

KHULNA UNIVERSITY

Course Title: Software
Development Project

Course No : CSE 3106
Project Proposal

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Project Title: Flappy Bird Game

Flappy Bird was a popular side-scrolling mobile game first released on 24th May 2013 and became a sensation overnight in early 2014. Flappy Bird was removed from both the App Store and Google Play by showing its addictive nature and over usage.

So, to play and introduced the flappy bird game on a Windows environment, we proposed a system that is designed to give a minimalistic and simplistic look and feel with lots and lots of new graphics.

To provide a user-friendly and consistent experience, we use C++ language and SFML for graphics and its various functions and functionalities.

In the game, the player controls a bird and navigates through sets of pipes without hitting them. The game is simple in concept, but challenging in practice, as the player must keep the bird flying by tapping the screen or pressing a key. Each successful pass through a set of pipes results in the player gaining a point, and the game ends if the bird hits a pipe or the ground. The game's addictive nature and simple, yet challenging gameplay have made it a popular choice among casual gamers.

Objectives

The objectives of this project are:

- To play the famous game flappy bird in Windows environment
- To make it user-friendly.
 - To provide an easy interface.
 - To entertain people in their leisure time.

Feature List:

1. User-friendly simple Tap-to-fly gameplay
2. Obstacles in the form of pipes that the player must navigate.
3. Scoring system based on the number of pipes successfully passed
4. Increasing difficulty as the player progresses
5. User-comfortable graphics,

Flappy Bird game full specification:

1. **Gameplay:** The player controls a bird that moves vertically, with the goal of navigating through sets of pipes without hitting them. Each successful pass through a set of pipes results in the player gaining a point. The game ends if the bird hits a pipe or the ground.

2. **User Interface:** The game should have a start screen with a "Play" button and an "Instruction" button. The instruction screen should provide information on how to play the game. The game screen should have a score counter in the upper-left corner, the bird in the center, and the pipes moving from right to left.
3. **Art Assets:** The game should have sprite assets for the bird, background, and pipes. The bird should have animation for flapping wings and falling.
4. **Physics:** The bird should have a velocity and acceleration, subject to gravity. The bird should be able to move upward when the player taps the screen or presses a key.
5. **Collision Detection:** The game should detect collisions between the bird and pipes or between the bird and the ground. The game should end when a collision occurs and show a game over screen with the final score.
6. **Scoring:** The game should have a scoring system that increases the player's score each time the bird successfully passes through a set of pipes.
7. **Difficulty:** The game can gradually increase in difficulty over time by increasing the speed of the pipes and/or adding more pipes.
8. **Sound:** The game should have simple sound effects, such as a flapping noise when the bird jumps and a collision sound when the bird hits a pipe.
9. **Player control:** The player controls the bird's movement by tapping the screen. Each tap causes the bird to flap its wings and ascend a certain height, and the bird will fall back down if the player doesn't tap again.

Tools & technologies:

1. Microsoft Visual Studio.
2. Git & GitHub
3. C++
3. SFML

GitHub :

<https://github.com/musfikurrahman24>

<https://github.com/utsadebnath>

<https://github.com/musfikurrahman24/flappy-bird-game>