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

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Flat design

SpeakerZen

Sign in with social networks

in 🐦 f

or

USERNAME

PASSWORD

SIGN IN

Don't have an account? Sign up here

Login #form #ui ⟂548
#userinterface

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App icon

**The 70 Best Apps
For Teachers And Students**

edudemic

best apps for ⟂12k
**teachers and
students**

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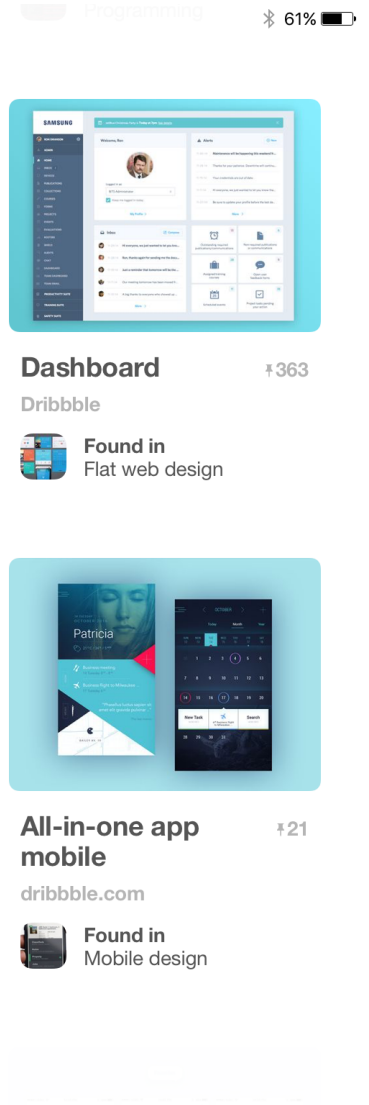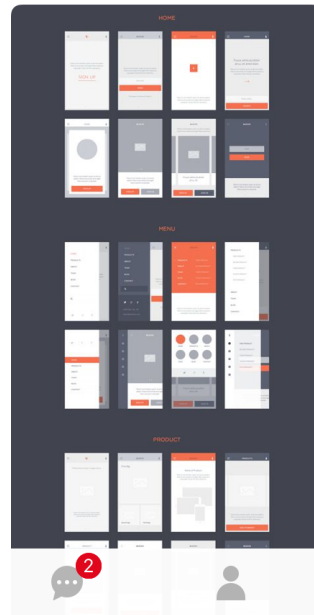iPad app

Smart Parking
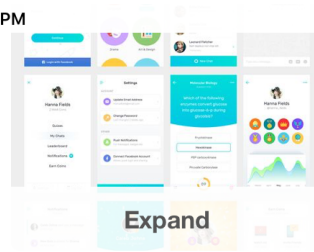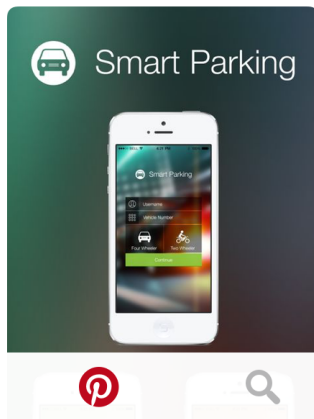
Quiz App is a ⟂102
**mobile UI kit
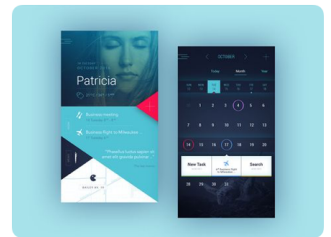created using Ske…**

