Project Overview

The Virtual Tourist app downloads and stores images from Flickr. The app allows users to drop pins on a map, as if they were stops on a tour. Users will then be able to download pictures for the location and persist both the pictures, and the association of the pictures with the pin.

Why this project?

The project requires to persist a complex model using Core Data, and plist persistence of an array of dictionaries - core skills required of any iOS Developer.

What will you learn?

- Use NSURLSessions to interact with a public restful API
- Create a user interface that intuitively communicates network activity and download progress
- Store media on the device file system Use Core Data for local persistence of an object structure

Why is this project meaningful to my career?

The project will give you practice with powerful mechanisms for persisting data locally on a device. Storing media and retrieving it later is an essential skill for any iOS developer.

App Specification: Virtual Tourist

iOS Developer Nanodegree

[Note that this is an informal app description. It will give you an idea how the app should work, but when you submit your app it will be rated based on the [Rubric](.)]

This app allows users specify travel locations around the world, and create virtual photo albums for each location. The locations and photo albums will be stored in Core Data.

The app will have two view controller scenes.

- **Travel Locations Map View:** Allows the user to drop pins around the world
- **Photo Album View**: Allows the users to download and edit an album for a location

The scenes are described in detail below.

Travel Locations Map

When the app first starts it will open to the map view. Users will be able to zoom and scroll around the map using standard pinch and drag gestures.

The center of the map and the zoom level should be persistent. If the app is turned off, the map should return to the same state when it is turned on again.

Tapping and holding the map drops a new pin. Users can place any number of pins on the map.

When a pin is tapped, the app will navigate to the Photo Album view associated with the pin.
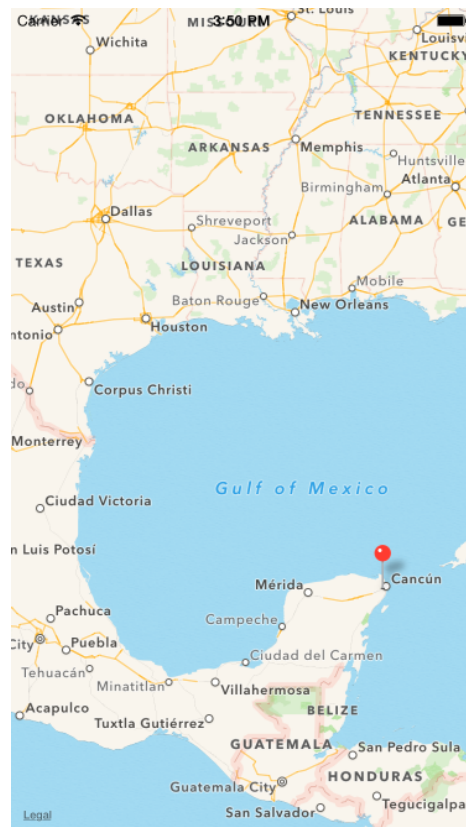
Photo Album

If the user taps a pin that does not yet have a photo album, the app will download Flickr images associated with the latitude and longitude of the pin.

If no images are found a "No Images" label will be displayed.

If there are images, then they will be displayed in a collection view.

