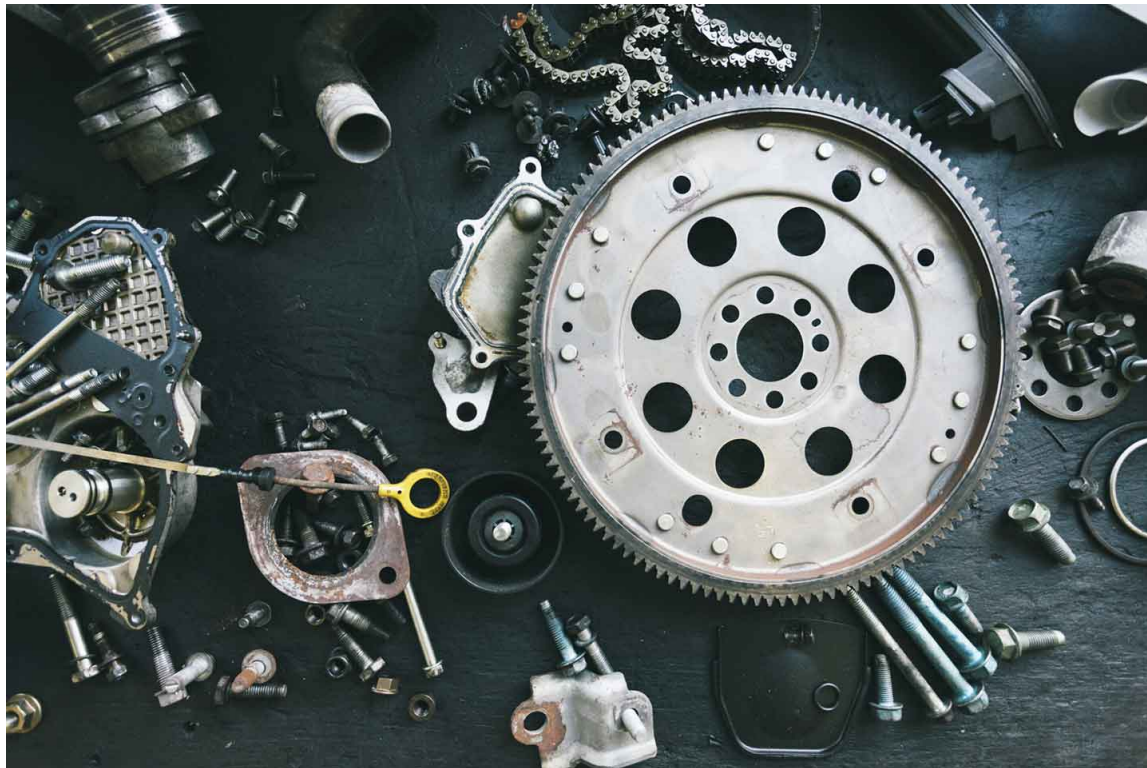# SIMPLE INTERCEPT MISSILE & TURRET BEHAVIOUR

*V1.0.1*

## UNITY ASSET DOCUMENTATION

THANKS FOR YOUR PURCHASE

## GETTING STARTED – FIRST STEP WHEN YOU'RE USING THE PACKAGE FOR THE FIRST TIME

➢ Import Unitypackage

Import "Intercept Missile & Turret Behaviour" unitypackage into your existing project or start a new one

➢ Asset components

"Intercept Missile & Turret Behavior" has two main components. These component can be used separately and independently from each other.

  I.    AntiMissileGun

  II.   InterceptMissile

➢ Pooling object

"If you want to use pooling object" Create new Gameobject and add "PoolManager.cs" script.

