MORPHY

GAME DESIGN DOCUMENT

BY

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Contents

Section I – Overview

1.1. ID card

Name – Morphy

Genre – 2D Puzzle Platformer

Platform – PC

Target Audience – Puzzle Game enthusiasts

Engine Used – Unity 2018.3.0

1.2. High Concept

Morphy is a Puzzle-Platformer where the player has to place different kinds of platforms from his inventory at pre-defined locations to help Morphy reach his goal.

1.3. Gameplay in a Nutshell

Morphy is a puzzle-platformer game where the player is given an inventory of platforms at the start of the level which he is allowed to place at certain pre-defined locations of the level. After placing these platforms, the player has to play through the level and try and get Morphy to his goal. If the player fails to do so, he can change the placements of the platforms according to his new strategy and try again.

1.4. Genre

Morphy is categorized as a puzzle game as the gameplay revolves around problem solving and strategical thinking. The complexity of the puzzles in the later part of the game will provide a good amount of challenge to any player.

1.5. Target Audience

The target audience for this game are puzzle game enthusiasts since this game is heavily dependent on the solving skills of the player. It also adapts the “learn through punishment” technique which can be found in games like Limbo and INSIDE where the player has to learn to cross the level by dying multiple times due to wrong placement of platforms, wrong movements, miscalculated jumps, etc.

1.6. Feature Set

10 Levels

4 types of platforms

Variety of puzzles in different levels

Section II (A) – Gameplay

2.1. Objectives

There are two primary objectives in the game:

1. Placing the platforms strategically around the level.
2. Play the level after placing the platforms and help Morphy reach his goal.

2.2. Core Mechanics

2.2.1. Preparation Sequence

The preparation sequence requires the player to place platforms from his inventory into the level at pre-defined locations in the level indicated by . This can be done by clicking the desired type of platform and then clicking . This will result in the platform being placed in the level. After the player has completed placing all the platforms, he has to click the button.

2.2.2. Playing Sequence

After the player has completed placing his platforms, he may play the level to try and get Morphy to his goal. The player is faced by platforming challenges through the level by means of different kinds of platforms such as a **rotating spikes** *(yellow)* **platforms, gravity inverting** *(blue)* **platforms, triple jump** *(purple)* **platforms & weak** *(red)* **platforms.**

2.3. Types of Platforms

- Normal Platform: This is just a normal platform that does nothing special like the following platforms.

- Rotating Spikes Platform: This platform has deadly spikes on one side and has a plain surface on the other side. The player can only walk on the plain side of the platform. Stepping on the spikey side of the platform results in an instant death of Morphy. This platform rotates every time the player jumps.

- Gravity Inverting Platform: This platform has two portions to it where one portion (dark blue) covers ¾ of the entire platform and the other portion (light blue) takes the rest of the ¼ of the platform. The dark blue portion of the platform, holds the player on the platform with its high gravity and prevents the player from jumping. The other part of the platform, inverts the gravity of the player.

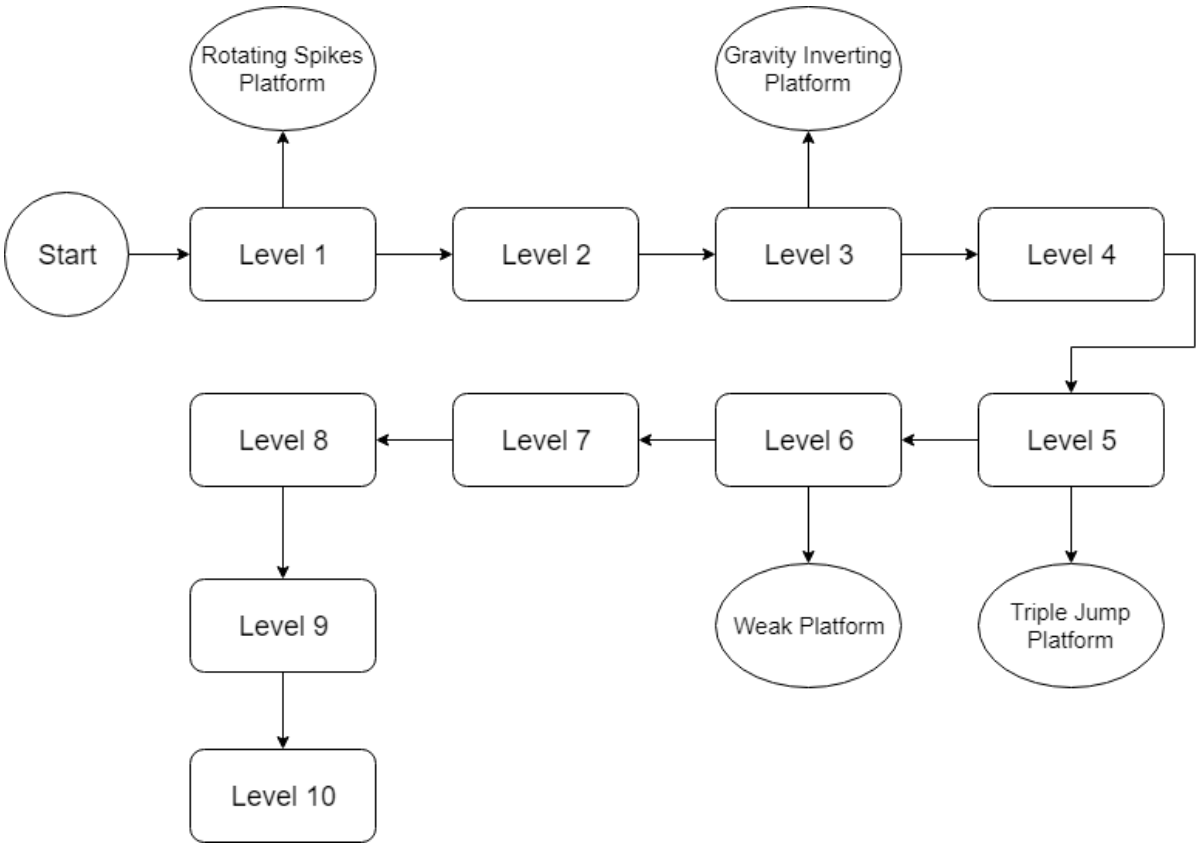
- Triple Jump Platform: This platform isn't always active. It activates itself for every third jump the player makes. To give a clue to the player that the platform is going to get activated in the next jump, a faded out version of the platform appears on the screen.

