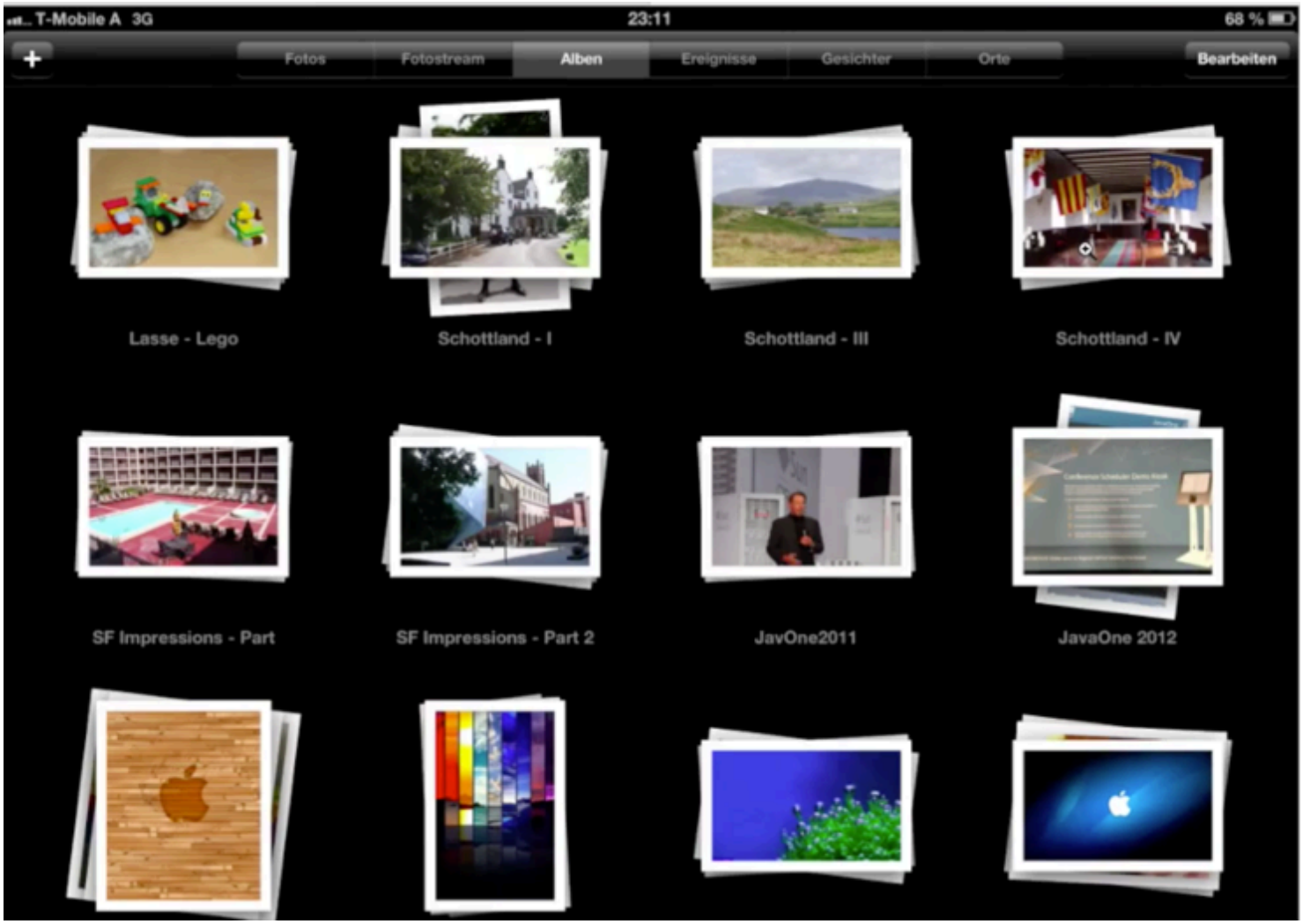
