

#cocoaheads

What's new in Xcode 6

Adam Iredale

Swift developer

(17 days experience)



Liveness



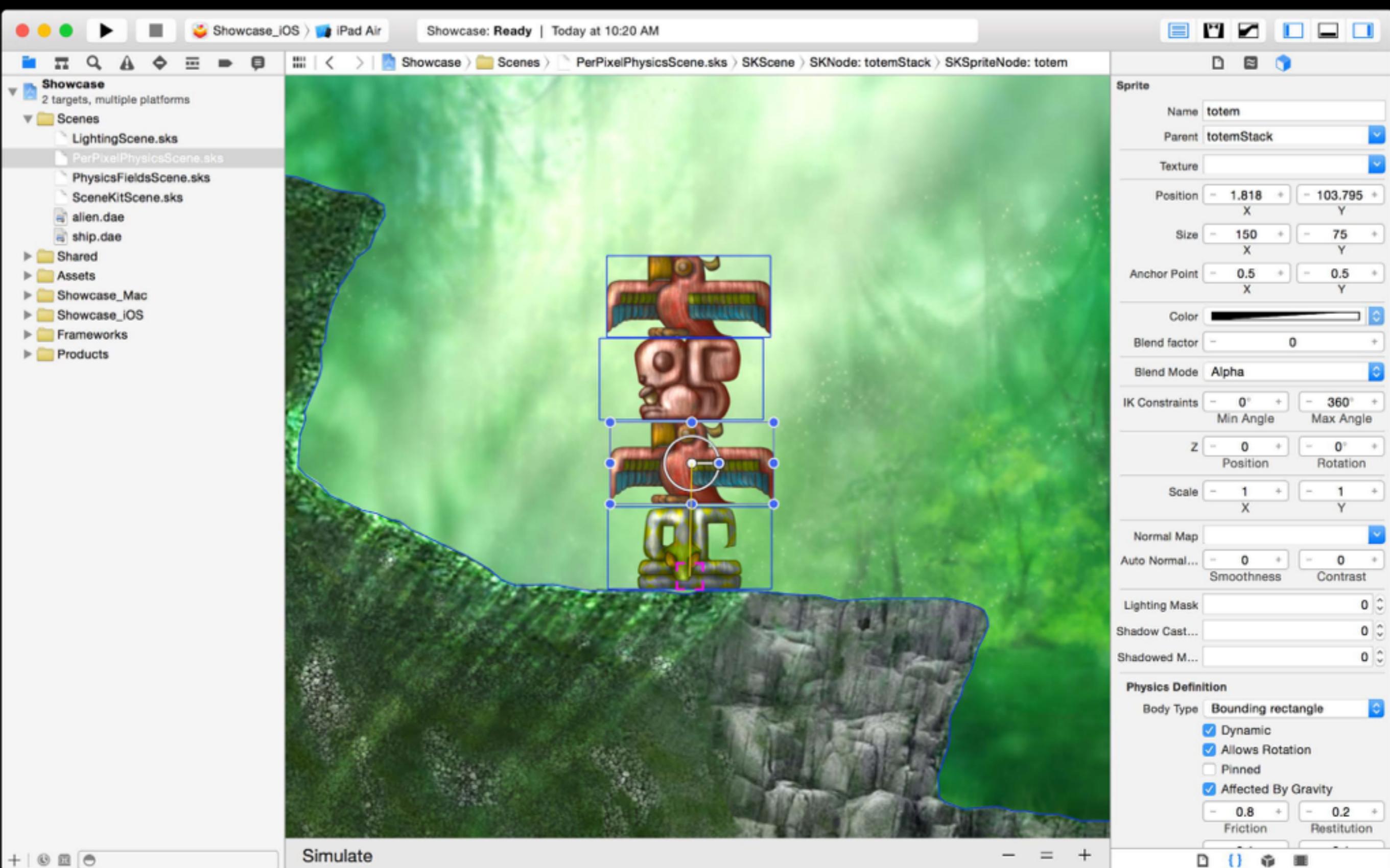
Adaptability



Power & Parity







WWDC Today > Mike's iPad > Running com.apple.WWDC.WWDC-Today on Mike's iPad

com.apple.WWDC.WWDC-Today PID 813, Paused

CPU 3%
Memory 4.9 MB
Disk Zero KB/s
Network Zero KB/s

Thread 1 Queue: com.apple.main-thread (serial)

