Air Strike Starter Kit 1.0

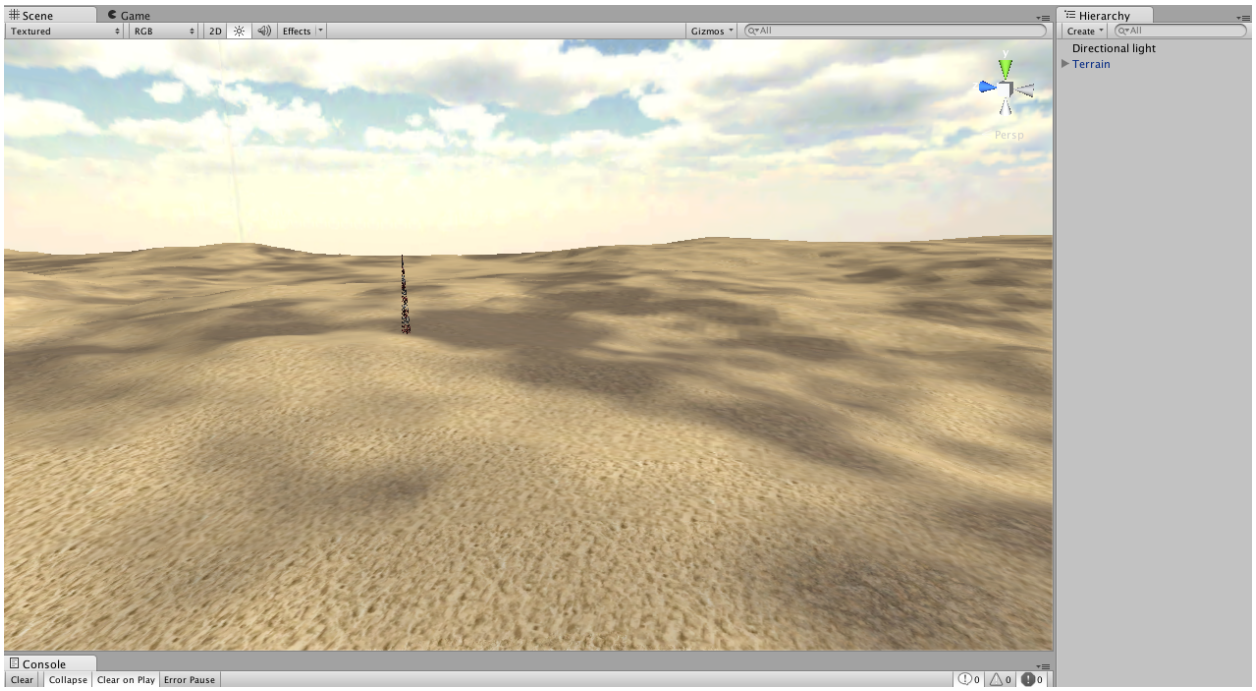
Basic Manual

Welcome to Air Strke Starter Kit. in this document will show you how to setup and create your Air combat game in a few steps.

Let’s Start.

Setup environment.

Setup scene and environment. in this Sample i using desert terrain to be a starter you can find the terrain in AirStrike/Prefabs/Game/Terrain you have to adding a skybox and direction light. it’s make the scene look good.



1. Add Terrain to the scene. **AirStrike/Prefabs/Game/Terrain**
2. Setup lighting and Skybox **Edit > Render Setting** add **skybox material**