- Weak Platform: The weak platform, like the name suggests, is weak in nature and hence tends to break as soon as the player walks on it. This makes the player undertake quick actions.

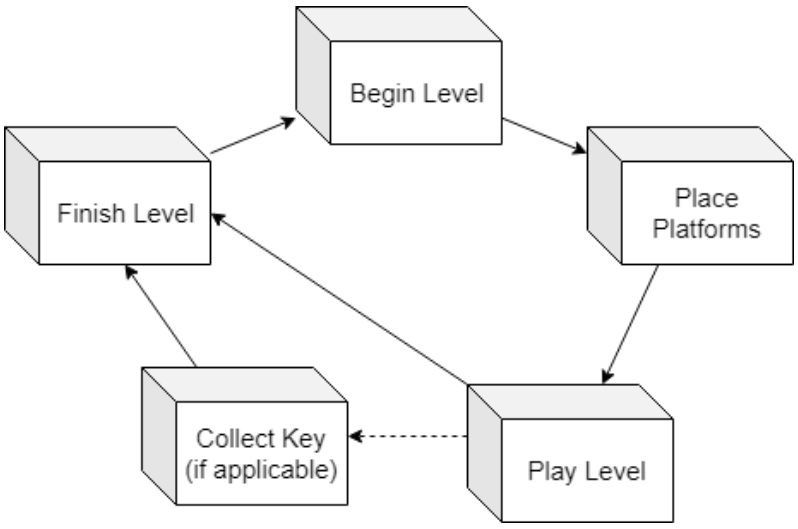
2.4. Structure and Progression

The game is spaced out through a sequence of 10 levels. Each level consists of platforms which the player utilises to escort Morphy to the level's goal. There are platforms introduced at regular intervals with relatively easy sequences for the player to learn and understand what each of the platforms do. The sequence of the introduction of each platform can be found in *2.5. Game Flow.*

2.5. Game Flow



2.6. Game Loop



2.7. Controls

Preparation Phase:

Click on platform in inventory → click on ⛔ to place platform.

Playing Phase:

A → Move Left

D → Move Right

Space Bar → Jump

Section II (B) – Level Design

2.8. Principles

Morphy will incorporate the Kishōtenketsu philosophy in the Level Design process.

Kishōtenketsu

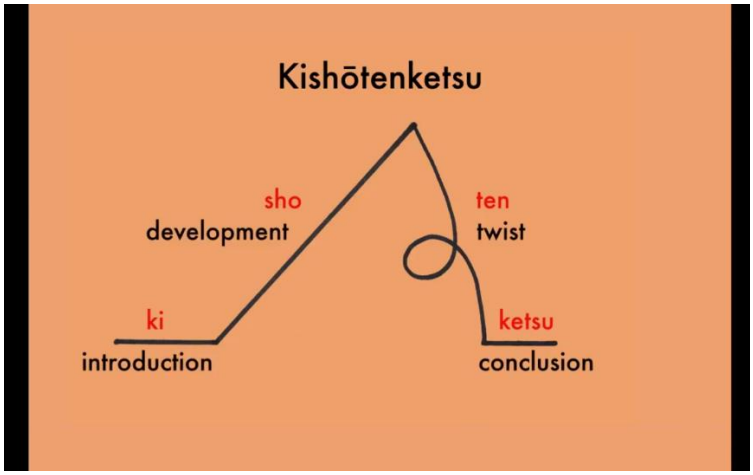
Kishōtenketsu is a 4-part structure and development of classic Chinese, Japanese and Korean narratives, it is used in 4-line Chinese poems and 4-panel Japanese comics, in each of these stories the 4 parts are –

ki – Introduction

shō – Development

ten – Twist

ketsu – Conclusion



Adaptation

In Level Design, levels are 4-part self-contained showcases, where a mechanic can be successfully taught, developed, twisted and then concluded in a short-time;

