CS 474: Object Oriented Programming Languages and Environments

Spring 2013

Objective C project

Due time: 7:00 pm on Sunday 4/21/2013

In this project, you will code a "tip calculator" for restaurant bills. As you know, it is customary for patrons at restaurants to tip the staff who prepared and served their meals. Typically the tip is in the range of 15% of the total bill; however, the amount may vary depending on how satisfied a patron is with the food and service. Your "tip calculator" will help restaurant patrons in figuring out the exact amount that they should tip after a meal.

Your tip calculator will allow a user to enter the amount on which the tip is based in an appropriate widget. Your calculator will have three additional widgets. The first widget, W_1, will allow the patron to digit a percentage of the original bill (an integer number). When the user is done entering the percentage, the amount of the tip will be displayed in a second widget, W_2. A third widget will show the total amount paid by the patron, consisting of the sum of the original bill and the calculated tip. Alternatively, a user may enter a desired tip in W_2. In this case, the calculator will compute the percentage. Your tip calculator will have an additional button, allowing the user to use the standard percentage of 15%. When this button is selected, the 15% value, the calculated tip amount and total payment will be displayed in widgets W_1, W_2, and W_3.

Hints: In order to complete this project, you should get access to a Mac desktop or laptop running version 10.7.x (Lion) or 10.8.x (Mountain Lion) of OSX and the XCode IDE, version 4.3 or higher. Make sure that you check the "storyboard" and "Automatic Reference Counting" boxes when you create your project. Your project should be a single view application for the iOS platform, with the iPhone as a target. Paint your interface using the storyboard and the widgets displayed in the bottom right corner of the IDE, in the utility area of the IDE. Connect your widgets to appropriate actions and outlets by using the auxiliary editor and control dragging the widgets to the main controller interface (.h) file. To program your actions, you should refer to the tutorial titled *Your first iOS app* in the developer.apple.com web site. Do not forget to define and to configure appropriate delegates for your text fields. (This is described in the tutorial.)

You must work alone on this project. Save all your code in a collection of various code files and submit a zip archive with a (short) readme file containing instructions on how to use your Painting Manager. Submit the archive by clicking on the link provided with this assignment. Your code should compile under the GNU C++ compiler. No late submissions will be accepted.