SharksLowPoly

INTRODUCTION

The SharksLowPoly package presents 7 species of shark (Great White Shark, Great Hammer Shark, Lemon Shark, Sand Shark, Leopard Shark, Tiger Shark, Whale Shark) of the marine world.

The package offers the ability to swim, attack, receive an attack, die and eat meat (represented by a box). The package also include all source files .blend with all the sharks and their animations which you can use, modify and study.

Package content:

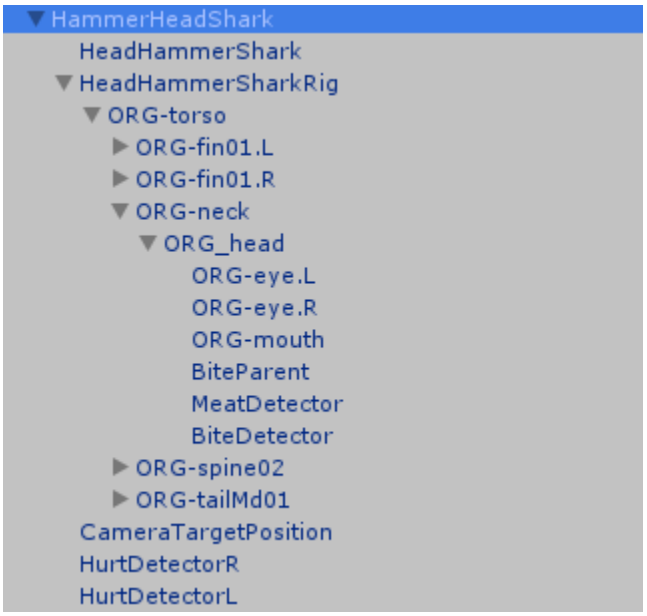
- 7 species of shark plus Megalodon (white shark modified)

- Controller to manage each shark.

- Ability to swim, eat and attack.

- Demo scene with all the sharks to test the functionality of the package.

Structure of a Prefab Shark:



- BiteParent: It is used to being stuck to the bite for a moment.

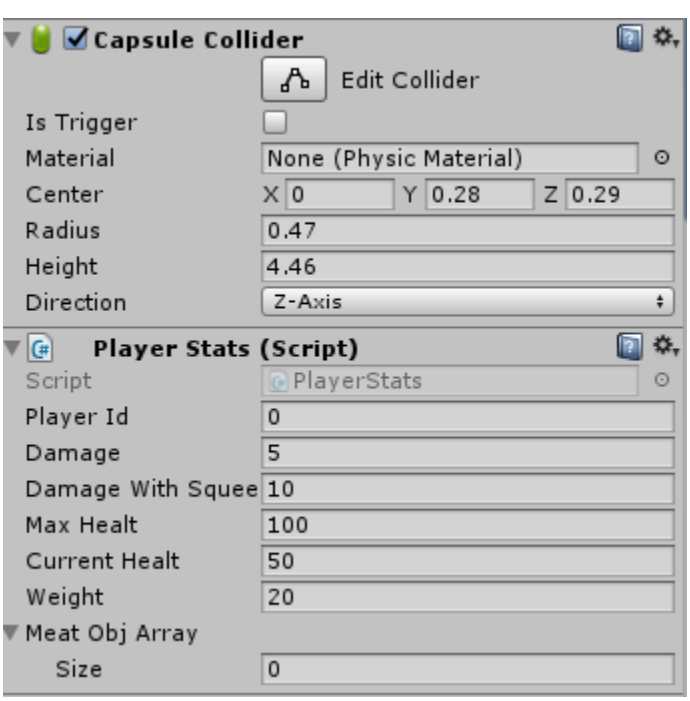
- MeatDetector: It is used detect piece of meat nearby. It automatically moves towards the bite to be eaten.

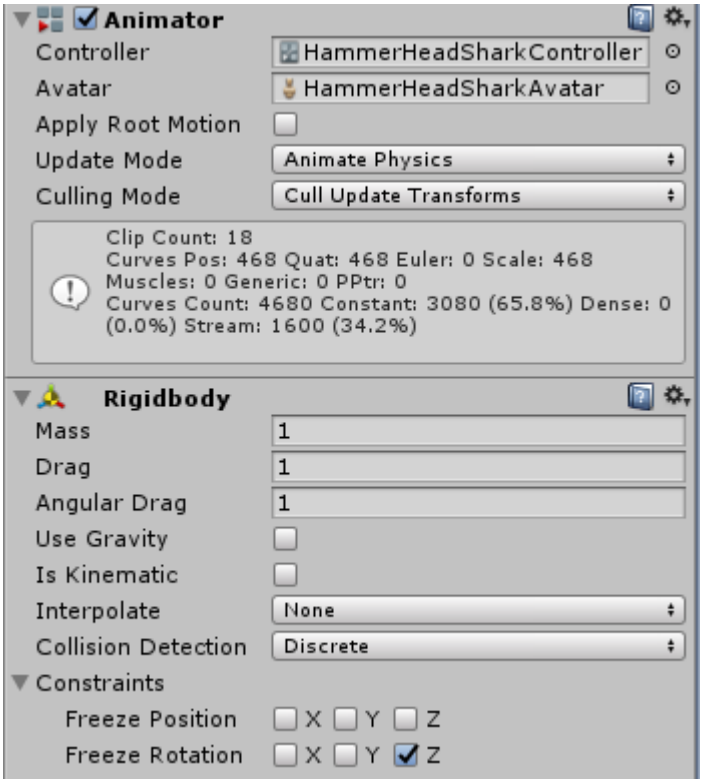
- BiteDetector: Used to detect an enemy shark. The difference with MeatDetector is that the MeatDetector was configured larger scale to have a threshold in terms of eating meat.

