UICollectionView
+ UIKit Dynamics

UICollectionView + UIKit Dynamics

Aw yeah!

Powerful API 1

+ Powerful API 2

Powerful API 1

+ Powerful API 2

Sharp Object in Eye

UICollectionView
+ UIKit Dynamics

Power and Harmony

UICollectionView + UIKit Dynamics

Aw yeah!

Aw yeah!

APIs

Aw yeah!

APIs

Examples

Aw yeah!

APIs

Examples

Demos

Aw yeah!

UICollectionView
+ UIKit Dynamics

Aw yeah!

UICollectionView

UICollectionView

UICollectionView

introduced in iOS 6

UICollectionView

introduced in iOS 6

ordered collection of items

UICollectionView

introduced in iOS 6

ordered collection of items

customizable layouts!

UICollectionView

introduced in iOS 6

ordered collection of items

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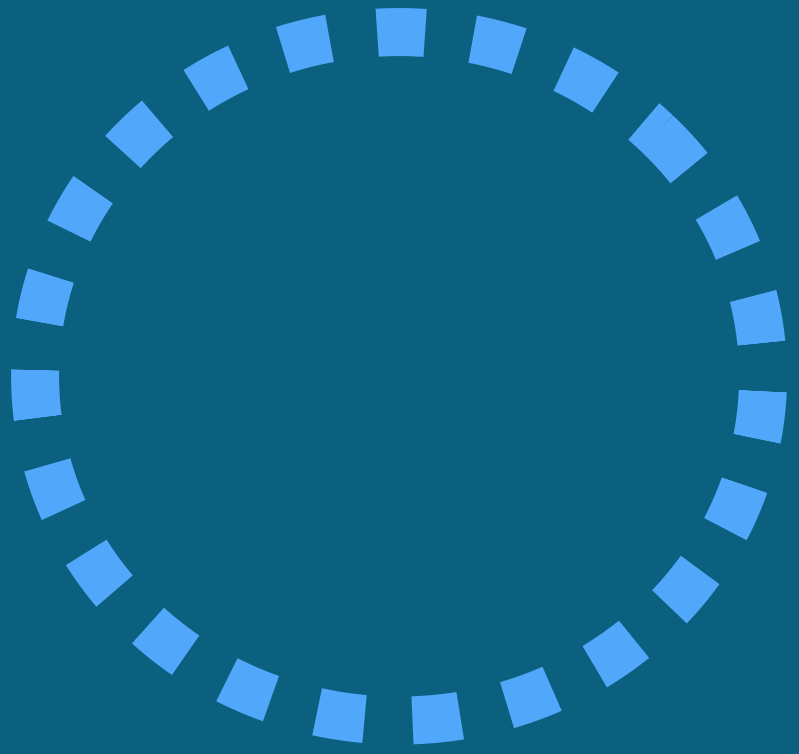
UICollectionView

introduced in iOS 6

ordered collection of items

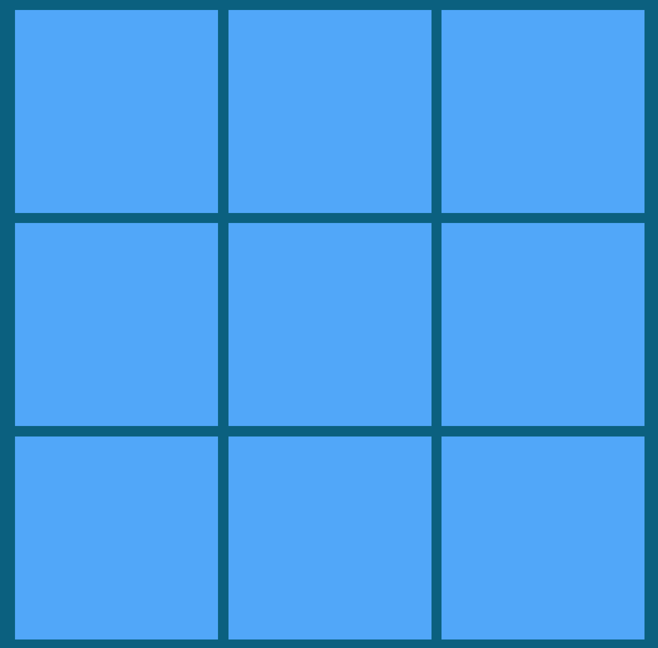
customizable layouts!

layouts!



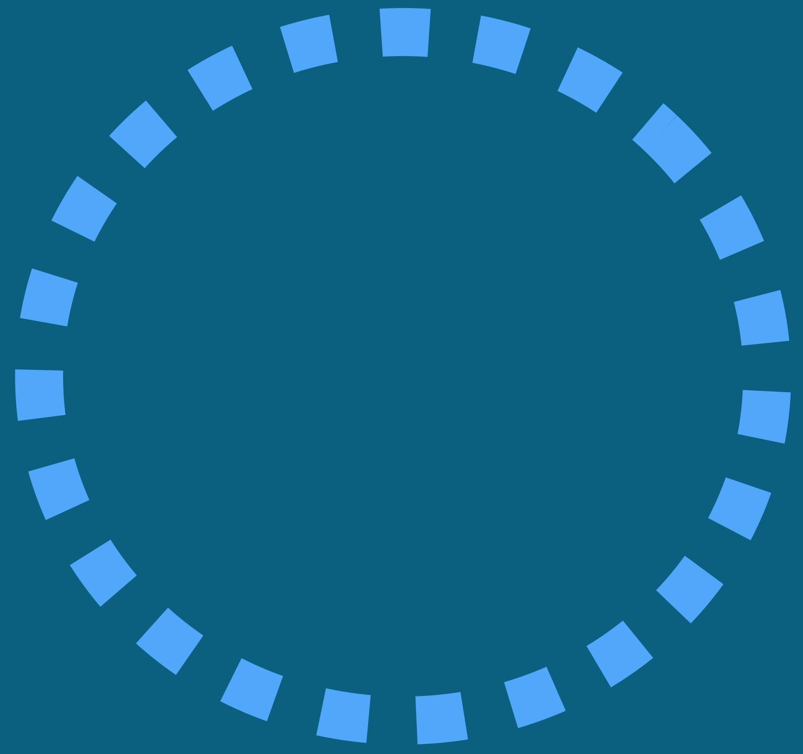
circular

grid



layouts!

bespoke

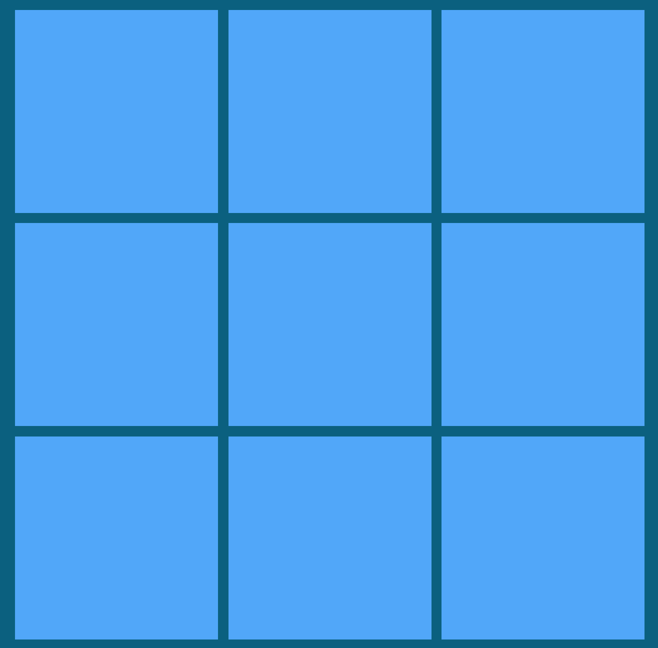


circular

skeuo… wait, no

4D hypercube

grid



“cover-flowy"

layouts!

based on the “design”

koala-shaped

fancy

IN THE YEAR 2012

UICollectionView is the new UITableView. It's that important.