## ➤ Physics layers settings

Please set your Physics and layers settings according to the images below before you start.

| Layers | |
|---|---|
| Builtin Layer 0 | Default |
| Builtin Layer 1 | TransparentFX |
| Builtin Layer 2 | Ignore Raycast |
| Builtin Layer 3 | |
| Builtin Layer 4 | Water |
| Builtin Layer 5 | UI |
| Builtin Layer 6 | |
| Builtin Layer 7 | |
| User Layer 8 | Missile |
| User Layer 9 | InterceptMissile |
| User Layer 10 | EnemyPlane |
| User Layer 11 | EnemyTank |
| User Layer 12 | Projectile |
| User Layer 13 | AirboneTriggerArea |
| User Layer 14 | AirboneSpawner |
| User Layer 15 | Ground |
| User Layer 16 | EnemySoldier |
| User Layer 17 | BodyParts |
| User Layer 18 | |
| User Layer 19 | |
| User Layer 20 | |
| User Layer 21 | |
| User Layer 22 | |
| User Layer 23 | |
| User Layer 24 | |
| User Layer 25 | |
| User Layer 26 | |
| User Layer 27 | |
| User Layer 28 | |
| User Layer 29 | |
| User Layer 30 | |
| User Layer 31 | |

# Layer Collision Matrix

| | BodyParts | EnemySoldier | Ground | AirboneSpawner | AirboneTriggerArea | Projectile | EnemyTank | EnemyPlane | InterceptMissile | Missile | UI | Water | Ignore Raycast | TransparentFX | Default |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Default | ✓ | ✓ | ✓ | ☐ | ☐ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| TransparentFX | ✓ | ✓ | ✓ | ☐ | ☐ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | |
| Ignore Raycast | ✓ | ✓ | ✓ | ☐ | ☐ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | |
| Water | ✓ | ✓ | ✓ | ☐ | ☐ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | |
| UI | ✓ | ✓ | ✓ | ☐ | ☐ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | |
| Missile | ✓ | ✓ | ✓ | ☐ | ☐ | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | |
| InterceptMissile | ✓ | ✓ | ✓ | ☐ | ☐ | ✓ | ✓ | ✓ | ✓ | | | | | | |
| EnemyPlane | ✓ | ✓ | ✓ | ☐ | ☐ | ✓ | ✓ | ✓ | | | | | | | |
| EnemyTank | ✓ | ✓ | ✓ | ☐ | ☐ | ✓ | ✓ | | | | | | | | |
| Projectile | ✓ | ✓ | ✓ | ☐ | ☐ | ✓ | | | | | | | | | |
| AirboneTriggerArea | ✓ | ✓ | ✓ | ✓ | ☐ | | | | | | | | | | |
| AirboneSpawner | ✓ | ✓ | ✓ | ☐ | | | | | | | | | | | |
| Ground | ✓ | ✓ | ✓ | | | | | | | | | | | | |
| EnemySoldier | ☐ | ☐ | | | | | | | | | | | | | |
| BodyParts | ✓ | | | | | | | | | | | | | | |

Cloth Inter-Collision ☐

# ANTIMISSILEGUN – SETTINGS & HOW TO USE IT

➢ AntiMissileGunScanner.cs – script

This Script acts as Scanner / Radar for Turret to identify and intercept the enemies.

*ScanSpeed:* How often the script will iterate to scan the area. // Note: The faster your scan speed it probably will cause some performance issue.

*ViewAngle:* Scanner view Angle. angle area where the script can identify enemies // Note: You can visualize the angles by clicking show gizmos.

*Mask:* Optional layers that you want the script to identify enemies. E.g. choose missile layer if you want to detect enemy missiles. // Note: You can choose as may layers as you want.

*ScanRadius:* Radius of the script scan area. // Note: You can visualize the area by clicking show gizmos.

*AntiMissileGunController:* Your turret controller to receive the command if enemies are detected. // Note: The scanner script can be in seperate gameobject or in the same gameobject with the "AntiMissileGunController". Open Example scene to get a clear picture.

*TurretModes:* There are two modes "Nearest" – Give a command to turret controller to attack the nearest enemy. "FURTHEST" – Give a command to turret controller to attack the furthest enemy.

*ShowGizmos:* Visualize the angles and scan area radius.

# ANTIMISSILEGUN – SETTINGS & HOW TO USE IT

➢ AntiMissileGunController.cs – script

This Script will control Turret and intercept the enemy's missiles or whatever it detects.

