Test Plan Document

CSCE 361 - Spring 2017 - Group 13

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Super Ultra Mega Platformer

1. Introduction

The purpose of this document is to provide information regarding the testing process for Super Ultra Mega Platformer. Included in this document are testing requirements and test cases for which the system should meet. However due to the nature of the system, developing an automated method for testing the system is not currently possible. All test cases are to be done manually and recorded as such by hand.

2. Testing Requirements

2.1 Start Menu

2.1.1 RS 3.2.1.1
Application launches to "Menu Scene."
2.1.2 RS 3.2.1.1.2
Access to stage menu.
2.1.3 RS 3.2.1.1.2
Able to Exit Game.

2.2 Selecting Stages

2.2.1 RS 3.2.1.2.2
Select a stage available
2.2.2 RS 3.2.1.2.2
When stage is selected go to Ability Select

2.3 Ability Select

2.3.1 RS 3.2.1.4.1
4 Abilities are chosen, mapped, and tries to start
2.3.2 RS 3.2.1.4.1
3 or less Abilities are chosen, mapped, and tries to start
2.3.3 RS 3.2.1.4.2
Reset Abilities flushes out ability choices.
2.3.4 RS 3.2.1.4.3
User attempts to exit ability select

2.4 In Stage

2.4.1 RS 3.2.1.3.1
User attempts to move with arrow keys
2.4.2 RS 3.2.1.3.1
User attempts to jump
2.4.3 RS 3.2.1.3.2
User is moving and screen pans.
2.4.4 RS 3.2.1.3.3
User reaches end of stage.

2.5 Player Character

2.5.1 RS 3.2.1.3.4.4

User attempts to use the wall jump ability

2.5.2 RS 3.2.1.3.4.4

User attempts to use the double jump ability

2.5.3 RS 3.2.1.3.4.4

User attempts to use the blink ability

2.5.4 RS 3.2.1.3.4.4

User attempts to wall climb

2.5.5 RS 3.2.1.3.4.4

User attempts to bounce

2.5.6 RS 3.2.1.3.4.4

User attempts to dash

2.5.7 RS 3.2.1.3.4.3

User switches abilities

2.6 Stage Elements

2.6.1 RS 3.2.1.3.5

Character touches spike

2.6.2 RS 3.2.1.3.5

Character enters water

2.6.3 RS 3.2.1.3.5

Character falls into pitfall

2.6.4 RS 3.2.1.3.5

Character touches laser beam

2.6.5 RS 3.2.1.3.5

Character is on platform

2.6.6 RS 3.2.1.3.5

Character touches flag.

3. Test Cases

The following test cases are what make up the application test suite. Each test has been outlined including the expected outputs that are needed for the test to pass.

3.1 Start Menu

3.1.1.Test 1

Purpose:

Test launching the application to to the menu.

Setup:

Launch the application by clicking the game exe icon.

Inputs and Expected Outputs

Input	Expected Output
Click the application icon	The application opens to the main menu

Testing Requirements Covered:

testing requirement 2.1.1

3.1.2 Test 2

Purpose:

Test entering the stage select menu from the main menu.

Setup:

Navigate to the main menu.

Inputs and Expected Outputs

Input	Expected Output
Click the stage select menu	The application opens the stage select menu

Testing Requirements Covered:

testing requirement 2.1.2

<u>3.1.3 Test 3</u>

Purpose:

Test exiting the game from the main menu.

Setup:

Navigate to the main menu.

Inputs and Expected Outputs

Input	Expected Output
Click the exit button on the main menu.	The application will exit.

Testing Requirements Covered:

testing requirement 2.1.3

3.2 Selecting Stages

<u>3.2.1 Test 4</u>

Purpose:

Test selecting stages from the main menu.

Setup:

Navigate to the stage select menu in the application.

Inputs and Expected Outputs

Input	Expected Output
Click the stage 1 icon.	The application opens the stage 1 ability select page.
Click on an unavailable stage	Nothing happens

Testing Requirements Covered:

testing requirement 2.2.1, 2.2.2

3.3 Ability Select

<u>3.3.1 Test 5</u>

Purpose:

Test selecting different abilities.

