Strain Development Journal : week 1

8/7/2015 0 Comments

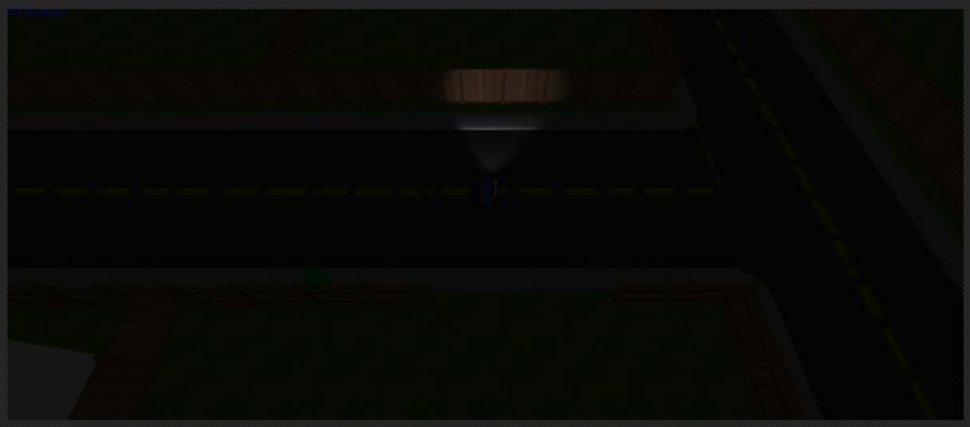
Welcome to the first blog post in a series of many regarding the development of my latest project: Strain.
I will be using this blog to keep a weekly record of my personal development progress and experiences working on this project.

So now to the game:
"Strain is a top-down twin stick shooter that uses the Unity engine to simulate a zombie apocalypse in real-time around the player. It features zombie virus strains that evolve as they propagate through the population, creating a naturally-occurring difficulty curve and reflecting the spread of real-life viral outbreaks."
This game is an AI programmers dream, as it will use and apply genetic algorithms in real-time to simulate the spread of the zombie outbreak. Multiple other AI behavioral techniques will also be implemented to simulate human and zombie behavior, such as flocking, fleeing and chasing, all linked together in a comprehensive behavior tree.

My team and spent a couple of weeks working out the design for the game and roles of each member, but have now well and truly begun prototyping our idea. I spent this first week working on basic gameplay mechanics that are core to the game, such as movement and shooting. I have also implemented basic zombie and human behaviors; zombies will hunt down the closest human (including the player) and try to infect them, humans will wander aimlessly until they come close to a zombie and flee. The results of this weeks work can be seen below.

In this image, the player character is represented by the blue capsule, humans by green capsules and zombies by red capsules. This zombies in this screenshot are hunting the humans just above the player, the humans fleeing from said zombies. The player in this image is demonstrating the shooting mechanic; the bullet is represented by the yellow line between the player and the lower zombie.

The next image shows off our initial attempts at a day - night cycle. The player is illuminating the area before him with a flashlight.



That about wraps up my progress on this project so far without going into the specifics of each feature and its implementation. After this first week I feel as though this project is coming along smoothly. I find that rapid prototyping of this sort is both fun and rewarding and I am definitely looking forward to the next few weeks when I can really start working on the AI behaviors, specifically the genetic algorithm.

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Strain Development Journal : week 2

8/15/2015 0 Comments

This week was an especially fun week for Strain's development. Andrew, my partner in programming crime, and I started working on the genetic algorithm that handles the zombie evolution. Admittedly, Andrew put more work into it that I did but it was still a rewarding experience. I spent a lot of time working on other gameplay mechanics, such as adding pick-ups (weapons, ammo) and random loot spawners, as well as UI elements and visual representations of important information (like player health, stamina, and individual zombie statistics).

The red and blue bars show health and stamina. The boxes next to the capsules with the red bars show stats individual to that NPC. The green capsule with statistics is a human who was bitten but hasn't turned yet.

Whenever I wasn't working on new features I had the pleasure of fixing bugs. So many bugs. Our last scene was apparently scaled up hundreds of times and so was incredibly large. We fixed this in the current scene, but it required a lot of code be rewritten to work for the new scaling, and of course lots of tweaking of prefabs and values in the scene itself to get it to work as intended. There were other bugs too: lighting issues, transparency issues, scripting issues, pathing issues. I managed to source out and fix lots of these bugs, and the game plays a lot more nicely now, but there are still many hiding within our game that simply refuse to get fixed. I foresee much more time bug fixing in store for me.

Our artists managed to add more assets to the game, so as it stands now we have several types of houses and streetlights populating our level, and while they are un-textured, they provide life to the game that I felt was missing in last weeks build.

I plan to spend the next few days bugfixing and adding in sound effects and random effects to make the game feel so much juicier.

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Strain Development Journal : week 2.5

8/17/2015 0 Comments

Well, only a few days into this week and already tons of progress has been made.
Andrew, the second half of Strains programming duo, started us off by adding the 'Hulk' zombie model into the game along with his walking animation. I however started working on lots of small game elements, that combined together make the game feel nicer. First was screen shake on shooting, dodge rolling and taking damage. Then knockback on enemies when they are hit by bullets. Combine this with gun sounds, the guns in the game really feel like the pack a punch and do real damage.
I also added background music, a placeholder at least, a crosshair, ragdolls to the dead NPCs and blood and muzzle flash particle effects.

Lastly, as can be seen in the above image, I implemented a second zombie model which is currently acting as a placeholder for the human model.
All this, along with some minor tweaking of existing features means the game plays much better, to the point where I would actually call it fun to play.

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