# All in One Game Kit - Easy Ledge Climb Character System

# (C) 2015-2017 Grant Marrs



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# Folders and Files

GUI:

- ArrowPointer
  - Materials

Arrow.mat

(The material of the arrow pointer)

```
Arrow.prefab
                (Prefab for the arrow pointer)
- Coins
        ARCHRISTY.ttf
                (Text font file for the GUI item count)
        CoinGUI.png
                (Texture file for the coin GUI)
- EnemyHealth
        HealthMaterial.mat
                (The material of the health bar's health percentage)
        NoHealthMaterial.mat
                (The material of the health bar's no health percentage)
        OutlineMaterial.mat
                (The material of the health bar's outline)
- LockOnBars
        BlackBars.png
                (Texture file for the black bars that appear on screen while locking on)
- PlayerHealth
        - Hearts
                0.psd
                        (Texture file of a 0/4 full heart for the player's health)
                1.psd
                        (Texture file of a 1/4 full heart for the player's health)
                2.psd
                        (Texture file of a 2/4 full heart for the player's health)
                3.psd
                        (Texture file of a 3/4 full heart for the player's health)
                4.psd
```

(Texture file for the arrow pointer)

# Models: - Enemies - Logs - Materials Body.mat (The material of the log enemy) Body.png (Texture file for the log enemy) LogEnemy.FBX (.FBX model file of the log enemy) LogEnemy.prefab (Prefab for the log enemy) - Robots - Materials Body.mat (The material of the robot enemy's body) Mouth.mat (The material of the robot enemy's mouth) Screws.mat (The material of the robot enemy's screws) Shoes.mat (The material of the robot enemy's shoes) Unlit-CullOff.shader (Shader for the robot enemy's mouth material) - Textures Body.png (Texture file for the robot enemy's body) Mouth.png (Texture file for the robot enemy's mouth)

ReflectionCubemap.png

```
Screws.png
                                (Texture file for the robot enemy's screws)
                       Shoes.png
                                (Texture file for the robot enemy's shoes)
                EnemyController.controller
                       (Animator controller for the enemy)
                RobotEnemy.FBX
                       (.FBX model file of the robot enemy)
                RobotEnemy.prefab
                       (Prefab for the robot enemy)
- Items
        - Coin
               - Materials
                       Coin.mat
                                (The material of the coin item)
                Coin.FBX
                       (.FBX model file of the coin)
                Coin.png
                       (Texture file for the coin)
                Coin.prefab
                       (Prefab for the coin)
       - Heart
                - Materials
                       Heart.mat
                                (The material of the heart item)
                Heart.FBX
                       (.FBX model file of the heart)
                Heart.png
```

(Texture file for the robot enemy's reflection)

```
Heart.prefab
                       (Prefab for the heart)
- LedgeClimbNinja
        - Materials
                LedgeClimbNinja.mat
                       (The material of the Ledge Climb Ninja)
        FirstPersonArms.FBX
                (.FBX model file of the Ledge Climb Ninja with separate arm models used for First Person mode)
        LedgeClimbNinja.FBX
                (.FBX model file of the Ledge Climb Ninja (player))
                Contains 43 Mecanim animations; all root motion compatible.)
        LedgeClimbNinja.png
                (Texture file for the Ledge Climb Ninja)
        PlayerController.controller
                (Animator controller for the Ledge Climb Ninja)
- Stages
        - ExampleStage1
                - Materials
                       Ladder.mat
                               (The material of the ladder)
                       logo.mat
                               (The material of the Easy Ledge Climb (ELC) Character System logo)
                       mountains.mat
                               (The material of the stage's mountains)
                       standard.mat
                               (The main material of the stage)
                       Vines.mat
                               (The material of the vines)
                ExampleStage1.FBX
```

(.FBX model file of the first example stage)

(Texture file for the heart)

```
Ladder.png
                        (Texture file for the ladders)
                logo.png
                        (Texture file for the Easy Ledge Climb (ELC) Character System logo)
                Vines.png
                        (Texture file for the vines)
        - ExampleStage2
               - Materials
                        logo.mat
                                (The material of the Easy Ledge Climb (ELC) Character System logo)
                        mountains.mat
                                (The material of the mountains)
                        standard.mat
                                (The main material of the stage)
                ExampleStage2.FBX
                        (.FBX model file of the second example stage)
        - SideScrollerStage
                - Materials
                        lava.mat
                                (The material of the lava)
                lava.png
                        (Texture file for the lava)
                SideScrollerStage.prefab
                        (Prefab for the side-scroller example stage)
- Water
        - Materials
                underwater.mat
                        (The material used for underwater)
                water.mat
```

```
waterShadows.mat
                        (The material used for the water's shadows)
        ScrollTexture.cs
                (Scrolls the texture of a material)
        StandardCullOff.shader
                (.FBX model file of the first example stage)
        UnlitTransparentCullOff.shader
                (Texture file for the ladders)
        water.png
                (Texture file for the water)
ParticleEffects:
        - Materials
                DustCloud.mat
                        (The material of the dust cloud particle effect)
                DustDoubleJump.mat
                        (The material of the dust cloud particle effect used for the double jump)
        DustCloud.prefab
                (Prefab for the dust cloud particle effect)
        DustDoubleJump.prefab
                (Prefab for the DustDoubleJump particle effect)
        DustParticle.png
                (Texture file for the dust cloud particle effect used for the double jump)
- Spark
        PaticleAfterburner.mat
                (The material of the spark particle effect)
```

(The material of the water)

- Dust

```
Spark.prefab
                (Prefab for the spark particle effect)
- Splash
        - Materials
                ParticleSplashes.mat
                        (The material of the water drops from the splash particle effect)
                ParticleWaterSpray.mat
                        (The material of the water ripples from the splash particle effect)
        PaticleCloudWhite.png
                (Texture file for the water ripples in the splash particle effect)
        Splash.prefab
                (Prefab for the spark particle effect)
        SplashesFineParticle.png
                (Texture file for the water drops in the splash particle effect)
AutoDestroyParticleSystem.cs
        (Automatically destroys the script holder once its ParticleSystem has completed)
Scenes:
- FirstPerson
        - ExampleStage1
                DemoSceneCharacterController.unity
                        (Demo scene that uses a 1<sup>st</sup> person camera view, "ExampleStage1" as the stage,
                        "FirstPersonArms" as the player, and a Character Controller for the movement)
                DemoSceneRigidbody.unity
```

Demosceneriglabouy.unity

(Demo scene that uses a 1<sup>st</sup> person camera view, "ExampleStage1" as the stage, "FirstPersonArms" as the player, and a Rigidbody for the movement)

- ExampleStage2

DemoSceneCharacterController.unity

(Demo scene that uses a 1<sup>st</sup> person camera view, "ExampleStage2" as the stage, "FirstPersonArms" as the player, and a Character Controller for the movement)

# DemoSceneRigidbody.unity

(Demo scene that uses a 1<sup>st</sup> person camera view, "ExampleStage2" as the stage, "FirstPersonArms" as the player, and a Rigidbody for the movement)

#### - SideScroller

# - SideScrollerStage

# DemoSceneCharacterController.unity

(Demo scene that uses a side-scrolling camera view, "SideScrollerStage" as the stage, "LedgeClimbNinja" as the player, and a Character Controller for the movement)

# DemoSceneRigidbody.unity

(Demo scene that uses a side-scrolling camera view, "SideScrollerStage" as the stage, "LedgeClimbNinja" as the player, and a Rigidbody for the movement)

#### - ThirdPerson

# - ExampleStage1

#### DemoSceneCharacterController.unity

(Demo scene that uses a 3<sup>rd</sup> person camera view, "ExampleStage1" as the stage, "LedgeClimbNinja" as the player, and a Character Controller for the movement)

# DemoSceneRigidbody.unity

(Demo scene that uses a 3<sup>rd</sup> person camera view, "ExampleStage1" as the stage, "LedgeClimbNinja" as the player, and a Rigidbody for the movement)

# - ExampleStage2

# DemoSceneCharacterController.unity

(Demo scene that uses a 3<sup>rd</sup> person camera view, "ExampleStage2" as the stage, "LedgeClimbNinja" as the player, and a Character Controller for the movement)

# DemoSceneRigidbody.unity

(Demo scene that uses a 3<sup>rd</sup> person camera view, "ExampleStage2" as the stage, "LedgeClimbNinja" as the player, and a Rigidbody for the movement)

# **Scripts:**

#### - Camera

CameraController.cs - modified from John McElmurray's and Julian Adams' "ThirdPersonCamera.cs" script

- Follow the player at a set speed, height, and distance.
- Follow the player as a side-scroller.
- Lock on behind the player.
- Lock on to objects.
- Mouse Orbit the player.
- Enter First Person mode.
- Mouse Orbit in First Person mode.

NOTE: \*You should always set a layer for your player so that you can disable collisions with that layer (by unchecking it in the script's Collision Layers). If you do not, the camera will collide with the player himself!\*

- Enemy

\*(Enemy must have a CharacterController or Rigidbody component in order for the enemy AI script to work!)\*

# EnemyAl.cs

- Follow the player at a set speed and rotation.
- Attack the player.
- Receive damage.
- Regain health.
- Use a health bar.
- Respawn.

NOTE: \*You should always set a layer for your enemy so that you can disable collisions with that layer (by unchecking it in the script's Collision Layers). If you do not, the raycasts and linecasts will collide with the enemy itself and keep the script from working properly!\*

- Items

#### ItemRotation.cs

- Rotate towards a set direction (the higher the number, the faster the item will rotate).

#### - MobileSupport

- CrossPlatformInput

(The cross platform input from Unity's "Standard Assets" pack)

# - MovingPlatforms

#### MovingPlatform.cs

- Move to and from a set position.
- Move at a set speed.
- Rotate towards a set direction.
- Wait before moving.
- Player
- \*(Player must have a CharacterController or Rigidbody component in order for these to work!)\*

#### Health.cs

- Have a set health.
- Receive damage from enemies, items, and falls.
- Regain health over time, or from items.
- Respawn.
- Set GUI images for the health.
- Position the health GUI anywhere on the screen, and limit the number of GUI images (hearts) that can be on each row of health.

#### ItemManager.cs

- Have an inventory of different items.
- Count and display the number of items the player currently holds (either by simply counting the number, showing the number relative to the item's limit (with zeros before it), or by adding by a prefix or suffix to the number).
- Set limits for the number of items the player can have.
- Set GUI images and text for different items.
- Position the GUI images and text anywhere on the screen.

#### LedgeClimbController.cs

- Grab on to, and climb up and over ledges (Climbing Detectors).
- Move from side to side on ledges, either in a fully 3D setting, or in a 2.5D side-scrolling setting (Moving Detectors).
- Jump from one ledge to another / switch ledges (Ledge Switching Detectors).
- Grab back on to or jump off of a ledge that you just walked off of (Walking Off Ledge Detectors).

- Enable or disable scripts when grabbing on to a ledge, as well as when letting go of a ledge (Scripts To Enable On Grab/Scripts To Disable On Grab).
- -> You should always disable any other scripts that affect the movement or rotation of the player. If you do not, this script will not work properly.

# MovingPlatformController\_Standalone.cs

- \*(This script is the exact same as the "Moving Platforms" section of the PlayerController.cs script, only this is a standalone version of the section)\*
- Ride moving and rotating platforms (Moving Platforms).

# PlayerController.cs

- Move and rotate (Movement).
- Slide down slopes (Movement).
- Perform any combo of jumps with different heights and animations (Jumping).
- Perform a double jump (Jumping).
- Wall jump (Wall Jumping).
- Perform any combo of attacks with different strengths and animations (Attacking).
- Climb ladders and walls (Climbing).
- Swim (Swimming).
- Ride moving and rotating platforms (Moving Platforms).

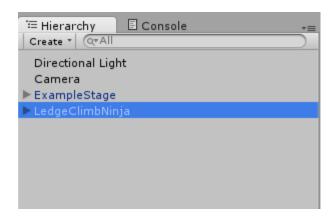
# WallClimbController\_Standalone.cs

- \*(This script is the exact same as the "Climbing" section of the PlayerController.cs script, only this is a standalone version of the section)\*
- Climb ladders and walls (Climbing).
- Enable or disable scripts when grabbing on to a ladder or wall, as well as when letting go of one (Scripts To Enable On Grab/Scripts To Disable On Grab).
- -> You should always disable any other scripts that affect the movement or rotation of the player. If you do not, this script will not work properly.

NOTE: \*You should always set a layer for your player so that you can disable collisions with that layer (by unchecking it in the script's Collision Layers). If you do not, the raycasts and linecasts will collide with the player himself and keep the script from working properly!\*

# Setting Up the All in One Game Kit - ELC Character System with a New Character Making the player scripts work with your character

1. Select your character in the "Hierarchy" tab.



2. If your character does not already have one, add a CharacterController **OR** Rigidbody component (only add one) to your character from the "Inspector" tab:

# **Character Controller:**

I recommend using a CharacterController for the player.

To do this, simply click the "Add Component" button in the Inspector tab, search "Character Controller", then select it.



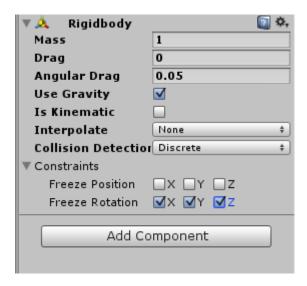
# Rigidbody:

If you use a Rigidbody, you must freeze the Rigidbody's rotation, disable its "Use Gravity" option, and add a collider component as well.

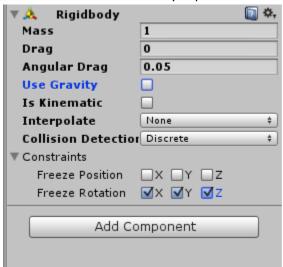
To do this, first click the "Add Component" button in the Inspector tab, search "Rigidbody", then select it.



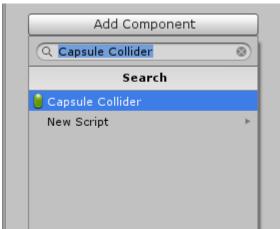
Next, freeze the Rigidbody's rotation by enabling the X, Y, and Z axis options of "Freeze Rotation".



Now disable the "Use Gravity" option.

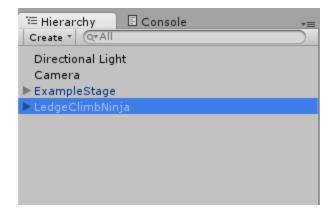


Finally, click the "Add Component" button in the Inspector tab, search a collider (I recommend using the "Capsule Collider" for the player), then select it.



# Making the animations work with your character

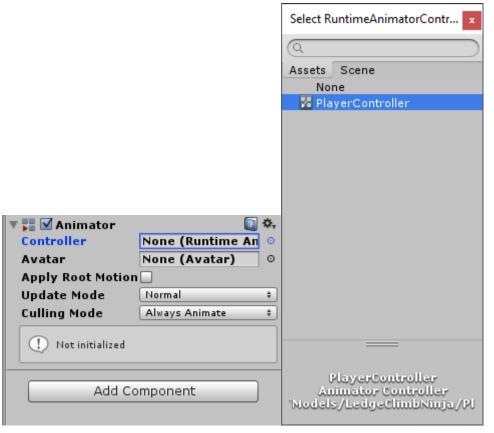
1. Select your character in the "Hierarchy" tab.



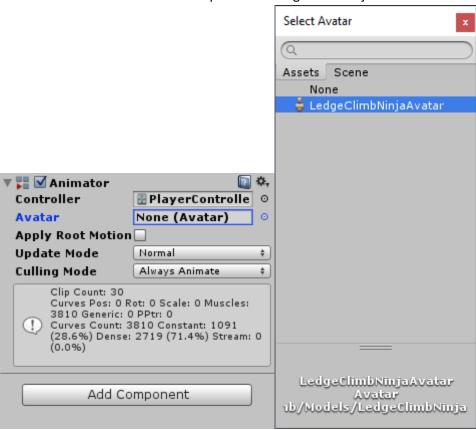
2. If your character does not already have one, add an Animator component to your character from the "Inspector" tab.



3. Set the Controller (Runtime Animator Controller) of the Animator Component to PlayerController.

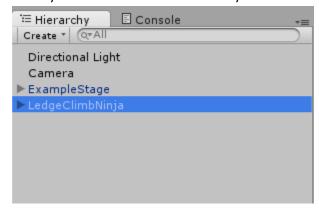


4. Set the Avatar of the Animator Component to LedgeClimbNinjaAvatar.



# Setting up PlayerController.cs with your character

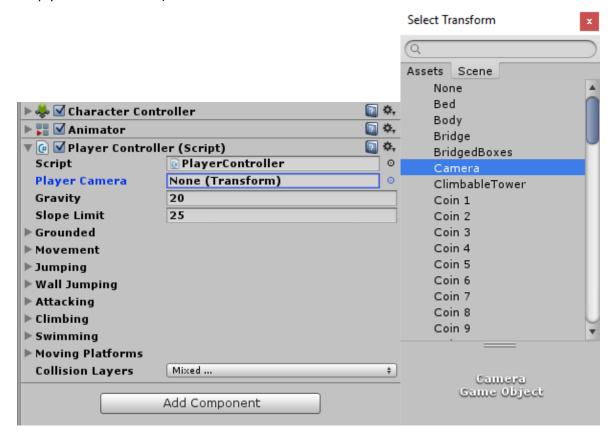
1. Select your character in the "Hierarchy" tab.



