COSC 4355/6355 – Introduction to Ubiquitous Computing

Exercise 7

November 9, 2017

Objective

Create an app that can take pictures or load pictures from library, apply filters and save the picture to the photo library. The app should have ability to send local notifications.

Motivation

You will learn how to get take photos, load photos from library, save photos, and apply image filters – the backbone of apps like Instagram. You will also learn how to schedule and send local notification to the device.

Details

Create a single view iPhone application using Swift as programming language. Name your XCode project "**`Exercise7TeamX`**" (replace *X* with your team number).

Design your UI like the screenshots below

- Have option for the following filters - noir, blur, sepia, vintage and to view the original image in a segmented control.
- Have a button to save the image.
- The gallery and notification buttons should be added as UIBarButtonItems programmatically in your viewDidLoad method.

[2 pt.] When the gallery image button is tapped, display a UIAlertController as action sheet with options to allow the user to load image from photo library or the camera.

- The application should not crash if photo library or camera is not found. Instead alert the user.
- Make sure to add the appropriate properties to the Info.plist – eg: to access the gallery - NSPhotoLibraryUsageDescription

[2 pt.] When the user taps on one of the filters, apply the appropriate filter to the image. Example, if Sepia button is tapped, add CISepiaTone filter to the image. If original button is tapped, revert to the original image.

[1 pt.]: When the user taps on the button, the image with the applied filter should be saved to the device. Appropriate message should be displayed as an alert displaying if the save was

successful or the error if the save was not successful. Make sure to add the following property to the Info.plist – NSPhotoLibraryAddUsageDescription

[2 pt.] Tapping the schedule notification button should send a local notification after **five second** interval as seen in the screenshot. The notification should be shown even while the app is in foreground.

[3 pt.] The UI should work well on all iPhones in portrait and landscape modes. The image should scale based on the phone screen size in both portrait and landscape modes.

Extra credit

[+ 2 pt.]: When the user selects the Blur filter, show two sliders for radius and angle. These are parameters to the Blur filter. The image filter (blurring) should change as the slider(s) are moved.

Screenshots

Figure 1

Figure 2

Figure 3

Figure 4