-Mattt Thompson, NSHipster

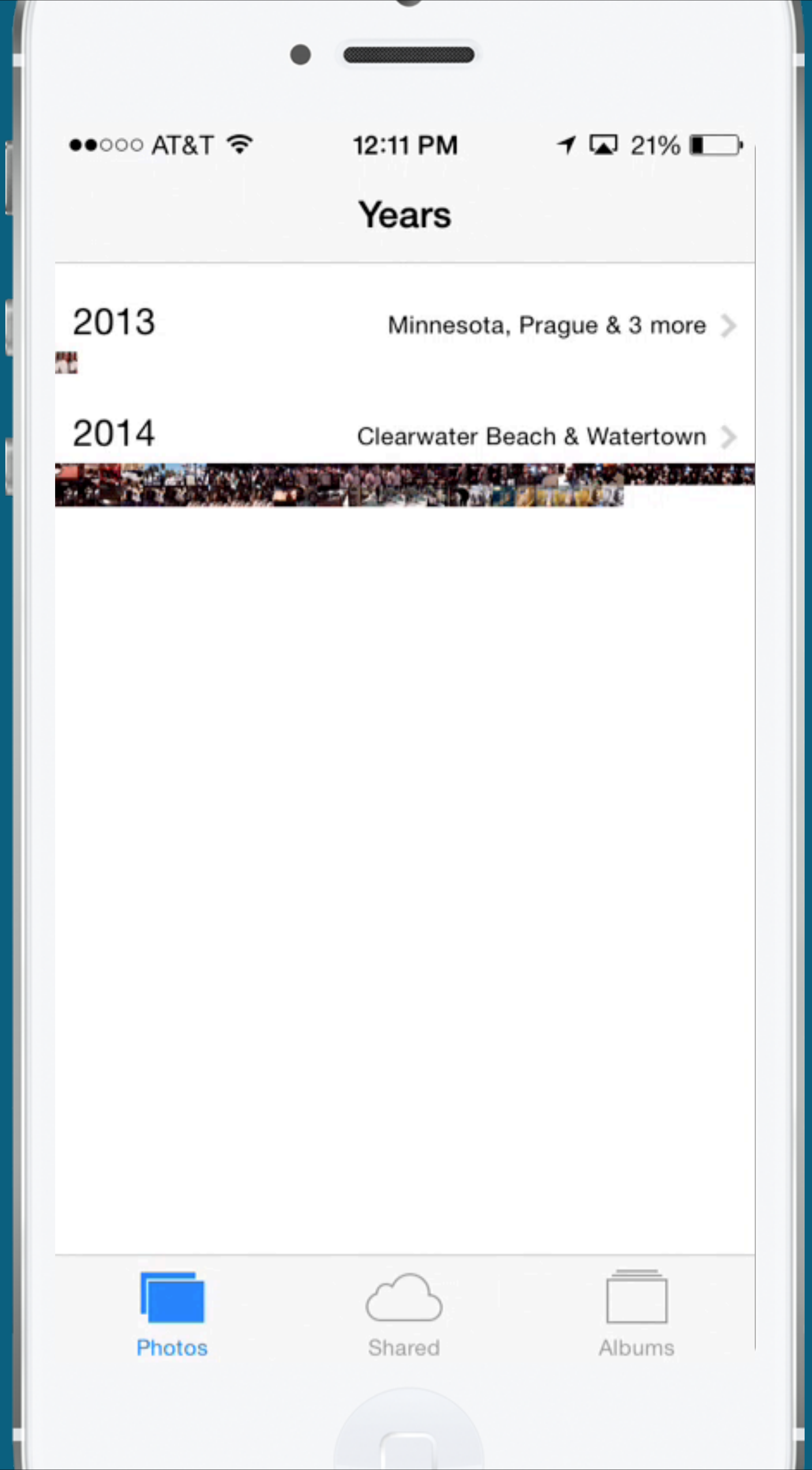
IN THE YEAR 2014

UICollectionView + UIKit Dynamics is the **new** new UITableView. It just feels right.

-Adam May, Mobile March

Examples

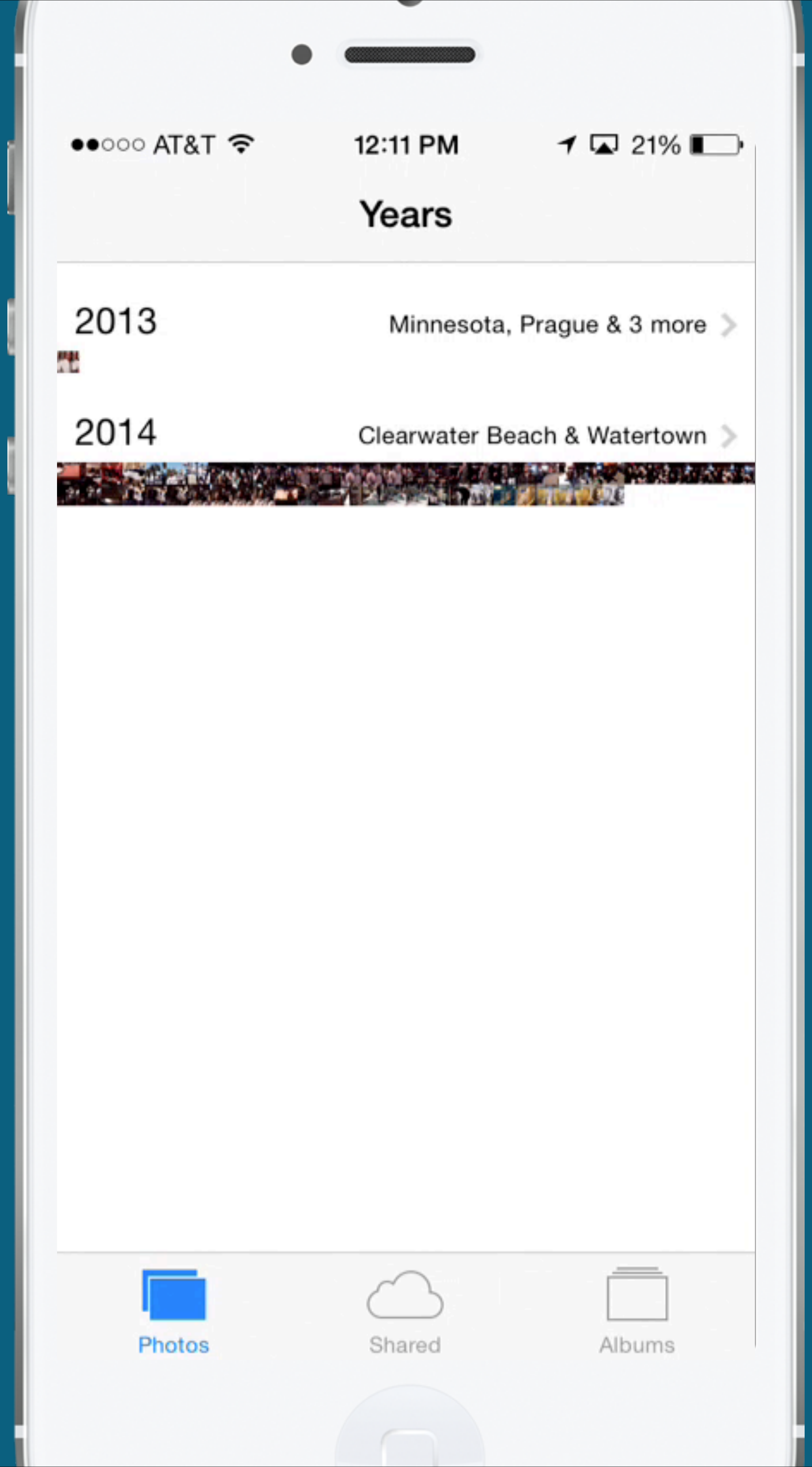
Examples
Photo Gallery



Years

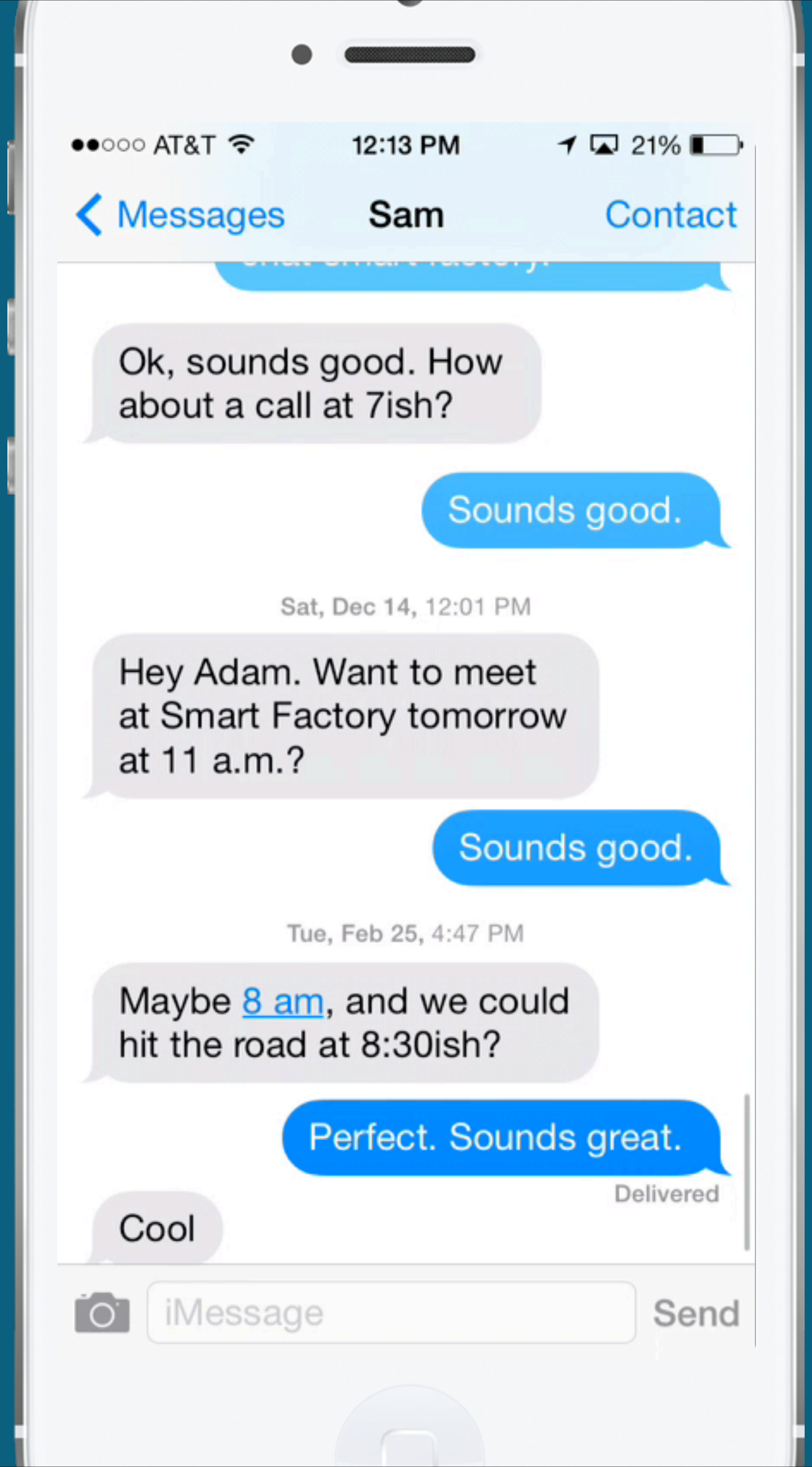
2013 Minnesota, Prague & 3 more

2014 Clearwater Beach & Watertown



Examples
Photo Gallery

Examples
Messages



Ok, sounds good. How about a call at 7ish?