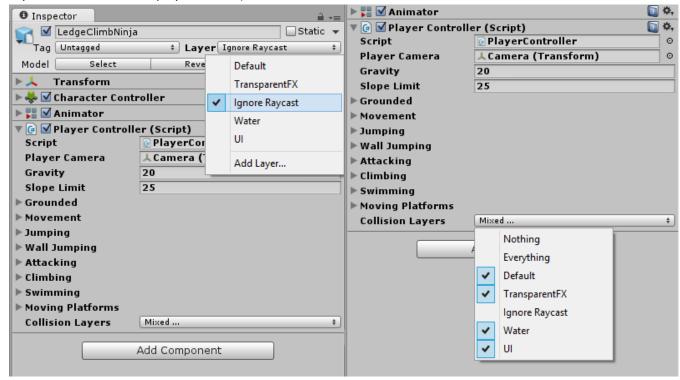
2. Add the PlayerController.cs script to your character (either by using "Add Component" in the "Inspector" tab or by dragging and dropping the script from the "Project" tab on to your player in the "Inspector" tab).



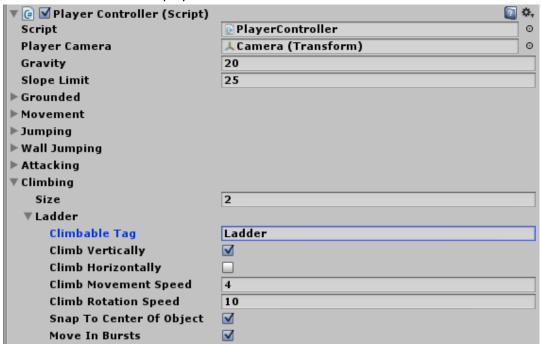
3. Set the Player Camera of the script to the camera you want to use for your player (in this case, the camera is simply named "Camera").



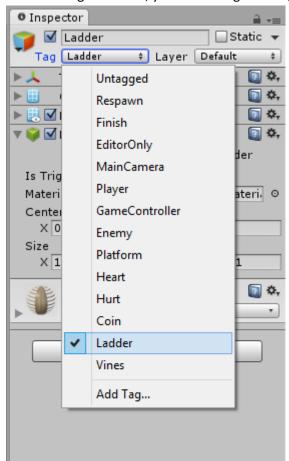
4. Set a layer for your player and uncheck it in the script's Collision Layers (to avoid having the script's linecasts and raycasts collide with the player himself).



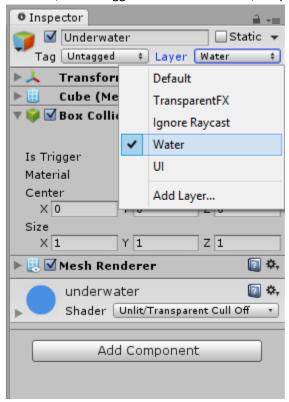
1. In order for the player to know which objects are climbable and which are not, the user must define a tag in the "Climbable" section of the player controller.



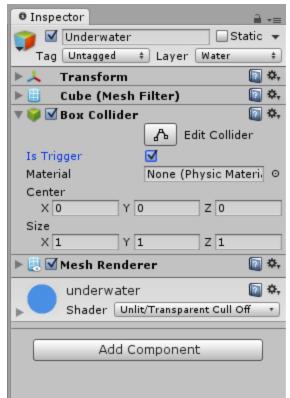
2. Once this tag is defined, you must assign this tag to whichever objects you wish to be climbable.



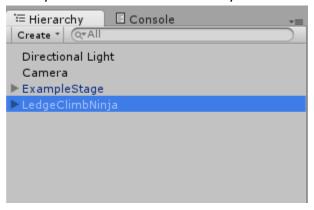
1. In order for the player to know which objects are water or able to be swam in, the objects must have the layer "Water", and a trigger collider. To do this, simply assign the layer of your object to "Water".



2. Then, in the collider component of your object, enable the option named "Is Trigger".



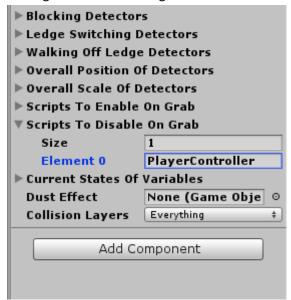
1. Select your character in the "Hierarchy" tab.



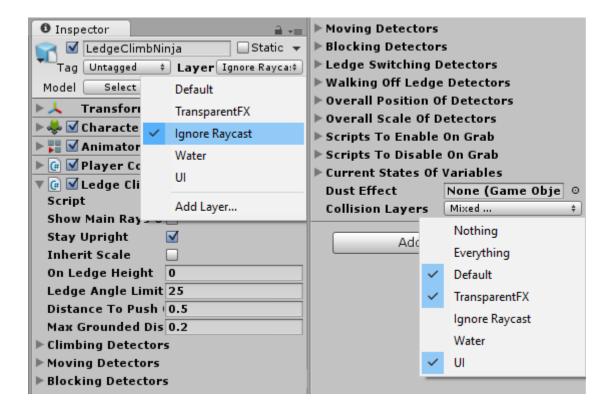
2. Add the LedgeClimbController.cs script to your character (either by using "Add Component" in the "Inspector" tab or by dragging and dropping the script from the "Project" tab on to your player in the "Inspector" tab).



3. If your character is using any other scripts that affect his movement or rotation, enter their names into the "Scripts To Disable On Grab" section so that they do not interfere with the movement and rotation of the player while grabbed on to a ledge.

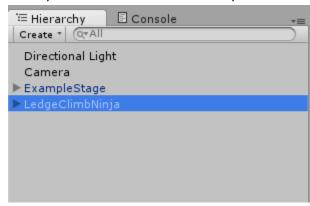


4. Set a layer for your player and uncheck it in the script's Collision Layers (to avoid having the script's linecasts and raycasts collide with the player himself).

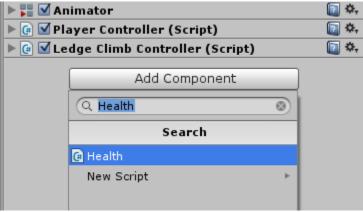


# **Setting up Health.cs with your character**

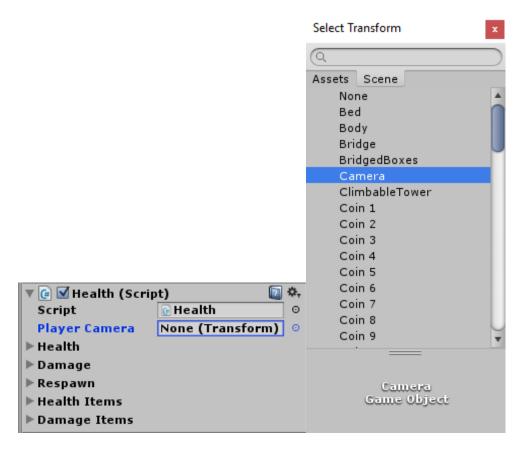
1. Select your character in the "Hierarchy" tab.



2. Add the Health.cs script to your character (either by using "Add Component" in the "Inspector" tab or by dragging and dropping the script from the "Project" tab on to your player in the "Inspector" tab).

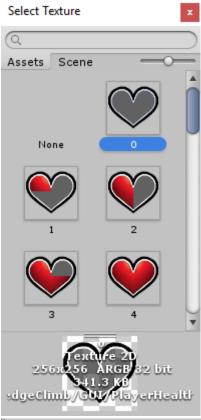


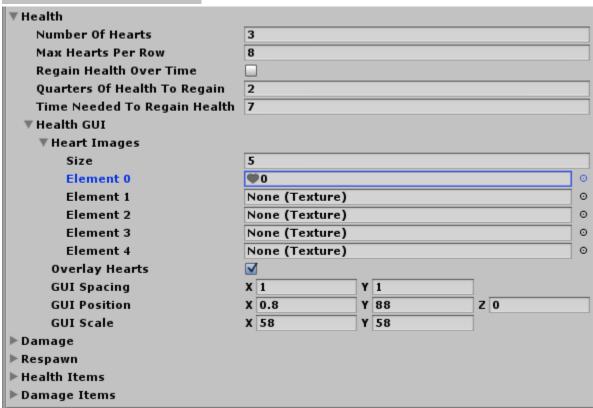
3. Set the Player Camera of the script to the camera you want to use for your player.



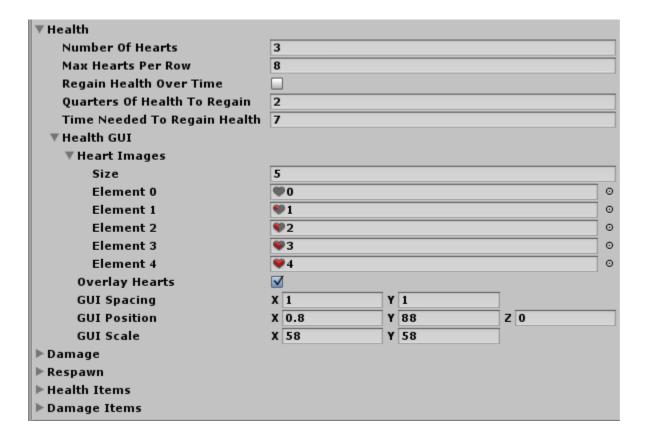
4. To set the GUI images for the health, expand the "Health" section of the Health.cs script, followed by the "Health GUI" section, then the "Heart Images" section. Now, set each heart texture to its corresponding number (0 being no health, and 4 being full health).





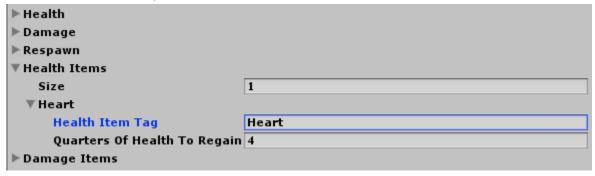


5. Repeat step 3 for every "Element," until every heart image has been set.

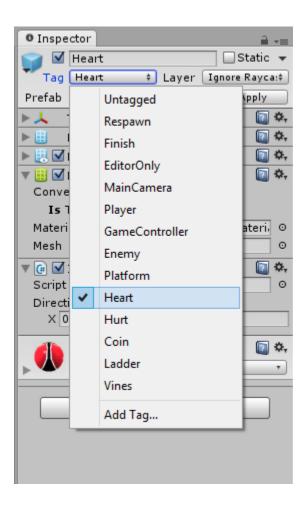


# Defining which objects give health

1. In order for the player to know which objects give health, the user must define a tag in the "Health Items" section of the health script.



2. Once this tag is defined, you must assign this tag to whichever objects you wish to heal the player.

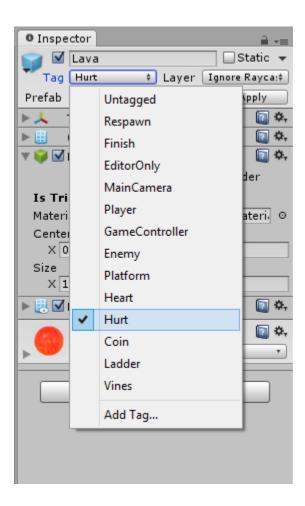


# Defining which objects deal damage

1. In order for the player to know which objects deal damage, the user must define a tag in the "Damage Items" section of the health script.

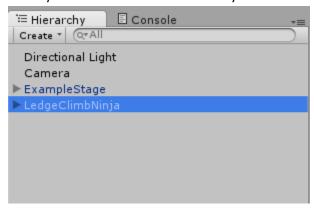


2. Once this tag is defined, you must assign this tag to whichever objects you wish to damage the player.

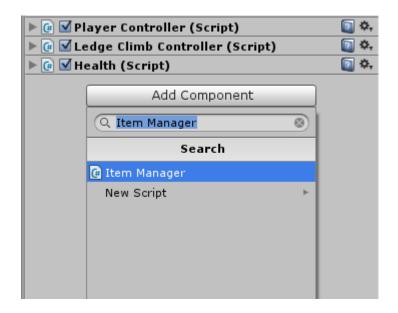


# Setting up ItemManager.cs with your character

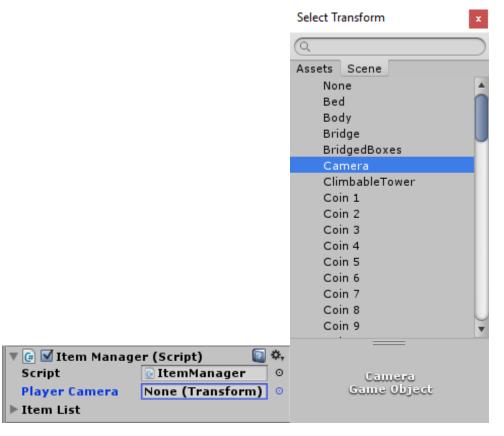
1. Select your character in the "Hierarchy" tab.



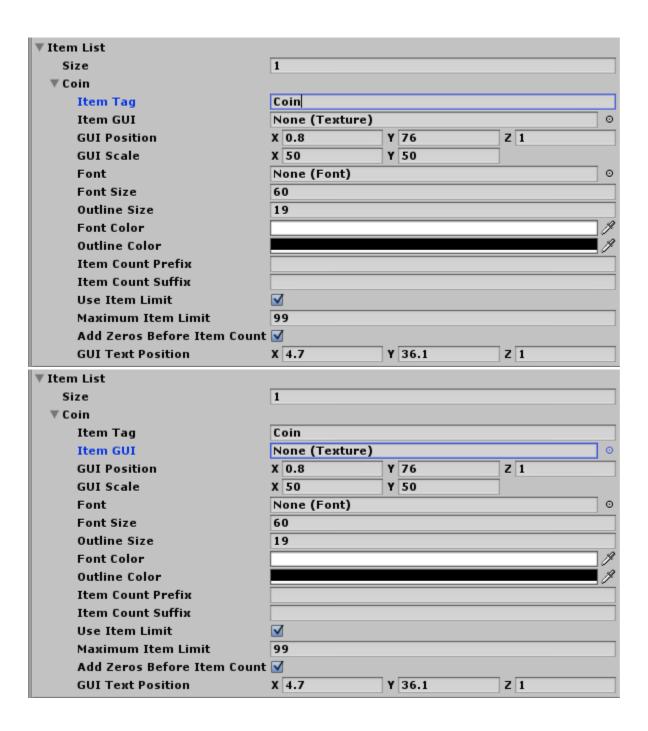
2. Add the ItemManager.cs script to your character (either by using "Add Component" in the "Inspector" tab or by dragging and dropping the script from the "Project" tab on to your player in the "Inspector" tab).



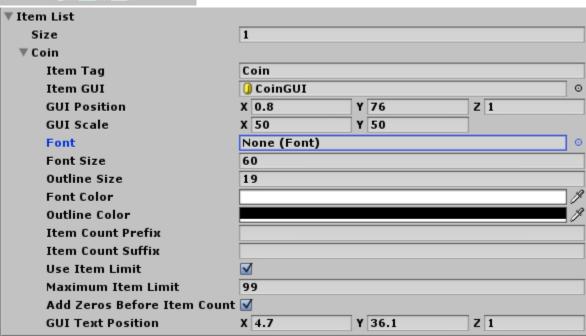
3. Set the Player Camera of the script to the camera you want to use for your player.



4. Set the tag, GUI image, and font for your items (in this case, we will be using coins as the item).



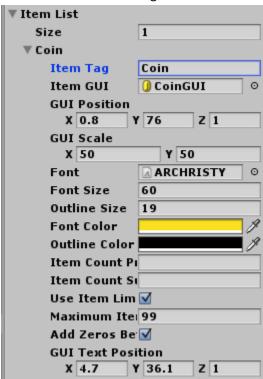




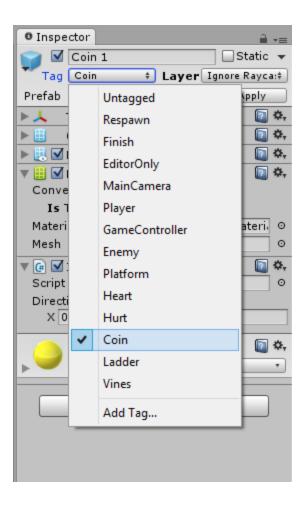


# Defining which objects are items

1. In order for the player to know which objects are your items, the user must define a tag in the "Item List" section of the item manager.



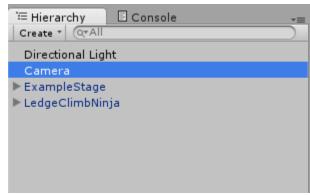
2. Once this tag is defined, you must assign this tag to whichever objects you wish to use as items.



# Setting Up the All in One Game Kit - ELC Character System with a Camera

# Adding CameraController.cs to your camera

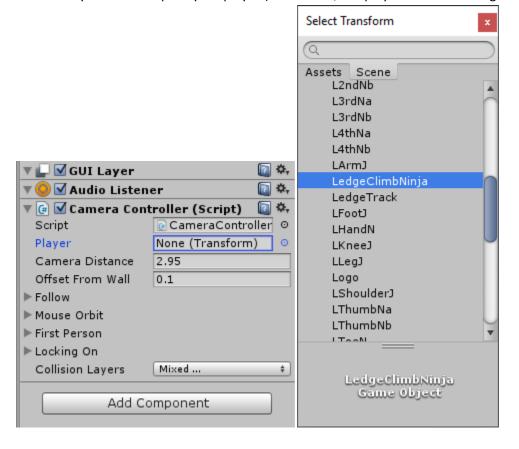
1. Select your camera in the "Hierarchy" tab.



