

Copycat Simon's Symphony

Repeat the Beat, Master the Treat!

Test Plan

Introduction:

- The purpose of this test plan is to outline the testing approach, objectives, and activities for Copycat Simon's Symphony game.
- Version: 1.0
- Stakeholders: Lead instructors, assistant instructors, and game players.

Test Objectives:

- Validate the functionality and usability of the game.
- Verify the accuracy and responsiveness of user inputs and game sequences.
- Identify any defects or issues in the game's behavior.
- Ensure compatibility with different web browsers and devices.
- Achieve a satisfactory level of player experience and engagement.

Test Environment:

- Web browser: Chrome (latest version), Firefox (latest version), Safari (latest version)
- Operating Systems: Windows 10, macOS Big Sur
- Devices: Desktop computers, laptops, tablets, and smartphones
- Screen resolutions: 1366x768, 1920x1080, 768x1024, 414x896

Test Approach:

- Functional Testing: Verify that the game functions as intended, including game initiation, sequence generation, user input, scoring, and game-over conditions.
- Usability Testing: Evaluate the game's user interface, intuitiveness, and overall user experience.
- Compatibility Testing: Ensure the game works well across web browsers and devices.
- Performance Testing: Assess the game's responsiveness and smooth gameplay under normal and high load conditions.

Test Scenarios and Test Cases:

- Scenario 1: Game Initialization
 - Test Case 1: Verify that the game starts with the main menu screen.
 - Test Case 2: Check that the game displays the correct title and instructions.
- Scenario 2: Sequence Generation and Playback
 - Test Case 3: Validate that the game generates a random sequence of colors and plays it back correctly.
 - Test Case 4: Verify that the game highlights the quarter corresponding to the generated sequence.
- Scenario 3: User Input and Scoring
 - Test Case 5: Test user input functionality by clicking on the quarters and check if the input is recorded correctly.
 - Test Case 6: Validate that the game updates the current score based on correct user inputs.
- Scenario 4: Game Over and Score Recording
 - Test Case 7: Verify that the game ends and displays the score screen when the user inputs incorrectly.
 - Test Case 8: Check that the game records the high score correctly and displays it on the score screen.

Test Data:

- Test Data 1: Sample game sequences for validation.
- Test Data 2: User inputs for each sequence during testing.
- Test Data 3: High score values for verifying score recording.

Test Execution Schedule:

- Functional Testing: 1 hour
- Usability Testing: 1 hour
- Compatibility Testing: 1 hour
- Performance Testing: 1 hour

Defect Management:

- Defect Tracking: Use a table or spreadsheet to track defects.
- Severity Levels: Minor and Moderate

- Defect Reporting: Detailed defect reports, including reproduction steps, expected and actual results, and attachments (screenshots or videos).

Test Deliverables:

- Test Plan
- Test Scenarios and Test Cases
- Test Execution Reports
- Defect Reports
- Test Summary Report

Risks and Mitigation:

- Risk: Compatibility issues across different web browsers and devices.
 - Mitigation: Regular compatibility testing on target browsers and devices and responsive design considerations during development.
- Risk: Performance degradation under high load conditions.
 - Mitigation: Load testing to identify bottlenecks and optimize game performance.

Test Completion Criteria

Execution of all planned test cases.

All high-priority defects resolved or mitigated.

Test Summary and Reporting:

Test Summary Report will be generated at the end of the testing phase, summarizing the testing activities, results, and recommendations.