Sounds good.

Sat, Dec 14, 12:01 PM

Hey Adam. Want to meet at Smart Factory tomorrow at 11 a.m.?

Sounds good.

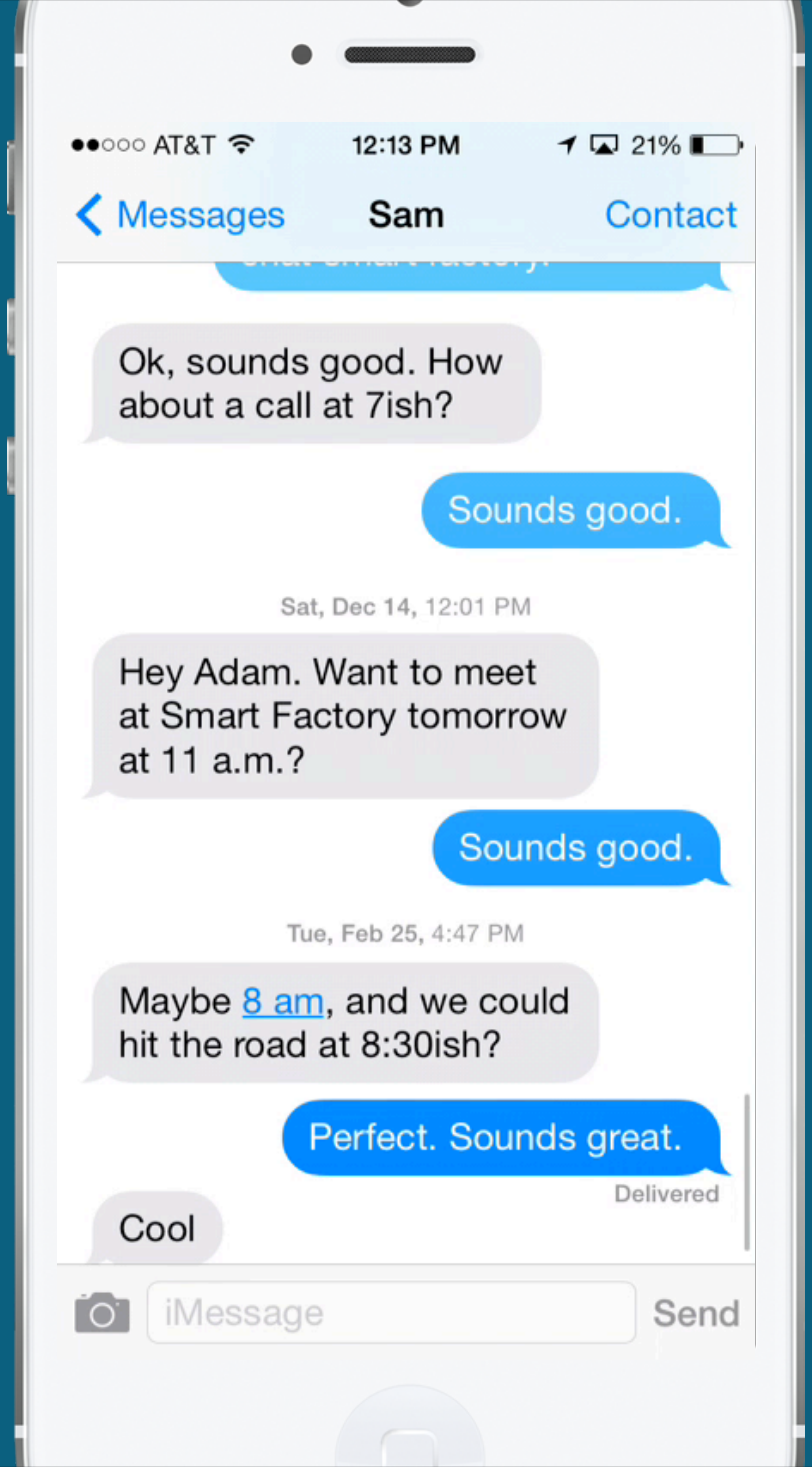
Tue, Feb 25, 4:47 PM

Maybe 8 am, and we could hit the road at 8:30ish?

Perfect. Sounds great.

Delivered

Cool



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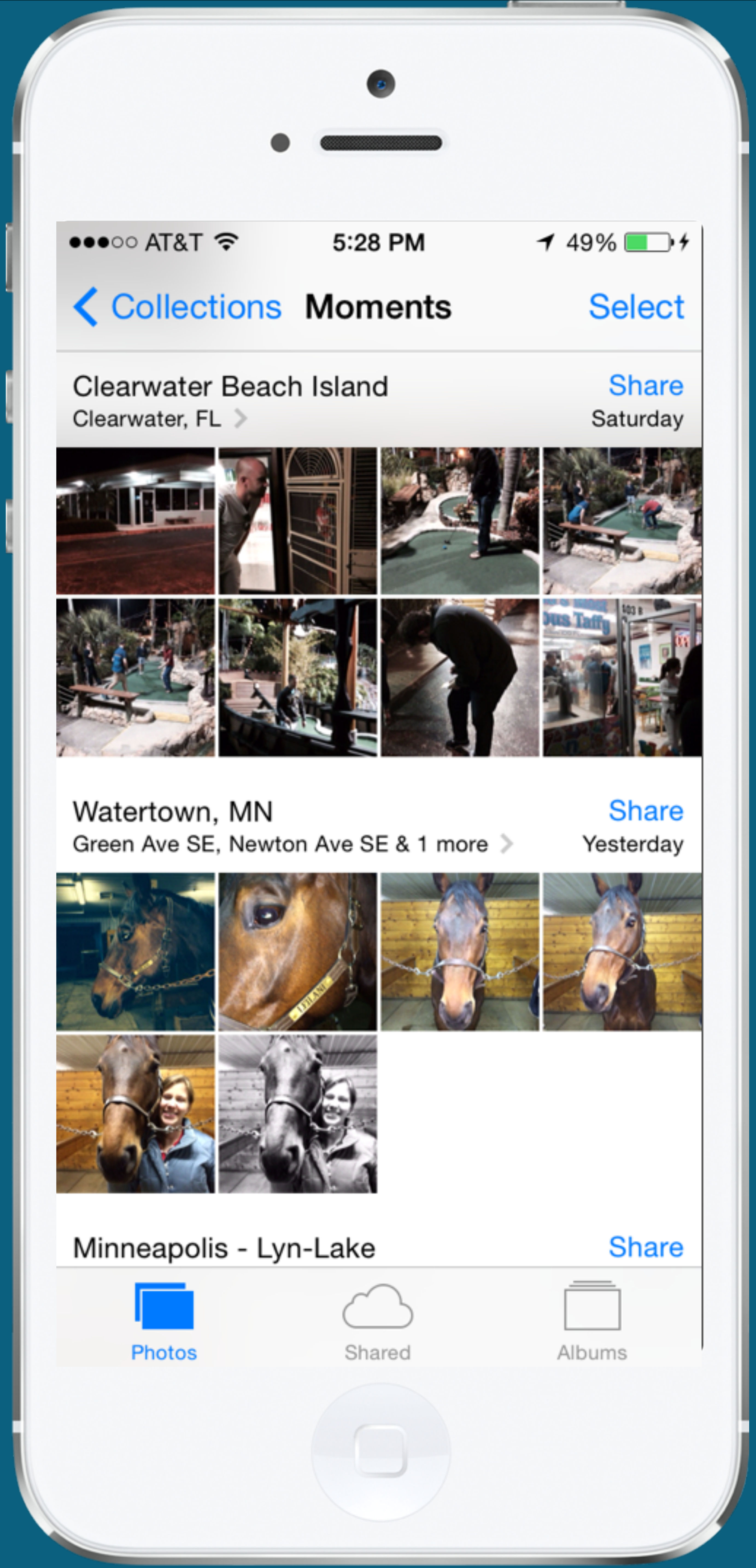
Examples Messages

