Acceptance Test Plan

for

MotionTracker

Version 1.1

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1. Document History

Name	Date	Reason	Version
Humaid M, Samuel T, Sean R, Logan K, Johnson Wu, Evan Pugh	Apr 25, 2023	Initial Draft	1.0
Humaid M, Samuel T, Sean R, Logan K, Johnson Wu, Evan Pugh	May 2, 2023	Second Draft	1.1

2. Introduction

2.1 Purpose

This document provides the plan for completing the acceptance test of Web App for MotionTracker. The included test cases were derived from the Software Requirement Specifications for MotionTracker (2.2.1), which details the system's functionality.

2.2 References

2.2.1 Software Requirements Specification

This document references the requirements in the Software Requirements Specification for MotionTracker document. Requirement numbers from this document are listed for every test to indicate the requirements the test exercises.

3. Test Approach and Constraints

This section describes the objectives, structure and constraints for the software acceptance test plan for MotionTracker.

3.1 Test Objectives

Following, the prescribed Acceptance Test Plan process verifies MotionTracker fulfills all of the functional requirements specified in the Software Requirements Specification. MotionTracker is ready for deployment if and only if it passes all of the test cases contained in the Acceptance Test Plan.

3.2 Test Structures

Atomic test cases were derived from the SRS. Each test case has a unique identifier, a name, a high-level description of the functionality it tests and references to its related requirements in the SRS. Additionally, each test case contains preconditions, actions and postconditions. Preconditions describe the required state of the system before the test is performed. The actions include an itemized list of steps the tester takes when performing the test. The postconditions describe the state the system is expected to be in after the actions are performed. If the postcondition(s) are met, then the software passes the test case.

3.3 Test Constraints

The Acceptance Test Plan only tests the functionality of MotionTracker as described in the SRS. The test cases described in the Acceptance Test Plan are not concerned with specific design and implementation details of the system. The test cases focus on ensuring the correct system behavior is achieved for the complete set of functions available to users of the system.

4. Test Assumptions and Exclusions

This section provides greater details about which functions and features of MotionTracker are and are not covered by the Acceptance Test Plan process.

4.1 Test Assumptions

The test cases covered in the Acceptance Test Plan are written under the assumption that the related issues are also addressed by unit tests, integration tests and system tests for MotionTracker. The Acceptance Test Plan covers:

● The functional requirements listed in the Software Requirements Specification.
● The consistency of the user-related system documentation.
● The usability of the system.

4.2 Test Exclusions

It is assumed that unit tests, integration tests, and system tests for MotionTracker exercise areas of the system not covered by the Acceptance Test Plan. The Acceptance Test Plan does not cover:

● The non-functional requirements of the system listed in the Software Requirements Specification.
● Functionality beyond what is described in the Software Requirements Specification
● The structural integrity of the source code.

5. Entry and Exit Criteria

This section lists the criteria that must be satisfied in order for the Acceptance Test Plan to commence, as well as the criteria that must be satisfied in order to conclude the acceptance testing.

5.1 Entry Criteria

Acceptance testing begins after the following preconditions are met:
● All Priority 1 requirements are considered to be implemented by the MotionTracker development team.
● Unit, integration and system testing for MotionTracker are completed successfully.
● A proper testing environment meeting the hardware and software constraints specified in 4.3 of the Software Requirements Specification is available.
● The Test Team Leader and the Stakeholder received the most recent revision of the Software Requirements Specification.
● Consent is obtained from the Test Team Leader.
● Consent is obtained from the Stakeholder.

5.2 Exit Criteria

The Acceptance Test Plan can end after any of the following conditions are met:
● All Priority 1 requirements were tested and resulted in expected behavior (Success).
● At least one Priority 1 requirement failed to meet the documented specification (Failure).
● All parties mutually agree to postpone testing until a later date (Failure).

6. Testing Participants

This section describes the roles and responsibilities of the parties involved in the Acceptance Test Plan, as well as the procedure for reporting the test results and any subsequent issues.

6.1 Roles and Responsibilities

For the Acceptance Test Plan, the following individuals fill the roles listed below:
- Test Team Leader: Humaid Mustajab
- Testers: Evan Pugh, Samuel Tsui, Sean Rhee, Logan Kramsky, Johnson Wu
- Stakeholder: Professor Jeff Salvage

6.2 Training Requirements

All parties involved in the Acceptance Test Plan should be comfortable with standard web application interfaces. Additionally, all parties should be familiar with the MotionTracker user interface, the type of visualizations MotionTracker is expected to produce, and the MotionTracker Software Requirements Specification.

6.3 Problem Reporting

Any problem found by either a Tester or the Stakeholder must be documented and reported to the Test Team Leader via the project's issue tracking system. Any reported problems are to be reviewed by the Test Team Leader and development team during a mandatory post testing review meeting and subsequently assigned to at least one person on the development team to resolve.

