**Mobile Computing – iOS Fall’22**

**Section03 Exam02**

**70 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 template and click on the App application.
3. Click on next which will prompt you to choose options for the project.
4. Provide product name as **LastnameExam02**, “**edu.nwmissouri**” for organization identifier, “**Storyboard**” as interface and “**Swift**” as the 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 fields for an app need to be added.

**The View**

2

1

Graphical user interface, application

Description automatically generated

Figure 1 The View

1. Design the view as shown in Fig. 1 and apply auto layout wherever required. Use “person.fill” for the cell image view and profile image view.

Table 1 The View Controllers

|  |  |
| --- | --- |
| **Screen** | **View Controller** |
| 1 | StudentsTVC |
| 2 | ProfileVC |

1. Create classes as per Table 1 and assign them to proper view controllers in the storyboard.

**The Model**

Table 2 Test data for undergrads

|  |  |  |  |
| --- | --- | --- | --- |
| **Full Name** | **Transfer Credits** | **Year** | **Month** |
| Emma P. Lee | 3 | 2018 | 08 |
| Charlotte J. Swann | 6 | 2019 | 08 |
| Lisa K. Rock | 6 | 2022 | 01 |
| Mary G. Paula | 0 | 2013 | 08 |

Table 3 Test data for graduates

|  |  |  |  |
| --- | --- | --- | --- |
| **Full Name** | **Transfer Credits** | **Year** | **Month** |
| Michael P. Smith | 5 | 2019 | 01 |
| Sean N. Noah | 12 | 2020 | 08 |
| John H. Carter | 0 | 2013 | 08 |

1. Create a Swift file called DataFile that has the following struct.



1. Load the test data given in Tables 2 and 3 using the structure Student.

**The Controller**

1. *StudentsTVC*

Table 4: UI elements configuration for StudentsTVC

|  |  |  |
| --- | --- | --- |
| **UI element** | **Purpose** | **Outlet/action name** |
| 1 Table View | To display a list of books | studentsTV |

* 1. Create outlets/actions as mentioned in Table 2.
  2. Design and display a list of students in different sections as shown in the sample output.
  3. On tapping a student, perform a segue to ProfileVC.

1. *ProfileVC*

Table 5: UI elements configuration for ProfileVC

|  |  |  |
| --- | --- | --- |
| **UI element** | **Purpose** | **Outlet/action name** |
| 1 UIImageView | To display student’s image | profileIV |
| 1 UIlabel | To display student’s full name | fullNameLBL |
| 1 UIlabel | To display student’s transferred credits | transferCreditsLBL |
| 1 UIlabel | To display earliest graduation | earliestGradLBL |
| 1UIlabel | To display latest graduation | latestGradLBL |

* 1. Create outlets/actions as mentioned in Table 3.
  2. Design and display the selected student’s details along with both the earliest and latest graduation time.
  3. Use the following information for determining earliest and latest graduation time.



* 1. For earliest graduation time, get the outstanding number of credits to be done by applying transfer credits to the actual total number of credits and use the respective max value to determine the total number of semesters required to complete the degree. Use ceil(\_: Double) -> Double method to round off the total number of semesters.
     1. Hint: outstandingCredits/max
  2. For latest graduation time, get the outstanding number of credits to be done by applying transfer credits to the actual total number of credits and use the respective min value to determine the total number of semesters required to complete the degree. Use ceil(\_: Double) -> Double method to round off the total number of semesters.
     1. Hint: outstandingCredits/min

**Sample Output (Video Link):**

<https://app.vidgrid.com/view/DnX32eHeg7bx/?sr=Ob4swl>