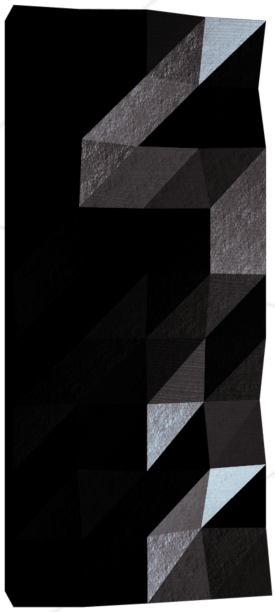


Unity Piscine - Module00

The basic Unity tools
Assets, GameObject, Behavior, Input, Transform

Summary: Here is the subject Module00 for the Unity piscine.

Version: 1.00

Contents

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.
- Read attentively the whole document before beginning.
- Your exercises will be corrected by your piscine colleagues.
- The document can be relied upon, do not blindly trust the demos or pictures example which can contain not required additions.
- Got a question? Ask your peer on the right. Otherwise, try your peer on the left.
- By Odin, by Thor ! Use your brain !!!

Intra indicates the date and the hour of closing for your repositories. This date and hour also corresponds to the beginning of the peer-evaluation period for the corresponding piscine day. This peer-evaluation period lasts exactly 24h. After 24h passed, your missing peer grades will be completed with a 0.

Chapter II

Piscine Unity Starter Kit

Welcome on this first module of the Unity Piscine. To start on the right foot, here is a list of useful advice and links that will follow you during the whole length of the Piscine.

- Official Unity documentation. You will also find a blue book in the inspector near each component that will take you to the specific documentation.
- Official C# documentation
- The subject prevails. Don't always trust the demos thant can contain additional elements that are not required by the subject.
- If you create generic scripts that are reusable for utilitarian functions/ that have nothing to do with the gameplay of the module, it will save you time for the following modules.
- Once the module is done, don't keep your projects on your home. Unity has the bad habit of creating billions of files that will quickly kill your precious 5 gigas (as well as your connection time).
- This module are long so don't waste time on details during work. You will still have time to enhance your game once the mandatory parts are through and the module over.
- If any of your neighbor has the answer to a `TECHNICAL` problem, you can report it on the forum with the Unity Piscine tag. . .

Chapter III

Introduction

The floor is lava is a game in which players pretend that the floor or ground is made of lava (or any other lethal substance, such as acid or quicksand), and thus must avoid touching the ground, as touching the ground would k̈illẗhe player who did so. The players stay off the floor by standing on furniture or the room's architecture. The players generally may not remain still, and are required to move from one piece of furniture to the next. This is due to some people saying that the furniture is acidic, sinking, or in some other way time-limited in its use. The game can be played with a group or alone for self amusement. There may even be a goal, to which the players must race. The game may also be played outdoors in playgrounds or similar areas. Players can also set up obstacles such as padded chairs to make the game more challenging. This is a variation of an obstacle course.

Typically, any individual can start the game just by shouting T̈he floor is lava!¨ Any player remaining on the floor in the next few seconds is out and can not rejoin the game for some period of time.

There often are tasks, items or places that can regenerate lost body parts or health. Depending on the players, these could be embarrassing tasks, or simple things like finding a particular person.

In one version called Ḧot Lava Monster; sometimes referred to as S̈kies in the Ringuss; usually played on playgrounds, players must stay off the ground (sand, rubber, wood-chips, etc.) and on the play equipment. The person who is playing the m̈onsterc̈an be on the l̈avaẅith the objective of attempting to tag another player. The m̈onsterm̈ust try to tag or catch the other players.

In some versions, the m̈onsterïs not allowed to touch certain obstacles, such as wooden platforms or may only touch objects of a certain colour. The m̈onsterm̈ust navigate across structures such as across playground slides, monkey bars, ropes courses, etc. instead of the main platform.

This game is similar to the traditional children's game P̈uss in the Corner; or P̈uss Wants a Corner; where children occupying the corner of a room are s̈afe; while the Puss, the player who is Ïtïn the middle of the room, tries to occupy an empty corner as the other players dash from one corner to another. This game was often played in school shelter-sheds in Victoria, with the bench-seats along the walls of the shelter-shed being used as platforms joining the corner, while players crossing the floor could be caught by the Puss.

Sources : Wikipedia.

Chapter IV

Exercise 00: Floor is Lava

	Exercise :
Exercice 00: Floor Is Lava	
Turn-in directory : `unityModule00`	
Required elements : `FloorIsLavaScene scene, Floor, Pathway GameObjects and any relevant`	
Forbidden functions : `None`	

The purpose of this module is to familiarise you with the different tools provided by Unity.

