

Flappy Bird Clone





**Project Overview**

Develop a simple **Flappy Bird** clone where players control a bird (or any flying character) that moves through gaps between obstacles by tapping the screen or pressing a key. The objective is to pass through as many gaps as possible without hitting obstacles or the ground.

**Features:**

1. **Tap to Flap Mechanics**

Players tap the screen or press a key (e.g., Spacebar) to make the bird "flap" and rise in the air. Releasing the key or tapping again lets the bird fall due to gravity.

1. **Endless Scrolling Environment**

The game has an endless horizontal scrolling environment where obstacles (pipes or other barriers) move from right to left. The player must avoid hitting these obstacles.

1. **Obstacle Generation**

Obstacles (pipes or other objects) are randomly generated with gaps in varying positions. As the game progresses, the speed may increase to make the game more challenging.

1. **Score System**

Players earn points by successfully passing through the gaps between obstacles. The score increases by 1 for each set of obstacles cleared.

1. **Game Over Screen**

If the bird hits an obstacle or the ground, the game ends. A game over screen shows the player’s final score and gives them the option to restart the game.

1. **Simple Sound Effects**

Include basic sound effects such as flapping sounds, collision sounds, and a point-scoring chime to enhance the game experience.

**Technical Requirements:**

1. **Game Engine**: Unity or Godot.
2. **Programming Languages**: C# (Unity), GDScript (Godot), or JavaScript (if using Phaser or similar frameworks).
3. **Graphics**: Simple 2D sprites for the bird, obstacles (pipes), and background elements. These can be created in tools like Photoshop or sourced from free sprite libraries.
4. **Physics**: Implement gravity to make the bird fall and flapping to propel it upward.
5. **Sound Effects**: Add sounds for actions like flapping, collisions, and scoring.

**Game Flow:**

1. **Start Screen**

Players see a simple start screen with a button to begin the game. Instructions can appear on how to control the bird (tap the screen or press a key to flap).

1. **Gameplay**
The player controls the bird’s movement, trying to fly through gaps between obstacles. The game continues as long as the bird doesn’t hit an obstacle or the ground.
2. **Game Over Screen**

When the bird crashes, a game over screen shows the player’s final score with an option to restart the game.

**Controls:**

* **Tap (Mobile)**: Tap the screen to make the bird flap.
* **Spacebar (PC)**: Press the spacebar or mouse click to make the bird flap.

**Use Cases:**

1. **Endless Scoring Challenge**

Players attempt to set the highest score by continuously passing through obstacles.

1. **Replayability**
The game encourages players to keep trying to beat their previous score, offering high replay value through simple yet challenging mechanics.

**Outcomes:**

* A simple yet addictive gameplay experience based on timing and precision.
* Teaches the basics of game mechanics such as physics (gravity), input controls, and obstacle generation.

## Duration

* 5-6 months.