

Test Plan

Team 11

Austin Wirth, Emma Wynne, Evan Walsh, Harris Christiansen, Miranda Mott

‘A-Maze-Balls’

Functional Requirements

Use Case 1

- A. 001, Launching Game, Severity 1.
- B. Select play from main menu, select level, and click ‘Confirm’.
- C. Game level opens.

- A. 002, Cancel Selecting Level, Severity 2.
- B. Select ‘Play’ from main menu, select ‘Cancel’.
- C. Returned to main menu.

- A. 003, Cancel Opening Level, Severity 2.
- B. Select play from main menu, select level, select ‘Cancel’.
- C. Returned to select level view.

Use Case 2

- A. 004, Fire Ball Towards Target, Severity 1
 - B. Aim ball towards target and tap on the ball to fire
 - C. Ball should move according to where it was aimed
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- A. 005, Fire Ball Towards Wall, Severity 1
 - B. Aim ball at a wall and tap on the ball to fire
 - C. When the ball reaches the wall, it should bounce and continue moving

Use Case 3

- A. 006, Complete Level for First Time, Severity 1
 - B. Complete a level that has not yet been completed
 - C. Should return to level selection screen with next level unlocked
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- A. 007, Complete Level Again, Severity 2
 - B. Complete a level that has been completed previously
 - C. Should return to level selection screen with no new levels unlocked

Use Case 4

- A. 008, View Leaderboard from Main Menu, Severity 3
 - B. While on the main menu, select the leaderboard button on screen
 - C. Leaderboard should be displayed
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- A. 009, View Leaderboard After Level, Severity 3
 - B. After completing a level, select the leaderboard button on screen
 - C. Leaderboard should be displayed

Use Case 5

- A. 010, Upload Score, Severity 1.
 - B. User clicks "upload score".
 - C. Score is uploaded to leaderboard.
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- A. 011, Don't Upload Score, Severity 3.
 - B. Complete level, but do not click "Upload Score".
 - C. Score should not appear in leaderboard.

Use Case 6

- A. 012, Title, Severity x.
- B. instructions
- C. results

Use Case 7

- A. 013, Wall Bounce Count = 0, Severity 1.

- B. Score the ball directly into the target goal without any bounces.
- C. Final bounce count is 0.

- A. 014, Wall Bounce Count = 1, Severity 1.
- B. Bounce the ball off of 1 wall and score in the target goal.
- C. Final bounce count is 1.

- A. 015, Wall Bounce Count > 1, Severity 1.
- B. Bounce the ball off of more than 1 wall and score in the target goal.
- C. Final bounce count is equal to observed bounce count.

- A. 016, Wall Bounce Count Reset, Severity 2.
- B. Make the ball bounce off walls without scoring, then play again and score ball.
- C. Final bounce count was reset and is correct for most recent play.

Use Case 8

- A. 017, Stored Score for Levels Not Yet Played, Severity 3.
- B. Observe stored/best score for an unplayed level.
- C. Level should not yet be associated with a score.

- A. 018, Stored Level Score After First Try, Severity 3.
- B. Play a level for the first time. Then observe the stored/best score associated with the level.
- C. Stored/best score for the level should be equal to the score just earned.

- A. 019, Stored Level Score After Beating Previous Stored Score, Severity 3.
- B. Play a level that has already been attempted. Earn a new high score for that level, then observe the stored/best score associated with the level.
- C. Stored/best score for the level should be updated to reflect the new best score just earned.

- A. 020, Stored Level Score After Not Beating Previous Stored Score, Severity 3.
- B. Play a level that has already been attempted. Earn a score for that level that is less than the current high score, then observe the stored/best score associated with the level.
- C. Stored/best score for the level should not have changed.

- A. 021, Stored Level Score After Logging Out, Severity 3.

- B. Log out of the account and log back in.
- C. Should still be able to view the stored best scores for completed levels.

