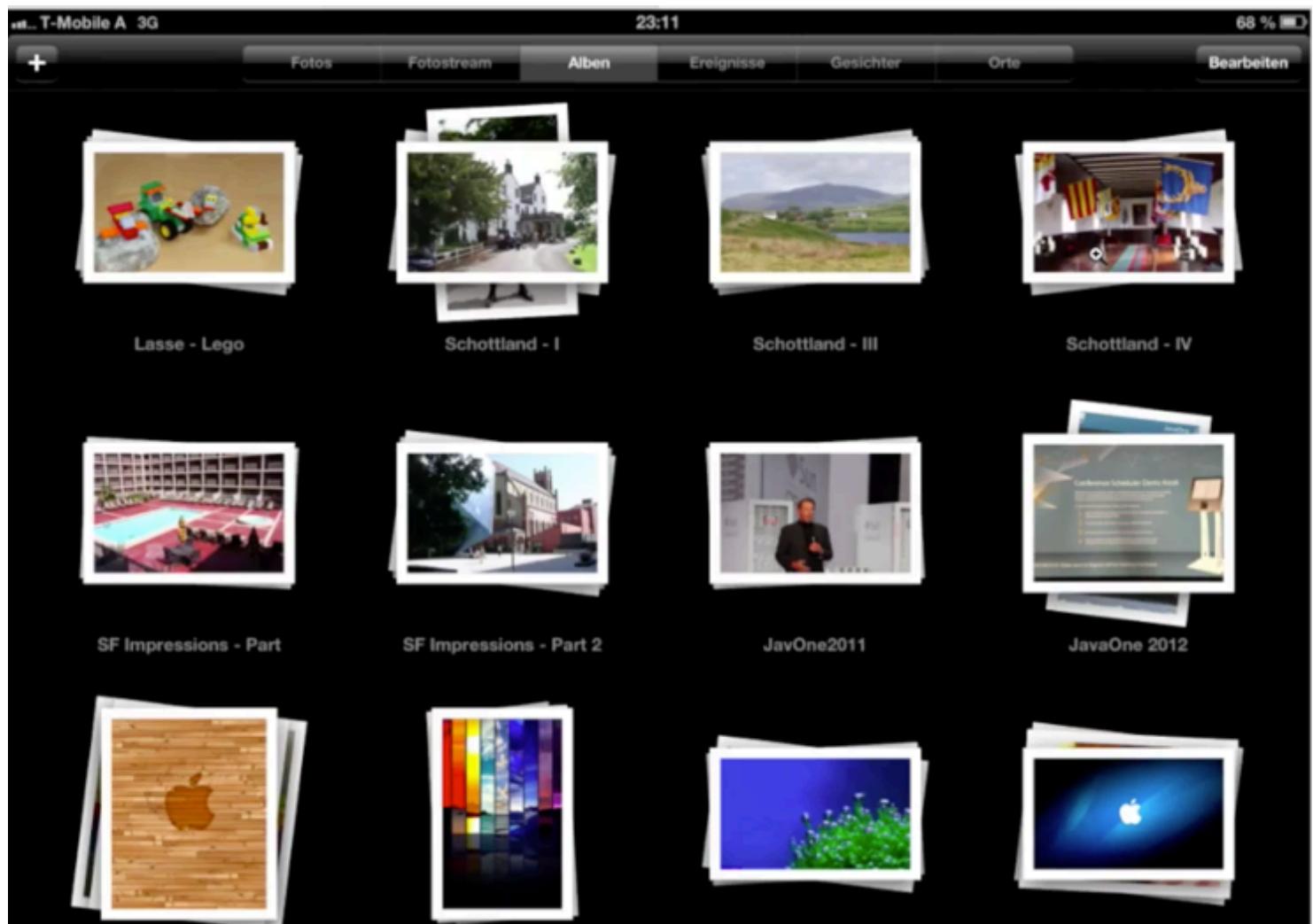


What is a UICollectionView?

