

BUNKER BOUND

Game Design Document

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Overview

“The Elevator Pitch”

You are a child that has to escape a Chinese bunker after an apocalypse event that transformed all guards into mutant monsters.

Theme

Post-apocalyptic, radioactive world in a Chinese bunker.

You and your father find yourselves trapped inside a Chinese bunker after the bombs fell. After getting separated you have to sneak your way out because inside of the bunker, mutants reign.

Story

During the cold war, a global scale nuclear war started, devastating all life on the Earth and giving the unlucky lives that survived bizarre appearances and abilities far from what one would call natural. Years after, our protagonist, tries to break free from a high-security bunker where they have been locked with their father.

Gameplay

The game is a 2D lateral puzzle and stealth game that is based on sound, lights and environment manipulation.

The player can:

- Move laterally (crouched, walking or running).
- Jump.
- Push/Pull some objects (such as furniture).
- Pick and throw some objects.
- Hide behind some big objects.
- Use switches to turn on or off lights.
- Open and close doors.
- Ride and carry objects and boxes on elevators

The enemies will pay attention to the sounds and lights around them. So if the player turns on a light the enemies will go towards it. The same thing happens if the player makes some kind of noise.

Game controls

The player is allowed to change its input layout at will, but currently, these are the controls for keyboard and Xbox Controller:

- Move, allows advancing through the level. ('WASD keys' or Left Joystick)
- Jump, to reach higher positions. ('Spacebar' or "A" button)
- Interact, doing things as pushing a button or opening a door. ('F' "X" button)
- Action, like throwing a held item or making noise. ('E' or "R" bumper)
 - Hold to aim. ("WASD", left or right joystick)

- Crouch, to hide behind objects. ('LCtrl' or "L" bumper)

Targeted platforms

- PC.

Monetization model

None. The game will be completely free without any method of obtaining income.

Development technology

- Unity 3D Version 2018.3.11f1
- Visual Studio
- Photoshop
- GitHub and SourceTree

Project Scope

Time

From 2nd of April until 12th June 2019: 71 days.

Schedule

Prototype

Time Scale

10th April 2019

Scope

Playable with main mechanics

Alpha

Time Scale

8th May 2019

Scope

Playable from the beginning to the end.

With assets or placeholders.

Beta

Time Scale

29th May 2019

Scope

All features implemented and with all assets.

Gold

Time Scale

12th June 2019

Scope

Design, art and programming tweaks.

Estimated Cost

None. We work on our own without purchasing any software, assets...

Team

Jordi Alba

Mechanics and objects programmer mixed with UX design.

Marc Duran

Environments, character design, animation and cinematics.

Sergi Sánchez

Prop and character artist: Item and character design and animation.

Guillem Poy

The programmer of the game's system: How objects interact, programming structure and programming principles, ...

Influences

Influence 1 - Pinstripe and Hollow Knight

The art direction of the project has been heavily influenced by the design of those two games. The dark atmosphere and design of anthropomorphic characters with superhuman qualities are two of our main design choices that are gorgeously executed on them. Also the great use of multiple layers to give an impressive feeling of depth and integration of the player in the game's setting.

Influence 2 - Limbo

In programming, we based our design philosophy as much fluent and intuitive possible. We took ideas from Limbo, such as moving objects around, hiding and avoiding dangers instead of fighting them directly, and thinking laterally without specifically teaching the player to do so.

Influence 3 - Bunker Game

This game has a very similar aesthetic to ours and we took into account all of its bullet points to see if they were adaptable to our game.

Influence 4 - Little nightmares

We'll take inspiration from this game mainly on the playable aspect, due to the fact that the little girl can't fight the monsters just like in little nightmares and has to find more creative ways to get past them and to the goal.

Project's details

Detailed description

Bunker bound is a 2D puzzle game that centers on the use of stealth and wit to overcome colossal mutant enemies. The players will have to run and hide from enemies while thinking on how to clear each stage and taking into account that they can't hide forever.

To do this the users will have to use everything in their disposal and most likely discover the different ways of clearing the puzzles via trial and error.

Detailed mechanics

Sound Emitting

- The sound in our game is a core element in the game adding depth on the stealth gameplay.
- Different objects, enemies and the player will emit sounds when doing certain actions, such as moving, activating a switch or throwing an item.
- Enemies react to sound differently and is a mechanic to complete puzzles in our game.

Stress

- Stress is a mechanic where the player's character will panic limiting the player's field of view. Certain actions will increase or decrease stress. This adds a deeper layer of stealth.
- Stress increases when the player is in certain situations:
 - Being hidden from a chasing enemy
 - Being chased
 - Making loud noises that an enemy can hear
- Stress decreases in situations
 - Not being around enemies for a while.
 - Distracting an enemy
 - Successfully escape from an enemy.

