Game Design Document

The Second to Last of Us

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Contents

Game Details

Title

Working Title is currently "The Second to Last of Us"
Additional options are as follows.
- Midday of the Dead
- Right 2 Die
- The Jogging Dead
- NightZ
- Dead Peninsula
- Pride and Prejudice and Zombies: The Movie: The Game
- The Slow and the Ravenous: Tokyo Shamble

Genre

Survival, 2D top-down

Target Audience

This is a game for those who like to play games casually and don't have an appetite for those long dragging games. With a little thrill of trying to avoid and escape from zombies, the game targets both thrill seekers and zombie fans.

High Concept

"The Second to Last of Us" is a 2D PC title taking place in a grim setting having recently undergone a catastrophic biohazard event. As a lone survivor the player the player must scavenge a zombie infested area to find gasoline to refuel their car. With limit ammo the player must attempt to avoid zombies as the scavenge for fuel.

Game Rules

These rules govern the gameplay and process that will occur during game play.
- Game controls are optimised for gamepad use.
- Players must navigate the level to find one tank of gasoline to refill their car.
- Zombies will pursue the player until they lose sight the player at their last seen location.
- Zombies can only be killed by gun shot.
- Players will die (lose) when they come into physical contact with a zombie.
- Game will be lost when the player dies. The player has one life. Upon dying the player will be given the option to begin a new level.
- Victory conditions are met when the player returns to the car with a can of gasoline .
- Player ammo is limited. Ammo pick ups are scarce.

Core Game Play

The core gameplay starts with the player standing next to their car which is out of gas and stranded in a eerie neighbourhood filled with zombies and deserted buildings. The player will have to maneuver around the zombies and search for a gasoline can. Once a gasoline can is obtained the player must return it to the car in order to escape.

Core Features

Moderate zombie AI utilising pathing with player pursuit and swarming.
Distraction - Limited throwable objects and distract zombies for a limited period of time in order to get past them.
Gun - Limited ammo to get out of sticky situations. Not intended to be used to kill all the zombies.

Player Activities

Navigating

The player will be able to navigate through the level freely. The player has full 360 degree movement allowing them to walk backwards, forwards and strafe left and right.

Scavenging

The player will be able to travel into buildings and scavenge for ammo and a gasoline can.

Avoiding

The player will have to avoid zombies scattered around the level, if the player moves to close to a zombie it will move to the player, and if they are caught by a zombie the game will end.

Fighting

The players will have a gun with them, but unfortunately they will have no ammo. Once the player acquires ammo they will be able to shoot the gun to kill zombies. Ammo is extremely limited on each level.

Distracting

The player will be able to throw a distraction object which can leash and distract zombies to where the object is thrown for a short amount of time.

Gameplay Elements

Level

Level layouts will be a square ratio. The viewable area and resolution of the game view will be that of a 16:9 ratio to suit most modern day gaming monitors. The level size is much larger than the viewable screen area. As the player navigates the level the viewable screen area will follow with the player held in a central position.

Player

The player character is identified by human character. As the game is from a top down perspective the main view of the player will be the head and shoulders. Player animation should include swinging arms and feet, as well as an aimed position for the arms when firing. The player character moves and acts according to input from player controls detailed in Control Scheme.

Attributes

Health	Defines the amount of damage a player can receive before dying. Health will be set very low to allow for the player to die immediately if coming into contact with a zombie. Health may be increased should gameplay require adjustments.
Movement Speed	Defines the movement speed of the player.
Damage	Defines the amount of damage dealt with a gunshot by the player. Damage will be set high to allow one shot kills of zombies.
Gun Ammo	Defines the amount of ammo for the gun that a player currently has.
Distraction Ammo	Defines the number of distraction items held by the player.
Gun Range	The distance the bullet will travel before despawning.
Distraction Range	How far the player throws the distraction object.
Distraction Radius	How far away from the distraction it will affect zombies.

Zombies

Zombies are NPC characters placed in large numbers around the level. Zombie spawning points will be randomly placed around the level. Spawning points can vary between 1 to 3 zombies, or even larger groups consisting of up to 15 zombies spread across a small area. If a zombie begins chasing the player, it should attract the attention of nearby zombies to begin a swarming behaviour. Zombie AI behaviour is detailed in Game Mechanics.

