**Software Engineering Group Project 10 -  
Test Specification**

Author: [ahz1] & [bas22]

Config Ref: SE.QA.06

Date: N/A

Version: 0.1

Status: Draft

Department of Computer Science

Aberystwyth University

Aberystwyth

Ceredigion

SY23 3DB

Copyright © Aberystwyth University 2020

**CONTENTS**

[1. INTRODUCTION](#_k51b7bjfdbxp) **3**

[1.1. Purpose of this Document](#_p7jr1us89jzc) 3

[1.2. Scope](#_d652t8bknpdo) 3

[1.3. Objectives](#_fa69rckid93b) 3

[2. TEST PROCEDURE](#_c6ultmbrm66i) **3**

# **1. INTRODUCTION**

## **1.1. Purpose of this Document**

In this document we will be displaying the repeatable tests to be used by the team when programming the application, it will guide you through how each test should be conducted and the expected pass criteria?

## **1.2. Scope**

This document covers the test specification, test procedures have been written and should be read by all project members who have any relation to QA.06 [1]. Readers should also familiarise themselves with QA.08[2].

## **1.3. Objectives**

The objectives of this particular document are:

* to specify in detail each of the system tests to be executed as part of a formal test process
* to describe what system tests need to be carried out to cover all the major functions of the application

