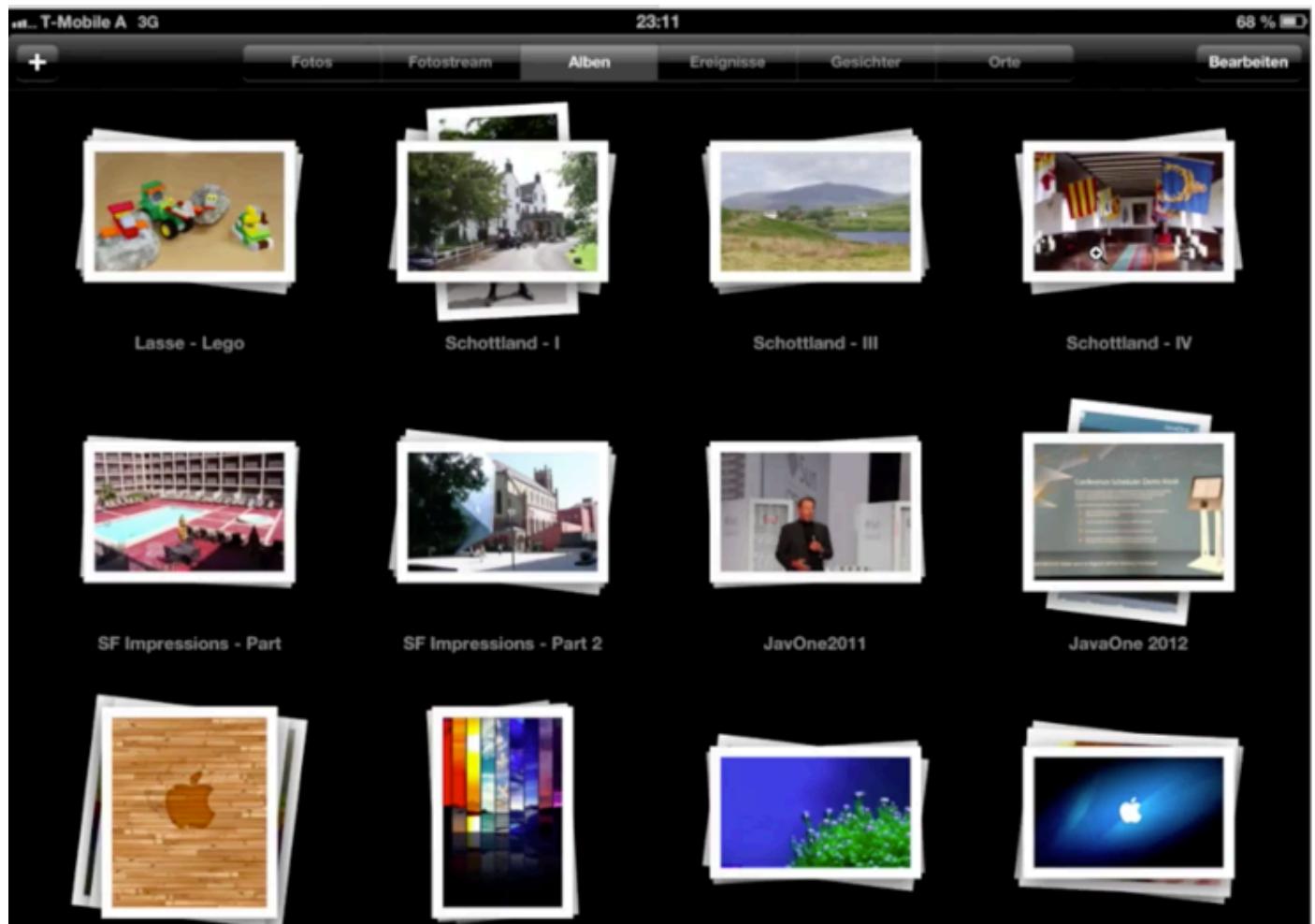


W3D3 UICollectionView Intro

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

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)