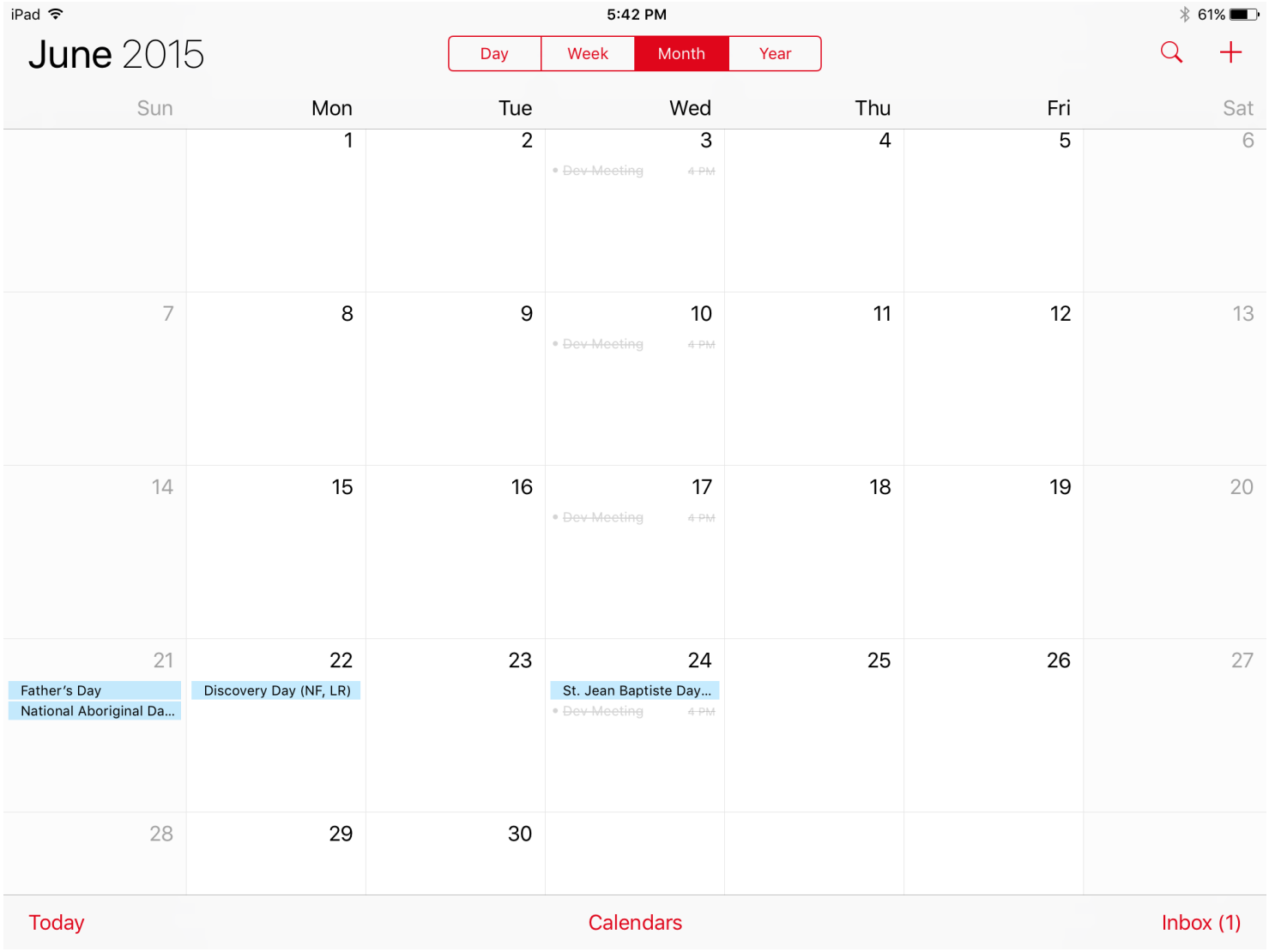
W3D3 UICollectionView Intro