TURRET SETTINGS

*HorizontalPivot:* Pivot for horizontal rotation

*VerticalPivot:* Pivot for vertical rotation

HORIZONTAL ROTATION SETTINGS

*HorizontalRotationLimit:* Bool variable if you want rotation limit

*RightRotationLimit:* 0-180 limit value for right rotation in degree

*LeftRotationLimit:* 0-180 limit value left for rotation in degree

VERTICAL ROTATION SETTINGS

*VerticalRotationLimit:* Bool variable if you want rotation limit

*UpwardsRotationLimit:* 0-180 limit value for right rotation in degree

*DownwardsRotationLimit:* 0-180 limit value for right rotation in degree

*TurnSpeed:* Turret turn speed

GUN SETTINGS

UsePooling: If you wanted projectile pooling.

*FireRate:* Gun firing rate.

*ProjectileSpeedt:* Intercept projectile traveling speed.

*ProjectileCount:* How many projectiles in this turret.

*ProjectilePrefab:* Projectile prefab.

*Efficiency:* Efficiency rate of this turret (accuracy to lead target).

*Barrel:* Barrel transform for instantiating projectile.

EFFECTS (Optional)

*ShootFX*: Effect when firing the gun at the barrel. (Optional)

*BulletShellFX*: Bullet shell effect. (Optional)

➢ AntiMissileProjectile.cs child PoolObject.cs– script
Projectile behavior script

*TimeToDestroy:* Time to destroy projectile if doesn't hit target.
*Explosion:* Explosion effect. (Optional)

# INTERCEPTMISSILE– SETTINGS & HOW TO USE IT

➢ InterceptMissileScanner.cs – script

This Script acts as Scanner / Radar for Turret to identify and intercept the enemies.

*ScanSpeed:* How often the script will iterate to scan the area. // Note: The faster your scan speed it probably will cause some performance issue.

*ViewAngle:* Scanner view Angle. angle area where the script can identify enemies // Note: You can visualize the angles by clicking show gizmos.

*Mask:* Optional layers that you want the script to identify enemies. E.g. choose missile layer if you want to detect enemy missiles. // Note: You can choose as may layers as you want.

*ScanRadius:* Radius of the script scan area. // Note: You can visualize the area by clicking show gizmos.

*InterceptMissileController:* Your launcher controller to receive the command if enemies are detected. // Note: The scanner script can be in seperate gameobject or in the same gameobject with the "InterceptMissileController". Open Example scene to get a clear picture.

*ShowGizmos:* Visualize the angles and scan area radius.

# INTERCEPTMISSILE– SETTINGS & HOW TO USE IT

➢ InterceptMissileContoller.cs – script

This Script will control Turret and intercept the enemy's missiles or whatever it detects by launching an intercept missile.

## TURRET SETTINGS

*HorizontalPivot:* Transform pivot for horizontal rotation.

## ROTATION SETTINGS

*RotationLimit:* Bool variable if you want rotation limit.

*RightRotationLimit:* 0-180 limit value for right rotation in degree.

*LeftRotationLimit:* 0-180 limit value left for rotation in degree.

*TurnSpeed:* Turret turn speed.

## MISSILE SETTINGS

*MissileCount:* How Many missiles in this launcher.

*LaunchSpots:* Spots that holds missiles.

*Missile:* Missile prefab.

# INTERCEPTMISSILE– SETTINGS & HOW TO USE IT

➢ InterceptMissile.cs – script

This Script controls the behavior of the intercept missile.

GENERAL PARAMETERS

*MissilesSpeed:* Missile traveling speed.

*InitialLaunchForce:* Initial force before activate the missile.

*Acceleration:* Missile acceleration during missile motor is active.

*MotorLifeTime:* Motor life time before it stops accelerating.

*MissileLifeTime:* Time for missile automatically explode.

*TurnRate:* Missile turn rate toward target (How much missile can turn).

*MissileViewRange:* Missile range for guidance towards target.

*MissileViewAngle:* Missile view angle in degree for guidance towards target.

*IsExplosionActiveDelay:* Set explosion delay (in case it collides with non-target while launching).

*IsTrackingDelay:* If you want to delay missile tracking.

*MissileFlameTrail:* Missile flame trail prefab.

*MissileExplosion:* Missile explosion prefab.

*TurnSpeed:* Turret turn speed.

*LaunchSFX:* Missile launch sound effect.

*Missile:* Missile prefab.

➢ Don't forget to check the Example scene

DON'T FORGET TO RATE THIS ASSET IF YOU LIKE IT!