Zombie Slayer is a top-down arcade shooter revolving around killing endless hordes of zombies and trying to survive for as long as possible. Using points from killing zombies, players can upgrade weapons, purchase ammo, and otherwise extend their life in the game. It’s relatively simple to play, only using WASD to move, space to interact, and click to shoot.

I developed all the sound assets for the game using sounds from freesound and using some music from opengameart.org as well. Each sound serves a purpose to either immerse or inform the player. The game begins with the main menu, and the music sets the tone for the game. In combination with the color, it sets a sort of mixed tone that serves to give the player a feeling of unease, and maybe a bit of stress, but not fear. The menu pings help to reinforce that idea of mixed tones, being bright and contrary to the music. After pressing play, players are thrust into the game, where they can get a better understanding of the tone. The first zombie they see will attack, making disgusting growling noises, while an ambient sort of beat plays in the background. The characters seem to be almost cartoonish in appearance, however, which defines the sort of line the tone rests on.

Now that the tone is set, we can move on to the role each sound plays. Gunfire is the first most prominent sound players can hear, as it is on the louder side and cuts through many of the other types of sound in the game. Knowing whether or not you’ve fired a bullet can be the difference between surviving another round and losing, so I made this sound distinctly different from others. The second most prominent sound players will hear is player damage. This is an equally important sound to hear, so I made it equally distinct from other sounds players hear. I originally thought about using a ‘grunting’ sound, but I found it more important to make it distinctly audible through other sounds, rather than realistic. Grunting could get easily lost in the zombies’ groans and growls, especially as more zombies appear. The zombies’ grunting sounds are used to help identify where any remaining zombies in the game may be, so as to not delay the game any further when a player wants to move onto the next round. Next up are bullet sounds. Whenever a zombie is hit, it makes a blood-splatter noise. Whenever it dies, this sound is amplified and lowered in pitch, to help notify players a zombie died. When a bullet misses a zombie and hits a wall, it ricochets off with a ‘ping’ noise. This distinction between hit or miss on a zombie plays just as important a role as hearing your gun firing each bullet, but if you try to blindly fire down a hallway without being able to see anything, you won’t be able to tell whether you’ve hit a zombie or not, because the sounds are too quiet to hear. This is intentional, to discourage blind-firing, particularly with powerful weapons that have limited ammo. Next up are interaction noises. Whenever a player tries to open a door or purchase a weapon without enough points, they’re given a loud sound of a doorknob twisting and shaking, to reaffirm that they need more points, and if they’re under duress, they need to make another plan fast. If a door opens, a loud unlocking noise plays. If a gun is purchased, a loud cash register ‘cha-ching’ noise plays. Each of these once again serves to cut through other sounds and inform players of a positive change in their environment, whether more space to move, or just a better gun to shoot with. Finally, the ambient noise in the environment. As the number of zombies increases, the noise will get louder and faster, and extra zombie groans will be mixed into the stress-inducing beats. I added the extra zombie groans because at this stage, knowing where zombies are is less important than being able to react quickly. The intense noise serves to put players in a state of stress so they can focus on survival.

Majority of the work in FMOD was used to give some randomization to certain repetitive sounds such as zombie groans, bullet ricochets, and blood splatters, in order to make it feel more natural. For these, I used multi-instruments and random modulation on their pitch. I used a parameter sheet in the zombie ambience to make more noise as the number of zombies grows, or to reduce it as more zombies are killed. As the parameter grows, the amplitude and speed of the ‘beats’ in the background too will grow. At a certain point, extra zombie groans are also added in with an additional multi-instrument.

I tried to introduce a sort of natural mixing between each of my tracks in the game. In other words, I tried to balance out sounds with other sounds, equally-appearing, but opposite on the frequency spectrum. A good example of this is the background ambience. I noticed one of the more prominent noises in the game was the shooting. While not bad, it was mostly an upper frequency sound. To try to balance it out, I had my background ambience (which would also be playing a lot, more often when there’s more zombies, when players will be shooting more) focus mostly on the lower frequency.

In terms of mastering, I tried to do my best to not make things too loud overall. I noticed initially that many sounds were almost overpowering, particularly when they all overlapped, so I turned them down more and more until I found a somewhat acceptable balance in my eyes (or ears).

SOURCES LIST

Zombie 2

https://freesound.org/people/Under7dude/sounds/163439/

Zombie Gargles

https://freesound.org/people/Breviceps/sounds/445983/

Zombie Growl 3

https://freesound.org/people/tonsil5/sounds/555414/

Silenced Gunshot

https://freesound.org/people/morganpurkis/sounds/369781/

Door Open 2\_Creaky\_Near\_Mono

https://freesound.org/people/\_stubb/sounds/406598/

bullet ricochet.wav

https://freesound.org/people/aust\_paul/sounds/30932/

Bullets hitting Gore

https://freesound.org/people/bananplyte/sounds/452155/

Tragic ambient main menu

https://opengameart.org/content/tragic-ambient-main-menu

Hurt00.wav

https://freesound.org/people/sharesynth/sounds/341245/

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Door Unlock

https://freesound.org/people/angelkunev/sounds/519065/

Menu Select

https://freesound.org/people/pumodi/sounds/150222/

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locked door2.wav

https://freesound.org/people/Leady/sounds/12740/

sf3-sfx-menu-select.wav

https://freesound.org/people/broumbroum/sounds/50561/

Cash Register

https://freesound.org/people/kiddpark/sounds/201159/

Evil\_Presence\_02\_14\_Sec.wav

https://freesound.org/people/MATRIXXX\_/sounds/502816/

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