- 0 -[TodayViewController getSessionFromDatabase]
- 1 -[TodayViewController viewDidLoad]
- 2 <redacted>
- 3 42 start Enqueued from com.apple.uikit._UIViewSer...
- 4 0 _dispatch_barrier_async_f
- 5 15 start_wqthread

Thread 2 Queue: com.apple.libdispatch-manager (serial)

com.apple.coremedia.player.async (9)

Thread 10

Thread 11

Thread 12

Thread 13

```
19 @implementation TodayViewController
20
21 - (instancetype)initWithNibName:(NSString *)nibNameOrNil
22   nibBundleOrNil {
23     self = [super initWithNibName:nibNameOrNil
24       nibBundleOrNil];
25     if (self) {
26     }
27     return self;
28   }
29
30 - (WWDCSession *)getSessionFromDatabase {
31   WWDCSession *session = [[WWDCSession alloc]
32     initWithDatabaseID:currentDatabaseID];
33   return session;
34 }
35
36 - (void)viewDidLoad {
37   [super viewDidLoad];
38   self.nextSession = [self getSessionFromDatabase];
39   self.dateFormatter = [[NSDateFormatter alloc]
40     initWithStyle:NSDateFormatterMediumStyle];
41   self.secondLabel.backgroundColor = nil;
42   self.label.backgroundColor = nil;
43 }
44
45 - (void)didReceiveMemoryWarning {
46   [super didReceiveMemoryWarning];
47 }
```