6.4 Progress Reporting

The Acceptance Test Plan Report is to be compiled by the Test Team Leader after the testing process has concluded and has satisfied any one of the conditions listed in 5.2. The MotionTracker development team is to review the Acceptance Test Plan Report during the mandatory post testing review meeting.

7. Test Cases

7.1 Introduction

The test cases below cover all functionality required by the Software Requirements Specification document. Each of the test cases includes the following information:

- ID - An identification code for the test case
- Name - A descriptive name of the test
- Requirement(s) - The requirement number(s) from the Software Requirements Specification document
- Description - A brief overview of the test purpose
- Precondition(s) - The expected state of the software before the actions are executed
- Action(s) - The step(s) to be completed by the tester
- Postcondition(s) - The expected state of the software after the actions are executed

7.2 Test Cases

7.2.1 Selecting a File

ID	T7.2.1.1
Name	Selecting a File For Compression
Requirement(s)	3.1.1, 3.1.2
Description	The user opens the MotionTracker application 'Screen 1' and selects a video file.
Precondition(s)	None
Action(s)	1. The user launches the MotionTracker application. 2. The user selects the 'Select File Button' 3. The user navigates their local file structure and selects a video file
Postcondition(s)	● 'Screen 2' is displayed

7.2.2 Inputting Video Compression Parameters

ID	T7.2.2.1
Name	Inputting Range of Video Pixels for the Area of Interest Per Frame
Requirement(s)	3.1.3.1, 3.1.3.2, 3.1.3.3
Description	The user is prompted to enter input parameters for a range of video height/width pixels for the area of interest per frame.
Precondition(s)	● The user selected a file to be compressed on 'Screen 1'
Action(s)	1. The user opens 'Screen 2' 2. The user moves four sliders to set the range of the original clip's height and width
Postcondition(s)	A yellow rectangle obfuscates the areas not being analyzed.

ID	T7.2.2.2
Name	Inputting Desired Frame Rate for Output Video
Requirement(s)	3.1.4,3.1.4.1,3.1.4.2
Description	The user is prompted to input an integer for the desired frame rate of the output video
Precondition(s)	● The user selected a file to be compressed on 'Screen 1'
Action(s)	1. The user enters an integer value greater than 0
Postcondition(s)	When the video is output, the framerate of the output video matches the integer value entered.

ID	T7.2.2.3
Name	Inputting an Integer representing a percentage scaling for the Output Video
Requirement(s)	3.2.1,3.2.2,3.2.3,3.2.4
Description	The user is prompted to input an integer for the percentage scaling for the output video.
Precondition(s)	● The user selected a file to be compressed on 'Screen 1'
Action(s)	1. The user enters a value less than or equal to 100 and greater than 0.
Postcondition(s)	When the video is output, the size of the output video matches the scale of the integer value entered.

7.2.3 Submitting a Video File for Compression

ID	T7.2.3.1
Name	Submitting a Video File for Compression
Requirement(s)	3.1.7, 3.1.8
Description	The user must be able to click 'Submit' to begin video processing
Precondition(s)	● The user selected a file to be compressed on 'Screen 1' ● The user inputted valid integers for previous parameters
Action(s)	1. The user clicks 'Submit'
Postcondition(s)	● The user is notified when the processing is completed ● MotionTracker exits upon completion of processing

	● MotionTracker opens a File Explorer window on the output directory

7.2.4 Video Compression Progress Tracking

ID	T7.2.4.1
Name	Tracking the Progress of Video Compression
Requirement(s)	3.1.9, 3.1.10, 3.1.11, 3.1.12
Description	The user tracks the video compression progress after they have clicked 'Submit'.
Precondition(s)	● The user selected 'Submit'
Action(s)	1. The user observes the progress bar
Postcondition(s)	● The user is notified when the processing is completed ● MotionTracker exits upon completion of processing ● MotionTracker opens a File Explorer window on the output directory

7.2.5 Clip with Blank Space has Blank Space Removed

ID	T7.2.5.1
Name	Clip with Race Walker Retains Race Walker

Requirement(s)	3.1.9, 3.1.10, 3.1.11, 3.1.12
Description	The user submits a clip containing a walker and the output clip must have the walker in it
Precondition(s)	● The user submits a clip
Action(s)	1. The user clicks submit
Postcondition(s)	● The user is notified when the processing is completed ● MotionTracker exits upon completion of processing ● MotionTracker opens a File Explorer window on the output directory ● A clip that still contains the user walking is the output