Views

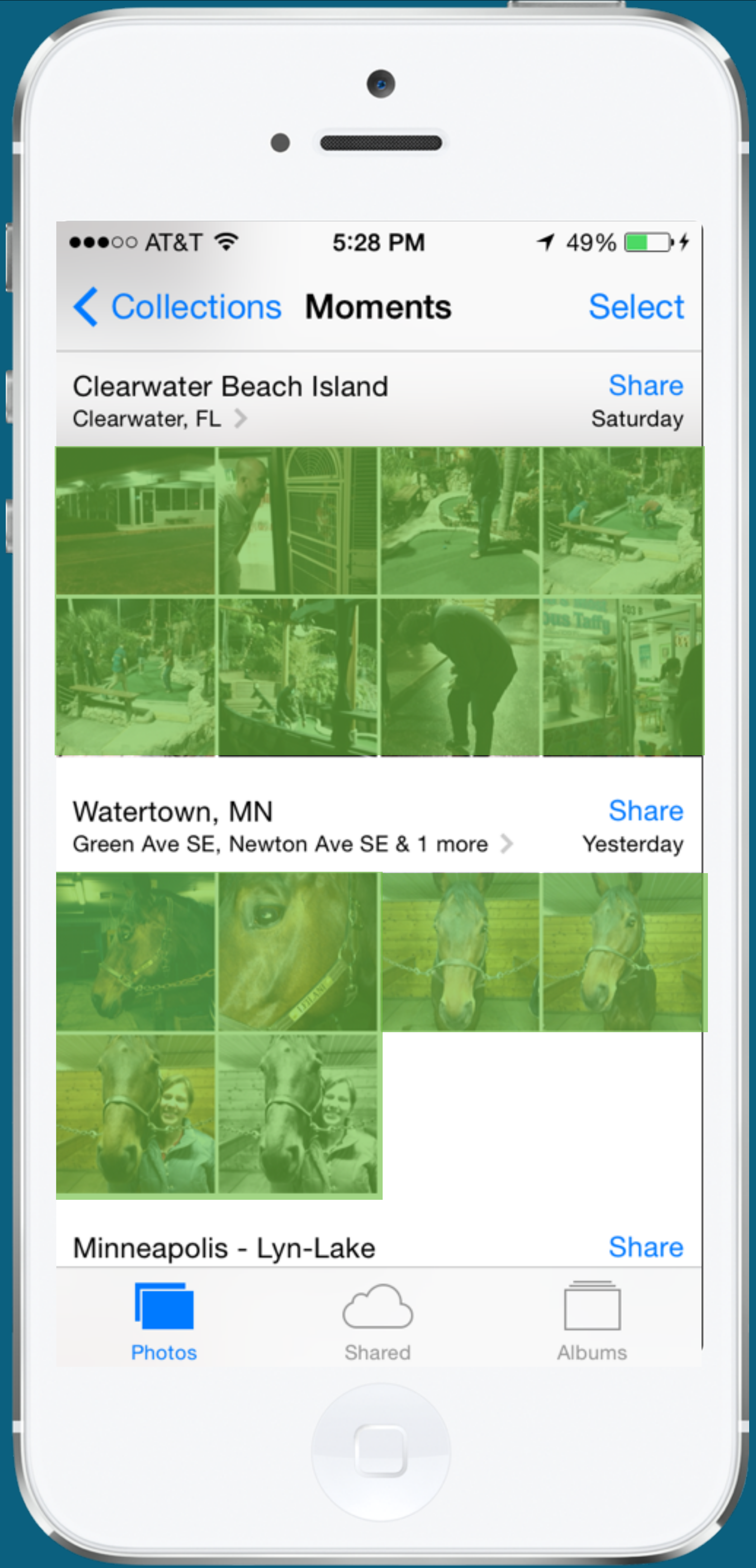
Cells

Supplementary

Decoration



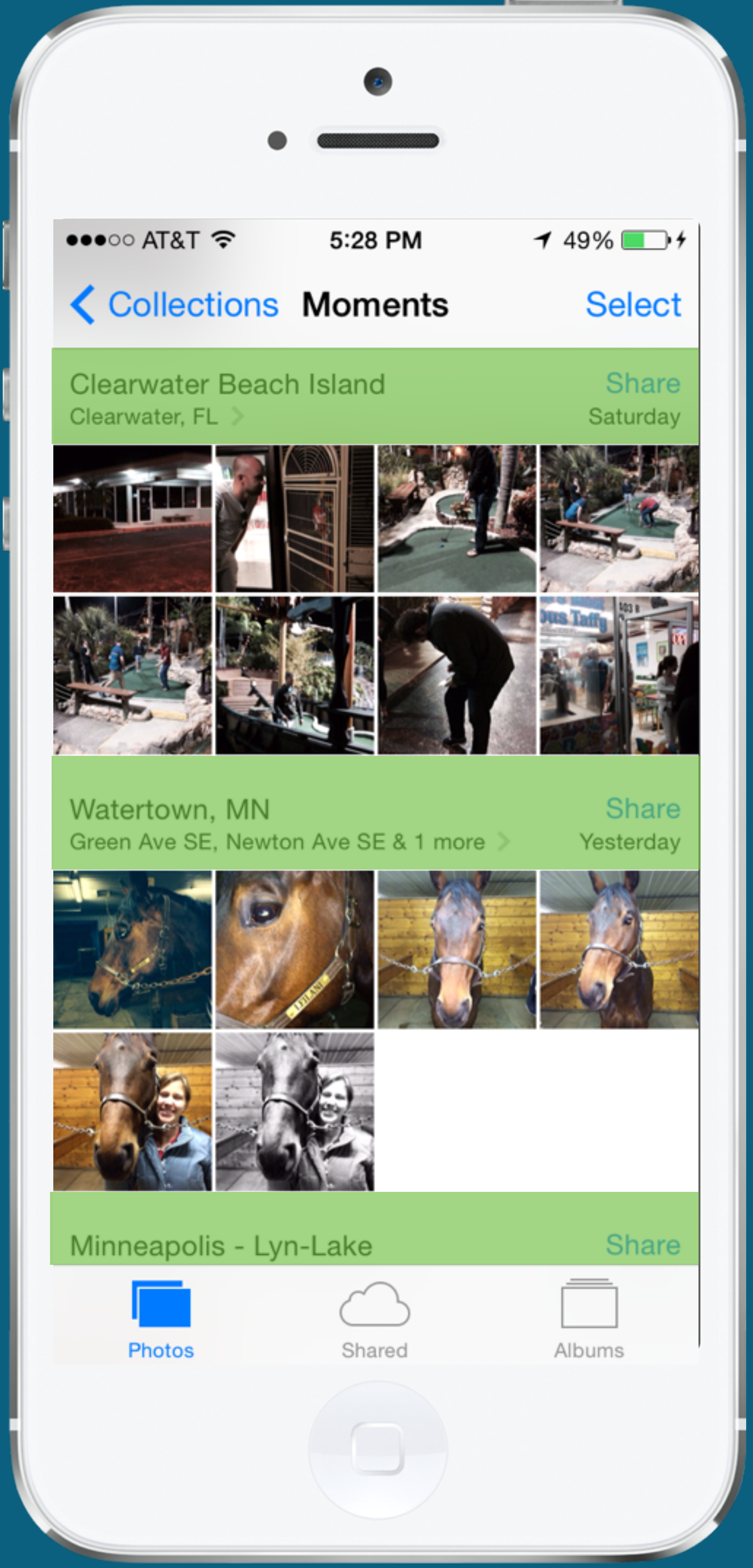
Cells
Supplementary
Decoration



Cells

Supplementary

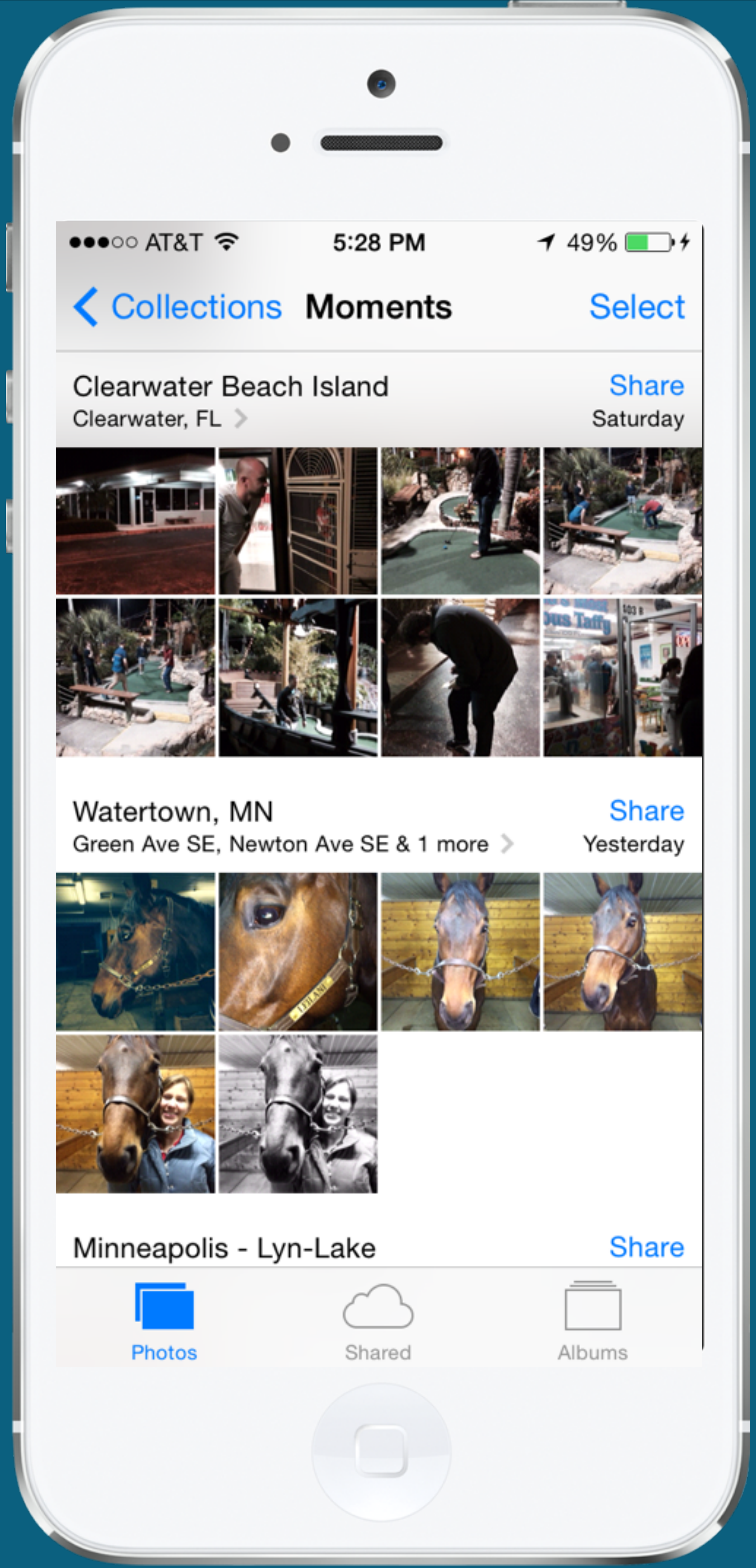
Decoration



