Tank Shooter Starter Kit

This package provides useful assets and scripts to make the arcade tank shooter game. It contains scripts for player controls, enemy AI, basic game user interface and some others. All tank models and levels made using Unity primitives and they can be easily replaced to other 3D models.

Project Overview

First of all, consider the contents of this package. After importing the package you can see TankShooter folder with all assets folders:

1) **Textures** folder: contains sprites for UI elements (lifebar, touch joystick) and textures for ingame objects (level blocks).
2) **Sounds** folder: contains sound effects and music used in the package.
3) **Animations** folder: currently contains only two animations: smoothly to show and hide CanvasGroup UI objects using alpha value.
4) **Scenes** folder: contains .scene files – menu scene and 3 levels for demonstration of package.
5) **Prefabs** folder: contains prefabs of all game objects (player and enemy tanks, level blocks, particle system effects (explosions) and bullets.
6) **Materials** folder: contains materials for game objects (tanks, level, bullets and bullet trails).
7) **Scripts** folder: contains all package scripts written with C# language.

Objects Overview

1. Bullets

Scripts for bullets are located in /Scripts/Bullets folder. BaseBullet.cs script is the base class for all type of bullets containing general logic.

Bullet objects (prefabs) can be found in /Prefabs/Bullets folder. Bullet object must contain Rigidbody and TrailRenderer component.

There are 3 types of bullets in this package:

1) Bounce Bullet – can bounce off walls (objects with Bound tag). This bullet contains BounceBullet component which can be set the speed of bullet, power (how much life it takes), count of bounces before explosion and explosion particle system prefab.

2) Mortar Bomb - flies along the arc and can overcome the walls. This bullet contains MortarBomb component.

3) Homing Missile – before firing it tries to find the target and flies to it. If target not found it flies forward. This bullet contains HomingMissile component.

2. Tanks

In /Prefabs/Player folder you can find tanks for player:
1) PlayerTank1 – tank which shoots bounce bullets;
2) PlayerTank2 – tank which shoots mortar bombs;
3) PlayerTank3 – tank which shoots homing missiles.

In /Prefabs/Enemies folder you can find tanks for enemies:

1) BlueEnemy – enemy tank which shoots bounce bullets;
2) BrownEnemy – enemy tank which shoots 3 bounce bullets simultaneously;
3) OrangeEnemy – enemy tank which shoots bounce bullets, moves faster and follow the player;
4) RedEnemy – tank which shoots mortar bombs;
5) BlackEnemy – tank which shoots homing missiles.

