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Flappy Bird game using WEBGL

Documentation

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**Overview**

Flappy bird is an arcade-style game where the player controls the bird Faby, developed by programmer Dong Nguyen[1]. In this game, we consider a cube as the bird Faby which moves continuously to the right. Flappy bird is a one-player game, and the player navigating Faby through pairs of walls with equally sized gaps placed at random heights. Faby automatically descends and only ascends when the player presses the "Space" key. Each successful pass through a pair of walls awards the player one point. Once the player touches any wall or drops onto the ground, it is considered the end of the game.

**Deployment**

**Prerequisite**

* A webserver(npm HTTP-server/Apache)
* The latest version of Chrom/Firefox

To play the game using npm HTTP-server, do the following:

1. To install npm HTTP-server in a local environment, please follow [these](https://www.npmjs.com/package/http-server) steps.
2. Copy ‘comp4302\_final\_project-master’ folder to your server root folder (defaults to ./public if the folder exists, and ./ otherwise).
3. Open Chrom/Firefox and browse the application.

To play the game using the Apache server, do the following:

1. Install Xampp from [here](https://www.apachefriends.org/index.html).
2. Copy ‘comp4302\_final\_project-master’ folder to your server root folder (<drive>:\xampp\htdocs).
3. Open Chrom/Firefox and browse the application.

**How to Play**

Once successfully installed, the game is ready to play. Please follow the instruction given below:

1. To start the game, press "p."
2. Once you start the game, you can now navigate Faby (the cube) by pressing space.
3. Try to move as much as you can, each successful cross of wall carriers one point. If Faby touches any wall or falls onto the ground, the game is over.
4. To push the game, press the key "p". Use the same key to resume.
5. Click the play again button/refresh the page to start again.

**Features**

1. Two light sources illuminated the scene: global\_light and player\_light.
2. The camera is adjustable, and a player can set the desired view by adjusting the camera using ASDW and QE keys from the keyboard.
3. Textures have been used to design walls, floors, and moving cube (Faby).
4. The use of hierarchical relationship takes place in the player\_wings, which are attached to the cube.
5. A basic but fully implemented Entity-Component-Systems game engine and simple 2D collision detection satisfy the "novel component."

**Acknowledgment**

In this project, we have not used any high-level WebGL Library. Here is the list of JS library we used:

* initShaders.js
* MVnew.js

Graphical user interface

Description automatically generated**Screenshots**

Graphical user interface

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Start of the game.

Text

Description automatically generatedGraphical user interface

Description automatically generated**References**

Playing game by changing camera

Game Over

[1] Williams, Rhiannon. "What is Flappy Bird? The game taking the App Store by storm". The Daily Telegraph. Archived from the original on January 30, 2014.