Introduction (ki) – Every time a new mechanic is introduced, it will be introduced in a safe environment, where the player can learn the mechanic and mess around with it.

Development (shō) – After the mechanic is introduced, it is established further and developed by adding challenges and the safety-net being removed.

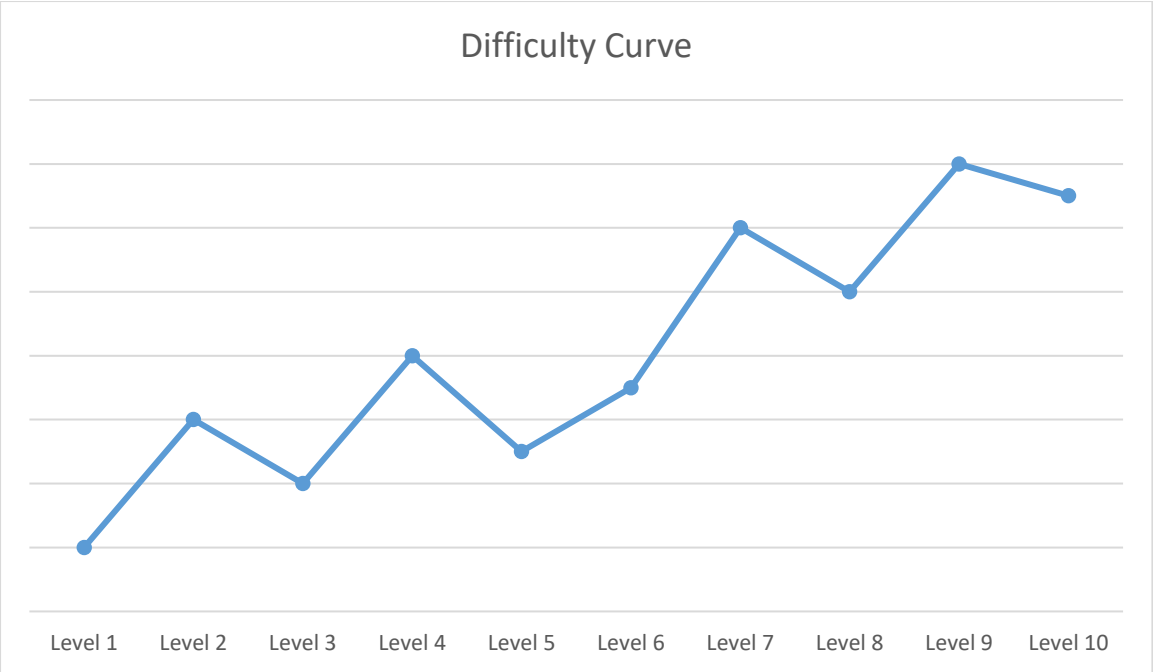
Twist (ten) – After a while, when the player understands the mechanic, the mechanic will be turned around on its head with a twist, by pairing it with a new mechanic or a previously learned mechanic or implementing it in a fairly difficult sequence, to challenge the player or to offer a fresh perspective.

Conclusion (ketsu) – Finally, the conclusion where the player will be tested to show-off what they have learned over the course of the previous levels with relatively harder sequences.

Justification

Koichi Hayashida over a course of a few Mario games, adapted and developed the Kishōtenketsu philosophy for Level Design. This is how Nintendo manages to fit multiple mechanics in a game without making it bloated or full of tutorials. Tutorials often break the flow of the game, teaching the mechanics through action and gameplay can be fruitful. If ever mechanics are re-introduced in further levels, we can be confident that the Player knows them as they encountered and learned them in earlier levels, this will offer for interesting gameplay.