- CameraTargetPosition: It is used so that the camera is positioned in that objective.

- HurtDetectorR / L: It is used to detect when it is attacked by the left or right side.

Prefab components:



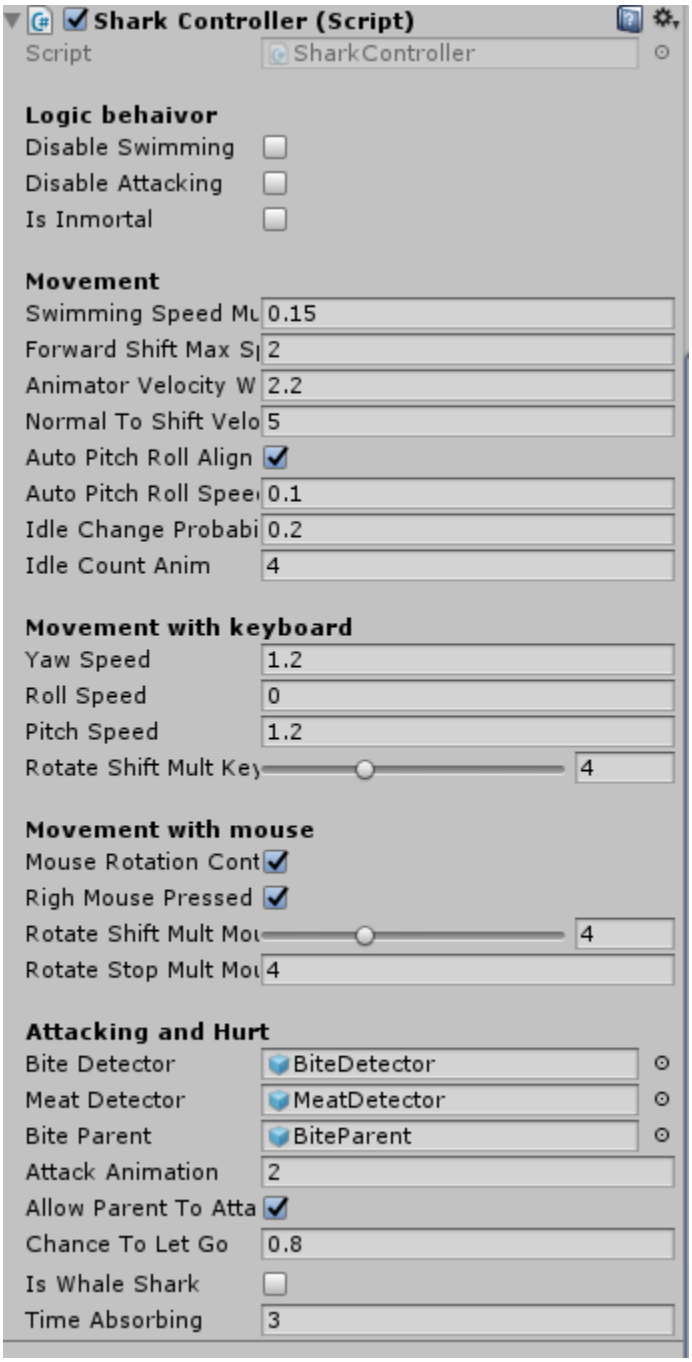


Basic components is the Animator, Rigidbody and CapsuleCollider which I will not talk about since they are quite simple just by checking the official documentation of Unity.