iPad 9:41 AM Today Notifications

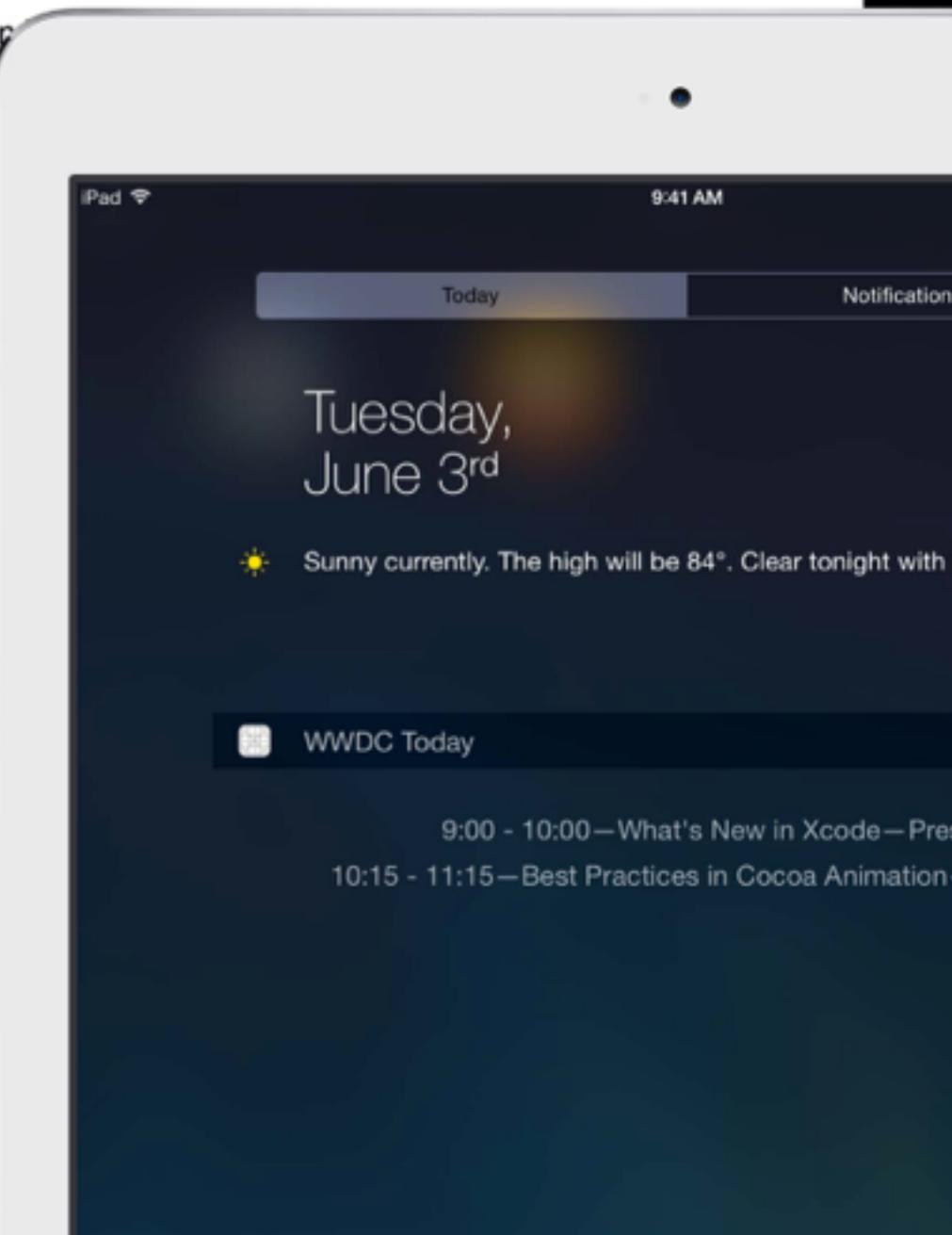
Tuesday, June 3rd

Sunny currently. The high will be 84°. Clear tonight with a low of 64°.

WWDC Today

9:00 - 10:00—What's New in Xcode—Presentation

10:15 - 11:15—Best Practices in Cocoa Animation—Session



Network

Disk

Profile in Instruments

Reading

Writing



0.0KB/s

Per Second

0.2GB

Total



0.0KB/s

Per Second

44.0KB

Total

Receiving and Sending

Reading and Writing Rates



Active Connections

Open Files

Protocol Local

Descriptor	Type	Device	Size/Offset	Inode	Path
0r	CHR	50,331,650	0	316	/dev/null
1u	CHR	50,331,650	0	316	/dev/null
2u	CHR	50,331,650	1,247	316	/dev/null
4r	REG	0	512	22,312	/System/Library/CoreServices/SystemAppearance.bundle/Contents/R...
5r	REG	0	512	22,311	/System/Library/CoreServices/SystemAppearance.bundle/Contents/R...
6r	REG	0	0	28,042	/System/Library/Frameworks/Carbon.framework/Versions/A/Framework...
8r	DIR	0	0	240,435	/System/Library/CoreServices/RawCameraSupport.bundle
9r	DIR	0	0	40	/System/Library/CoreServices
10r	DIR	0	0	37	/System/Library
11r	DIR	0	0	36	/System
15r	DIR	0	0	2,080,819	/Volumes/Local/Platforms/Syrah/Users/demo/Library/FontCollections
16r	REG	0	0	2,080,820	/Volumes/Local/Platforms/Syrah/Users/demo/Library/FontCollections/...
17r	REG	0	0	2,080,821	/Volumes/Local/Platforms/Syrah/Users/demo/Library/FontCollections/...
18r	REG	0	0	2,080,822	/Volumes/Local/Platforms/Syrah/Users/demo/Library/FontCollections/...
19r	REG	0	0	2,080,823	/Volumes/Local/Platforms/Syrah/Users/demo/Library/FontCollections/...

LLDB

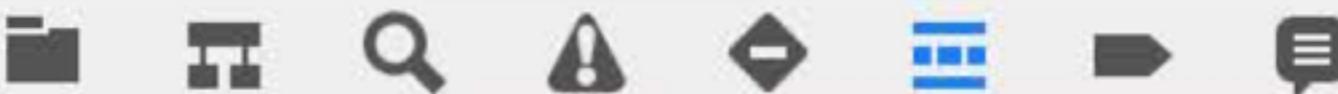
Quiz

Bonus major minor improvement quiz



▼ **Jogr** PID 5590, Paused

- ▶ **com.apple.main-thread (serial)**
1 Running Block, 1 Pending Block
- ▼ **com.apple.root.default-qos (concurrent)**
1 Running Block
 - ▼ **_25-[GraphView awakeFromNib]_block_invoke**
Thread 13
 - 0 -[GraphView _createGraphPath]
 - 1 __25-[GraphView awakeFromNib]_block_invoke
 - 2 _dispatch_call_block_and_release
 -
 - 7 start_wqthread