2.9. Difficulty



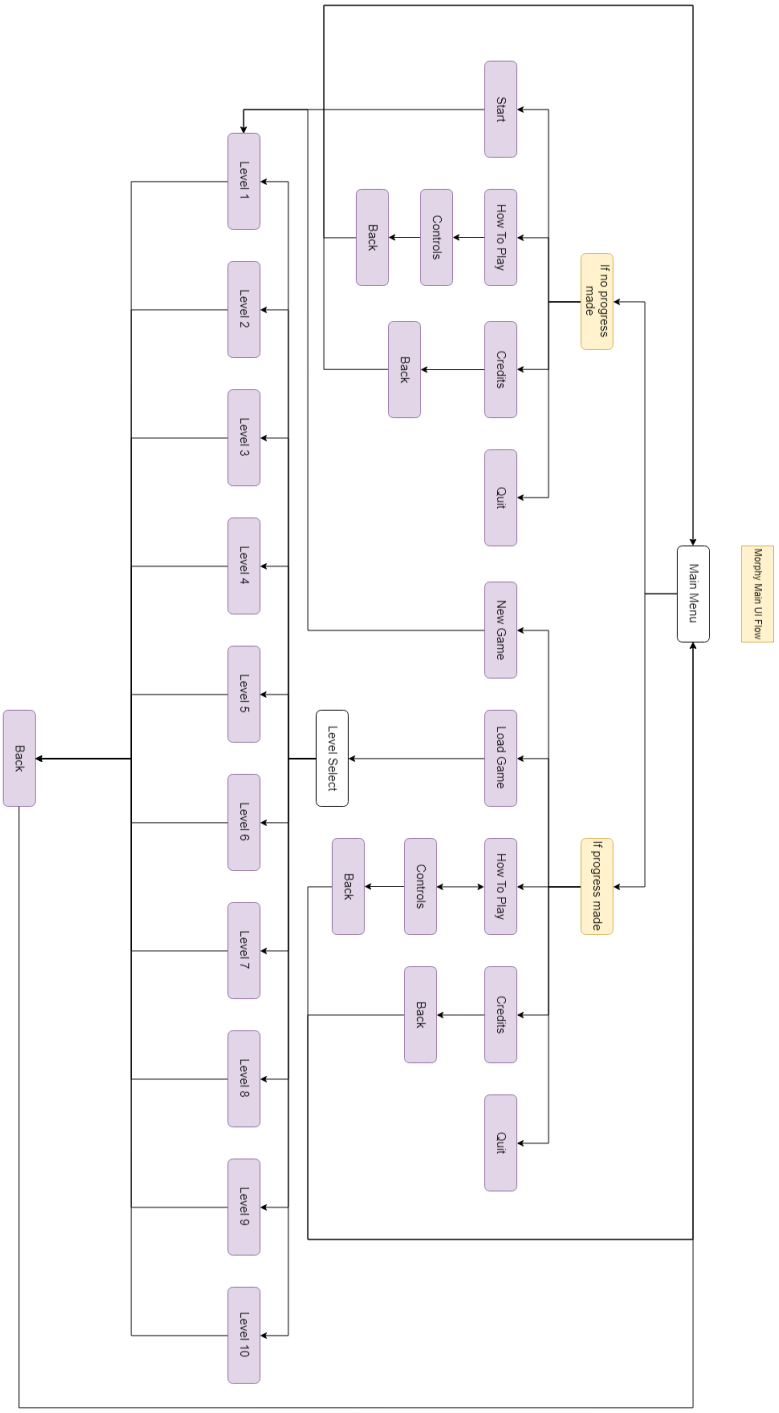
The difficulty curve of the game fluctuates rapidly until the 6th level because of the introduction and implementations of new mechanics at regular intervals through these first 6 levels. From the seventh level the more complicated levels are introduced as per the level design philosophy I have decided to use through this game.

Section III – User Interface

Morphy is aimed to have minimal and simple UI. The buttons and aesthetics of each screen will be vibrant and easy to understand. The number of screens and options available will be minimal, but still flexible enough to let the player have a comfortable experience while interacting with the interface.

3.1. Game Screen Flow

Following is the game screens flow, the buttons each screen will have as well as the transitions for one screen to the other:

