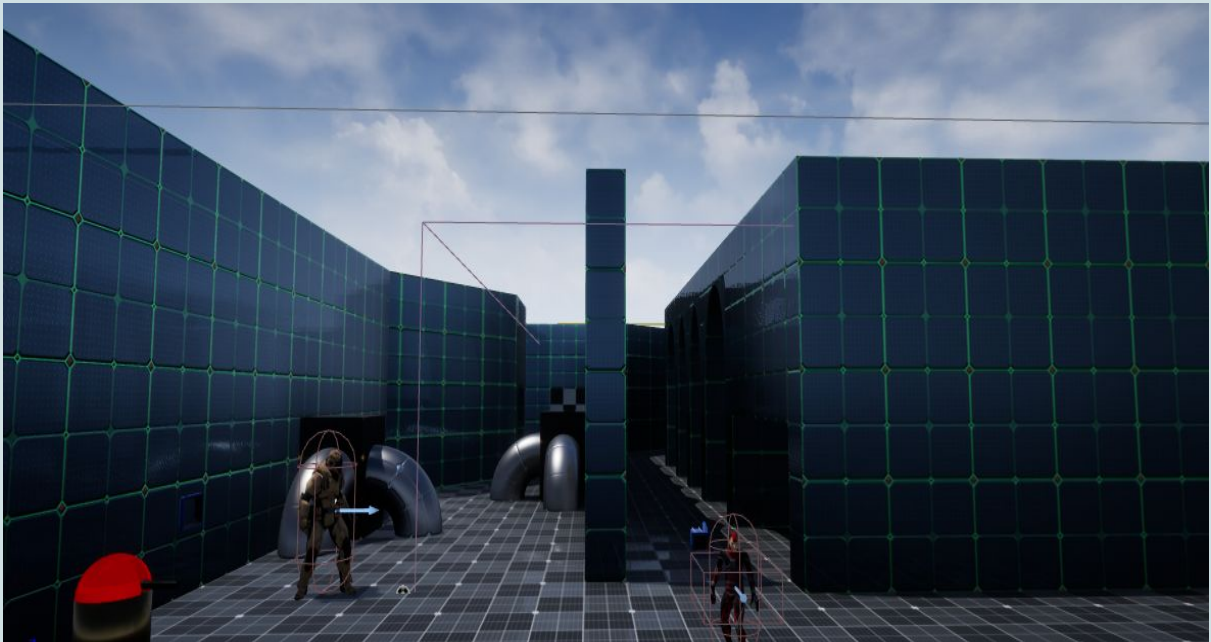


STEALTH GAME PROTOTYPE UNREAL ENGINE 4



DESIGNER GUIDE DOCUMENT

Jordan Kaspers

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Introduction

The purpose of this document is to show any designers working on this Stealth Game Prototype how to control and use any part of the project. We will be going through the creation process of enemies, setting up music, how to edit game options like player health and game time, and more.

Finding your way around

Once you open the project, you should automatically find yourself looking at the editor with the Menu map showing. From here, you can hit play and the demo will start. Once the demo is playing, you can either use the in-game menu to quit the demo, or use the Escape key.

Playing the Demo

Input

| | |
|--------------------------|------------------------|
| W | Move forward |
| S | Move backward |
| A | Move left |
| D | Move right |
| Left Shift | Run (has to be moving) |
| Left Ctrl | Crouch |
| Space Bar | Stealth Walk |
| P | Pause Menu |
| Left Mouse Button | Throw |
| Mouse Movement | Controls camera |
| P | Pauses the game |

Not working?

- If the Menu map did not load automatically, go to the Maps folder and select the desired map.
- Go to project properties, maps and modes, and select the game instance to be BP_GameInstance.
- Go to project properties, maps and modes, and select the game mode to be BP_MyPractica2_kaspersGameMode.

Characters

There are several characters available, such as the Guard, the Turret, and the Player.

Guard



Description

The Guard is the main opponent of the Player. The goal of the Guard is to patrol between established patrol points and keep an eye (and an ear) out for the Player. If the player is detected, the Guard will chase the Player down and kill the Player if caught.

If the Player escapes, the Guard will look around suspiciously for some time, then carry on with the patrolling. If the Guard is hit by either a Projectile coming from the Player or a Bullet coming from a Turret, the Guard will get injured and slow down for some time.

