**Junior Programmer:** Programming Theory Practice (Horror game)

Project Brief

Application Concept

Overview

In this project, I’ll create a single level in a horror game, where you have to exit a building, where different enemies are trying to hunt you. You will have a set of tools that will help you to escape the building alive.

Reference Examples:

Some examples of horror games to explore:

* [Resident Evil](https://www.residentevil.com/village/es/)
* [The Forest](https://endnightgames.com/games/the-forest)

Task Checklist

Here’s a high level detail of what is expected in the project:

Scene management

* Create transitions between scenes
* Splash Screen on start
* Buttons to “Start Demo” and Exit application

Data Persistence

* Save the time in which the user beats the level
* Save its name for possible high scores.

Abstraction

* Make methods for each object actions.

Encapsulation

* Try to just expose behaviors, not data.

Inheritance

* Create base class for enemies, characters that can move, attack, etc.

Polymorphism

* Override the Attack or Move action to make what each one should.

Project Overview

The application

Scenes

User interactions

The simulation

The basic simulation

Basic simulation functionality

Project Styling

Scripts

Code Design

Base Objects

There will be some classes that define the overall behavior of a subset of objects, such as:

* Character → Player, Enemy
* Weapon → Flashlight / Bat
* Enemy →
* Pickup →
* Triggerable or Collidable → Door /

Behavior Overriding

Each weapon will make something different when is activated. For example, the flashlight should turn on and off, but the bat should just hit.

Also, each enemy will have different type of attacks. This could have a virtual method that let the consumer pass a damage amount when attacking, different from the default damage amount.

Some pickups are to heal you, while others are more focused to utility, such as the flashlight battery. These pickups will have a name and a range that indicates how near of it should the player be to pick it up.

The triggerables can be doors, when you can open them when near, animations, sounds, etc. (STILL TO DEFINE)

The triggerables may act different depending in what kind of object collides with it. For example, a Collidable may be a hard object for the player, but when collides with an enemy, it could break itself.

What should be kept private or limited?

The game could have different types of the same weapon, like a normal flashlight and another one that damage a specific kind of enemy. In this case we should let a pickup modify some properties of the light through a setter.

The enemy’s health must be accessible from others scripts, but not modifiable from outside.

The pickup’s name should be visible from outside, but not modifiable.

Behaviors to show outside

* Character → TakeDamage(), Heal(), Move()
* Weapons → OnFirePressed(), OnHit()
* Enemy → UpdateTarget()
* Pickup → Collect()