Weather App UI

719

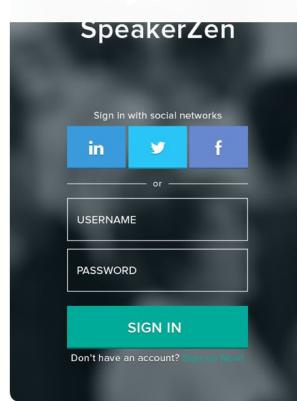
Dribbble



best apps for
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Edudemic

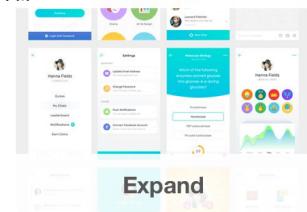


Login #form #ui
#userinterface

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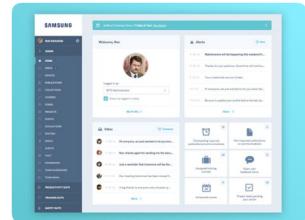
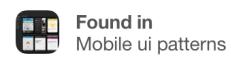


5:44 PM



Quiz App is a
mobile UI kit
created using Ske...

102



Dashboard

363

Dribbble



All-in-one app mobile

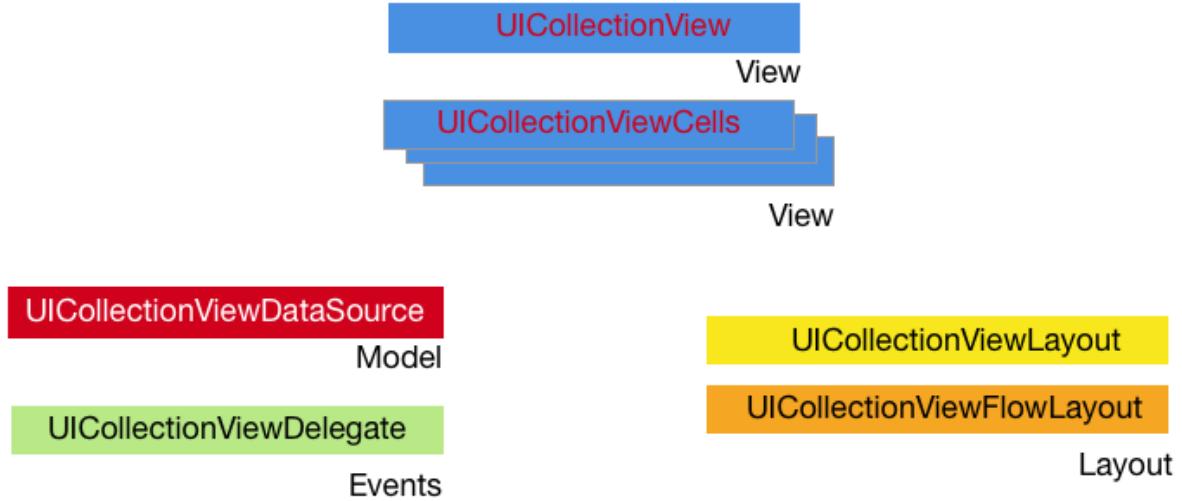
21

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50,000 Foot View

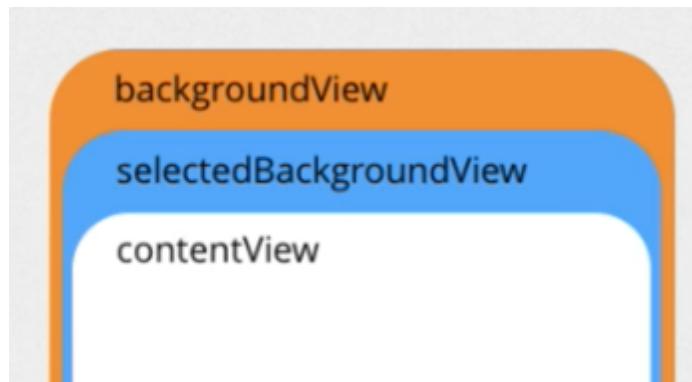
OverView



What it looks like:



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

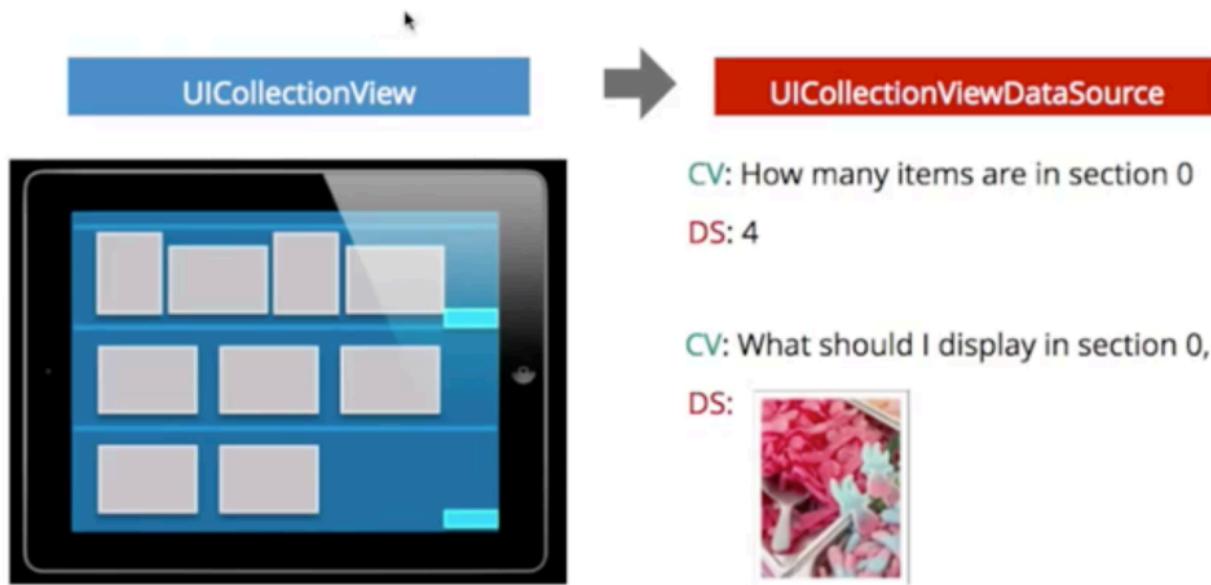


- * Supplementary view are things like headers and footers
- * DecorationView is the background image in this case

UICollectionViewDataSource

UICollectionViewDataSource

Providing content



UICollectionViewDataSource Has 3 Required Methods

1

2 // you should implement this and return the number of sections in your collection