7.2.6 Clip with Blank Space has Blank Space Removed

ID	T7.2.6.1
Name	Clip with blank Space has Blank Space Removed
Requirement(s)	3.1.9, 3.1.10, 3.1.11, 3.1.12
Description	The user submits a clip containing blank space and the output clip must have the blank space removed
Precondition(s)	● The user submits a clip
Action(s)	1. The user clicks submit
Postcondition(s)	● The user is notified when the processing is completed ● MotionTracker exits upon completion of processing ● MotionTracker opens a File Explorer window on the output directory ● A clip that no longer contains the blank space is the output

7.2.7 Clip with a Distraction is Removed

ID	T7.2.7.1
Name	Clip with a Distraction is Removed
Requirement(s)	3.1.9, 3.1.10, 3.1.11, 3.1.12
Description	The user submits a clip containing a distraction without any racewalkers present. A distraction is anything that provides motion across the screen that is not a race walker such as vehicles, animals, spectators, etc.
Precondition(s)	● The user submits a clip
Action(s)	1. The user clicks submit
Postcondition(s)	● The user is notified when the processing is completed ● MotionTracker exits upon completion of processing ● MotionTracker opens a File Explorer window on the output directory ● A clip that no longer contains the distraction is the output

7.2.8 Clips of Race Walkers Approaching from the Wrong Direction are Removed

ID	T7.2.8.1
Name	Clips of Racewalkers Approaching from the Wrong Direction are Removed
Requirement(s)	3.1.8, 3.1.9, 3.1.10, 3.1.11, 3.1.12
Description	The user specifies a direction in which walkers should come from. The output clip should contain only footage of race walkers coming from that specific direction.
Precondition(s)	● The user submits a clip
Action(s)	1. The user clicks submit

Postcondition(s)	• The user is notified when the processing is completed • MotionTracker exits upon completion of processing • MotionTracker opens a File Explorer window on the output directory • A clip that only contains footage of race walkers approaching from the user selected direction is included in the output.

7.2.9 User Inputs a Specific File Output Path

ID	T7.2.9.1
Name	User Inputs a Specific File Output Path
Requirement(s)	3.1.9, 3.1.10, 3.1.11, 3.1.12
Description	The user specifies a particular file output path where the video will be stored.
Precondition(s)	• The user enters an output path for the processed video.
Action(s)	1. The user processes the clip
Postcondition(s)	• The video is in the directory of the output path.

7.2.10 User Inputs a Specific File Input Path

ID	T7.2.10.1
Name	User Inputs a Specific File Input Path
Requirement(s)	3.1.9, 3.1.10, 3.1.11, 3.1.12
Description	The user specifies a particular file input path where the video will be stored.
Precondition(s)	● The user enters an input path for the processed video.
Action(s)	1. The user processes the clip
Postcondition(s)	● When you Select File it opens in the Input File

7.2.11 User Submits Two Video Files for Processing

ID	T7.2.11.1
Name	User Submits Two Video Files for Processing
Requirement(s)	3.1.9, 3.1.10, 3.1.11, 3.1.12
Description	The user submits two video files simultaneously to be compressed.
Precondition(s)	● The user must submit two video files instead of one.
Action(s)	1. The user properly goes through the steps of submitting videos for compression
Postcondition(s)	● Two compressed videos are the output and placed into the same directory

8. Traceability Matrix

Requirement	Description	Test Cases
R3.1	**'Screen 1' Requirements**	
R3.1.1	Upon launch, choose 'Select File Button'	T7.2.1.1
R3.1.2	Selects a video file	T7.2.1.1
R3.1.3	'Screen 2' Requirements	
R3.1.3	Enter input parameters for the range of video height/width	T7.2.1.1
R3.1.3.1	Values are within range of original clip	T7.2.1.1, T7.2.2.1
R3.1.3.2	Prompted again if value is not accepted by criteria specified	T7.2.1.1,T7.2.2.1
R3.1.3.3	See range affecting video frame	T7.2.2.1, T7.2.2.1
R3.1.4	Input Integer for video frame rate	
R3.1.4.1	Default value is native frame rate	T7.2.1.1,T7.2.2.2
R3.1.4.2	Decides to change default value, integer value>0	T7.2.2.2
R3.1.5	Input for Rescaling Ratio	T7.2.2.3
R3.1.6	Video Player plays clip	T7.2.2.3
R3.1.7	Must click 'Submit.'	T7.2.3.1

R3.1.8	Pick Direction of Motion to filter using UI	T7.2.3.1
R3.1.9	Progress Bar Displayed	T7.2.4.1
R3.1.10	Notification on process completion	T7.2.4.1
R3.1.11	MotionTracker Exits	T7.2.4.1
R3.1.12	MotionTracker opens a File Explorer at output directory	T7.2.4.1

All boilerplate plate information from sections 2-6.4, were created using the Acceptance Test Plan from the 2014 project called 'WAVED'.