

HTML5 Game with Phaser 3 - Project Documentation

Project Overview

This project is a web based HTML5 game developed using the Phaser 3 game framework. It features a player-controlled character who collects stars and coins while navigating a game environment. The game is initiated by entering a player's name and clicking the "Start Game" button.

Game Description

Plot of the game:

There is a clear plot in game. At the landing page a well written description is displayed about how to play the game and how to win the game. The landing page a visible and big enough start button which indicates clear start of the game. When the start button is clicked after entering the players name the game starts. Collecting all the collectible items leads to winning the game whereas getting caught by the ghost leads to losing the game. When the game is won or lost a visible winning or losing message is displayed and all the game physics pauses, and the colour of the player is turned red or green based on the outcome. Which indicates a clear end of the game.

Player Control

The player controls a character using both the keyboard arrow keys (left and right) for movement and the mouse for shooting bullets.

The player can jump by pressing the up-arrow key when the character is on the ground.

Collectibles

The game includes two types of collectibles: stars and coins.

Stars are worth 10 points, and coins are worth 20 points.

The player's score is displayed at the top left corner of the game screen.

Ghost

A ghost character moves randomly within the game area.

If the player character collides with the ghost, the game ends, and the player's score is displayed.

Shooting

The player can shoot bullets using the left mouse buttons.

Bullets can hit and disable the ghost, adding to the player's score.

Win Condition

The game is won when all stars and coins have been collected.

The player's final score and a victory message are displayed.

Tools Used

1. Phaser 3

Phaser 3 is a game development framework for HTML5 games. It provides features for physics, sprite animations, input handling, and more. In this project, Phaser 3 was used as the core framework for creating the game.

2. HTML

HTML is used for structuring the game's web interface, including input elements for the player's name, a brief description of how to play the game and the game canvas.

3. CSS

CSS was used to style the game's web page, providing design and layout enhancements, including a gradient background animation.

4. JavaScript

JavaScript was used to script the game logic, including player movement, interaction with game objects, animations, and overall gameplay.

5. Audio

Audio was incorporated into the game, such as a sound effect when collecting items, to enhance the player's experience.

Detailed Points Allocation

Well written PDF report = 3 points

I have provided a well-documented pdf report which includes all the necessary details and information about the project.

Cross browser compatibility = 2 points

The application works on all the popular browsers.

The application has clear directory structure, and everything is organized well = 2 points

The application is organized logically, with clear directory structures, promoting code maintainability. The HTML CSS and JS files are separate, and all the assets are in a different folder. The codes have well practiced indent for improved readability. The assets' names are simple and easy to understand and has meaningful name. comments are added for further readability.

The landing page is designed keeping user experience in mind and has dynamic styling = 5 points

A dynamic gradient background is designed for the landing page which changes colours. A brief description makes the goal of the game more visible and easier to understand. The landing page require no previous experience to start the game.

Clear plot = 3 points

The start of the game is very clear with brief description about how to play the game. Game winning and loosing logic was added to the game to provide a clear end of the game. A winning or losing message is displayed as soon as the game ends, indicating the clear end of the game.

User can get their name in the scorecard = 3 points

Users name is displayed in the scorecard and updated as the points increases. At the end of the game users name is also displayed.

Different objects to collect = 2 points

The player can collect stars and coins. Both offers different scores.

Moving parts other than player and enemy = 3 points

The stars and the coins are also dynamic and moves and jumps at first. Another moving part is bullet.

Use of both keyboard and mouse = 3 points

keyboard is used for player movement and clicking the left button of the mouse shoots bullet.

Use of physics engine = 2 points

Physics engine is added to the player, bullet, ghost, stars and coins. The stars and the coins are falling parts and collides with the platform and bounces off. They have certain velocity set to them. The ghost also has velocity set and the player also uses physics to jump and move around and to interact with the platform. The bullet also uses physics engine, and its gravity is disabled so that bullet can shoot straight.

Enemies = 3 points

The ghost can kill the player by touching.

Music and sound effect = 3 points

A sound effect is played when a collectible item is collected.

Total point = 34