How to - Guard

To add a Guard to the world, look for the Guard Blueprint in the Blueprints folder (BP_EnemyCharacter) and drag into the world to a desired location. Select the Guard, then select its PatrolRoute Component. Once selected, add as many patrol points in the Patrol Category.

Important - make sure the patrol points are Target Points previously added to the world and that the Guard Blueprint (BP_EnemyCharacter) has a PatrolRoute Component added.

Customisation

There are several aspects of the Guard that can be modified:

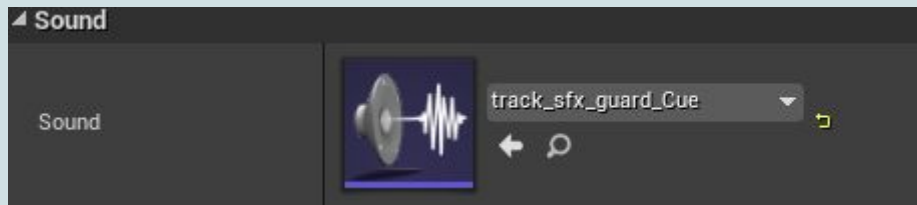
Inside the Guard Blueprint (BP_EnemyCharacter), in the My Blueprint Tab, there are 3 variables suitable for change, though the default values are recommended.



- WalkingSpeed
 - Default value = 200.0
 - Modifies the walking speed of the Guard
- RunningSpeed
 - Default value = 300.0
 - Modifies the running speed of the Guard
- InjuredSpeed
 - Default value = 150.0
 - Modifies the speed of the Guard when injured.

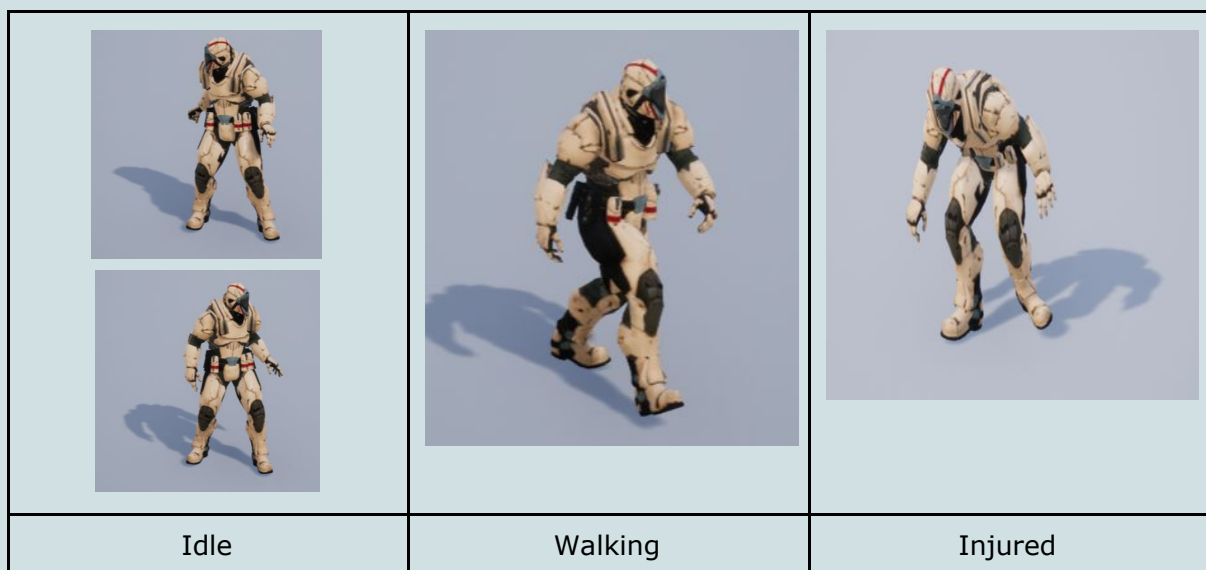
By selecting the Audio Component in the Components Tab, in the Details Tab, the sound the Guard makes can be changed as well, specifically in

the Sound Category. If there happens to be no Audio Component, simply add one and proceed normally.



Animation

The Guard has several animations.