What is a UICollectionView?
- Way to present ordered data with a flexible layout
- Grid layout is the most commonly used



- It's commonly used out there.
- Apple's Calendar is a UICollectionView


iPad
5:42 PM
61%
June 2015
Day
Week
Month
Year
Sun
Mon
Tue
Wed
Thu
Fri
Sat
1
2
3
Dev Meeting
4 PM
4
5
6
7
8
9
10
Dev Meeting
4 PM
11
12
13
14
15
16
17
Dev Meeting
4 PM
18
19
20
21
Father's Day
National Aboriginal Da...
22
Discovery Day (NF, LR)
23
24
St. Jean Baptiste Day...
Dev Meeting
4 PM
25
26
27
28
29
30
Today
Calendars
Inbox (1)

Search 5:44 PM 61%

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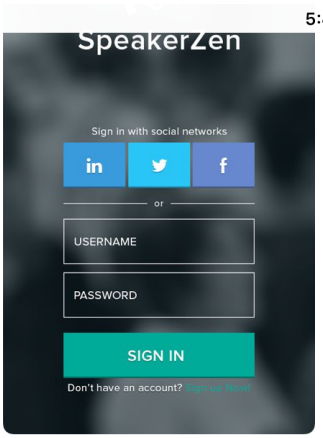

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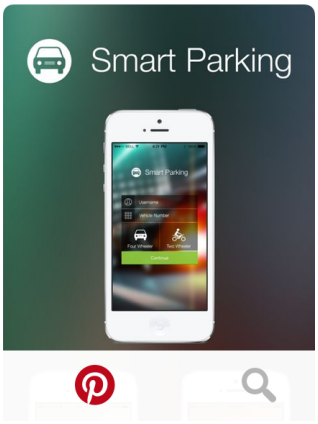

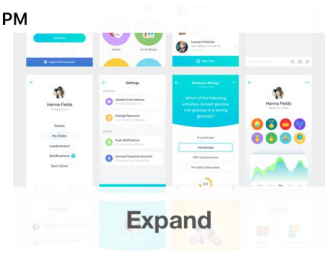

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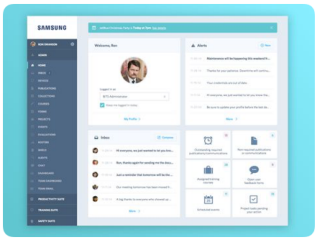

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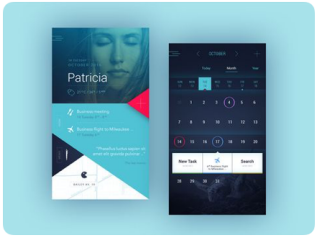