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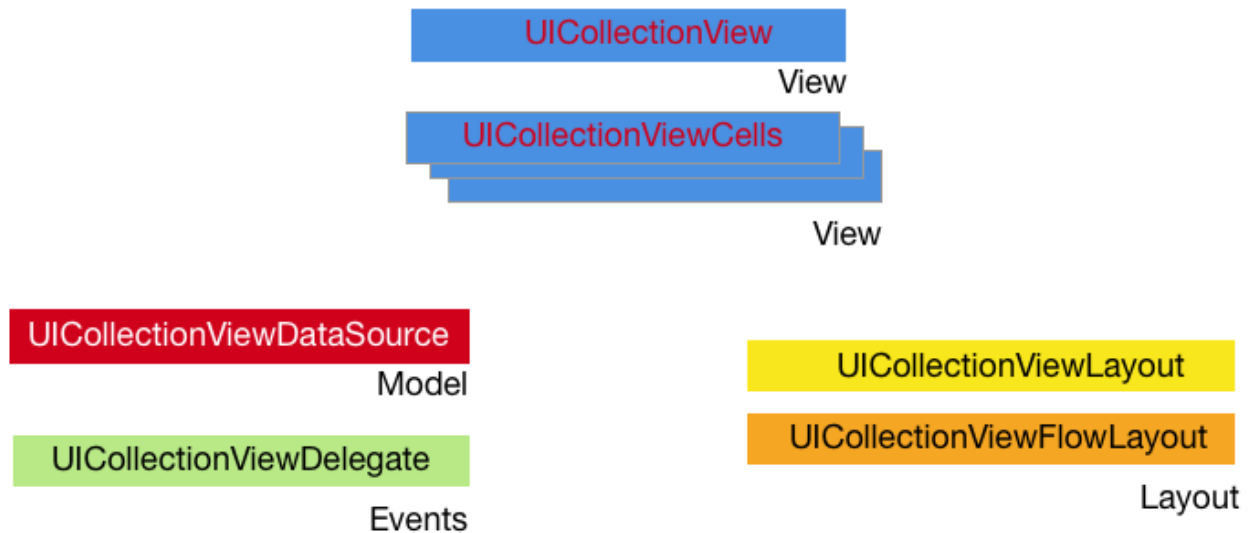
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Flat web design

All-in-one app ⟂21
mobile

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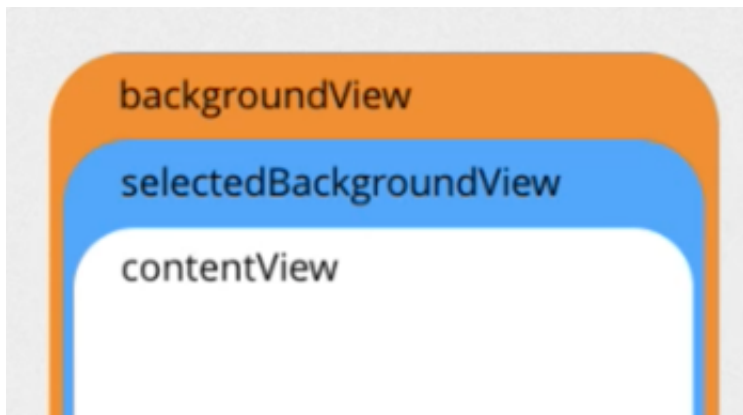
Found in
Mobile design

50,000 Foot View

What it looks like:

Cell

Paris

Chamonix

Supplementary view

Decoration view

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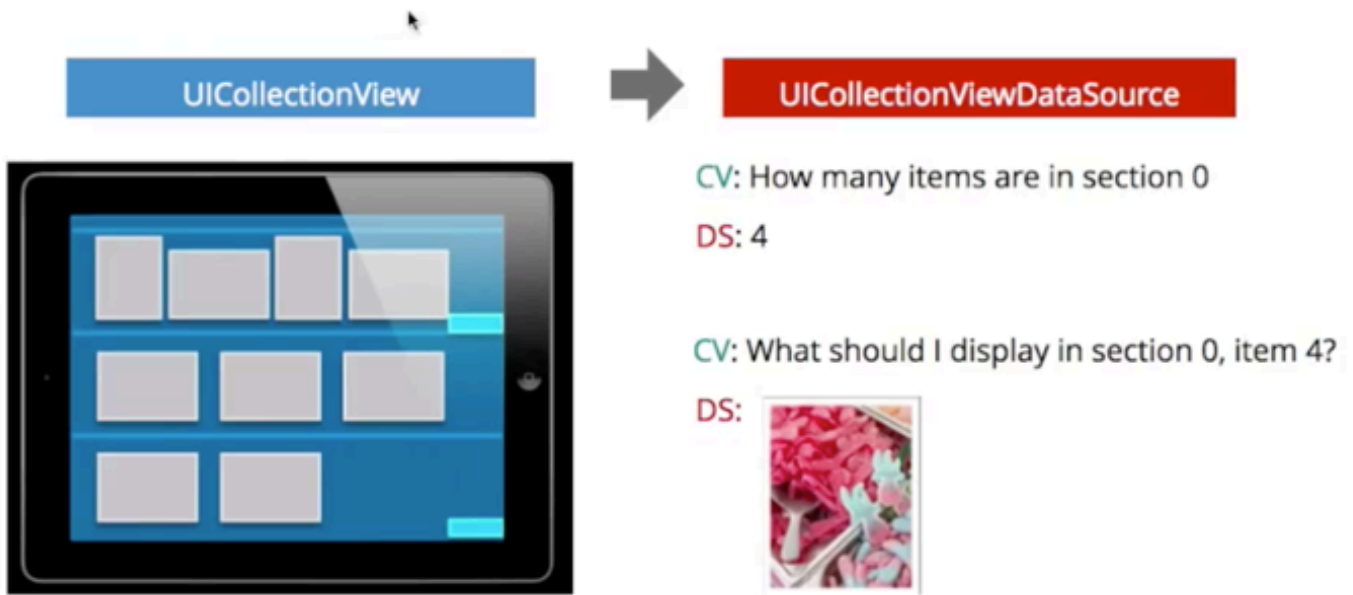

backgroundView

selectedBackgroundView

contentView

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

UICollectionViewDataSource

UICollectionViewDataSource

Providing content

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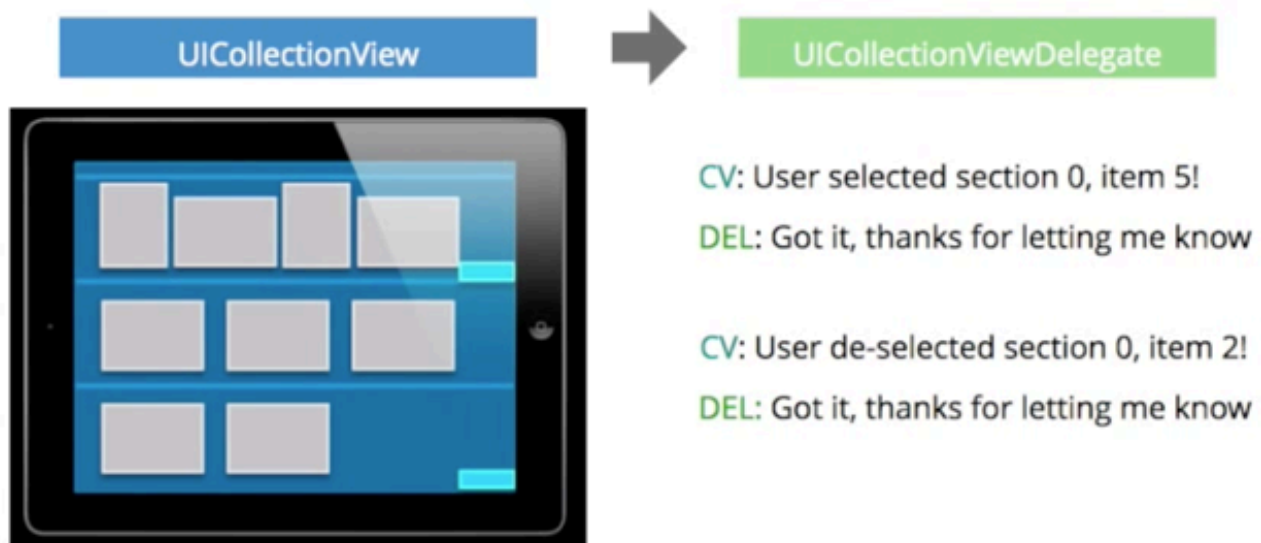
```
      (NSIndexPath *)indexPath;
 12
 13
 14
```

UICollectionViewDelegate

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*.