- Player stats: used to define the characteristics of a player (shark)

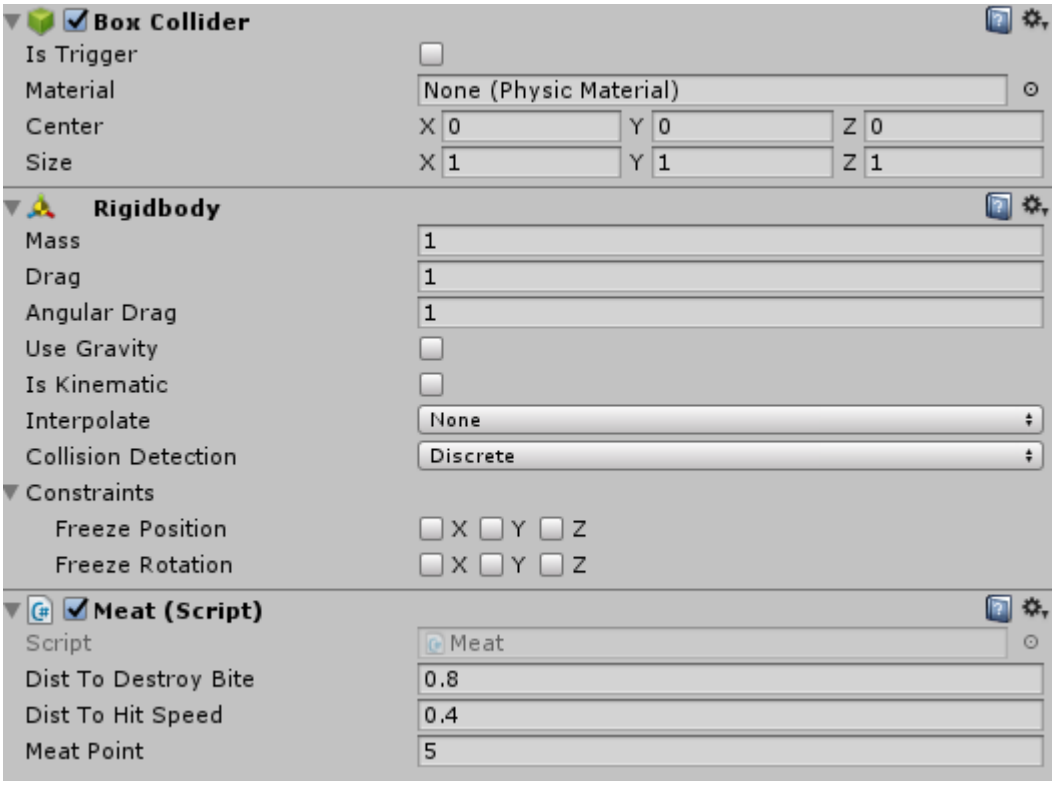
  - PlayerID: do not use it at all, it is only for future updates.
  - Damage: when damage causes an attack.

- Damage with squeeze: damage when attacking and squeezing.
- Max Healt: maximum life.
- CurrentHealt: current life.
- Weight: shark weight. It is used for when it bites and the bitten is related, to calculate the probability of being stuck to the bite.
- MeatObjArray: you specify a number and you can put gameobjects that will be the pieces of meat that will appear when he dies (they are currently boxes).



- DisableSwimming: If is marked, the shark does not move.
- DisableAttacking: does not attack.
- IsInmortal: does not die. It can be used to make tests.
- SwimmingSpeedMult: Swimming speed.
- ForwardShiftMaxSpeed: Maximum speed when you press shift.
- AnimationVelocityWithShift: Speed of the animation when shift is pressed.
- NormalToShiftVelocityTime: The time it takes to accelerate from normal swimming to the accelerated swimming with shift.
- AutoPitchRollAlign: Automatically aligns itself in the pitch to 0.
- AutoPitchRollSpeed: property speed mentioned above.
- IdleChangeProbability: probability to change the Idle to other idle.
- IdleCountAnim: how many idle animations does the shark have?
- YawSpeed, RollSpeed, PitchSpeed: speed of each selected component. How fast it rotates in each direction.
- RotateShiftMultKeyboard: when accelerated rotates with shift if the keyboard is used.
- MouseRotationControlled: the shark rotates with the movement of the mouse. If it is unchecked it will rotate using the keyboard.
- RightMousePressedToRotate: with right click pressed the shark rotates.
- BiteDetector, MeatDetector, BiteParent: these components were described above.
- AttackAnimation: number of attack animations.
- AllowParentToAttacker: if it is marked when they bite it can be related to the attacker's mouth.
- IsWhaleShark: only valid for the whale shark. The whale shark attacks by pressing the mouse and leaving it in the pressed position.
- TimeAbsorbing: the time that the whale shark is absorbing food. When this time ends, the suction is disabled and you have to press again to attack.

Structure of the prefab Meat:



- DistToDestroyBit: Threshold that defines how far the meat is destroyed.
- DistToHitSpeed: Speed with which the meat moves towards the mouth of the shark.

Videos reference:

- https://youtu.be/dO215s1QaEM
- https://youtu.be/y6A1oeg-wIs

SketchFab demos

- https://skfb.ly/6yrwZ
- https://skfb.ly/6ysSQ
- https://skfb.ly/6y8Mr

Next:

- Smart behavior: flee, follow, arrive, flock. I am currently working on these.
- Better rigging of sharks.
- More animations.
- Various fish models.