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



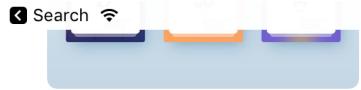
- It's commonly used out there.
- Apple's Calendar is a UICollectionView

June 2015

[Day](#) [Week](#) [Month](#) [Year](#)

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1	2	3	4	5	6
		• Dev-Meeting 4-PM				
7	8	9	10	11	12	13
		• Dev-Meeting 4-PM				
14	15	16	17	18	19	20
		• Dev-Meeting 4-PM				
21	22	23	24	25	26	27
Father's Day National Aboriginal Da...	Discovery Day (NF, LR)	St. Jean Baptiste Day... • Dev-Meeting 4-PM				
28	29	30				

[Today](#)[Calendars](#)[Inbox \(1\)](#)



Weather App UI 1719

Dribbble

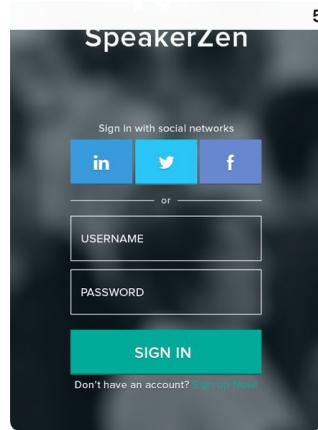
Found in Flat design



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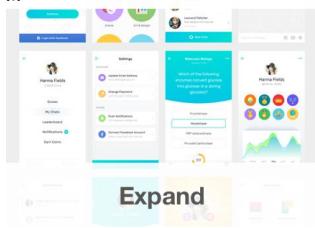
Login #form #ui #userinterface 548