Jogr

PID 5590, Paused



- ▶ **com.apple.main-thread (serial)**
1 Running Block, 1 Pending Block
- ▼ **com.apple.root.default-qos (concurrent)**
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 - ▼ **_25-[GraphView awakeFromNib]_block_invoke**
Thread 13
 - 0 -[GraphView _createGraphPath]
 - 1 __25-[GraphView awakeFromNib]_block_invoke
 - 2 _dispatch_call_block_and_release
 - 7 start_wqthread
- Enqueued from com.apple.main-thread (Thread 1)
 - 0 _dispatch_async_f_slow
 - 1 **-[GraphView awakeFromNib]**
 - 2 -[UINib instantiateWithOwner:options:]
 - 23 UIApplicationMain
 - 24 main
 - 25 start

- Swift
- Live Design
- Performance Testing



Obj-C



Swift

- Apple's primary development language going forwards
- Supports generics, operator overloading and functional programming
- Interoperation with Objective-C and C
- Fundamental Changes!



Balloons — Balloons.playground — Edited

Balloons — Balloons.playground (Timeline)

```

func doDidMoveToView(scene : SKScene,
                     delegate : SKPhysicsContactDelegate) {
    // ===== Blimp Control =====
    yOffsetForTime = { i in
        return 80 * sin(i / 10.0)
    }
    // ===== Scene Configuration =====
    // Set up balloon lighting and per-pixel collisions.
    balloonConfigurator = { b in
        b.physicsBody.categoryBitMask = CONTACT_CATEGORY
        b.physicsBody.fieldBitMask = WIND_FIELD_CATEGORY
        b.lightingBitMask = BALLOON_LIGHTING_CATEGORY
    }
    // Load images for balloon explosion.
    balloonPop = (1...4).map {
        SKTexture(imageNamed: "explode_0\($0)")
    }
    // Install turbulent field forces.
    var turbulence = SKFieldNode.noiseFieldWithSmoothness(0.7,
                                                          animationSpeed:0.8)
    turbulence.categoryBitMask = WIND_FIELD_CATEGORY
    turbulence.strength = 0.21
    scene.addChild(turbulence)
    cannonStrength = 210.0
    // ===== Scene Initialization =====
    // Do the rest of the setup and start the scene.
    setupHero(scene, delegate)
    setupFan(scene, delegate)
    setupCannons(scene, delegate)
}

func handleContact(bodyA : SKSpriteNode,
                  bodyB : SKSpriteNode)| {
    if (bodyA == hero) {
        bodyB.normalTexture = nil
        bodyB.runAction(removeBalloonAction)
    } else if (bodyB == hero) {
        bodyA.normalTexture = nil
        bodyA.runAction(removeBalloonAction)
    }
}

```

(Function)
(1058 times)

(Function)
(55 times)

[SKTexture, SKTexture, SKTe...
(4 times)

SKNoiseFieldNode
SKNoiseFieldNode
SKNoiseFieldNode
(GameScene ((Function)) ((F...
210.0

