Game Design Document

Weichu Cao

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Contents

1   Goals and Requirements

1.1   Context

Die Die and Die Again is a 2D platformer puzzle game made for an university coursework. It was made to address the topic of tutorial and aims to provide a self-explanatory tutorial that the player can learn naturally by playing.

1.2   Team

Design-Bill Cao
Art-Anan Venkatesh
Programming-Bill Cao, Anan Venkatesh

1.3   Goal

1.3.1   General Goal

To make a simple game that has a suiting tutorial that can effectively guide the player and teach the player how to play the game. The specific goals will be detailed below.

1.3.2   Mechanics

The game should feature a player that can navigate the map by horizontal movement and jumping. The game should have a starting portal and end portal marking the starting and end point of the level. The game should allow the player to die and respawn at the starting portal, while leaving a block at the death spot that changes the environment. The game should support an extra mode to view the map without moving the player. The game should support a menu for restarting level and heading back to main menu.

1.3.3   Levels

1. The first level include a simple jump to showcase the movement system and should take no more than 10 seconds to complete.

2. The second level should include a cliff to high for jumping, forcing player to use the respawn mechanic to reach the top. To ease the difficulty, extra life should be introduced here as well.

3. The third level should introduce the map mechanic and should be very sparse, it should also introduce the danger of falling.

4. The fourth level is an added tutorial level which should introduce lava as an extra mechanic.

5. The remaining levels are not really assessed, so should combine the mechanics introduced in the tutorials to be unique and interesting.

1.4 Initial Ideas

It is quickly decided that the game will be based on the concept of death. The main mechanic will be leaving previous iterations of player in a location to change game map accordingly. The player shall spawn at the start of the level, hence need to make sure the change of the map will not block their way. Given the team lacked art skills, an industrial art style is decided upon and Anan is in charge of making the tileset.

1.5 Requirements

- map system to see the map ahead
- Tileset for both player and environment
- Background music and jumping SFX
- collectibles for score and extra life
- lighting, particle and looped motion effect for appropriate objects
- about 5-10 levels to showcase mechanic

2 Gameplay and Mechanics

2.1 Gameplay

2.1.1 Game Progression

In a classic walkthrough, the player should use the map function to see ahead and plan a route based on the lives available and extra lives in the map. The player should then iteratively try to get to the end red portal while avoiding falling and lava pits. When the player cannot progress further, they should respawn leaving a stepping stone for future use. Once a path to the end red portal is built, the player should try to use the path to get to the end portal completing the level. During the whole process, the player should try to get as many collectibles as possible.

2.1.2 Objectives

The objective of the game is reaching the end red portal with minimum lives spent and most collectibles.

2.2 Mechanics

2.2.1 Movement

The player can use A and D to move left and right, and SPACE to jump.

2.2.2 Respawn

The player can use CTRL to leave a copy of their body at the current location and respawn at the start blue portal. The copy is left at the exact location so a mid-air respawn is viable.

2.2.3 Map

The player can use M to toggle to map mode where they can use WSAD to scroll around

2.2.4 Extra Life and collectibles

Floating dots that grant the player one extra life or score when collected by touching.

2.2.5 Death and Lava

The player would die wasting a life if they fall off the platforms. Additionally, a less penalising alternative is introduced. Lava will kill the player but allow the player to leave a copy before they die. The danger of lava is indicated by glow and particle effects.

2.2.6 Tutorial

As the main task of the project, tutorials are given as pop-ups when player reaches a certain part of the level. It is designed to be non-intrusive and doesn't disrupt the flow of the game.

