Game Engines

BA Hons in Game Art & Visual Design, Year 2

TASK 1

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Flappy Bird - Replica

Game Summary:

Flappy bird is a 2013 slider pixel-art game where the player has to fly through the pipes and reach the high score each time they play.

Core Mechanics:

- o The Player plays as a bird in a 2D Platform
- o The player can only jump upwards to pass through pipes
- o The player loses if the bird hits the pipes or ground

Gameplay:

The bird has to avoid getting hit the pipes that are in the way. The more pipes the player goes through the more points they get (1 for each pipe). The pipes all spawn randomly all with different heights.

Art Style:

The art style of the game for all assets (background, bird, pipes, etc.) will all the in a pixel art style replicating the original 2013 flappy bird game. The colors will also be replicating the same color scheme of the original game (green pipe, yellow bird, etc.
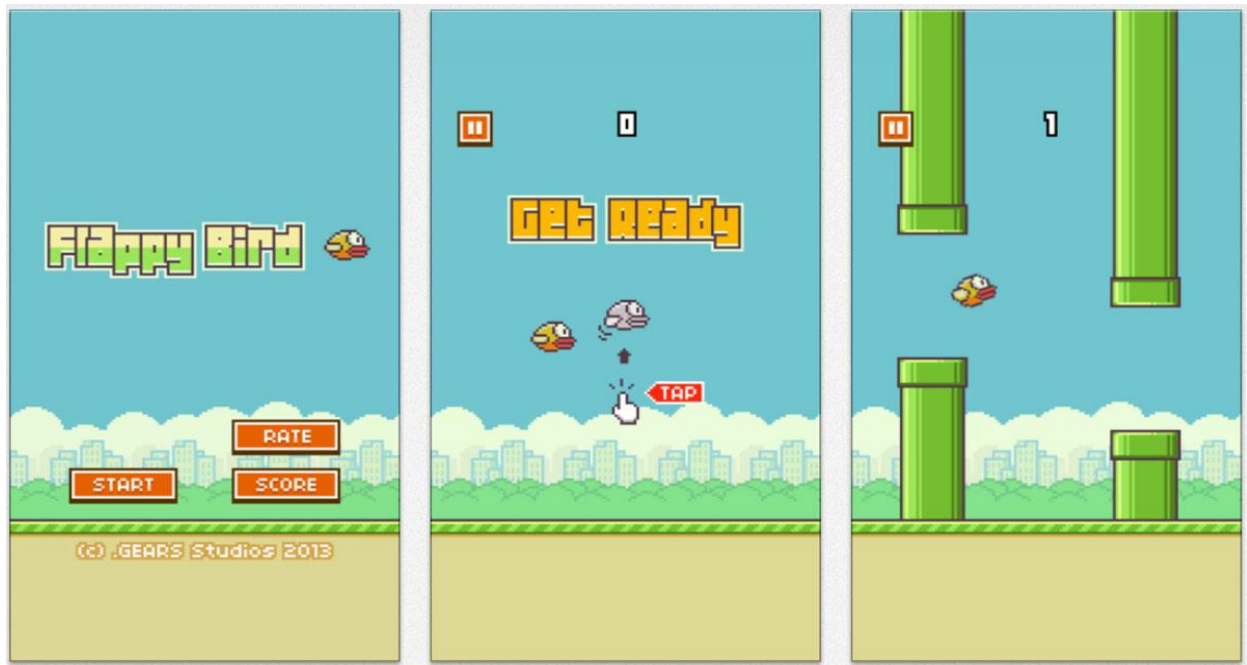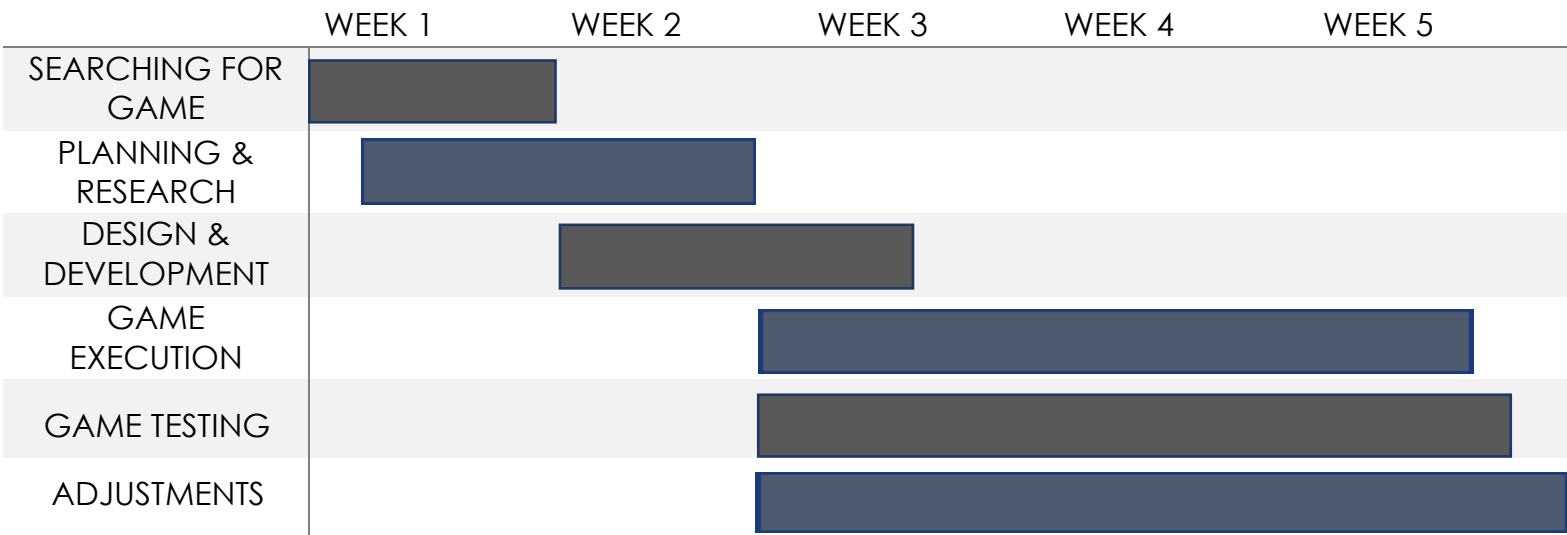
Figure 1: Flappy Bird (start menu screen, in-game screens) (gamerbolt.com, 2019)

Gaunt Chart:

	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5
SEARCHING FOR GAME	███				
PLANNING & RESEARCH	████	███			
DESIGN & DEVELOPMENT		████	███		
GAME EXECUTION			███████████████		
GAME TESTING			███████████████		
ADJUSTMENTS			████████████████		

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CSC Cards:

Fly Little Bird

- Can jump

- Passes through pipe obstacles

- Gains scores

- Dies – when colliding with the ground or pipe obstacles

Add Score

Game Manager

Pipe Spawner

Game Manager

- Swaps scenes

- Triggers "Gameover" canvas when player dies

- Starts the game again when player clicks replay

Fly Little Bird

Pipe Spawner

- Spawns pipes
  - Time between spawn
  - Random spawn height

- Kills player with collision

- Destroys pipes when out of screen

Move

Fly Little Bird

Add Score

Move

- Pipe movement

- movement speed

Game Manager

Pipe Spawner

Score

Add score

Score

- Adds score UI

- Shows player score

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Game Manager

Fly Little Bird

Add Score

Add Score

- Adds a point to the Score UI when player passes pipe obstacle

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Game Manager

Move

Score

Menu Button Script

- Swaps between scenes

- Takes the player back to the start – once the replay button is clicked/taped

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Game Manager