**Mobile Computing – iOS Spring’23**

**Assignment02**

**20 Points**

**Please follow the following instructions to complete this assignment.**

1. Open Xcode from the launchpad of your Mac.
2. Click on create a new Xcode project. Select the iOS platform and click on the App template.
3. Click on next, which will prompt you to choose options for the project.
4. Provide product name as **LastnameCourseRegistrationApp**, “**edu.northwest**” for organization identifier, “**Storyboard**” as interface and **Swift** as language.
5. Click on next and select an appropriate location to save your app and click on create. A project directory will be loaded.
6. From the project navigator click on “Main.storyboard” file, a blank mobile screen will be loaded, where the required components for the app are added.

**The View**

Table 1: UI elements configuration

|  |  |  |
| --- | --- | --- |
| **UI element** | **Purpose** | **Outlet/action name** |
| 4 UILabel elements | To display “Course Registration™️” | n/a |
| To display “iOS” | n/a |
| To display “Patterns” | n/a |
| To display “Big Data | n/a |
| To display the course registration message. | messageLBL |
| 2 UITextField elements | To input first name | firstNameTF |
| To input last name | lastNameTF |
| 1 UISwitch element | To register for the iOS course | toggleCourse: |
| courseSWCH |
| 1 UISwitch element | To register for the Patterns course | toggleCourse: |
| courseSWCH |
| 1 UISwitch element | To register for the Big Data course | toggleCourse: |
|  | courseSWCH |
| 2 UIButtons | Button Submit to enroll for selected courses | onSubmit: |
| Button Reset to clear the app | onReset: |

*Note: Names that are ending with a colon (****:****) are actions.*

1. Open library (cmd+shift+l). Search for “label” and add (drag and drop) it to the storyboard.

Graphical user interface, text, application

Description automatically generated

1. Similarly, add 5 more labels to the storyboard or copy a few more labels.
2. For the header label, set the background color to the matching color in document outline (i.e., R: 0, G: 103, B: 71) and change the label text to Course Registration™️. Moreover, set its properties as mentioned here.
   1. Color: White Color
   2. Font: System Heavy 34.0
   3. Alignment: Center
3. For the other 3 labels, change the text to iOS, Patterns, Big Data and leave the other 3 labels empty.
4. In the library, search for “text field” and add 2 text fields to the storyboard. Set their placeholder names to “Firstname” and “Lastname”, respectively.
5. Next, search for “switch” and add three UISwitches to the storyboard.
6. Finally, search for “button” and add 2 normal buttons to the storyboard. Name them “Submit” and “Reset”, respectively. Set the following attributes for them:
   1. Foreground – “White Color”
   2. Fill – “AccentColor”
   3. Corner Style – “Capsule”

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Figure Auto Layout

1. Now, all the required UI elements for the app are added to the storyboard. Apply auto layout to the app by adding constraints to UI elements as shown in Figure 1.
   1. Hint: Follow the view hierarchy in the Figure 1 (i.e., document outline on the left side) to add and organize stack views and embed elements inside them.

Table 1 CourseRegistrationVC’s properties for stack views

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Stack View** | **Axis** | **Alignment** | **Distribution** | **Spacing** |
| BigContainerStackView | Vertical | Fill | Fill | Standard |
| iOSSV | Horizontal | Fill | Fill Equally | Standard |
| patternsSV | Horizontal | Fill | Fill Equally | Standard |
| bigDataSV | Horizontal | Fill | Fill Equally | Standard |
| buttonSV | Horizontal | Fill | Fill Equally | Standard |
| messageSV | Horizontal | Fill | Fill Equally | Standard |

**The Controller:**

1. Create a Cocoa Touch Class “CourseRegistrationVC” that is a sub class of UIViewController and assign it as class to Main.storyboard file.
2. Create outlets and actions as specified in Table 1.
3. The messageLBL is initially set to an empty string. Its number of lines is set to 0.
4. The submit action should work only when the first name and last name fields in the UI are not empty. In case they are empty, show alert message “Please enter your full name.” using messageLBL.
   1. If a user registers for at least one course, assign “CONFIRMATION\n Firstname, Lastname has successfully enrolled in (count of registered courses) course(s), namely, (courses list).” to messageLBL.
   2. Otherwise, assign “Hi Firstname, Lastname please select the courses of your choice.” to messageLBL.
      1. Note: The value of switch is a boolean. If the switch is on, the values will be true and vice versa, to access the values of the switch use its isOn property.
5. The reset action will clear all the UI elements.

**Sample Output (Video Link):**

<https://app.vidgrid.com/view/snTLet0GFElJ>