Computer Games Development CW208
GDD and Project Report
Year III

Box Hopper

Evan Cunningham - C00179980

Project Abstract

The game is designed to feel like a quick, fun game based on the Impossible Game/Google Chrome disconnected game. The game should feel simple but still be enjoyable to play in short bursts when you're looking for something to do to pass a few minutes, without getting too stuck in to something.

The game will look and feel very lighthearted, while being quick and exciting to play. Soft colours for anything which won't kill you, contrasting starkly with the loud, brash colours of obstacles which are to be avoided.

Project Introduction

This is a side scrolling game in which the player must jump over the obstacles which will constantly be approaching them. The game shouldn't feel particularly challenging, but still be difficult enough that the player might not win every time they play. The game will start out very slow and easy, but should quickly ramp up the pace of the game once you feel like you understand the concept, which should be very quick. There will be a second level which the game will transition to seamlessly from the first, in which enemies will also be flying at the player to make timing your jumps perfectly much more challenging and enjoyable.

Project Description

Box Hopper is a 2D side scroller in which you play as a man trying to escape from the gnashing teeth of an approaching monster while hopping over obstacles. The player will be able to jump up and over obstacles coming from the right of the screen. The player will be pushed back for every obstacle they hit, this will act as the players health. As the game goes on, the player will have an increasing number of obstacles approaching the player, and the obstacles will be faster. Once the players reach level 2 there will also be enemies flying at them, which will make timing much more important. The game will be played in landscape on mobile devices.

Game Design Goals

The core of this game is a simple, timing based side scroller which is nice to look at and fun to play. The game should not be particularly serious or frustrating, and is designed to be a game which you can play multiple times in the space of 2 minutes.

The game should be easy to understand and play at all ages, and should be very accessible for players of all ages. The game has a very low skill floor to allow it to be picked up quickly by anybody, but a high skill ceiling as the game gets to level 2 and players have to time their jumps impeccably to survive.

Game Features

2D Graphics
Vivid colours
Particle Effects
1D Player Movement
Ramping Difficulty
Fail State
Win State
Collisions
Tutorial
Optional Setting
Multiple Levels

Collision Detection

The game will detect collisions by going through the list of objects which can collide with each other (Player, Enemies, Doom Jaws) and checking if they are overlapping through their boxes. This is perfect for the type of game we are making as most objects in the game are box shaped anyway. The only object which isn't is the player, and if an obstacle is that close to the player then that should be a hit anyway.

User Interface

The game will display to the Player their score and the current High Score at all times. All other information will be conveyed to the player visually and should be intuitive and self explanatory, eg. Player hits obstacle, player gets pushed back closer to the approaching monster, touch monster Game Over.

Story

The Player plays as a jumping ball, attempting to prolong their inevitable death through the jaws of an approaching monster, while jumping to avoid obstacles. As darkness approaches, a flying variant of the usual obstacles will begin to make survival that much more difficult...

Levels

In the beginning, the background will be a soft pastel blue and the enemies will be coming towards you from the same level as the player. The player will have to jump to avoid being