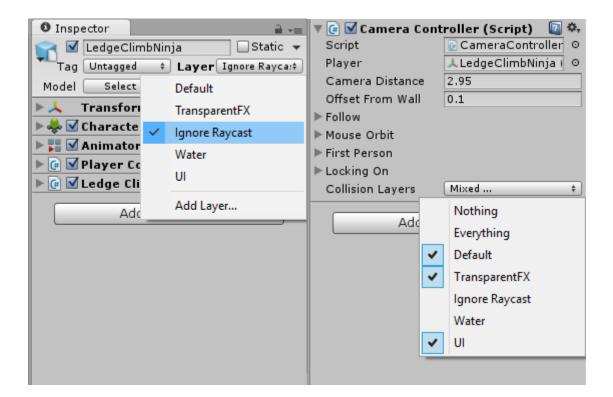
2. Add the CameraController.cs script to the camera (either by using "Add Component" in the "Inspector" tab or by dragging and dropping the script from the "Project" tab on to your camera in the "Inspector" tab).



3. Set the Player of the script to your player (in this case, the player is named "LedgeClimbNinja").

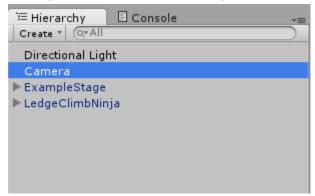


4. Set a layer for your player and uncheck it in the script's Collision Layers (to avoid having the script's linecasts and raycasts collide with the player himself).

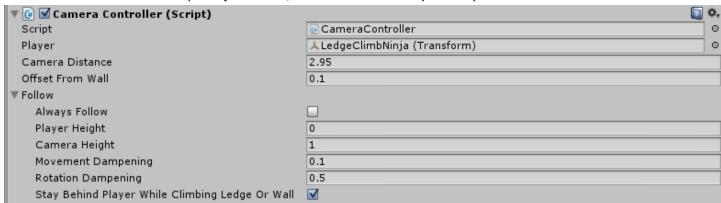


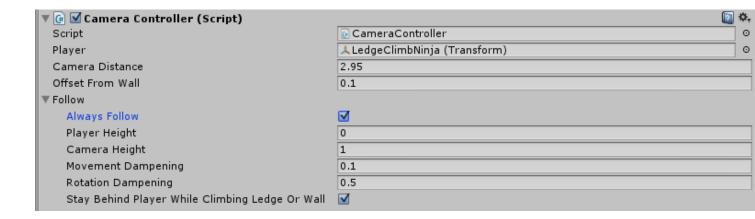
# Setting up a following camera

1. Select your camera in the "Hierarchy" tab.



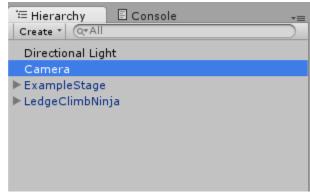
2. In the "Camera Controller" script we just added, check the box that says "Always Follow."



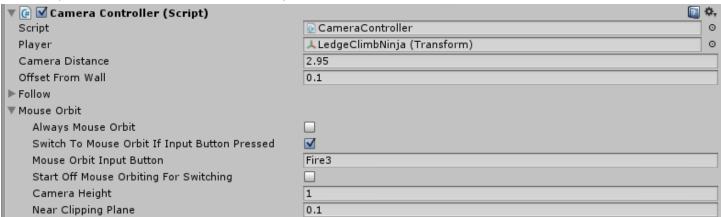


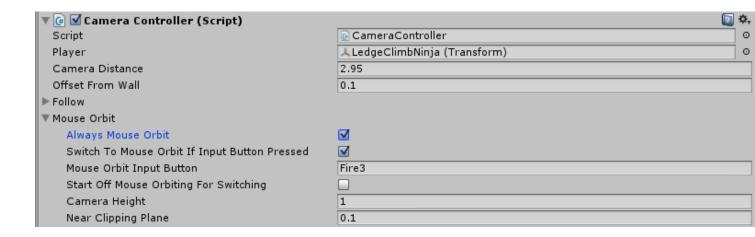
# Setting up a mouse orbiting camera

1. Select your camera in the "Hierarchy" tab.



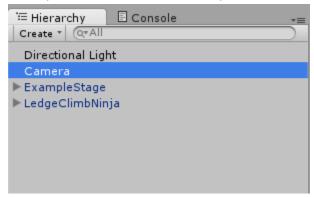
2. In the "Camera Controller" script we just added, check the box that says "Always Mouse Orbit" (or, if you would like to switch to mouse orbiting by pressing a button instead of always mouse orbiting, check "Switch To Mouse Orbit If Input Button Pressed," and leave "Always Mouse Orbit" unchecked).



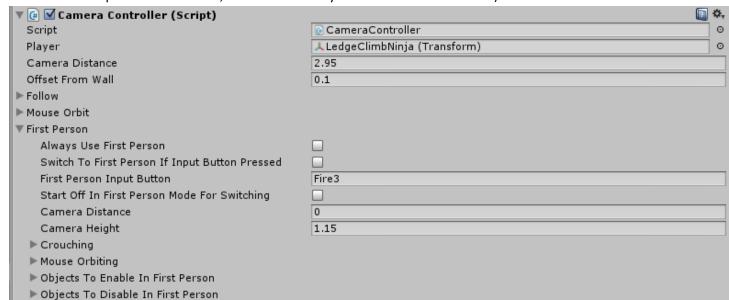


# Setting up a first person camera

1. Select your camera in the "Hierarchy" tab.



2. In the "Camera Controller" script we just added, check the box that says "Always Use First Person" (or, if you would like to switch to mouse orbiting by pressing a button instead of always mouse orbiting, check "Switch To First Person If Input Button Pressed," and leave "Always Mouse Orbit" unchecked).



▼ 🕼 🗹 Camera Controller (Script)		₩,
Script		0
Player	↓LedgeClimbNinja (Transform)	0
Camera Distance	2.95	
Offset From Wall	0.1	
► Follow		
► Mouse Orbit		
▼ First Person		
Always Use First Person		
Switch To First Person If Input Button Pressed		
First Person Input Button	Fire3	
Start Off In First Person Mode For Switching		
Camera Distance	0	
Camera Height	1.15	
► Crouching		
▶ Mouse Orbiting		
▶ Objects To Enable In First Person		
▶ Objects To Disable In First Person		

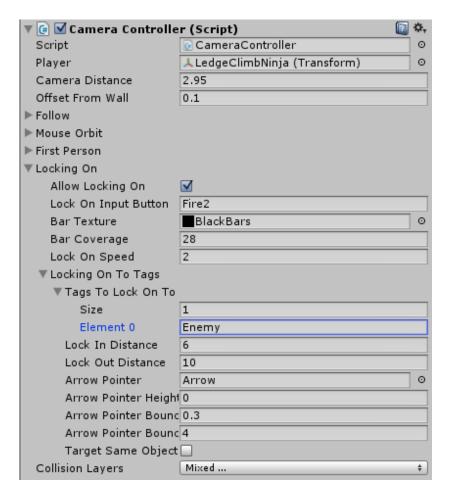
#### 3. (OPTIONAL)

If you would like camera to mouse orbit in first person mode, expand the "Mouse Orbiting" section of the "First Person" category, then make sure that "Mouse Orbit In First Person Mode" is checked.



#### Defining which objects can be locked on to

1. In order for the camera to know which objects can be locked on to, the user must define a tag in the "Locking On" section of the camera controller.

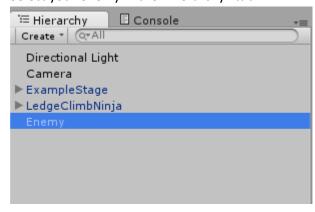


2. Once this tag is defined, you must assign this tag to whichever objects you wish to lock on to.

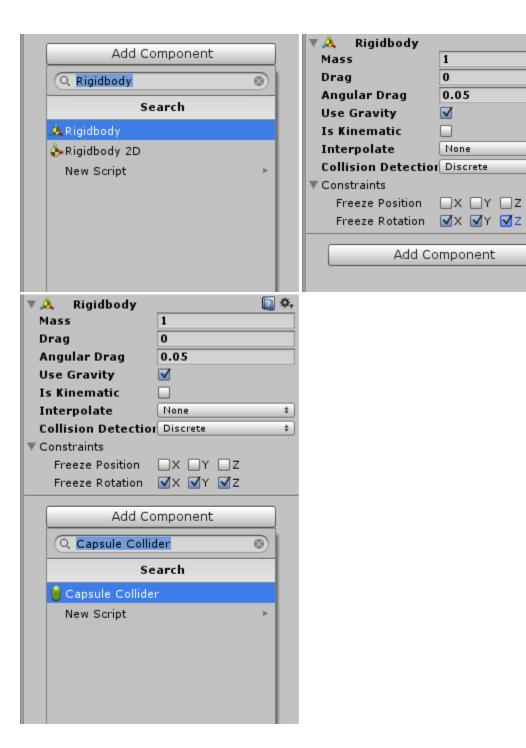


## Setting Up the All in One Game Kit - ELC Character System with a New Enemy Making the Enemy Al script work with your enemy

1. Select your enemy in the "Hierarchy" tab.



If your enemy does not already have one, add a Rigidbody OR CharacterController component to your enemy (I recommend using a Rigidbody for enemies) from the "Inspector" tab (if you use a Rigidbody, you must freeze your enemy's rotation and add a collider component as well).
 Rigidbody:



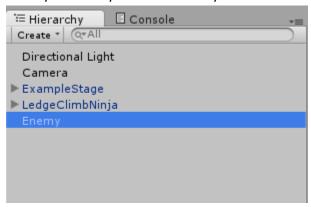
□ \*,

#### **Character Controller:**

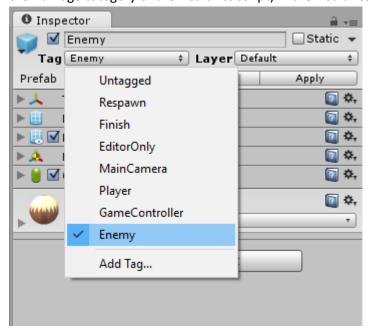


#### Setting the enemy's tag (so that it works with the player's Health.cs script)

1. Select your enemy in the "Hierarchy" tab.

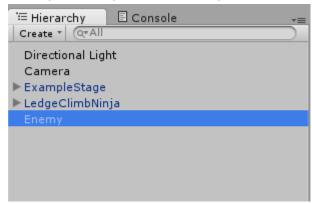


2. Set the tag of your enemy to "Enemy" (by default, this is the tag that the player's Health.cs script recognizes as an enemy. However, if you would like to change this tag, you can do so by changing the "Enemy Tag" (located in the Damage category of the Health.cs script) in the Health.cs script from "Enemy" to your new tag).



#### Setting up EnemyAl.cs with your enemy

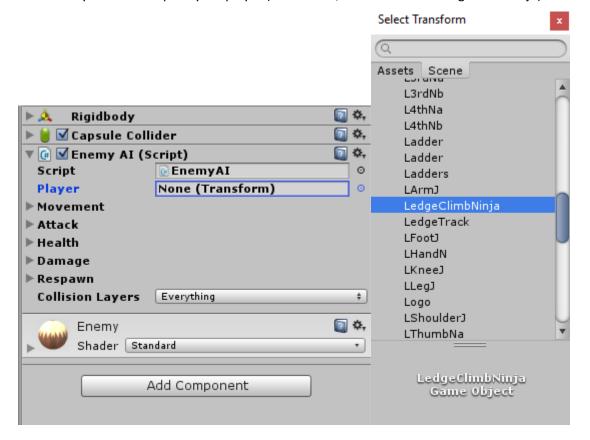
1. Select your enemy in the "Hierarchy" tab.



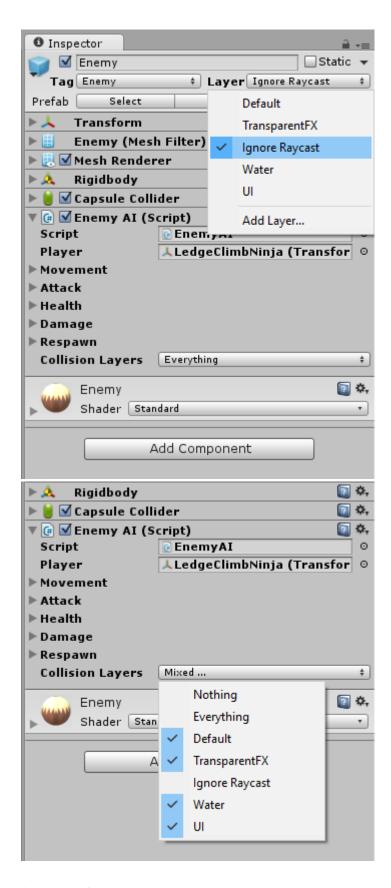
2. Add the EnemyAl.cs script to your enemy (either by using "Add Component" in the "Inspector" tab or by dragging and dropping the script from the "Project" tab on to your enemy in the "Inspector" tab).



3. Set the Player of the script to your player (in this case, we will set it to LedgeClimbNinja).

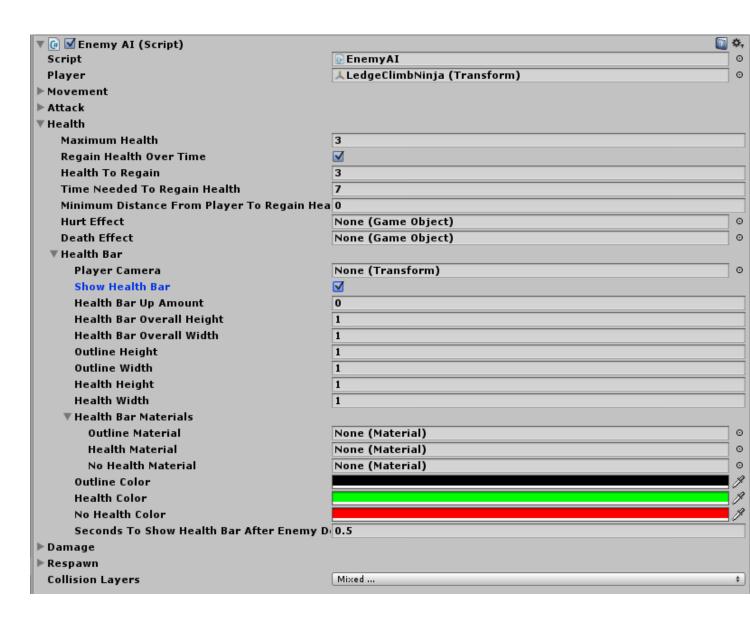


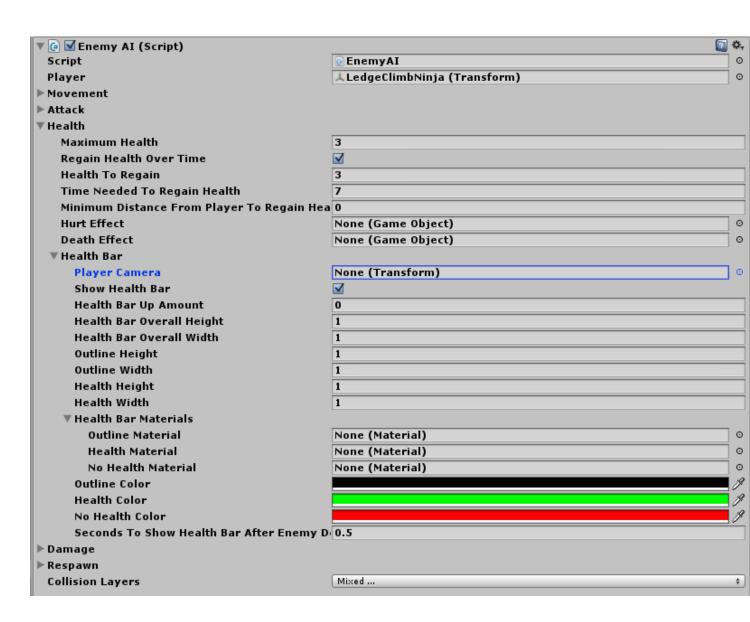
4. Set a layer for your enemy and uncheck it in the script's Collision Layers (to avoid having the script's linecasts and raycasts collide with the enemy itself).

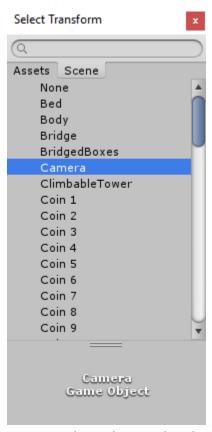


#### 5. (OPTIONAL)

If you would like the enemy to have a health bar float over his head, expand the "Health Bar" section of the "Health" category, then make sure that "Show Health Bar" is checked, and that the "Player Camera" is set.