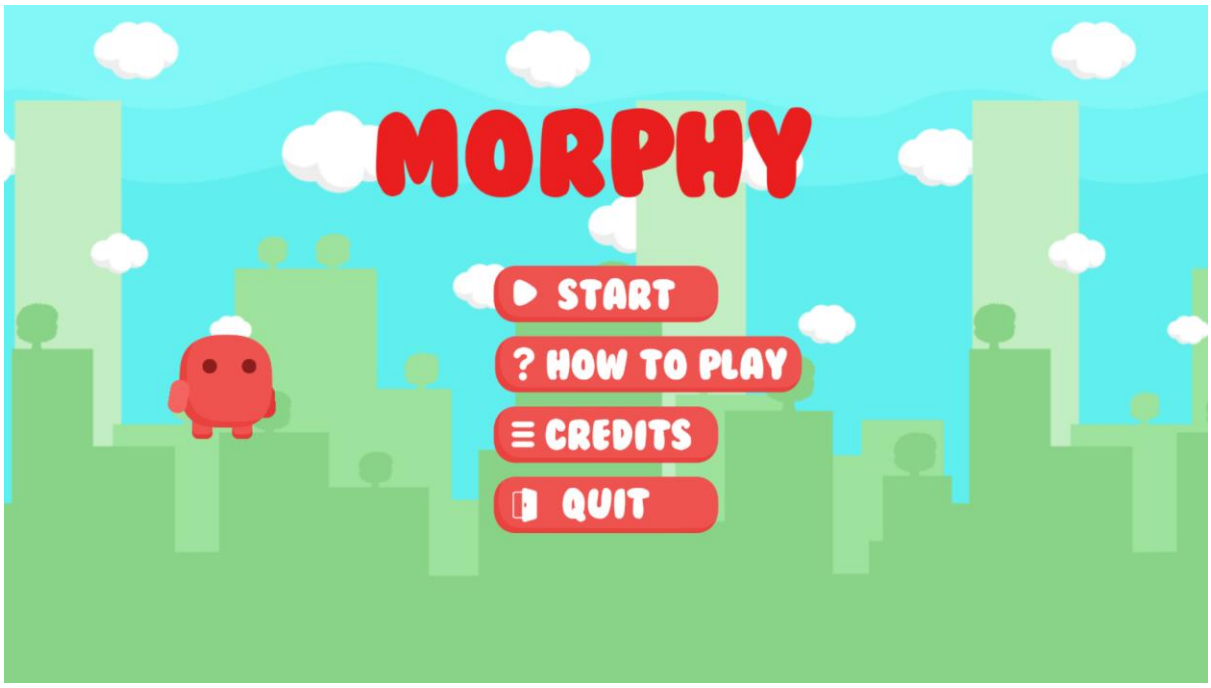


3.2. Screens

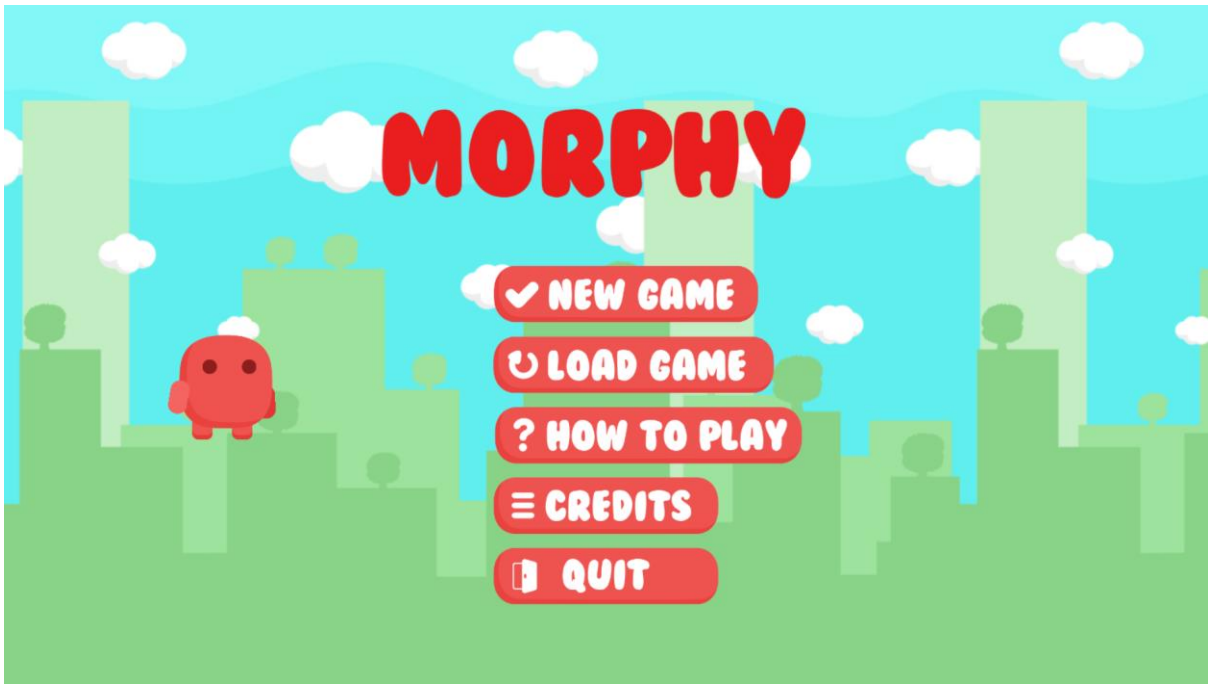
The following screenshots will showcase the menu structure and the general ideology of the way menus are designed for Morphy.