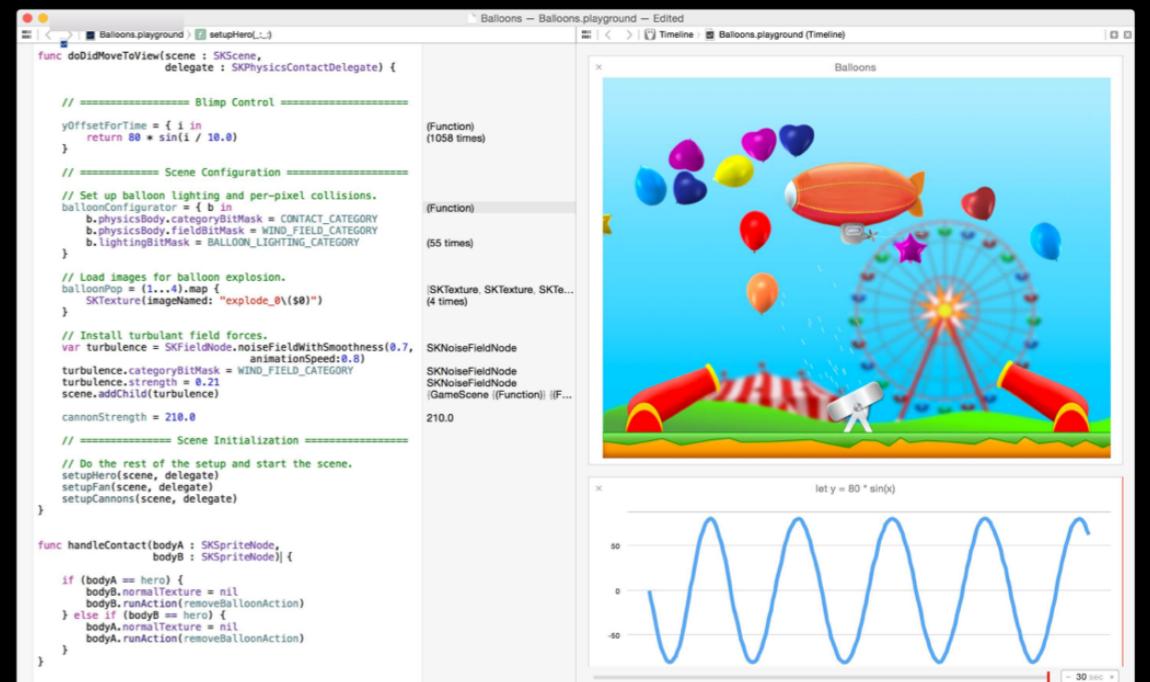
Balloons

let y = 80 * sin(x)