Turret



Description

The Turret is a secondary enemy. While not being able to move its position, the Turret does rotate in order to face the Player and can even aim up slightly. Once the Player is within range, the Turret will shoot at the Player, alerting any somewhat nearby Guards by making noise. The Turret does not kill the Player straight away, but does afflict damage, and if enough damage is taken by the Player, the Turret can eventually end up killing the Player.

How To - Turret

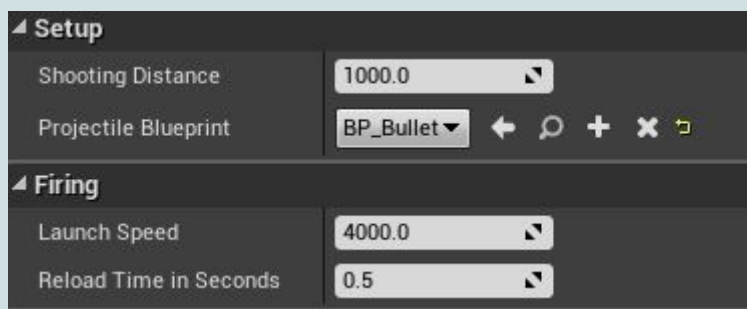
In order to add a Turret to the world, look for the Turret Blueprint (BP_Turret) in the Blueprints folder, then simply drag and drop into the world at a desired location. Keep in mind that the Turret can not shoot downwards and only slightly upwards, so a position at the same height level as the player is recommended.

Customisation

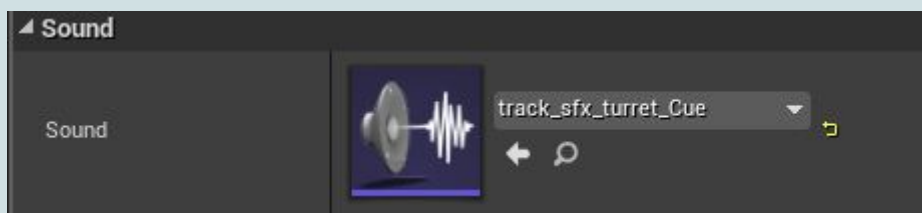
The Turret can be customised in a variety of ways.

Inside the Turret Blueprint (BP_Turret), in the Components Tab, selecting the TurretAiming Component will give access to several properties:

- Shooting Distance
 - Default value = 1000.0
 - How far the Turret can shoot
- Projectile Blueprint
 - Default value = BP_Bullet
 - Determines which Blueprint is used as a projectile
- Launch Speed
 - Default value = 4000.0
 - The speed at which the bullets shot travel
- Reload Time in Seconds
 - Default Value = 0.5
 - The time in between shots



Once again, in the Components Tab, selecting the Audio Component will allow for changes to the sound the Turret makes.



Player



Description

The Player is the character the user controls and plays with. The Player can move around in several different ways producing different amounts of noise:

| | |
|---------------|--------------|
| Walk | Normal noise |
| Run | Loud noise |
| Crouch | Quiet noise |
| Sneak | Silent noise |

The Player can open doors and activate elevators, both by standing on a pressure plate or by throwing a projectile at a button.

When throwing, the Player plays a throwing animations and proceeds to throw a projectile in the direction the Player is facing, not in the direction the Camera is facing.

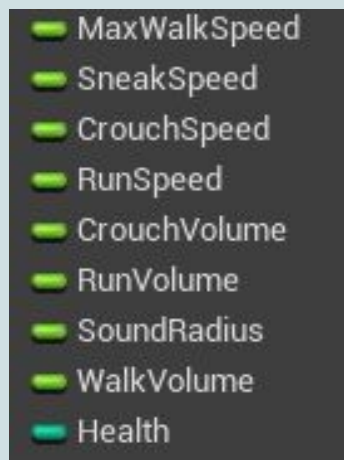
How to - Player

There can only be one Player in the world. The PlayerStart of UE4 can be used to spawn the Player into the world when the game begins. Another way of placing the Player would be to go to the Player Blueprint (BP_PlayerCharacter) in the Blueprints folder, and dragging it to a desired position.

Customisation

The Player can be customised in several ways.

