Saving Data in iOS

Hands-On Challenges

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Challenge A: Laying the Foundation

Throughout this series, you will be doing a lot of saving. You will not only saving lots of NSDatas and an NSStrings, you will also be reading a lot of them as well. This challenge is to get you comfortable with the process of using both of them so that will have no problems using them in future challenges.

Challenge 1: Saving User Data

The app provided in the challenge is a very simple app. The user can write some custom text in a text view, then they can select a photo from their photo library. All the code to do this has already been written.

The user also has the ability to choose where they would like to save their data. They can save it in the their Document folder, their Library folder, and also, in their Temporary Directory.

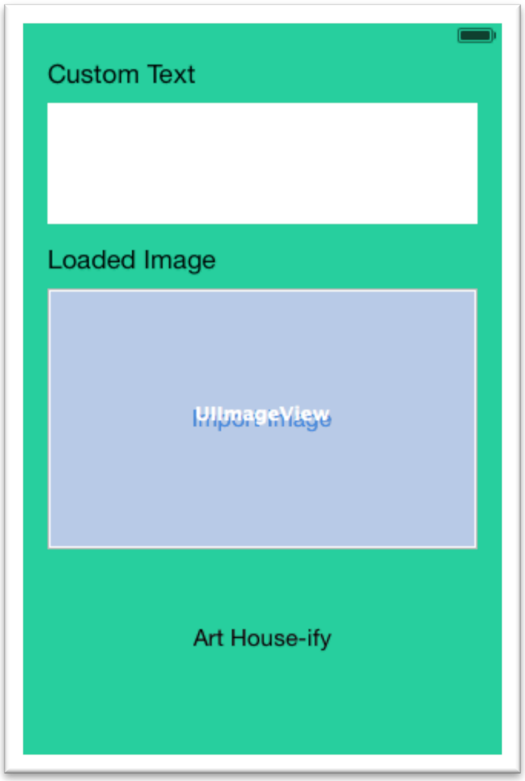
Your challenge is to provide this saving logic inside of saveToDisk:. For the sake of simplicity create one text file (text.txt) and one data file (image.png).

For retrieving the files, look in each directory and if you find the files, then populate the actual user interface with their values.

Uber Haxx0r Challenge: Bring a Little Art to your Life.

Your going to make some alterations to the sample app to save some “artistic alterations”. First, open **Main.Storyboard** and removed the segmented control that allows users to select their saving location.

Next add a UIButton in its place and call the “Art House-ify”.



Two things will happen will the user press Art-House-ify. First the image will turn black and white, and second, the text will reverse. Once the user presses the button again, the text will return to normal and the picture will return in color.

Once the app makes a change, you should save the change in the NSCachesDirectory, that way, if the user presses the button again, you can fetch the files from the Cache directory and present them to the screen without having do any additional processing.

To get started, open **ViewController.m**, and underneath the imports, make sure to add the following:

```
@import CoreImage;
```

Next, in your code, you're going to add the following Core Image code to turn your images black and white:

```
CIImage * tempImage = [CIImage
imageWithCGImage:self.imageView.image.CGImage];

CIImage * blackAndWhite = [CIFilter
filterWithName:@"CIColorControls" keysAndValues:kCIInputImageKey,
tempImage, @"inputBrightness", [NSNumber numberWithFloat:0.0],
@"inputContrast", [NSNumber numberWithFloat:1.1],
@"inputSaturation", [NSNumber numberWithFloat:0.0],
nil].outputImage;

CIImage * output = [CIFilter filterWithName:@"CIExposureAdjust"
keysAndValues:kCIInputImageKey, blackAndWhite, @"inputEV",
[NSNumber numberWithFloat:0.7], nil].outputImage;

CIContext * context = [CIContext contextWithOptions:nil];
CGImageRef cgiimage = [context createCGImage:output
fromRect:output.extent];

UIImage * newImage = [UIImage imageWithCGImage:cgiimage];

CGImageRelease(cgiimage);
```

Your challenge is to re-write the saveToDisk:. If the app is art-ifying the image and text, it will first look in the NSCacheDirectory to see if those elements already exist. If they do not exist, the app create them and save them into that directory.

At this point, the button name should change to “Normal-fy” at which point it should display the original contents.

When the app is loaded, the original contents should display as well.