



# Unity Piscine - Rush00

Hotline Miami

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*Summary: This document contains all the instructions for the Rush00 of the Unity Piscine of [42](#).*

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# Chapter I

## Preamble



Figure I.1: This image represents the collaboration on Unity. Unity is like a giant Jenga. You will steal blocks to the other to build your part of the tower.



Figure I.2: This image represents Unity during a merge.

Relax, in the next chapter, you'll find a couple of advice to approach team work.

# Chapter II

## About team work

At last! Time has come to create your first Unity project... as a group! Unity is a powerhouse, but it doesn't always help team work. To help you save hours, days and several headaches, here are precious advice you should definitely read before approaching team work on Unity.

- Because we care, you'll find a .gitignore in today's assets. It will help you keep files that don't need to push on the repo, local.
- Don't **EVER** work simultaneously on the same scene or prefab. Unity still has hard time managing the merge on this kind of asset.
- Watch your pair working's code when you modify an object containing a script. One missing tag can destroy a whole functionality.
- Communication is key! Always share with your partner the modifications you've made on the project.
- Dispatch the work properly. Try not to touch the same gameplay elements to avoid conflicts.
- Make several commits. In case of conflict, you will be able to go back and find a version that works.
- Set up "milestones", that is, operational versions of the game at key moments of its development. Synchronize your local git repos before getting to the next step. Thus, you'll have a reliable version if either of you breaks something and in the worst case scenario, you'll be able to push your latest valid "milestone" and avoid ending with a non-functional project.

Knowing all of this, good luck! You'll need it!

# Chapter III

## Today's specific instructions

- Read the subject thoroughly. Some bonus can simply be achieved if you're properly coding your script from the get go.
- For the rush, evaluation won't stop because of a mistake, but to help you get organized, you'll find the subject points sorted out according to priority.
- For this rush, you can use C and minilibx **only**. However, the code will have to be the norm (à la norme, je ne suis pas sûr de cette trad). And because a little help won't hurt, you can exceptionally use 6 functions per file.
- Of course, the previous instruction is a JOKE.

# Chapter IV

## 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 V

## Mandatory part

### V.1 General gameplay

Hotline Miami is a very nervous game. Your main objective will be to reproduce this feeling. Let's set the bases. You must set up a character you can move in every direction using WASD (W -> up, S -> Down, A -> Left, D -> Right). The character always looks in the direction of the mouse's cursor. The camera must follow its position, not its rotation.

We can pick a weapon on the ground pressing E and drop the one we currently use with a **right click**. Of course, we can shoot with a **left click**. All the characters only have one life point. If they're hit, they die instantly. The objective is to reach the end of the level or kill everyone. If you're killed, you lose and must replay the level. This is "die and retry" 101.

### V.2 Weapons

You must be able to identify two types of weapon types:

- Firearms, that send projectiles in the direction of the mouse. They have ammo (no mag) and can be emptied.
- Cold weapons are close combat weapons. They don't throw any projectile and they're not limited by ammo.

When you drop a weapon, it is thrown more or less stylishly in the direction of the mouse. A minimum of **4 different weapons** is required.

### V.3 Enemies

Enemies and their artificial intelligence are the heart of this project. They're what will bring fun and balance to your game. You will have to set up the following behaviors:

- Enemies a long detection range in front of them and a very short one behind. When they detect the player, they run after them and shoot them. They stop after a moment or when they or the player die.
- Enemies cannot go through walls. They know where the doors are and can run after the player through different rooms.
- If the player shoots close to an enemy, the enemy must hear it and must start chasing the player, even if they're in a different room.
- Of course, enemy's weapons don't have ammo. They can shoot as much as they want.
- Enemies cannot kill each others.
- Some enemies must walk a preset path.

## V.4 Maps

You must turn in at least one playable level. Each level must feature several rooms. Rooms must be linked by doors. Enemies and players must not go through any wall or closed door. Thus, doors must open and close for the characters to walk freely through different rooms. Try to design fun level to walk through.

## V.5 Le son

What would Hotline Miami be without sound? You will, once again, have to handle this part with a special care. Today's asset will provide the soundtrack of the game. You will have to implement those tracks through your game. Try to use as many as you can to bring variety to your levels.



You can only use the game's soundtrack. Your amazing techno track won't work any better. Then again, who would want to play Hotline Miami with any other music?

That's not all, folks! You will also have to implement sounds for the following elements:

- When the player or an enemy is killed.
- When a weapon is picked.
- Each weapon must have a different shot sound more or less matching the weapon.



- In case of victory or defeat.

## V.6 Les menus

And to make this game perfect, you will add menus. This is what will be required:

- A very stylish main menu with an animated logo using the hotline font. It must really make your eyes bleed but it's also got to be beautiful. This is where you can start or quit the game.
- A contextual that opens on the scene when you defeat or fail a level. Of course, the text displayed will be different accordingly.
- An in-game GUI shows the number of ammo left in the player's current weapon.



That's a lot of work, and it's rather detailed. Know, however, that this chapter is prioritized so that you know where you're at and what you should focus on for your evaluation.

# Chapter VI

## Partie bonus

As always, if you made it to this point, congratulations! You can rest, but you can also try to enhance what you've done and add all the details you like to make your game more personal. Think of ambient sounds, enemy voices and so on...

If you're completely clueless, here are some ideas:

- You can stun enemies throwing your weapon at them or slamming the door to their face.
- More maps, more weapons, more of everything.
- Different enemies that spawn with various designs and weapons.
- Weapon sub-categories (long range, machine guns, pistols, riot guns...).
- Katanas that kill enemies when you throw it at them.

You have a large choice of bonus you can implement. Enjoy yourself and have fun crafting the **Hotline Miami** you're dreaming of.