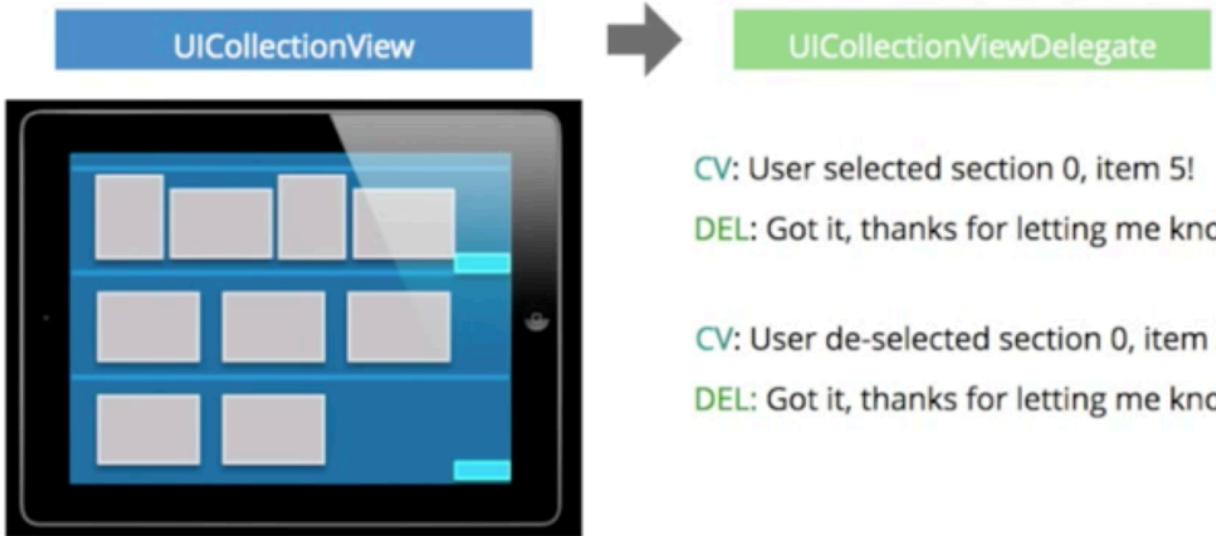
3

```
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

UICollectionViewDelegate

Interacting with Content



1

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

3

UICollectionViewFlowLayout

- Subclass of `UICollectionViewLayout`.
- Used for most grid style layouts.

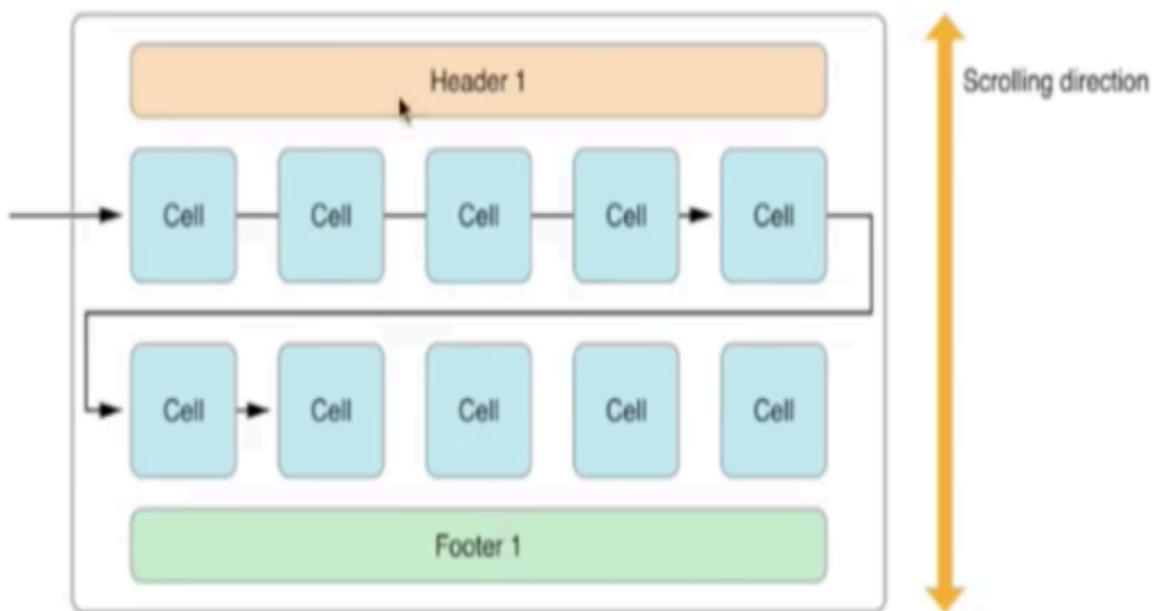
- The default flow layout is automatically hooked up in the *UICollectionViewController* and can be accessed using the *collectionViewLayout* property.
- What is the difference between a collectionview added as a subview in a *UIViewController* and a *UICollectionViewController*? (Make sure you understand this)
- If you have an outlet to a *UICollectionView* then you can also access the *collectionViewLayout* which is automatically hooked up in IB.
- You can setup static values for the flowlayout in the storyboard.
- Tip: static default flowlayout values set in storyboard may affect your layout and give you results you aren't expecting.
- Storyboard is a good place to look to see what properties the layout has. Experiment.
- To setup values that are *relative* to the view's dimensions use *viewDidLoad*. (Setting up flow layout dimensions in storyboard does not allow us to make our layout relative to the current screen size).

UICollectionViewFlowLayout

How to layout content

```
((UICollectionViewFlowLayout *)self.collectionView.collectionViewLayout).  
scrollDirection = UICollectionViewScrollDirectionVertical;
```

The grid's scroll direction



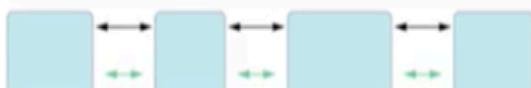
```
1  
2 // some property definitions  
3 @property (nonatomic) CGFloat  
minimumInteritemSpacing;  
4 @property (nonatomic) CGFloat minimumLineSpacing;  
5 @property (nonatomic) UICollectionViewScrollDirection  
scrollDirection;
```