# **2. TEST PROCEDURE**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| *Test Ref* | *Req Being Tested* | *Test Content* | *Input* | *Output* | *Pass Criteria* |
| SE-F-001 | FR 1 | Check the system can start with a pre-existing set of exercises | Choose pre-existing configuration settings choice upon prompt | Screen transitions to choosing whether or not to start | FR 3 begins within 1 second of input |
| SE-F-002 | FR 1 | Check the system can start with a user-configured set of exercises | Choose to configure your own configuration upon prompt | Screen transitions to configuring a set of exercises | FR 2 begins 1 second of input |
| SE-F-003 | FR 1 | Check that descriptions are displayed correctly | View pre-existing configurations and their descriptions | Screen displays desc. as “X exercises of X seconds, X seconds between and an X pause in the middle” | Description is displayed properly |
| SE-F-004 | FR 2 | Test minimum boundary of configuration setting, ‘Number of exercises’ | Drag the number of exercises slider as far left as possible | Configuration value will not display a number below 1 | Number of Exercises stays at 1 |
| SE-F-005 | FR 2 | Test maximum boundary of configuration setting, ‘Number of exercises’ | Drag the number of exercises slider as far right as possible | Configuration will not display a number above 30 | Number of Exercises stays at 30 |
| SE-F-006 | FR 2 | Test boundary of configuration setting, ‘Number of exercises’ | Attempt to choose ‘10’ as the value for number of exercises when prompted | Configuration will display the number ‘10’ | Number of exercises is set to 10 |
| SE-F-007 | FR 2 | Test minimum boundary of configuration setting, ‘Length of exercise time’ | Attempt to choose ‘10,000’’ as the value for length of exercise time | Configuration will stop at the maximum value for length of exercise time | Length of exercise time is set to MIN |
| SE-F-008 | FR 2 | Test maximum boundary of configuration setting, ‘Length of exercise time’ | Attempt to choose ‘0’ as the value for length of exercise time | Configuration will stop at the minimum value for length of exercise time | Length of exercise time is set to MAX |
| SE-F-009 | FR 2 | Test boundary of configuration setting, ‘Length of exercise time’ | Attempt to choose ‘30’ as the value for length of exercise time | Configuration will display ‘30’ seconds as the time exercises will persist for | Length of exercise time is set to 30 seconds |
| SE-F-010 | FR 2 | Test minimum boundary of configuration setting, ‘Time between exercises’ | Attempt to choose ‘0’ as the value for length of time between exercises | Configuration will display the minimum value of seconds as the rest time between exercises | Length of time between exercises is set to MIN |
| SE-F-011 | FR 2 | Test maximum boundary of configuration setting, ‘Time between exercises’ | Attempt to choose ‘3,600’ as the value for length of time between exercises | Configuration will display the maximum value of seconds as the rest time between exercises | Length of time between exercises is set to MAX |
| SE-F-012 | FR 2 | Test boundary of configuration setting, ‘Time between exercises’ | Attempt to choose ‘30’ as the value for length of time between exercises | Configuration will display ‘30’ seconds as the rest time between exercises | Length of time between exercises is set to 30 |
| SE-F-013 | FR 2 | Test minimum boundary of configuration setting, ‘Duration of pause in the middle’ | Attempt to choose ‘-1’ as the value for length of pause in the middle of exercise | Configuration will display the minimum value of seconds as the length of pause in the middle of exercises | Length of middle pause is set to MIN |
| SE-F-014 | FR 2 | Test maximum boundary of configuration setting, ‘Duration of pause in the middle’ | Attempt to choose ‘5 minutes’ as the value for length of pause in the middle of exercise | Configuration will display the maximum value of seconds as the length of pause between exercises | Length of middle pause is set to 5 minutes |
| SE-F-015 | FR 2 | Test boundary of configuration setting, ‘Duration of pause in the middle’ | Attempt to choose ‘2.5 minutes’ as the value for length of pause in the middle of exercise | Configuration will display 2.5 minutes as the length of pause in the middle of exercises | Length of middle pause is set to 2.5 minutes |
| SE-F-016 | FR 3 | Check that system can accept entered configuration settings within reasonable time | Choose to start with selected exercises upon prompt | Screen will transition to warm up | FR 4 Warm-Up begins within 1 second of input |
| SE-F-017 | FR 3 | Check that system can reject current configuration and choose a different one | Choose to select a different exercise configuration upon prompt | Screen will transition to start-up | FR 1 begins again within 1 second of input |
| SE-F-018 | FR 4 | Checks that the warm-up will begin after FR3 and will run for 3 minutes. | Choose to start the set of exercises | 3 Minute warm up video begins | FR 4 Warm-Up finishes in 3 minutes and FR5 Begins |
| SE-F-019 | FR 5 | Checks the warm-up is completed and the exercise transition screen loads. | Warm-up sequence.  (No user input needed). | Exercise screen loads with a start timer. | FR 5 begins within 1 second of FR 4 finish. |
| SE-F-020 | FR 5 | Checks if there are no more 30 exercises in 1 set with no repetitions. | Warm-up ends.  (No user input needed). | Exercise displayed with a timer. | Data loaded  correctly |
| SE-F-021 | FR 5 | Check if the program allows for a rest between each exercise. | Exercise finishes  (No user input needed). | Rest timer displayed | Rest timer finished |
| SE-F-022 | FR 5 | Checks if the pause feature works during different times. | User selects the pause feature. | Screen is now frozen with big paused text. | Pause Test shown and screen frozen. |
