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Semester Project: Egg Drop

The name of the game is Egg Drop. The name was originally set to be Dodging Ash because the Sprite (main character) is Ash who is from one of the most popular handheld device games that is Pokémon. The groups of people that I introduced Dodging Ash to (friends and family members) thought that the objects falling from the sky were human faces/baby faces, but they are falling Pokémon which are named Exeggcute, an Egg species of Pokémon. From that, I figured a name change was necessary to make it clear to the player that these falling objects are Eggs, not babies’ faces.

The sky is cloudy, the ocean is vast, the terrain is endless. Your character, Ash, is placed on a grassy terrain and . The objective of the game is to run around (endlessly) attempting to collect coins that spawn around you (3 spawn each time all 3 have been collected) while trying not to make contact with any falling Exeggcute.

**Section 1: State the purpose of your project/sub-system.**

Egg Drop exists to entertain those that enjoy playing mobile application games, and to those that simply need something to do to kill time (although this is not encouraged) whether it be sitting in a waiting room, waiting for people, etc. Egg Drop; mainly aims to entertain children and young teens; however, it is possible to also entertain much of the older crowds of people.

**Section 2: Define the high level entities in your design.**

GameScene.swift:

This is the opening scene to Egg Drop and consists of the entire gameplay for Egg Drop. It contains all aspects of the game:

Background

Player

Eggs 1 through 5

Instructions

Pause Button (tap anywhere except the pause button to resume)

Coin Count

Elapsed Time Count

Game Over Label

GameOver.swift:

This is the scene that occurs to indicate to the player that they have lost the game. It prompts the player with the only option to replay the game. Aspects to the this scene:

Game Over Label

Replay Label

Replay Icon

**Section 3: For each entity, define the low level design:**

Background:

The background is set to pan to either the left or to the right depending on the direction that the player is moving the character.

Player:

The player has can perform two actions: to run to the left or to run to the right. However, the player is not actually running; it is only his animation that makes it appear as if he is running. His position is set to a constant. If the player makes contact with any eggs, the game is over.

Eggs 1 through 5:

There are five eggs that are created. However, since these eggs are spawned by randomly by a timer, they spawn several instances of them at a time. Their purpose is to fall from the sky and make it difficult for the player to collect coins. If any of these eggs (Eggs 1 to 5) make contact with the player, the game is over.

Instructions:

The instructions to the game are displayed in the center of the screen at the start of the game, and disappear once the gameplay is engaged (first touch to the screen). The instructions include:

Tap/Tap and Hold to run left

Tap/Tap and Hold to run right

Pause Button:

The pause button is displayed at the top right of the screen and allows for the player to pause the game. To resume gameplay, tap anywhere.

Coin Count:

This icon is displayed at the top left of the screen and indicates the number of coins they have collected throughout the life of the current game. This count is reset to 0 when the game is over.

Elapsed Time Count:

This time label is displayed at the center bottom of the screen below the player’s icon and indicates the elapsed time of gameplay for the life of the current game. This count is reset to 00:00:00 when the game is over. The measured time is indicated minutes:seconds:milliseconds respectively.

Game Over Label:

This label indicates to the play that the game is over. All gameplay is stopped. The background and all eggs are removed. The coin icon and count is still displayed. The elapsed time is displayed. The player’s last action before loss is displayed. One tap is required to transition from GameScene.swift to the GameOver.swift and display the replay label and icon.

Replay Label:

This label is shown in GameOver.swift after transitioning from GameScene.swift. The player is prompted with the replay label saying “REPLAY” and an icon that must be tapped in order to restart the game.

**Section 4: Risks/issues:**

Issue:

Immediately resuming the game after pausing the game causes frames to get skipped, thus the eggs falling can possibly make contact with the player and end the game.

Solution:

To avoid causing this frame skip. It is recommended that if the player pauses the game, wait two seconds before resuming the game. This delay after pausing fixes the frame skip and the game resumes with no hassle.

Risk: (removed)

Multiple touches (one touch for running left and the other touch for running might simulataneously) would cause the player to attempt to run both ways. Thus causing the player to unfairly lose the game.

Solution:

Multiple touch was disabled in GameViewController in order for the this risk to be resolved. However, the player must remember that there is no multitouch enabled. And if the player were to try to multitouch, depending on the direction the player is moving and depending on which touch was removed from the screen, the player might stop or the player might continue running.