Cells

Supplementary

Decoration



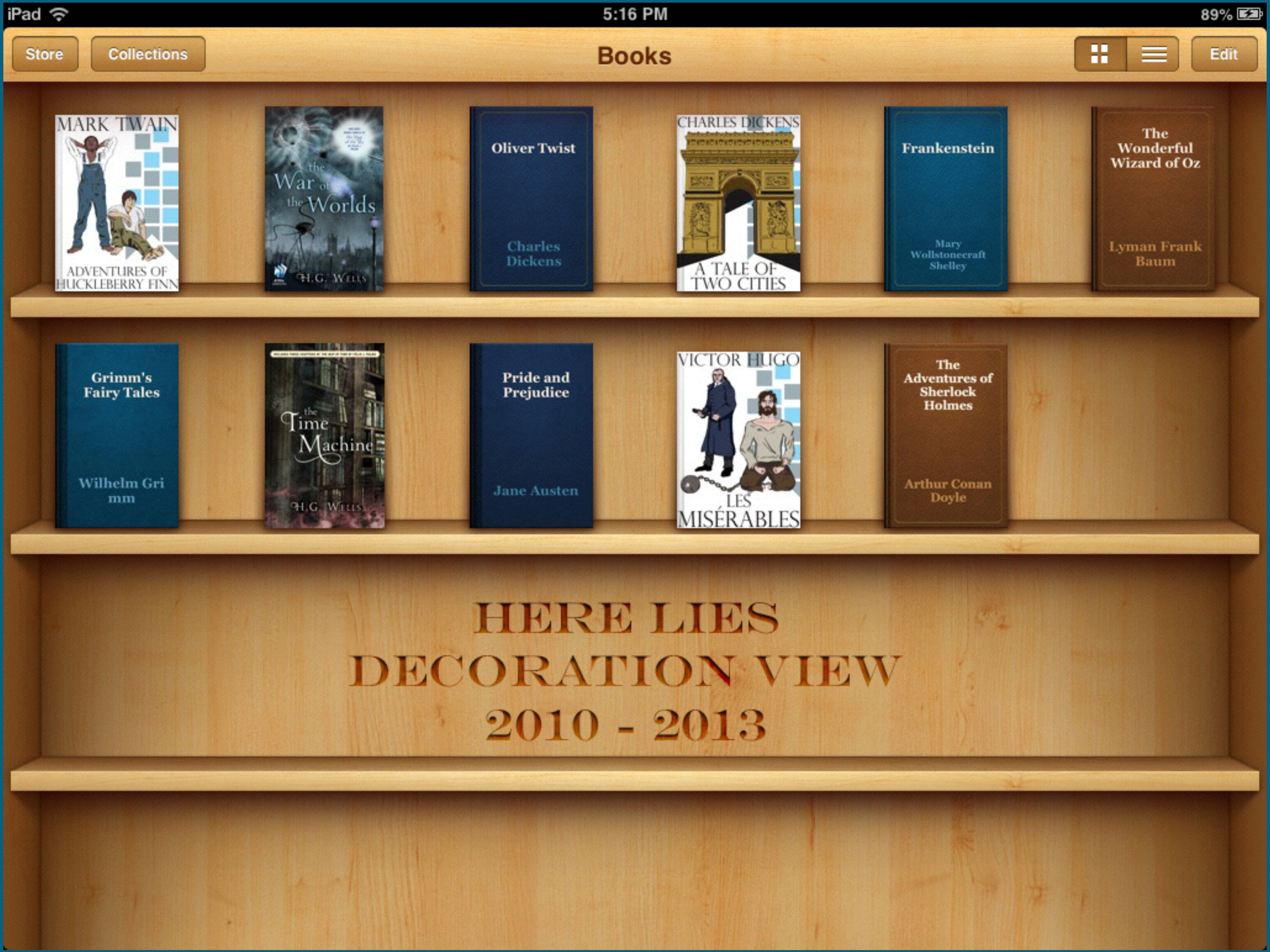
Cells

Supplementary

Decoration??

Once upon a time, many long months ago, craftspeople built apps out of the finest wood, graphite, and leather.

