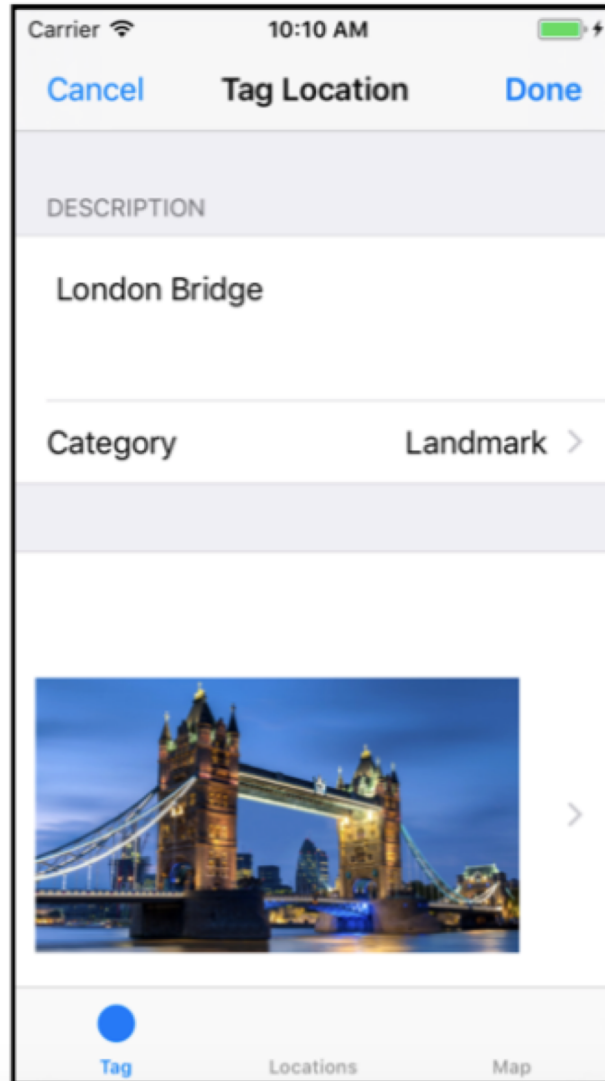




Chapter 30

Image Picker

Lenny Mendoza



Outline

- **Add an image picker**
- **Show the image**
- **UI improvements**
- **Save the image**
- **Edit the image**
- **Thumbnails**

Add an image picker

Ask for permission to access the user's photo library

Key	Type	Value
▼ Information Property List	Dictionary	(16 items)
Privacy - Photo Library Usage Description	String	Add photos to your locations.
Privacy - Location When In Use Usage Description	String	This app lets you keep track of interesting places. It needs

Use camera to add image

```
extension LocationDetailsViewController:
UIImagePickerControllerDelegate,
UINavigationControllerDelegate {

func takePhotoWithCamera() {
let imagePicker = UIImagePickerController()
imagePicker.sourceType = .camera
imagePicker.delegate = self
imagePicker.allowsEditing = true
present(imagePicker, animated: true, completion: nil)
} }
```

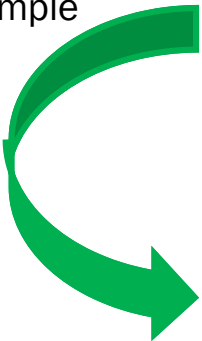


The camera interface

Extensions

This extension allows you to group all the photo-picking related functionality together

Example



```
import UIKit

class ViewController: UIViewController, UITableViewDelegate, UITableViewDataSource {
    ...
}
```

```
import UIKit

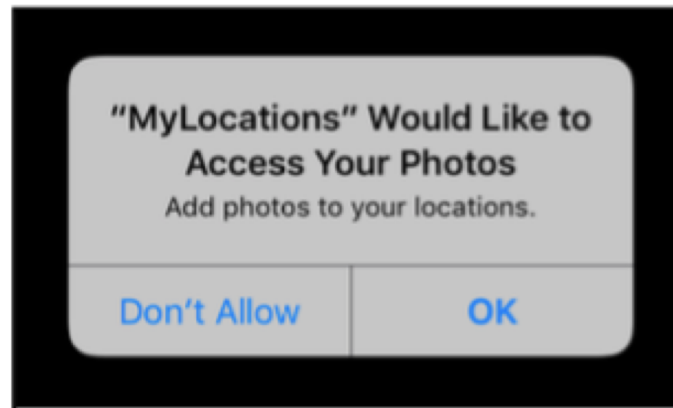
class ViewController: UIViewController {
    ...
}

extension ViewController: UITableViewDataSource {
    ...
}

extension ViewController: UITableViewDelegate {
    ...
}
```

