COSC 4355/6355 – Introduction to Ubiquitous Computing

Exercise 5

October 7, 2021

Objective

Create a simple application to obtain data from the web and display it in a table view.

Motivation

Learn how to use table view controller, URL Session, and parsing JSON etc.

Tips

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

Details

Create a single view iPhone application using Swift as programming language. Name your XCode project "**Exercise5_LastName_FirstName**" (replace **LastName** with your last name and **FirstName** with your first name). Select iPhone 8 Plus UI initially.

1. Add a table view controller to your main storyboard. Embed a navigation controller to the table view controller. Make the navigation controller the initial view controller.
   a. To make navigation controller the initial view controller, select the navigation controller and check the 'is initial view controller' property in the Attributes inspector tab
2. Connect a segue from the table view controller to the existing view controller (the one created along with the project).
   a. Hence forth referred to as the detail view controller.
3. Follow the color palette link
4. Fetch contents of this URL (http://www.cpl.uh.edu/courses/ubicomp/fall2021/webservice/languages.json) using URLSession

    a. For security reasons, by default, apple does not allow cleartext http requests. So, the above URL call will be blocked.
    b. To allow making a request to the above URL, you need to "Allow Arbitrary Loads".
    c. For the best practice, you can add specific domains by following: https://stackoverflow.com/questions/31254725/transport-security-has-blocked-a-cleartext-http
5. Parse the JSON and create a list of programming languages
    a. Create a struct to decode the JSON object
6. Show the list of languages in a table view [Figure 1, 2]
7. When the user taps on a language, show the details and logo in the details view controller [Figure 3, 4]
8. Reflect proper UI design for all iOS devices/simulators - Portrait & Landscape
    a. iPhone SE (2nd Generation), iPhone 11 (all versions), iPhone 12 (all versions) etc.

Grading

[2 pts.] Fetch JSON data from URL
[1 pt.] Fetch image from URL
[2 pts.] Display language list in table view [Figure 1, 2]
[2 pts.] Show detailed info in detail view controller [Figure 3, 4]
[3 pts.] Proper UI for landscape and portrait mode for all iOS devices [Figure 1-4]

Submission

Zip Full XCode project and submit to the blackboard. The name of your zip file will be automatically "**Exercise5_LastName_FirstName.zip**" (**LastName** is your last name and **FirstName** is your first name). One submission per person.

Screenshots

Figure 1

Figure 2

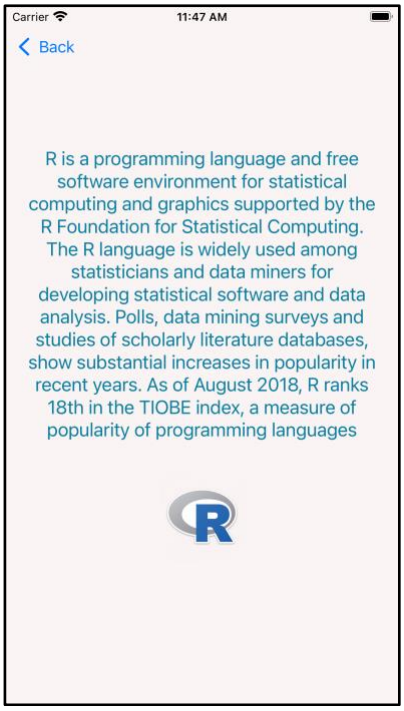

Figure 3

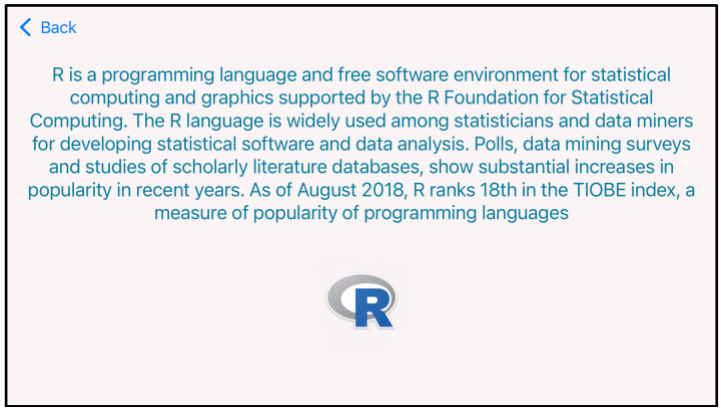

Figure 4