3 Levels

3.1 level 1

An extremely simple level featuring a single jump and the initial and final portals indicating the spawn point and goal.
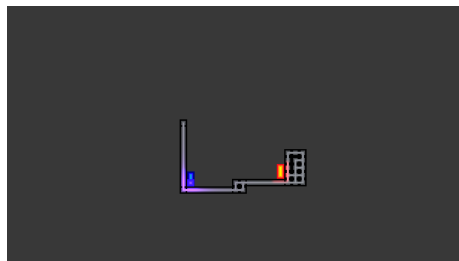

Figure 1: Level 1

3.2 level 2

A level featuring two obstacles where the first requires the player to place a single block as stepping stone while the second requiring two. The player would need to think ahead so the block placed for the second obstacle wouldn't hinder their movements, which is the main idea behind the game. Some indicative placements for the blocks are marked on the image.
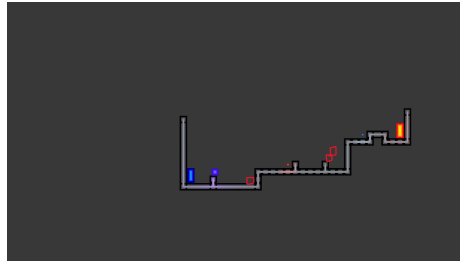

Figure 2: Level 2 Breakdown

3.3 level 3

A level that is much more sparser than the previous two, with the field of view indicated by the red rectangle, the player would have to use the map function to determine safe landing zones. It is also a useful tool to plan the entire level before action. The screenshot is taken in map mode, which will be the case for all levels.
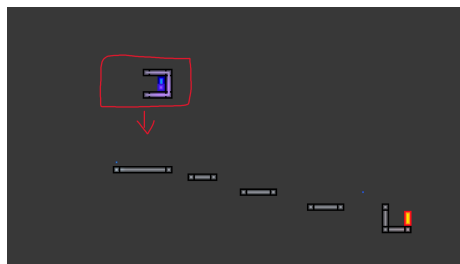

Figure 3: Level 3 Breakdown

3.4 level 4

A level to simply introduce lava as a mechanic. It stripped away the complexity that was previous introduced and focuses solely on lava.
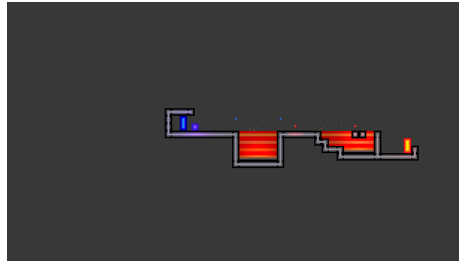
Figure 4: Level 4

3.5   level 8

Since level 5-7 were not designed by me, they are omitted from this design document. Level 8 is my first non-tutorial level. The level is decided based on the idea of spend more to take more. The player must expend blocks and lives to reach the higher part of the level in order to collect the floaties for score. However, it could be mitigated by simply following the lower route as indicated by the arrows, which requires only one block. Lava is also used in the lower parts to reduce the penalty of falling.
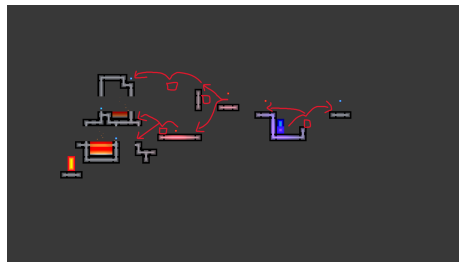

Figure 5: Level 8 Breakdown

3.6   level 9

The level is designed based on the idea of choice. The player is placed in a very confined space which, since the mechanics allow altering the map, permits the player create multiple routes with a single square placement. An optimal route is indicated on the image. However I have seen many diffrent approaches and in fact I don't think any playtesters completed the level in the same way as others.
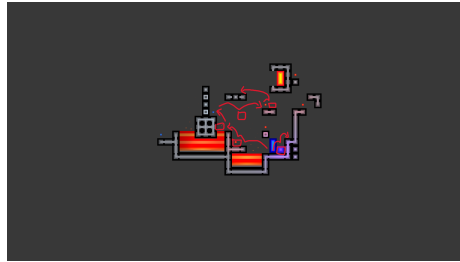
Figure 6: Level 9 Breakdown

3.7   level 10

The level is designed to be rather linear and easy with lava replacing empty tiles to reduce death penalty and not having multi-story cliffs that require multiple stacking. However, I realised during playtest that there could be a speedrun route which I decided to keep. It saves going around the level, but woulr require the player to thinking fully to find it.

Figure 7: Level 10 Breakdown