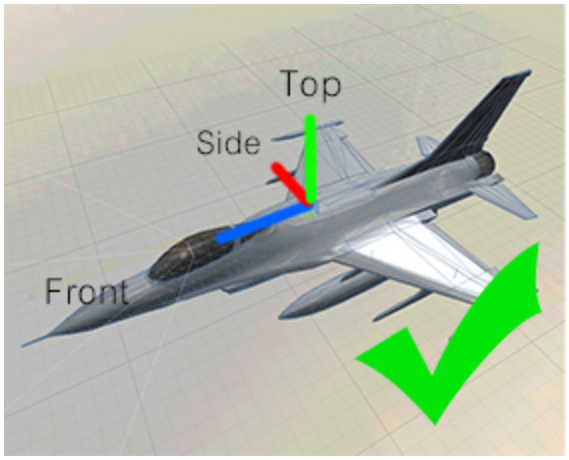
Setup Camera

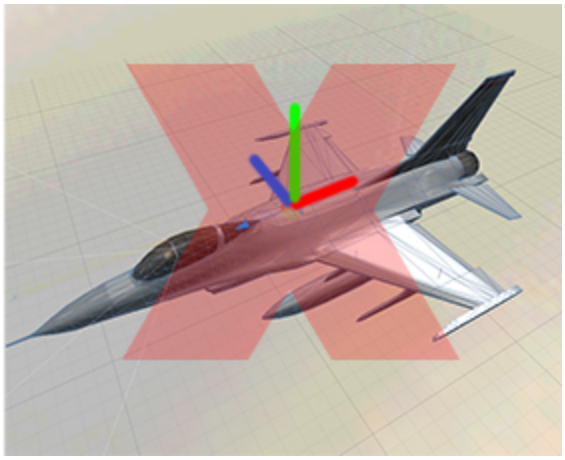
add **FlightView.prefab** to the scene **AirStrike/Prefabs/FlightView**
(if your scene have a **MainCamera** already please remove it.)

Setup **Player** Fighter *Setup 3d Model*

1. import 3d Fighter to the scene **AirStrike/Models/f16a**
2. remove **Animation** component

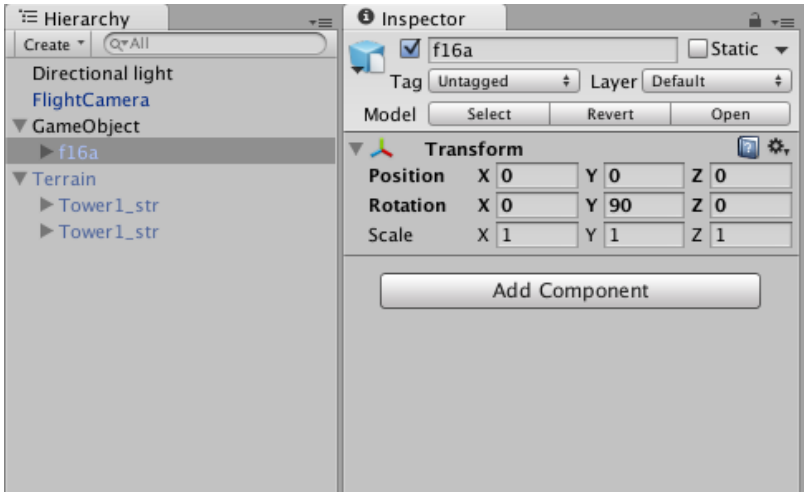
Importance! Make sure the model pivot is always in correct direction
Blue Z axis is must be front, **Red X** axis is must be side, **Green Y** axis is must be top





if your model are in direction already please skip below step.
in this case our F16 model is wrong direction we have to fix it first.

1. Create **Empty GameObject**
2. Add F16 model into **GameObject** node.
3. Rotate to correct direct. and named **GameObject** to **F16**



Setup **Player** Fighter *Setup Component*

3. add **Plane_Player.cs** to the model and Tagged to **Player**
4. setting **parameters**

After Add **Plane_Player.cs** into the model you will see a group of components are included automatically those components will let's you custom a parameters of your Fighter

