



# Unity Piscine - Module04

## Animations and Sound

*Summary: In this document, you will find the Module04 subject for Unity Piscine.*

*Version: 1.00*

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# Chapter I

## Instructions

- If you have problems installing the tools needed for your project on the 42 computers, you can use a virtual machine. In this case, you will have to :
  - install the virtual machine software on your computer.
  - install the operating system of your choice.
  - install the tools needed for your project.
  - Make sure you have the space on your session to install all of this.
  - You must have everything installed before the evaluation.
- Only this page will serve as reference. Do not trust rumors.
- The exercises have been ordered from easiest to most difficult. Under any circumstance you can submit or take into account an exercise if a previous one has failed.
- Be careful with the access rights of your files.
- You should follow the submit procedure for all your exercises.
- Your exercises will be corrected by your piscine peers.
- You cannot leave any extra file on your repository except the ones explicitly specify on your subject.
- Got a question? Ask your peer on the right. Otherwise, try your peer on the left.
- Everything you need can be found on the man or out there on Google.
- Read carefully the exercises: they may contain some features you should implement that are explicitly mentioned on the subject.
- Use your brain!!!

# Chapter II

## Foreword

A platform game (often simplified as platformer and sometimes called a jump n run game) is a sub-genre of action video games in which the core objective is to move the player character between points in an environment. Platform games are characterized by levels that consist of uneven terrain and suspended platforms of varying height that require jumping and climbing to traverse. Other acrobatic maneuvers may factor into the gameplay, such as swinging from vines or grappling hooks, jumping off walls, air dashing, gliding through the air, being shot from cannons, or bouncing from springboards or trampolines. Games where jumping is automated completely, such as 3D games in The Legend of Zelda series, fall outside of the genre.

The genre started with the 1980 arcade video game, Space Panic, which includes ladders, but not jumping. Donkey Kong, released in 1981, established a template for what were initially called **climbing games**. Donkey Kong inspired many clones and games with similar elements, such as Miner 2049er (1982).

During the peak of platform games' popularity in the late 1980s and early 1990s, platform games were estimated to consist of between a quarter and a third of all console games,[2] but have since been supplanted by first-person shooters. By 2006, the genre had experienced a decline in popularity, representing a two percent market share as compared to fifteen percent in 1998; however, the genre still exists in the commercial environment, with a number of games selling in the millions of units.


Sources: [Platform Game - Wikipedia](#).



Today, same of the precedent Module02. Your work will be used for the next module. So at the and of this module04, don't forget to export your Assets to be able to import them into Module05.

# Chapter III

## Exercise 00: A life of a caterpillar

	Exercise :
Exercise 00: A life of a caterpillar	
Turn-in directory : <code>unityModule04</code>	
Required elements : The "Stage1" scene and anything relevant	
Forbidden functions : None	

A Platformer !

Today you will create a Platformer. But it will very simple because your goal is not your make a complex level, but to focus on the animations and sounds.  
So create an 2D Module04 project.

Start with create an simple environment in the Stage1 scene.  
Everything you need is provided on the Asset of this module.

You need a platform on which your player can move.  
Add some obstacles, but don't waste too much time on it.

Now you have our base, you can add your player.  
On Assets ou will be able to find a beautiful caterpillar.

Before starting the animation of your caterpillar, create the PlayerController script for it and place it on your scene.  
For now it will be simple, it should be able to move on the horizontal axis and jump, but, be careful, your caterpillar must not make multiple jumps or wall jump.  
And of course don't forgot his `Rigidbody2D` and `Collider2D` components.

