

Software Engineering Group Projects – User Interface Specification

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CONTENTS

Software Engineering Group Projects – User Interface Specification	1
CONTENTS	2
1. INTRODUCTION	3
1.1 Purpose of this document	3
1.2 Scope	3
1.3 Objectives	3
2. TYPICAL USERS	3
2.1 Beginner users.....	3
2.2 Experienced users.....	3
2.3 Elderly users	3
3. USE CASES	4
3.1 Beginner users.....	4
3.1.1 Starting the program.....	4
3.1.2 Configuring a workout	4
3.1.3 Accessing preconfigured workouts	4
3.1.4 Going through a workout	4
3.1.5 Pausing a workout.....	5
3.1.6 Resuming a workout.....	5
3.1.7 Viewing workout history.....	5
3.2 Experienced users.....	5
3.2.1 Accessing higher intensity or HIIT workouts.....	5
3.3 Elderly users	5
3.3.1 Accessing LIIT(Low Intensity Interval Training) workouts.....	5
4. ERROR CONDITIONS	6
4.1 Losing power whilst using the app.....	6
4.2 Human error when inputting data.....	6
4.3 User force exiting the program.....	6
5. REFERENCES.....	6
6. DOCUMENT CHANGE HISTORY	7

1. INTRODUCTION

1.1 Purpose of this document

The purpose of this document is to provide our group with an outline of the types of users which are likely to use our program, what use cases our users would need to carry out, how our User Interface will allow them to do so and any error conditions that may arise. This will help our group in the Design section of the project.

1.2 Scope

This document specifies the different types of typical users that may use our program, what are the potential use cases they may need to carry out with descriptions of how they would do that in the User interface and the potential error conditions that may occur when a user has the program running.

1.3 Objectives

The main objective of this document is to help the group understand the requirements of the system that is going to be built and indicate a clear path for what the user can see or do at any point while interacting with the program.

2. TYPICAL USERS

2.1 Beginner users

Emily is completely new to exercising and therefore has only a rudimentary knowledge. She uses the program to show her how to perform exercises properly and keep time for her working/resting sequences. However, Emily is a busy person and one of her requirements is that she can pause the workout whenever she may need to take a business call.

2.2 Experienced users

John is experienced in exercising and works out every day, because of this he often finds it difficult to think of new and fun workouts. He uses the app to configure his own workouts and uses the preconfigured workouts section to find HIIT workouts for him to do.

2.3 Elderly users

Anna is an elderly woman and uses the app to guide her through a low intensity workout that is preconfigured by the program. She likes to use the workout history to see the previous workouts she has done.

3. USE CASES

3.1 Beginner users

3.1.1 Starting the program

When the user starts the program, they will be met with the “Home” screen, this screen has two buttons labelled “Choose Preconfigured workout” and “Configure your own workout” which is how the user will start a workout (see 3.1.2 and 3.1.3). The home screen also contains a “Previous Workouts” section with some of the most recent workouts that have been done on the program and it contains a small key which allows the user to see what each colour will signify once the workout has started.

3.1.2 Configuring a workout

Configure your own workout by clicking the “Configure your own workout” button. The user will then see the “Configure Your Workout” page and will have to enter how many exercises they want to do, the working and resting times and how long a break (if any) they want in the middle of the workout, they would then have to press the “Configure workout” button and they will be sent to the “Exercise Overview” screen and ready to start their workout.

3.1.3 Accessing preconfigured workouts

To access a preconfigured workout the user will have to click the “Choose preconfigured workout” button on the home screen, then they'll be met with the “Preconfigured Workouts” screen and will have to choose between multiple different types of workout ranging from Beginner to HIIT workouts which have descriptions of the number of exercises and the working and resting sequences. They would choose a workout by clicking on it, once they have chosen a workout they will be sent to the “Exercise Overview” screen where they can begin their workout.