Use Case 9

- A. 022, Overall Stored Score With No Levels Played, Severity 3.
 - B. Observe the overall stored score before playing any levels.
 - C. Account should not yet be associated with an overall best score.
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- A. 023, Overall Stored Score With One Level Played, Severity 3.
 - B. Play one level. Now observe the overall stored score.
 - C. The new overall stored score should be equal to the score earned in the level.
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- A. 024, Overall Stored Score With Two Levels Played, Severity 3.
 - B. Play a second level. Then observe the overall stored score.
 - C. The new overall stored score should be equal to the combined scores earned in the levels.
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- A. 025, Overall Stored Score With New Best Level Score, Severity 3.
 - B. Play a previously played level, and beat the best score for that level. Then observe the overall stored score.
 - C. New overall score should use the new best score for that level in the calculation instead of the previous score for the level.
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- A. 026, Stored Overall Score After Logging Out, Severity 3.
 - B. Log out of the account and log back in.
 - C. Should still be able to view the stored overall best score.

Use Case 10

- A. 027, Create New Account, Severity 1.
 - B. Click sign up and fill out form to create a new account. Click 'Create.'
 - C. User should be logged into new account.
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- A. 028, Create New Account With Invalid Email, Severity 1.
 - B. Click sign up and fill out form to create a new account, but enter an invalid email address. Click 'Create.'
 - C. User should be alerted that the provided email is not valid and be asked to try again.

- A. 029, Create Account With Existing Username/Email, Severity 1.
- B. Click sign up and fill out form to create a new account, but use the username/email associated with an account that already exists. Click 'Create.'
- C. User should be alerted that the username/email is already taken and be asked to try again.

- A. 030, Create Account Without Verifying Password, Severity 1.
- B. Click sign up and fill out form to create a new account, but type a different password in the 'Verify Password' box.
- C. User should be alerted that the passwords do not match and be asked to try again.

Use Case 11

- A. 031, Log into account, Severity 1.
 - B. User inputs proper username and password into the text fields and clicks 'Login'.
 - C. User will be taken to the main page of their game.
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- A. 032, Log into account with invalid email/username, Severity 1.
 - B. User inputs improper username and password into the text fields and clicks 'Login'.
 - C. User will alerted that the email/username is not in the database and remain at login.
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- A. 033, Log into account with invalid password, Severity 1.
 - B. User inputs username and improper password into the text fields and clicks 'Login'.
 - C. User will alerted 'Password Incorrect' and remain on the login page.
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- A. 034, Remain logged into account, Severity 1.
 - B. User is logged into game and exits the program. then returns to the game and is still logged into their account.
 - C. User log in token will be preserved. User will be taken to the page they exited.

Use Case 12

- A. 035, User Clicks Log out/sign out, Severity 1.
 - B. User clicks log out/sign out button.
 - C. User will be prompted 'Do you want to log out?' ('OK' or 'NO').
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- A. 036, User logs out, Severity 1.
 - B. User selects 'OK' at the log out prompt.
 - C. Game state saved. User token will be voided, User will return to the sign in page.

- A. 037, User does not log out, Severity 1.
- B. User selects 'NO' at the log out prompt.
- C. Prompt will disappear and game will resume.

Use Case 13

- A. 038, Hit obstacles, Severity 2.
- B. Ball makes contact with an obstacle.
- C. Ball movement corrects base on the object's effect properties and the bounce count of the ball increases by 1.

- A. 039, Ball hits the hole, Severity 1.
- B. Ball center point passes over the boundary of the hole
- C. Level completes and stats are finalized for that level.

- A. 040, Hit wall, Severity 3.
- B. Ball makes contact with a wall.
- C. Ball ricochets of wall at a corrected angle

- A. 041, Hit sticky pad, Severity 3.
- B. Ball makes contact with a sticky pad.
- C. Ball movement stops or slows based on original speed.

- A. 042, Hit bomb, Severity 3.
- B. Ball makes contact with a bomb.
- C. Ball explodes and level restarts.

- A. 043, Hit treadmill, Severity 1.
- B. Ball makes contact with a treadmill.
- C. Ball movement accelerates in the direction of the treadmill

- A. 044, Hit whirlpool, Severity 1.
- B. Ball makes contact with a whirlpool.
- C. Ball movement is shifted in a new speed related direction

Use Case 14

- A. 045, Open the level creator, Severity 2.

B. Open the level creator and verify that it does not crash and that the UI appears properly.

C. The level creator should not crash, and the UI should look appropriate for the device.

A. 046, Use the level creator to design a level , Severity 1 .

B. Attempt to design a level, placing obstacles in various locations.

C. Verify that the location placement works properly, objects retain their location, and that the controls are user friendly.

