COSC 4355/6355 – Introduction to Ubiquitous Computing

Exercise 4

September 16, 2021

Objective

Create a simple card game with UI optimized for different iPhone devices in both landscape and portrait orientation.

Motivation

Learn how to use the tab bar controller, auto layout, size classes, and stack view.

Must Follow

You must follow the rules below. Otherwise, you will get 50% of your actual score.

1. Start your XCode project "**Exercise4_LastName_FirstName**" (replace **LastName** with your last name and **FirstName** with your first name).
2. **DON'T DO** the following:
    a. Start with any other project name and change the zip file name later.
    b. This will not be accepted at all!
3. You must have to do the exercise compatible with **XCode 12.5.1 version**.

Tips

- **Read the question carefully, then start coding!**
- **Build, Build, and Build**
    - If you add anything on storyboard -> **Build**
    - If you make a reference from storyboard -> **Build**
    - Do not wait until finishing all parts and build.
    - Otherwise, you will not be able to understand where the problem is.

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Details

Create a project with iOS App using Swift as the programming language. Name your XCode project "**Exercise4_LastName_FirstName**" (replace **LastName** with your last name and **FirstName** with your first name).

1. Add a Tab Bar Controller. You should have two views by default. You are provided with the images on BlackBoard. In the *FirstViewController* [Figure 1, 3]
   a. Add the "Card Game" Title
   b. Add two image views to display the image of the cards
   c. Add a "Shuffle" button to enable the user to shuffle the cards
   d. Color palette link

2. When the user taps the "Shuffle" button, update both card images with randomly chosen cards.

3. The *SecondViewController* displays the game statistics [Figure 2, 4]
   a. The total number of times both cards were the same
   b. The total number of times the two cards were different

4. Both views should have an optimized layout on <mark>different the iPhone [SE 2nd Generation, 8 Plus, 11]</mark> sizes in both the portrait and landscape modes.

Grading

[1 pt.] Proper UI [Background colors, Button colors, Text size etc.]
[1 pt.] Shuffle cards randomly and update images appropriately
[1 pt.] Compute proper statistics
[1 pt.] Pass data between the tabs of the tab bar controller
[3 pts.] Proper UI for the iPhone sizes [SE 2nd Generation, 8 Plus, 11] in portrait mode
[3 pts.] Proper UI for the iPhone sizes [SE 2nd Generation, 8 Plus, 11] in landscape mode

Submission

Zip XCode project and submit to the blackboard. The name of your zip file will be automatically "**Exercise4_LastName_FirstName.zip**" (**LastName** is your last name and **FirstName** is your first name). One submission per person.
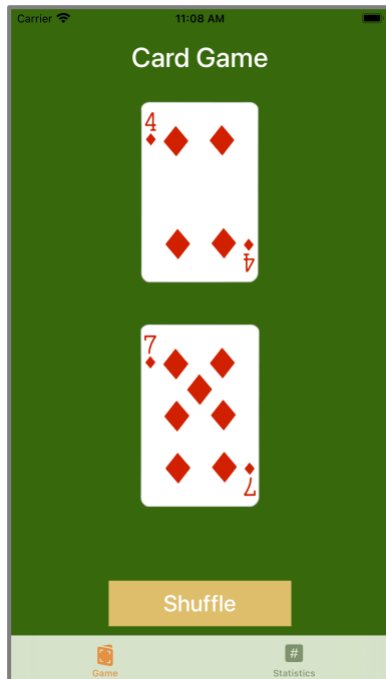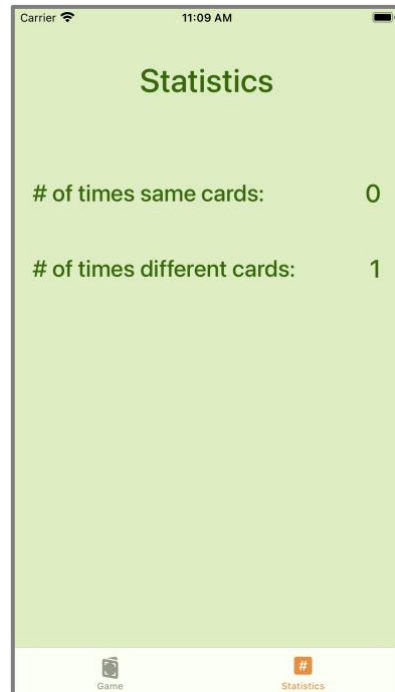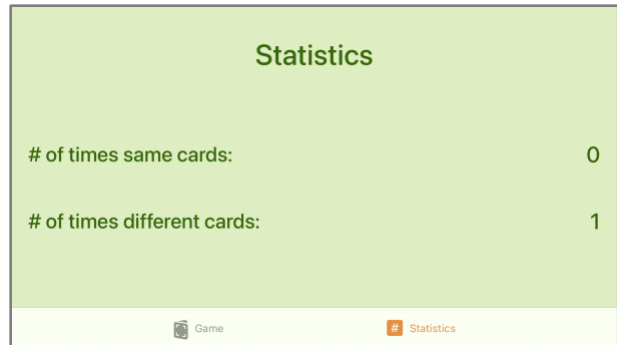
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Screenshots

Figure 1

Figure 2

Figure 3

Figure 4