Pi Conspiracy's Game

Game Design Document

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Team Pi Conspiracy

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1. Overview

1.1 Summary

Pi-Conspiracy's game is an endless runner. Controlling a hover-vehicle with fluid controls powered with quick dashes, maneuvering in an obstacle and intelligent enemy filled world, the player has to survive as long as they can.

1.2 Targeted Audience

The target audience for the game are players of all skills and ages since the game's first order mechanics will be easy to master while the second order mechanics won't be too hard to get accustomed to.

The Projected ESRB: **E for Everyone**

1.3 Selling Points

- Fluid vehicle control
- Quick dash movement for vehicle control to give players increased mobility in tight corners.
- Fracture based collision models to replicate glass breaking behaviors.
- Challenging designed levels for players to master through randomized repeatability.

1.4 Marketing Competition

The gaming industry is flooding with endless runners due to their simplicity and ease to master style. Pi Conspiracy's game though, will not just be an endless runner but it will be zone based where some obstacles can be destroyed by the player with the help of power ups. This will not only add to the interest curve but also increase difficulty, and therefore repeatability of the game.

2.0 Gameplay Mechanics

2.1 Motion

An auto accelerated vehicle with gradually increasing velocity, the player will have control over the smooth motion in terms of close-counter turns, jumps, twists and barrel rolls. The player will have to make efficient use of these aspects to maneuver through a world that's meant to stop them from reaching as far as they can.

2.2 Obstacle Destruction

Obstacle destruction shall be a mechanic of the game and will give the player the ability to destroy a particular category of obstacles (not all) by dashing through them. These obstacles will be marked quite prominently in a way that it would be easy for the player to figure out.

2.3 Special Power Ups

Passive Power up:

2.3.1 Shield/Life : A shield powerup can be collected through different regions. With this power up player can respawn again at some height above the crash site.

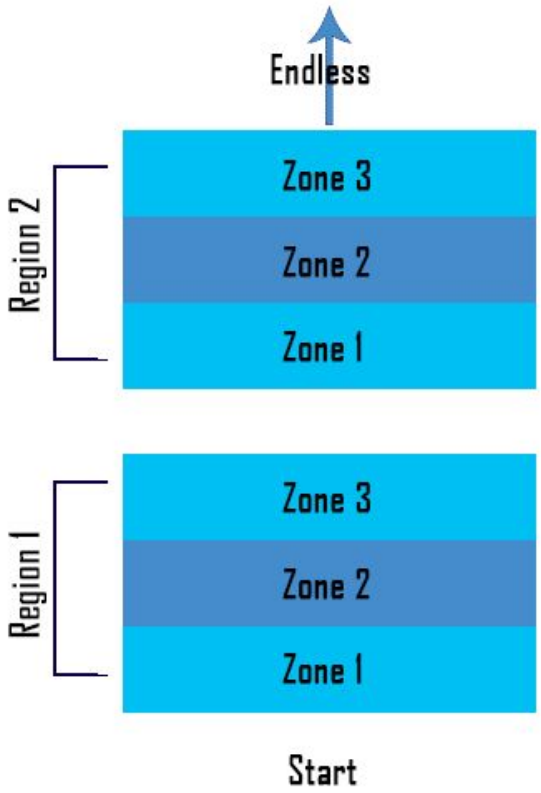
Active Power up:

2.3.2 Quick Dash : Allows the player to break through certain obstacles.

2.3.3 Jump : Gives the player a short boost in the air to avoid a few obstacles at once.

3.0 Gameplay

The game will start off with the player in an empty space where they get some initial time to learn how to control the vehicle and move around. Once this region ends, the player will find themself in zone based regions filled with obstacles designed to link together in smooth game flow. Each region will be a random combination of multiple zones linked one behind the other. Player speed will increase after each zone is crossed. It becomes tougher to dodge as the player crosses zones due to high speed.



The ultimate goal of the game though will be to survive as long as possible and collect as many collectible as possible. The longer the player survives, the more they score.

3.1 Characters

3.1.1 The Vehicle

The player controls their vehicle, which hovers some distance over the ground. The vehicle has auto acceleration in the forward direction and the player has to control the sideways movement.

3.1.2 NPC

3.1.2.2 Friendly NPC's

On successfully hitting a trigger, they may give bonus scores or drop power ups.

3.1.2.3 Enemy NPC's

Drop objects that act as obstacles which damage the player on hit.

3.2 Level Elements

3.2.1 Buildings

Buildings in our game are 3D rendered so we will have 3D collision boxes and spheres that makes players dodge from the incoming obstacles. Some structures may be fracturable as well depending upon the requirement.

3.2.2 Environmental Elements

The levels in our games have the following environmental elements:

- **PickUps** - Helper AI will provide drops which can boost players stats.
- **Obstacles** - The player has to avoid obstacles to survive as long as possible
- **Fractures** - Fractures are destroyable obstacles the player has to destroy to gain power-ups

3.3 Controls

3.3.1 Player Controls – Controller

- Left Thumb-stick : Move left, right
- A : Jump
- B : Forward quick dash
- Right Bumper : Right quick dash
- Left Bumper : Left quick dash

3.3.2 Player Controls – Keyboard & Mouse

- Arrow Keys : Move left, right
- X : Jump
- Z : Forward quick dash
- C : right quick dash
- V : left quick dash

4.0 Gameplay Statistics

4.1 Randomness

We will be using randomly picked zones in the regions which will help in increasing the replayability of the game. Also friendly NPCs will have randomness in their drops as well.

4.2 No. of players

Single player only.

4.3 End/Win conditions

Win Condition: the game has no win condition since it's a endless runner, but we will incorporate a scoring system.

Lose Condition: Player loses when crashes into an obstacle.

4.4 First order rules

- Avoid obstacles..
- Collect the items which are dropped by the friendly AI.

4.5 Second order Rules

- Use combos of power ups to effectively maneuver tight spots.

5.0 Visual Design

5.1 The Look

We wanted the game to be minimalistic yet intricate. The visual appeal of the game could also happen through basic geometry shapes with post processing and effects primarily because we are planning to depict a traversal through several portals/regions of the game world.

The visual goal of the game is to have “Low Complexity, High Fidelity”. To achieve this, we plan to have a set of portals with a maintained color pallet and have the basic shapes with an ability of refraction since we plan to have breaking glass/ fracture mechanics.

With the use of the fast pace of the character/vehicle and apt use of slow motion feature, perfectly demonstrates the appeal of the game in such an environment.

5.2 Fog

Fog is used to help separate the gameplay elements in the foreground from the environment in the background. Fog also creates the illusion of depth and a sense that there is more to the world than the player can see.

We plan to have one source of directional light that will act as a Sun and will cast shadows on the shapes in our game.

5.3 Particle Effects

To further improve the look of the game we will add added particle effects to the game, but we made sure we did not over use them in a way that we changed the look and feel of the game overall. Particle effects were therefore used in during collisions between collisions of the blocks and also when the player collides the surface.

6.0 Game Audio

6.1 Background Music

All background music and ambient music used in the game will be designed by Varun Premchandran. Music will be designed in the later stages of game development to suit the game style and look. The music here is progressive and suits the fast pace of the player movement.

6.2 SFX

The player is always the listener and all SFX in the game is heard based on the player’s position on the map. We took the help of the DigiPen Sound Library and after post processing the sounds, used them in our game.

7.0 Gameplay Interest

We hope to have the players at the edge of their seats at all time, but to make the game experience enjoyable, fun as well as relaxing, we will have variations in the interest curve to ease the player.