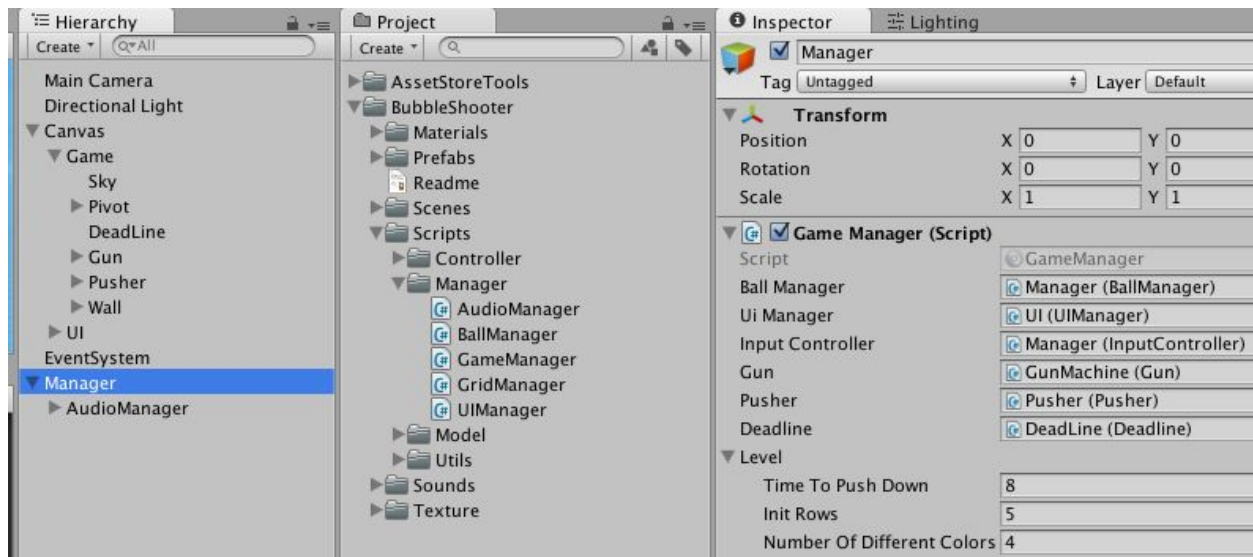


# Simple Bubble Shooter

This is a simple starter kit for anyone who would like to skip the first construction logic of this game genre. The prototype is a complete game which allows many customized parameters.

P.s: I admit myself following the style of comment elimination. I prefer the descriptive function name and variables leading to you will find code rarely have any comments.

## Code structure



**GameManager** will manage game logic and game states including win, lose, start, etc. which reference to all main components of game. Main components in game include:

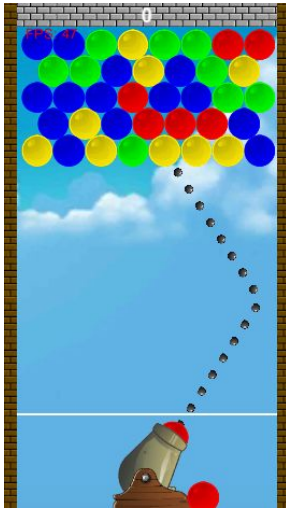
- **BallManager** refer to **GridManager** to manage the ball logic, checking exploded ball, pushing down over time, etc.
- **UIManager** is responsible UI display such as display score, game over and manage parallax scrolling background image.
- **InputController** receives input from user mouse/touch interaction and send to the events which were registered before.
- **AudioManager** is a simple audio management consist of AudioSources.