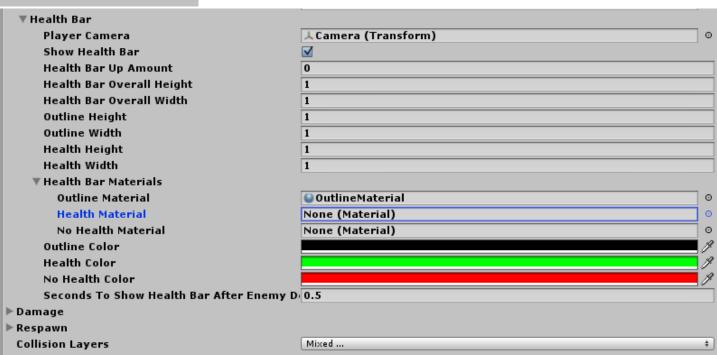




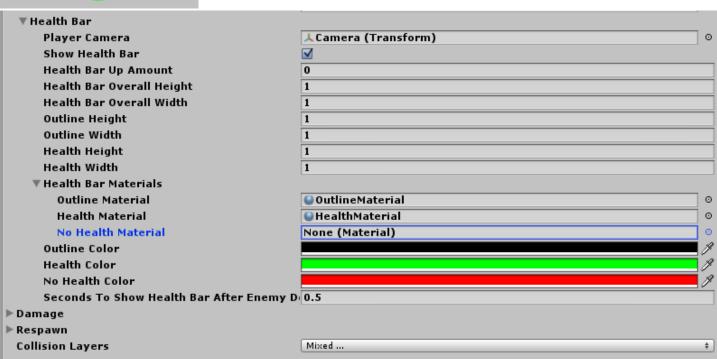
You must also make sure that the "Health Bar Materials" are set (so that the script knows which materials to use for the health bar).









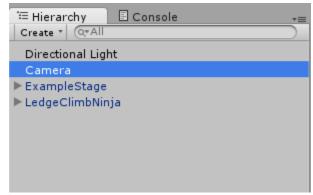




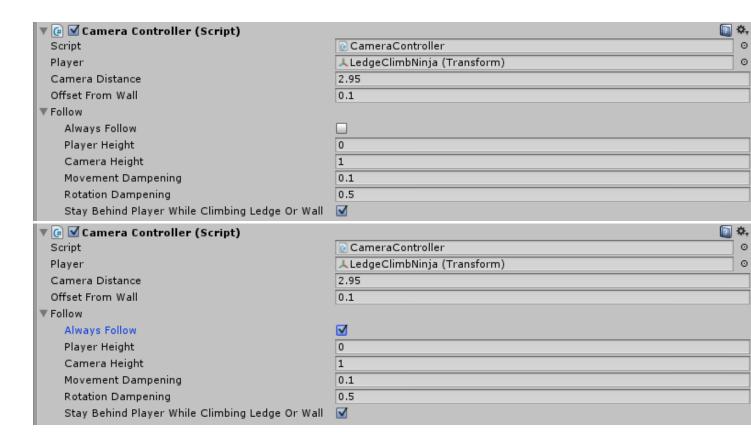
# Setting Up the All in One Game Kit - ELC Character System with Different Perspectives

#### **Third Person Mode**

- Third person mode with a following camera:
  - 1. Select your camera in the "Hierarchy" tab.

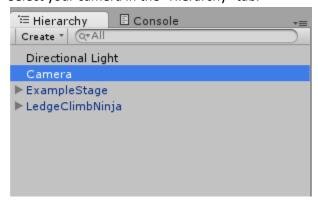


2. In the "Camera Controller" script we just added, check the box that says "Always Follow."

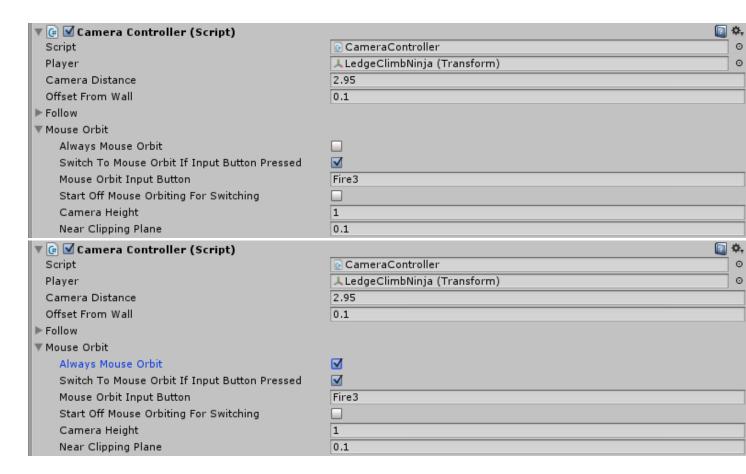


#### - Third person mode with a mouse orbiting camera:

1. Select your camera in the "Hierarchy" tab.

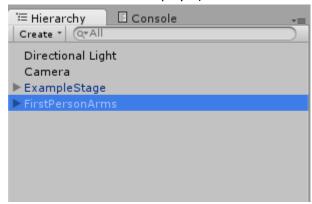


2. In the "Camera Controller" script, check the box that says "Always Mouse Orbit" (or, if you would like to switch to mouse orbiting by pressing a button instead of always mouse orbiting, check "Switch To Mouse Orbit If Input Button Pressed," and leave "Always Mouse Orbit" unchecked).

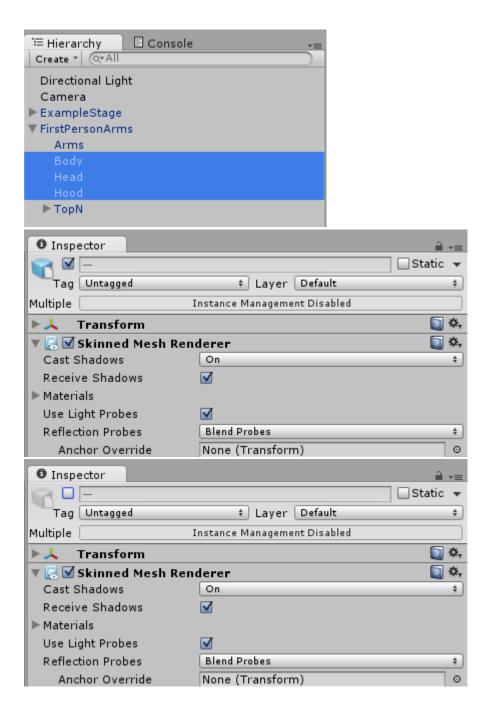


#### **First Person Mode**

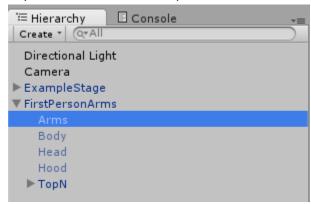
1. Select your player in the "Hierarchy" tab (since we are setting up the First Person game mode, we will be using "FirstPersonArms" as the player).

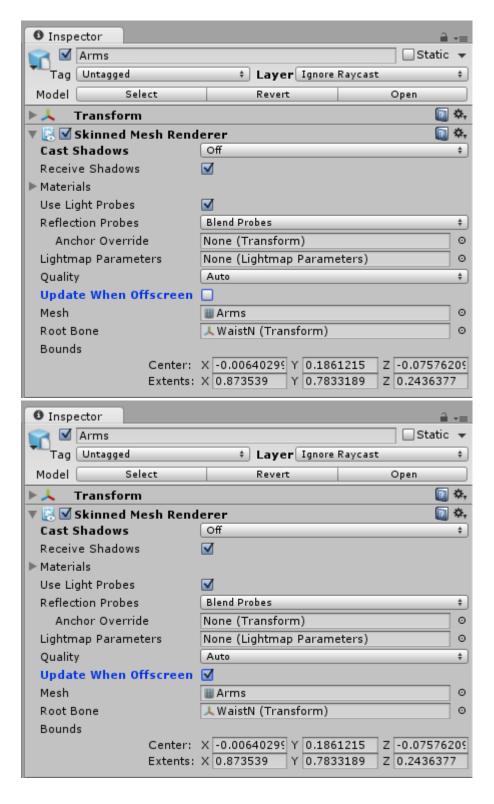


2. Disable/hide whichever parts of the player model you do not want to be seen while in First Person Mode.

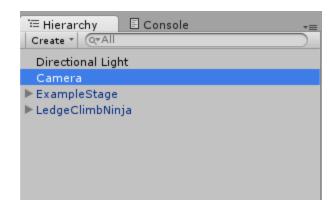


3. Select whichever parts of the player model you do want to be seen while in First Person Mode, and enable the "Update When Offscreen" option inside of their Mesh Renderer component.

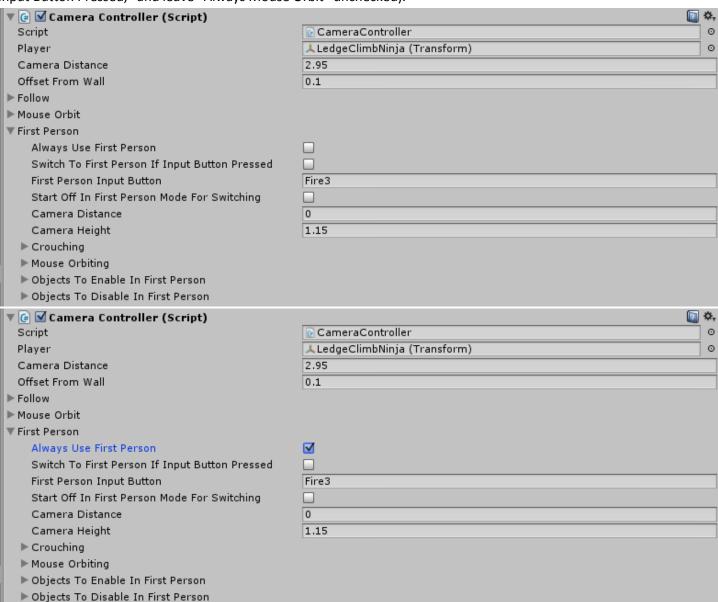




4. Select your camera in the "Hierarchy" tab.

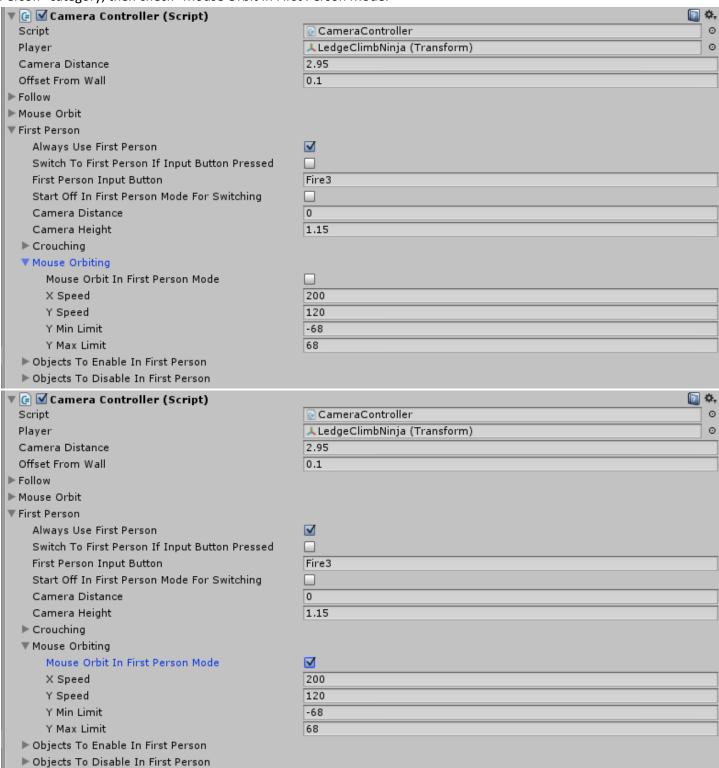


5. In the "Camera Controller" script, check the box that says "Always Use First Person" (or, if you would like to switch to mouse orbiting by pressing a button instead of always mouse orbiting, check "Switch To First Person If Input Button Pressed," and leave "Always Mouse Orbit" unchecked).



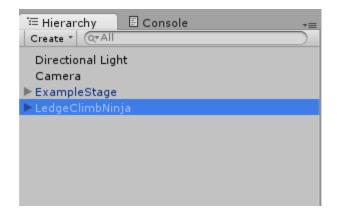
6. (OPTIONAL)

If you would like camera to mouse orbit in first person mode, expand the "Mouse Orbiting" section of the "First Person" category, then check "Mouse Orbit In First Person Mode."



#### Side-Scrolling / 2.5D Mode

1. Select your player in the "Hierarchy" tab.



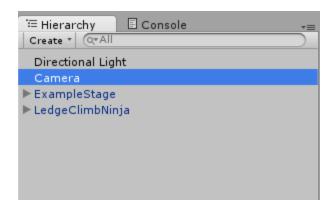
2. In the "Player Controller" script, check the box that says "Lock Movement On Z Axis" (or if you would like to lock the x-axis and only move on the z-axis instead, check the box that says "Lock Movement On X Axis" instead).

▼ @ ☑ Player Controller (Script)		\$,
Script	@ PlayerController	0
Player Camera	LCamera (Transform)	0
Gravity	20	
Slope Limit	25	
▶ Grounded		
<b>▼</b> Movement		
Forward Speed	6	
Side Speed	4	
Back Speed	5	
<b>▶</b> Running		
Mid Air Movement Speed Multiple	1.1	
Acceleration	50	
Movement Friction	0	
Rotation Speed	8	
Mid Air Rotation Speed Multiple	1	
Slope Slide Speed	1	
Slide Friction	4	
Allow Crouching		
Crouch Movement Speed Multiple	0.4	
Crouch Collider Height Multiple	0.7	
Hard Stick To Ground		
▼ Side Scrolling		
Movement Speed If Axis Locked	6	
Lock Movement On Z Axis	☑	
Z Value	0	
Lock Movement On X Axis		
X Value	0	
Flip Axis Rotation		
Rotate Inwards		
▶ First Person		
▶ Jumping		
▶ Wall Jumping		
▶ Attacking		
▶ Climbing		
▶ Moving Platforms		
Collision Layers	Mixed	<b>‡</b>

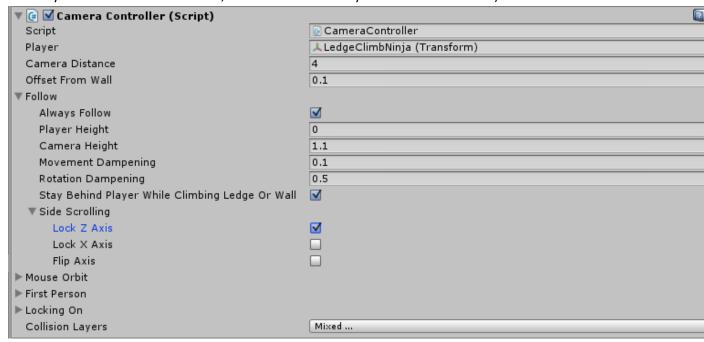
3. In the "Ledge Climb Controller" script, check the box that says "Lock Movement On Z Axis" (or if you would like to lock the x-axis and only move on the z-axis instead, check the box that says "Lock Movement On X Axis" instead).

ı	,		_
ı	▼ 🕼 🗹 Ledge Climb Controller (Script)		0
ı	Script	<u> </u>	
ı	Show Main Rays Only		
ı	Stay Upright		
ı	Inherit Scale		
ı	On Ledge Height	0	
ı	Ledge Angle Limit	25	
ı	Distance To Push Off Of Ledge After Letting Go	0.5	
ı	Max Grounded Distance	0.2	
ı	Climbing Detectors		
ı	▼ Moving Detectors		
ı	Move Speed	3	
ı	Rotation Speed	8	
ı	Move In Bursts		
ı	Burst Length	1	
ı	Show Moving Rays		
ı	Moving Detectors Height	0	
ı	First Front Wall Detectors Forward	0	
ı	First Front Wall Detectors Width	0	
ı	First Back Wall Detectors Forward	0	
ı	First Back Wall Detectors Width	0	
ı	Second Front Wall Detectors Forward	0	
ı	Second Front Wall Detectors Width	0	
ı	Second Back Wall Detectors Forward	0	
ı	Second Back Wall Detectors Width	0	
ı	Front Top Of Ledge Surface Detectors Forward	0	
ı	Back Top Of Ledge Surface Detectors Forward	0	
ı	Show Ground Rays	<u>✓</u>	
ı	Min Dist From Ground Height	0	
ı	Min Dist From Ground Width	0	
ı	▼ Side Scrolling		
ı	Lock Movement On Z Axis		
ı	Z Value	0	
ı	Lock Movement On X Axis		
ı	X Value	0	
ı	▶ Blocking Detectors		
ı	▶ Ledge Switching Detectors		
ı	▶ Walking Off Ledge Detectors		
	Noverall Position Of Detectors		
I	Description of Detectors		
	Scripts To Enable On Grab		
	Scripts To Disable On Grab		
	Current States Of Variables		

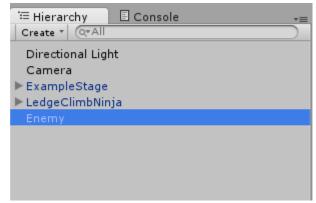
4. Select your camera in the "Hierarchy" tab.



5. In the "Camera Controller" script, check the box that says "Lock Z Axis" (or if you would like to lock the x-axis and only move on the z-axis instead, check the box that says "Lock X Axis" instead).



6. Select your enemy in the "Hierarchy" tab.



7. In the "Enemy AI" script, check the box that says "Lock Movement On Z Axis" (or if you would like to lock the x-axis and only move on the z-axis instead, check the box that says "Lock Movement On X Axis" instead).

