**Game Report**

**Game Name: Breakout game**

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**Elements and Goals of the Game:**

The game is a Breakout-style game with the following elements:

* **BouncyBall:** The ball continuously bounces.
* **PlayerMovement:** Allows the player to move the paddle horizontally to bounce the ball.
* **LevelGenerator:** Generates the grid of bricks at the beginning of the game.
* **BackgroundMusic:** Ensures that the background music persists between scenes.
* **TextMeshProUGUI:** Displays the player's score on the screen.
* **UI Panels:** Showcases game over and win panels.

The primary goal of the game is to eliminate all the bricks using the bouncing ball while avoiding letting the ball fall below a certain y-coordinate. The player wins by clearing all bricks or loses when lives run out.

**How the Elements Move:**

* **BouncyBall:** Moves downward initially and bounces off surfaces. Its velocity is limited to a maximum value.
* **PlayerMovement:** Allows the paddle to move horizontally within specified bounds.

**How the Parts Interact:**

* **BouncyBall and Bricks:** Collision triggers the destruction of bricks, increasing the score. When all bricks are destroyed, the player wins.
* **BouncyBall and Game Over:** If the ball passes a certain y-coordinate and no lives are left, the game ends.
* **PlayerMovement and Game Boundaries:** Ensures the player paddle stays within the specified horizontal boundaries.

**Code Snippets:**

**Snippet 1: BackgroundMusic**

**A computer screen shot of a program code

Description automatically generated**

* This code ensures that only one instance of the background music persists across scenes using the Singleton pattern. It prevents the music from restarting when transitioning between scenes.

**Snippet 2: LevelGenerator**

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* The Awake method generates the initial grid of bricks when the level loads. It instantiates bricks, positions them based on grid parameters, and assigns colors using a gradient.

**Snippet 3: BouncyBall**

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* The Update method contains logic for handling ball movement, scoring, and win/lose conditions. It checks if the ball falls below a certain y-coordinate, updates the score, and triggers game-over or win scenarios.

**Snippet 4: PlayerMovement**

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* The Update method allows the player to move the paddle horizontally based on user input. It ensures the paddle stays within the specified boundaries.

In conclusion, the Unity Breakout style game combines all the key elements such as player-controlled movement, ball physics, and dynamic brick generation the code snippets reveal an organized structure from music persistence to level creation and interactive gameplay the game achieves its goals of providing an engaging experience challenging the player to clear bricks.

Reference:

SilverlyBee, Breakout | Simple Game Tutorial Unity 2D for Beginners Retrieved from <https://www.youtube.com/watch?v=jyXZ3RVe5as>