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Project 1 Documentation

Part A. Screenshots of blueprints you have designed, running pathfinding. There should be at least 5 objects with pathfinding AI.

A screen shot of a computer

Description automatically generatedA picture containing indoor, black, sitting, counter

Description automatically generated

Part B. Answers to the following questions in short paragraphs:

1. Overall, how have you utilized pathfinding to in your game?

This game uses pathfinding to make sure the zombies are always trying to get to the player. The idea is that if a zombie reaches its goal state (i.e. the player) then it will attack the player and the player will lose.

2. Why is pathfinding essential to this game?

Without pathfinding, the zombies would not be able to determine where the player is at any given time. The zombie agents would not behave correctly if they do not move towards the player at all times, and therefore the game would be incomplete without pathfinding.

3. Explain your blueprints. Which objects have pathfinding? How are they triggered?

The only objects in this game that have pathfinding are of the zombieAI blueprint class. Every frame, each zombie is given a goal point (the player’s location) to reach. This way, the zombie agents will always, until the point where they die, find their way to the player.

4. How do you design your game so that it is appropriately challenging?

This game consists of 10 rounds. Each round, several aspects of the game change in order to increase the difficulty. The zombie’s movement speed, damage, and health are all slightly incremented each round. The number of zombies increases by 10 each round, and the rate at which they spawn increases as the rounds progress. The first 1-2 rounds should be relatively easy to allow the player to grasp the controls, and the final 3 rounds will be very difficult.

Part C. A manual, explaining how the game is played (the controls/keys for the game).

W,A,S,D keys – player movement

Mouse Movement – camera movement

Spacebar – Jump

Left Shift – Sprint

Q – switch weapons

R – reload

E – Purchase Ammo

Left Mouse Button – Fire Weapon

Run around the graveyard, fighting your way through hordes of zombies. Replenish your ammo in the house in the center of the map.

Part D. Credits:  Everything technical in the game should be created by you. If you used art or other assets not created by you, clearly state so. Cite your source.

**All audio assets in this game came from Unreal Engine Starter Content or from one of the sources below:**

“Grunt.wav by punisherman,” *Freesound*. [Online]. Available: https://freesound.org/people/punisherman/sounds/370036/. [Accessed: 18-Mar-2020].

“Zombie Grunt.wav by mrh4hn,” *Freesound*. [Online]. Available: https://freesound.org/people/mrh4hn/sounds/426627/. [Accessed: 18-Mar-2020].

“AR15 rifle shot by michorvath,” *Freesound*. [Online]. Available: https://freesound.org/people/michorvath/sounds/427596/. [Accessed: 18-Mar-2020].

“Face Punch, Body Impact, 4x by Kinoton,” *Freesound*. [Online]. Available: https://freesound.org/people/Kinoton/sounds/503277/. [Accessed: 18-Mar-2020].

“Shotgun\_Shot\_03.wav by MATTIX,” *Freesound*. [Online]. Available: https://freesound.org/people/MATTIX/sounds/473846/. [Accessed: 18-Mar-2020].

“Grenade Launcher by LeMudCrab,” *Freesound*. [Online]. Available: https://freesound.org/people/LeMudCrab/sounds/163458/. [Accessed: 18-Mar-2020].

“ak47 reload sound.mp3 by GFL7,” *Freesound*. [Online]. Available: https://freesound.org/people/GFL7/sounds/276958/. [Accessed: 18-Mar-2020].

“sh\_Antique\_Cash\_Register\_Sale\_Ringup.wav by shall555,” *Freesound*. [Online]. Available: https://freesound.org/people/shall555/sounds/140222/. [Accessed: 18-Mar-2020].

“Outdoor Nighttime Ambience.wav by TaXMaNFoReVeR,” *Freesound*. [Online]. Available: https://freesound.org/people/TaXMaNFoReVeR/sounds/325426/. [Accessed: 18-Mar-2020].

“Poof (3, varying degrees of intensity) by mendihola,” *Freesound*. [Online]. Available: https://freesound.org/people/mendihola/sounds/440269/. [Accessed: 18-Mar-2020].

**All art assets in this game come from Unreal Engine Starter Content or from one of the sources below:**

“Animation Starter Pack by Epic Games,“ *UE4 Marketplace*. [Online]. Available: https://www.unrealengine.com/marketplace/en-US/item/7001dd4a4fd04aaaaf189801c5ce7ee6. [Accessed: 18-Mar-2020].

“FPS Weapon Bundle by Deadghost Interactive in Weapons,” *UE4 Marketplace*. [Online]. Available: https://www.unrealengine.com/marketplace/en-US/item/1898b31bdbe2479190d6ca8adc4f7f3b. [Accessed: 18-Mar-2020].

“Advanced Village Pack by Advanced Asset Packs,” *UE4 Marketplace*. [Online]. Available: https://www.unrealengine.com/marketplace/en-US/item/def870df86a145b8817bba409d87b051. [Accessed: 18-Mar-2020].

“Ballistics FX by Cubit Studios,” *UE4 Marketplace*. [Online]. Available: https://www.unrealengine.com/marketplace/en-US/item/5503180682de4e2d973413d2034ff7ab. [Accessed: 18-Mar-2020].

“Dark Forest by Dave Berg,” *UE4 Marketplace*. [Online]. Available: https://www.unrealengine.com/marketplace/en-US/item/73b390b771cc4036b26e7ef64a2e9022. [Accessed: 18-Mar-2020].

VioletBoom follow, “LP Headstones - Download Free 3D model by VioletBoom (@violetboom) [dbf77c4],” *Sketchfab*, 01-Mar-1969. [Online]. Available: https://skfb.ly/6QSPH. [Accessed: 18-Mar-2020].