dribbble.com

Found in App icon

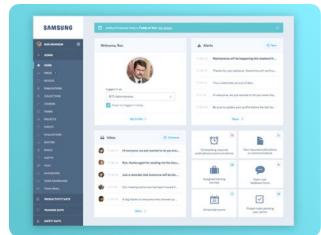


5:44 PM



Quiz App is a mobile UI kit created using Ske... 102

Found in Mobile ui patterns



Dashboard 363

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All-in-one app mobile 21

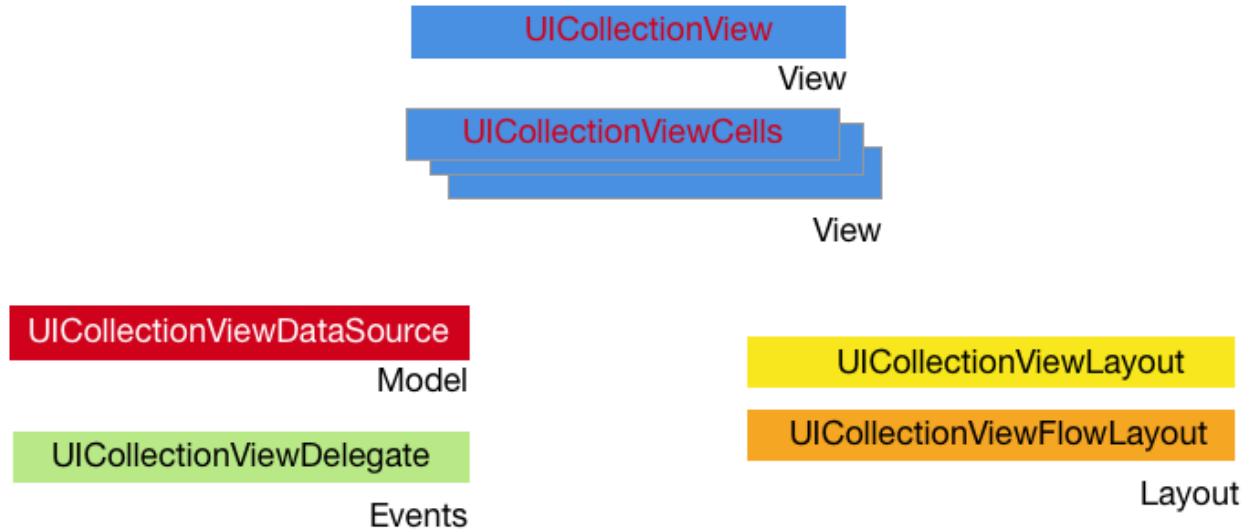
dribbble.com

Found in Mobile design



50,000 Foot View

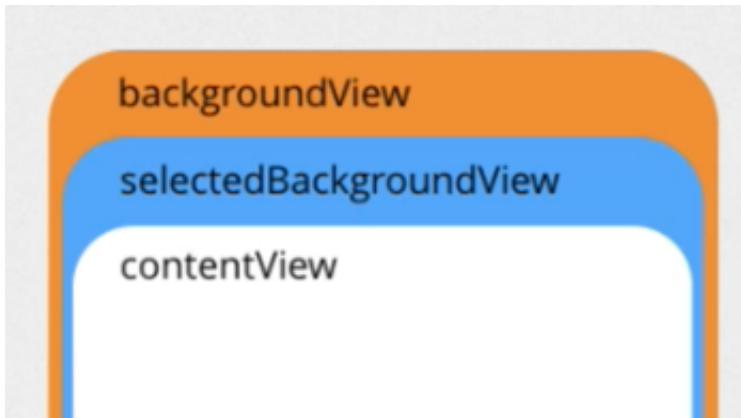
OverView



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



CV: How many items are in section 0

DS: 4

CV: What should I display in section 0, item 4?

DS:



UICollectionViewDataSource Has 3 Required Methods

```
1 // you should implement this and return the number
2 // of sections in your collection
3
4 - (NSInteger)numberOfSectionsInCollectionView:
5   (UICollectionView *)collectionView;
6
7 // you have to determine the number of items there
8 // are for each section and return it here
9
10 - (NSInteger)numberOfItemsInSection:
11   (NSInteger)section;
12
13
14 // this is where the model and view intersect
15 - (UICollectionViewCell *)cellForItemAtIndexPath:
16   (NSIndexPath *)indexPath;
```

UICollectionViewDelegate

UICollectionViewDelegate

Interacting with Content



CV: User selected section 0, item 5!

DEL: Got it, thanks for letting me know

CV: User de-selected section 0, item 2!

DEL: Got it, thanks for letting me know

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

UICollectionViewFlowLayout

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

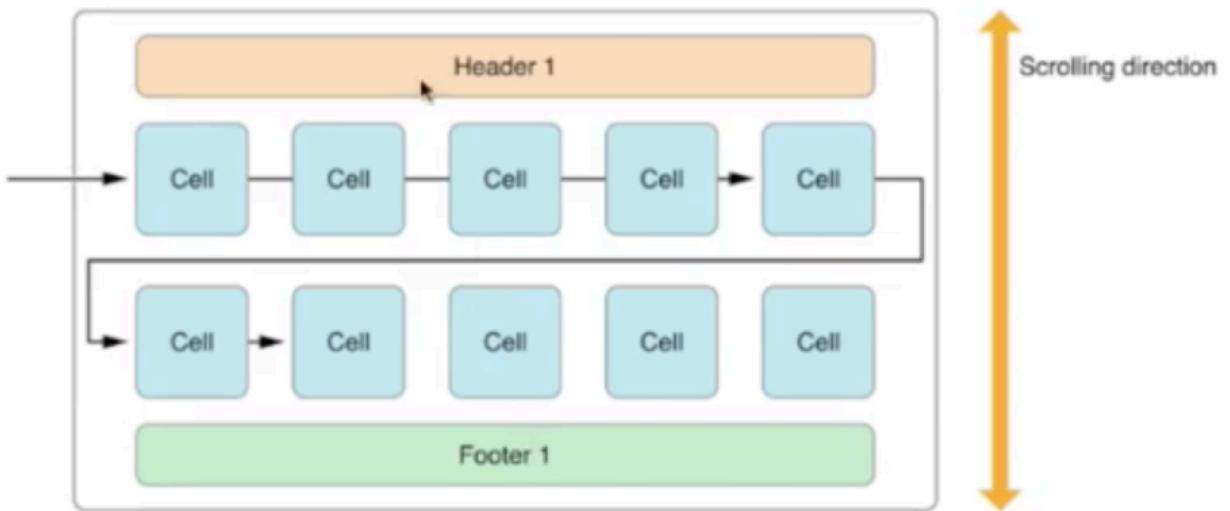
- The default flow layout is automatically hooked up in the *UICollectionViewController* and can be accessed using the *collectionViewLayout* property.
- What is the difference between a collectionview added as a subview in a *UIViewController* and a *UICollectionViewController*? (Make sure you understand 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 expectation.
- 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*. (Make sure you understand why setting up dimensions in storyboard is does not allow us to make our layout relative to the current screen size).