**GameManager** also refer to game mechanic which consists of gun, deadline, pusher.

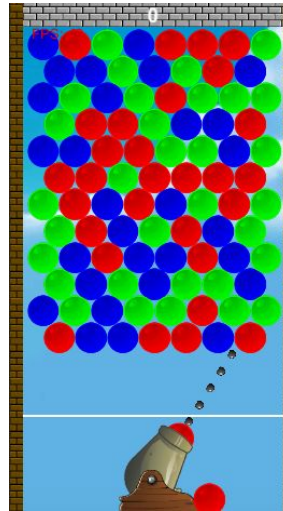
**GameManager** also allow to customize level including:

- TimeToPushDown ( > 1 seconds): time between each pusher
- InitRows (from 2 to 13 rows): initial rows of ball

- NumberOfDifferentColors (from 2 to 5 colors): numbers of different ball colors (e.g. red, green, blue, yellow, pink)

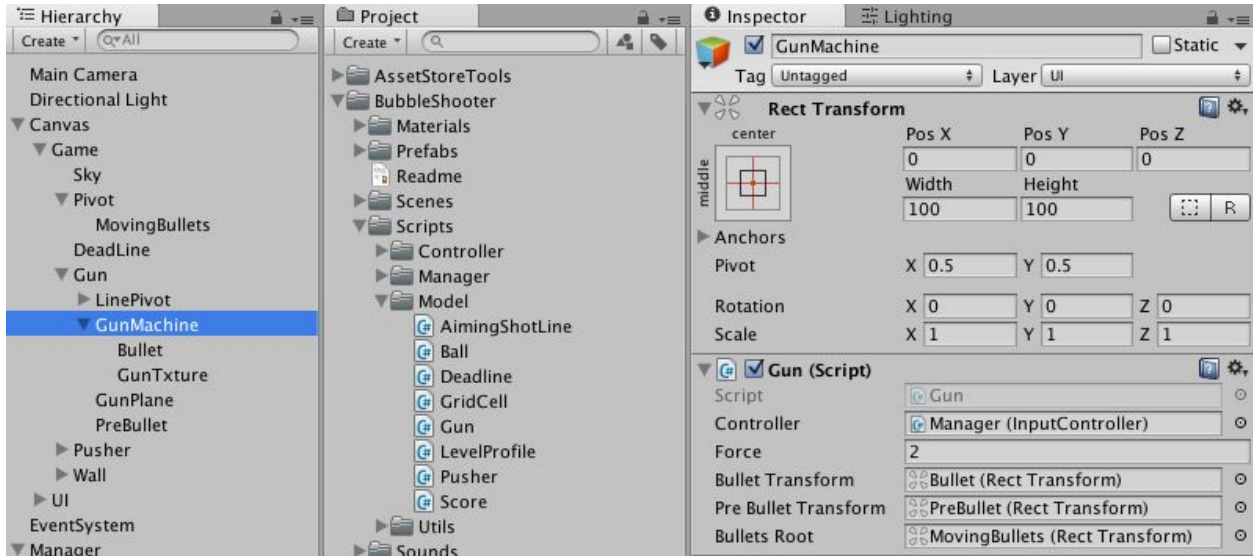


TimeToPushDown = 8  
InitRows = 5  
NumberOfDifferentColors = 4

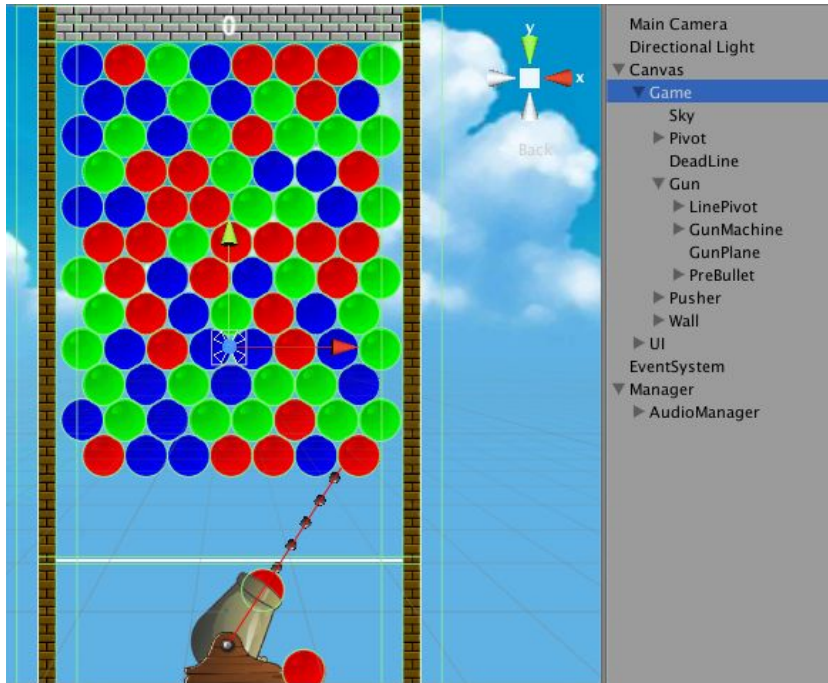


TimeToPushDown = 8  
InitRows = 13  
NumberOfDifferentColors = 3

You can also adjust the gun shooting speed by **Force** parameters in GunManager script.



## Game Mechanic



Inside Game canvas, there are components:

- **Sky** is responsible for scrolling background.
- **Pivot** contains list of generated balls as well as moving bullets (ball before stick on ball called bullet)
- **Deadline** is a white line above the gun. When any ball reach the line, the game is over.
- **Gun** contain Aiming Shooting Line (using Raycast2D), Gun mechanic (receive input controlling and rotate the gun following that), Gun Plane (texture) and Pre Bullet (ball bullet on the plane before putting in the gun)
- **Pusher** is on top brick which push down every delta time (adjusted in level).
- **Wall** consists of two side walls.

## Game physics

Based on Unity Physics2D, there are add-in game layers

- Ball
- Bullet
- Deadline
- NonInteraction
- Wall
- WallForAimingLine

Ball is shot, fallen or exploded based on Unity Physics2D. As first released from the gun, the ball is **Bullet** layer. It is **Ball** layer when it hit other balls and stick on them.

