

Use Case Document: Gravity Guy Game

1. Introduction:

Gravity Guy is a game where users navigate through a challenging environment using gravity-defying mechanics. This document outlines the use cases for the game, covering user authentication, main menu options, gameplay, and database interactions.

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2. User Authentication:

2.1 Sign Up:

Actor: User

Description: The user creates a new account by providing a username and password.

Preconditions: None

Postconditions: User credentials are stored in the database for future validation.

2.2 Log In:

Actor: User

Description: The user logs in using previously created credentials.

Preconditions: User has a registered account.

Postconditions: Successful login; user gains access to personalized features.

3. Main Menu:

3.1 Start Game:

Actor: User

Description: The user selects the "Start Game" option from the main menu to initiate gameplay.

Preconditions: User is logged in.

Postconditions: The game environment is loaded, and the user's character appears on the screen.

3.2 Scoreboard:

Actor: User

Description: The user accesses the scoreboard to view high scores.

Preconditions: User is logged in.

Postconditions: Scoreboard information is displayed from the database.

3.3 Customize Character:

Actor: User

Description: The user customizes their character's appearance.

Preconditions: User is logged in.

Postconditions: Customization settings are saved in the database for the specific user.

4. Gameplay:

4.1 Gravity Guy Movement:

Actor: User

Description: During gameplay, the user controls the character's movement using the space bar.

Preconditions: The game has started.

Postconditions: Character moves up or down based on space bar input.

4.2 Boundary Interaction:

Actor: User

Description: If the user hits a boundary, the character sticks to that boundary.

Preconditions: The game has started; the user interacts with a boundary.

Postconditions: Character remains attached to the boundary until it disappears.

4.3 Out of Bounds:

Actor: User

Description: If the character goes beyond the map boundaries, the game ends.

Preconditions: The game is in progress.

Postconditions: Game over screen is displayed, and the user is brought back to the main menu.

5. Database Interaction:

5.1 Saving User information

Actor: System

Description: At the start of loading the page, the user signs up with username and password which is stored in the table.

Preconditions: The website is loaded in

5.2 Saving Game Stats:

Actor: System

Description: At the end of the game, the user's stats are stored in the Game Table.

Preconditions: The game session has ended.

Postconditions: Game statistics are recorded in the database.

5.3 Loading Scoreboard:

Actor: System

Description: The system retrieves and displays the scoreboard from the Scoreboard Table.

Preconditions: User accesses the scoreboard.

Postconditions: Scoreboard information is presented to the user.

5.4 Loading Customization:

Actor: System

Description: Customization settings are loaded from the Customize Table for the specific user.

Preconditions: User accesses the "Customize Character" option.

Postconditions: User's customization preferences are applied during gameplay.