

P PROJECT PULSE

GAME DESIGN DOCUMENT

GAMEPLAY OVERVIEW

Combat:

Project PULSE's combat system aims to take the inherent rhythmic elements of a classic style hack and slash and expand on them to create a much more musical experience. Each moving piece is relative to the background music making the player traversing the world and interacting with enemies a well timed ballet.

Dynamics:

Combat consists of the player or players standing up against the slime creatures created inadvertently by RezoTech. The combat experience for the player varies based on their chosen character, and individual differences are outlined in the character's section of this document. However, there are universal combat elements available to all players. All characters have access to a dash, a basic attack and a charged attack. Each individual character has varied dash lengths, and different basic attack and charge attack behaviors. Enemies and player characters are paced based on music note timings relative to the song, ranging from eighth notes, quarter notes and half notes, with complex enemies like the boss having different behaviors at different timings.

Characters:

Both the players and their adversaries are limited by the pacing of the soundtrack, however the players are given a little more freedom in comparison to their slimy counterparts. While enemies are limited in the timing of their actions to strictly fall under their assigned note length, players are encouraged to follow their pacing, but will not be totally incapable of acting if they fail to do so. So while player dashes and charge attacks can only be performed with correct timing, attacking offbeat will simply net you a much weaker strike, but will still allow you to perform an attack. Similarly, while most enemies' movement behaviors are locked to being on beat, players can move around and change direction freely, regardless of the timing and pacing of the soundtrack.

COMBAT SYSTEM

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CHARACTER GAMEPLAY

Players are given a choice between 4 different characters, each corresponding to a piece of the game soundtrack that becomes present with their selection:

Melody is a basic melee fighter that focuses on quick attacks and movement. They act on quarter note timing and feature a charge attack that is a combination dash and slash, allowing her to quickly maneuver the battlefield and clear enemies in her way.

Bass is a powerful melee attacker whose focus is on dealing big damage. They act on half notes forcing them to act much slower than the other characters. This is compensated by her longer dashes and increased stopping power. Her charged attack allows her to make one big swing that affects a much wider area than her regular attacks.

Harmony is a quick ranged fighter. Acting on quarter notes his focus is on avoiding close encounters with enemies while dishing high amounts of single target damage. His charge attack allows him to make a volley of shots in quick succession.

Percussion is a ranged fighter focused on crowd control. They have powerful area of effect abilities in exchange for much lower range than Harmony. His charge attack consists of an arced projectile that causes an explosion upon landing, allowing him to hit enemies further away than his normal attacks allow.

PROGRESSION DESIGN

Players can be given anywhere between 30-40 Clefs as a reward for completing missions. These act as resources to build weapons with. These weapons change specific knobs for each player individually.

Melody:

Grand Piano Sword

0C to buy (unlocked by default)

Damage decreased by 60%

Electric Guitar Sword

25C to buy

Damage reset to 0%, Dash length decreased by 15%

Synth Sword 1

100C to buy

Dash length increased 15%, Damage decreased by 30%

Bass:

Grand Piano Hammer

0C to buy (unlocked by default)

Damage decreased by 60%

Bass Guitar Hammer

50C to buy

Damage reset to 0%, Dash length decreased by 15%

Synth Hammer 1

100C to buy

Dash length increased 15%, Damage decreased by 30%

PROGRESSION DESIGN

Harmony:

Flute Bow

0C to buy (unlocked by default)

Damage decreased by 60%

Ancient Bell Bow

70C to buy

Damage reset to 0%, Dash length decreased by 15%

Synth Bow 1

100C to buy

Run speed increased 30%, Dash cooldown increased by 400%

Percussion:

Standard Blaster

0C to buy (unlocked by default)

Damage decreased by 60%

Bongo Blaster

80C to buy

Run speed increased 30%, Damage decreased (from 0) by 30%

Electric Blaster

150C to buy

Damage increased (from 0) by 30%, Dash length decreased by 15%

ENEMY BEHAVIORS

The enemies in project pulse have attacks and actions timed to the pacing of the soundtrack.

Ranged Enemies:

Slime Bat - The slime bat will attempt to shoot a nearby player with a projectile. It acts every quarter note and has three main behaviors:

- If no player is within range it will move towards the nearest player or in a random direction and then rest for one quarter note.
- If a player is in range it will move and then shoot. If a player comes too close to the enemy it will attempt to move away, in order to add a bit of variety to the movement
- It has a 30% chance of resting in its current position

Trash Can - The trash can fires projectiles both towards the player it is focusing and in the exact opposite direction. It acts every quarter note and has three main behaviors:

- It will move three quarter notes in a row and then rest for one, each move will be in either a random direction or towards the nearest player. It will try to stay 400 uus away from other enemies.
- It will move towards a player in it's range and attack
- It will rest for two quarter notes

Melee:

Basic Slime - The basic slime acts every quarter note. The basic slime will wander around the battlefield until it detects a player. It will try to stay 400 uus away from other enemies. It will then move towards the nearest player to get into melee range. When a player is close enough to attack it will lunge at them. The lung takes two quarter notes to complete.