Main Menu

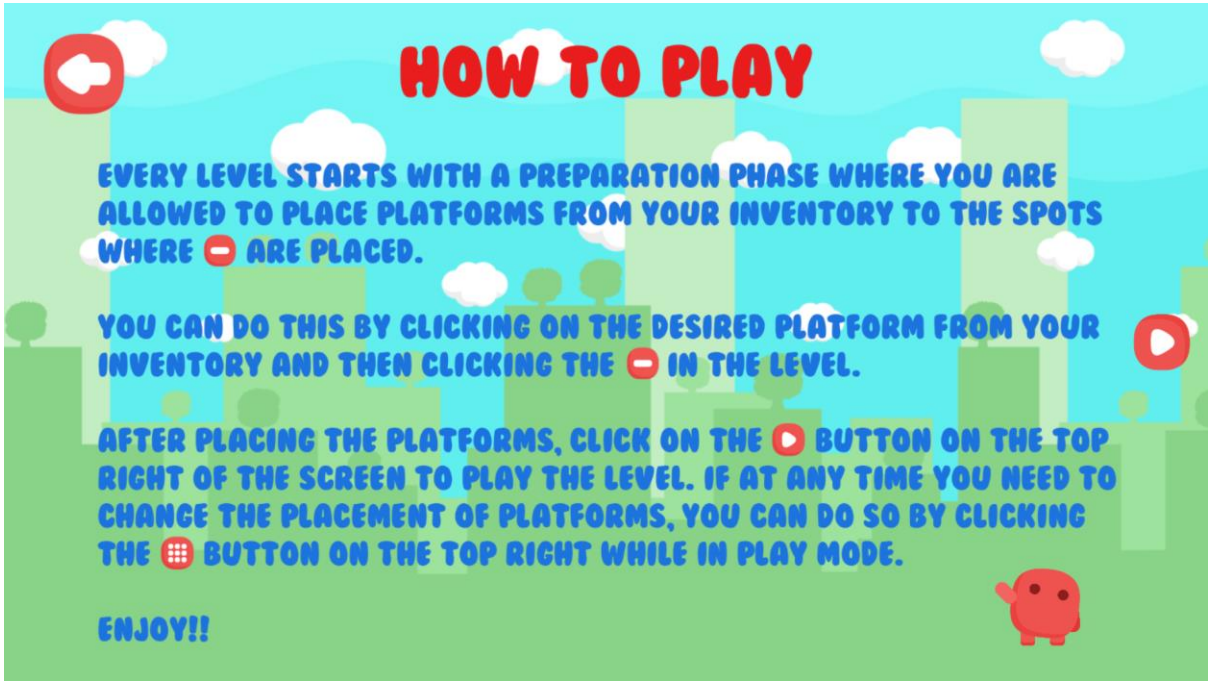
If progress is not made:



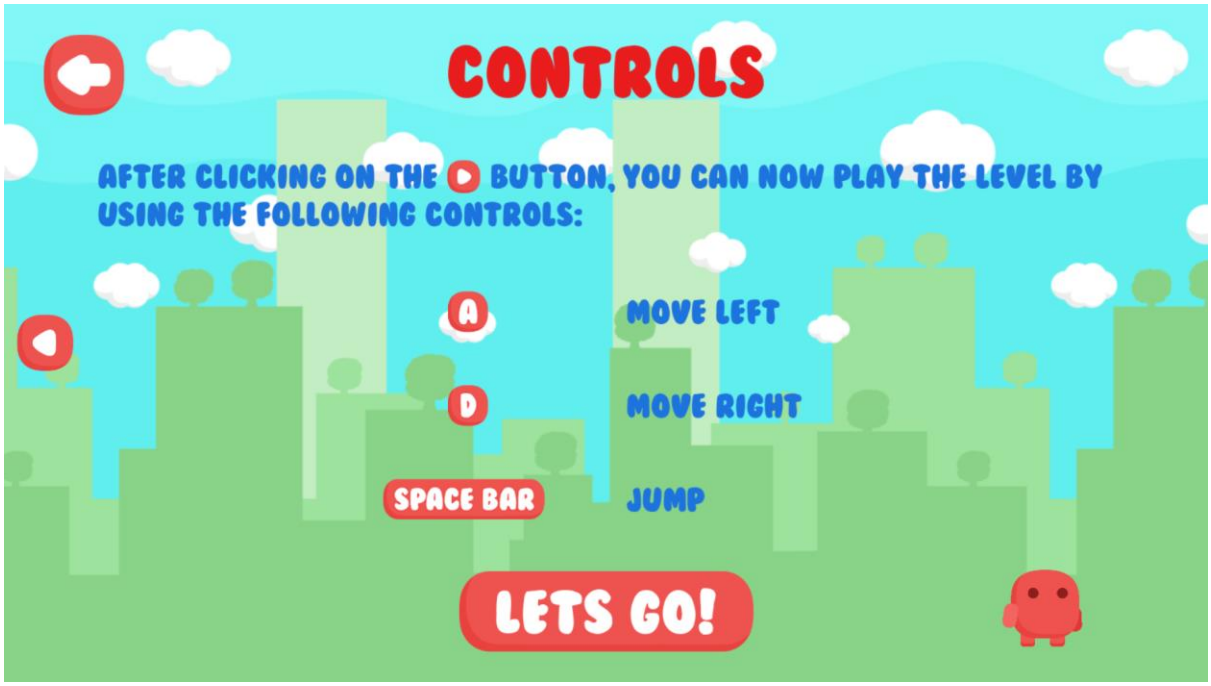
If progress is made:



How to Play

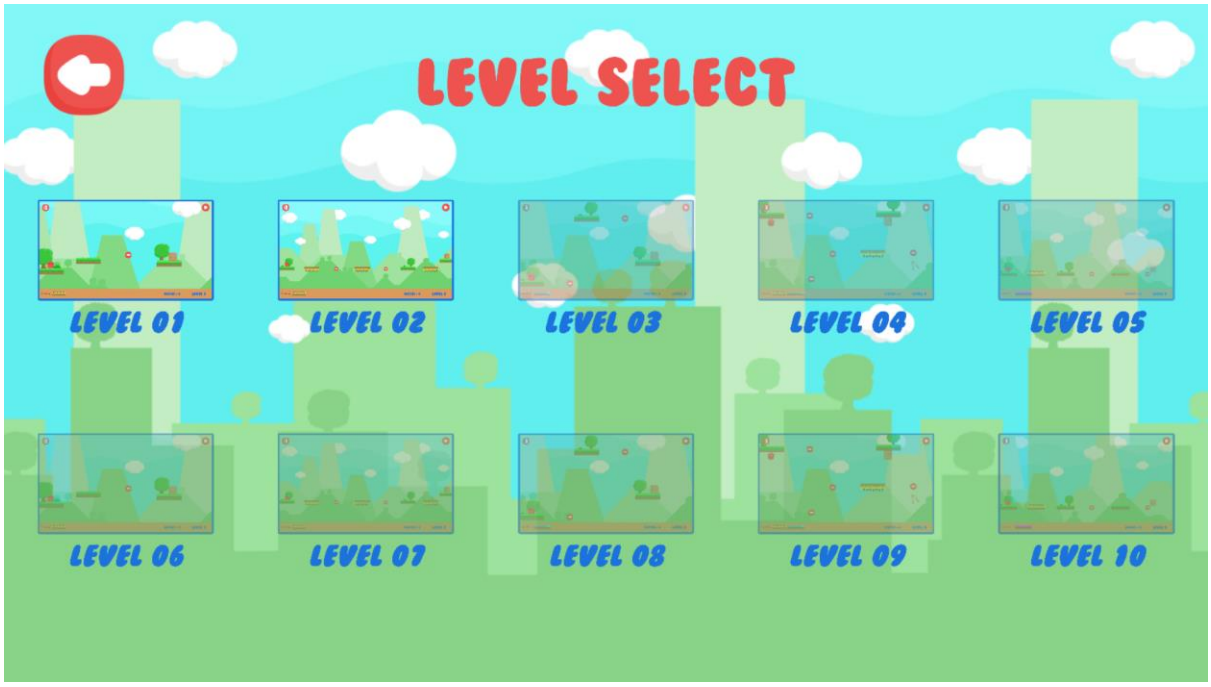


Controls



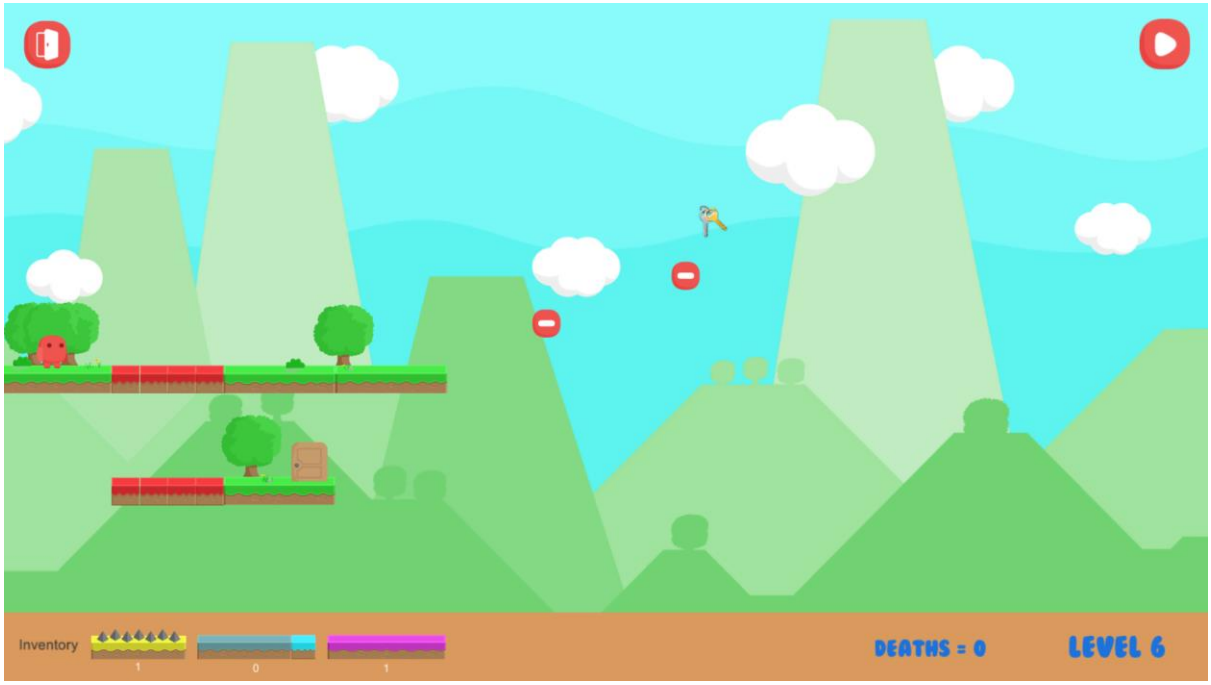
Credits

Level Select



On this page, you can see that Level 1 and Level 2 are seen better than the other levels. This is because the other levels are still locked and those buttons are un-intractable.

In-Level UI



Section IV – Art

Due to constraints in my skills in Art, I decided to look for good art asset packages online and I found one by Bayat Games, which was completely free to use for any project and they had most art assets included for making a 2D Platformer game. Most of the things in the game are going to feature art from this package plus a few more things that I am going to edit myself to make them fit the environment.

4.1. Platforms

Normal Platform

Rotating Spike Platform

Gravity Inverting Platform

Triple Jump Platform