**Ball** layer is also set to the Pusher because

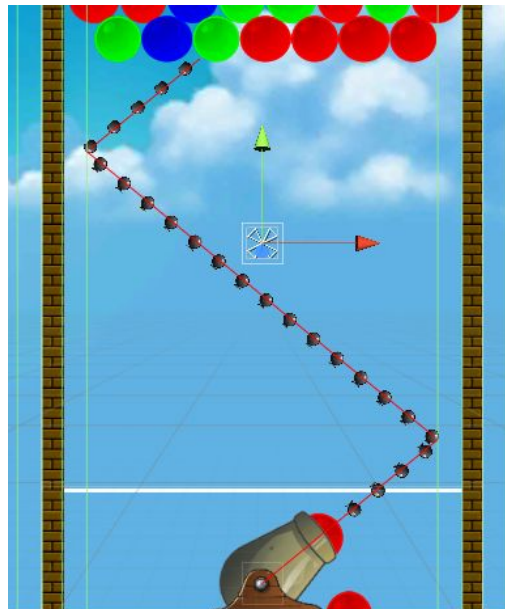
its physics side is the same with other sticking balls. When the ball explodes or falls, it is set to **NonInteraction** layer and falling using gravity without interaction with any part of game.

**Deadline** layer interacts with **Ball** layer only, ignores the **Bullet** layer.

Both **Wall** and **WallForAimingLine** layer is use for two side walls (left and right). The **Wall** layer will interact with ball collider whereas the other aims to collide with raycast aiming shooting line.

▼ Layer Collision Matrix

	WallForAimingLine	Wall	NoInteraction	Bullet	Ball	Deadline	UI	Water	Ignore Raycast	TransparentFX	Default
Default	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
TransparentFX	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Ignore Raycast	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Water	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
UI	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Deadline	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Ball	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Bullet	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
NoInteraction	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wall	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
WallForAimingLine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



If you have any questions, support, or idea contribution, please don't hesitate to contact me via [dttn91@gmail.com](mailto:dttn91@gmail.com) or [udrawr@gmail.com](mailto:udrawr@gmail.com)