CIS4350_Lab05_Game of Pig

Due Date
03:00 PM of Monday, November 27th

Points
100 points.

Background

This project is designed to give you some hands on experience with:

- Using Xcode as a development environment
- Using Interface Builder to create iOS user interfaces
- Declaring and wiring up `IBOutlet`s
- Declaring and wiring up `IBAction`s
- Using various iOS widgets — `UILabel`, `UIButton`, `UIImageView`, `UIProgressView`, etc.
- Testing applications in the iPhone Simulator

Task

For this assignment you will be implementing the game of Pig for iOS.

Your application must contain the following UI elements:

- Labels for Player #1 and Player #2
- Scores for both players
- Progress views for both players
- An image view that will display the die rolls
- A game status area that displays info about the current turn/score.
- A dual purpose new game/tap to continue button
- A roll button
- A hold button

Rules

The rules for the game of Pig are rather simple. Here is a video.

The following description defines the rules of the game:

- Each turn, a player repeatedly rolls a die until either a 1 is rolled or the player holds and scores the sum of the rolls (i.e. the turn total). At any time during a player's turn, the player is faced with two options:

- ***roll*** — If the player rolls a
  - 1: the player scores nothing and it becomes the next player's turn.
  - 2–6: the number is added to the player's turn total and the player's turn continues.
- ***hold*** — The turn total is added to the player's score and it becomes the next player's turn.

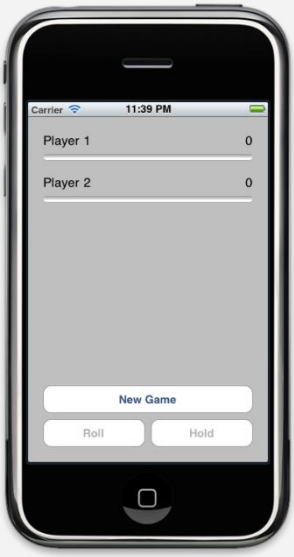
- The first player to score 100 or more points wins.

- Players must alternate turns going first between games.

Behavior

When your app initially loads it should look similar to the image shown below.

Note that the states of the "Roll" and "Hold" buttons are disabled when the app starts up.



Initial App State

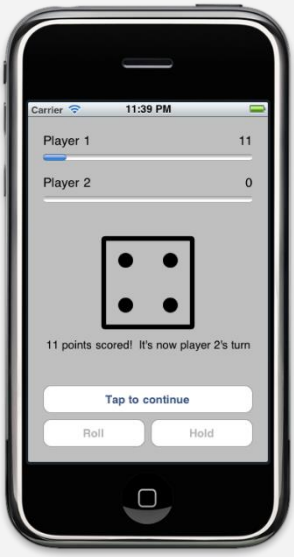
Once the "New Game" button has been pressed, it should be disabled and relabeled (since all subsequent touches will be to continue with the next player's turn, I changed it to "Tap to continue").
Additionally, the "Roll" button should be enabled and the user should be given a message to tap Roll to begin.

New Game Started

After the user presses the roll button, a random die face is selected and is shown to the user. If this number is a not a 1, then the "Hold" button should also be enabled so that the user may score his/her turn, as shown below. The running total of the current turn should be shown to the user under the die face.

Player 1 After Rolls

Once the user scores his/her turn the current turn should be added to the previous total (a zero in this case). This new total score should be shown as a number next to the user's name. Additionally, the progress bar should be updated to show how far along the user is to reaching the goal of 100.
In addition to scoring the turn, you must enable the "Tap to Continue" button and disable the "Roll" and "Hold" buttons. The message should be updated to indicate the number of points scored and display whose turn it is.

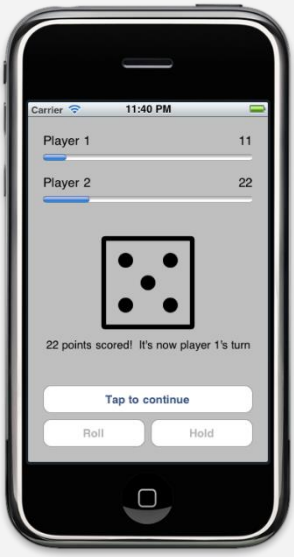


Player 1 Holds

This allows the user to tap "Roll" and begin his/her turn. Below player 2 has tapped "Roll" once and rolled a 5. Note that the "Hold" button has been re-enabled once the user has rolled a die face (other than 1). Again, the running turn total is shown below the die face.

Player 2 Starts Turn

Here player 2 has held. Like when player 1 held, the turn total was scored, the "Roll" and "Hold" buttons have been disabled, the "Tap to Continue" button has been re-enabled, and we're at a similar state to when player 1 started. Once again, the status has been updated to shown how many points were scored and whose turn it is.



Player 2 Holds

Here player 1 has tapped to unlocked, but hasn't yet rolled — the message has been updated accordingly.

Player 1's Turn

If a player happens to roll a 1, then he/she should be notified that his/her turn is over and that it's the other user's turn. "Roll" and "Hold" buttons should be disabled, and the "Tap to Continue" button re-enabled as shown below.

Lost Turn

The following screenshot picks up many turns later with player 2 starting his/her turn.

Continued Gameplay

If a the score of the current turn plus the user's existing score reach or exceed 100 points, then the user should be congratulated on his/her win in the status area under the die face. The "Roll" and "Hold" buttons should be disabled. The "Tap to Continue" button should be changed back to "New Game" and re-enabled.
Pressing "New Game" should return the game to the second screenshot, except that it should start with the other player's turn.

Player 2 Wins

Images

I attached the images that you need to add to your project.

Getting Started

Open Xcode, then create a new project by selecting File → New Project… then under *iOS* select *Application* and select *Single View Application*. Type name the project "`FirstName_LastName_Lab05`", Choose Organization name to be your first name followed by your last name (e.g., Ola Ajaj) and choose Swift for language, and finally choose *Universal* for Devices.

`** Comments **` Add a comments section on top of your `main` file to add your name, TUID, class, Project number, and purpose of this project.

Testing

No sample test harnesses will be provided, though you are strongly encouraged to develop your own testing scenarios.

Grading

Your projects will be graded on the following criteria:

- Correctness of application
- Adherence to Swift and iPhone coding conventions
- Neatly formatted and indented code
- Well documented header files

Submission

To prep your project for submission, you need to zip up your entire project directory. To do this right click (or control click) on the project folder `FirstName_LastName_Lab05` and select "Compress Lab05".

This will create a `FirstName_LastName_Lab05.zip` file that contains your project.

Simply upload `FirstName_LastName_Lab05.zip` through Lab05 link on Blackboard.