Please look at **parameter** in **FlightSystem** Component

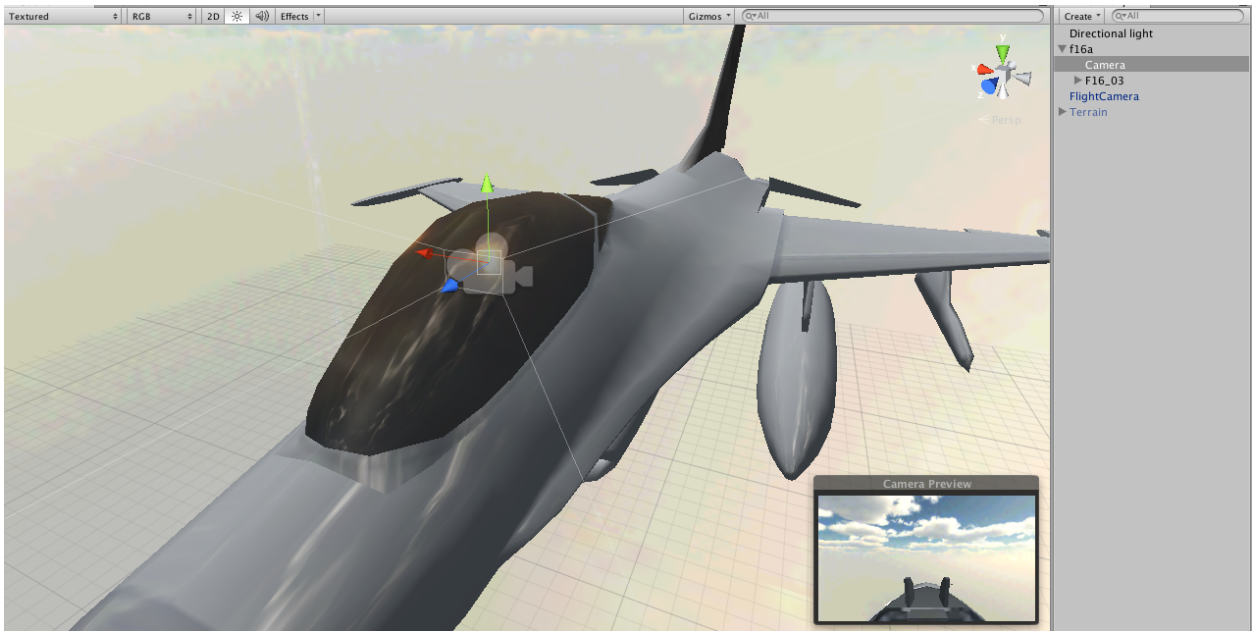
- **Speed** : normal speed
- **Speed Max** : max speed
- **Rotation Speed** : speed of riggid body rotation multiplier
- **Speed Pirch**
- **Speed Roll**
- **Speed Yaw**
- **Damping Target** // use only in AI mode
- **Auto pilot** // use only in AI

You can fly test now.

Now you can control this F16 Fighter to free flying and rotation around the scene. via W A S D see more at **AirStrike/Scripts/Player PlayerController.cs**

Setup **Player** Fighter *Cockpit Camera*

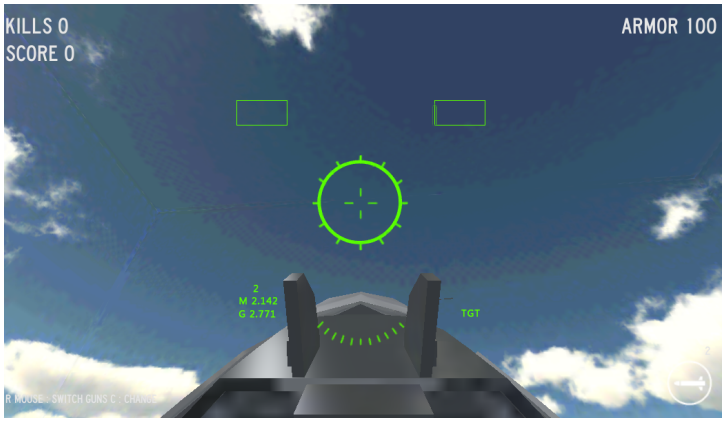
1. Create **Camera** and child it into this **F16** hierarchy
2. Setup positon and disable camera and sound listener



You can add more cameras if you wanted **Indicator.cs** will find those camera and add it to cameras list automatically you can swith a camera while playing by **Press C** see more and change input at **AirStrike/Scripts/Player PlayerController.cs**

Note : to make it better Add Scripts/Component/**CameraSway.cs** component to the camera.