If a player is not in attack range it has a low chance of resting for two quarter notes.

Quadruped Slime - Unlike other enemies, the quadruped slime moves continuously and changes direction every quarter note. It has three things that it does all revolving around moving:

- It wanders inside an area until a player gets within it's range.
- It then walks slowly towards the nearest player. Every whole note it will turn towards its target and charge them. If it leaves its area of patrol
- It will walk back towards it.

Bipedal Slime - The bipedal slime does not target players and instead wanders the battlefield four times each eight note before resting for four more. Players that have the misfortune of bumping into it will take damage.

BOSS BEHAVIOR AND PHASES

HORROR! AT THE DISCO - The Horror! at the disco has a variety of different attacks and a total of three different phases based on how much health it has remaining:

Attacks

- Tentacles will grow out of the ground after being telegraphed for a quarter note, they will remain above ground for a half note, damaging any player they touch. If a player hits one of these tentacles the Boss's shield will drop allowing players to damage the boss.
- A beam of light will appear and rotate around in an arc, damaging each player caught in it.
- Projectiles will shoot from the boss center in a fan shape in sets of three

Phases

Phase 1 - (100 - 66% health)

- Spawns many tentacles
- Shoots few projectiles
- Shoots no beams
- Guard broken after one tentacle hit

Phase 2 - (66-33% health)

- Spawns enemies once
- Spawns some tentacles
- Shoots some projectiles
- Shoots one beam
- Guard broken after two tentacle hits

Phase 3 - (33-0% health)

- Spawns enemies once
- Spawns few tentacles
- Shoots many projectiles
- Shoots more than one beam
- Guard broken after two tentacle hits

UI / UX DESIGN

PULSE's UI and UX relies on a mutual exchange between both the engine's audio / music, and the visual provided to the player within the engine.

The UI:

The user interface is split into two sections, which are player-oriented and screen-oriented. The player oriented elements are designed to allow the player to track their character and the beat simultaneously. Screen-oriented UI is ever-present on screen, to allow players to always track things like player health and group wellness. Additionally, players have a charge indicator between beats when attacks are held. This helps them to better determine when to release their charged attack.

1. Player Oriented
 - Beat-Tracker, Crosshair, Charge Attack
2. Screen Oriented
 - Player Health and Color

The Sound:

The sound of Project PULSE is inherently important to both its gameplay and design. Without the sound, players wouldn't be able to accurately track beats that they need to attack and dash on. The sound of the beat combined with the visuals of the beat tracker allow for a seamless rhythm based experience.

The Enemies:

With the enemies moving and attacking on the beat, they provide their own sense of awareness to the player. With having interactive environment elements like enemies perform actions exclusively on-beat, players are able to consciously and subconsciously process when beats are going to happen. Pre-beat perception allows players to interpret and anticipate when the best time to attack is.

PROCEDURAL DESIGN

The environment in Project PULSE is procedurally generated, with a variety of street layouts and possible combinations of structures.

The Streets:

Firstly, to properly recreate the feeling of a believable city, we need to create believable roads, the veins of a city. Roads generate a series of blocks and sub-blocks, listed in the format below.

1. Entire City
 - The entirety of all blocks put together.
2. Major Blocks
 - Four large blocks comprised of 6 smaller sub-blocks each
3. Sub-Blocks
 - The “meat” of the city, where all of the buildings are located and generated
4. Connector Streets
 - Streets generated to connect the Major Blocks

The Buildings:

Within each sub-block, a variety of templates can be placed to create a unique composition of buildings and space. If a sub-block is 2x6 units in total, a series of “2x” templates will be placed in sequence to create the sub-block. If a sub-block is 3x8, a series of “3x” templates will be placed, and so on. This allows for a great deal of variety in the environment while retaining creative freedoms to make whatever sort of environment style we like.

The Landmarks:

Within sub-blocks, there is a small chance a “landmark” will be generated. Landmarks are large pieces of sub-blocks that have less variety and are very easy to notice. This creates a sort of reference point for the player to revisit if needed. Statistically, each major block will contain around one landmark.

TEAM

Alexander Croom - Tech Lead and UX

Collin Drilling - Environment, Prop Art, and Weapon Design

Nathan "Zwei" Mallota - Design Lead and Sound Lead

Naomi Masterson - Art Director, Environment and Prop Art

Claire Rodriguez - VFX, Programming, and Game Design

Savannah Shuff - Character and Prop Artist

Christina Spicer - Lighting and Environment Art

Jamie Zerillo - Texture and Environment Artist

Ana Belen Lozan - Sound Design

Harley McCumber - Sound Design

Hyo Kim - Sound Design

TIMESPAN

Ideation - Began October 15, 2020. ~2 months.

Preproduction - Began December 3, 2020. ~2 months.

Alpha - February 2, 2021

Beta - February 25, 2021

Gold - March 11, 2021

Delta plan - Began March 26, 2021. ~2 months.

Delta - May 26, 2021

Steam release - June/July 2021