App Specification: Virtual Tourist

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
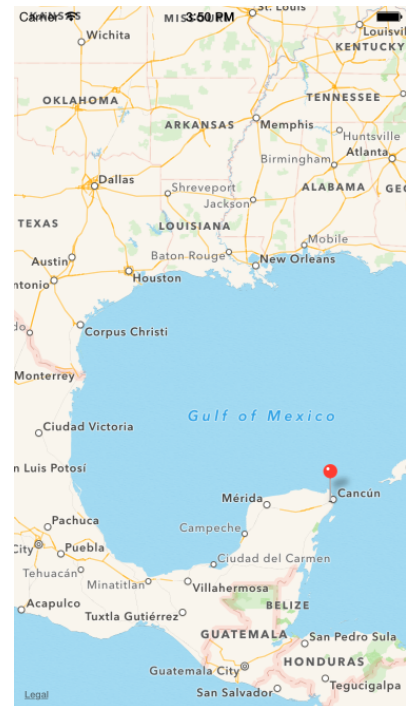
The scenes are described in detail below.

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 persistent. If the app is turned off, the map should be in the same state when it is turned on again.

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

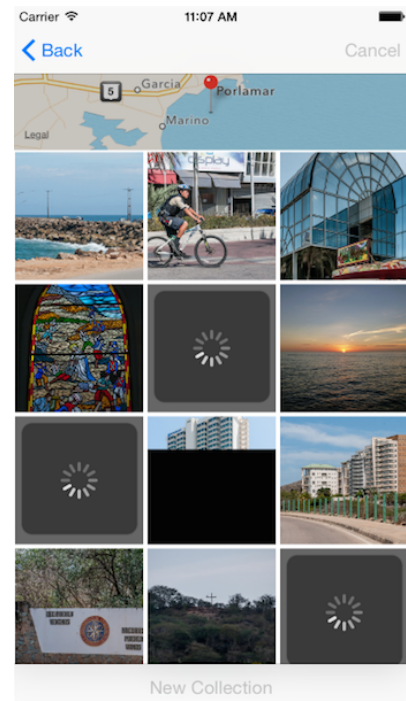When a pin is tapped the app will navigate to the Photo Album view associated with the pin.

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.

The images 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.
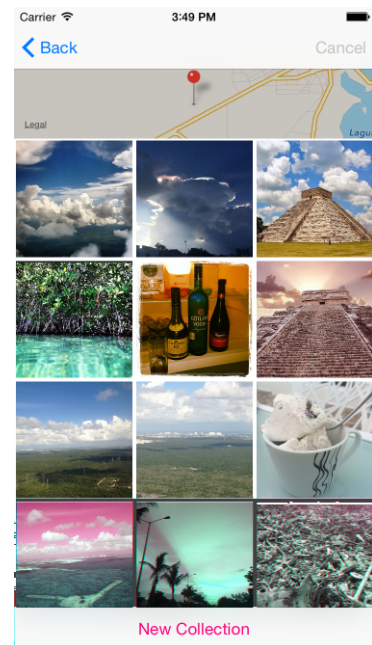
Once the images have all be downloaded the app should enable **New Collection** button at the bottom of the page. Tapping this button should empty the photo album and fetch a new set of images.

Users should be able to remove photos from an album by tapping them.

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.

Criteria	Does Not Meet Specifications	Meets Specifications	Exceeds Specifications (Completely Udacious)
Core Data			
Does the app create a managed object context backed by a local SQLite store?	• The app doesn't contain a managed object context. • The app chooses another persistent store.	• App contains a correctly configured managed object context.	*Not Applicable*
Does the app use a managed object model created in the Xcode model editor?	• The app project does not contain a `.xcdatamodeld` file.	• The object model file is present.	*Not Applicable*
Does the object model contain two entities: Pin and Photo?	• The object model is present, but empty. • The object model contains a single entity.	• The object model is present and sufficient.	• The object model contains additional entities.
Does the object model contain a one-to-many relationship between the Pin and Photo entities, with an appropriate inverse?	• The object model does not include a relationship between entities. • A relationship is present, but without an appropriate inverse.	• A one-to-many relationship and its inverse are present.	*Not Applicable*
Travel Locations Map View			
Does the app contain a map view that allows users to drop pins with a touch and hold gesture?	• The app does not have a map view. • The user cannot add pins by tapping and holding a spot on the map.	• The map exists and pins can be added with the standard touch and hold gesture.	• When the pin drops, users can drag the pin until their finger is lifted.
Does the app transition to the Photo Album view when an existing pin is tapped?	• The app does not transition to the photo album view. • The app transitions to the photo album view, but the images downloaded are not associated with the pin's location.	• The app transitions to the photo album associated with the pin location.	*Not Applicable*
When pins are dropped on the map, are they persisted as Pin instances in Core Data?	• No, the pins are not added to Core Data. • The pins are added to Core Data, but the context is not saved.	• Yes, the pins are stored in Core Data and the context is saved.	*Not Applicable*
Photo Album View			
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?	• The photo album view does not initiate a download when no photos exist for a pin.	• The Photo Album View initiates the download of photos for an empty album.	• The photos are pre-fetched as soon as the pin is dropped.
Is the code for downloading images from Flickr encapsulated into a class?	• The code for downloading photos is in the `PhotoAlbumViewController` class.	• The code is in its own class.	*Not Applicable*
Are images shown with placeholders in a collection view while they download, and displayed as soon as possible?	• The images are not displayed until all images are downloaded.	• Images display as they are downloaded.	*Not Applicable*
Are Image files stored into the Documents directory, and are the paths to these files stored in Photo entities in Core Data, with a relationship to the pin?	• Images files are held in memory. • Photo entities are not created in Core Data. • Photos are created, but are not related to their pin.	• Image data is stored in files in the Documents directory. Corresponding paths are stored in Photo instances in Core Data.	*Not Applicable*
Once all images have been downloaded can the user remove photos from the album by tapping the image in the collection view?	• Tapping the view does not remove it from the album. • The image is removed from the collection view but not from Core Data.	• Tapping the image removes it from the photo album, the booth in the collection view, and in Core Data.	*Not Applicable*
When Photos are removed from an album, is the underlying file in the Documents directory deleted?	• The file remains in the directory after the photo has been removed from Core Data.	• The code in the Photo Album view controller explicitly deletes the file when Photos are removed.	• Underlying files are automatically deleted when a Photo object is removed from Core Data, using code in the Photo managed object.
Does the Photo Album view have a button that allows user to replace the images in a photo album with a new set of images downloaded from Flickr?	• The view controller does not have a button that initiates the download of a new photo album.	• The view controller has a button that initiates the download of a new album.	*Not Applicable*
If the Photo Album view is opened for a pin that already has photos, are they immediately displayed?	• The photo album always downloads new images, even if the pin had already been assigned images. • The photo album is empty if a pin had previously been assigned images.	• The photo album correctly shows images if a pin has already been assigned images.	*Not Applicable*