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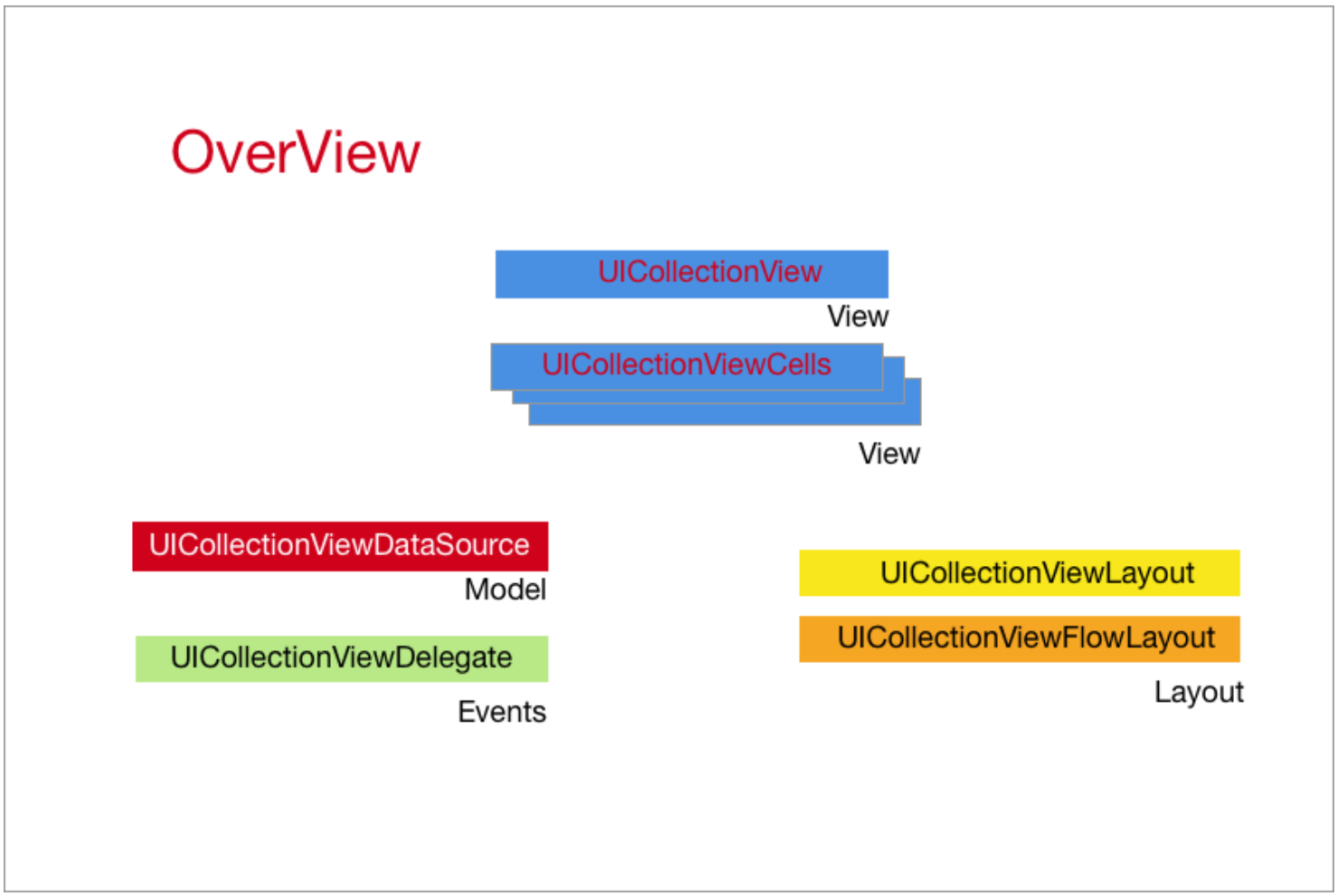
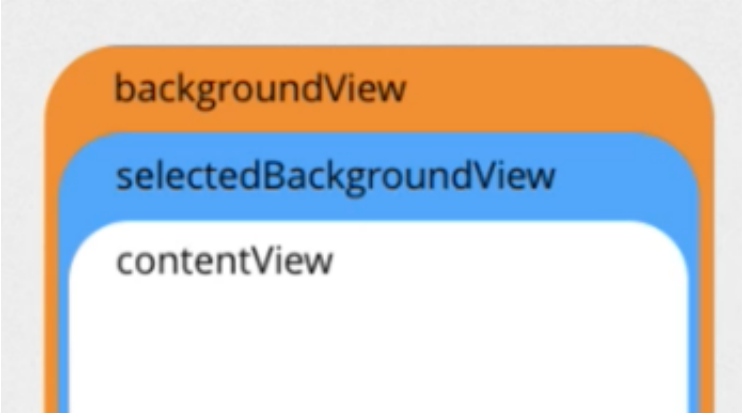
50,000 Foot View