Weak Platform

All of the above platforms have been edited from the base Bayat Games' art asset package to fit my needs for the game.

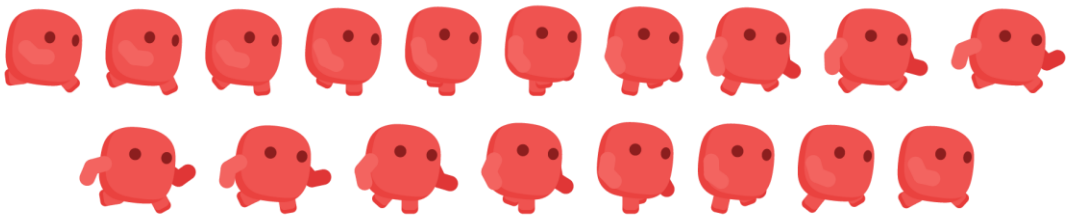
4.2. Character Animations

The art asset package includes all the animations required for this project as well. The sprite sheets for each of them are as below:

1. Idle

2. Jump

3. Run

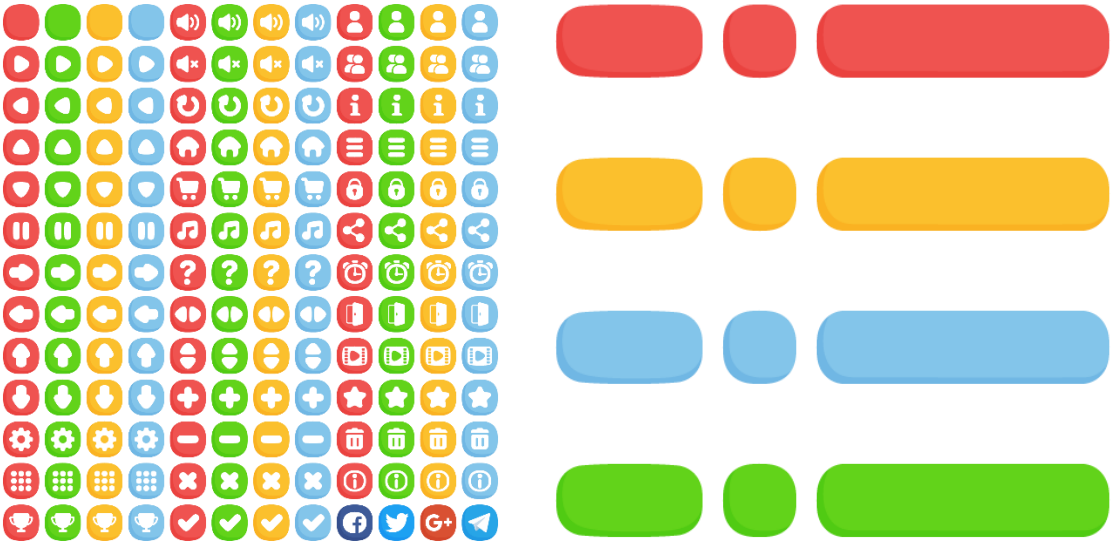


4.3. Environment

The asset package had a lot of elements that could make the environment more lively. Below are some of these assets:

4.4. User Interface

The asset package also had very useful UI elements. Some assets will require tweaking by my side in photoshop, but this package contains almost everything else I would require.



4.5. Backgrounds

In-Game Background

Menu Background

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