

iOS 7

What You Need to Know



TRIFORK.

...think software

- GOTO Conference
- GOTO night
- Training

Modules

@import

Demo!

Modules

- Easier to use
- No namespace pollution
- You get it for free
- Performance (build time and indexing)

Modules

- Caveats
 - Requires iOS7 / OS X 10.9 SDK
 - Not available for user frameworks

Modules



404 Advances in Objective-C

Unit Testing in Xcode 5

...finally being taken seriously

Demo!

- SenTest- and XCTest can co-exist
- New in Xcode 5
 - Migration tool
 - Test failure break-point
 - Test assistant categories
 - Test again command

More on Unit Testing



409 Testing in Xcode 5

Test Bots

No Demo!

:-)

Autologgin Bubblegum

Bubblegum: Build Succeeded | Today at 5:42 PM

Bubblegum

Summary Tests

Integration Results

Finished with test fixtures

Start: 6/18/13, 1:38 PM Duration: 18 seconds Last commit by: neal@apple.com

Build History

Test History

Integration Details

- Analysis Issues: Value stored to 'Favor' during its initialization is never read. Bubblegum -- BubblegumFactory.m
- Test Failures:
 - '1' should be equal to '4' Expected 4 favors after initializing the factory. BubblegumTests.m
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Autologgin Bubblegum

Referenced File: BubblegumTests.m

Autologgin

3 - **OverallCheckFaultyUnderReference**

1 - `MockUserDefinedController mock = (MockUserDefinedController) mockInit();`
`MockUserDefinedController expectedToInitialize = MockUserDefinedController.class.`
`getDeclaredConstructor("init").newInstance();`
`mock = mockTo`

3 - **OverallCheckFaultyUnderInitialization**

1 - `BubblegumFactory factory = BubblegumFactory.sharedBubblegumFactory();`
`MockUserDefinedController expectedBubblegumFactory = expectedToInitialize(new BubblegumFactory());`
`MockUserDefinedController suggestedFavors = factory.suggestedFavors();`
`MockUserDefinedController suggestedFavorsCount = factory.suggestedFavorsCount();`
`if (expectedBubblegumFactory != null && !expectedBubblegumFactory.equals(factory)) { fail("Expected bubblegum factory to be the same after initializing it."); } if (suggestedFavorsCount != null && !suggestedFavorsCount.equals(expectedBubblegumFactory.suggestedFavorsCount)) { fail("Expected 4 favors after initializing the factory."); } if (suggestedFavors != null && !suggestedFavors.equals(expectedBubblegumFactory.suggestedFavors)) { fail("Expected 4 favors after initializing the factory."); }`

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Bots

- Test on simulator and physical devices
- Deep integration with Xcode
- Good terminal support