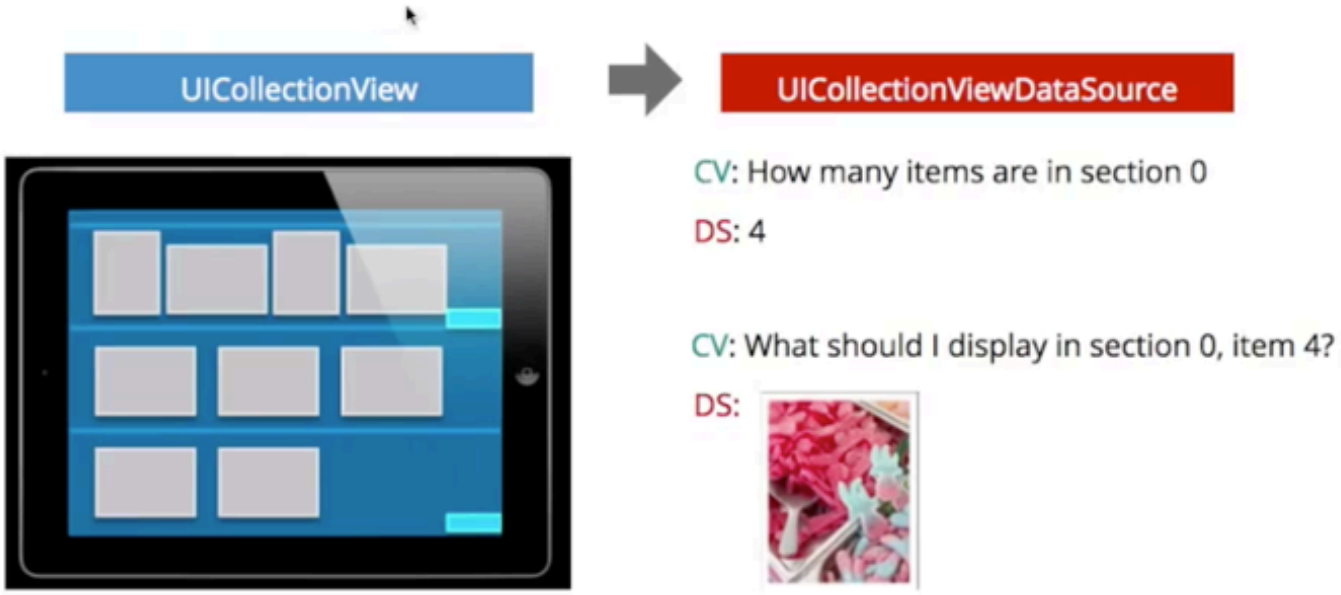
What it looks like:

* UICollectionView is a container that holds everything
* Cells are the content (add content to contentView)



* Supplementary view are things like headers and footers
* DecorationView is the background image in this case

