



PROJECT 237

Game Design Document

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Group 4

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Concept

Elevator Pitch

Project 237 is a top-down 2D horror game inspired by the final scene of *The Shining*. You control Danny, a child with a supernatural ability called 'Shining', on the run from his insane father through a hedge maze on a dark and freezing winter night. Your goal as a player is to avoid and mislead Jack, while searching the maze for any possible resources to help you wound and wear down your father so you may escape before the cold overcomes you.

Narrative

Danny runs into the maze, pursued by his enraged father Jack. Darkness presses in around him and he can barely see a few feet around him. He can hear insane mutterings from behind him and the sound of his father approaching. He knows that if the axe-wielding Jack catches him it will spell his death, so he picks a random direction and starts running through the maze's corridors.

As he runs he realises he is leaving footsteps in his wake; Jack is intelligent and will know he can follow these directly to where his son is. Danny decides that if he doubles back on himself and takes occasional branching paths, Jack may be confused and this may hopefully widen the gap between them. But he needs to find some way to deal with his father for good.

Suddenly, a spot of luck! In the maze he finds a bear trap lying abandoned, ready for use. Thinking fast he grabs it and immediately sets it up. But he can't merely sit and wait for Jack to come along, because even a bear trap may not get between his deranged father and spilling his blood. So he leaves the trap behind and runs on. A minute or so later he hears a snap and a pained scream; his plan worked! His tracks led Jack directly into the trap, weakening him and wearing down his resolve. He keeps running, searching for more...

As the minutes pass he is setting up more, similar traps but the cold is overwhelming and he can feel his pace beginning to slow. As he turns a corner suddenly he sees a figure in front of him and thinking it's his father he nearly jumps out of his skin; but it's just an apparition, and with fear gripping him he continues onwards.

Time is running out for poor Danny, however. The freezing cold is bringing him to a near crawl, barely able to keep going. Before his sight fades, he notices a small piece of paper lying discarded on the ground. Glancing over it he sees only mad rantings and disconnected thoughts. Just one brief insight into his father's mind. Just as he tries to start moving again, he hears footsteps coming up behind him and he takes in one final breath of shock. He doesn't even feel the axe falling into his back.

Unique Selling Points

The game revisits a cult classic and is inspired heavily by the creeping tension present in the latter parts of the film, the horror of being pursued steadily & relentlessly and never being sure when he will suddenly be upon you again.

It plays with the ideas visited by first-person *Pac-man* clones, of the fear and claustrophobia of being in a winding maze without being sure what's around the next corner. Where these games used limited perspective, this game uses a limited field of vision to similar effect.

A unique aspect of the game is the handling of flavour texts & lore, introduced sporadically by notes found distributed at random throughout the maze. The game will need to be played multiple times at all difficulty levels to unlock all the additional content.

Gameplay

Overview

Upon starting the game, the player will enter a 2D maze akin to that of *Pac-man*, with many branching paths and corridors splitting apart and meeting again throughout. As they move through the maze they will leave visible footprints behind them which Jack will use to locate them.

Occasionally they may find objects in the maze, some of which provide no mechanical use but unlock additional materials such as lore and in-game writings. Others may be used to set up traps in order to wound Jack; after several such traps have been triggered by him, he will be incapacitated and the player may make their escape.

Core Mechanics

Player

- Vision
 - The player will have a limited line of sight, only able to see a small circle around them.
- Movement
 - The player must navigate the maze with movement limited by the hedge walls.
- Footprints
 - As the player moves they will leave footprints in the tiles they've visited, indicating the direction they were moving in. Jack will base his own movements on these footprints and attempt to follow them. If the player retraces their steps they will leave the original footprints undisturbed meaning they may leave multiple branching paths for Jack to attempt to follow.
- Footsteps
 - The player's movements make a certain amount of sound which may be heard by Jack. At higher difficulty levels Jack will use this information to locate the player and will seek the quickest path towards the sound.
- Traps
 - The player automatically picks up traps when they walk across them. Pressing another button sets up the trap in that tile. If Jack walks across the trap then he loses stamina.
- Shining
 - If the player stands still for a few seconds then Danny will use the 'Shining' to locate Jack. A red arrow will point from the player towards Jack's location.

Enemy (Jack)

- Movement
 - Jack moves slightly faster than the player and so will inevitably catch up if steps are not taken to mislead him. If he enters the same tile as the player the game will end in loss.
- Pathing
 - At different difficulty levels the means Jack uses to locate the player will vary:
 - Easy: Jack will follow the player's footprints. If he reaches a branch with multiple footprints leading away from it he will choose a path at random to follow.
 - Medium: When reaching a branch, if the player is nearby and making sound, Jack will pick the path that moves towards the player.