A. 047, Play the newly created level , Severity 2.

B. Create a level and attempt to play it.

C. Verify that the level works as expected.

Use Case 15

A. 048, Save a level , Severity 2.

B. Verify that a level can be saved successfully to the device's memory and later opened.

C. The level should be able to be loaded from memory in the same state as it was saved.

Use Case 16

A. 049, Share a level , Severity 2.

B. Attempt to share a custom level.

C. The level should be successfully uploaded to the server.

Use Case 17

A. 050, Browse Shared Levels, Severity 2.

B. User clicks on 'Browse Shared Levels.'

C. View is populated with levels that various users have created.

Use Case 18

A. 051, Play Shared Levels, Severity 2.

B. User clicks on one of the levels.

C. Level is loaded and play may begin.

Non-Functional Requirements

Use Case 1

- A. 100, Load on Web, Severity 1
- B. Load the application on a web browser
- C. The application should load as normal

- A. 101, Load on Mobile, Severity 1
- B. Load the application on a mobile device
- C. The application should load as normal

Use Case 2

- A. 102, Quick Launch Mobile, Severity 3
- B. Launch the application on mobile
- C. The main menu should appear quickly

- A. 103, Quick Launch Web, Severity 3
- B. Launch the application on web
- C. The main menu should appear quickly

- A. 104, Level Load Mobile, Severity 3
- B. Select and confirm a level from the level selection screen on mobile
- C. The level should load and begin quickly

- A. 105, Level Load Web, Severity 3
- B. Select and confirm a level from the level selection screen on web
- C. The level should load and begin quickly

Use Case 3

- A. 106, Memory Load At Launch, Severity 1
- B. Open the app.
- C. The memory usage should be low and not increasing.

- A. 107, Memory Load During Game, Severity 1
- B. Open the app, launch a level.
- C. The memory usage should be constant through playing the level

- A. 108, Memory Load Over Time, Severity 2
- B. Open the app, play 10+ levels (repeats are ok), return to home screen
- C. The memory usage should be consistent with initial launch.

Use Case 4

- A. 109, Test 100 Users, Severity 1
- B. Connect 100 clients to the app
- C. System remains operational, no significant response time changes.

- A. 110, Test 200 Users, Severity 3
- B. Connect 200 clients to the app
- C. System remains semi-operational, or can recover upon users disconnecting.

Use Case 5

- A. 111, Increasingly Difficult Levels, Severity 3
- B. Complete one level, then begin the subsequent unlocked level.
- C. The user should observe that the latter level is more difficult to complete, ie. the target is in a more difficult position, there are more obstacles in the way, etc.

Use Case 6

- A. 112, Number of Levels, Severity 3
- B. Navigate to the view levels screen.
- C. The user should see at least 10 levels (all of which may or may not be unlocked, depending on how many levels the user has completed).

Use Case 7

- A. 113, Initial ball physics, Severity 2
- B. User shoots ball.
- C. Ball should go in the direction and speed applied by the user.

- A. 114, Ball Friction physics, Severity 3

- B. User shoots ball.
- C. Ball should adjust speed to gradually decelerate and maintain direction unless it encounters an obstacle.

A. 115, Ball hits obstacle, Severity 2

- B. User shoots ball and ball makes contact with obstacles.
- C. Ball should go in the modified direction/speed calculated for the given obstacle.

Use Case 8

A. 116, Selection of values from leader board, Severity 2

- B. Admin selects score/s to delete and clicks the 'Trash' button.
- C. Admin is prompted if they would like to delete those entries ('OK' or 'NO').

A. 117, Approve deletion of values from leader board, Severity 2

- B. Admin clicks the 'OK' button.
- C. Values are removed from the database and the view is refreshed.

A. 118, Cancel deletion of values from leader board, Severity 2

- B. Admin clicks the 'NO' button.
- C. The prompt is removed and the original view returns.

Use Case 9

A. 119, Ensure the passwords are secure , Severity 2.

- B. Attempt to access a stored password.
- C. Verify that passwords are stored securely and in an encrypted or hashed state, not plaintext.

Use Case 10

A. 120, Reliable user authentication , Severity 2.

- B. Attempt to log in with a username and password.
- C. Verify that valid logins succeed, and that invalid logins do not.