Fly test and **Press C** to see the result

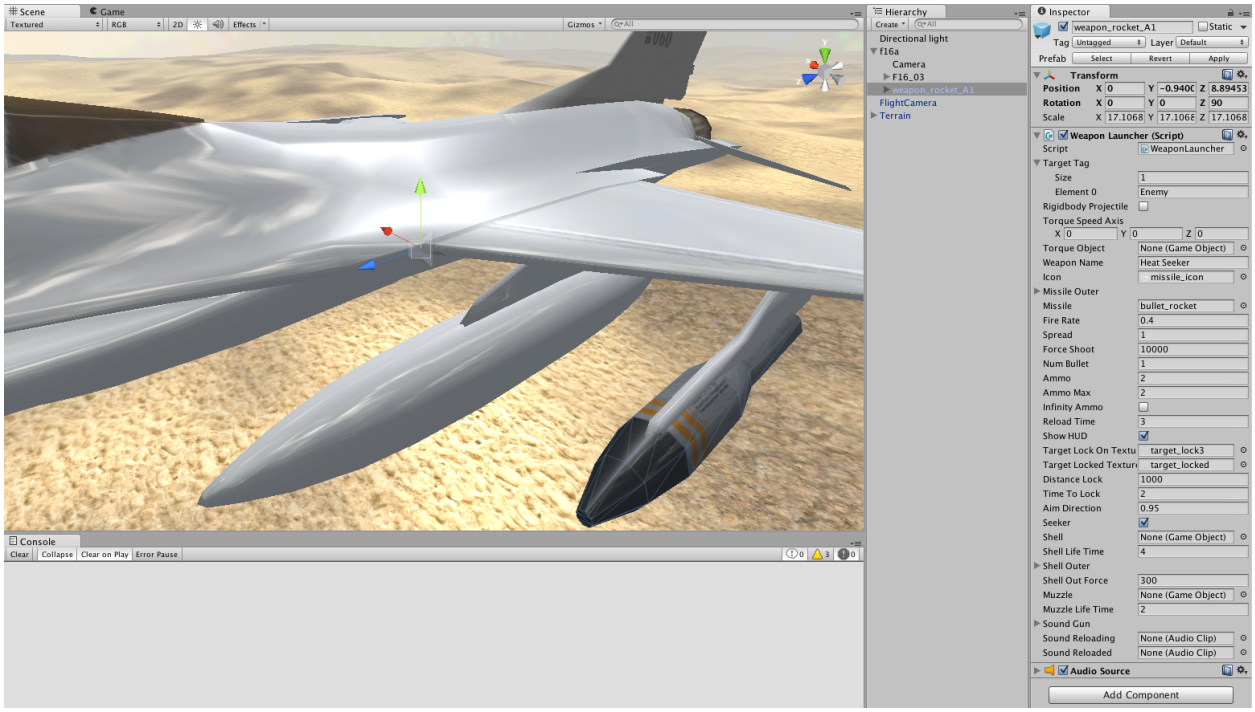


Setup **Player** Fighter *Weapon System*

1. Select one of **Launchers** from **AirStrike/Prefabs/Weapons/Launchers/**
in this sample we use **weapon_rocket_A1**
2. Attach it to your F16 Fighter
3. See **Target Tag** parameter in **WeaponController** component on your F16 Fighter

Target Tag in **WeaponController**
this parameter has been set **TargetTag[0]** = "Enemy" by defult. but you have to add all of opponent Tag into this list. this weapon will works with any targets are taged.

*Note*** remember you have to set tag to all fighter. e.g. "**Player"** to friend "**Enemy"** to foe



WeaponController component are finding all weapons and add it to the Weapon list automatically.