More on Bots and CI



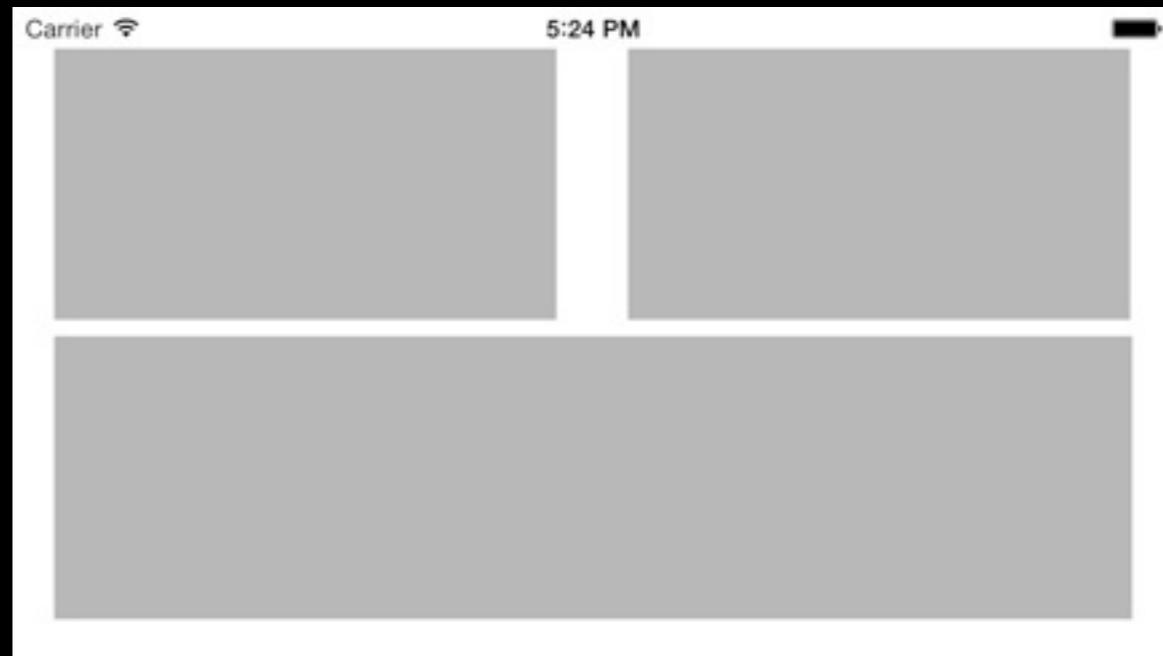
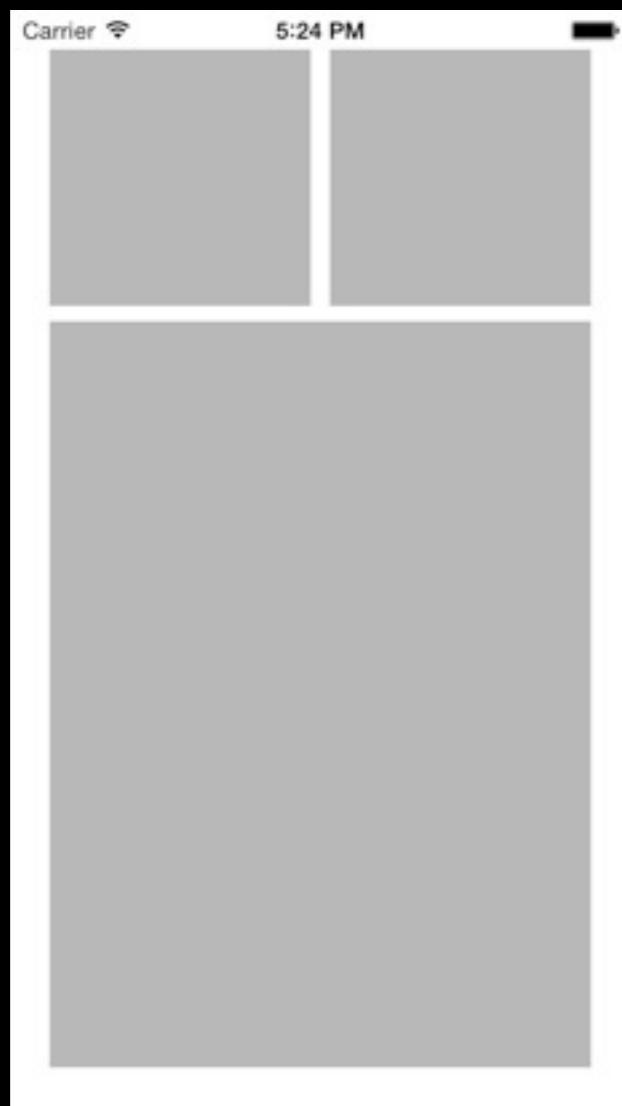
412 Continuous Integration with Xcode 5

Auto Layout

They fixed it !

