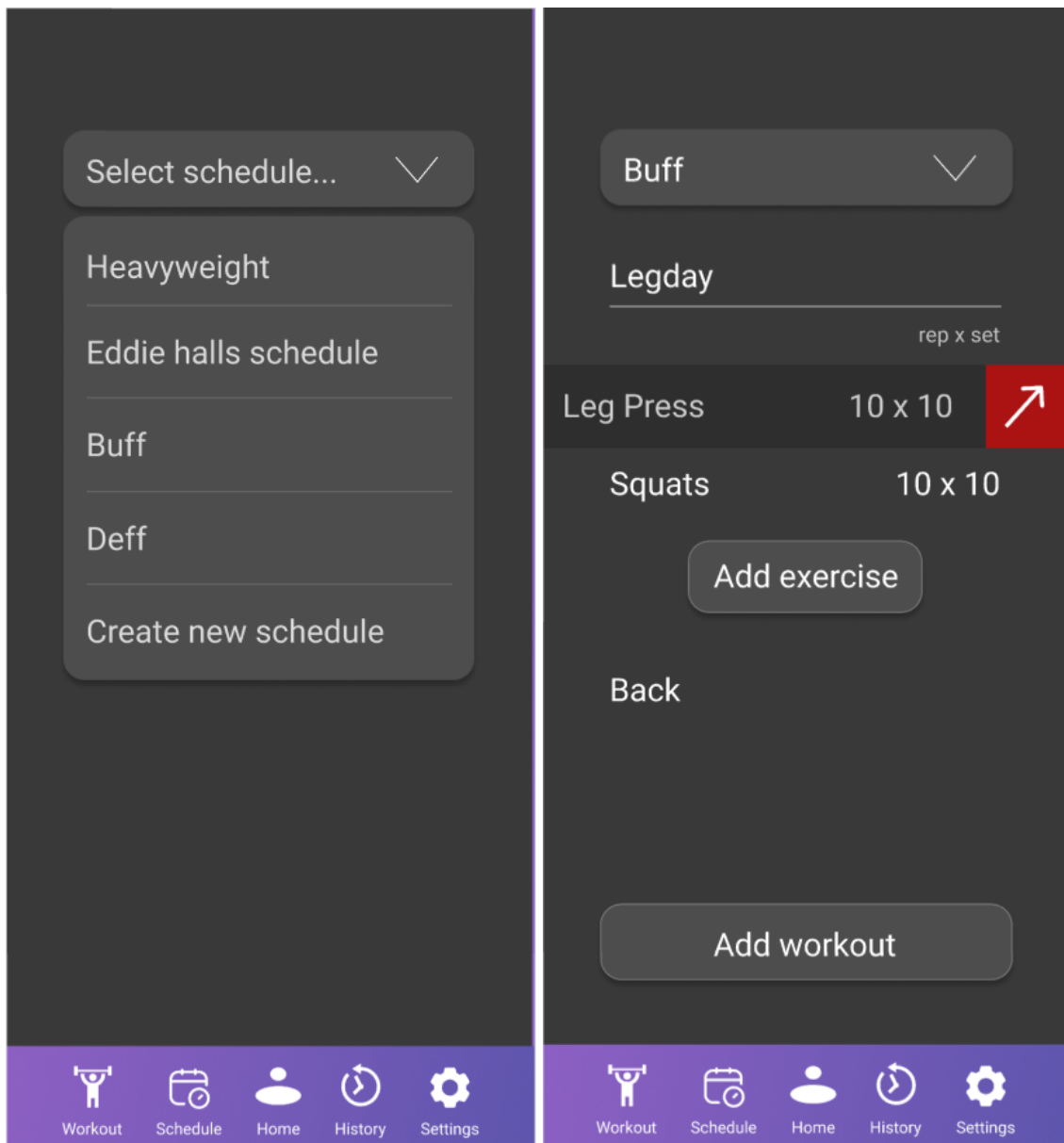


These two pictures show the view in the “History”-tab. The user can alternate between training history (left), which shows the workout performed on a specific date and pr history (right), which shows the pr-progression (pb).