In the Player Blueprint (BP_PlayerCharacter), in the My Blueprint Tab, there are multiple variables that can be changed:



- MaxWalkSpeed
 - Default value = 200.0
 - Used to set the walking speed
- SneakSpeed
 - Default value = 25.0
 - Used to set the sneaking speed
- CrouchSpeed
 - Default value = 150.0
 - Used to set the crouching speed
- RunSpeed
 - Default value = 400.0
 - Used to set the running speed
- CrouchVolume
 - Default value = 0.25
 - Used to set the crouching sound volume

- RunVolume
 - Default value = 1.0
 - Used to set the running sound volume
- SoundRadius
 - Default value = 1000.0
 - Used to set the radius of the sound
- WalkVolume
 - Default value = 0.5
 - Used to set the walking sound volume
- Health
 - Default value = 100
 - Used to set the health of the Player

Animation

The Player has a different animations for different scenarios:

| | |
|---|------------------------|
|  | Idle |
|  | Crouching |
|  | Crouching while moving |

| | |
|---|----------|
|  | Running |
|  | Sneaking |
|  | Walking |
|  | Throwing |

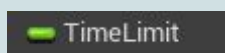
Gameplay Elements

The main purpose of the game is for the Player to get to the finish before time runs out.

Time Limit

The time limit can be customised to give the Player either more or less time than the default time. This can be done by accessing the GameMode Blueprint (BP_MyPractica2_kaspersGameMode) in the Blueprints folder.

Once inside the GameMode Blueprint (), in the My Blueprint Tab, select the TimeLimit variable.

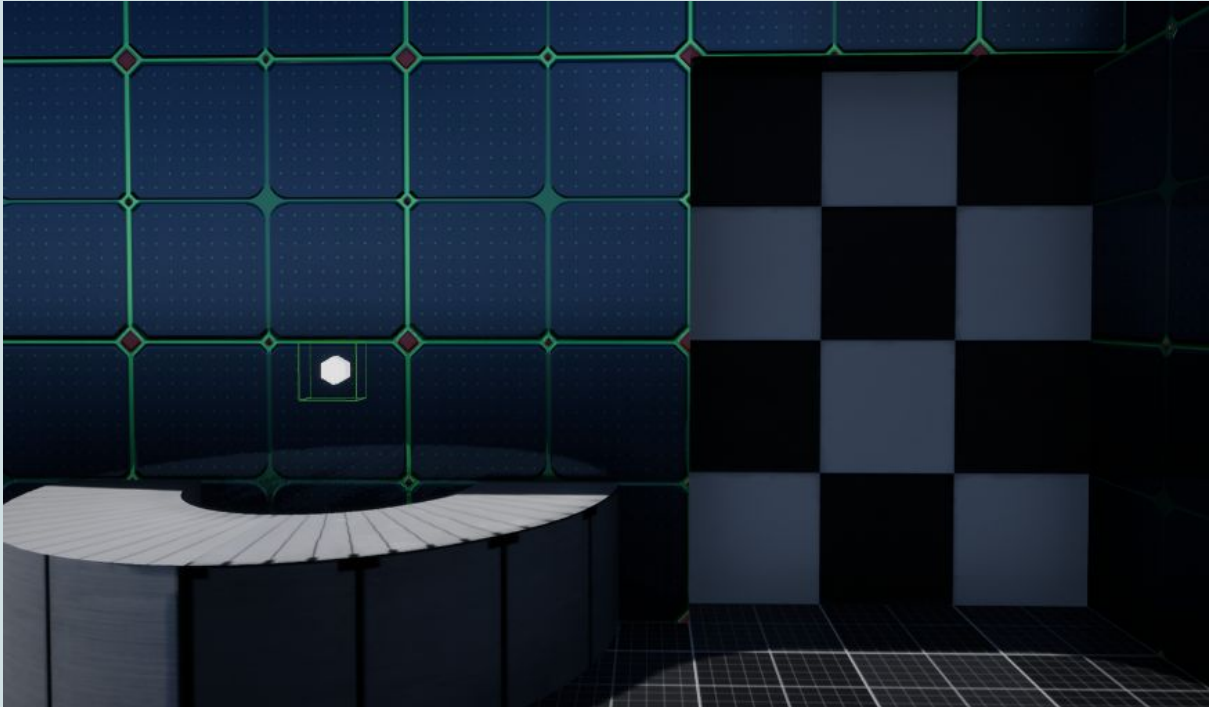


- TimeLimit
 - Default value = 100.0
 - Used to determine how long the game will last.