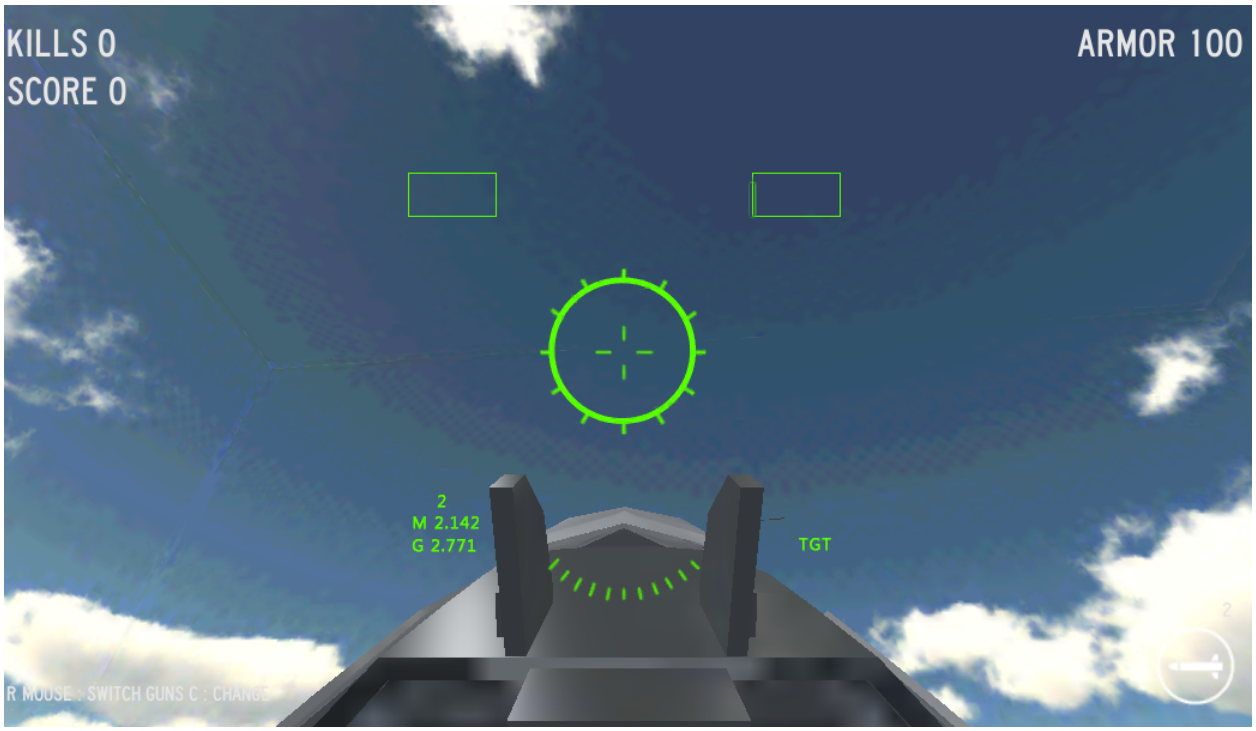
You can fly test **Press mouse 1** to shoot something.

Setup **Player** Fighter *HUD*

1. Please see **Indicator** component in your **F16**
2. Set parameters

- **Target Tag :** list of other fighter tag
- **Nav Texture :** texture for each Target Tag will show in HUD
- **Crosshair**
- **Crosshair_in**
- **Crosshair Offset**
- **Crosshair Offset_in**
- **Distance See** : distance form other fighters to show in HUD
- **Alpha : HUD :** opacity
- **Cockpit Camera** : all cameras are attached
- **Primery Camera Index** : index of cockpit camera

Fly test and switch a camera (press C) to see the result



Setup **Player** Fighter *Health and Damaged*

See **Damage Manager** Component look at **parameters**

- **Hit Sound :** got hit sounds.
- **Effect :** Dead replacement after died *e.g. Explosion*
- **HP :** Health point
- **On Fire Particle :** Smoke particle when HP lower than 50%

Get Crash

if you wanted to hit the terrain and get explosion.