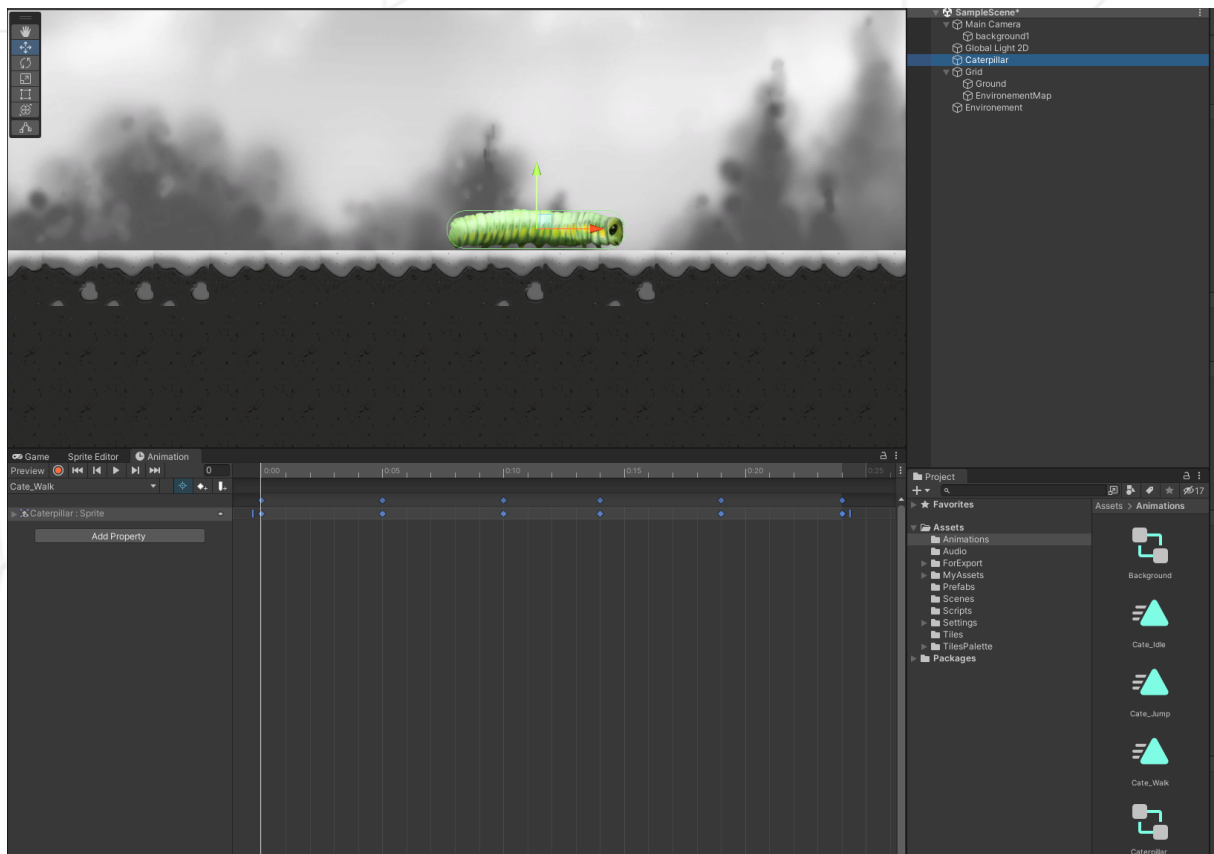
Now you will have to animate this little caterpillar.  
For help you on this task, look at [Using the Animation view](#) and the [Animator in Unity documentation](#).

Little caterpillar have 6 animations :

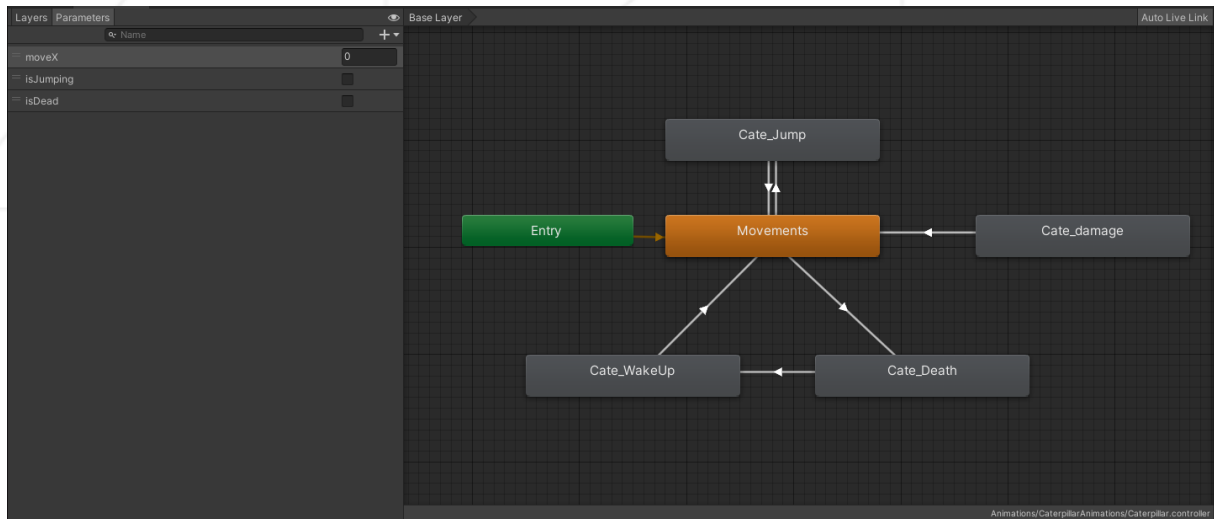
- Idle.
- Walk.
- Jump.
- Take damages.
- Defeated.
- Respawn.

Create a new Animations folder when you store your animations.