pushed back.
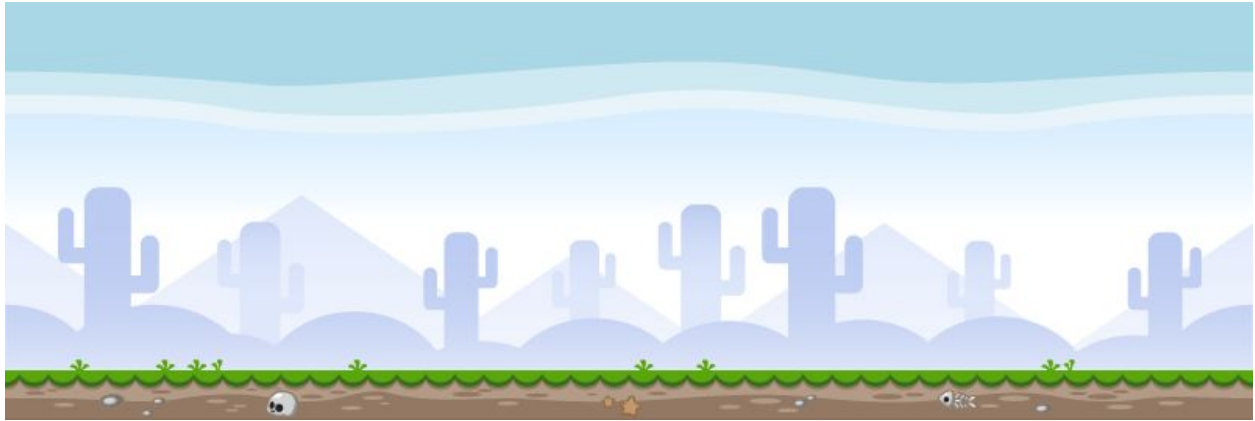
As the player progresses, day will turn to Dusk and the player will be in a darker world, and from this point the player will have to contend with both the enemies coming towards them on the ground with them, AND enemies flying towards them at awkward timings. At this stage in the game, timing will become key to survival.
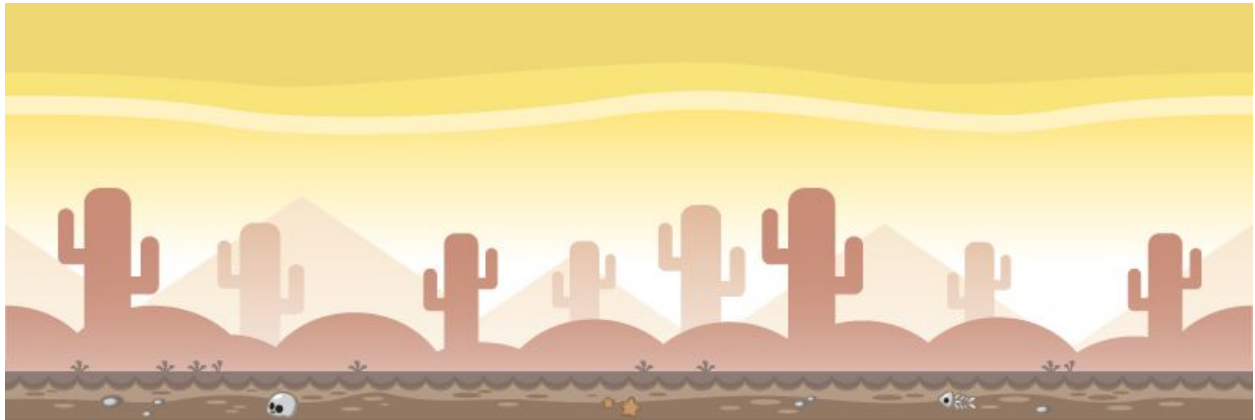
Victory Conditions

In order to win the game, the player has to avoid a certain number of obstacles in order to amass a high enough score, this will bring them to the Game Over screen. The rate at which you get points is directly related to the number of enemies coming at you, so the more difficult the game gets the quicker you gain points.

Rendering System

The Game is a side scrolling running game. The entire game will be visible on the screen at all times, but enemies will only be rendered when they approach the screen bounds. All rendering will be done through layers and sprites.

Art and Audio

All game audio was taken from royalty free sound websites such as freesound.org. Art assets were scavenged from around the internet and / or edited by me. The art direction of the game is inspired by games like Super Mario, and the sound is inspired by games like Hotline Miami where the music sets the pace of the game.
There is constant background music during gameplay, and sound effects will play when the player either hits one of the approaching obstacles, or if the player comes into contact with the impending Doom.

Multiplayer

The players will be playing pretty much the same game as they were in Single Player. The only difference will be that a transparent player will be shown jumping whenever the other player in the lobby jumps and moving back when the other player does.

Project conclusions

There was more I wanted to get done on this project but Cocos kept throwing errors, so many hours were lost to trying to go back to the last working version of the project and trying to fix errors and trying to implement features which should have been much simpler than they really were. Overall I'm very happy with the way the game feels in the Javascript / HTML version once the player hits level 2. It's surprisingly satisfying to watch your player sprite squeeze in between 2 approaching enemies.