▼ 🖟 🗹 Enemy AI (Script)	[a *.
Script	
Player	↓LedgeClimbNinja (Transform)
<b>▼</b> Movement	
Movement Speed	2.5
Rotation Speed	6
Distance To Face Player From	10
Distance To Chase Player From	5
Viewpoint Player Must Be In To Follow	70
Stop At Edges	
Show Edge Detectors	
Detector Height	0
Detector Forward	0
Minimum Edge Height	0
▼ Side Scrolling	
Lock Movement On Z Axis	
Z Value	0
Lock Movement On X Axis	
X Value	0
Rotate Inwards	
► Attack	
▶ Health	
▶ Damage	
▶ Respawn	
Collision Layers	Mixed ‡

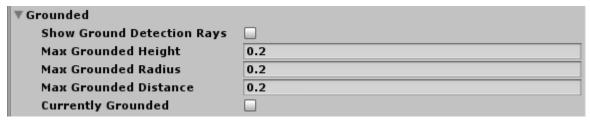
### All in One Game Kit - ELC Character System Variables and Features

#### PlayerController.cs



Player Camera – the camera set to follow the player

<u>Gravity</u> – the amount of downward force, or "gravity," that is constantly being applied to the player <u>Slope Limit</u> – the maximum angle of a slope you can stand on without sliding down



Grounded – detectors that determine whether the player is grounded or not

<u>Show Ground Detectors</u> – shows the rays that detect whether the player is grounded or not <u>Max Grounded Height</u> – the maximum height of the ground the ground detectors can hit to be considered grounded

<u>Max Grounded Radius</u> – the maximum radius of the area ground detectors can hit to be considered grounded

<u>Max Grounded Distance</u> – the maximum distance you can be from the ground to be considered grounded

<u>Currently Grounded</u> – determines if the player is currently grounded/on the ground

<b>▼</b> Movement	
Forward Speed	6
Side Speed	4
Back Speed	5
<b>▼</b> Running	
Use Running Button	
Run Input Button	Fire3
Run Speed Multiple	1.3
<b>▼</b> Crouching	
Allow Crouching	lacksquare
Crouch Movement Speed Multiple	0.4
Crouch Collider Height Multiple	0.7
Mid Air Movement Speed Multiple	1.1
Acceleration	50
Movement Friction	0
Rotation Speed	8
Mid Air Rotation Speed Multiple	1
Slope Slide Speed	1
Slide Friction	4
Hard Stick To Ground	

<u>Movement</u> – variables that affect the player's movement

Forward Speed – player's speed when running forward

Side Speed – player's speed when running sideways

Back Speed – player's speed when running backwards

Running – variables that determine whether or not the player uses a running button to run

<u>Use Running Button</u> – allows the player to multiply his movement speed when the run button is pressed

<u>Run Input Button</u> – the button (found in "Edit > Project Settings > Input") that is used to make the player run

Run Speed Multiple – player's movement speed while the player is running/the run button is held down (multiplied by move speed

Crouching – variables that determine whether or not the player can crouch

Allow Crouching – determines whether or not the player is allowed to crouch

<u>Crouch Movement Speed Multiple</u> – player's movement speed while crouching (multiplied by move speed)

<u>Crouch Collider Height Multiple</u> – what to multiply the player's collider height while crouching by

<u>Mid Air Movement Speed Multiple</u> – player's movement speed in mid-air (multiplied by the player's current movement speed)

Acceleration – how fast the player will reach their maximum speed

Movement Friction – the amount of friction applied to the player's movement

Rotation Speed – player's rotation speed

Mid Air Rotation Speed Multiple – player's rotation speed in mid-air (multiplied by Rotation Speed)

<u>Slope Slide Speed</u> – how quickly you slide down slopes

Slide Friction – the amount of friction applied to the player from sliding down a slope

<u>Hard Stick to Ground</u> – by using a raycast, this option sets the position of the player to the position of the ground under him

6
0
0
lacksquare
I 🗆
Fire3
<b>☑</b>

Side Scrolling – variables that determine whether or not the player uses 2.5D side-scrolling

<u>Movement Speed If Axis Is Locked</u> – the move speed of the player if one of the axis are locked <u>Lock Movement On Z Axis</u> – locks the movement of the player on the z-axis

<u>Z Value</u> – the permanent z-value of the player if his movement on the z-axis is locked

Lock Movement On X Axis – locks the movement of the player on the x-axis

X Value – the permanent x-value of the player if his movement on the x-axis is locked

<u>Flip Axis Rotation</u> – flips the player's rotation on the non-locked axis (it adds 180 degrees to the player's rotation)

<u>Rotate Inwards</u> – when the player rotates from side to side, he rotates inward (so that you see his front side while he is rotating)

First Person – variables that determine whether or not the player uses first person mode

Use Camera Controller Settings If Possible – if the player camera has the script:

"CameraController.cs" attached to it, the player will use the same first person settings as the camera

<u>Always Use First Person</u> – allows the player to always stay in first person mode

<u>Switch To First Person If Input Button Pressed</u> – switches to first person mode and back when the "firstPersonInputButton" is pressed

<u>First Person Input Button</u> – the button (found in "Edit > Project Settings > Input") that is used to enter first person mode

<u>Start Off In First Person Mode For Switching</u> – if the player is allowed to switch to first person mode, start off in first person mode instead of having to switch to it first

<u>Walk Backwards When Down Key Is Pressed</u> – allows the player to walk backwards (instead of turn around) when the down key is pressed

Only Rotate With Camera – does not allow the arrow keys to change the player's direction; only allows the player to rotate to the direction that the camera is facing

▼ Jumping	
▶Number And Height Of Jumps	
Time Limit Between Jumps	1
Allow Jump When Sliding Facing Uphill	
Allow Jump When Sliding Facing Downhill	
Do Not Increase Jump Number When Sliding	
Jump Landing Effect	DustCloud
Allow Double Jump	
Double Jump Performable Out Of Wall Jump	
Double Jump Performable If In Mid Air In General	
Double Jump Height	6
Double Jump Effect	DustDoubleJump 0
Max Falling Speed	90

<u>Jumping</u> – variables that affect the player's jumps

<u>Number And Height Of Jumps</u> – the number of jumps the player can do and the height of the jumps (the elements)

<u>Time Limit Between Jumps</u> – the amount of time you have between each jump to continue the jump combo

<u>Allow Jump When Sliding Facing Uphill</u> – determines whether or not you are allowed to jump when you are facing uphill and sliding down a slope

<u>Allow Jump When Sliding Facing Downhill</u> – determines whether or not you are allowed to jump when you are facing downhill and sliding down a slope

<u>Do Not Increase Jump Number When Sliding</u> – only allows the player to perform their first jump when sliding down a slope

Jump Landing Effect – optional dust effect to appear after landing jump

Allow Double Jump – determines whether or not you are allowed to double jump

<u>Double Jump Performable Out Of Wall Jump</u> – (if "Allow Double Jump" is true) determines whether or not the player can perform their double jump if they are in mid-air as a result of wall jumping

<u>Double Jump Performable If In Mid Air In General</u> – (if "Allow Double Jump" is true) determines whether or not the player can perform their double jump simply because they are in mid-air (instead of having to be in mid-air as a result of jumping)

<u>Double Jump Height</u> – height of double jump

<u>Double Jump Effect</u> – optional effect to appear when performing a double jump

Max Falling Speed – the maximum speed you can fall

▼ Wall Jumping	
Allow Wall Jumping	
Minimum Wall Angle	80
Wall Jump Distance	6
Wall Jump Height	10
Wall Jump Deceleration Rate	2
Overall Movement Speed	2
Forward Movement Speed Multiple	0.85
Side Movement Speed Multiple	0.85
Back Movement Speed Multiple	0.75
Rotation Speed Multiple	0
Distance To Keep From Wall When On Wall	1
Use Wall Jump Time Limit	
Wall Jump Time Limit	2
Slide Down Walls	
Slide Down Speed	8
Rotation To Wall Speed	6
Input Percentage Needed To Wall Jump	50
Show Wall Jump Detectors	
Space On Wall Needed To Wall Jump Up Amount	0
Space On Wall Needed To Wall Jump Height	0
Space On Wall Needed To Wall Jump Length	0
Space On Wall Needed To Wall Jump Width	0
Space Below Needed To Wall Jump	0

Wall Jumping – variables that affect the player's wall jumps

Allow Wall Jumping – determines whether or not the player is allowed to wall jump

Minimum Wall Angle – the minimum angle a wall can be to wall jump off of it

Wall Jump Distance - distance of wall jump

Wall Jump Height – height of wall jump

Wall Jump Deceleration Rate – how quickly the momentum from the wall jump stops

Overall Movement Speed – player's movement speed in mid-air

<u>Forward Movement Speed Multiple</u> – player's speed when moving forward in mid air (multiplied by Overall Movement Speed)

<u>Side Movement Speed Multiple</u> – player's speed when moving sideways in mid air (multiplied by Overall Movement Speed)

<u>Back Movement Speed Multiple</u> – player's speed when moving backwards in mid air (multiplied by Overall Movement Speed)

Rotation Speed Multiple – player's rotation speed in mid-air (multiplied by Rotation Speed)

<u>Distance To Keep From Wall When On Wall</u> – the distance the player keeps from the wall he is currently stuck to

Use Wall Jump Time Limit – allows the use of a time limit to wall jump when on walls

Wall Jump Time Limit – the amount of time you can stay on a wall before falling

Slide Down Walls – allows player to slide down if on a wall

Slide Down Speed – the speed at which the player slides down walls

Rotation To Wall Speed – how quickly the player rotates onto a wall for a wall jump

<u>Input Percentage Needed To Wall Jump</u> – the amount of input needed to be applied to the joystick or key in order to stick to a wall for a wall jump

<u>Show Wall Jump Detectors</u> – determines whether to show or hide the detectors that allow wall jumping <u>Space On Wall Needed To Wall Jump Up Amount</u> – moves the rays that detect the amount of open space on a wall up and down

<u>Space On Wall Needed To Wall Jump Height</u> – changes the height of the rays that detect the amount of open space on a wall

<u>Space On Wall Needed To Wall Jump Length</u> – changes the length of the rays that detect the amount of open space on a wall

<u>Space On Wall Needed To Wall Jump Width</u> – changes the width of the rays that detect the amount of open space on a wall

<u>Space Below Needed To Wall Jump</u> – changes the minimum distance from the ground you must be in order to wall jump

▼ Attacking	
<b>▼</b> Ground	
▶ Number And Strength Of Attacks	
Combo Time Limit	0.5
Remember Attack Button Presses	
■ Waiting Before Attacking Again	
Waiting Time	0.2
Wait For Animation To Finish	

Attacking – variables that control the player's attacks

Ground – variables for the player's ground attacks

<u>Number And Strength Of Attacks</u> – the number of attacks the player can perform and the strength of each one (the elements)

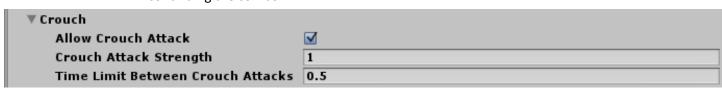
<u>Combo Time Limit</u> – the amount of time you have to wait between each attack to continue the ground attack combo

<u>Remember Attack Button Presses</u> – allows the player to press the attack button multiple times, then continue the combo based on the number of times the button was pressed (before the combo resets)

<u>Waiting Before Attacking Again</u> – variables that determine how long the player must wait before attacking again

<u>Waiting Time</u> – the amount of time you have to wait (after each attack) before you can continue the attack combo

<u>Wait For Animation To Finish</u> – waits for the current attack animation to finish before continuing the combo



<u>Crouch</u> – variables for the player's crouch attacks

Allow Crouch Attack – allows the player to attack while crouching

<u>Crouch Attack Strength</u> – the strength of the player's crouch attack

<u>Time Limit Between Crouch Attacks</u> – the amount of time you have to wait between each attack to crouch attack again

▼ Air	
▶ Number And Strength Of Mid Air Att	acks
Only Allow Attack Once In Mid Air	lacksquare
Combo Time Limit	0.5
Remember Attack Button Presses	
▼ Waiting Before Attacking Again	
Waiting Time	0.2
Wait For Animation To Finish	

Air - variables for the player's mid air attacks

<u>Number And Strength Of Mid Air Attacks</u> – the number of maximum attacks the player can perform and the strength of each one (the elements)

Only Allow Mid Air Attack Once In Mid Air – only allows the player to use his mid-air attack once while in the air

<u>Combo Time Limit</u> – the amount of time you have to wait between each attack to continue the mid air attack combo

<u>Remember Attack Button Presses</u> – allows the player to press the attack button multiple times, then continue the combo based on the number of times the button was pressed (before the combo resets)

<u>Waiting Before Attacking Again</u> – variables that determine how long the player must wait before attacking again

<u>Waiting Time</u> – the amount of time you have to wait (after each attack) before you can continue the attack combo

<u>Wait For Animation To Finish</u> – waits for the current attack animation to finish before continuing the combo

#### **Attack Input Button**

Fire1

Attack Input Button – the button (found in "Edit > Project Settings > Input") that is used to attack

<b>▼</b> Climbing	
Size	1
▼ Ladder	
Climbable Tag	Ladder
Climb Vertically	
Climb Horizontally	
Climb Movement Speed	4
Climb Rotation Speed	10
Snap To Center Of Object	
Move In Bursts	
Burst Length	1
Stay Upright	
Distance To Push Off After Letting Go	0.5
Rotation To Climbable Object Speed	6
Show Climbing Detectors	
Climbing Surface Detectors Up Amount	0
Climbing Surface Detectors Height	0
Climbing Surface Detectors Length	0
Show Edge Of Object Detctors	
Top No Surface Detector Height	0
Bottom No Surface Detector Height	0
Top And Bottom No Surface Detectors Width	0
Side No Surface Detectors Height	0
Side No Surface Detectors Width	0
Stop At Sides	
Drop Off At Bottom	
Drop Off At Floor	lacksquare
Pull Up At Top	
Pull Up Speed	4
Show Pull Up Detector	
Pull Up Location Forward	0

Climbing – variables that control the player's ladder and wall climbing

Climbable Tag – the tag of a climbable object

<u>Climb Vertically</u> – determines whether or not the player is allowed to climb vertically

<u>Climb Horizontally</u> – determines whether or not the player is allowed to climb horizontally

Climb Movement Speed – how quickly the player climbs on walls

<u>Climb Rotation Speed</u> – how quickly the player rotates on walls

<u>Snap To Center Of Object</u> – snaps the player to the middle (along the x and z-axis) of the climbable object (most useful for ladders)

Move In Bursts – move in bursts (while on a climbable object)

Burst Length – the amount of time a movement burst lasts

Stay Upright – determines whether or not the player can rotate up and down

<u>Distance To Push Off After Letting Go</u> – the distance the player pushes off of a ladder/wall after letting go

Rotation To Climbable Object Speed – how quickly the player rotates onto a wall to climb

Show Climbing Detectors – determines whether to show or hide the detectors that allow climbing

Climbing Surface Detectors Up Amount – moves the rays that detect the surface of a wall up and down

<u>Climbing Surface Detectors Height</u> – changes the height of the rays that detect the surface of a wall

<u>Climbing Surface Detectors Length</u> – changes the length of the rays that detect the surface of a wall

<u>Show Edge Of Object Detectors</u> – determines whether or not to show the detectors that determine where the top and bottom of a climbable object is

<u>Top No Surface Detector Height</u> – the height of the detector that determines if there is no surface detected at the top of the climbable object, so that the player can pull up or stop before climbing any higher

<u>Bottom No Surface Detector Height</u> – the height of the detector that determines if there is no surface detected at the bottom of the climbable object, so that the player can drop off or stop before climbing any lower

<u>Top And Bottom No Surface Detectors Width</u> – the width of the detectors that determines if there is no surface detected at the top and bottom of the climbable object

<u>Side No Surface Detectors Height</u> – the height of the detectors that determines if there is no surface detected at the sides of the climbable object

<u>Side No Surface Detectors Width</u> – the width of the detectors that determines if there is no surface detected at the sides of the climbable object

Stop At Sides – keeps player from climbing any further sideways once he has reached the side

Drop Off At Bottom – allows player to drop off of a climbable object once he has reached the bottom

Drop Off At Floor – allows player to drop off of a climbable object once he has reached the floor

Pull Up At Top – allows player to pull up and over a climbable object once he has reached the top

Pull Up Speed – the speed the player pulls up and over ledges once he has reached the top of a climbable object

<u>Show Pull Up Detector</u> – determines whether or not to show the detector that determines where the player pulls up to

<u>Pull Up Location Forward</u> – the forward distance of the detector that determines where the player pulls up to

<b>▼</b> Swimming				
Allow Swimming	$\overline{\checkmark}$			
Swim Movement Speed	6			
Acceleration Rate	6			
Deceleration Rate	4			
Swim Rotation Speed	6			
Y Swimming Rotation Max Limit	70			
Y Swimming Rotation Min Limit	-80			
Y Idle Rotation Max Limit	40			
Y Idle Rotation Min Limit	-50			
Idle Floating Direction	X O	Υ 0	Z 0	
Invert X Rotation				
Invert Y Rotation				
Angle Needed To Jump Out	39			
Jump In Height	0			
Jump Out Height	0			
Walk Out Height	0			
Allow Collider Rotation By Using Rigidb	oody 🗹			
▼ First Person				
Allow Movement	✓			
Allow Shifting With Joystick	✓			
Joystick Movement Speed	4			
Joystick Deceleration Speed	3			
Camera Angle Offset	0			
▼ Rotation Limits If Movement Is Not	Allowed			
Y Min Limit	-68			
Y Max Limit	68			
X Min Limit	-68			
X Max Limit	68			
▶ Scripts To Enable On Enter				
► Scripts To Disable On Enter				
Splash Effect	Splash			

Swimming – variables that control the player's swimming

Allow Swimming – determines whether or not the player is allowed to swim

Swim Movement Speed – the player's movement speed while swimming

Acceleration Rate – how fast the player will reach their maximum swimming speed

Deceleration Rate – how fast the player will reach their minimum swimming speed (0 speed)