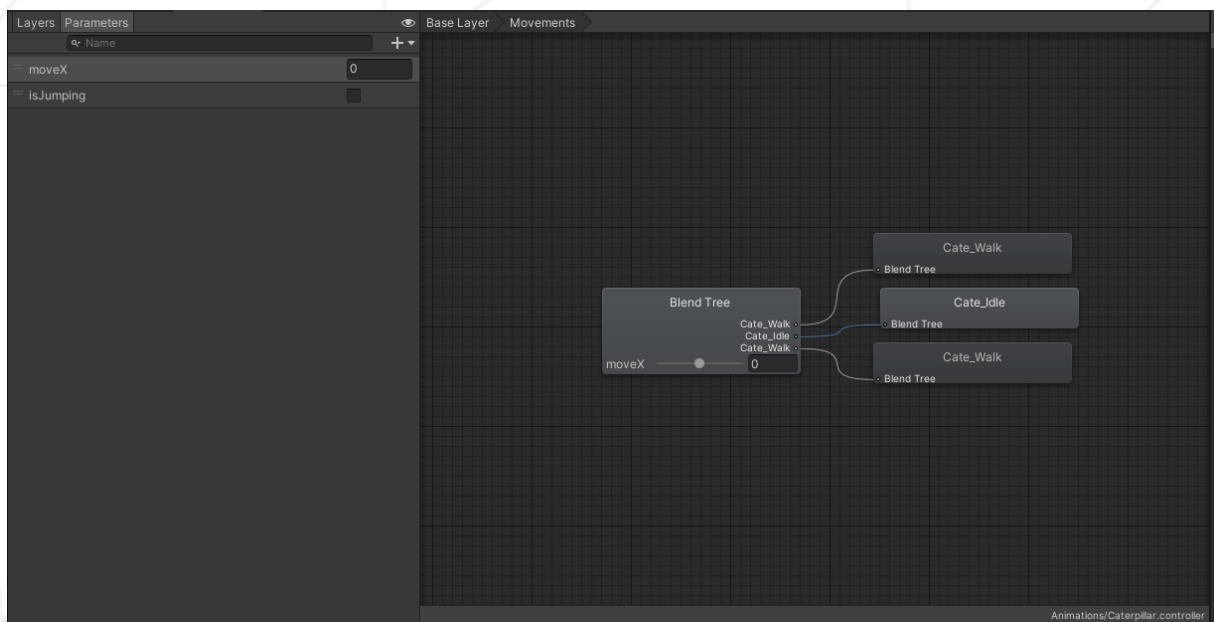
For example, for the `AnimationClip` Walk you should have something like this:



For your BaseLayer in the Animator, something like this:




And The Movements on your BaseLayer:



Of course these are just examples, you have many ways to make your animator. Don't forgot the **Animator** on your script.

# Chapter IV

## Exercise 01: A strange environment

	Exercise :
Exercise 01: A strange environment	
Turn-in directory : <code>unityModule04</code>	
Required elements : The "Stage1" scene and anything relevant	
Forbidden functions : None	

Now you have your little caterpillar, it will be necessary to give a little movement to your environment.

You must have at least 2 types of animated objects on the background. Moving tree, falling leaves etc.

You must also have at least 2 objects that are animated by the interaction with the caterpillar.

- A liana, animated when the caterpillar gets close to it.
- A cactus that throw poisonous jelly if you are too close


Of course your caterpillar should also be animated according to its environment.

- When is hit by a liana or jelly, he will have to damage animation.
- Give 3 HP to your caterpillar, and make its defeat animation when its HP is at 0.
- Your defeat animation will be accompanied by a fade from transparent to a black screen.
- And after that your caterpillar will be reanimated at the start of the level with an `wakeUp` animation and with a fade from black screen to transparent screen.



# Chapter V

## Exercise 02: The sound

	Exercise :
Exercise 02: The sound	
Turn-in directory : <code>unityModule04</code>	
Required elements : The "Stage1" scene and anything relevant	
Forbidden functions : None	

The sound is a very important part on a video game. If the choice of sound and music is well done, it allows the player to immerse himself even more in the universe of the game.

for this exercise go to the Unity Asset Store and download this asset:  
[RPG Essentials Sound Effects - FREE](#)

You will find all the sounds you need for your game (except the music)

add sound everywhere!

- Add Background music (You will have to find one yourself).
- Add sound when your caterpillar jump.
- Add sound when your caterpillar take damages.
- Add sound when caterpillar is defeated.
- Add sound when your caterpillar respawn.
- Add sound when the liana Attack.
- Add sound when the cactus sends jelly.

# Chapter VI

## Submission and peer-evaluation

Turn in your assignment in your `Git` repository as usual. Only the work inside your repository will be evaluated during the defense. Don't hesitate to double check the names of your folders and files to ensure they are correct.



You should not put all the files of a project on git, otherwise the disk space occupied by the repository will be unnecessarily increased. Here is how to configure Unity and GIT for an optimal use.

- Make sure that Unity saves as many files as possible in text form instead of binary. In Unity, go to `Edit > Project Settings > Editor`. Under `textAsset Serialization`, you have to choose the `Force Text Mode`.
- check that the `.gitignore` file automatically generated by unity is present.



The evaluation process will happen on the computer of the evaluated group.