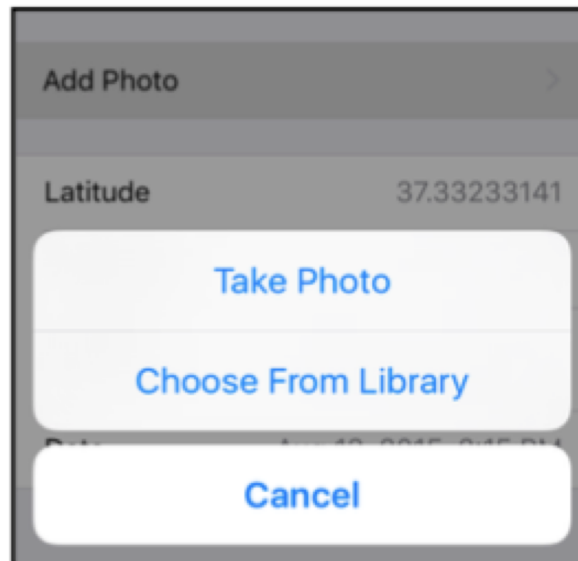
Use photo library to add image

```
func choosePhotoFromLibrary() {  
  
let imagePicker = UIImagePickerController()  
imagePicker.sourceType = .photoLibrary  
imagePicker.delegate = self  
imagePicker.allowsEditing = true  
present(imagePicker, animated: true, completion: nil) }
```



The user needs to allow the app access to the photo library

Choose between camera and photo library



The action sheet that lets you choose between camera and photo library

Outline

• ~~Add an image picker~~



- Show the image
- UI improvements
- Save the image
- Edit the image
- Thumbnails

Show the image

DESCRIPTION	
(Description goes here)	
Category	Detail >
Add Photo	Image View >
Latitude	Detail
Longitude	Detail

Adding an Image View to the Add Photo cell

Resize table view cell to show image

We need to get

To this

From this



The photo gets cut off



The photo is stretched out a bit

Set image to display correctly



The photo is stretched out a bit



The aspect ratio of the photo is kept intact

Refactor the code

```
override fun tableView(_ tableView: UITableView,
heightForRowAt indexPath: IndexPath) -> CGFloat {

switch (indexPath.section, indexPath.row) {
case (0, 0):
return 88
case (1, _):
return imageView.isHidden ? 44 : 280
case (2, 2): addressLabel.frame.size = CGSize(
width: view.bounds.size.width - 115,
height: 10000)
addressLabel.sizeToFit()
addressLabel.frame.origin.x = view.bounds.size.width -
addressLabel.frame.size.width - 15
return addressLabel.frame.size.height + 20
default: return 44
} }
```

Outline

- ~~Add an image picker~~



- ~~Show the image~~



- **UI improvements**

- **Save the image**

- **Edit the image**

- **Thumbnails**

UI improvements

Handle background mode

```
func listenForBackgroundNotification() {
NotificationCenter.default.addObserver(forName:
    Notification.Name.UIApplicationDidEnterBackground,
    object: nil, queue: OperationQueue.main) { _ in

if self.presentedViewController != nil {
    self.dismiss(animated: false, completion: nil)
}
self.descriptionTextView.resignFirstResponder()
}
}
```

Outline

- ~~Add an image picker~~ ✓
- ~~Show the image~~ ✓
- ~~UI improvements~~ ✓
- **Save the image**
- **Edit the image**
- **Thumbnails**