Finish

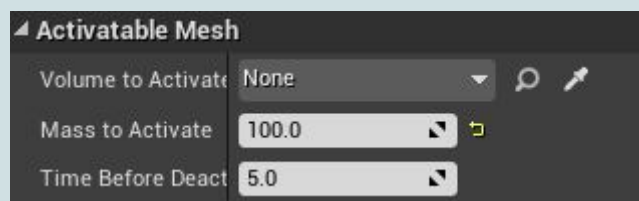
The finish is an important part of the game, as it is the only way the Player can survive. To find the finish, look for the finish Blueprint (BP_FinishTrigger) inside the Blueprint folder. Once found, drag and place in a desired position where the player can end the game.

Doors



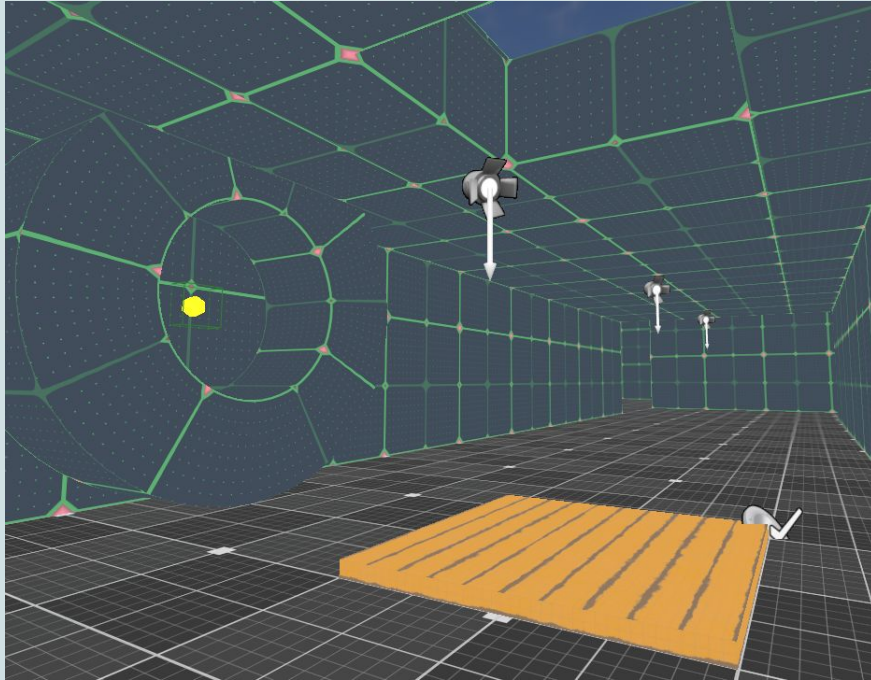
Doors require either a button or a pressure plate to be activated. Located in the Blueprint folder, dragging the Door Blueprint (BP_Door) into the world will place it there.

By selecting the ActivatableMesh Component, Doors can be customised:



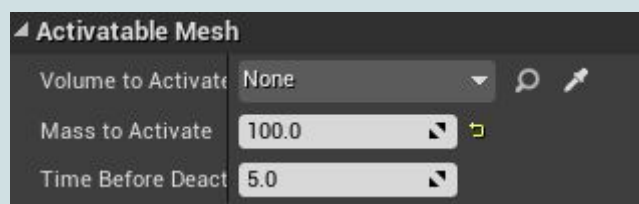
- Volume to Activate
 - Default value = None
 - Needs a trigger in order to activate the door
- Mass to Activate
 - Default value = 100.0
 - The minimum mass needed inside the trigger
- Time Before Deactivation
 - Default value = 5.0
 - The amount of time the door stays activated

Elevators



Elevators require either a button or a pressure plate to be activated. Located in the Blueprint folder, dragging the Elevator Blueprint (BP_Elevator) into the world will place it there.

