

Game Design Document of Roll a Ball Game

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The name of the Game

Roll a Ball Game

Concept

Roll a ball game is a very classic unity 3D game. In the original official teaching, we learned how to make the ball move, how to make the camera follow the ball, how to trigger events when contacting with objects, and so on. In my roll a ball game, I added the following five feature enhancements.

1. Add background music to make the game more vivid.
2. By getting different props, change the size of the ball to pass through the following terrain.
3. Add different landforms to improve the difficulty of the ball to reach the destination.
4. Make the obstacles move to increase the difficulty of the game.
5. Set the end conditions of the game, for example, going out of bounds or hitting a special object, to enhance the playability of the game.

Game Flow

Players control the ball to collect a specified number of yellow props to win. During this period, players need to make the ball bigger or smaller by collecting blue or red props to let the ball pass through the following terrain. In addition, don't touch some moving obstacles, and don't go out of bounds, because that will make you lose.

Game Elements/Assets

Player: A wooden ball that can be controlled to move.

Main Camera: The camera will follow the ball keeping a fixed angle.

Topographies:

- Ground: The ball can move normally on it without restriction.
- Wall: The ball will be blocked.
- Pipeline: The ball can only follow the trajectory of the pipeline. The ball is too big or too small to move normally.
- Obstacle: Blocks that can move. When the ball collides with an obstacle, the game fails.

Props:

- Yellow Cube: Yellow collection. When the number of collections reaches the expected level, the game wins.
- Blue Cube: Bigger props. When the ball collects this prop, the size of the ball will double.
- Red Cube: Smaller props. When the ball collects this prop, the size of the ball will be half.

Audios:

- Background music: From the beginning of the game, the background music will be played in a loop.
- Ding Audio: When collecting yellow props, the audio will be played.
- Duang Audio: When collecting blue props, the audio will be played.
- Xiu Audio: When collecting red props, the audio will be played.

Canvas:

- Count Text: This text box will tell the player the conditions to win and the progress of the game.
- Win Text: This text box will tell the player whether to win or lose.
- Replay Button: When the player wins or loses, the button will appear. Click to restart the game.

Main Character(s)

A wooden ball, players can control the movement of the ball through the up, down, left and right buttons of the keyboard.

Story

It's a small ball's journey home. The ball has to go through a lot to get there. During this period, the ball changes its volume through different props to adapt to the next terrain. In addition, the ball also needs to collect yellow props on the way, so as to give these gifts to the children at home.

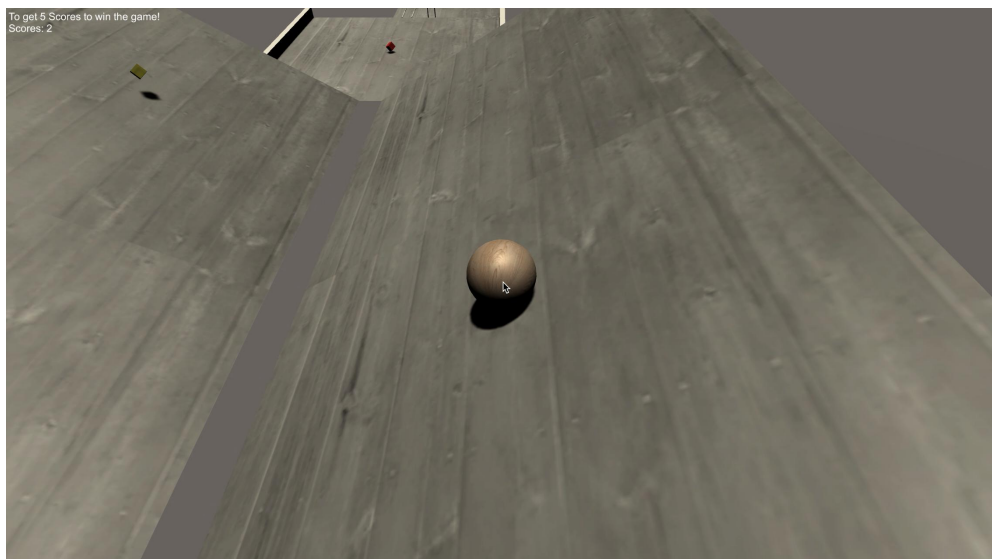
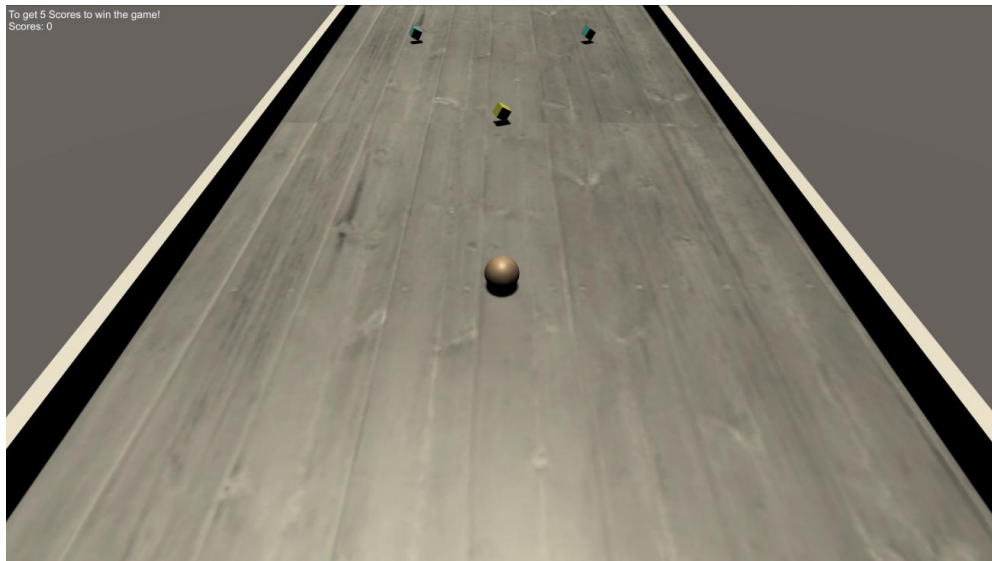
Gameplay