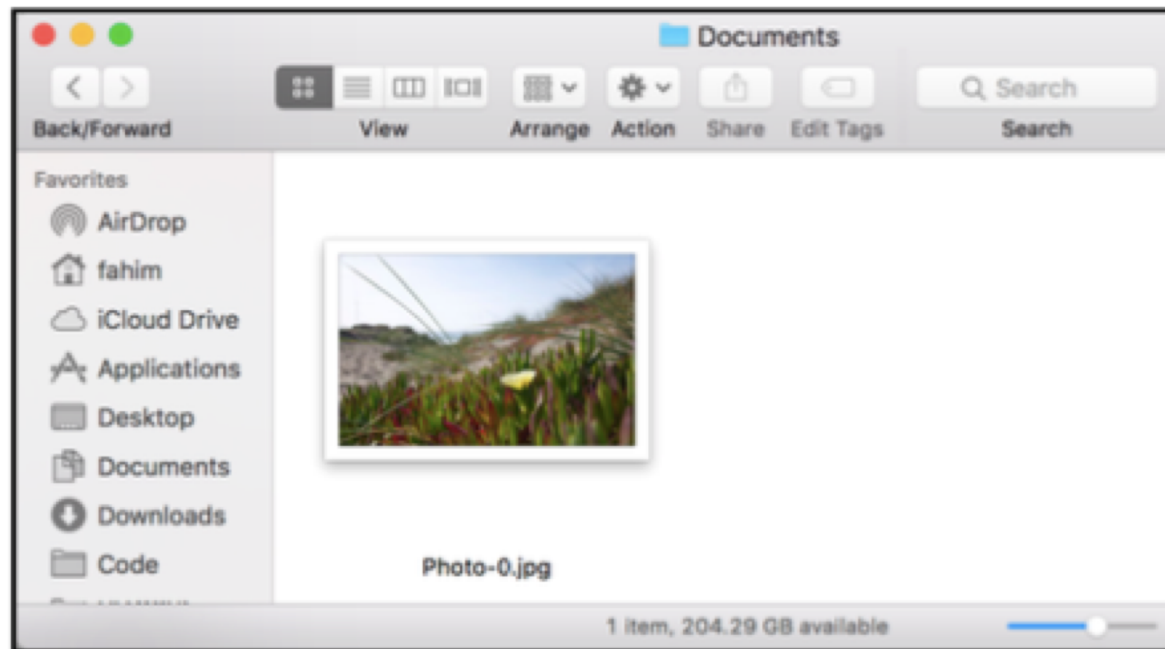
Save the image

Data model changes

Add Photo ID attribute

```
@NSManaged public var photoID: NSNumber?
```

Save the image to the file



The photo is saved in the app's Documents folder

Verify photo ID in SQLite

The screenshot shows a SQLite database interface for 'DataModel.sqlite'. The 'Tables' list on the left includes Z_PRIMARYKEY, Z_METADATA, Z_MODELCACHE, and Z_LOCATION. The main area displays a table with the following columns: Field, Type, Length, Null, Key, Default, and Class. Below this, a query table shows the following data:

Field	Type	Length	Null	Key	Default	Class
Z_PK	integer	0	NO	PRI	0	NSNumber
Z_ENT	integer	0	YES	0	0	NSNumber
Z_OPT	integer	0	YES	0	0	NSNumber
ZPHOTOID	integer	0	YES	0	0	NSNumber
ZDATE	timestamp	0	YES	0	0	NSDate
ZLATITUDE	float	0	YES	0	0	NSDecimalNumber
ZLONGITUDE	float	0	YES	0	0	NSDecimalNumber
ZCATEGORY	varchar	0	YES	0	0	NSString
ZLOCATIONDESCRIPTION	varchar	0	YES	0	0	NSString
ZPLACEMARK	blob	0	YES	0	0	NSData

Z_PK	Z_ENT	Z_OPT	ZPHOTOID	ZDATE	ZLATITUDE	ZLONGITUDE	ZCATEGORY	ZLOCATIONDES...	ZPLA
3	1	2	0	2014-09-27 1...	51,58838759	4,77649758	Landmark	City Center	
4	1	1	1	2014-09-27 1...	51,58983	4,77317	Landmark	The Harbor	
5	1	1	2	2014-09-27 1...	51,59138	4,77916	Park	Valkenbergpark	

An orange arrow points to the ZPHOTOID value '2' in the third row of the query table.

The Location objects with unique photoId values in Liya

Outline

- ~~Add an image picker~~ ✓
- ~~Show the image~~ ✓
- ~~UI improvements~~ ✓
- ~~Save the image~~ ✓
- Edit the image
- Thumbnails

Edit the image

```
override func viewDidLoad() {
    super.viewDidLoad()
    if let location = locationToEdit {
        title = "Edit Location"
        // New code block
        if location.hasPhoto {
            if let theImage = location.photoImage {
                show(image: theImage)
            }
        }
        // End of new code
    } ...
}
```

Clean up on location deletion

```
func removePhotoFile() {  
  if hasPhoto {  
    do {  
      try FileManager.default.removeItem(at: photoURL)  
    } catch {  
      print("Error removing file: \(error)")  
    }  
  }  
}
```

