National University of Computer and Emerging Sciences Chiniot-Faisalabad Campus



**game-APPLICATION TESTING**

Software Quality Engineering

### Semester Project

### Task 4

### BS (SE) 5A

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# **Test Cases of API: -**

## Test Case 1: -

Character Movement (A): Verify that pressing 'A' moves the character left as expected.

## Test Case 2: -

Character Movement (D): Confirm that pressing 'D' moves the character right as expected.

## Test Case 3: -

Character Movement (W): Check that 'W' does not affect character movement.

## Test Case 4: -

Character Movement (S): Ensure that pressing 'S' does not move the character backward.

## Test Case 5: -

Jumping (Space): Verify that pressing 'Space' makes the character jump.

## Test Case 6: -

Rolling (S + Shift): Confirm that holding 'Shift' and pressing 'Space' makes the character roll.

## Test Case 7: -

Running (A + D): Check that holding 'Shift' allows the character to run faster.

## Test Case 8: -

Pause (Esc): Verify that pressing 'Esc' pauses the game and displays the pause menu.

## Test Case 9: -

Resuming (Esc): After pausing, confirm that pressing 'Esc' again resumes the game.

## Test Case 10: -

Interaction (Space): Ensure that pressing 'Space' interacts with objects or triggers events.

## Test Case 11: -

Left and Right Movements (A, D): Check that the character moves correctly when strafing with 'A' and 'D'.

## Test Case 12: -

Left and Right Movements (A, D): Verify that strafing does not impact forward or backward movement.

## Test Case 13: -

Crouch (C): Confirm that pressing 'C' makes the character crouch.

## Test Case 14: -

Double Jump (Space, Space): Check that pressing 'Space' twice performs a double jump.

## Test Case 15: -

Dodging (A, D): Ensure that the character effectively dodges left and right using 'A' and 'D'.

## Test Case 16: -

Vertical Movement (W, S): Verify that 'W' and 'S' enable vertical movement as needed.

## Test Case 17: -

Using Gadgets/Abilities (Space): Confirm that pressing 'Space' uses available gadgets or abilities.

## Test Case 18: -

Stamina Management (Shift, Space): Check that character stamina depletes when running (Shift) and regenerates over time.

## Test Case 19: -

Precision Movements (A, D): Ensure that precise movements are possible, such as jumping onto small platforms.

## Test Case 20: -

Acceleration/Deceleration (W, S): Verify that the character accelerates when moving forward (W) and decelerates when stopping.

## Test Case 21: -

Grabs and Climbing (Space): Confirm that pressing 'Space' allows the character to grab and climb when needed.

## Test Case 22: -

Stamina Management (Over-Exhaustion): Verify that the character's stamina cannot be overused to the point of exhaustion.

## Test Case 23: -

Input Handling Sensitivity: Ensure that slight keypresses do not cause excessive character movement.

## Test Case 24: -

Conflicting Inputs (e.g., A + D): Check that pressing conflicting keys simultaneously does not disrupt gameplay.

## Test Case 25: -

Correct Input Prioritization: Verify that the game prioritizes essential actions when multiple keys are pressed simultaneously.

## Test Case 26: -

Exiting the Game (Esc): Confirm that pressing 'Esc' while in the pause menu prompts the player to exit the game.

## Test Case 27: -

In-Game Saving (Esc): Ensure that pressing 'Esc' for in-game saving does not accidentally exit the game.

## Test Case 28: -

Stamina Management (Balance): Confirm that the stamina system is balanced, preventing the character from being too overpowered.

## Test Case 29: -

Stamina Management (Underutilization): Check that the character's abilities are not underutilized due to restrictive stamina mechanics.

## Test Case 30: -

Input Customization: Verify that players can customize key bindings for their preferences.

# **Gherkin Language for API: -**

Feature: RedRunner Input Manager

Scenario: Character Movement (A)

Given the character is in the game

When the player presses 'A' key

Then the character should move left as expected

Scenario: Character Movement (D)

Given the character is in the game

When the player presses 'D' key

Then the character should move right as expected

Scenario: Character Movement (W)

Given the character is in the game

When the player presses 'W' key

Then the character's movement should not be affected

Scenario: Character Movement (S)

Given the character is in the game

When the player presses 'S' key

Then the character's movement should not move backward

Scenario: Jumping (Space)

Given the character is in the game

When the player presses the 'Space' key

Then the character should jump

Scenario: Rolling (Space + Shift)

Given the character is in the game

When the player holds 'Shift' and presses the 'Space' key

Then the character should roll

Scenario: Running (Shift)

Given the character is in the game

When the player holds the 'Shift' key

Then the character should run faster

Scenario: Pause (Esc)

Given the character is in the game

When the player presses the 'Esc' key

Then the game should pause and display the pause menu

Scenario: Resuming (Esc)

Given the game is paused

When the player presses the 'Esc' key again

Then the game should resume

Scenario: Interaction (Space)

Given the character is near an interactive object

When the player presses the 'Space' key

Then the character should interact with the object or trigger an event

Scenario: Left and Right Movements (A, D)

Given the character is in the game

When the player presses 'A' and 'D' keys simultaneously

Then the character should move left and right correctly

Scenario: Left and Right Movements (A, D)

Given the character is in the game

When the player presses 'A' and 'D' keys simultaneously

Then the character's forward or backward movement should not be affected

Scenario: Crouch (C)

Given the character is in the game

When the player presses the 'C' key

Then the character should crouch

Scenario: Double Jump (Space, Space)

Given the character is in the game

When the player presses the 'Space' key twice

Then the character should perform a double jump

Scenario: Dodging (A, D)

Given the character is in the game

When the player presses 'A' and 'D' keys for dodging

Then the character should effectively dodge left and right

Scenario: Vertical Movement (W, S)

Given the character is in the game

When the player presses 'W' and 'S' keys

Then the character should move vertically as expected

Scenario: Using Gadgets/Abilities (Space)

Given the character has available gadgets or abilities

When the player presses the 'Space' key

Then the character should use the available gadgets or abilities

Scenario: Stamina Management (Shift, Space)

Given the character is in the game

When the player holds 'Shift' for running and presses 'Space' for a special action

Then the character's stamina should deplete and regenerate over time

Scenario: Precision Movements (A, D)

Given the character is in the game

When the player needs to make precise movements by pressing 'A' and 'D' keys

Then the character should respond accurately

Scenario: Acceleration/Deceleration (W, S)

Given the character is in the game

When the player presses 'W' to move forward and 'S' to stop

Then the character should accelerate when moving forward and decelerate when stopping

Scenario: Grabs and Climbing (Space)

Given the character is near a grabbable object

When the player presses the 'Space' key

Then the character should grab and climb as needed

Scenario: Stamina Management (Over-Exhaustion)

Given the character is in the game

When the player tries to overuse character stamina

Then the character's stamina should not be depleted to exhaustion

Scenario: Input Handling Sensitivity

Given the character is in the game

When the player makes slight keypresses

Then the character should not exhibit excessive movement

Scenario: Conflicting Inputs (e.g., A + D)

Given