UICollectionViewFlowLayout

How to layout content

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

The grid's scroll direction



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

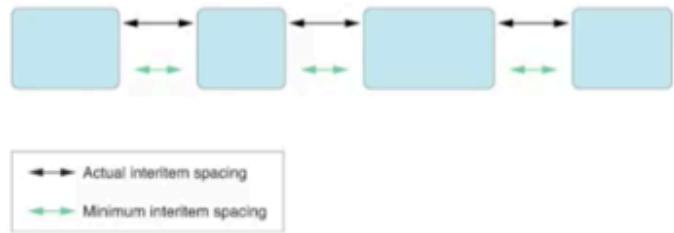
```
lectionViewLayout;  
10 layout.minimumLineSpacing = 10;  
11  
12
```

UICollectionViewFlowLayout

How to layout content

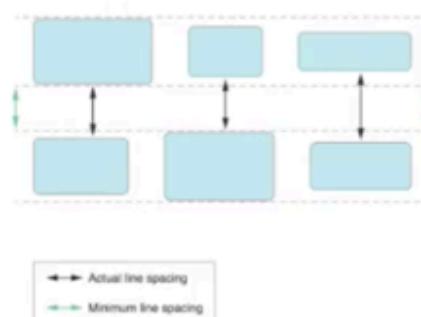
```
var minimumInteritemSpacing: CGFloat  
minimumInteritemSpacing = 5.0
```

Minimum horizontal spacing between cells



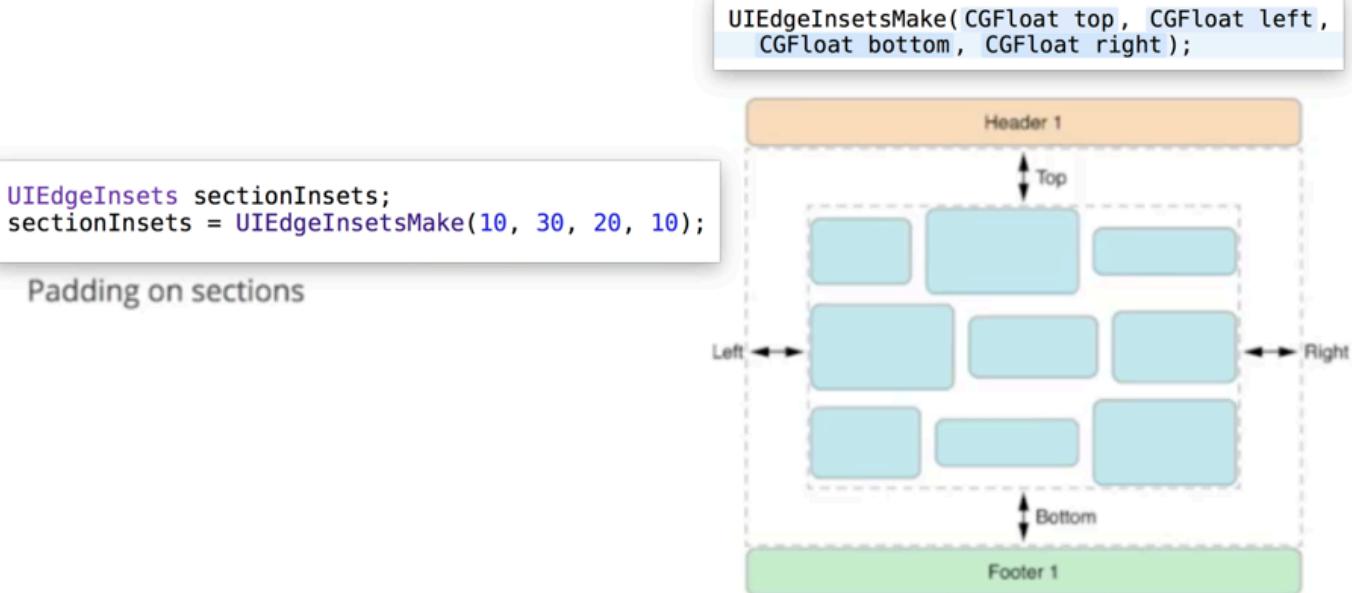
```
var minimumLineSpacing: CGFloat  
minimumLineSpacing = 10.0
```

Minimum vertical spacing between cells



UICollectionViewFlowLayout

How to layout content



UICollectionViewDelegateFlowLayout

Layout

- 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



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>