- Hard: Jack is always aware of the shortest path to the player.
- Sound
 - Jack makes footstep noises and is also indicated by insane mumbling. Both of these are louder when he is closer and so the player gets a vague idea of whether he is far away or nearby.

Loss

If Jack catches the player, the game is over. This occurs when he steps onto the same tile as the player.

Victory

On the other hand if the player manages to wear Jack's stamina down enough through use of traps or other items, the game is won – Jack's stamina will be greater on higher difficulties taking more hits of a trap to defeat him.

Movement

The player can move in all directions, limited by the walls of the maze around them. Corridors are likely to be cramped regardless so there will not be much manoeuvrability; they also cannot 'dodge' around Jack this way as both they and him are bigger than half of the width of the maze paths.

Footprints

When the player enters a tile, they leave footprints on the previous tile indicating their direction of travel. These will be used by Jack to follow and catch the player as he tracks their movement throughout the maze.

Footprints can however be manipulated to the player's advantage; they are not overwritten when Danny crosses back over them, only disappearing after a period or when Jack walks over them. By leaving false trails that double back and branch off in multiple directions, Jack can be tricked into wasting time following dead end trails.

Each footprint the player leaves will make noise that may alert Jack on appropriate difficulty settings.

A.I.

Jack will have different abilities to track Danny depending on the game difficulty selected.

All difficulties

Jack will wander freely when he has no other means of locating Danny, choosing random branches to walk down when he reaches a junction.

If he finds a set of footprints he will begin to follow them, using each step and the direction it faces to make a decision on where to move next. If he runs out of footprints to follow he will defer back to his original wandering phase.

Upon spotting Danny he will charge immediately for him at high speed, which will likely spell death for the player unless they react immediately with a trap or other item.

Medium

Jack possesses the above behaviour as default, however, he is now also sensitive to noise. If he hears something (either Danny or an Item used by Danny) within a range of ~10 tiles he will home in on

that location, able to use pathfinding to find the shortest route to his destination. If he fails to find Danny at his destination he will defer to the above behaviours of following footprints or roaming the maze.

Hard

Jack always knows Danny's precise location and will follow the shortest route to catch him. He cannot be distracted by noise and will ignore footprints; the only option is to keep moving and make good use of traps and items to keep him away!

Items

Held Items

- Torch: Extends the player's effective vision range for about 20 seconds.
- Shears: Single use item which takes a few seconds to use. Can cut through a section of hedge, creating a new pathway.
- Barrier: Single use item which creates a temporary fake wall. After about 10 seconds it collapses making that tile navigable again.
- Armour: Single use item which will protect from one attack (from Jack or any other source) before breaking.
- Bottle: Can be thrown at wall to make noise, attracting Jack to that location.

Traps

Can be placed on floor tiles. Only one can be held at once, and any moving entity can activate them.

- Bear Trap: It takes a few seconds to set up, but will stop Jack in his tracks for a time. When activated it will also make a loud noise, alerting the player to its activation.
- Slow Trap: When activated, it slows down any entity within its range for a short time. Much quieter than the bear trap, but can be heard over short distances.
- Decoy: A fake 'scarecrow' version of the player. When Jack sees it, he will fly into a rage akin to how he acts when he sees the player. When he hits it once, it is destroyed.

Vision

The maze the player is exploring is dark and twisted. They should not be able to see much through walls, and only partially around corners. Anything not in vision should be encased in thick, dark fog.

Minimum Range

The player will have a small circle around them – about a tile or two in radius – that is always visible. Anything less than this would make the game impossibly frustrating to play, and we are aiming for hard but fair.

Line of Sight

The player will have a secondary radius for their line of sight. This vision range will extend in all directions and be stopped by walls and large obstacles.

The Shining

When the player has the 'Shining' power, they can stand still for a couple of seconds to find out where Jack is currently located. The 'Shining' draws an arrow on the screen pointing towards the location of Jack. A secondary effect of this is a smaller 'line of sight' radius due to the concentration required, intended to add some risk to using the power.

Collectable Notes

The story is told through fragmented pieces of Jack's writing. These notes will be found throughout the maze, with certain notes only obtainable on higher difficulties. The idea is that it will take multiple playthroughs to collect them all.

The notes will be accessed through the main menu between playthroughs, where players can also check to see what they have not yet collected. The notes are written on separate pages by Jack using a typewriter and should be written in character, chronicling his descent into madness.

Events

The player will encounter random events in the maze. There are split into LOW, MEDIUM and HIGH impact to help with balance. Low impact events do not require much, if any, action from the player.