3.1.4 Going through a workout

The user will be able to start a workout by either choosing a preconfigured workout (see 3.1.3) and then pressing the “Start Workout” button on the “Exercise Overview” screen, or they choose the configure their own workout (see 3.1.2) and press the “Start Workout” button from the “Exercise Overview” screen. Once the workout has been started the user will be guided through a warm-up stage. The warmup will consist of a few low level exercises/stretchers which will be performed over a 3 minute time period, the user will be able to see the current exercise they should be doing demonstrated on the screen. The user will be guided through a cooldown once they have completed the workout, Once the user has gone through all of the working exercises in the workout they'll be guided through a 3 minute cooldown period where they'll perform some stretches in order to prevent injury, each stretch will be demonstrated on the screen so the user knows what they're doing. Whilst the user is going through the warmup, working exercises or

cooldown stage they will be able to see how long that stage will continue for, what the current exercise they should be carrying out is and a video demonstration of the proper form for this exercise.

3.1.5 Pausing a workout

To pause a workout the user will have to first start a workout (see 3.1.4). Once the workout has started the user will be able to pause the workout whenever they want by simply clicking the “Pause Workout” button displayed near the bottom of the screen. Once the workout is paused the video demonstration of the exercise will have a red border around it.

3.1.6 Resuming a workout

The user will be able to resume a workout when it is paused (see 3.1.5) by simply clicking the “Resume Workout” button near the bottom of the screen. Once the workout is resumed the video demonstration will return to having a green border around it to signify it’s the current exercise.

3.1.7 Viewing workout history

Being able to look at your most recent workout history displayed at the bottom of the home screen. They will also be able to click the “Workout History” heading and be sent to the “Workout History” page, where all their previous workouts are displayed monthly in reverse chronological order. The user will be able to open and close each month as a tab and if they click on a specific workout, they will be sent to a screen with all the information of that workout and the exercises it contained.

3.2 Experienced users

3.2.1 Accessing higher intensity or HIIT workouts

The user will be able to access preconfigured, higher intensity workouts by pressing the “Choose preconfigured workout” button mentioned in 3.1.2. They will then have to open the “HIIT Workouts” tab which contains multiple High Intensity workouts and select whichever workout they want.

3.3 Elderly users

3.3.1 Accessing LIIT(Low Intensity Interval Training) workouts

The user will be able to access lower intensity workouts tailor made for people with less physical functionality by choosing the “Preconfigure workout” button and then choosing a workout from the “LIIT Workouts” tab, then starting the workout as explained in 3.1.3.

4. ERROR CONDITIONS

4.1 Losing power whilst using the app

A possible error condition would be that all power is shut off while the app is running and data could be lost, we will combat this by implementing persistent storage so that the data will persist in memory after a power interruption.

4.2 Human error when inputting data

If the user is given a choice to input data with no boundaries there is a chance Human error could become a problem. We have designed our UI with sliders that have appropriate minimum and maximum values that can be chosen, this vastly decreases the chances of a Human error from potentially breaking the program.

4.3 User force exiting the program

A problem may arise with data loss if the user force exits the program voluntarily while a workout is going on. We will combat this by saving data during each rest sequence. This way if the user exits the program voluntarily during a workout, they will still have all the exercises up to that point saved.

5. REFERENCES

- [1] QA Document SE.QA.02 - General Documentation Standards
- [2] QA Document SE.QA.04 – User Interface Specification Standards
- [3] QA Document SE.QA.03 – Project Management Standards

6. DOCUMENT CHANGE HISTORY

<i>Issue Number</i>	<i>Version</i>	<i>Date</i>	<i>Changes Made</i>	<i>Changed by</i>
N/A	V 0.1	3rd February	Thought of typical users and use cases.	keg21
N/A	V 0.2	7th February	Added more descriptions to the use cases.	keg21
N/A	V 0.3	10th February	Added more typical users and use cases.	tak17
N/A	V 0.4	17th February	Finalised the Document after checking what use cases couldn't be implemented with the group and discussing possible error conditions.	keg21
1	V 0.5	21 st February	After the review meeting, I was presented with issues that needed changing on GitLab which were reformatting the document and adding use cases for the warmup and cooldown requirements.	keg21
4, 5 and 6	V 1.1	7 th March	After receiving feedback from Chris, I opened issues on GitLab and implemented the changes he suggested.	keg21