# CS 2053: Final Report Template

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## **Game Design Requirements**

* 1. **Story Telling.** The game should contain storytelling with audio or text narration.

The story is told through the handbook which tells the player how to play and the shopkeeper who sells you equipment.

Both describe how the player is a Grave Delver, someone who goes into the catacombs for treasure. They also tell the player tiny details about the world of the game: how some say the catacomb is bottomless, or how you can use ghoul blood to inure you against pain.

And, at the end of every game, there is an end screen which tells you the player’s fate at the end of the game. Whether they were eaten alive or if they escaped.

The story elements are purposefully vague to give the player a sense of uncertainty and allow them to wonder what lies in the dark.

* 1. **The number of levels**.

For scenes, most of the scenes are used for navigating the game:

* A start menu scene with basic options, instructions on how to play, and a “Start Game” button.
* A scene for when game finishes to tell the player how far they got and how much treasure they gained or lost.
* A scene for between levels to ask if the player wants to continue or leave with what they have.

There is also a shop scene right before the game begins. This allows the player to use their score from previous games to improve their ability in the next run.

Level-wise, there is only one level scene, but it randomly creates a level layout every time.

This level layout gets progressively harder and more valuable the more the player progresses down.

In this way, even though there is only one game-play scene, the player can play for theoretically infinite levels.

## **Game Programming Requirements**

* 1. **Sound**

We included three thematic background sounds for different scenes: The Start Menu, the Shop, and the actual game.

As well, a sound effect plays when the gun is shot and when the bullet hits something. Different sounds play if the bullet hits an enemy versus when it hits an object.

* 1. **Physics**

There are no complex physics, but there is simulated 2D physics.

First, there is movement of multiple bodies at once, from the character to the enemies to the bullets. All of which are restricted by the walls of the levels.

Second, there is knockback. When a character is hit by an enemy or an enemy is hit by a bullet, they are knocked back a short distance.

* 1. **Cameras**

In the game, there is only the one camera which follows the player. However, the vision of the camera gets progressively smaller as the player’s lamp runs out of oil.

The player has limited visuals and much of the map looks the same, which makes it easy for the player to get lost in a level, intentionally so.

* 1. **User Interface**

There is a start menu which allows the player to see their current wealth and start a new game.

During gameplay, the player has four statistics that are shown in the corners of their screen.

* Time Remaining: If this runs out, they lose.
* Health: If this runs, out they lose.
* Bullets: They can only shoot while they have bullets.
* Loot: This is what they are trying to collect to improve for later runs.

All of the provided information is important for gameplay, but does not obstruct the player’s view of the action.

* 1. **AI**

The game contains skulls which bounce towards the player. They use a greedy pathfinding algorithm because there can be lots of these enemies in the game at once. This also means the enemies do not stray far from their starting rooms. If the enemies had a smarter pathfinding algorithm, they would likely swarm the player making it unfun for them.

## Describe what parts of the game you attempted to build or wanted to build, but were unable to

Currently, the amount of story is quite bare and the method of explaining how to play the game is an easily ignored handbook.

We were thinking about making a tutorial to guide the player though the game mechanics while also telling the player the story of the game.

We did not have time to implement this, though it would have better provided the story-telling elements.

As for improving gameplay / play experience, currently the game is quite repetitive and there is not much incentive to progress many levels down.

Some ideas we had to give the player more variety as the player progressed included:

* A Boss level
* A greater variety of enemies
* Story Pickups: Journal entries you could pick up and read
* A special level 13

## **How successful were you?**

Currently, the game looks and sounds cool with a retro and spooky vibe.

The elements currently present work well to create smooth and atmospheric gameplay, but do not provide enough variety to keep the player interested.

Compared to the older games it is trying to mimic, it is very good.

Compared to modern games, it is okay.

## **Describe how you were able to work remotely with your team or individually.**

We were able to set up a github and maintain our changes on our branches.

We had a good method of one member would go into the game and make or modify elements where they saw the game needed improvement. Then the other member would look at those changes with fresh eyes and fix any problems they saw.

We are friends in our group, so we also met up a few times in person to talk about what ideas and modification were most important going forward.

Both of our members liked working on the game, so we did so quite well.

## **Describe what external/third-party resources (or asset packs) you used**

We used Unity to make the whole project.

The main external assets we used in the final version were music by a friend of one our members, Whitman Wilson. We credited him in the game.

We also used the font Mini Pixel 7 for all our text in the game.

In the development, we used some stock assets, including spritesheets from Mystic Woods.

All the sprites, animations, and map tiles used in the final game were created by members of our group.