By selecting the ActivatableMesh Component, Elevators can be customised:



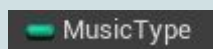
- Volume to Activate
 - Default value = None
 - Needs a trigger in order to activate the elevator
- Mass to Activate
 - Default value = 100.0
 - The minimum mass needed inside the trigger
- Time Before Deactivation
 - Default value = 5.0
 - The amount of time the elevator stays activated

Sound

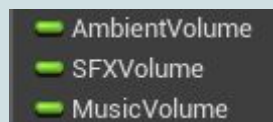
The sound system of the Stealth Game Prototype has several properties. There are 3 types of sound techniques involved, which the designer can choose from: Crossfading, Layering, and Branching.

The user can customise the volume level in the Option Menu depending on whether the sound is ambient, music, or sfx.

In order to choose the sound technique, look in the Blueprint folder, and open up the GameMode Blueprint (BP_MyPractica2_kaspersGameMode). Once inside, in the My Blueprint Tab, select MusicType in the Variables Category and choose 0 for Crossfading, 1 for Layering, or 2 for Branching.



To access the volume parameters for ambient, music, and sfx sounds, go to Blueprints, then open the GameInstance Blueprint (BP_GameInstance). Once inside, in the My Blueprint Tab, inside the Variables Category, feel free to modify (0-1) either the AmbientVolume, the MusicVolume, or the SFXVolume.



Important - In order to actually hear the Ambient sound or the Music sound, make sure to select the Sound Blueprint (BP_Sound) in the Blueprints folder, then drag it into the world in any location. Select the AudioComponent and add an Ambient track or Music track.

It is also important to set the class the soundtracks used belong to, for example, if an ambient soundtrack (Cue) is used, make sure it belongs to the Ambient Class. Otherwise the modifications made in the Options Menu will not affect the sound.

UI

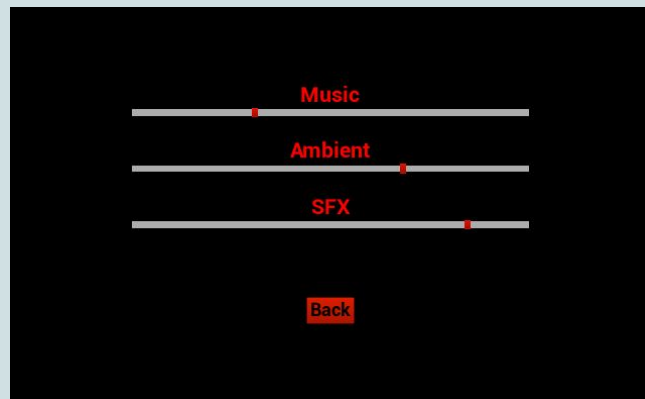
Main Menu



The Main Menu has three options to choose from: Play, Options, or Quit.

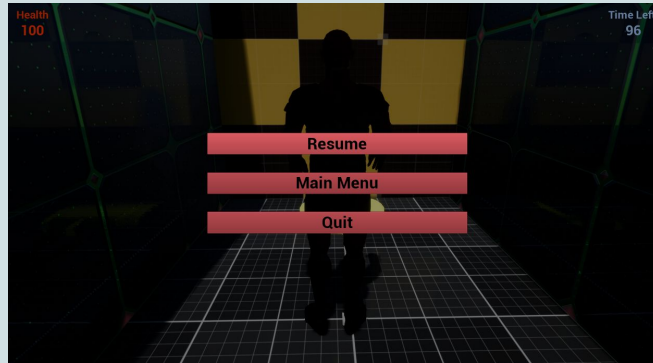
- Play, as the name implies, launches the game.
- Options takes the user to another menu to change the sound volume.
- Quit exits the application.

Options Menu



The Options Menu gives the user the option to change the sound volume for the Music sound, the Ambient sound, and the SFX sound. Clicking and dragging the slider for each type of sound will decrease (left) or increase (right) the sound volume. After modifying the sound, the user can use the Back button to go back to the Main Menu.

Pause Menu



The Pause Menu can only be accessed during the actual game. While the game is paused, the user can take a quick breather and keep going by clicking on Resume. If the user wants to start again or change the sound settings, Main Menu can be chosen. Quit can be selected in order to exit completely.

Game Information



As there are two main ways for the Player to die, it is important for the user to know the state of both. On the left side, the Health shows the current Health of the Player, and on the right side, Time Left indicates how much time is left before the game ends.