Swim Rotation Speed – the player's rotation speed while swimming

<u>Y Swimming Rotation Max Limit</u> – the maximum y value the player can rotate to while swimming vertically

<u>Y Swimming Rotation Min Limit</u> – the minimum y value the player can rotate to while swimming vertically

Y Idle Rotation Max Limit – the maximum y value the player can rotate to while not swimming vertically

Y Idle Rotation Min Limit – the minimum y value the player can rotate to while not swimming vertically

<u>Idle Floating Direction</u> – the direction the player floats in while he is not swimming

<u>Invert X Rotation</u> – inverts the player's left and right swimming rotation

Invert Y Rotation – inverts the player's up and down swimming rotation

<u>Angle Needed To Jump Out</u> – the minimum angle the player must be rotated to jump out of the water <u>Jump In Height</u> – the height the player must sink before entering the water

<u>Jump Out Height</u> – the height the player must swim before jumping out of the water (the player cannot swim any higher once he reaches this point)

<u>Walk Out Height</u> – the height the player must swim before walking out of the water, and on to the surface (note: the player cannot swim any higher than the jump out height)

<u>Allow Collider Rotation By Using Rigidbody</u> – allows the collider of the player to rotate while swimming (by adding a Rigidbody+CapsuleCollider, and disabling the CharacterController temporarily, since CharacterController colliders can only stay upright)

<u>First Person</u> – variables that determine how the player swims in first person mode

Allow Movement – allows the player to move while in first person mode

<u>Allow Shifting With Joystick</u> – allows the player to rotate with the camera, and move left, right, up, or down with the joystick, while mouse orbiting in first person mode

<u>Joystick Movement Speed</u> – the speed the player moves left, right, up, or down (with the joystick) while mouse orbiting in first person mode

<u>Joystick Deceleration Speed</u> – the speed the player stops moving left, right, up, or down (with the joystick) while mouse orbiting in first person mode

<u>Camera Angle Offset</u> – the angle of the player's head upon entering first person mode <u>Rotation Limits If Movement Is Not Allowed</u> – variables that limit the camera's (and in turn, the player's) first person rotation while swimming

Y Min Limit – the minimum y value the camera can orbit to

Y Max Limit – the maximum y value the camera can orbit to

X Min Limit – the minimum x value the camera can orbit to

X Max Limit – the maximum x value the camera can orbit to

<u>Scripts To Enable On Enter</u> – scripts to enable when the player enters the water (scripts disable when the player exits the water)

<u>Scripts To Disable On Enter</u> – scripts to disable when the player enters the water (scripts enable when the player exits the water)

Splash Effect – optional splash effect to appear after landing in water

▼ Walking Off Of Climbable Surface	
Allow Grabbing On After Walking Off Ledge	lacksquare
Show Walking Off Ledge Rays	
Space In Front Needed To Grab Back On	0
Space Below Needed To Grab Back On Height	0
Space Below Needed To Grab Back On Forward	0
First Side Ledge Detectors Height	0
Second Side Ledge Detectors Height	0
Third Side Ledge Detectors Height	0
Side Ledge Detectors Width	0
Side Ledge Detectors Length	0
Grab Back On Location Height	0
Grab Back On Location Width	0
Grab Back On Location Forward	0

<u>Walking Off Of Climbable Surface</u> – variables that detect whether the player has walked off a ledge and can grab on to a ladder

<u>Allow Grabbing On After Walking Off Ledge</u> –allows the player to grab on to a climbable surface under the ledge that he is walking off of

<u>Show Walking Off Ledge Rays</u> – shows the rays that detect if the player is walking off of a ledge

<u>Space In Front Needed To Grab Back On</u> – the amount of space in front of the player needed to grab on to a climbable object under a ledge

<u>Space Below Needed To Grab Back On Height</u> – the height of the detectors that determine the amount of space below the player needed to grab on to a climbable object under a ledge

<u>Space Below Needed To Grab Back On Forward</u> – the forward distance of the detectors that determine the amount of space below the player needed to grab on to a climbable object under a ledge

<u>First Side Ledge Detectors Height</u> – the height of the first set of detectors that determine if there are ledges to the side of the player keeping him from grabbing on

<u>Second Side Ledge Detectors Height</u> – the height of the second set of detectors that determine if there are ledges to the side of the player keeping him from grabbing on

<u>Third Side Ledge Detectors Height</u> – the height of the third set of detectors that determine if there are ledges to the side of the player keeping him from grabbing on

<u>Side Ledge Detectors Width</u> – the width of the detectors that determine if there are ledges to the side of the player keeping him from grabbing on

<u>Side Ledge Detectors Length</u> – the length of the detectors that determine if there are ledges to the side of the player keeping him from grabbing on

<u>Grab Back On Location Height</u> – the height of the detectors that determine where the player will grab on to

<u>Grab Back On Location Width</u> – the height of the detectors that determine where the player will grab on to

<u>Grab Back On Location Forward</u> – the forward distance of the detectors that determine where the player will grab on to

▶ Scripts To Enable On Grab ▶ Scripts To Disable On Grab Push Against Wall If Player Is Stuck ☑

<u>Scripts To Enable On Grab</u> – scripts to enable when the player grabs on to a wall (scripts disable when the player lets go of a wall)

<u>Scripts To Disable On Grab</u> – scripts to disable when the player grabs on to a wall (scripts enable when the player lets go of a wall)

<u>Push Against Wall If Player Is Stuck</u> – if the script considers the player stuck, the player pushes himself away from the wall until he is free



<u>Moving Platforms</u> – variables that determine whether the player moves with moving platforms or not <u>Allow Moving Platform Support</u> – determines whether or not the player can move with moving platforms

Moving Platform Tag – the tag of the moving platform objects

#### LedgeClimbController.cs

Show Main Rays Only	
Stay Upright	lacksquare
Inherit Scale	
On Ledge Height	0
Ledge Angle Limit	25
Distance To Push Off Of Ledge After Letting Go	0.5
Max Grounded Distance	0.2

Show Main Rays Only – show only the main detector rays

Stay Upright – only rotate to the left and right, not up and down

Inherit Scale – set the scale of the rays to the scale of the script holder

On Ledge Height – determines the player's up distance/height while grabbed on to a ledge

Ledge Angle Limit – the maximum angle of a ledge you can grab on to

<u>Distance To Push Off Of Ledge After Letting Go</u> – the distance the player pushes off of a ledge after letting go Max Grounded Distance – the maximum distance you can be from the ground to be considered grounded

▼ Climbing Detectors	
Pull Up Speed	4
Allow Climbing Over Ledges If In Air	
Allow Climbing Over Ledges If On Ground	lacksquare
Automatically Climb Over Ground Ledge If Colliding	lacksquare
Show Climb Detection Rays	lacksquare
Space Above Head Needed To Grab On	0
Space Above Head Needed To Climb Up	0
Rod Holding Ledge Detector Height	0
Rod Holding Ledge Detector Forward	0
Ledge Detector Height	0
Ledge Detector Forward	0
Top Of Ledge Surface Detector Height	0
Show Surface Level Rays	
Max Surface Level Height	0
Under Platform Max Surface Level Height	0
Show Non Ledge Surface Detection Rays	
Non Ledge Surface Detectors Height	0
Non Ledge Surface Detectors Forward	0

<u>Climbing Detectors</u> – detectors that determine if climbing on to or grabbing on to a ledge is possible

<u>Pull Up Speed</u> – the speed the player pulls up and over ledges

<u>Allow Climbing Over Ledges If In Air</u> – allows player to climb over a ledge that he is currently grabbed on to in mid-air

<u>Allow Climbing Over Ledges If On Ground</u> – allows player to climb over a ledge if he is on the ground <u>Automatically Climb Over Ground Ledge If Colliding</u> – (if "Allow Climbing Over Ledges If On Ground" is true) allows player to automatically climb over a ledge on the ground if he is colliding with and moving toward it (as opposed to having to stop and move again if colliding)

<u>Show Climb Detection Rays</u> – shows the rays that detect whether a ledge can be climbed or not <u>Space Above Head Needed To Grab On</u> – the amount of space above the player's head needed to grab on to a ledge

<u>Space Above Head Needed To Climb Up</u> – the amount of space above the player's head needed to climb up and over a ledge

<u>Rod Holding Ledge Detector Height</u> – the height of the rod that holds the ledge detector <u>Rod Holding Ledge Detector Forward</u> – the forward distance of the rod that holds the ledge detector <u>Ledge Detector Height</u> – the height of the ledge detector (the ray that detects ledges)

Ledge Detector Forward – the forward distance of the ledge detector (the ray that detects ledges)

<u>Top Of Ledge Surface Detector Height</u> – the height of the detector that determines where the top (surface) of a ledge is

<u>Show Surface Level Rays</u> – shows the rays that detect whether a ledge is low enough to be climbed or not

<u>Max Surface Level Height</u> – the maximum height (or level) of a surface that the player can grab on to <u>Under Platform Max Surface Level Height</u> – the maximum height (or level) of a surface that the player can grab on to when that surface is under a platform/another collider

<u>Show Non Ledge Surface Detection Rays</u> – shows the rays that detect whether a surface is actually a ledge or not (instead of something else such as a slope/hillside)

<u>Non Ledge Surface Detectors Height</u> – the height of the detectors that determine whether a surface is actually a ledge or not (instead of something else such as a slope/hillside)

<u>Non Ledge Surface Detectors Forward</u> – the forward distance of the detectors that determine whether a surface is actually a ledge or not (instead of something else such as a slope/hillside)

▼ Moving Detectors		
Move Speed	3	
Rotation Speed	8	
Move In Bursts		
Burst Length	1	
Show Moving Rays		
Moving Detectors Height	0	
First Front Wall Detectors Forward	0	
First Front Wall Detectors Width	0	
First Back Wall Detectors Forward	0	
First Back Wall Detectors Width	0	
Second Front Wall Detectors Forward	0	
Second Front Wall Detectors Width	0	
Second Back Wall Detectors Forward	0	
Second Back Wall Detectors Width	0	
Front Top Of Ledge Surface Detectors Forward	0	
Back Top Of Ledge Surface Detectors Forward	0	
Show Ground Rays		
Min Dist From Ground Height	0	
Min Dist From Ground Width	0	
▼ Side Scrolling		
Lock Movement On Z Axis		
Z Value	0	
Lock Movement On X Axis		
X Value	0	

Moving Detectors – detectors that determine where and how the player will move when on a ledge

Move Speed – the speed the player moves left and right (while grabbed on to a ledge)

Rotation Speed – the speed the player rotates (while grabbed on to a ledge)

Move In Bursts – move left and right in bursts (while grabbed on to a ledge)

Burst Length – the amount of time a movement burst lasts

<u>Show Moving Rays</u> – shows the rays that detect where and how the player will move when on a ledge <u>Moving Detectors Height</u> – the height of the rays that detect where and how the player will move when on a ledge

<u>First Front Wall Detectors Forward</u> – the forward distance of the first set of detectors that detect walls in front of the player

<u>First Front Wall Detectors Width</u> – the width of the first set of detectors that detect walls in front of the player

<u>First Back Wall Detectors Forward</u> – the forward distance of the first set of detectors that detect walls behind the player

<u>First Back Wall Detectors Width</u> – the width of the first set of detectors that detect walls behind the player

<u>Second Front Wall Detectors Forward</u> – the forward distance of the second set of detectors that detect walls in front of the player

<u>Second Front Wall Detectors Width</u> – the width of the second set of detectors that detect walls in front of the player

<u>Second Back Wall Detectors Forward</u> – the forward distance of the second set of detectors that detect walls behind the player

<u>Second Back Wall Detectors Width</u> – the width of the second set of detectors that detect walls behind the player

<u>Front Top Of Ledge Surface Detectors Forward</u> – the forward distance of the detectors that determine where the top (surface) of a ledge in front of the player is

<u>Back Top Of Ledge Surface Detectors Forward</u> – the forward distance of the detectors that determine where the top (surface) of a ledge behind the player is

<u>Show Ground Rays</u> – shows the rays that detect whether the player is too close to the ground to move or not

Min Dist From Ground Height –the minimum distance (or height) the player must be from the ground in order to grab on to or move on a ledge

<u>Min Dist From Ground Width</u> – the width of the rays that determine the minimum distance (or height) the player must be from the ground in order to grab on to or move on a ledge

Side Scrolling – variables that determine whether or not the player uses 2.5D side-scrolling

Lock Movement On Z Axis – locks the movement of the player on the z-axis

<u>Z Value</u> – the permanent z-value of the player if his movement on the z-axis is locked

Lock Movement On X Axis – locks the movement of the player on the x-axis

X Value – the permanent x-value of the player if his movement on the x-axis is locked

▼ Blocking Detectors	
Show Rotation Blocking Rays	
Prevent Rotating To Side Wall Height	0
Prevent Rotating To Side Wall Width	0
First Allow Rotating If Ledge Hit Width	0
Second Allow Rotating If Ledge Hit Width	0
Show Movement Blocking Rays	
Mid Side Wall Detectors Forward	0
Mid Side Wall Detectors Width	0
Side Wall Detectors Width	0
Front Side Blockage Detectors Height	0
Front Side Blockage Detectors Width	0
Front Side Blockage Detectors Forward	0
Above Head Platform Detectors Height	0
Above Head Platform Detectors Forward	0
Show Angle Detection Rays	
Ledge Angle Detectors Height	0
Ledge Angle Detectors Width	0

Blocking Detectors – detectors that determine whether the player is blocked from moving on a ledge or not

<u>Show Rotation Blocking Rays</u> – shows the rays that detect whether the player is blocked from rotating on a ledge or not

<u>Prevent Rotating To Side Wall Height</u> – the height of the detectors that determine if something to the side of the player (such as a wall) cannot be rotated to

<u>Prevent Rotating To Side Wall Width</u> – the width of the detectors that determine if something to the side of the player (such as a wall) cannot be rotated to

<u>First Allow Rotating If Ledge Hit Width</u> – the width of the first set of detectors that determine if something to the side of the player (such as a ledge) can be rotated to

<u>Second Allow Rotating If Ledge Hit Width</u> – the width of the second set of detectors that determine if something to the side of the player (such as a ledge) can be rotated to

<u>Show Movement Blocking Rays</u> – shows the rays that detect whether the player is blocked from moving on a ledge or not

<u>Mid Side Wall Detectors Forward</u> – the forward distance of the detectors that determine whether a wall in front of and to the side of the player is blocking the player's movement

Mid Side Wall Detectors Width – the width of the detectors that determine whether a wall in front of and to the side of the player is blocking the player's movement

<u>Side Wall Detectors Width</u> – the width of the detectors that determine whether a wall to the side of the player is blocking the player's movement

<u>Front Side Blockage Detectors Height</u> – the height of the detectors that determine if there is something (a collider) in front of the player blocking his movement

<u>Front Side Blockage Detectors Width</u> – the width of the detectors that determine if there is something (a collider) in front of the player blocking his movement

<u>Front Side Blockage Detectors Forward</u> – the forward distance of the detectors that determine if there is something (a collider) in front of the player blocking his movement

Above Head Platform Detectors Height – the height of the detectors that determine if there is a platform/collider above (and slightly in front of) the player's head blocking his movement

Above Head Platform Detectors Forward – the forward distance of the detectors that determine if there is a platform/collider above (and slightly in front of) the player's head blocking his movement

Show Angle Detection Rays – shows the rays that detect whether a ledge's angle is too high to be climbed/moved on or not

<u>Ledge Angle Detectors Height</u> – the height of the detectors that determine the angle of a ledge <u>Ledge Angle Detectors Width</u> – the width of the detectors that determine the angle of a ledge

▼ Ledge Switching Detectors	
Allow Ledge Switching	
Switch Jump Height	5
Switch Jump Speed	4
Input Percentage Needed To Switch	95
Show First Ledge Switching Rays	
First Surface Detector Width	0
First No Surface Detector Length	0
First No Surface Detector Width	0
Show Second Ledge Switching Rays	
Second Surface Detector Width	0
Second No Surface Detector Length	0
Second No Surface Detector Width	0
Show Third Ledge Switching Rays	
Third Surface Detector Width	0
Third No Surface Detector Length	0
Third No Surface Detector Width	0
Surface Detector Forward Amount	0
Surface Detector Height	0
Surface Detector Length	0
Surface Detector Width	0
Switch Point Detector Width	0
No Surface Detector Height	0
No Surface Detector Width	0
Wall In Front Detector Up Amount	0
Wall In Front Detector Height	0

<u>Ledge Switching Detectors</u> – detectors that determine whether switching from one ledge to another is possible or not

<u>Allow Ledge Switching</u> – allows the player to switch between ledges (jump from one ledge to another) <u>Switch Jump Height</u> – the height the player jumps when switching ledges

<u>Switch Jump Speed</u> – the speed the player jumps between ledges

<u>Input Percentage Needed To Switch</u> – the amount of input needed to be applied to the joystick or key in order to switch ledges

<u>Show First Ledge Switching Rays</u> – shows the first set of rays that detect whether switching from one ledge to another is possible or not

<u>First Surface Detector Width</u> – the width of the first set of detectors that determine how large of a surface a ledge must be in order for the player to switch to it

<u>First No Surface Detector Length</u> – the length of the first set of detectors that determine if there is no surface blocking the player from switching ledges

<u>First No Surface Detector Width</u> – the width of the first set of detectors that determine if there is no surface blocking the player from switching ledges