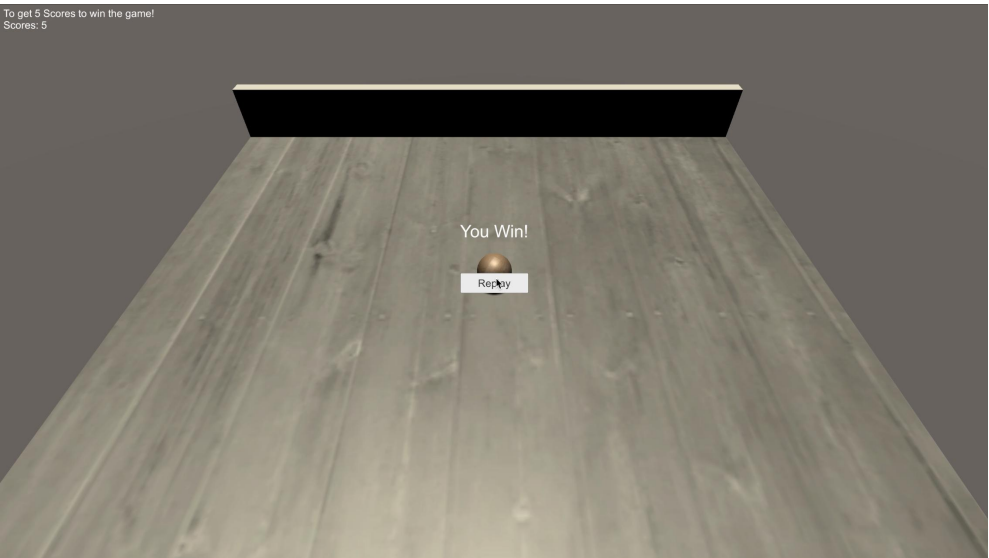
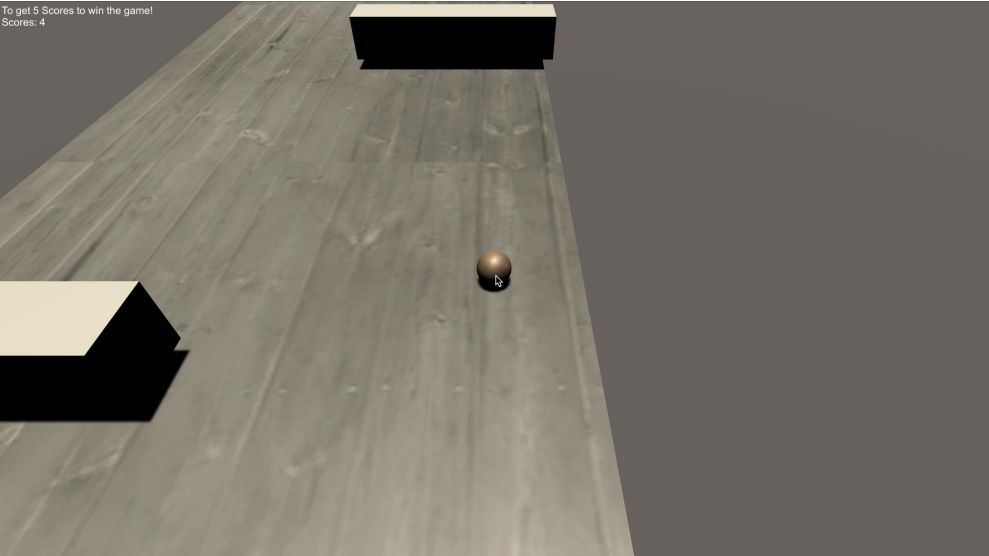
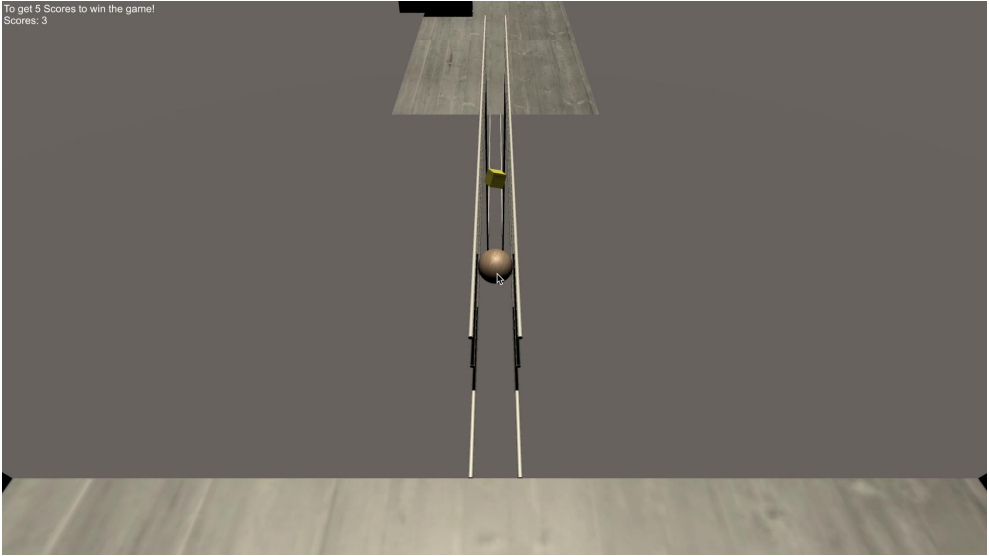
It's just a game for fun. The player needs to click the up, down, left and right buttons of the keyboard to control our character, a wooden ball to reach the destination. On the way, player also needs to control the ball to collect the yellow props so that to finish the goal of the game. Due to the different terrain have different requirements for the size of the ball, player also needs to think how to use the bigger props and small props to change the size of the ball to go through the following terrain. There are also some obstacles moving to block the ball. Don't touch them, or you will lose the game. You need to control the time and speed of the ball to avoid them. Pay attention to the

bound of the ground. If you fall off, you will also lose. By the way, you can restart the game when you lose or win the game.

Graphics and Styling

In order to make the game vivid, I add skins to the ground and ball so that it looks a little more real. In addition, I add different color for different props so that they can be distinguished clearly. The props will rotate constantly so that they look lively. In addition, I adjust the direct light to 90 degrees so that we can clearly see the suspended state of the object.





Music and Sound Effects

I add soft background music to this game. And it will be played in a loop at the beginning of the game so that to make players relax. I also add different audios to different conditions when the ball collects different props. For example, there will be a 'ding' audio when collecting a yellow prop. Besides, when ball become bigger or smaller, there will be a 'duang' audio or a 'xiu' audio.

Technical Description

The platforms that have up, down, left and right inputs devices, the game can be launched. We just need to choose different platform packaging methods in unity build.