- 30 sec +

Playgrounds

- Death to temporary project
asdf
- Live interactive scratchpad
- OS X and iOS



Demo

Swift + Playgrounds



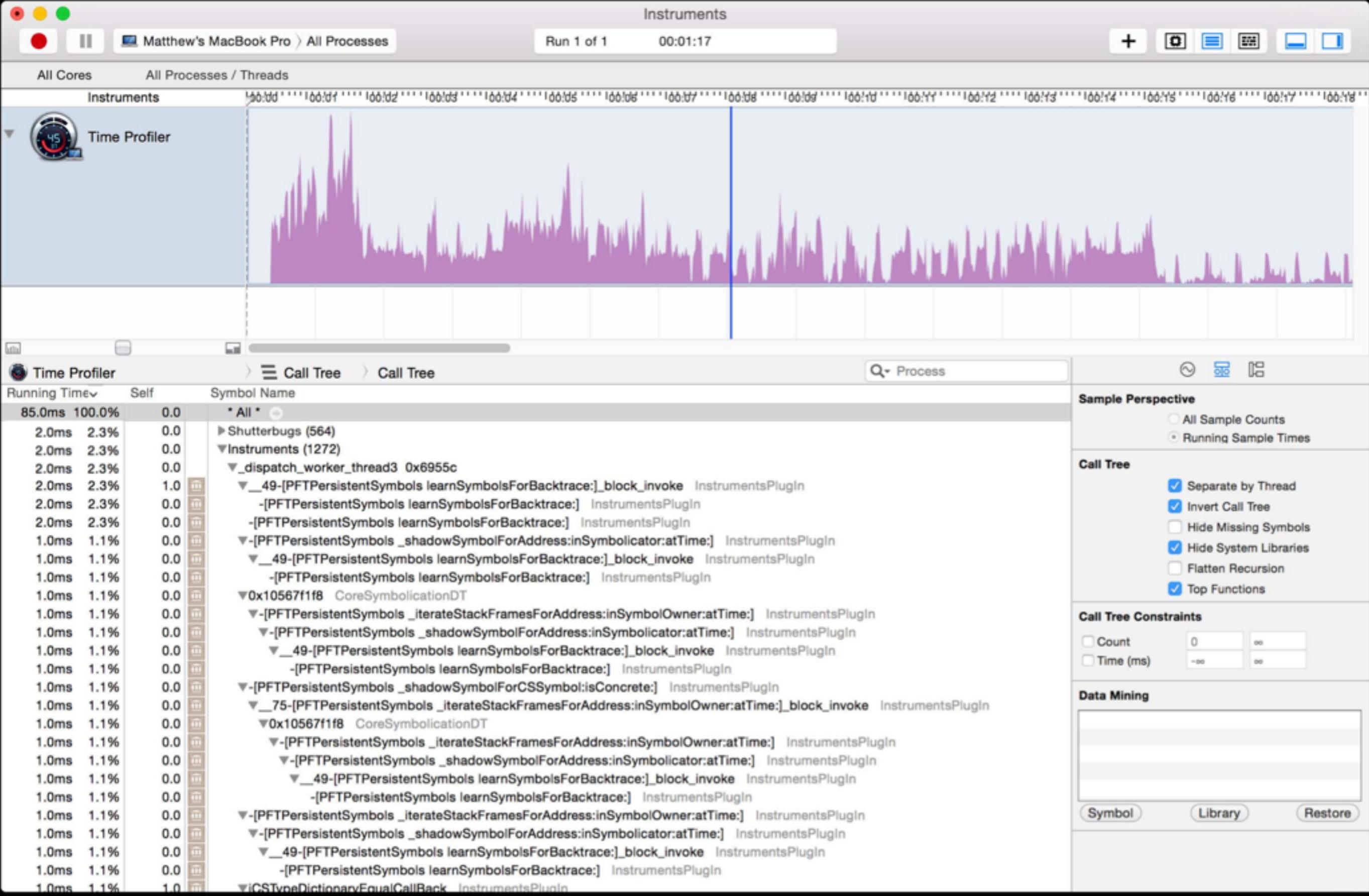
Design

Demo

Interface Builder

OS X Storyboards





Configure bot triggers:

After Integration:

▶ Notify Committers on Failure x

▼ Run Script x

```
1 # Open a new issue in our bug tracker
2
3 # ...or sound the "broken bot" siren
4
5 # ...or activate the electrodes in the
6 # chairs of all the recent committers
7
8 # You decide!
```

Run Script: On success

On test failures

On build errors

[Cancel](#)

[Previous](#)

[Create](#)

SeismicXML iPhone 5s SeismicXML | Build SeismicXML: Succeeded | Today at 9:00 AM

SeismicXML Tests 5 tests

TestAPLParseOperation

- t testParsingValidXML ✓
- t testValidateEarthQuakeData ✓
- t testValidateEarthQuakeData... ✓
- t testParsingValidXML_Time ✓

- (void)testValidateEarthQuakeData_Time {
 [self measureBlock:^{
 NSURL *dataURL = [[NSBundle bundleForClass:[self class]] URLForResource:@"TestInputData"
 withExtension:@"xml"];
 NSData *XMLData = [NSData dataWithContentsOfURL:dataURL];
 APLParseOperation *parseOperation = [[APLParseOperation alloc] initWithData:XMLData];
 [parseOperation start];
 XCTAssertEqual(parseOperation.allEarthquakes.count, 50);
 for (APLEarthquake *earthquake in parseOperation.allEarthquakes) {
 XCTAssert([earthquake validateWithError:NULL]);
 }
 }];
}