Outline

- ~~Add an image picker~~



- ~~Show the image~~



- ~~UI improvements~~



- ~~Save the image~~



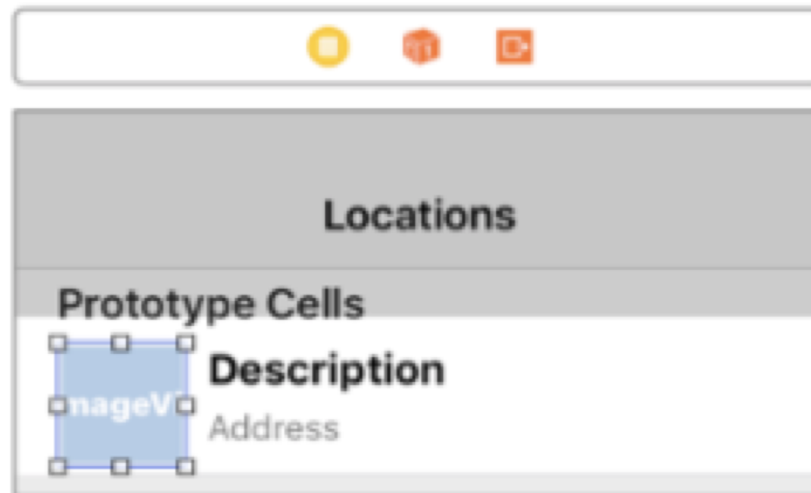
- ~~Edit the image~~



- **Thumbnails**

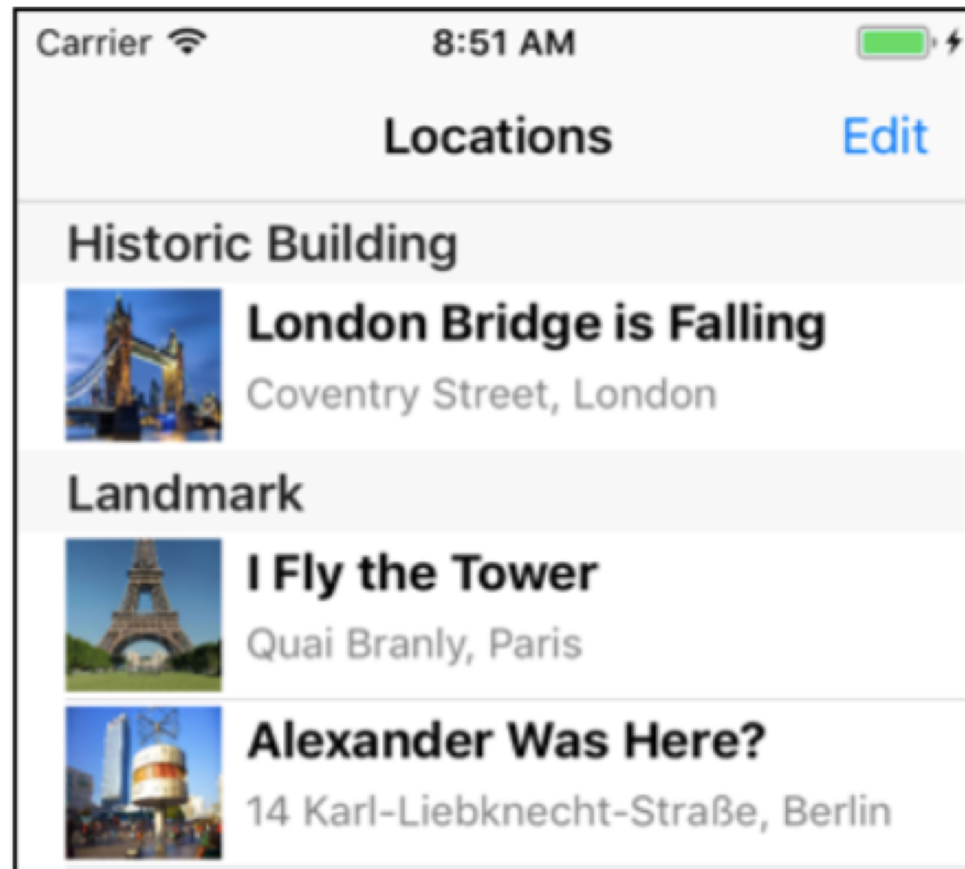
Thumbnails

Storyboard changes



The table view cell has an image view

Code changes



Images in the Locations table view

Thumbnails via UllImage extension



London Bridge is Falling

Coventry Street, London

The photos are shrunk to the size of the thumbnails



London Bridge is Falling

Coventry Street, London

The thumbnails now have the correct aspect ratio



Questions?