<u>Show Second Ledge Switching Rays</u> – shows the second set of rays that detect whether switching from one ledge to another is possible or not

<u>Second Surface Detector Width</u> – the width of the second set of detectors that determine how large of a surface a ledge must be in order for the player to switch to it

<u>Second No Surface Detector Length</u> – the length of the second set of detectors that determine if there is no surface blocking the player from switching ledges

<u>Second No Surface Detector Width</u> – the width of the second set of detectors that determine if there is no surface blocking the player from switching ledges

<u>Show Third Ledge Switching Rays</u> – shows the third set of rays that detect whether switching from one ledge to another is possible or not

<u>Third Surface Detector Width</u> – the width of the third set of detectors that determine how large of a surface a ledge must be in order for the player to switch to it

<u>Third No Surface Detector Length</u> – the length of the third set of detectors that determine if there is no surface blocking the player from switching ledges

<u>Third No Surface Detector Width</u> – the width of the third set of detectors that determine if there is no surface blocking the player from switching ledges

<u>Surface Detector Forward</u> – the forward distance of the detectors that determine how large of a surface a ledge must be in order for the player to switch to it

<u>Surface Detector Height</u> – the height of the detectors that determine how large of a surface a ledge must be in order for the player to switch to it

<u>Surface Detector Length</u> – the length of the detectors that determine how large of a surface a ledge must be in order for the player to switch to it

<u>Surface Detector Width</u> – the width of the detectors that determine how large of a surface a ledge must be in order for the player to switch to it

<u>Switch Point Detector Width</u> – the width of the detectors that determine where the player will switch to <u>No Surface Detector Height</u> – the height of the detectors that determine if there is no surface blocking the player from switching ledges

<u>No Surface Detector Width</u> – the width of the detectors that determine if there is no surface blocking the player from switching ledges

<u>Wall In Front Detector Up Amount</u> – the up distance of the detectors that determine if there is a wall in front of the player keeping him from switching ledges

<u>Wall In Front Detector Height</u> – the height of the detectors that determine if there is a wall in front of the player keeping him from switching ledges

I	▼ Walking Off Ledge Detectors	
I	Allow Grabbing Back On To Ledges	
I	Show Grab Back On To Ledges Rays	
I	Space In Front Needed To Grab Back On	0
I	Space Below Needed To Grab Back On Height	0
I	Space Below Needed To Grab Back On Forward	0
I	First Side Ledge Detectors Height	0
I	Second Side Ledge Detectors Height	0
I	Third Side Ledge Detectors Height	0
I	Side Ledge Detectors Width	0
I	Side Ledge Detectors Length	0
I	Grab Back On Location Height	0
I	Grab Back On Location Width	0
I	Grab Back On Location Forward	0
I	Allow Jumping Off Ledges	
I	Show Jump Off Ledges Rays	
I	Space Below Needed To Jump	0
I	Jump Height	7
I	Jump Distance	2
I	Jump Deceleration Rate	4
I	Use Gravity	
I	Gravity	20
I	Input Percentage Needed To Jump	95
	Disable Scripts While Jumping	
I	Jump Landing Effect	DustCloud

Allow Grabbing Back On To Ledges – allows the player to grab back on to a ledge that he is walking off of Show Grab Back On To Ledges Rays – shows the rays that detect if the player is walking off of a ledge Space In Front Needed To Grab Back On – the amount of space in front of the player needed to grab back on to a ledge

<u>Space Below Needed To Grab Back On Height</u> – the height of the detectors that determine the amount of space below the player needed to grab back on to a ledge

<u>Space Below Needed To Grab Back On Forward</u> – the forward distance of the detectors that determine the amount of space below the player needed to grab back on to a ledge

<u>First Side Ledge Detectors Height</u> – the height of the first set of detectors that determine if there are ledges to the side of the player keeping him from grabbing back on

<u>Second Side Ledge Detectors Height</u> – the height of the second set of detectors that determine if there are ledges to the side of the player keeping him from grabbing back on

<u>Third Side Ledge Detectors Height</u> – the height of the third set of detectors that determine if there are ledges to the side of the player keeping him from grabbing back on

<u>Side Ledge Detectors Width</u> – the width of the detectors that determine if there are ledges to the side of the player keeping him from grabbing back on

<u>Side Ledge Detectors Length</u> – the length of the detectors that determine if there are ledges to the side of the player keeping him from grabbing back on

<u>Grab Back On To Location Height</u> – the height of the detectors that determine where the player will grab back on to

<u>Grab Back On To Location Width</u> – the height of the detectors that determine where the player will grab back on to

<u>Grab Back On To Location Forward</u> – the forward distance of the detectors that determine where the player will grab back on to

<u>Allow Jumping Off Ledges</u> – allows the player to automatically jump off of a ledge that he is walking off of

Show Jump Off Ledges Rays – shows the rays that detect if the player can jump off of a ledge Space Below Needed To Jump – the amount of space below the player needed in order to jump off of a ledge

Jump Height – the height the player will jump off of a ledge

Jump Distance – the distance the player will jump off of a ledge

Jump Deceleration Rate – the rate at which the player's jump will decelerate

<u>Use Gravity</u> – determines whether or not to use "gravity" while jumping

<u>Gravity</u> – the amount of downward force, or "gravity," that is constantly applied to the player while jumping

<u>Input Percentage Needed To Jump</u> – the amount of input needed to be applied to the joystick or key in order to jump off of a ledge

<u>Disable Scripts While Jumping</u> – determines whether or not to disable the "Scripts To Disable On Grab" scripts (and enable the "Scripts To Enable On Grab" scripts) while jumping

Jump Landing Effect – optional dust effect to appear after landing jump

▼ Overall Position Of Detectors			
Up Distance	0		
Forward Distance	0		
Side Distance	0		

Overall Position Of Detectors – the overall position of every detector in this script

<u>Up Distance</u> – the up distance (or height) of every detector <u>Forward Distance</u> – the forward distance of every detector <u>Side Distance</u> – the side distance of every detector

▼ Overall Scale Of Detectors			
Length	1		
Width	1		
Height	1		

Overall Scale Of Detectors – the overall scale of every detector in this script

Length – the length of every detector

Width – the width of every detector

Height – the height of every detector

```
► Scripts To Enable On Grab
► Scripts To Disable On Grab
```

<u>Scripts To Enable On Grab</u> – scripts to enable when the player grabs on to a ledge (scripts disable when the player lets go of a ledge)

<u>Scripts To Disable On Grab</u> – scripts to disable when the player grabs on to a ledge (scripts enable when the player lets go of a ledge)

I	▼ Current States Of Variables	
I	Ledge Grab Possible	
I	Climb Up Possible	
I	Left Movement Possible	
I	Right Movement Possible	
I	Currently On Ledge	
I	Grounded	

Current States Of Variables – the current states of the main variables

<u>Ledge Grab Possible</u> – determines if grabbing on to a ledge is currently possible

Climb Up Possible – determines if climbing up and over a ledge is currently possible

<u>Left Movement Possible</u> – determines if movement to the left (while grabbed on to a ledge) is currently possible

<u>Right Movement Possible</u> – determines if movement to the right (while grabbed on to a ledge) is currently possible

<u>Currently On Ledge</u> – determines if the player is currently grabbed on to a ledge or not <u>Grounded</u> – determines if the player is currently grounded/on the ground or not



<u>Dust Effect</u> – optional dust effect to appear when finished climbing up and on to a ledge Collision Layers – the layers that the detectors (raycasts/linecasts) will collide with

# WallClimbController\_Standalone.cs

\*(This script is the exact same as the "Climbing" section of the PlayerController.cs script, only this is a standalone version of the section)\*

▼ Grounded	
Show Ground Detection Rays	
Max Grounded Height	0.2
Max Grounded Radius	0.2
Max Grounded Distance	0.2
Currently Grounded	

Grounded – detectors that determine whether the player is grounded or not

<u>Show Ground Detectors</u> – shows the rays that detect whether the player is grounded or not <u>Max Grounded Height</u> – the maximum height of the ground the ground detectors can hit to be considered grounded

<u>Max Grounded Radius</u> – the maximum radius of the area ground detectors can hit to be considered grounded

<u>Max Grounded Distance</u> – the maximum distance you can be from the ground to be considered grounded

<u>Currently Grounded</u> – determines if the player is currently grounded/on the ground

<b>▼</b> Climbing	
Size	1
▼ Ladder	
Climbable Tag	Ladder
Climb Vertically	
Climb Horizontally	
Climb Movement Speed	4
Climb Rotation Speed	10
Snap To Center Of Object	
Move In Bursts	
Burst Length	1
Stay Upright	
Distance To Push Off After Letting Go	0.5
Rotation To Climbable Object Speed	6
Show Climbing Detectors	
Climbing Surface Detectors Up Amount	0
Climbing Surface Detectors Height	0
Climbing Surface Detectors Length	0
Show Edge Of Object Detctors	
Top No Surface Detector Height	0
Bottom No Surface Detector Height	0
Top And Bottom No Surface Detectors Width	0
Side No Surface Detectors Height	0
Side No Surface Detectors Width	0
Stop At Sides	
Drop Off At Bottom	
Drop Off At Floor	
Pull Up At Top	
Pull Up Speed	4
Show Pull Up Detector	
Pull Up Location Forward	0

Climbing – variables that control the player's ladder and wall climbing

Climbable Tag – the tag of a climbable object

<u>Climb Vertically</u> – determines whether or not the player is allowed to climb vertically

Climb Horizontally – determines whether or not the player is allowed to climb horizontally

Climb Movement Speed – how quickly the player climbs on walls

<u>Climb Rotation Speed</u> – how quickly the player rotates on walls

<u>Snap To Center Of Object</u> – snaps the player to the middle (along the x and z-axis) of the climbable object (most useful for ladders)

Move In Bursts – move in bursts (while on a climbable object)

Burst Length – the amount of time a movement burst lasts

Stay Upright – determines whether or not the player can rotate up and down

<u>Distance To Push Off After Letting Go</u> – the distance the player pushes off of a ladder/wall after letting go

Rotation To Climbable Object Speed – how quickly the player rotates onto a wall to climb

Show Climbing Detectors – determines whether to show or hide the detectors that allow climbing

Climbing Surface Detectors Up Amount – moves the rays that detect the surface of a wall up and down

Climbing Surface Detectors Height – changes the height of the rays that detect the surface of a wall

Climbing Surface Detectors Length – changes the length of the rays that detect the surface of a wall

Show Edge Of Object Detectors – determines whether or not to show the detectors that determine where the top and bottom of a climbable object is

<u>Top No Surface Detector Height</u> – the height of the detector that determines if there is no surface detected at the top of the climbable object, so that the player can pull up or stop before climbing any higher

<u>Bottom No Surface Detector Height</u> – the height of the detector that determines if there is no surface detected at the bottom of the climbable object, so that the player can drop off or stop before climbing any lower

<u>Top And Bottom No Surface Detectors Width</u> – the width of the detectors that determines if there is no surface detected at the top and bottom of the climbable object

<u>Side No Surface Detectors Height</u> – the height of the detectors that determines if there is no surface detected at the sides of the climbable object

<u>Side No Surface Detectors Width</u> – the width of the detectors that determines if there is no surface detected at the sides of the climbable object

Stop At Sides — keeps player from climbing any further sideways once he has reached the side Drop Off At Bottom — allows player to drop off of a climbable object once he has reached the bottom Drop Off At Floor — allows player to drop off of a climbable object once he has reached the floor Pull Up At Top — allows player to pull up and over a climbable object once he has reached the top Pull Up Speed — the speed the player pulls up and over ledges once he has reached the top of a climbable object

<u>Show Pull Up Detector</u> – determines whether or not to show the detector that determines where the player pulls up to

<u>Pull Up Location Forward</u> – the forward distance of the detector that determines where the player pulls up to

Walking Off Of Climbable Surface – variables that detect whether the player has walked off a ledge and can grab on to a ladder

> Allow Grabbing On After Walking Off Ledge –allows the player to grab on to a climbable surface under the ledge that he is walking off of

Show Walking Off Ledge Rays – shows the rays that detect if the player is walking off of a ledge

Space In Front Needed To Grab Back On – the amount of space in front of the player needed to grab on to a climbable object under a ledge

Space Below Needed To Grab Back On Height – the height of the detectors that determine the amount of space below the player needed to grab on to a climbable object under a ledge

Space Below Needed To Grab Back On Forward – the forward distance of the detectors that determine the amount of space below the player needed to grab on to a climbable object under a ledge

First Side Ledge Detectors Height – the height of the first set of detectors that determine if there are ledges to the side of the player keeping him from grabbing on

Second Side Ledge Detectors Height – the height of the second set of detectors that determine if there are ledges to the side of the player keeping him from grabbing on

Third Side Ledge Detectors Height – the height of the third set of detectors that determine if there are ledges to the side of the player keeping him from grabbing on

Side Ledge Detectors Width - the width of the detectors that determine if there are ledges to the side of the player keeping him from grabbing on

Side Ledge Detectors Length – the length of the detectors that determine if there are ledges to the side of the player keeping him from grabbing on

Grab Back On Location Height – the height of the detectors that determine where the player will grab on to

Grab Back On Location Width – the height of the detectors that determine where the player will grab on to

Grab Back On Location Forward – the forward distance of the detectors that determine where the player will grab on to

- Scripts To Enable On Grab
- Scripts To Disable On Grab



<u>Scripts To Enable On Grab</u> – scripts to enable when the player grabs on to a wall (scripts disable when the player lets go of a wall)

<u>Scripts To Disable On Grab</u> – scripts to disable when the player grabs on to a wall (scripts enable when the player lets go of a wall)

<u>Push Against Wall If Player Is Stuck</u> – if the script considers the player stuck, the player pushes himself away from the wall until he is free

▼ Side Scrolling	
Movement Speed If Axis Locked	6
Lock Movement On Z Axis	
Z Value	0
Lock Movement On X Axis	
X Value	0
Flip Axis Rotation	
Rotate Inwards	☑

Side Scrolling – variables that determine whether or not the player uses 2.5D side-scrolling

<u>Movement Speed If Axis Is Locked</u> – the move speed of the player if one of the axis are locked

Lock Movement On Z Axis – locks the movement of the player on the z-axis

Z Value – the permanent z-value of the player if his movement on the z-axis is locked

<u>Lock Movement On X Axis</u> – locks the movement of the player on the x-axis

X Value – the permanent x-value of the player if his movement on the x-axis is locked

<u>Flip Axis Rotation</u> – flips the player's rotation on the non-locked axis (it adds 180 degrees to the player's rotation)

<u>Rotate Inwards</u> – when the player rotates from side to side, he rotates inward (so that you see his front side while he is rotating)

### MovingPlatformController\_Standalone.cs

\*(This script is the exact same as the "Moving Platforms" section of the PlayerController.cs script, only this is a standalone version of the section)\*



<u>Allow Moving Platform Support</u> – determines whether or not the player can move with moving platforms <u>Moving Platform Tag</u> – the tag of the moving platform objects

#### Health.cs



Player Camera – the camera set to follow the player (automatically assigns to Camera.main if not set)

<b>▼</b> Health	
Number Of Hearts	3
Max Hearts Per Row	8
Regain Health Over Time	
Quarters Of Health To Regain	2
Time Needed To Regain Health	7
▼ Health GUI	
▶ Heart Images	
Overlay Hearts	
GUI Spacing	X 1 Y 1
GUI Position	X 0.8 Y 88 Z 0
GUI Scale	X 58 Y 58

Health – variables that control the player's health

Number Of Hearts – the number of full hearts the player has

Max Hearts Per Row – the maximum number of hearts per row

Regain Health Over Time – allows the player to regain his health over a certain amount of time

<u>Quarters Of Health To Regain</u> – the quarters of health that the player regains after a certain amount of time

Time Needed To Regain Health - the amount of time before the player regains health

Health GUI -variables that control the player's health GUI

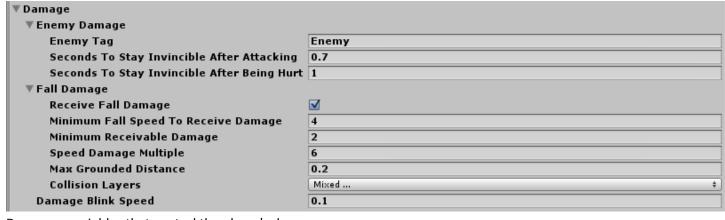
<u>Heart Images</u> – images of the hearts being used to represent the player's health; in order from no health (0 quarters) to full health (4 quarters)

Overlay Hearts – makes each new heart overlay the last one

GUI Spacing – the horizontal and vertical spacing between each heart image/GUI

<u>GUI Position</u> – the position of the heart images/GUI

GUI Scale – the width and height of the heart images/GUI



<u>Damage</u> – variables that control the player's damage

<u>Enemy Damage</u> – variables that control the player's reactions to damage received from or delivered to an enemy

Enemy Tag – the tag of the enemies in the scene

<u>Seconds To Stay Invincible After Attacking</u> – the amount of time the player stays invincible after attacking an enemy

<u>Seconds To Stay Invincible After Being Hurt</u> – the amount of time the player stays invincible after being hurt

Fall Damage – variables that control the player's fall damage

Receive Fall Damage - allows the player to receive damage from falls

<u>Minimum Fall Speed To Receive Damage</u> – the minimum speed the player must fall in order to receive fall damage

<u>Minimum Receivable Damage</u> – the minimum damage (in quarters of hearts) the player receives from a fall

<u>Speed Damage Multiple</u> – the amount of damage the player receives increased/multiplied by the fall's speed