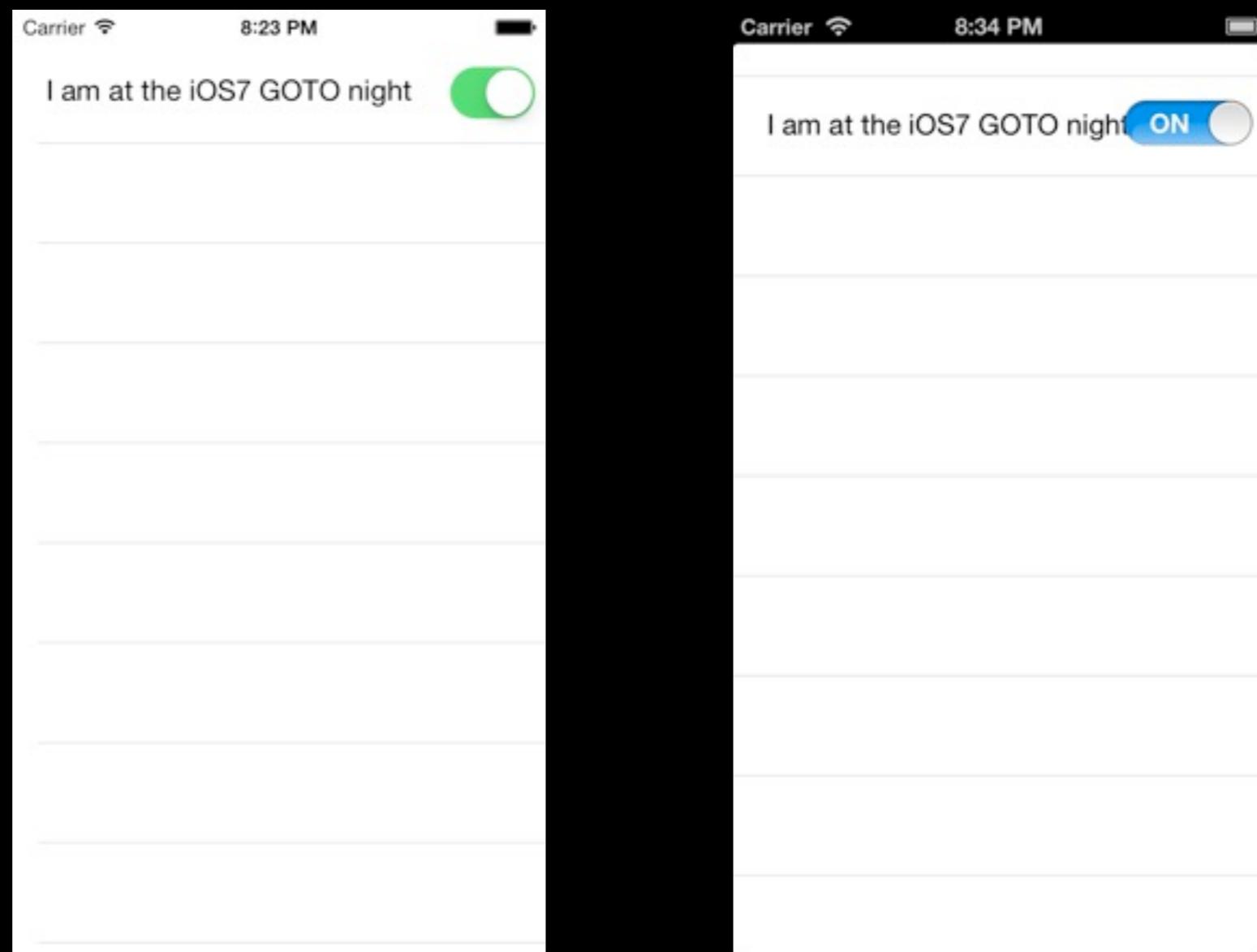
Springs and Struts

why not?



Springs and Struts

why not?





Auto Layout in iOS6 IB

Demo!



