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CPSC 1500 Project Final Report

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Project: FLYPIG

Introduction

- **Flypig** is a game designed and developed by Yujie Peng using basic HTML and Javascript. It allows users to control a flying pig through walls to gain points. This document provides a description of the development process and a user manual and the references.

Development Description

- **Overview:** This game was inspired by Flappy Bird, a classical and popular mobile game. I used to be addicted to this game 10 years ago. The game is developed using basic HTML and pure JavaScript, and it was designed, coded and tested by Yujie Peng.
    - To keep the game running, an interval is set to keep drawing the pig and walls. The logic of the movement of the pig is also designed, where pressing the spacebar would move the pig up by 20px-30px randomly, and if the user doesn't do anything, the pig would free fall to the bottom, resulting in a lost game.
    - The game includes multiple levels, score records and variable speeds.
    - The flying pig is a pixel painting that I created with Pixilart.com, and a new player object is created when the user starts the game, making it easy to record scores for different users.
    - The walls are continually created by loops so that the game progresses and levels up. As the player advances in levels, the speed of the wall's move increases.
- I designed the game and wrote all the functions and methods myself, starting with the basic objects: the game, the player, and the walls.
- **Concepts covered in this course:** canvas and animation, objects, loops, event listeners, and conditions.
    - First of all, I used canvas and animation to create the visual elements of the game, including the player and walls.
    - Then, objects were used to create the game, player, and walls, making it easy to adjust game settings through those objects and their functions. (The object Wall can also be used to create an opening animation.)
    - Loops were used to generate walls continuously and control the game's progress.
    - Event listeners were used to follow the actions of the user, while conditions were used to count scores and determine if the game should end.
- **Conclusion:** Through the progress of design and development, I gained a deeper understanding of the concepts that I learned from this course, including the way of solving problems, the mind about programming. Additionally, I gained experience and confidence from this project.

User Manual

- **To play the game, you can follow this:**
    - Press the spacebar on your keyboard to start the game.

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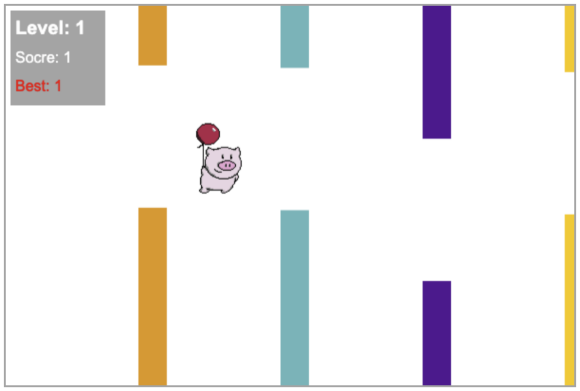

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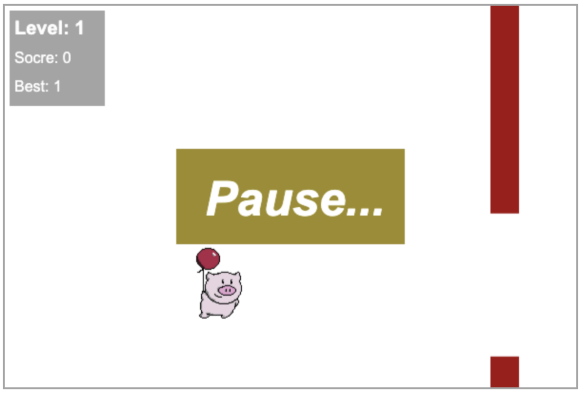
- Use the spacebar to fly your pig through the gaps in the walls.
- Earn one point for each wall that you successfully fly through.
- Avoid hitting the walls.
- As you advance through levels, the speed of the walls increases.
- If your pig hits a wall, the game is over. Try to beat your highest record!



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- Notice:
  - Press escape to pause the game if necessary.
  - Left and right movements are allowed, but not suggested. You can use the left and right arrow keys.

Reference

- **The following sources were used during the development of Flypig:**
  - Flippy Bird mobile game for inspiration
  - Pixilart.com for creating the pig's image
  - Opengameart.org for the audio files
  - Slides and labs in this course