Setup:

Navigate to the ability select menu.

Inputs and Expected Outputs

Input	Expected Output
Choose 4 abilities and start	The application greys out abilities as they are selected and enters the stage after 4 are selected
Choose 3 or less abilities and chooses to start the game	The application greys out abilities as they are selected and enters the stage
Choose 1 or more abilities and choose to reset abilities start	The application greys out abilities as they are selected and when reset is chosen, the abilities relight up to be chosen
Choose to exit	The application returns to the stage select menu

Testing Requirements Covered:

testing requirements 2.3.1 and 2.3.4

Purpose:

Test that it is possible to flush out abilities and rechoose.

Setup:

Navigate to the ability select.

Inputs and Expected Outputs

Input	Expected Output
Choose 1 ability and rechoose 4 abilities	The selected stage should open with the four selected abilities
Choose 2 abilities and rechoose 4 abilities	The selected stage should open with the four selected abilities
Choose 3 abilities and rechoose 4 abilities	The selected stage should open with the four selected abilities

Testing Requirements Covered:

testing requirements 2.3.3

3.4 In Stage

3.4.1 Test 7

Purpose:

Test that arrow keys correctly move the character

Setup:

Navigate to a stage

Inputs and Expected Outputs

Input	Expected Output
Press the right key	Character moves right
Press the left key	Character moves left

Testing Requirements Covered:

testing requirements 2.4.1

3.4.2 Test 8

Purpose:

Test that jumping works as specified

Setup:

Navigate to a stage

Inputs and Expected Outputs

Input	Expected Output
Press the spacebar	Character jumps
Press the spacebar and the press right while character is still in the air	Character jumps and moves in the right direction
Press the spacebar and press left while character is still in the air	Character jumps and moves in the left direction

Testing Requirements Covered:

testing requirements 2.4.2 and 2.4.1

3.4.3 Test 9

Purpose:

Test that screen pans correctly as character moves

Setup:

Navigate to a stage

Inputs and Expected Outputs

Input	Expected Output
character moves right	Screen pans in x direction with the character
character moves left	Screen pans in negative x with the character
character moves up	Screen pans in positive y with the character
character moves down	Screen pans in the negative y direction with the player.

Testing Requirements Covered:

testing requirements 2.4.3

3.4.4 Test 10

Purpose:

Test that upon reaching the stage completion flag the stage is completed

Setup:

Navigate to a stage

Inputs and Expected Outputs

Input	Expected Output
Navigate the character to come into contact with the finishing flag	The next stage ability selection is loaded

Testing Requirements Covered:

testing requirements 2.4.4 and 2.61

3.5 Player Character

3.5.1 Test 11

Purpose:

Test that wall jump ability works

Setup:

Navigate to a stage and have wall jump selected as an ability

Inputs and Expected Outputs

Input	Expected Output
Push the wall jump key near a wall in the air	The character jumps from the wall
Push the wall jump key near a wall on the ground	The character idles
Push the wall jump key on the ground not near a wall	The character idles
Push the wall jump key in the air not near a wall	The character continues falling

Testing Requirements Covered:

testing requirements 2.5.1

3.5.2 Test 12

Purpose:

Test that double jump ability works

Setup:

Navigate to a stage and double jump is selected

Inputs and Expected Outputs

Input	Expected Output
Push the double jump key in the air	The character jumps in midair
Push the double jump key on the ground	The character does not jump

After double jumping, the double jump key is pressed	The character does not jump again

Testing Requirements Covered:

testing requirements 2.5.2

3.5.3 Test 13

Purpose:

Test that blink ability works

Setup:

Navigate to a stage and blink is selected

Inputs and Expected Outputs

Input	Expected Output
Push the ability key on the ground	The character blinks a short distance in front of them
Push the ability key in the air	The character blinks a short distance midair before falling
Player is able to blink but attempt to pass through a thin wall	Character appear on the other side of wall
Player is able to blink but attempt to pass through a thick wall	Character runs into wall instead of passing through it.

