



Challenge 3

Balloons & Booleans



Challenge Overview:

Apply your knowledge of physics, scrolling backgrounds, and special effects to a balloon floating through town, picking up tokens while avoiding explosives. You will have to do a lot of troubleshooting in this project because it is riddled with errors.

Challenge Outcome:

- The balloon floats upwards as the player holds spacebar
- The background seamlessly repeats, simulating the balloon's movement
- Bombs and Money tokens are spawned randomly on a timer
- When you collide with the Money, there's a particle and sound effect
- When you collide with the Bomb, there's an explosion and the background stops

Challenge Objectives:

- In this challenge, you will reinforce the following skills/concepts:
- Declaring and initializing variables with the GetComponent method
 - Using booleans to trigger game states
 - Displaying particle effects at a particular location relative to a gameobject
 - Seamlessly scrolling a repeating background

Challenge Instructions:

- Open your **Prototype 3** project
- **Download** the "Challenge 3 Starter Files" from the Tutorial Materials section, then double-click on it to **Import**
- In the *Project Window* > *Assets* > *Challenge 3* > **Instructions** folder, use the "Challenge 3 - Instructions" and Outcome video as a guide to complete the challenge

Challenge

Task

Hint

1	The player can't control the balloon	The balloon should float up as the player presses spacebar	There is a "NullReferenceException" error on the player's rigidBody variable - it has to be assigned in Start() using the GetComponent<> method
2	The background only moves when the game is over	The background should move at start, then <i>stop</i> when the game is over	In MoveLeftX.cs, the objects should only Translate to the left if the game is <i>NOT</i> over
3	No objects are being spawned	Make bombs or money objects spawn every few seconds	There is an error message saying, "Trying to Invoke method: SpawnManagerX. PrawnsObject couldn't be called" - spelling matters
4	Fireworks appear to the side of the balloon	Make the fireworks display at the balloon's position	The fireworks particle is a child object of the Player - but its location still has to be set at the same location
5	The background is not repeating properly	Make the background repeat seamlessly	The repeatWidth variable should be half of the background's <i>width</i> , not half of its <i>height</i>

Bonus Challenge

Task

Hint

X	The balloon can float way too high	Prevent the player from floating their balloon too high	Add a boolean to check if the balloon isLowEnough , then only allow the player to add upwards force if that boolean is true
Y	The balloon can drop below the ground	Make the balloon appear to bounce off of the ground, preventing it from leaving the bottom of the screen. There should be a sound effect when this happens, too!	Figure out a way to test if the balloon collides with the ground object, then add an impulse force upward if it does