<u>Max Grounded Distance</u> – the maximum distance you can be from the ground to be considered grounded

<u>Collision Layers</u> – the layers that the grounded detectors (raycasts/linecasts) will collide with <u>Damage Blink Speed</u> – the speed at which the player blinks (becomes invisible and visible again) after being hurt

<b>▼</b> Respawn						
Respawn Location	X -45.72	Y	2.999	Z	1.42	
Respawn Rotation	X O	Y	90	Z	0	
Respawn At Start Location And Rotation	$\checkmark$					

Respawn - variables that control the player's respawn

Respawn Location – the location at which the player respawns

Respawn Rotation – the rotation at which the player respawns

<u>Respawn At Start Location And Rotation</u> – enables the player to respawn at the same location and rotation he started with

▼ Health Items	
Size	1
▼ Heart	
Health Item Tag	Heart
Quarters Of Health To Regain	4

Health Items – items that give the player health

Health Item Tag – the tag of an item that gives the player health

<u>Quarters Of Health To Regain</u> – the amount of health you regain from the health item (measured in quarter hearts)

▼ Damage Items	
Size	1
▼ Hurt	
Damage Item Tag	Hurt
Quarters Of Health To Lose	2

<u>Damage Items</u> – items that take the player's health

<u>Damage Item Tag</u> – the tag of an item that takes the player's health

<u>Quarters Of Health To Lose</u> – the amount of health you lose from the damage item (measured in quarter hearts)

### ItemManager.cs

_		
	Player Camera	↓Camera (Transf ○

<u>Player Camera</u> – the camera set to follow the player (automatically assigns to Camera.main if not set)

▼ Item List	
Size	1
▼ Coin	
Item Tag	Coin
Item GUI	<b>○</b> CoinGUI
GUI Position	X 0.8 Y 76 Z 1
GUI Scale	X 50 Y 50
Font	<b>△ ARCHRISTY</b> ○
Font Size	60
Outline Size	19
Font Color	9
Outline Color	
Item Count Prefix	
Item Count Suffix	
Use Item Limit	lacksquare
Maximum Item Limit	99
Add Zeros Before Item Count	
GUI Text Position	X 4.7 Y 36.1 Z 1

<u>Item List</u> – the items that the player can carry

<u>Item Tag</u> – the tag of the item

Item GUI – the GUI of the item

**GUI Position** – the position of the item **GUI** 

<u>GUI Scale</u> – the scale of the item GUI

<u>Font</u> – the font of the text

<u>Font Size</u> – the size of the text font

Outline Size – the size of the text outline

Font Color – the color of the text

Outline Color – the color of the text outline

Item Count Prefix – prefix that comes before the item count

<u>Item Count Suffix</u> – suffix that comes after the item count

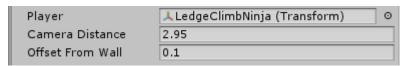
Use Item Limit – determines whether or not limit the amount of items you can have

Maximum Item Limit – the maximum amount of items you can have

<u>Add Zeros Before Item Count</u> – adds zeros before the item count (the number of zeros added is relative to the maximum item limit)

<u>GUI Text Position</u> – the position of the GUI item count text

#### CameraController.cs



<u>Player</u> – the player set for the camera to follow

<u>Camera Distance</u> – the distance between the camera and the player

Offset From Wall – the distance between the camera and the wall if they are colliding

▼ Follow	
Always Follow	
Player Height	0
Camera Height	1
Movement Dampening	0.1
Rotation Dampening	0.5
Stay Behind Player While Climbing Ledge Or Wall	
▼ Side Scrolling	
Lock Z Axis	
Lock X Axis	
Flip Axis	

Follow – variables that determine the way the camera locks on

Always Follow – allows the camera to always follow the player

<u>Player Height</u> – the height of the player

Camera Height – the height of the camera

<u>Movement Dampening</u> – the amount of dampening applied to the movement of the camera

Rotation Dampening – the amount of dampening applied to the rotation of the camera

<u>Stay Behind Player While Climbing Ledge Or Wall</u> – makes the camera stay behind the player if he is climbing a ledge or wall

Side Scrolling – variables that allow the camera to follow the player as a 2.5D side-scroller

<u>Lock Z Axis</u> – does not allow the camera to follow the player's z-axis movement <u>Lock X Axis</u> – does not allow the camera to follow the player's x-axis movement

<u>Flip Axis</u> – flips the rotation of the non-locked axis (adds 180 degrees to the rotation)

▼ Mouse Orbit	
Always Mouse Orbit	
Switch To Mouse Orbit If Input Button Pressed	
Mouse Orbit Input Button	Fire3
Start Off Mouse Orbiting For Switching	
Camera Height	1
Near Clipping Plane	0.1
Allow Zooming With Scroll Wheel	
Zoom Speed	40
Min Zoom In Distance	0.5
X Speed	200
Y Speed	120
Y Min Limit	-68
Y Max Limit	68
Rotation Dampening	3
Zoom Dampening	5

Mouse Orbit – variables that determine the way the camera orbits the player

<u>Always Mouse Orbit</u> – allows the camera to always orbit the player (without the use of a button), as long as the camera is not following the player

<u>Switch To Mouse Orbit If Input Button Pressed</u> – switches to mouse orbit mode and back when the "mouseOrbitInputButton" is pressed

<u>Mouse Orbit Input Button</u> – the button (found in "Edit > Project Settings > Input") that is used to mouse orbit

<u>Start Off Mouse Orbiting For Switching</u> – if the camera is allowed to switch to mouse orbiting, start off mouse orbiting instead of having to switch to it first

Camera Height – the height of the camera

<u>Near Clipping Plane</u> – the nearest possible distance between the camera and the player (when the camera is pushed against a wall)

<u>Allow Zooming With Scroll Wheel</u> – allows the user to zoom in between the "distance" and "minZoomInDistance" values (by using the mouse's scroll wheel)

Zoom Speed – the speed the camera zooms in and out when using the scroll wheel

Min Zoom In Distance – the nearest possible distance to the player that the camera can zoom in to

X Speed – the camera's orbit speed (look sensitivity) on the x-axis

Y Speed – the camera's orbit speed (look sensitivity) on the y-axis

Y Min Limit – the minimum y value the camera can orbit to

Y Max Limit – the maximum y value the camera can orbit to

Rotation Dampening – the amount of dampening applied to the rotation of the camera

Zoom Dampening – the amount of dampening applied to the zooming of the camera (this zoom is applied when the camera collides with a wall, and zooms in or out to avoid it)

▼ First Person	
Always Use First Person	
Switch To First Person If Input Button Pressed	
First Person Input Button	Fire3
Start Off In First Person Mode For Switching	
Camera Distance	0
Camera Height	1.15
▼ Crouching	
Allow Crouching	
Crouch With Player If Possible	
Crouch Camera Height Multiple	0.7
Crouch Speed	8
▼ Mouse Orbiting	
Mouse Orbit In First Person Mode	
X Speed	200
Y Speed	120
Y Min Limit	-68
Y Max Limit	68
▶ Objects To Enable In First Person	
▶ Objects To Disable In First Person	

First Person – variables that determine if the player can enter first person mode

<u>Always Use First Person</u> – allows the camera to always stay in first person mode (as long as the camera is not following or mouse orbiting)

<u>Switch To First Person If Input Button Pressed</u> – switches to first person mode and back when the "firstPersonInputButton" is pressed

<u>First Person Input Button</u> – the button (found in "Edit > Project Settings > Input") that is used to enter first person mode

<u>Start Off In First Person Mode For Switching</u> – if the camera is allowed to switch to first person mode, start off in first person mode instead of having to switch to it first

Camera Distance – the distance of the camera from the player

Camera Height – the height of the camera

<u>Crouching</u> – variables that determine if the camera can crouch (lower down) with the player while in first person mode

Allow Crouching – determines if the camera can crouch (lower down)

<u>Crouch With Player If Possible</u> – allows the camera to crouch (lower down) if the player has the script, "PlayerController.cs," and is crouching

<u>Crouch Camera Height Multiple</u> – what to multiply the height of the camera by while crouching <u>Crouch Speed</u> – the speed at which the camera crouches down and uncrouches

Mouse Orbiting – variables that determine if the camera can mouse orbit while in first person mode

<u>Mouse Orbit In First Person Mode</u> – allows the camera to mouse orbit while in first person mode

X Speed – the camera's orbit speed (look sensitivity) on the x-axis

Y Speed – the camera's orbit speed (look sensitivity) on the y-axis

Y Min Limit – the minimum y value the camera can orbit to

Y Max Limit – the maximum y value the camera can orbit to

<u>Objects To Enable In First Person</u> – gameObjects to enable when the camera is in first person mode (gameObjects disable when the camera exits first person mode)

<u>Objects To Disable In First Person</u> – gameObjects to disable when the camera is in first person mode (gameObjects enable when the camera exits first person mode)



Locking On – variables that determine how the camera locks on

Allow Locking On – determines whether or not to allow locking on

<u>Lock On Input Button</u> – the button or axis (found in "Edit > Project Settings > Input") pressed to lock on

Bar Texture – the texture that appears on the top and bottom portion of the screen while locking on

Bar Coverage – the percentage of the screen that the bar texture covers

Lock On Speed – the speed at which the camera locks on behind the player

Locking On To Tags – variables that determine which objects to lock on to

Tags To Lock On To – the tags of the objects that can be locked on to

Lock In Distance – how close you have to be to the tagged object to lock on

<u>Lock Out Distance</u> – how far you have to be from the tagged object (if you are already locked on to it) to lock out

<u>Arrow Pointer</u> – the object (arrow) that appears over the tagged objects head when you are able to lock on to him

Arrow Pointer Height – how high the arrow pointer is above the tagged objects head

Arrow Pointer Bounce Height – how high the arrow pointer bounces

<u>Arrow Pointer Bounce Speed</u> – the speed at which the arrow pointer bounces

<u>Target Same Object While Locked On</u> – stays locked on to the same target, even if another target moves closer

Collision Layers	Mixed	<b>‡</b>

Collision Layers – the layers that the detectors (raycasts/linecasts) will collide with

# **EnemyAl.cs**

Disyon	LLodgoClimbNinia (Tuansform)	
Player	↓LedgeClimbNinja (Transform)	

Player – the player in the scene

▼ Movement	
Movement Speed	2.5
Rotation Speed	6
Distance To Face Player From	10
Distance To Chase Player From	5
Viewpoint Player Must Be In To Follow	70
Stop At Edges	
Show Edge Detectors	
Edge Detector Height	0
Edge Detector Forward	0
Minimum Edge Height	0
▼ Side Scrolling	
Lock Movement On Z Axis	
Z Value	0
Lock Movement On X Axis	
X Value	0
Rotate Inwards	$\blacksquare$

Movement - variables that determine the enemy's movement

Movement Speed – the enemy's movement speed

Rotation Speed – the enemy's rotation speed

<u>Distance To Face Player From</u> – the maximum distance the player can be for the enemy to face/look at the player

<u>Distance To Chase Player From</u> – the maximum distance the player can be for the enemy to chase the player

<u>Viewpoint Player Must Be In To Follow</u> – the size of the enemy's viewpoint; if the player is inside the viewpoint, the enemy fill follow him

Stop At Edges – stops the enemy before he walks off the edge

Show Edge Detectors – detectors that determine where the edge is located

Edge Detector Height – the height of the edge detectors

<u>Edge Detector Forward</u> – the forward distance of the edge detectors

<u>Minimum Edge Height</u> – the height of the edge detector that determines if there is surface below the player

Side Scrolling – variables that determine whether or not the enemy uses 2.5D side-scrolling

Lock Movement On Z Axis – locks the movement of the enemy on the z-axis

<u>Z Value</u> – the permanent z-value of the enemy if his movement on the z-axis is locked

Lock Movement On X Axis – locks the movement of the enemy on the x-axis

X Value – the permanent x-value of the enemy if his movement on the x-axis is locked

<u>Rotate Inwards</u> – when the enemy rotates from side to side, he rotates inward (so that you see his front side while he is rotating)

▼ Attack	
Attack Power	2

Attack – variables that determine the enemy's attack

Attack Power – the amount of damage you inflict to the player on collision (measured in quarter hearts)

▼ Health	
Maximum Health	3
Regain Health Over Time	
Health To Regain	3
Time Needed To Regain Health	7
Minimum Distance From Player To Regain Health	0
▼ Health Bar	
Player Camera	↓Camera (Transform)
Show Health Bar	
Health Bar Up Amount	0
Health Bar Overall Height	1
Health Bar Overall Width	1
Outline Height	1
Outline Width	1
Health Height	1
Health Width	1
▼ Health Bar Materials	
Outline Material	<b>⊚</b> OutlineMaterial ⊙
Health Material	<b>⊚</b> HealthMaterial ⊙
No Health Material	<b>●</b> NoHealthMaterial ○
Outline Color	· · · · · · · · · · · · · · · · · · ·
Health Color	- A
No Health Color	
Seconds To Show Health Bar After Enemy Death	0.5

Health – variables that determine the enemy's health

Maximum Health – the health of the enemy

Regain Health Over Time – allows the enemy to regain his health over a certain amount of time

Health To Regain – the health that the enemy regains after a certain amount of time

Time Needed To Regain Health – the amount of time before the enemy regains health

<u>Minimum Distance From Player To Regain Health</u> – the distance from the player that the enemy must be to regain health

Health Bar – variables that determine whether the enemy has a health bar or not

<u>Player Camera</u> – the camera set to follow the player (automatically assigns to Camera.main if not set)

Show Health Bar – determines whether or not to show a health bar above the enemy

Health Bar Up Amount – the up distance of the health bar above the enemy

Health Bar Overall Height – the overall height of the health bar above the enemy

Health Bar Overall Width – the overall width of the health bar above the enemy

Outline Height – the height of the health bar's outline

Outline Width - the width of the health bar's outline

Health Height – the height of the health bar's health

Health Width – the width of the health bar's health

Health Bar Materials - the materials of the health bar

Outline Material – the material of the health bar's outline

Health Material – the material of the health bar's health percentage

No Health Material – the material of the health bar's no health percentage

Outline Color – the color of the health bar's outline

Health Color – the color of the health bar's health percentage

No Health Color – the color of the health bar's no health percentage

<u>Seconds To Show Health Bar After Enemy Death</u> – the amount of time that the health bar stays visible after the enemy has been killed

<b>▼</b> Damage		
Acquire Player Attack Button From Player If Possible	lacksquare	
Player Attack Button	Fire1	
Damage Radius	1.25	
Knock Back Factor	1	
Player Viewpoint Enemy Must Be In To Get Hit	80	
Hurt Effect	DustDoubleJump	0
Death Effect	DustCloud	0

<u>Damage</u> – variables that determine the enemy's damage

<u>Acquire Player Attack Button From Player If Possible</u> – if the player has the "PlayerController.cs" script attached to him, aguire the player attack button from that script

<u>Player Attack Button</u> – the button (found in "Edit > Project Settings > Input") that the player uses to attack the enemy

<u>Damage Radius</u> – the radius the player must be in to hurt the enemy

Knock Back Factor – the distance that the enemy gets knocked back after getting hit

<u>Player Viewpoint Enemy Must Be In To Get Hit</u> – the size of the player's viewpoint; if the enemy is inside of the player's viewpoint (and the player is inside of the enemy's hit area) and the player attacks, the enemy will receive damage

Hurt Effect – optional effect to appear when the enemy gets hurt

<u>Death Effect</u> – optional effect to appear when the enemy gets killed

▼ Respawn				
Allow Respawn	✓			
Respawn Wait Time	3			
Respawn Location	X 0	Y 0	Z 0	
Respawn Rotation	X 0	Y 0	Z 0	
Respawn At Start Location And Rotation	✓			
Minimum Distance From Player To Respawn	3			
Respawn Effect	DustCloud			0

Respawn – variables that control the enemy's respawn

Allow Respawn – determines whether or not the enemy can respawn after being killed

Respawn Wait Time - the amount of time to wait, after the enemy has been killed, to respawn

Respawn Location – the location at which the enemy respawns

<u>Respawn Rotation</u> – the rotation at which the enemy respawns

<u>Respawn At Start Location And Rotation</u> – enables the enemy to respawn at the same location and rotation he started with

<u>Minimum Distance From Player To Respawn</u> – the minimum distance the player must be from the respawn location in order to respawn

Respawn Effect – optional effect to appear when the enemy respawns



Collision Layers – the layers that the detectors (raycasts/linecasts) will collide with

# MovingPlatform.cs

▼ Movement				
Start Position	X -17.55	Y 0.09	Z 16.98	
End Position	X -17.55	Y 5.27	Z 16.98	
Movement Speed	3			
Waiting Time Before Moving	1			
Start Moving Immediately	$\overline{\checkmark}$			

Movement – variables that determine the movement of the platform

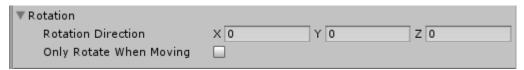
<u>Start Position</u> – the Vector3 that the platform starts at (before moving to the end position)

<u>End Position</u> – the Vector3 that the platform ends at (before moving back to the start position)

Movement Speed – the speed of the moving platform

<u>Waiting Time Before Moving</u> – the amount of time the platform waits (once it has reached the start or end position) before moving again

Start Moving Immediately – for the first time that the platform starts moving, do not wait



Rotation – variables that determine the rotation of the platform

<u>Rotation Direction</u> – the direction to rotate towards

Only Rotate When Moving – only allows the platform to rotate if the platform is already moving/not waiting to move