Testing Requirements Covered:

testing requirements 2.5.3

3.5.4 Test 14

Purpose:

Test that wall climb ability works

Setup:

Navigate to a stage and wall climb is selected

Inputs and Expected Outputs

Input	Expected Output
Character next to a wall on the ground and wall climb key is pressed	Character is sent up
Character next to a wall in the air	Character is sent up

and wall climb key is pressed	
Character is not next to a wall and is on the ground and wall climb key is pressed or in the air	Character does not wall climb.

Testing Requirements Covered:
testing requirements 2.5.4

3.5.5 Test 15
Purpose:
Test that bounce ability works
Setup:
Navigate to a stage with bounce ability selected
Inputs and Expected Outputs

Input	Expected Output
Push the bounce ability key	Applies a bouncy effect to the character and character will have elasticity.
Push a different ability key, after pushing bounce key	Character loses elasticity.

Testing Requirements Covered:
testing requirements 2.5.5

3.5.6 Test 16
Purpose:
Test that dash ability works
Setup:
Navigate to a stage with dash selected
Inputs and Expected Outputs

Input	Expected Output
Push the dash ability key while on the ground	Player moves quickly in the direction they face for a duration
Push the dash ability key while in the air or	Player does not dash

while dashing	

Testing Requirements Covered:

testing requirements 2.5.6

<ins>3.5.7 Test 17</ins>

Purpose:

Test that player can switch abilities

Setup:

Navigate to a stage with 4 abilities attached

Inputs and Expected Outputs

Input	Expected Output
Player pushes an ability key at the start	Ability attached to that key is enabled.
Player pushes an ability key for ability that is enabled	Player performs an action if criteria for that ability is met.
Player pushes a key that isn't the currently equipped ability key	Player's ability is switched
Player pushes the key they switched to	Player's ability is performed if criteria for the ability is met.

Testing Requirements Covered:

testing requirements 2.5.7

3.6 Stage Elements

<ins>3.6.1 Test 18</ins>

Purpose:

Test that spikes function as intended

Setup:

Navigate to a stage with spikes

Inputs and Expected Outputs

Input	Expected Output
Character's collides with the spike's collider	Player is sent to the beginning of the stage.

Testing Requirements Covered:

testing requirements 2.6.1

Purpose:

Test what that water hinders the player

Setup:

Navigate to a stage with water

Inputs and Expected Outputs

Input	Expected Output
Player enters water with a velocity	Player's velocity decreases faster to zero
Player jumps in water	Player jumps with less force than a regular jump on the ground
Player idles in water	Player floats up the surface

Testing Requirements Covered:

testing requirements 2.6.2

3.6.3 Test 20

Purpose:

Test for the what happens when a player falls into a pitfall

Setup:

Navigate to a stage with pitfalls

Inputs and Expected Outputs

Input	Expected Output
Player collides with pitfall	Player is forced to reset the stage at the start.

Testing Requirements Covered:

testing requirements 3.6.3

<u>2.6.4 Test 21</u>

Purpose:

Test that if laser beam works as intended

Setup:

Navigate to a stage with laser beams

Inputs and Expected Outputs

Input	Expected Output
Player collides with the beam	Player is forced to respawn at the start of the stage.
Player collides only with the base of the beam projector.	Player stays alive

Testing Requirements Covered:

testing requirements 2.6.4

<u>2.6.5 Test 22</u>

Purpose:

Test that Platforms function as intended

Setup:

Navigate to a stage with platforms

Inputs and Expected Outputs

Input	Expected Output
Player in on top of a platform not moving	Player idles
Player hits the bottom of a platform	Player hits the bottom and does not go through platform
Player is moving left or right and collides with a platform	Player stops moving in the respective x direction

Testing Requirements Covered:

testing requirements 2.6.5

Purpose:

Test that Flag works as intended

Setup:

Navigate to a stage

Inputs and Expected Outputs

Input	Expected Output
Player touches start Flag	Nothing occurs, player phase through flag.
Player dies	Player respawns at start flag
Player collides with end flag	Player leaves stage

Testing Requirements Covered:

testing requirements 2.6.6