Decoration

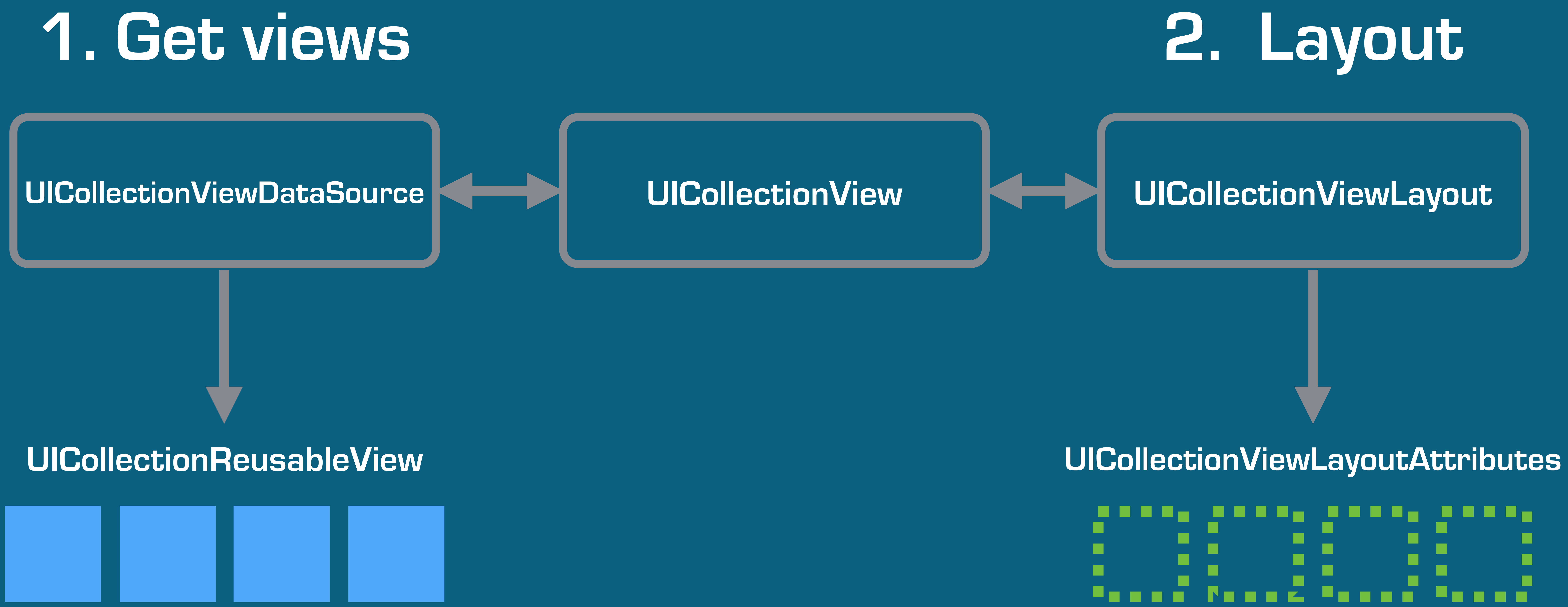


HERE LIES
DECORATION VIEW
2010 - 2013

UICollectionView

1. Get views
2. Lay them out

How it works



1. Get views

2. Layout

UICollectionViewDataSource

UICollectionView

UICollectionViewLayout

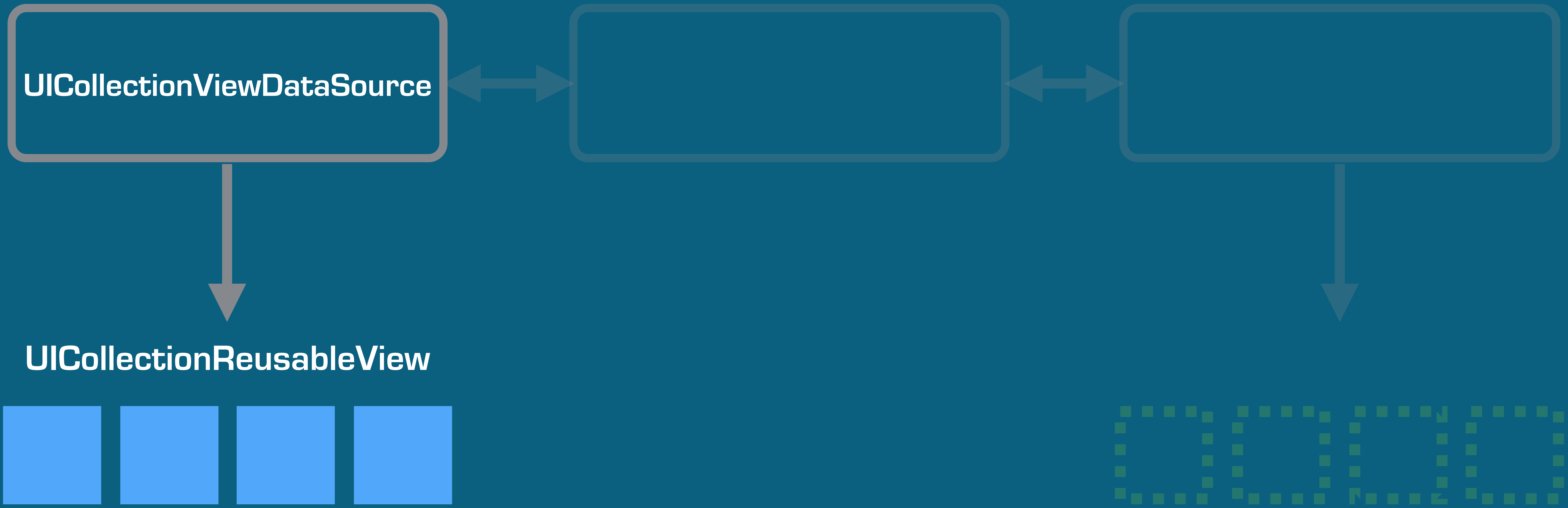
UICollectionReusableView

UICollectionViewLayoutAttributes

How it works

1. Get views

2. Layout



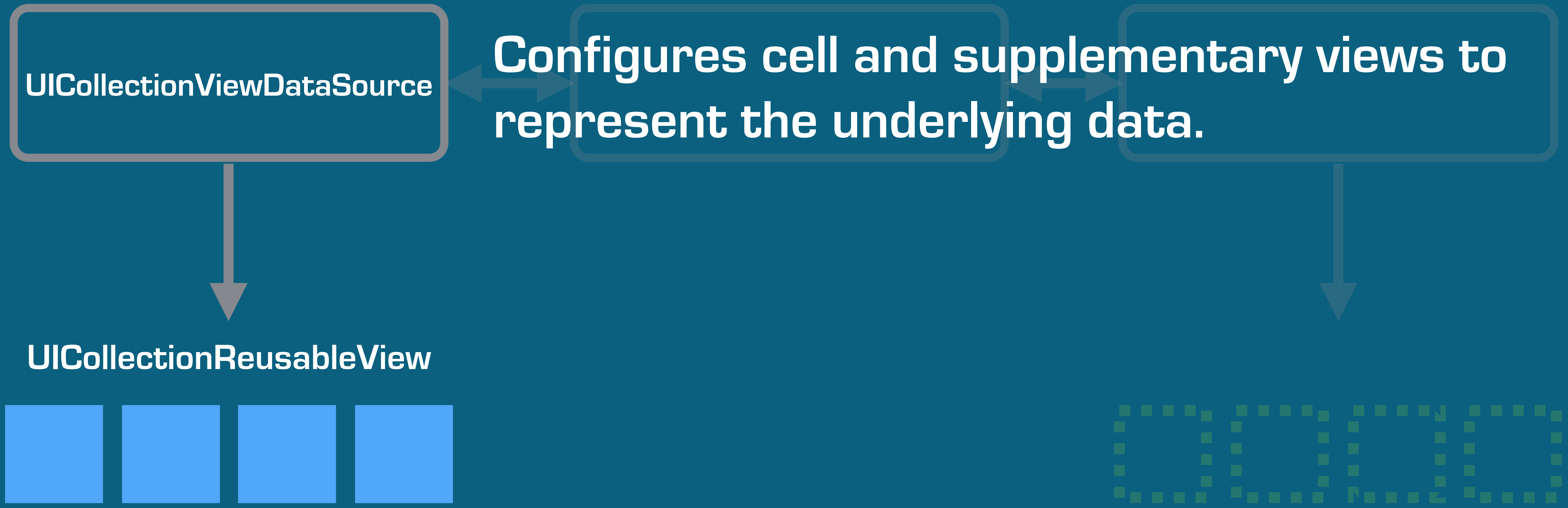
UICollectionViewDataSource

UICollectionReusableView

How it works

1. Get views

2. Layout

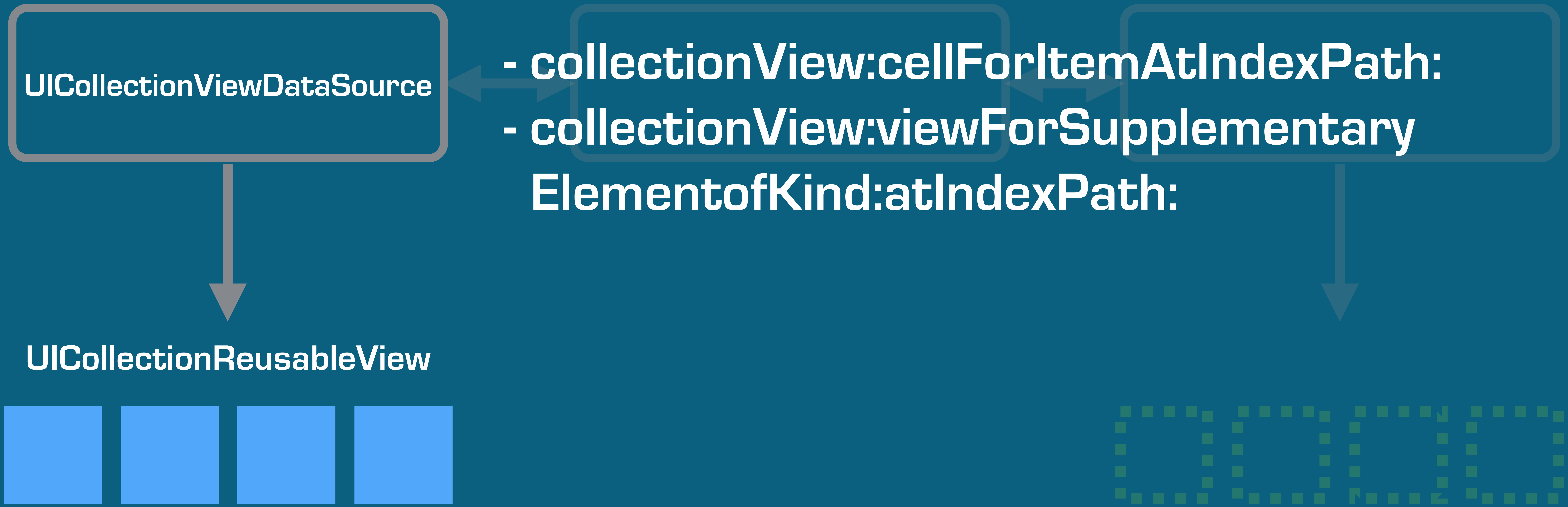


Configures cell and supplementary views to represent the underlying data.

How it works

1. Get views

2. Layout



UICollectionViewDataSource

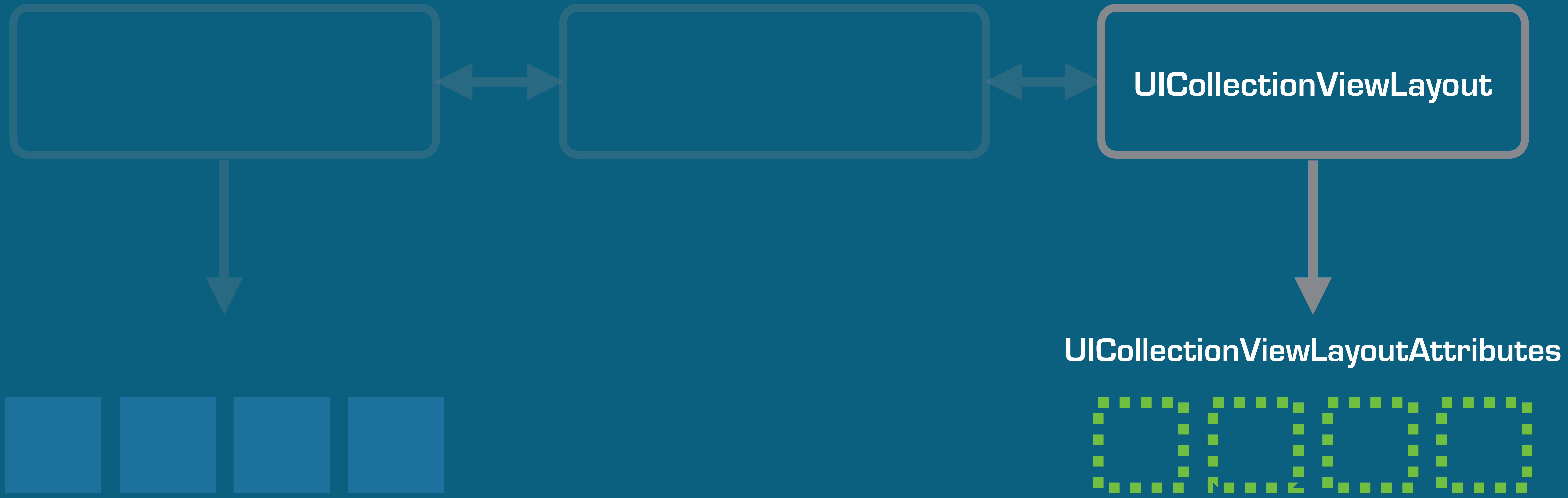
- collectionView:cellForItemAtIndexPath:
- collectionView:viewForSupplementary ElementofKind:atIndexPath:

UICollectionReusableView

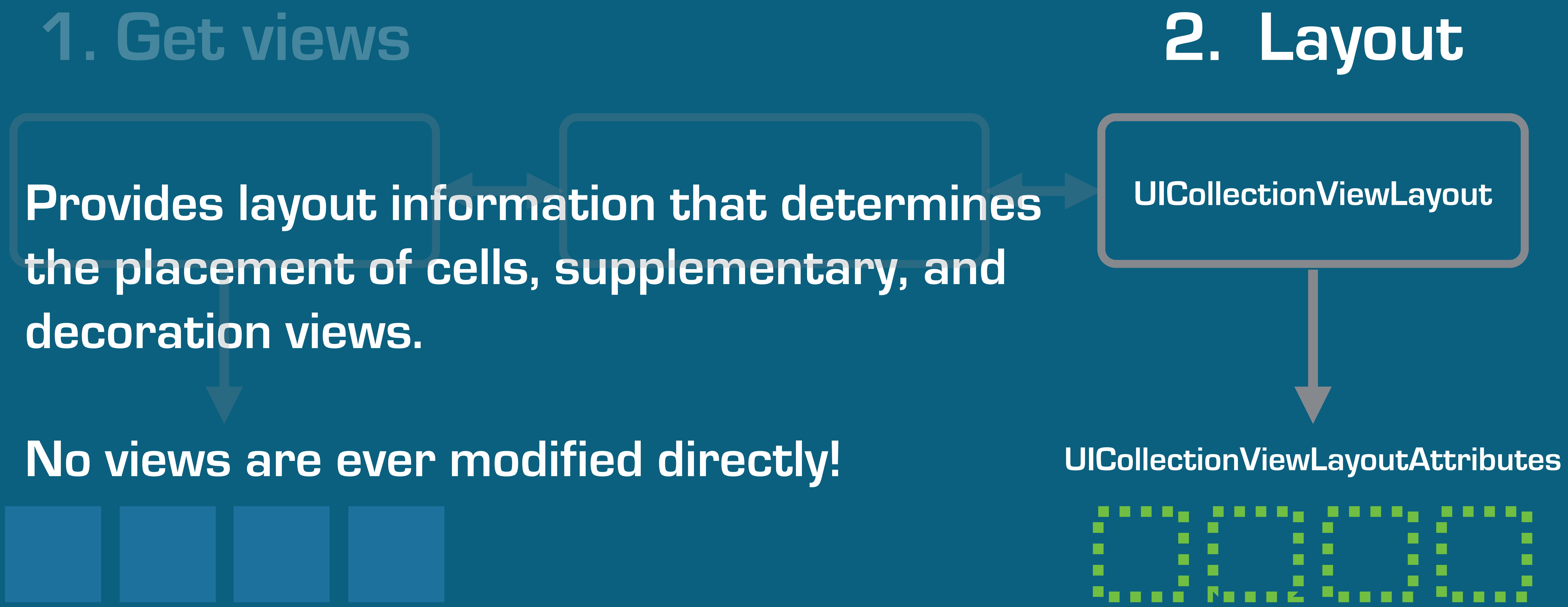
How it works

1. Get views

2. Layout



How it works



1. Get views

2. Layout

UICollectionViewLayout

UICollectionViewLayoutAttributes

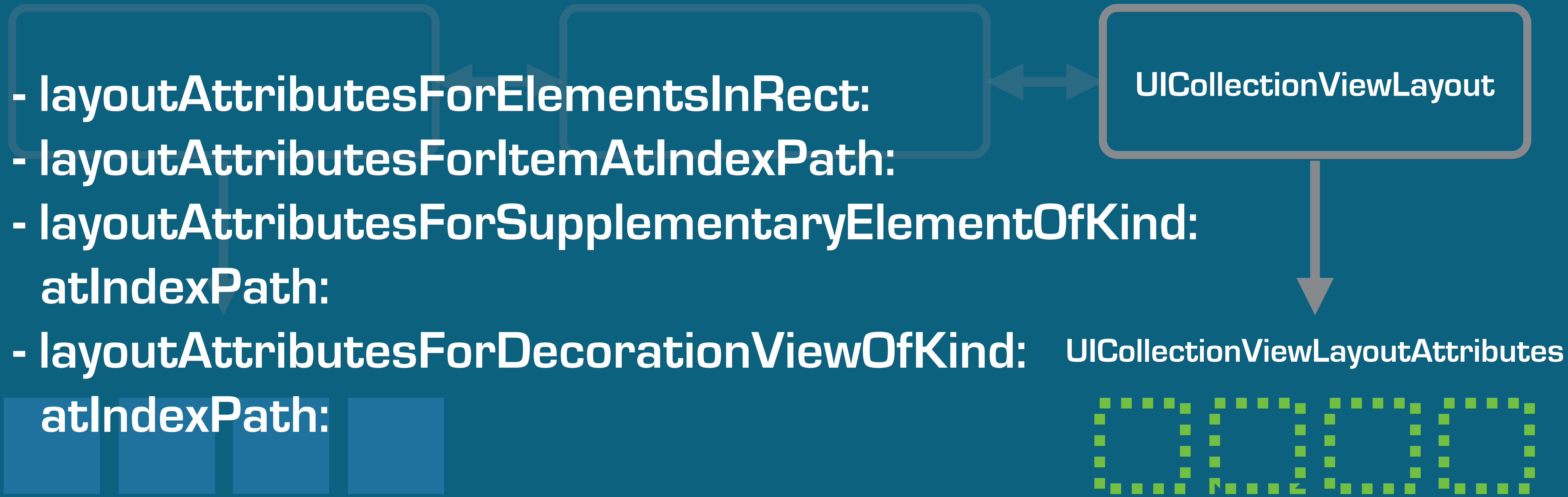
Provides layout information that determines the placement of cells, supplementary, and decoration views.

No views are ever modified directly!

How it works

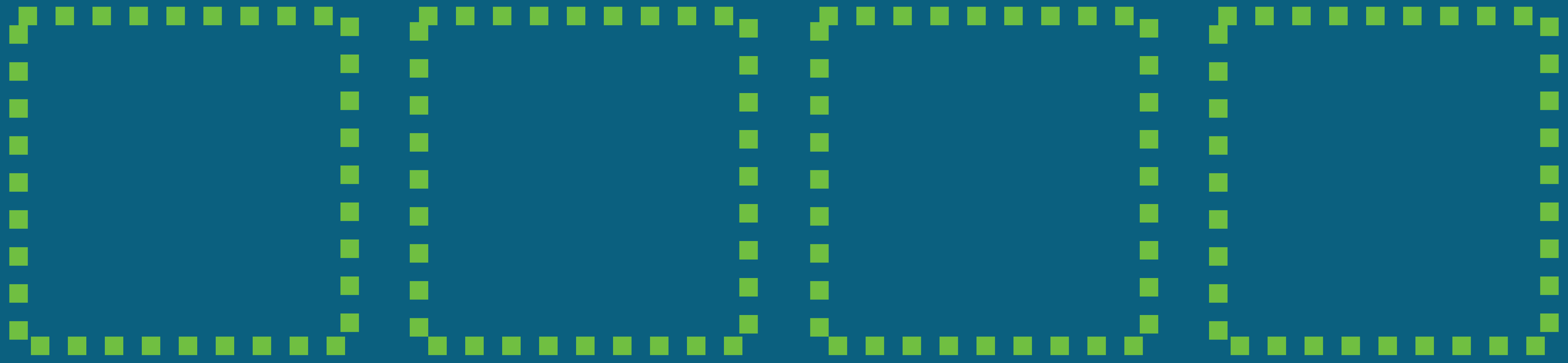
1. Get views

2. Layout



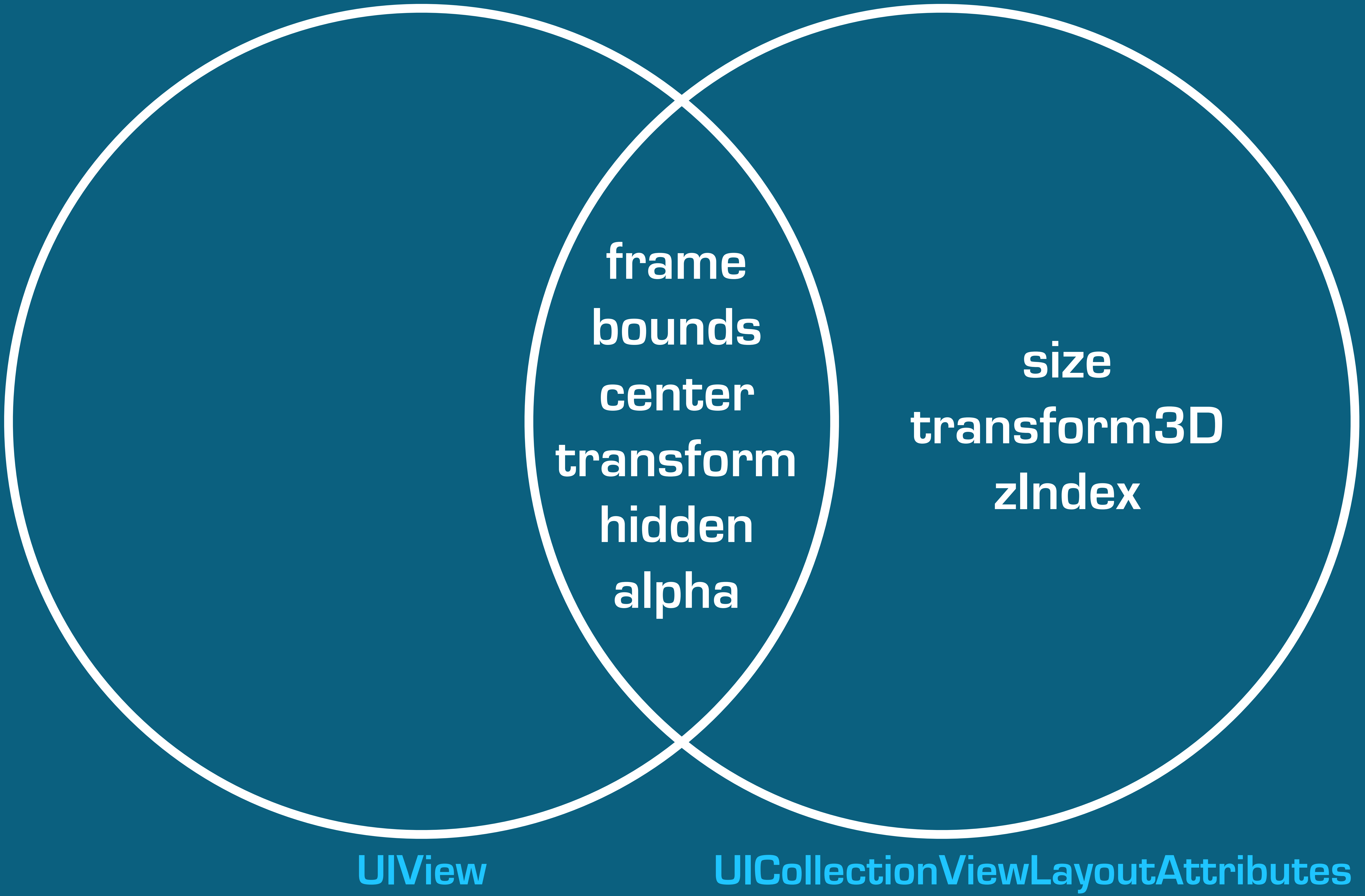
- layoutAttributesForElementsInRect:
- layoutAttributesForItemAtIndexPath:
- layoutAttributesForSupplementaryElementOfKind:
  atIndexPath:
- layoutAttributesForDecorationViewOfKind:
  atIndexPath:

UICollectionViewLayoutAttributes



frame
bounds
center
transform
hidden
alpha
size
transform3D
zIndex

UICollectionViewLayoutAttributes

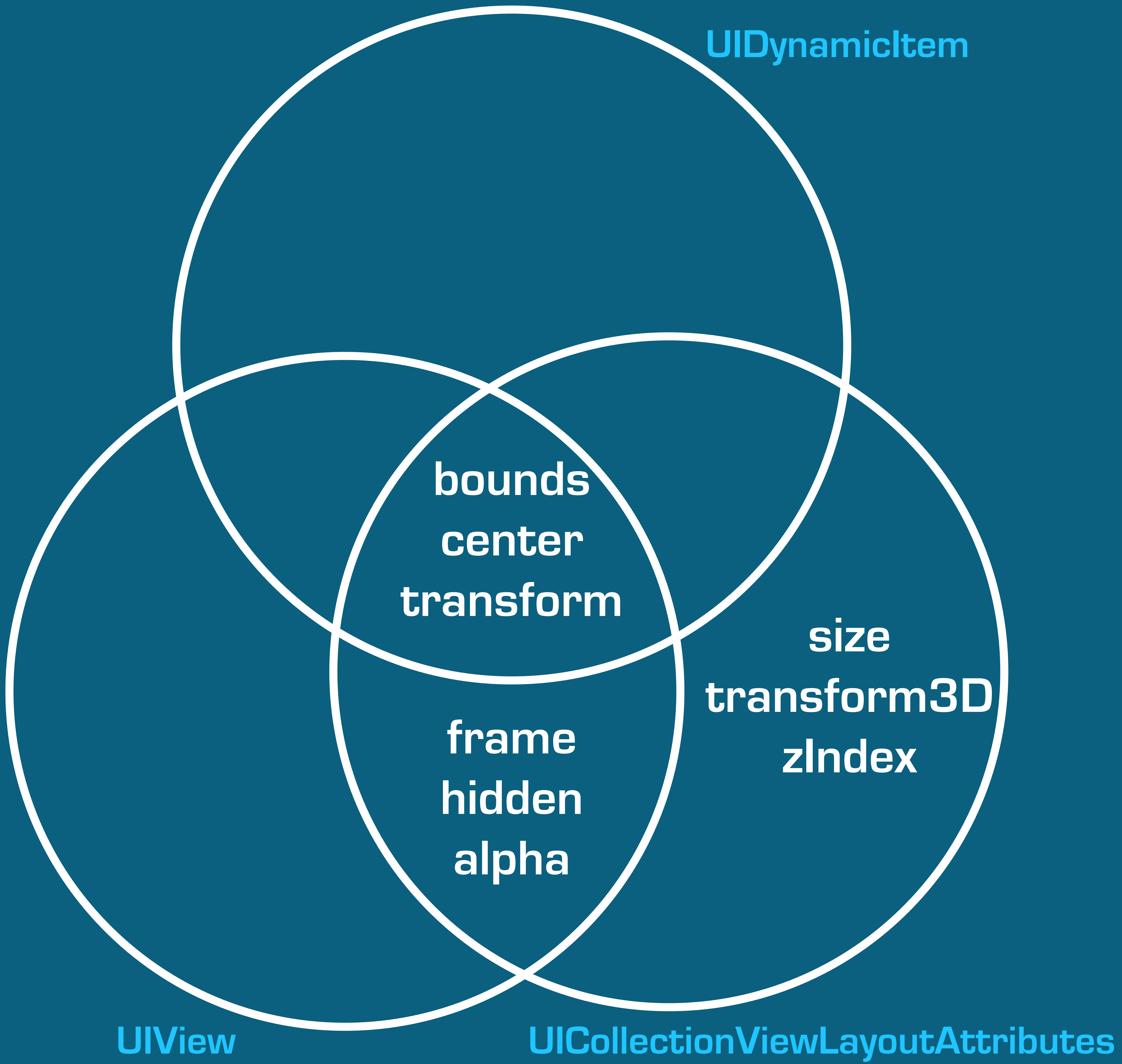


frame
bounds
center
transform
hidden
alpha

size
transform3D
zIndex

UIView

UICollectionViewLayoutAttributes



UIDynamicItem

bounds
center
transform

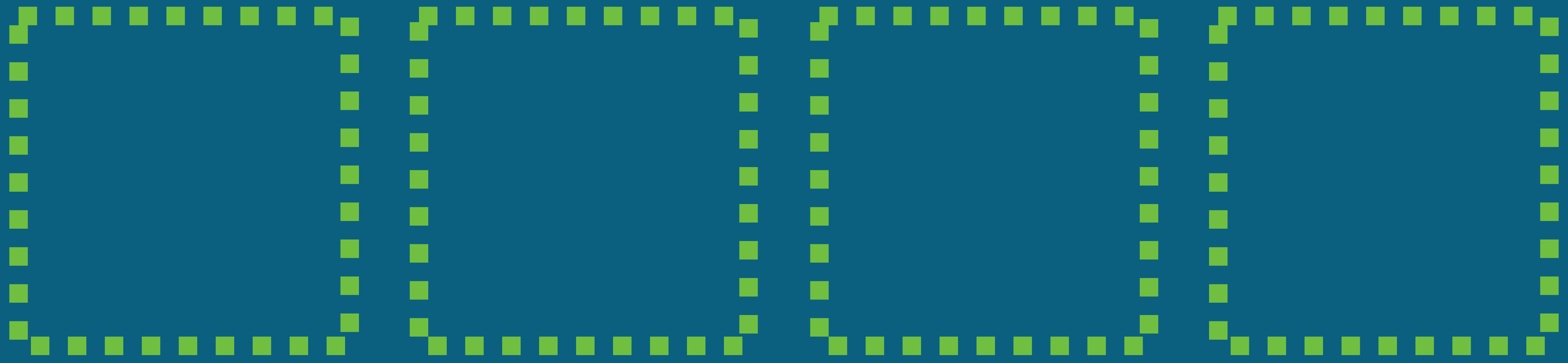
size
transform3D
zIndex

frame
hidden
alpha

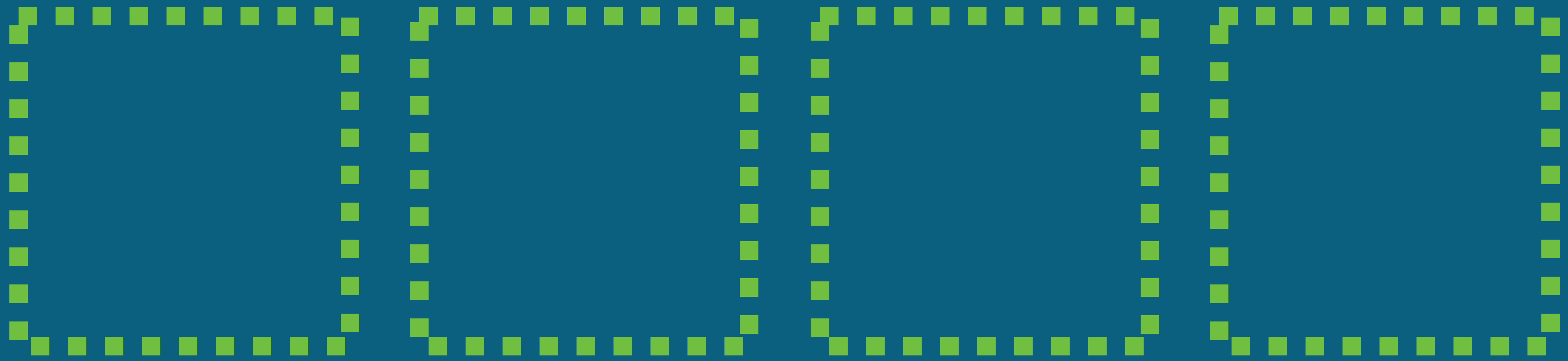
UIView

UICollectionViewLayoutAttributes

UICollectionViewLayoutAttributes conforms to UIDynamicItem in iOS 7!



UICollectionViewLayoutAttributes conforms to UIDynamicItem in iOS 7!



This means you can use layout attributes with dynamic behaviors.

UICollectionViewLayout

- layoutAttributesForElementsInRect:
- layoutAttributesForItemAtIndexPath:
- layoutAttributesForSupplementaryElementOfKind:
  atIndexPath:
- layoutAttributesForDecorationViewOfKind:
  atIndexPath:

UICollectionViewLayout

- layoutAttributesForElementsInRect:
- layoutAttributesForItemAtIndexPath:
- layoutAttributesForSupplementaryElementOfKind:
  atIndexPath:
- layoutAttributesForDecorationViewOfKind:
  atIndexPath:

UIDynamicAnimator

- itemsInRect:
- layoutAttributesForCellAtIndexPath:
- layoutAttributesForSupplementaryViewOfKind:
  atIndexPath:
- layoutAttributesForDecorationViewOfKind:
  atIndexPath:

Tweet Battle

Limitations

KEEP AN
EYE ON
YOUR

- CPU usage
- Size of collection view data set
- Animations per view
- Number of collisions

Articles

objc.io: UICollectionView + UIKit Dynamics
NSHipster: UICollectionView
teehan+lax: Implementing a Bouncy UICollectionViewLayout with UIKit Dynamics

Code

UICollectionView-Spring-Demo
Newtonian-UICollectionView
ASHSpringyCollectionView
Dynamics Catalog

Talks

Ryan Johnson's talk on UIKIt Dynamics at Minnesota CocoaHeads (10/10/2013)
WWDC 2013: Advanced Techniques with UIKit Dynamics (Session 221)
WWDC 2013: Getting Started with UIKit Dynamics (Session 206)
WWDC 2013: Implementing engaging UI on iOS (Session 226)
WWDC 2013: Exploring Scroll Views on iOS 7 (Session 217)