406 Taking Control of Autolayout in Xcode 5

Xcode 5

Other enhancements

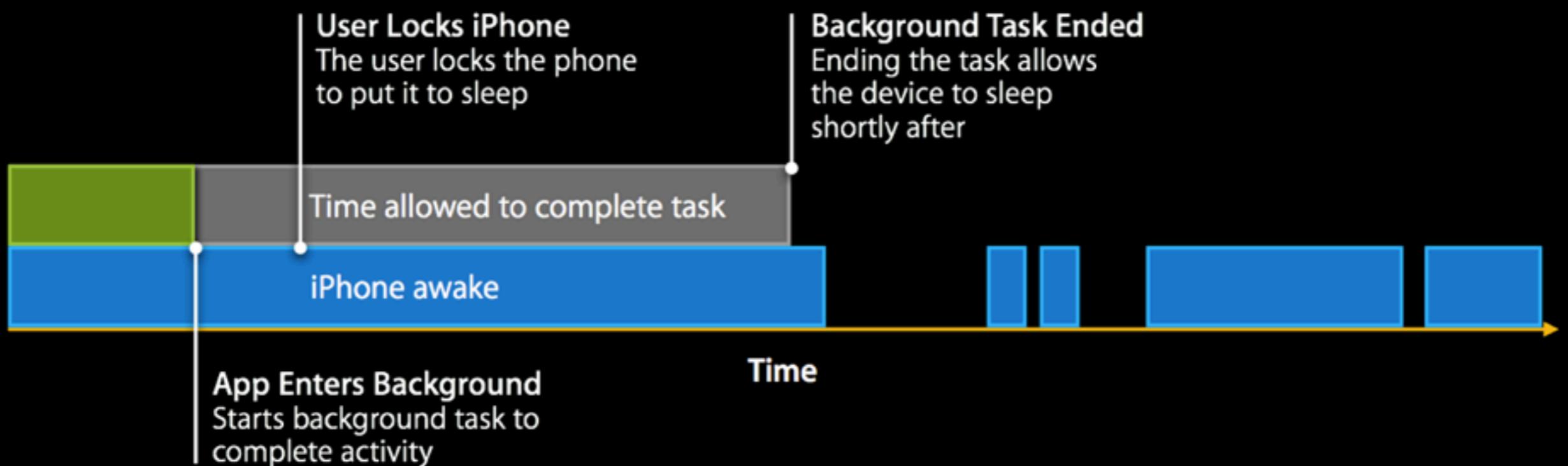
- Capabilities
- Images.xcassets

Sandwich

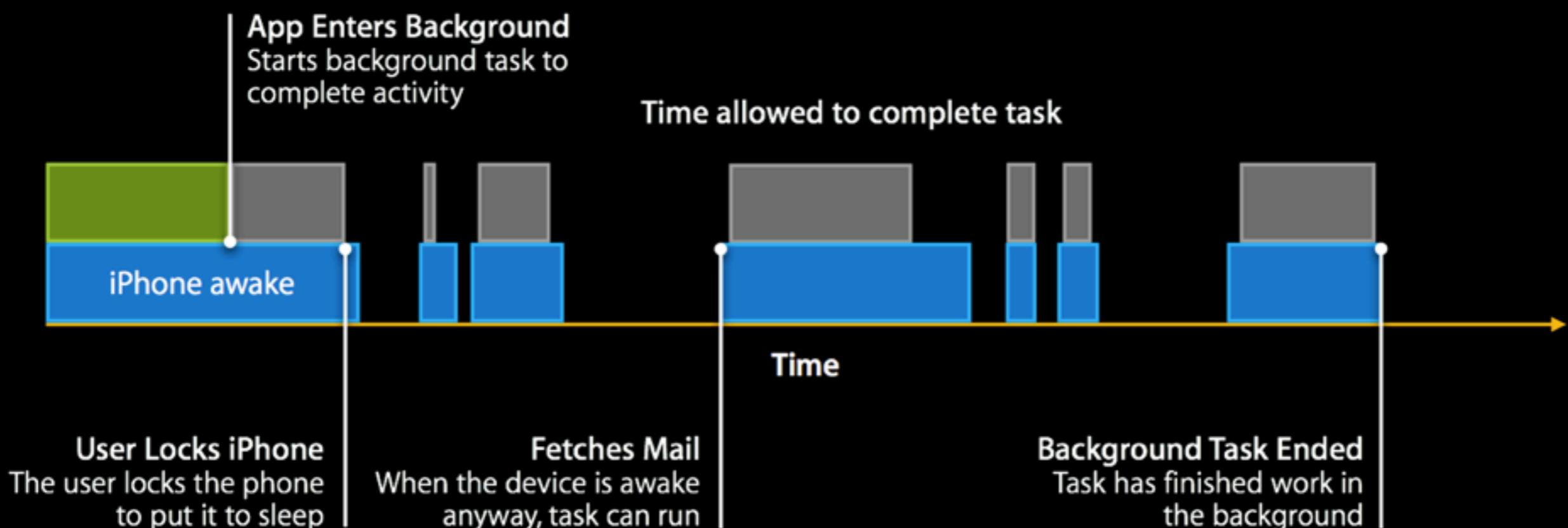
Multitasking

Background Task Changes In iOS 6

6



Background Task Changes In iOS 7



New multitasking APIs

- Background Fetch
- Remote Notifications
- Background Transfer Service

Background Fetch

- Update your tweets or Facebook posts while app is backgrounded

Demo!

Background Fetch

- Update your social media data
- But what else?
- Simulate remote notifications
- What are the constraints ?

Background Fetch

- System scheduled (coalesced)
- Adapts from usage pattern

Remote Notifications

Motivation

- Update the App Content before the user opens the App.

Remote Notifications

1. Set the Background mode
2. Implement the AppDelegate callback

Remote Notifications

```
aps  {  
    content-available: 1  
    alert: { . . . }   
}
```

Omit for silent notification

Background Transfer Service

Motivation

- Upload/download large files
- Continue even after app exists
- Enqueue from background and foreground

Demo!