Low Impact

- Crows: a murder of crows are startled by the player, and fly out in front of them cawing. This is intended to scare the player,
- Figure Walking: A nonaggressive NPC is glimpsed walking through the maze. They turn a corner and vanish.
- Sound effect: A sudden sound effect, such as a gunshot, is heard but seemingly has no source.
- Insects: Insects of unknown origin start crawling around the player, accompanied by scuttling sounds.

Medium Impact

- Hedge Growth: A piece of flooring within range of the player will sprout a new hedge, slightly changing the layout of the maze. This should be in vision range and be accompanied with a sound effect so the player knows that it happened. This should never trap the player in an 'unwinnable' state, or one where they are trapped in a small area with nothing to interact with.
- Hedge Removal: A piece of hedge within range of the player will retract into the ground, opening new potential pathways. This should be in vision range and be accompanied with a sound effect so the player knows that it happened.
- Lightning: A loud crash of lightning is heard, and the entire screen is lit up for a short time. If they're not too startled, they can see Jack (if he's on screen) and the layout of the maze for a brief period of time.

High Impact

- Aggressive NPC: A new, not Jack NPC appears near the player and gives chase. They chase the player for about 10 seconds, and then vanish. If they catch the player it counts as a loss.
- Blood water: The blood from the hotel elevator will flood parts of the maze around the player. This will wash away the footprints left by the player, but will make their footsteps very loud. It will dissipate after a time.

Maze Generation

Levels will be procedurally generated each time the game is loaded. At higher difficulties, larger mazes will be created while at easy difficulty the maze will be smaller, about 100x100 tiles.

Item generation will remain the same between maze sizes so items will be more sparse at higher difficulties since they will likely be generated further apart.

Procedural Generation

When the maze is created it is made block by block – blocks being sets of 10x10 tiles which may each be walkable ground or hedge walls. When a block is generated it will pick a predefined tile layout dependent on where in the overall maze it is located – ie. Corner, edge, middle. Exits will be predefined in these layouts so there will always be connections between each block, preventing maze layouts where some areas are totally inaccessible or trapping the player in an unwinnable state.

Item spawns will also be stored in these block layout files; when the maze is generated it decides which blocks will contain an item. When this block is initialised it checks if it has been chosen to load an item and will place the item in the correct tile to be found and used by the player.

Stat recording

To help show the player's progression, the game will record certain statistics about the player's actions. These will include:

- Steps taken / footprints left
- Number of successful escapes
- Number of failures
- Number of items used, with subcategories for each item

At certain values, achievements will be awarded.

Visual Design

Aesthetics

Visually the game should feel cold, dark and oppressive. Where there is light - blues, whites and greys should dominate to reflect the freezing cold. Contrasting colours should be used for objects that need to stand out such as usable items or environmental events.



Interface

Little to no interface should be present ingame: all the information players need should be available within the environment itself (footprints, objects). Exceptions should aim to be as unobtrusive as possible so as not to distract from the overall aesthetic.

Menus should be minimalist and could draw on inspiration from the movies; for example playing with the 'REDRUM' writing, or Jack's insane wall scribbles, or typewritten notes.

Main Menu

The exception to the above interface rule will be the main menu. We want this to be easy to understand, read and navigate. It will still be fairly minimalist and have atmospheric effects such as sound effects and music but will still use traditional menu options including a 'Start Game' button, an 'Options' menu and a 'Collection' page which will display collected story elements and player statistics.

Sounds

The general theme of our sound design will be ambient sounds – as you creep through the maze, you will hear the crunching of snow beneath your feet, the sound of the wind rustling the hedge walls around you, and your freezing breath in the cold night air. Sounds will be used to orient the player – you can hear the heavy steps of Jack through the walls and the snap the metal jaws of your bear trap ensnaring him.

Sound Effects

Most events will be accompanied with a loud, more sudden sound. These are meant to startle the player – they should never feel completely safe. Examples include crows cawing as they fly out of the bushes, scare chords when the player experiences hallucinations from the hotel, or shouts from Jack as he finally spots you.

Sounds are also used to help Jack navigate – if he is within range of the player and he hears them step on a twig, he will know where they are and come straight for them.

Sound effects should be realistic, as immersing the player is important in this game. When the player picks up or puts down an item it shouldn't take them out of the experience.

Music

There will not be much music outside of the main menu – the focus is on a treacherous, unsafe environment, and the safe, human sound of music will detract from this. If any music is used, it should be quiet and distant, implying that there is a way to escape – but you have to find it.

The main menu and title screen will have music. It should be haunting, probably a known classical piece.

Controls

Movement: W,A,S,D

Use items: E

Pause game: P

Select item: 1-4 number keys