



Piscine Unity - d06

Staging, shaders, lights, 3D sound

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Summary: Surprise! Here is the subject for the D06 of the Unity Piscine of [42](#).

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Chapter I

Preamble

It's time to wake the artist in you. Indeed, today's exercises will focus on staging, and setting a mood. And you know what? These are the key elements of a stealth game. Remember Splinter Cell and Metal Gear Solid? These games are immersive thanks to their general mood and staging.

It's your turn to set a mood and make sure your has its own mood and a proper universe - as much as possible. It will craft its uniqueness and make it closer to your own tastes and sensitivity. In other words, today, you're the boss!

A small tip for the ones who read these preambles. For free. You probably know Unity's engine features Standard Assets. If I were you, I'd go check the Effects package today.

Good luck for that 7th day!

Chapter II

Instructions

- 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 you 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 you 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.
- Think about discussing on the forum Piscine of your Intra!
- Use your brain!!!


Chapter III

Today's specific rules

- Today, you will focus on staging. Your creative touch will make the difference. Choose quality over quantity.

Chapter IV

Exercise 00: The crime scene

	Exercise 00
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Turn-in directory : <i>ex00/</i>	
Files to turn in : *.cs	
Allowed functions : Anything except stated otherwise in the instructions	

To make a good stealth game, you need a solid level design. Set a whole level indoor. You will at least set up the following elements:

- A security camera
- A vent pipe (or any kind of tool that will help the player hide from the camera)
- A locked door equipped with a card reader.
- A key that's far from the door, of course.
- Hidden papers in one of the rooms.


Right now, you will just stage the scene with various elements. You will use them in the next exercises. However, you will add a character movable with the WASD keys in first person view you can angle with the mouse.



Don't hesitate using today's example for inspiration, but modify it to make it your own. Get wild!

Chapter V

Exercise 01: Let there be light

	Exercise 01
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Turn-in directory : <i>ex01/</i>	
Files to turn in : *.cs	
Allowed functions : Anything except stated otherwise in the instructions	


Infiltration in the dark? Why not. But you still need a little challenge. Set a bright mood in your level using the tools you have. The more tempered the light, the more interesting your mood will be.

It might be time to start coding, also. Implement a stealth gauge represented by a GUI. If the player runs or enters an illuminated zone, the gauge rises. Past 75 shadows. The player's detection triggers an alarm. It can be visual or sound, or both. If the gauge reaches 100 starts over.

When the player is not visible and walks silently, the gauge decreases. Once again, mind the way you'll set your light sources. This is another key of a good stealth game.

Chapter VI

Exercise 02: Big Brother is watching you


	Exercise 02
Exercise 02: Big Brother is watching you	
Turn-in directory : <i>ex02/</i>	
Files to turn in : *.cs	
Allowed functions : Anything except stated otherwise in the instructions	

Now we set the base of our gameplay, we're gonna add a little challenge. Make sure the cameras emit a light that shows their range. If the player enters this area, the stealth gauge will significantly increase. Walking in the range of a camera must be a very hazardous action.

Implement a way to avoid the cameras. If you have no idea, create smoke particles coming from the vent pipe. If the player walks in the smoke, the cameras will not detect them as easily. Once again, make sure your implementations match the mood of your game.

Chapter VII

Exercise 03: An objective

	Exercise 03
Exercise 03: An objective	
Turn-in directory : <i>ex03/</i>	
Files to turn in : *.cs	
Allowed functions : Anything except stated otherwise in the instructions	


To add a little spice, it's time to add a final objective. Let's say the player is a spy, they'll have to retrieve hidden papers mentioned in the first exercise. Hide them in a locked room and throw the key somewhere in your current room. It must be the only way to open this door. Of course, this must be a little challenging.

When the player retrieves the documents, the game ends and starts over. Use this opportunity to add a sound environment to your scene. Implement a regular track and an alarm track when the player is detected. The player must also make noise when they run. Last but not least, try to add any sound you can to help immersion as much as possible (ambient sound, vent pipe sound, key sound...).

If wonder what it's all about, go check today's demo. It will show you everything you need to know.

Chapter VIII

Exercise 04: The final touch

	Exercise 04
Exercise 04: The final touch	
Turn-in directory : <i>ex04/</i>	
Files to turn in : *.cs	
Allowed functions : Anything except stated otherwise in the instructions	

To end with a bang, add help texts on screen when an action is possible. The text must fade in and fade out. You will also add text in the beginning of the game to explain the player their objective and in the end, with different texts depending on the player's passing or failing the level.

Finally, try to polish your game, level and graphic designs to create an immersive mood with a rich creative input. Since today's exercises don't require a lot of coding, this creative factor will matter.