To start create a new 3D project and name it Module00. An sample scene is already create, you can work directly on it. Rename this sample scene FloorIsLavaScene.
You will only need one scene for all the exercises.

To create this game you need :

- The floor !
- A pathway.
- A player.
- Some decorations.
- The camera.

Start with the floor:

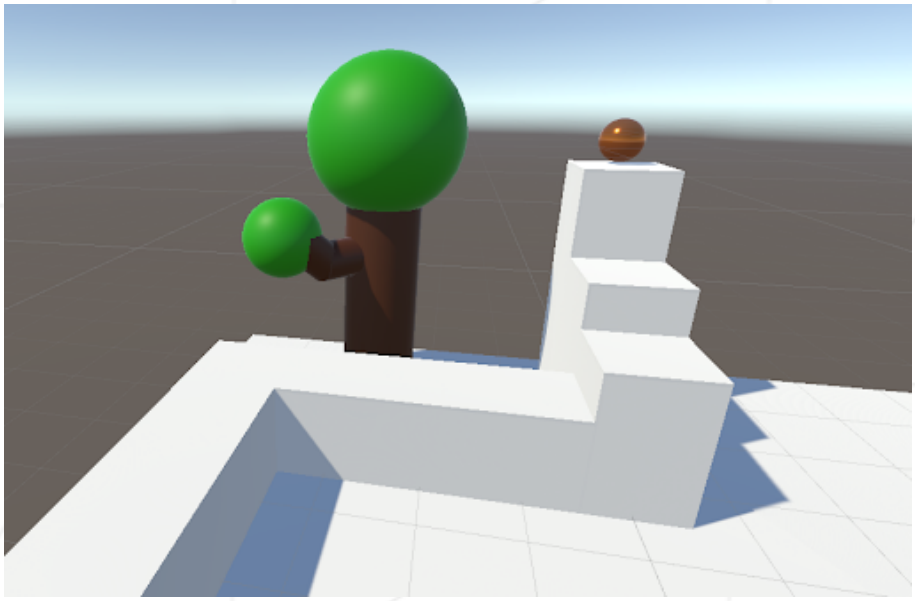
- Create the Floor GameObject with primitive square.
- Choose its size, (you don't need it to be big).

The pathway:

- Create an empty gameObject named Pathway in which you will place all the different GameObjects (stairs, bridges, whatever you want) that will compose your pathway.
- To compose it keep in mind the goal of the game, (move on the pathway without touching the floor).

Decoration:

Our scene must contain one composed structure(With colors ! because it's more beautiful), like this tree (this is only an example of a compound structure, you can of course create others):



The Player:

- Your player will look like a ball, so choose carefully the 3D object you create.
- Make it prettier by adding a material with the color/reflection, whatever you want.
- Place it at the beginning of the pathway.
- You will make the moves in the following exercise.

And finally, the camera:

The main camera is automatically created when the project is created.

For this module you will not need to modify it. Simply place it height up so that the player can see the whole pathway.

Chapter V

Exercise 01: Path of Exile

	Exercise :
Exercise 01: Path of Exile	
Turn-in directory : `unityModule00`	
Required elements : `A FloorIsLava scene, PlayerController script and any relevant`	
Forbidden functions : `None`	

Now that you have your structure and your player, it must be able to move on the path.

For this you have to create a script which will be named PlayerController.cs and which will be attached to your player.

To move, you will have to use the keys WSAD or arrows, both should be possible.

Let's add a little Challenge !

Your player must also be able to jump.
So, add obstacles on your pathway that the player will have to jump over and of course don't forget to add the jump to your PlayerController.

Chapter VI

Exercise 02: My even more beautiful world

	Exercise :
Exercise 02: My even more beautiful world	
Turn-in directory : `unityModule00`	
Required elements : `A FloorIsLava scene and any relevant`	
Forbidden functions : `None`	

`You can find here the texture pack from the Unity Asset Store needed for the exercise:` Official Unity Asset Store.

At the moment, your scene is a little bit dull. To remedy this, use the textures from Unity Asset Store to make it a little bit nicer.

Make a lava floor, a stone pathway for example or a vegetation obstacles! In short, let your imagination run wild, but don't waste too much time either.

Chapter VII

Exercise 03: The floor is always lava

	Exercise :
Exercise 03: The floor is always lava	
Turn-in directory : `unityModule00`	
Required elements : `A FloorIsLava scene file, the assets and scripts specific to the exercise`	
Forbidden functions : `None`	

Now, the heart and the end of the matter.
The floor is still made of lava!

So you'll have to make sure that if your player falls off the pathway, it's game over.
For today you don't need a big title that announces the end. Just a small `debug.Log` that will display `Game Over` in the console.
The Player GameObject must also be destroyed when is game over.

Chapter VIII

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 Asset 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.