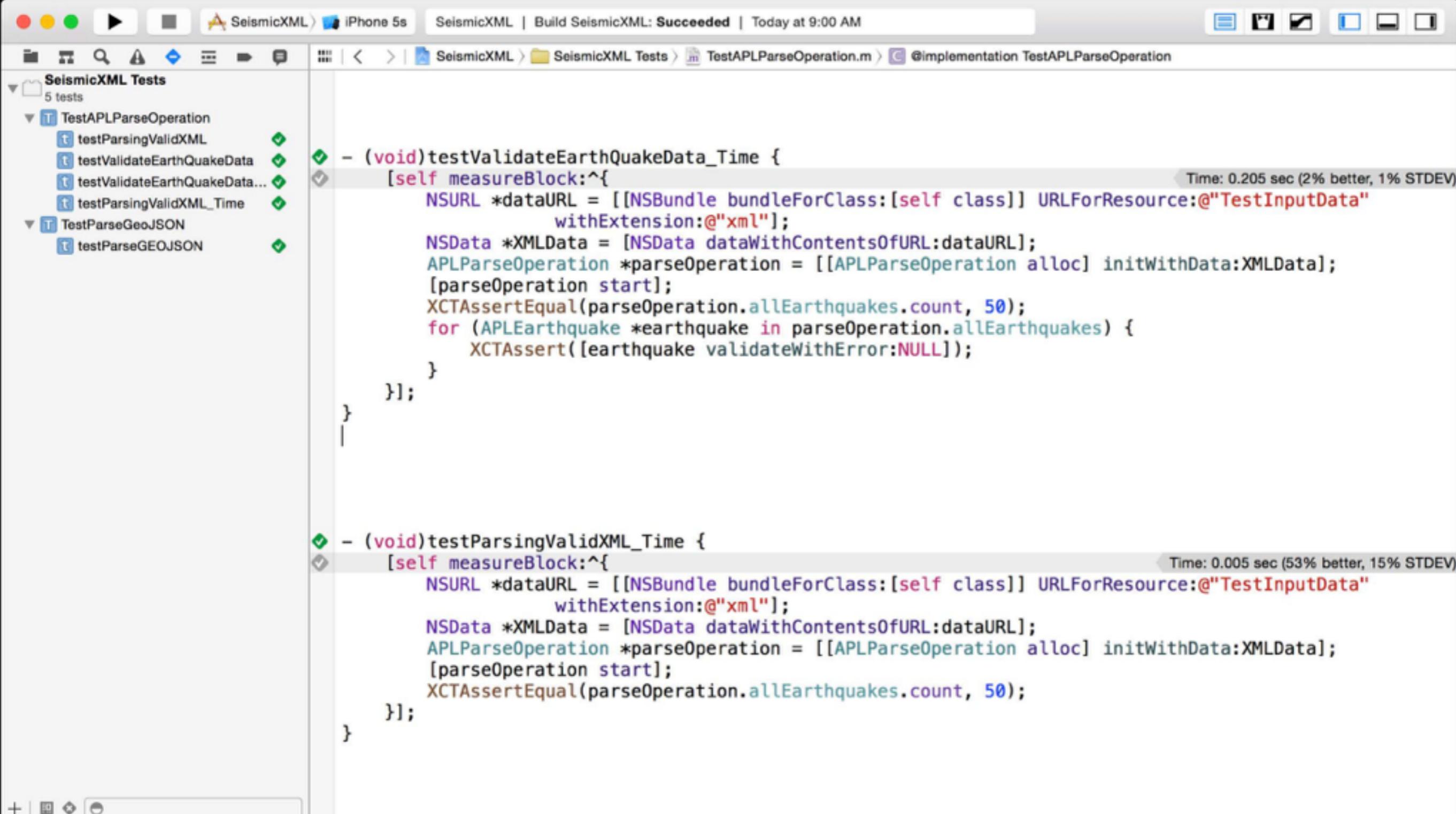
Time: 0.205 sec (2% better, 1% STDEV)

TestParseGeoJSON

- t testParseGEOJSON ✓

- (void)testParsingValidXML_Time {
 [self measureBlock:^{
 NSURL *dataURL = [[NSBundle bundleForClass:[self class]] URLForResource:@"TestInputData"
 withExtension:@"xml"];
 NSData *XMLData = [NSData dataWithContentsOfURL:dataURL];
 APLParseOperation *parseOperation = [[APLParseOperation alloc] initWithData:XMLData];
 [parseOperation start];
 XCTAssertEqual(parseOperation.allEarthquakes.count, 50);
 }];
}

Time: 0.005 sec (53% better, 15% STDEV)



SeismicXML > iPhone 5s SeismicXML | Build SeismicXML: Succeeded | Today at 9:00 AM

SeismicXML Tests 5 tests

TestAPLParseOperation

- t testParsingValidXML ✓
- t testValidateEarthquakeData ✓
- t testValidateEarthquakeData... ✓
- t testParsingValidXML_Time ✓

TestParseGeoJSON

- t testParseGEOJSON ✓

Profile "testValidateEarthquakeData_Time"

Time: 0.205 sec (2% better, 1% STDEV)

```
self.measureBlock:^{
    NSURL *dataURL = [[NSBundle bundleForClass:[self class]] URLForResource:@"TestInputData"
        withExtension:@"xml"];
    NSData *XMLData = [NSData dataWithContentsOfURL:dataURL];
    APLParseOperation *parseOperation = [[APLParseOperation alloc] initWithData:XMLData];
    [parseOperation start];
    XCTAssertEqual(parseOperation.allEarthquakes.count, 50);
}
```

Disable "testValidateEarthquakeData_Time"

Jump to Report

Reveal in Project Navigator

Reveal in Symbol Navigator

Reveal in Test Navigator

New Test Target...