1. Add **Flight On Hit** Component to the plane
Scripts/FlightSystem/FlightOnHit.cs
2. Setting **parameter**

- **Tag :** List of any objects that can be hit and got damaged
- **Damage :** Damage
- **Sound On Hit**

Setup **AI** Fighter

For the AI fighter you have to setup 3d Model and Weapon same process as **Player** Fighter.
But you have to add **Plane_AI.cs** instead of **Plane_Player.cs**

Setup **AI** Fighter *Setup Component*

3. add **Plane_AI.cs** to the model Tagged to **Enemy** or **Friend**
4. setting **parameters**

After Add **Plane_AI.cs** into the model you will see a group of components are included automatically. those components will let's you custom a parameters of your **AI**

Please look at **parameter** in **AIController** Component

- **TargetTag :** list of opponent Tags
  *e.g. if Enemy set to **Player** or **Friend** if Friendly set to **Enemy***
- **Target :** current target
- **TimeToLock time :** duration before select a target
- **AttackDirection** : shooting direction facing between target and AI
  (0 - 1) 1 shoot only front 0 shoot all around
- **DistanceLock :** targets finding range
- **DistanceAttack :** shooting distance

  See more Battle Position and Center of battle next page..
- **BattlePosition** : middle of battle area position
- **CenterOfBattle :** // middle of battle area object (optional)

- **AIstate :** AI state
- **AttackRate :** attack rate 0 - 100 if 0 shoot less , 100 always shoot
- **FlyDistance :** limited distance between (BattlePosition and AI position) , this is will create a circle battle area and AI cannot go far out of this area.

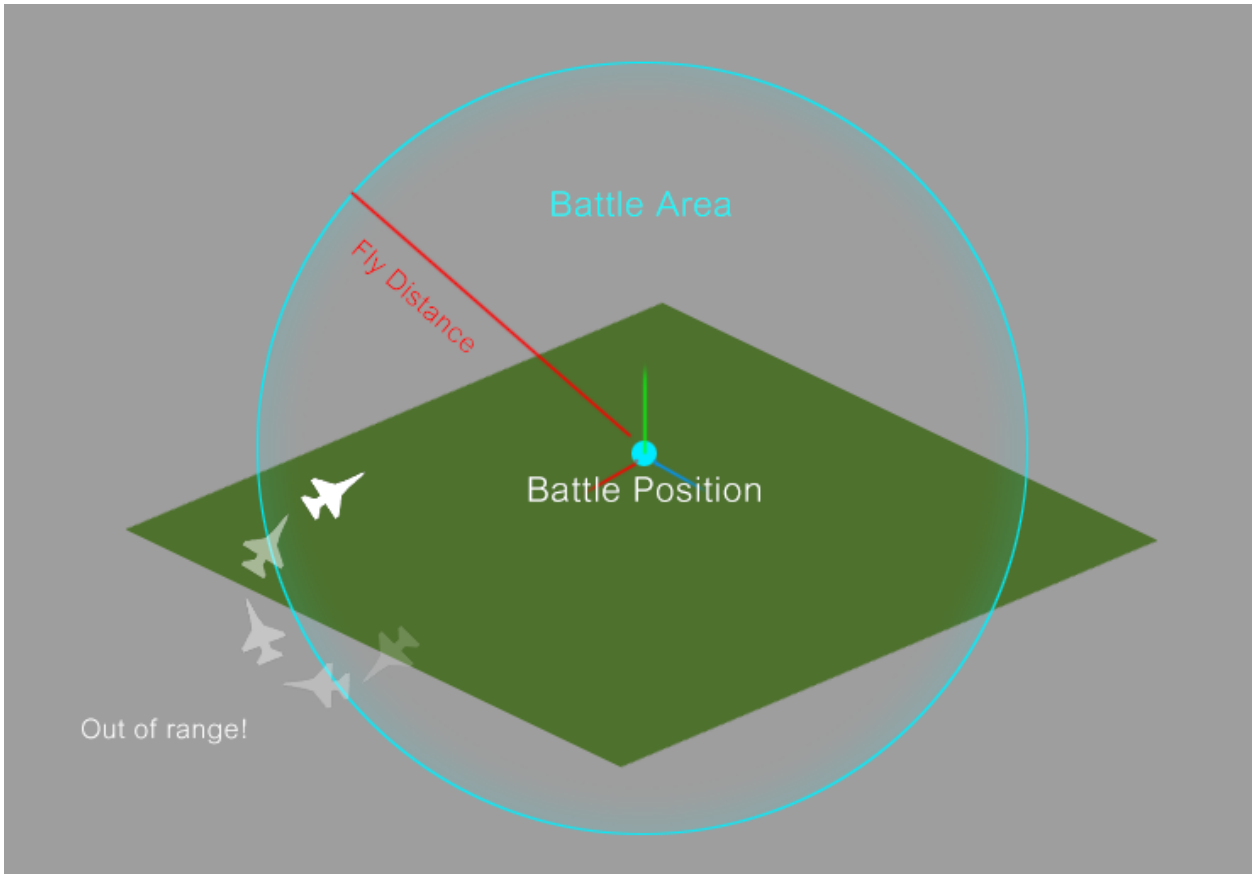
Note** You don't need to custom much. just add **Target Tag** and define your battle area by set **CenterofBattle** or **Battle Position**