While the images are downloading, the photo album is in a temporary "downloading" state in which the New Collection button is disabled. The app should determine how many images are available for the pin location, and display a placeholder image for each.
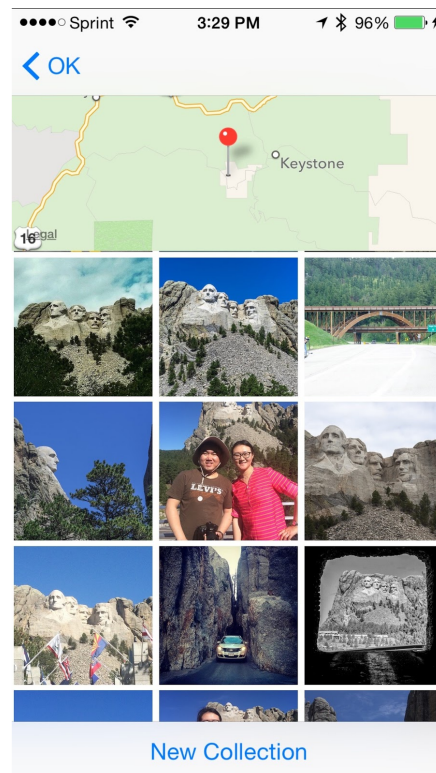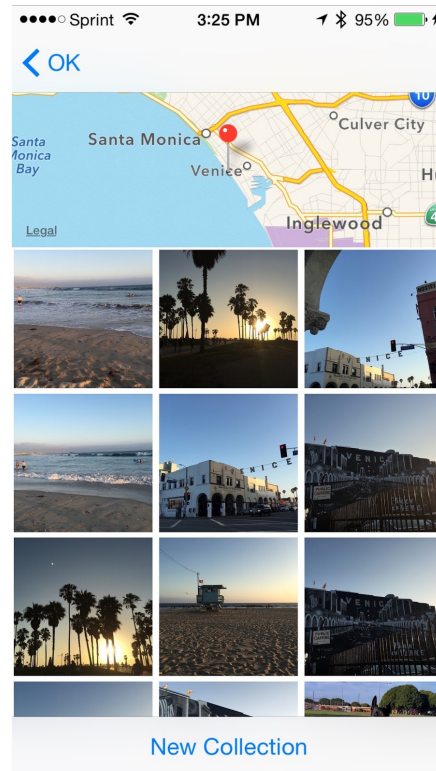
Once the images have all been downloaded, the app should enable the **New Collection** button at the bottom of the page. Tapping this button should empty the photo album and fetch a new set of images. Note that in locations that have a fairly static set of Flickr images, "new" images might overlap with previous collections of images.

Users should be able to remove photos from an album by tapping them. Pictures will flow up to fill the space vacated by the removed photo.

All changes to the photo album should be automatically made persistent.

Tapping the back button should return the user to the Map view.

If the user selects a pin that already has a photo album then the Photo Album view should display the album and the **New Collection** button should be enabled.

Virtual Tourist

Core Data

CRITERIA	MEETS SPECIFICATIONS
Does the app use a managed object model created in the Xcode model editor?	The app uses a managed object model created in the Xcode Model Editor. A `.xcdatamodeld` model file is present.
Does the object contain two entities: Pin and Photo?	The object model contains both Pin and Photo entities.
Does the object model contain a one-to-many relationship between the Pin and Photo entities, with an appropriate inverse?	The object model contains a one-to-many relationship between the Pin and Photo entities, with an appropriate inverse.

Travel Locations Map View

CRITERIA	MEETS SPECIFICATIONS
Does the app contain a map view that allows users to drop pins with a touch and hold gesture?	The app contains a map view that allows users to drop pins with a touch and hold gesture.
Does the app transition to the Photo Album view when an existing pin is tapped?	When a pin is tapped, the app transitions to the photo album associated with the pin.
When pins are dropped on the map, are they persisted as Pin instances in Core Data?	When pins are dropped on the map, the pins are persisted as Pin instances in Core Data and the context is saved.

Photo Album View

CRITERIA	MEETS SPECIFICATIONS
When a photo album view is opened for a pin that does not yet have any photos, does it begin to download images from Flickr?	When a Photo Album View is opened for a pin that does not yet have any photos, it initiates a download from Flickr.
Is the code for downloading images from Flickr encapsulated into a class?	The code for downloading photos is in its own class, separate from the `PhotoAlbumViewController`.
Are images shown with placeholders in a collection view while they download, and displayed as soon as possible?	Images display as they are downloaded. They are shown with placeholders in a collection view while they download, and displayed as soon as possible.
Are images stored as Binary Type in the `Photo` entity with the "Allows External Storage" option active?	The specifics of storing an image is left to Core Data by activating the "Allows External Storage" option.
Once all images have been downloaded, can the user remove photos from the album by tapping the image in the collection view?	Once all images have been downloaded, the user can remove photos from the album by tapping the image in the collection view. Tapping the image removes it from the photo album, the booth in the collection view, and Core Data.
Does the Photo Album view have a button that allows the user to replace the images in a photo album with a new set of images downloaded from Flickr?	The Photo Album view has a button that initiates the download of a new album, replacing the images in the photo album with a new set from Flickr.
If the Photo Album view is opened for a pin that already has photos, are they immediately displayed?	If the Photo Album view is opened for a pin that previously had photos assigned, they are immediately displayed. No new download is needed.

Suggestions to Make Your Project Stand Out!

- Add more entities to your Core Data model.
- Implement a feature where the user can drag the pin they have just dropped on the map, but only until they lift their finger. Note, this is different to the `.draggable` property of map pins!
- When the user drops the pin on the map, start downloading the images immediately without waiting for the user to navigate to the collection view.

Student FAQ