Attributes

Health	Defines the amount of damage a zombie can receive before dying. Health will be set very low to allow for the player to one shot the zombie with their gun. Health may be increased should gameplay require adjustments.
Movement Speed	Defines the movement speed of the zombie.
Damage	Defines the amount of damage dealt by a single attack from the zombie. Damage will be set high to allow for one shot kills of the player.
State	Current AI State of Zombie.
Alert Radius	The distance from the player the zombie will be alerted.
Aggro Radius	The distance from the player the zombie will be aggro'd.

Scalability

- Zombie Types
  - Runner zombie - Moves faster than the player
  - Spitter zombie - Zombie with a ranged attack
  - Wretch zombie - Zombie that lets out a shriek alerting nearby zombies if it detects the player, and has a larger detection range than other zombies.

Game Objects

Car

The car will be used as the player spawn location and victory location. The player must find a return a single can of gasoline to the car to win the level.

Gasoline Can

A can of gasoline will be located at a random location in the level which is required to trigger the victory condition once the player returns to the car.

Ammo

Ammo will be scarcely scattered around the level, each ammo item will vary in quantity.

Attributes

Quantity	Defines the amount bullets the player will receive upon collection.

Game Mechanics

The following is a comprehensive list of game mechanics that detail general gameplay, the interaction between player, zombies, and the level.

Line of sight

- No fog of war
- Enemies will require line of sight to pursue or detect the player

Zombie

Movement

○ Zombies will move slower than the player

Swarming

○ AI swarming. If a group of zombies becomes 3 or greater, cause them to "swarm." Move as a pack.

Pursue

○ Chase the player. Zombies will pursue the "last known position" of the player character if they are unable to see the player's current position. Upon reaching the last known position the zombie will resume pursuit of the player if the player can be seen.

Detection Radius

Passive

■ Zombies will wander short distances

Alerted

■ When the player stands too close to a zombie it will enter an alert state. If the player stays within range of the alerted state for too long, the zombie will aggro and begin pursuing the player.

Aggro (Aggressive)

■ If the player comes within the zombies aggro radius (smaller than alert) the zombie will immediately become aggressive and pursue the player.

Player

Movement

○ Player can move based on left stick of controller, regardless of which direction the player is facing.
○ Player can change the direction they are facing with the right stick of the controller in order to aim the gun/throw distraction.
○ (Scalability option) A sprint feature
○ (Scalability option) Movement speed is dependant on facing e.g the player would move at half speed if moving backwards.

Gun
- ○ Player has a gun with a limited amount of ammo
- ○ *(Scalability option)* Firing the gun will create a noise that will agro nearby zombies

Distraction
- ○ Creates a point of interest / distraction that zombies will pursue for a short period. This point of interest is of a higher priority / interest to the zombies than the player is. Unless the player is within physical contact of the zombies.

Camera
- ● Zoomed in - gives sense of mystery beyond the screens edge
- ● Following player

Level

Level Layout
- ○ Levels are generated from pre designed layouts. These layouts will have randomly placed buildings based on predetermined locations.

Car and Player Spawn
- ○ Player spawn and victory location are based on the position of the car. The car's position will be placed at one of predetermined locations for the level.

Zombie Spawn
- ○ Zombie spawning points will be randomly placed around the level. Spawning points can vary between 1 to 3 zombies, or even larger groups consisting of up to 15 zombies spread across a small area.

Game Menu Flow

```
Start    > Main Menu   > Play            > End
                       > Instructions   > View Instructions        > Main Menu
                       > Options         > View/Change Options      > Main Menu
                       > Quit            > End
```