Battle Position for **AI**

Make sure the Battle Position has been set in correct location of battle field.
you can also add **BattleCenter.cs** to any object that you wanted using as a Battle area.
if you add it to a **Moving object** or **Player Fighter** Battle area will be a dynamic area.

AirStrike/Scripts/AI/**BattleCenter.cs**

e.g. add **BattleCenter.cs** into a Battle Ship. so all Fighters AI are flying and battle around it.



AI will always turn back to the center if they are running out of Battle Area.
If battle position is not defined, AI will flying to (0, 0, 0)

Fixed Floor if Enabled. Fighter AI will never flying lower than Battle position

Create New Weapon

The weapon instruction included 3 part

1. Launcher
2. Bullet
3. Combine

Part 1. Launcher

- Create empty object or using 3d mesh such as Gun model , Rocket Launcher etc...
- Add **WeaponLauncher.cs** Component
- Edit **Parameter**

- **Target Tag** is tag of target e.g.. Enemy , Player
- **Riggidbody Projectile** set True the gun will shoot with AddForce()
- **Torque Speed Axis** Rotation Axis of Torque object
- **Torque Object** using to rotation when shooting
- **Missile Outer** position of bullet shoot out
- **Missile** is Bullet Prefeb
- **Fire Rate**
- **Spread** is how the gun accuracy 0 is very stable
- **Force Shoot** shooting force of this gun
- **Num Bullet** is num of bullet per shot
- **Ammo**
- **Ammo Max**
- **Infinity Ammo**
- **Time Reload**
- **Show HUD** set True will show indicator of target seeker on screen
- **TargetLockOnTexture**
- **TargetLockedTexture**
- **Distance Lock** Distance between weapon and target are posible to lock
- **Time to Lock** Duration time before locked
- **Aim Drection** 0 - 1 ,0 can lock every whare around weapon.
- **Seeker** enable / dusable Target Seeker
- **Shell** shell prefab
- **ShellOuter** position shell spawning
- **ShellOutForce** is sheel out force
- **Muzzle** muzzle effect object
- **Muzzle Life Time**
- **Sound** Gun
- **Sound Reloading** sound when start relload
- **Sound Reloaded** sound when reload finish

Part 2. Bullet

1. Add bullet 3d model to the scene setup **collider** and **riggidbody**
2. Tagged to **Bullet** *importance!!*
3. Add **MoverMissile.cs** component as a Missile
or Add **MoverBullet.cs** component as a Normal bullet
4. Add **Damage.cs** Component

see **parameters** in **Damage** component

- **Edit Parameter**
    - **Effect** , ex. Explosion particle
    - **Damage** is Damage point
    - **Target Tag** can be null
    - **Explosive** Enable/Disable Explosion damage
    - **Explosion Radius**
    - **Explosion Force** is force of explosion
    - **Hited Actice**
    - **Time Active** time count down to active damage using to create grenade

Part 3 Combine

- Add bullet prefeb to Launcher at **'Missile'** Parameter
- Call gameObject.GetComponent<**WeaponLauncher**>().Shoot();

Mobile Devices.

This version are included Mobile controller in PlayerController.cs already and ready to running test in on actual devices.

Mobile tips.

- Remove particle or keep it less as possible by using sprite sheet.
- Keep low number of AI Fighters
- Keep low Fighter spawning rate
- Enabled **Simple Control** in PlayerController component. it's make more casual and easier to control.

Thank you

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