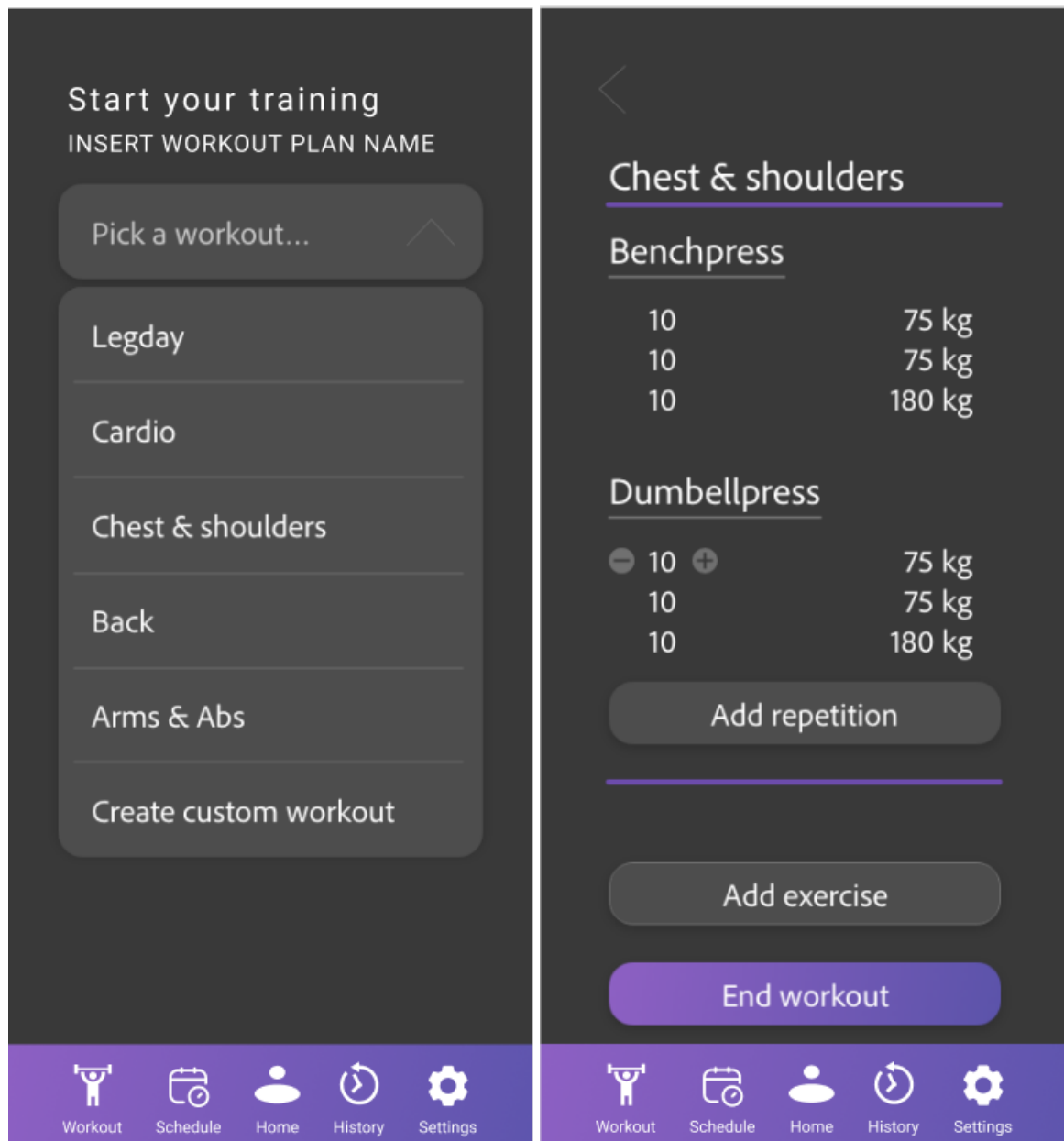




This view shows the “Settings”-tab (left) and “About us”-tab (right). In settings the user is able to change some variables presented in the picture above.