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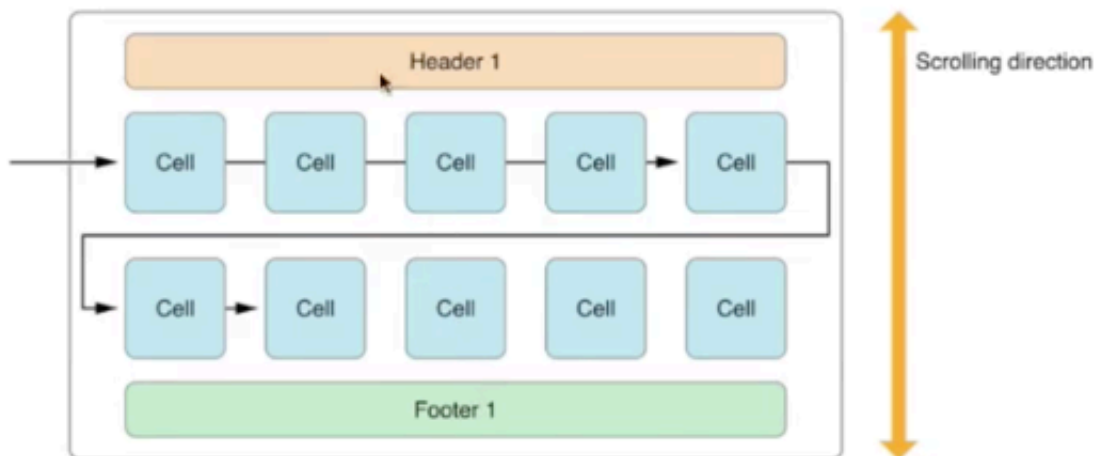
```
1
2 @property CGFloat minimumInteritemSpacing;
3 @property CGFloat minimumLineSpacing;
4 @property(nonatomic) UICollectionViewScrollDirection
  scrollDirection;
5
6 E.g.
7 UICollectionViewFlowLayout* layout =
  (UICollectionViewFlowLayout*)self.collectionView.col
  lectionViewLayout;
8 layout.minimumLineSpacing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

UICollectionViewFlowLayout

How to layout content


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

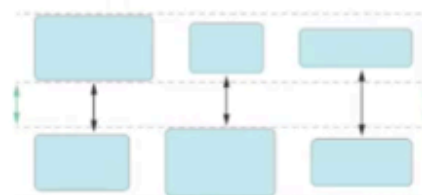Minimum horizontal spacing between cells

Actual interitem spacing
Minimum interitem spacing

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

Minimum vertical spacing between cells

Actual line spacing
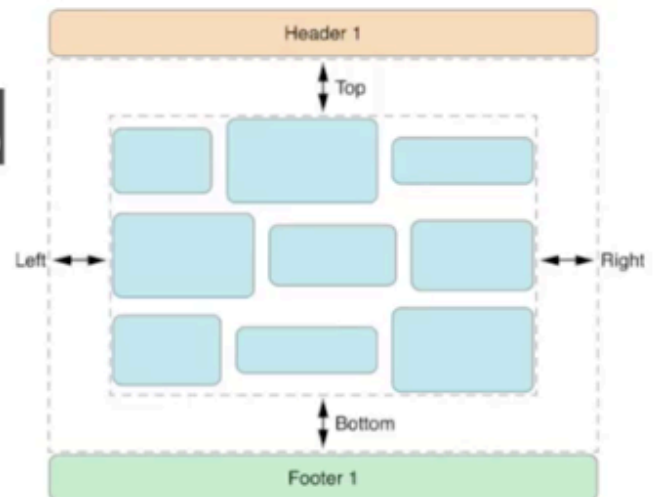Minimum line spacing

UICollectionViewFlowLayout

How to layout content