UICollectionViewDataSource

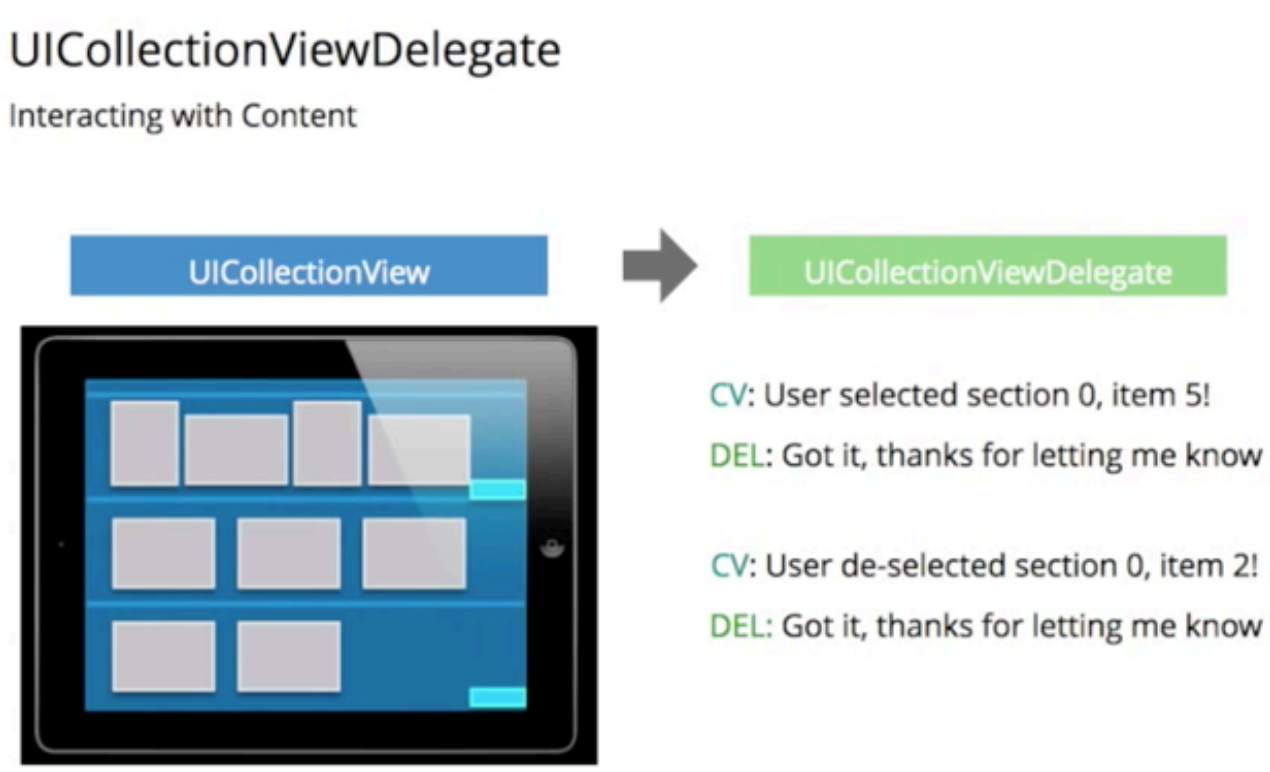


UICollectionViewDataSource Has 3 Important Methods

```
1
2  // you should implement this and return the number
   of sections in your collection
3
4  - (NSInteger)numberOfSectionsInCollectionView:
   (UICollectionView *)collectionView;
5
6  // you have to determine the number of items there
   are for each section and return it here
7  - (NSInteger)numberOfItemsInSection:
   (NSInteger)section;
8
9
10 // this is where the model and view intersect
11 - (UICollectionViewCell *)cellForItemAtIndexPath:
```

```
    (NSIndexPath *)indexPath;
12
13
14
```

UICollectionViewDelegate




```
1
2   - (void)collectionView:(UICollectionView
    *)collectionView didSelectItemAtIndexPath:
    (NSIndexPath *)indexPath;
3
```

UICollectionViewFlowLayout

- Subclass of UICollectionViewLayout.

- Used for most grid style layouts.

- The default flow layout is automatically hooked up in the *UICollectionViewController* and can be accessed using the *collectionViewLayout*.

- If you have an outlet to a UICollectionView then you can also access the *collectionViewLayout* which is automatically hooked up at least in IB.

- You can setup static values in the storyboard.

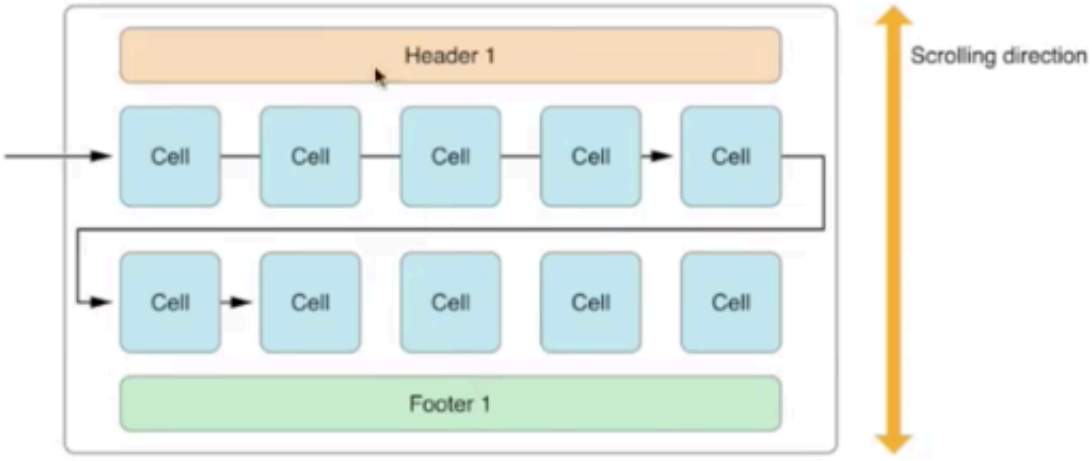
- To setup values that are relative to the view's dimensions then set these up in *viewDidLoad*.