Use case example

1. New content available
2. Server sends silent push notification
3. App starts background transfer service
4. Transfer completes and App presents a local notification



204 Whats new With Multitasking

JavaScript Core

```
JSVirtualMachine *vm = [JSVirtualMachine new]
JSContext *context = [[JSContext alloc] initWithVirtualMachine:vm];
context[@"a"] = @5;
```

```
JSValue *aValue = context[@"a"];
double a = [aValue toDouble];
NSLog(@"%@", a); // => 5
```

```
[context evaluateScript:@"a = 10"];
JSValue *newAValue = context[@"a"];
NSLog(@"%@", [newAValue toDouble]); // => 10
```

JavaScript Core

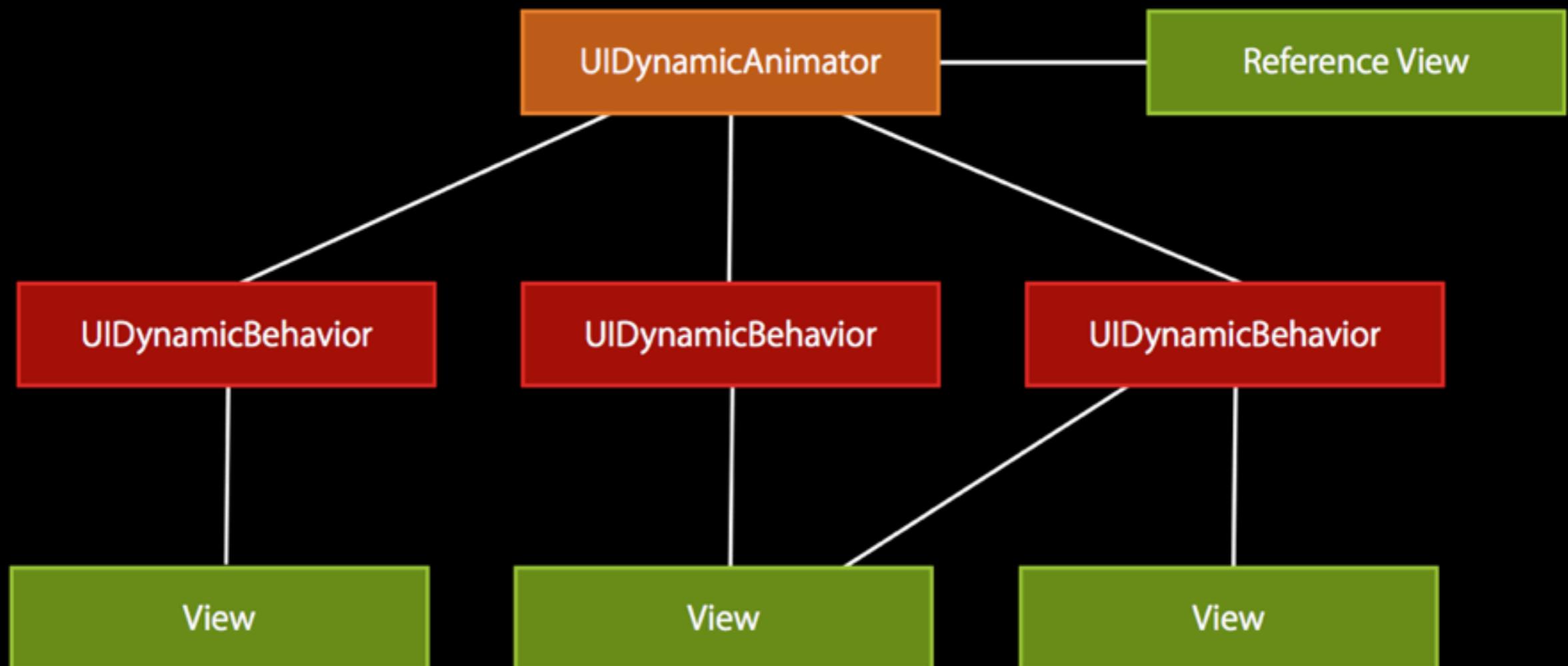
Object Bridging

```
Person *person = [[Person alloc] init];
person.name = @"Søren";
context[@"person"] = person;
```

- Create a PersonExports <JSExports> protocol
- @property => JavaScript getter/setter
- instance method => JavaScript function

UIKit Dynamics

Architecture



```
animator = [[UIDynamicAnimator alloc] initWithReferenceView:referenceView];
[animator addBehavior:...];
[animator addBehavior:...];
```

Predefined Behaviors

- Gravity
- Collision
- Attachments (and Springs)
- Snap
- Forces (Push)
- Item Properties

Demo!