| SE-F-023 | FR 6 | Checks if the cooldown sequence is initiated when workout finishes | Workout ends  (No user input needed). | Cooldown screen displayed. | Workout screen transitions into a cooldown screen |
| SE-F-024 | FR 6 | Checks that the cooldown sequence of 3 minutes completes | 3 minute timer starts | Cooldown sequence begins | Cooldown sequence lasts 3 minutes then ends. |
| SE-F-025 | FR 7 | Checks that a guide for each exercise is displayed during warm-up. | Warm-up begins.  (No user input needed). | A screen displaying a diagram on how to carry out the exercise appears. | Diagram guide displayed with an image instructing the exercise. |
| SE-F-026 | FR 7 | Checks that a guide for each exercise is displayed during cool-down. | Cool-down begins.  (No user input needed). | A screen displaying a diagram on how to carry out the exercise appears. | Diagram guide displayed with an image instructing the exercise. |
| SE-F-027 | FR 7 | Checks that a guide for each exercise is displayed during pausing. | Users select the pause function (button - mouse click or keyboard shortcut). | A screen displaying a diagram on how to carry out the exercise appears. | Diagram guide displayed with an image instructing the exercise. |
| SE-F-028 | FR 7 | Checks that for each guide there is also audio guidance to accompany them. | Warm-up Begins, Cool-down begins or User selects pause function. | Audio recording will start playing for additional guidance | Audio guidance playing in the background. |
| SE-F-029 | FR 8 | Check that times are present on warm-up and cool-down screens. | Timer starts and finishes.  (No user input needed). | Time should be displayed visibly with a sound notifying the starting and finishing of the warm-up and cool-down. | Timer should be visible to the user and sounds should work when warm-up and/or cool-down finishes. |
| SE-F-030 | FR 8 | Check that times are present during exercises and when exercises are paused. | Timer starts and finishes.  (No user input needed). | Time should be displayed visibly with a sound notifying the user of the starting and how long is left until finishing an exercise. | Timer should be clearly visible to the user. Following with a 5 Countdown sound for when an exercise will begin and end. |
| SE-F-031 | FR 8 | Check that times are present when exercises are paused. | User selects the pause function.  (button - mouse click or keyboard shortcut). | Time should be displayed visibly with a sound notifying the user of the starting and how long is left until finishing an exercise. | Timer should be clearly visible to the user, showing them how long left of the exercise and of the pause break. |
| SE-F-032 | FR 9 | Check the functionality of the pause button during warm-up | 15 seconds into the “warm-up phase” click on the pause button, wait 30 seconds, then click on the button again to resume | Warm-up instructions will pause on-screen for 30 seconds then resume | Warm-up instructions pause completely and the program does not advance until the user resumes it  Response to button click occurs within 1 second both times |
| SE-F-033 | FR 9 | Check the functionality of the pause button mid exercise | 5 seconds into the first exercise click on the pause button, wait 30 seconds then click on the button again to resume | On screen exercise timer will pause on-screen at “5 seconds passed” for 30 seconds then resume | The timer pauses completely and the program does not advance until the user resumes it  Response to button click occurs within 1 second both times |
| SE-F-034 | FR 9 | Check the functionality of the pause button between exercises | 5 seconds into the “between exercises rest” click on the pause button, wait 30 seconds, click on the button again to resume | On screen rest timer will pause at “5 seconds passed” for 30 seconds then resume | The timer pauses completely and the program does not advance until the user resumes it  Response to button click occurs within 1 second both times |
| SE-F-035 | FR 9 | Check the functionality of the pause button during the middle pause | 5 seconds into the “middle pause” click on the pause button, wait 30 seconds, click on the button again to resume | On screen middle pause timer will pause at “5 seconds passed” for 30 seconds then resume | The timer pauses completely and the program does not advance until the user resumes it  Response to button click occurs within 1 second both times |
| SE-F-036 | FR 9 | Check the functionality of the pause button during cooldown | 5 seconds into the “cool-down” click on the pause button, wait 30 seconds, click on the button again to resume | On screen cool-down instruction will pause for 30 seconds then resume | The instructions pause completely and the program does not advance until the user resumes it  Response to button click occurs within 1 second both times |
| SE-F-037 | FR 10 | Check that workouts are saved and displayed properly | Click to view past workouts and check that the displayed results match the exercises that were run while testing the program | The program should display the exercises run during testing | The workout data is accurate and displayed in the correct order |
| SE-F-038 | FR 10 | Check that corrupt workout data is not displayed | Open the “.xml” file that stores workout data and delete the first 4 lines from it, then add “¬@!£$” at the beginning of the next 4 lines and save the file.  Then click to view previous workouts | The program should not display the 8 altered lines from the save file | Only valid workout data is displayed on screen with any tampered results removed |

**REFERENCES**

[1] QA Document SE.QA.06 - Test Procedure Standards.

[2] QA Document SE.QA.08 - Operating Procedures and Configuration Management Standards.

[3] QA Document SE.QA.02 - General Documentation Standards.

**DOCUMENT HISTORY**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| *Version* | *CCF No.* | *Date* | *Changes made to document* | *Changed by* |
| 0.1 | N/A | 28/01/21 | N/A - original draft | Bas22/Ahz1 |
|  |  |  |  |  |