UICollectionViewFlowLayout

How to layout content

```
var scrollDirection: UICollectionViewScrollDirection
flowlayout.scrollDirection = UICollectionViewScrollDirection.Horizontal
```

The grid's scroll direction



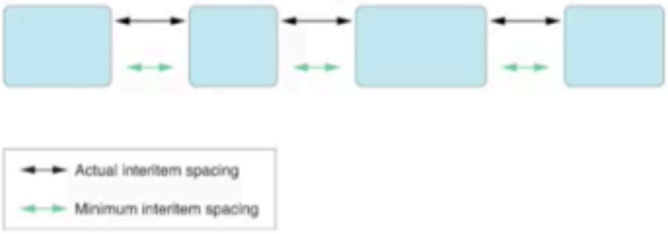
```
1
2 @property CGFloat minimumInteritemSpacing;
3 @property CGFloat minimumLineSpacing;
4 @property(nonatomic) UICollectionViewScrollDirection
  scrollDirection;
5
6 E.g.
7 UICollectionViewFlowLayout* layout =
  (UICollectionViewFlowLayout*)self.collectionView.col
  lectionViewLayout.
8 layout.minimumLineSpacing = 10;
9
10
```

UICollectionViewFlowLayout

How to layout content

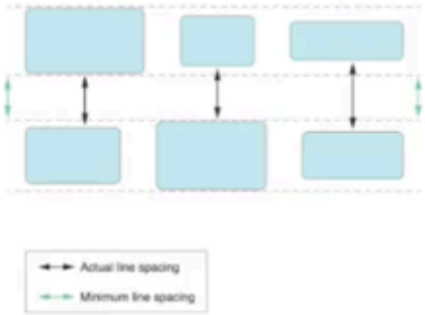
```
var minimumInteritemSpacing: CGFloat
minimumInteritemSpacing = 5.0
```

Minimum horizontal spacing between cells




```
var minimumLineSpacing: CGFloat
minimumLineSpacing = 10.0
```

Minimum vertical spacing between cells

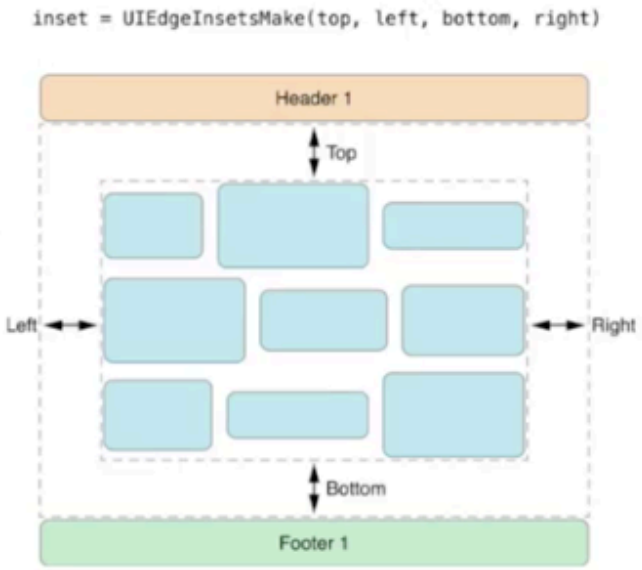


UICollectionViewFlowLayout

How to layout content

```
var sectionInset: UIEdgeInsets
sectionInset = UIEdgeInsetsMake(10,30,20,10)
```

Padding on sections



UICollectionViewDelegateFlowLayout

- You can also setup a delegate to create dynamically sized cells *UICollectionViewDelegateFlowLayout*.

```
1 - (CGSize)collectionView:(UICollectionView
  *)collectionView layout:(UICollectionViewLayout
  *)collectionViewLayout sizeForItemAtIndexPath:
  (NSIndexPath *)indexPath;
```

UICollectionViewLayout

How to layout content

UICollectionViewLayout

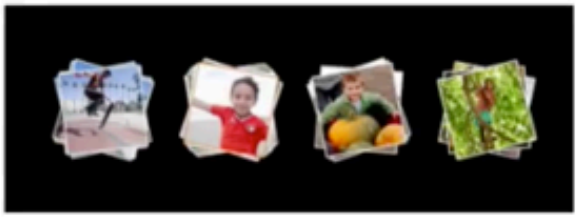
UICollectionViewFlowLayout

CV: What's the min. spacing between cells?

DEL: 5pts

CV: What's the padding on section 0?

DEL: 20 pts

UICollectionViewLayout

Complex layout examples