206 Getting Started with UIKit Dynamics

Sprite Kit

Declarative

```
SKSpriteNode *sprite = [SKSpriteNode spriteNodeWithImageNamed:@"hero.png"];  
[sprite runAction:[SKAction fadeOutWithDuration:1.0]];
```

Composable Actions

```
[myNode runAction: [SKAction sequence:@[action1, action2, action3]] ]
```

Cool

```
[SKVideoNode videoNodeWithVideoFileName:@"video.mp4"];
```

Integrated physics

```
SKSpriteNode *sprite = [SKSpriteNode spriteNodeWithImageNamed:@"ball.png"];  
sprite.physicsBody = [SKPhysicsBody bodyWithCircleOfRadius:sprite.size.width * 0.5];
```

```
moveByX:(CGFloat)deltaX y:(CGFloat)deltaY duration:(NSTimeInterval)sec;
moveTo:(CGPoint)location duration:(NSTimeInterval)sec;
moveToX:(CGFloat)x duration:(NSTimeInterval)sec;
moveToY:(CGFloat)y duration:(NSTimeInterval)sec;
rotateByAngle:(CGFloat)radians duration:(NSTimeInterval)sec;
rotateToAngle:(CGFloat)radians duration:(NSTimeInterval)sec;
resizeByWidth:(CGFloat)width height:(CGFloat)height duration:(NSTimeInterval)sec;
resizeToWidth:(CGFloat)width height:(CGFloat)height duration:(NSTimeInterval)sec;
resizeToWidth:(CGFloat)width duration:(NSTimeInterval)duration;
resizeToHeight:(CGFloat)height duration:(NSTimeInterval)duration;
scaleBy:(CGFloat)scale duration:(NSTimeInterval)sec;
scaleXBy:(CGFloat)xScale y:(CGFloat)yScale duration:(NSTimeInterval)sec;
scaleTo:(CGFloat)scale duration:(NSTimeInterval)sec;
scaleXTo:(CGFloat)xScale y:(CGFloat)yScale duration:(NSTimeInterval)sec;
scaleXTo:(CGFloat)scale duration:(NSTimeInterval)sec;
scaleYTo:(CGFloat)scale duration:(NSTimeInterval)sec;
sequence:(NSArray *)actions;
group:(NSArray *)actions;
repeatAction:(SKAction *)action count:(NSUInteger)count;
repeatActionForever:(SKAction *)action;
fadeInWithDuration:(NSTimeInterval)sec;
fadeOutWithDuration:(NSTimeInterval)sec;
fadeAlphaBy:(CGFloat)factor duration:(NSTimeInterval)sec;
fadeAlphaTo:(CGFloat)alpha duration:(NSTimeInterval)sec;
setTexture:(SKTexture *)texture;
animateWithTextures:(NSArray *)textures timePerFrame:(NSTimeInterval)sec;
```



502 Introduction to Sprite Kit

...and the rest

Other API Goodies

- Add attachments to mail
(Message UI Framework)
- Base64Encode NSData
- [NSArray firstObject]
- Barcode Scanner
(AVFoundation)
- AVSpeechSynthesizer
- MKDistanceFormatter
- [UIView snapshotView...]

NSURLComponents and NSCharacterSet (NSURLUtilities)

```
NSURLComponents *components =  
[NSURLComponents componentsWithString:@"http://nshipster.com" ];  
components.path = @"/iOS7";  
components.query = @"foo=bar"  
  
//http://nshipster.com/iOS7?foo=bar
```

NSURLComponents and NSCharacterSet (NSURLUtilities)

NSCharacterSet

- + (id) URLUserAllowedCharacterSet
- + (id) URLPasswordAllowedCharacterSet
- + (id) URLHostAllowedCharacterSet
- + (id) URLPathAllowedCharacterSet
- + (id) URLQueryAllowedCharacterSet
- + (id) URLFragmentAllowedCharacterSet

I'm sorry....

TextKit

Custom View
Controller Transition

Multipeer
Connectivity

App Transfer

Core Bluetooth