Key Algorithms

Key Algorithms which govern gameplay elements.
- Painters Algorithm
  - Assists with sorting 2D sprites depth order based on priority.
  - Priority order (Highest to lowest)
    - Player
    - Zombie
    - Bullet
    - Distraction throwable
    - Car
    - Building
    - Ground
- Collision
  - Box2D will be utilised to handle collisions
  - Circle to circle collisions will be utilised to calculate the places collision with game objects. (Car, Gasoline)
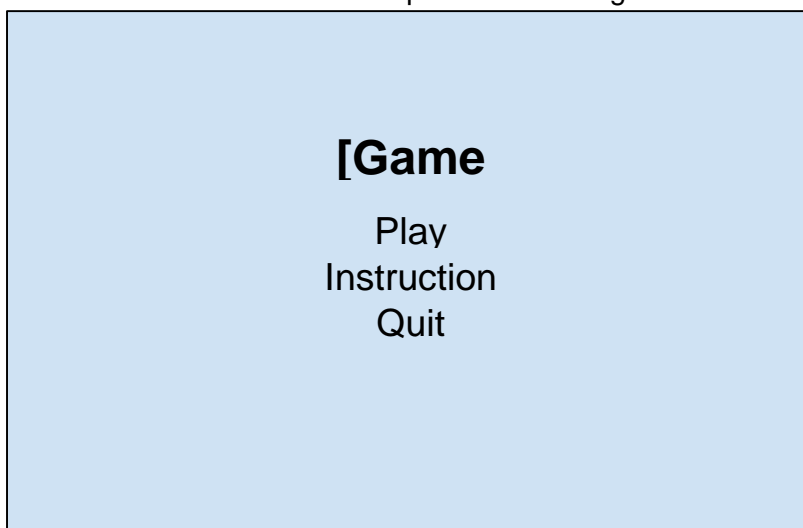
User Interface

HUD

The HUD will consist of some kind of counter for ammo and distraction objects.

Player

Zombi

Distraction

Ammo
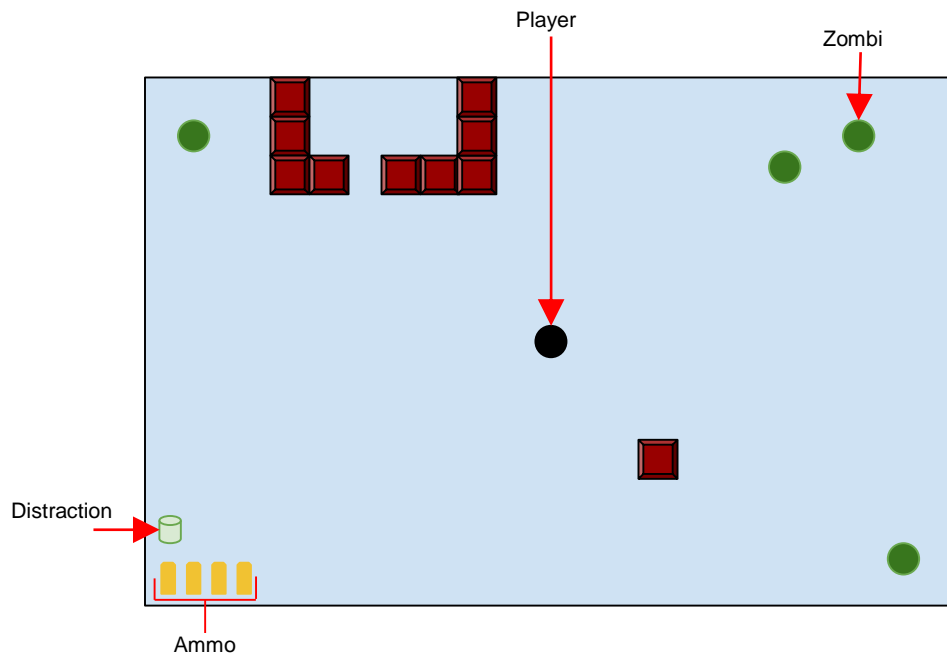
Menu System

The main menu will be made up of the following items

[Game

Play
Instruction
Quit

Control Scheme

D-Pad	N/A
Left Analog Stick	Movement
Right Analog Stick	Look Direction
LT	N/A
LB	N/A
RT	Shoot
RB	Throw Distraction
A	N/A
B	N/A
X	N/A
Y	N/A

Cheat Features

Infinite Ammo	Player receives infinite gun ammo.
Infinite Distractions	Player receives infinite distraction ammo.
God mode	Player can no longer be killed.
Give player gasoline can	Player receives a can of gasoline.
Disable zombie detection	Zombies will no longer react to the player's presence.

Asset List

2D Art

Sprites

- Player
- Zombie
- Car
- Gasoline can
- Bullet projectile
- Distraction object
- Tiles
  - Ground (Tileable)
  - Building Wall (Tileable)
  - Building floor (Tileable)

Sounds

Zombie

- Passive
- Alert
- Pursue (single)
- Pursue (swarm)
- Attack
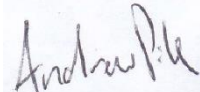- Death

Player

- Gunshot
- Distraction object
- Death

Music

- Eerie background music (gameplay)

Text

Menu

- Play
- Instructions
- Quit

Team Signoff

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