Structure of player's tank and enemy's tank is very similar, the only difference is that player's tank contains TankController component but enemy's tank contains EnemyAI component.
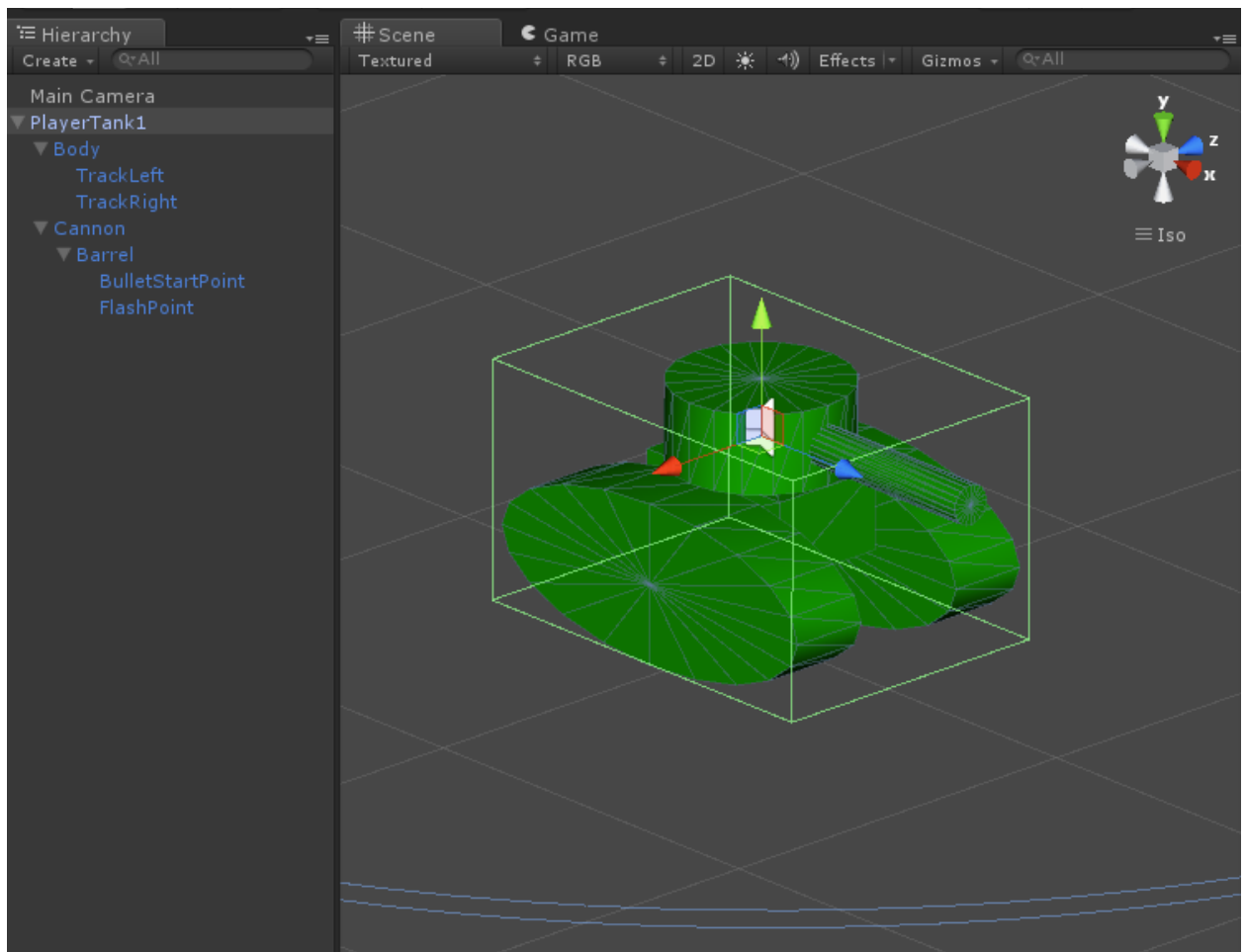
Look at the tank object structure in Hierarchy view. First of all, it has root object (PlayerTank1 on picture) with TankController (or EnemyAI for enemy), Rigidbody (to physics move) and AudioSource (Explosion sound) components. This object contains 2 separate child objects: Body and Cannon. It's because the cannon of tank can move independently of other parts of tank.

Body object should have BoxCollider to collide with other objects in the game and contains other parts of tank like tracks.

Cannon object have Cannon component which allows to set the target of bullets (Player or Enemy), type of bullet and bullet prefab, start points of bullets, trail material for bullet, points to show flashes (when fire) and flash prefabs (particle system) and also how much bullets can be fired in row without delay. Also the Cannon object contains AudioSource component with Fire (Shoot) sound. Inside the Cannon object you can find Barrel object with few empty childs (BulletStartPoint, FlashPoint). These child objects needed to determine where bullet starts moving and where flash effect is appear.

As mentioned, root object of player tank contains TankController which allows to change explosion prefab, count of player's lifes, speed of tank move, speed of rotation body and cannon and touch joystick for mobile controls. If you compile the game for mobile (Android, iOS or WP8) make sure that Left Joystick and Right Joystick are not empty, it's needed to control the tank.

Main component for enemy tank is EnemyAI and it allows to set the explosion prefab of tank, lifes of enemy, minimum and maximum

distance to move (in units), speed of move and rotation, delays between fire and if the enemy should chase the player.

3. Level Objects

Each game level have plane (floor) with Default layer and 4 bound blocks with Bound layer to close the moving area. It is important to use the specified layers, because they are used in code. Also you can add some obstacles inside the level and they should have Bound or Default layer. If the obstacle can be broken (exploded) you can add Breakable component into it and change it's tag to Breakable and layer to Default. As an example, you can find BreakableBox prefab in /Prefabs/Level folder.

4. UI Objects

To show the GUI and for mobile controls new GUI system of Unity used (uGUI). All button events located in GameButtonEvents and MenuButtonEvents scripts. In menu and all level scenes you can see MAIN object. This object contains Gameplay component to listen the game state and show menus, AudioSource with music track and one of said scripts with button events.

If you have any questions or suggestions you can contact us via email: electricpunch1@gmail.com