New Test Class...

Refactor ▾

Test Navigator Help ▾

Time: 0.005 sec (53% better, 15% STDEV)

```
self.measureBlock:^{
    NSURL *dataURL = [[NSBundle bundleForClass:[self class]] URLForResource:@"TestInputData"
        withExtension:@"xml"];
    NSData *XMLData = [NSData dataWithContentsOfURL:dataURL];
    APLParseOperation *parseOperation = [[APLParseOperation alloc] initWithData:XMLData];
    [parseOperation start];
    XCTAssertEqual(parseOperation.allEarthquakes.count, 50);
}
```

ShutterBugz > iPhone 4s ShutterBugz | Build ShutterBugz: Succeeded | Today at 1:00 PM 2

By Group By Time

- ShutterBugz Today, 1:00 PM
- Project Today, 1:34 PM
- Analysis Bot My Server
- Nightly Bot My Server
- On Commit Bot My Server
 - Integrate (8) Today, 1:35 PM, Failed tests
 - Integrate (7) Today, 1:31 PM, Finished with w...
 - Integrate (6) Today, 1:29 PM, Failed tests
 - Integrate (5) Today, 1:26 PM, Failed tests
 - Integrate (4) Today, 1:24 PM, Failed tests
 - Integrate (3) Today, 1:20 PM, Finished with w...
 - Integrate (2) Today, 1:17 PM, Failed tests
 - Integrate (1) Today, 1:12 PM, Succeeded

Integration 8 1 minute

Summary Tests Logs

All Passed Failed All Performance

Tests Status Time

ShutterBugzTests > ShutterBugzTests

▶ t testPhotoZoom ✓

▶ t testRadialBlurWithCenteredOffset ✗

Matthew's iPad iPad mini (Model A1432), iOS 8.0
Assertions: (((xCoordinate == 0 && yCoordinate == 0)) is true) failed - Expected centered radial blur offset to be (0, 0) after test, but the last value we recorded was (-165, -187)

Matthew's iPod iPod touch (5th generation), iOS 8.0
Assertions: (((xCoordinate == 0 && yCoordinate == 0)) is true) failed - Expected centered radial blur offset to be (0, 0) after test, but the last value we recorded was (-165, -187)

▶ t testPhotoLevels ✓

▶ t testAtLeastOnePhotoReturned

▶ t testPhotoApplySepiaEffect

▶ t testSortPhotosAlternativeAlgorithm

Matthew's iPad iPad mini (Model A1432), iOS 8.0

Matthew's iPod iPod touch (5th generation), iOS 8.0

▶ t testPhotoScale

▶ t testJSONLoadPerformance

Performance Result

Result: 99.729% better ($\pm 1\%$)

Average: 0.27s

Baseline: 100.00s

Max STDDEV: 10.00%

-99.67%

-99.73%

-99.67%

Value: 0.281 (3.78%)

0.03 s

Summary

- Liveness, Adaptability, Power and Parity
- Better Dispatch Stack Traces
- Swift
- Playgrounds
- Custom View Rendering with IBDesignable
- Inspectable properties with IBInspectable
- View hierarchy debugging and Live View Debugging
- Adaptive View Controllers / Size Classes, OS X Storyboards
- Performance Testing

Stolen From WWDC14....

- 401 - What's New in Xcode 6
- 202 - What's New in Cocoa Touch
- 408 - Swift Playgrounds
- 411 - What's New in Interface Builder
- Platform State of the Union

More Information



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Documentation
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Apple Developer Forums
<http://devforums.apple.com>



Me, now

(Disclaimer: I may not have ALL the answers)



Questions?

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