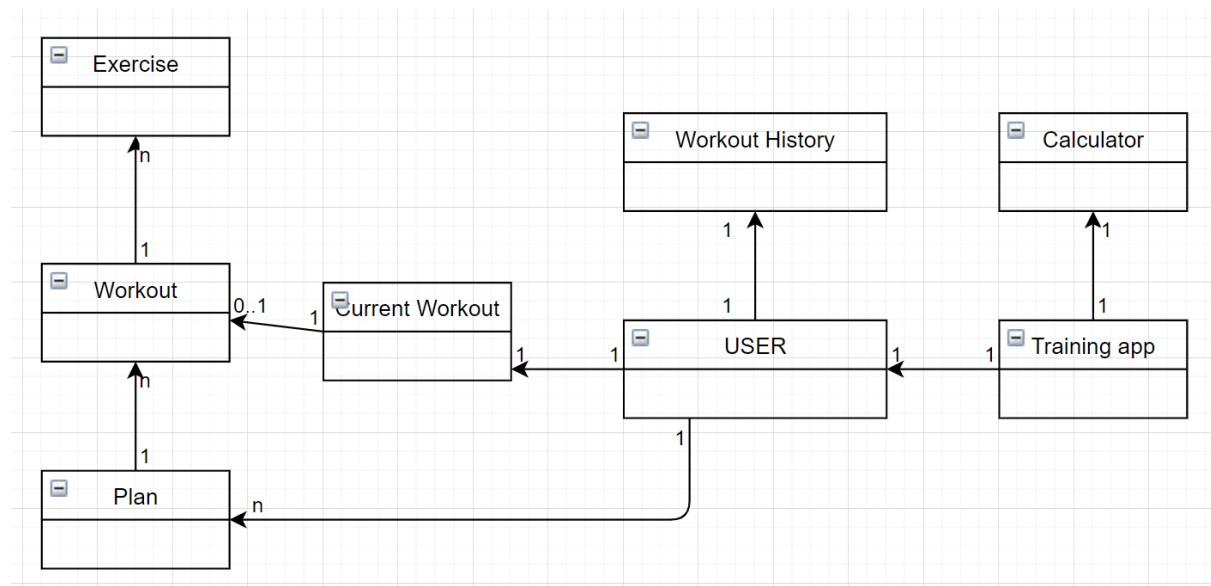


This is the "Schedule"-tab. Here the user can create a new schedule or enter previously saved ones (left). When pressing to either enter an existing or creating a new schedule, the user is presented with options to add new workouts and furthermore exercises inside these workouts (right).



This is the “Workout”-tab. At first the user is presented by a list of available workouts based on the preplanned plan from the schedule (left). After selecting a workout, all the exercises are displayed in that workout (right). In this stage the user can edit weights and reps depending on how the actual workout went. If the user detours from the workout, the option to add exercises to the current workout is available. This does not affect the original exercises saved in a workout.

### 3 Domain model



#### 3.1 Class responsibilities

**Training app** is supposed to act as a datahandler that connects all the pieces of the model and makes it easy to pass it along to the different viewmodels.

**USER** is seen as a step down from **Training app**. It connects all the classes that handle everything from creating a workoutplan to storing it in the **Workout History**.

**Plan** are the base for a schedule of actual workouts. One **Plan** is made out of one or more workouts.

**Workout** is the building block for plans. In turn, **Workout** is made out of one or more **Exercise**.

**Exercise** is the bottom building block for a **Plan**. Here is information of what exercise, and how to perform it through sets and reps, given.

**Current Workout** acts as a copy of a selected **Workout** in progress by the user. This is because the user can give more information about how the workout actually played out, and therefore the app should not edit the originally saved **Workout**. Some information that can change/be added in **Current Workout** is the number of reps the user could do (maybe not the same as the original **Workout** due to fatigue etc.). Also what weight was used and if the user decided to add an **Exercise** not pre planned.

**Workout History** is supposed to handle the logic of displaying the completed **Current Workouts** in a way that is seen in the 2.3 *User Interface* chapter at the “History”-tab.

**Calculator** is a simple class that calculates the possible 1-rep max from a formula that takes the amount of reps and the weight that was used.

## 4 References

- **Circle Ci**
  - Used for continuous integration, alternative to travis
  - <https://circleci.com/>
- **Figma for prototyping**
  - Prototyping tool
  - <https://www.figma.com/>
- **Google DrawIO**
  - Diagram software used for UML, domain model
  - <https://app.diagrams.net/>
- **Android studio (IDE)**
  - Integrated development environment for Google's Android operating system
  - <https://developer.android.com/studio>
- **JUnit**
  - Unit testing framework for the Java programming language.
  - <https://junit.org/junit5/>
- **Gradle**
  - Build tool used with Android Studio
  - <https://gradle.org/>