

Project Proposal- Flappy Bird

Jz2605 Junhui Zhang

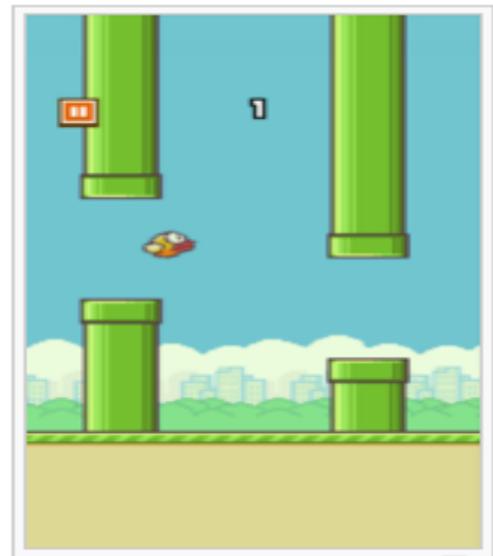
YI3284 YenHsi LIN

gz2216 gaoyuan zhang

wz2299 wei zheng

1. Overview

We try to bring the popular game Flappy Bird, which is originally on Android platform, to the FPGA board. The game is a side-scroller where the player controls a bird, attempting to fly between rows of green pipes without coming into contact them. If the player touches the pipes, it ends



the game. The bird briefly flaps upward each time the player taps the screen; if the screen is not tapped, the bird falls due to gravity.

2. Algorithm

a) Algorithm to display pictures correctly on monitor

At first, how to transfer images to correct coordinate and display on the monitor will be our first challenge. We need an efficient way to convert our image into coordinate in frame buffer.

b) Algorithm for image moving

In our game, the image moving is the most important function we need to implement. Besides the background horizontal moving, the vertical jumping combining keyboard input is our second challenge.

c) Game over condition setting

In the process of the game, how to detect if the object satisfies the game over condition and the condition setting is our third problem.

d) Adding and fixing some function

We will revise our project and improving some details, for example: adding more interesting function and more complicating contents in our game.

3. Milestone

- a) Set up the architecture of the game including both hardware and software and specify the modules for different functionalities;
- b) Develop basic modules for different functionalities;
- c) Integrate all the modules .