```
6  
7 // E.g.  
8  
9 UICollectionViewFlowLayout* layout =  
    (UICollectionViewFlowLayout*)self.collectionView.collectionViewLayout;  
10 layout.minimumLineSpacing = 10;  
11  
12
```

UICollectionViewFlowLayout

How to layout content

```
((UICollectionViewFlowLayout *)self.collectionView.collectionViewLayout).  
minimumInteritemSpacing = 5.0;  
((UICollectionViewFlowLayout *)self.collectionView.collectionViewLayout).  
minimumLineSpacing = 10.0;
```



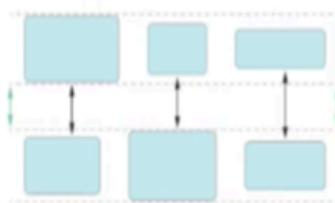
```
var minimumInteritemSpacing: CGFloat  
minimumInteritemSpacing = 5.0
```

Minimum horizontal spacing between cells



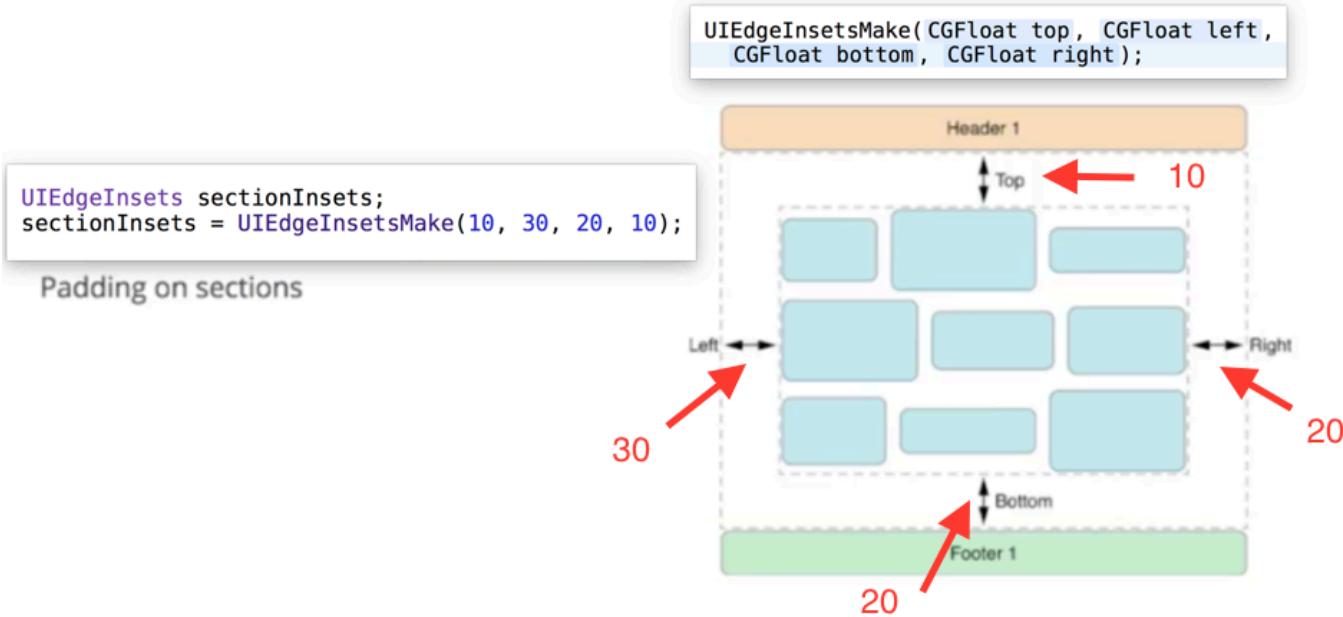
```
var minimumLineSpacing: CGFloat  
minimumLineSpacing = 10.0
```

Minimum vertical spacing between cells



UICollectionViewFlowLayout

How to layout content



UICollectionViewDelegateFlowLayout

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

```
1
2 - (CGSize)collectionView:(UICollectionView
  *)collectionView layout:(UICollectionViewLayout
  *)collectionViewLayout sizeForItemAtIndexPath:
(NSIndexPath *)indexPath;
3
```

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



<https://github.com/philosopherdog/iOS-W3D3-CollectionViews>