COSC 341: Human-Computer Interaction

Assignment 1: 2D Platformer Game Development

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Project Overview

Our team of three collaborated to create a 2D platformer game. We started with a brainstorming session to share our ideas and decide on the game's concept and features. Each team member focused on different tasks such as game design, art, background, characters, animations, coding, debugging, and testing.

Game Features

The platformer game includes the following features:

Player Character: The player, named "Player," can move left, right, jump, double-jump, and interact with various game elements. We aimed to make the character's movements smooth and responsive.

Platforms: There are 9 platforms of different sizes and positions, which serve as the main surfaces for the player to move across. These platforms are designed to be challenging but fair.

Enemies: The game has two types of enemies, "Enemy" and "Enemy2," placed between the grass tiles or platforms. They have fixed movements, and if the player collides with them, a "Game Over! Better Luck Next Time!" message appears.

Collectibles: Coins are placed on some platforms for the player to collect. These add an extra goal for the player and make the game more exciting.

Scoreboard: Collecting coins increases the player's score, which is displayed on the top right corner of the game view. This gives the player a sense of progress and achievement.

End Goal: A red flag on the last platform marks the end of the game. When the player reaches the flag, a "Winner Winner Chicken Dinner" message appears, indicating that the player has won.

Challenges and Solutions

We faced several challenges during the development:

Feature Orientation: It was tricky to position the game elements correctly. We had to ensure everything was aligned and looked good.

Enemy Movement: Making the enemies move accurately was difficult. We had to fine-tune their movements to make sure they were challenging but not impossible to avoid.

Collision Detection: We needed to ensure the interactions between the player, enemies, coins, and the flag were smooth. This required a lot of attention to detail to prevent any glitches.

Event Windows: Creating the pop-up windows for the "Game Over! Better Luck Next Time!" and "Winner Winner Chicken Dinner" messages and making sure they appeared at the right time was a bit challenging. We had to coordinate these events properly.

We tackled these challenges by constantly communicating and helping each other. We also researched online, reading about topics such as collider usage, layer ordering, position resetting, character movements, and writing scripts with assist of resources online and within Unity.

Through teamwork and persistent problem-solving, we successfully created a fun and functional 2D platformer game. This project helped us learn more about game development and hands on experience with Unity, teamwork, and project management.