```
inset = UIEdgeInsetsMake(top, left, bottom, right)
```

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

Padding on sections

*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

UICollectionView → UICollectionViewLayout / UICollectionViewFlowLayout
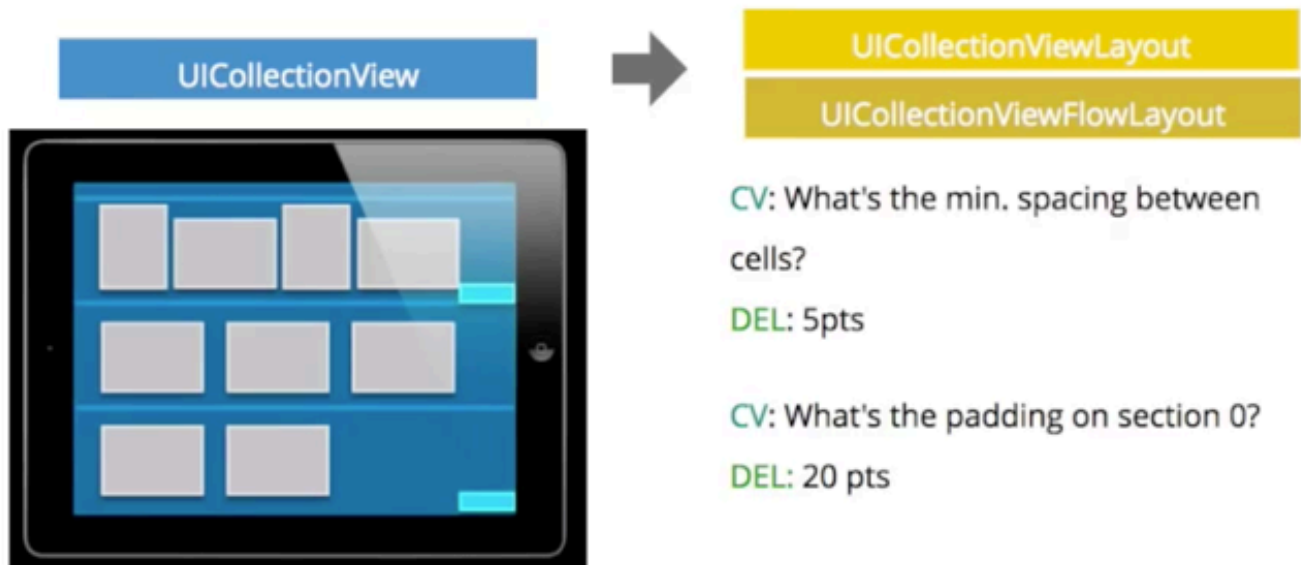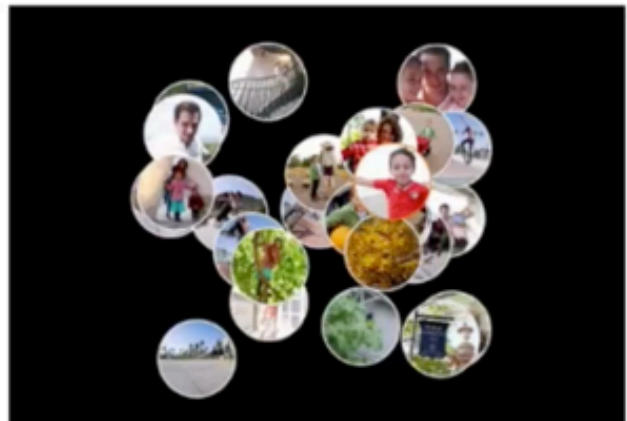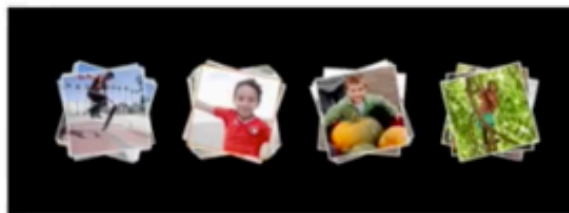
CV: What's the min. spacing between cells?
DEL: 5pts

CV: What's the padding on section 0?
DEL: 20 pts

UICollectionViewLayout

Complex layout examples

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