### **Lab Exercise: Localization and Translation Programmatically in iOS Swift**

**Objective:**

Learn how to localize and translate an iOS app programmatically to support multiple languages.

**Set Up the Project:**

* Create a new Xcode project named LocalizationDemo.
* Choose "App" under iOS and set the language to Swift.

**Set Up Localization:**

**Create Localizable Strings Files:**

* Create a new file for localization:
* File > New > File... > Strings File.
* Name it Localizable.strings.
* In the project navigator, select Localizable.strings.
* Open the File Inspector and click the Localize... button.
* Select English as the default language.
* Add Translations:

Select Localizable.strings and add the following lines:

"hello" = "Hello, World!";

"button\_title" = "Press Me";

* In the File Inspector, add Spanish localization:
* Click the + button under Localizations.
* Select Spanish.
* Select Localizable.strings (Spanish) and add the following translations:

"hello" = "¡Hola, Mundo!";

"button\_title" = "Presióname";

**Implement a Simple UI:**

* Open Main.storyboard.
* Drag a UIButton and a UILabel onto the main view controller's view.
* Set constraints to center both the button and the label horizontally and vertically in the view.
* Create @IBOutlet for the label and @IBAction for the button in ViewController.swift.
* Set Up the View Controller:
* Open ViewController.swift.
* Implement the following code:

import UIKit

class ViewController: UIViewController {

@IBOutlet weak var label: UILabel!

@IBOutlet weak var button: UIButton!

override func viewDidLoad() {

super.viewDidLoad()

// Set localized strings

label.text = NSLocalizedString("hello", comment: "Hello, World!")

button.setTitle(NSLocalizedString("button\_title", comment: "Press Me"), for: .normal)

}

@IBAction func buttonTapped(\_ sender: UIButton) {

// Change label text when button is pressed

label.text = NSLocalizedString("button\_title", comment: "Button Pressed")

}

}

**Test Localization:**

* Run the app on a simulator or a physical device.
* Verify that the label and button display the correct localized strings based on the device language setting.
* Change the language setting of the device to Spanish and run the app again to verify that the text is displayed in Spanish.

**Summary:**

This lab exercise provides hands-on experience with implementing localization and translation programmatically in an iOS app using Swift. By completing the exercise, you will gain practical knowledge of setting up and using localized strings to support multiple languages in your app, ensuring it can be used by a broader audience..