Inventory (allows the transportation of 1 item)

- Items held are used to open certain doors or enabling certain interactions.
- Items can be thrown and they make noise depending on the surface it collides with, speed, material, and weight of the object.

Hiding

- The player is able to hide behind boxes to prevent being detected.
- Hiding is **instantaneously activated when pressing the configured hotkey**, changing the player's **"currentState"** to **"crouchedState"**
- Upon crouching, the player changes its **"order in layer"** value to one lesser than the **"Box (Hideable Object)"** objects.
- Change the player's collider **"Default Collider"** to **"Crouched Collider"**.
- Apply the **"Crouched Animation"**

Enemies

- Patrolling Enemies:

- Every enemy has an **array of patrol positions [public array of gameobjects]** to patrol around, and it **reverses** the order of the patrol **when it reaches the final** position.
- If the array of patrolling positions is empty, the enemy will stay on a fixed spot.
- Upon being **alerted**, the enemy will **wait a variable amount of seconds [public float]** and then proceed to move towards the alarming position.
- Upon **detecting the player** it will use the **chasing speed** and proceed to follow the player character until it loses it, the player hides or an **alerting event** distracts the enemy.
- All enemies "kill" the player with a single hit.
- Enemies and player are characters and share the same parent script **characterManager**.

Interactions

- Interactable objects are objects that are activated when called.
- **All characters can activate interactable objects.**
- **List of Interactables:**
 - Door
 - When used, the door collider is deactivated and a Coroutine is called. The coroutine waits [float variable] amount of seconds and then plays the opening animation.
 - It emits two sounds, one for opening and one for closing the door.
 - Item:
 - The variable equippedItem has a line of code that automatically updates the equipped item on the inventory sprite.
 - While holding the LMB or the Left Button on a controller you will be in the throwing mode. Upon releasing the button you will

throw the item. You can steer the direction by moving the mouse or the left controller stick. You exit this state and return to idle state if the interact button is pressed.

- The item is thrown with a two force inputs, one directional (the player selected direction) and the rotation force. Both have different variables.
- List of pickable items: Metal Bar, Wooden Stick, Hand. (Each one of them has a different sound and physical material)
- Box:
 - Has 5 colliders. Except the side colliders every one must be in a child object from the box.
 - Two side trigger box colliders, to check the player interaction. Separated layer to avoid other unwanted collisions, one that only interacts with the player layer.
 - One bottom collider, in a layer set for objects colliding with world items too, but not with the characters or items.
 - One top collider, to allow the player to stand above the box. Must have a platform effector.
 - One Internal collider, to avoid enemy detection by putting that collider in the colliding layers.
- Metal Detector
 - Has a collider that detects if when a character goes through it. It triggers if the character has a metal item equipped in its inventory.
 - Produces a sound that lasts for a [variable time] and every [amount of seconds] and alerts nearby enemies.
 - Produces flashing lights that attracts enemies.

- Switches:
 - Two modes, button or switch.
 - Button triggers on and then off automatically
 - Switch stays on its state after triggered.
 - Customizable time
 - Option for single activated switches that cannot be turned off.

Assets

Main character:

A poor chinese 10 year old girl that got separated from his father and finds herself lost in a bunker infested with mutants.



She has a set of 13 animations:

Idle	Walk	Pick	Throw	Throw Charge
Wake Up	Jump	Fall	Push	Pull
Crouch	Crouch Walking	Death		

Enemy

The guards of the bunker whose mind and body became rotten by the radiation grew enormously and lost consciousness. They can't be hardly recognised as humans and act purely on instinct chasing over everything that glows or makes sounds.



They have a set of 3 animations:

Idle

Walk

Attack

Items

There are several items in the game and everyone has special properties such as different sound modifiers and particles.

They are the following:

Metal bar Wood Pebble Bottle Human hand

Scenario

There is only one level in the whole game, but we've made sure to pack it with different props, effects and lighting to give it a feeling of life.

There are more than 30 different assets for the scenario, between the originals and modifications.

Sound

The game moves around the sound, so we made sure to find a good selection that suits the aesthetics of our game.

As mentioned before, every item has its own impact sound and every material in the environment has a sound that plays when hit.

The player has breathing, screaming, and a different walking sounds depending on the material off the floor.

The enemies dispose of different sounds when walking, attacking or spotting the player.

There are several items in the game that have an interaction sound, such as doors or switches.

The game has a background music and effects to make the player feel inside a claustrophobic and closed space.

Audiovisual

The game disposes of two cinematics.

The first one plays as soon as the players select "Play" in the main menu and throws them in the setting of the game. It sets the theme and gives the player a motivation to escape the bunker without directly showing the enemies enhancing the creepiness.

The second one plays after the players beat the game, representing its end and the freedom of the main character, showing the doors of the bunker opening and a bright flash of light entering the bunker and flooding the screen to later show the game's logo and going back to the main menu.