

watchOS 3

March 10th 2017 - South Florida Code Camp

Daniel Cabrera

dannycabrera@gmail.com

@dannycabrera

<https://github.com/dannycabrera/CodeCamp2017>

Text 954.828.0941 for link

Overview

- watchOS Overview
- Architecture
- Demo
- Extras

watchOS 1 vs 2/3



watchOS 2

- LLVM BitCode - is a serialized version of the low-level intermediate representation used by LLVM. Abstract encoding of an app that can be used to re-compile, great for new optimizations, CPU etc.
- Watch Connectivity Framework
- UI Improvements

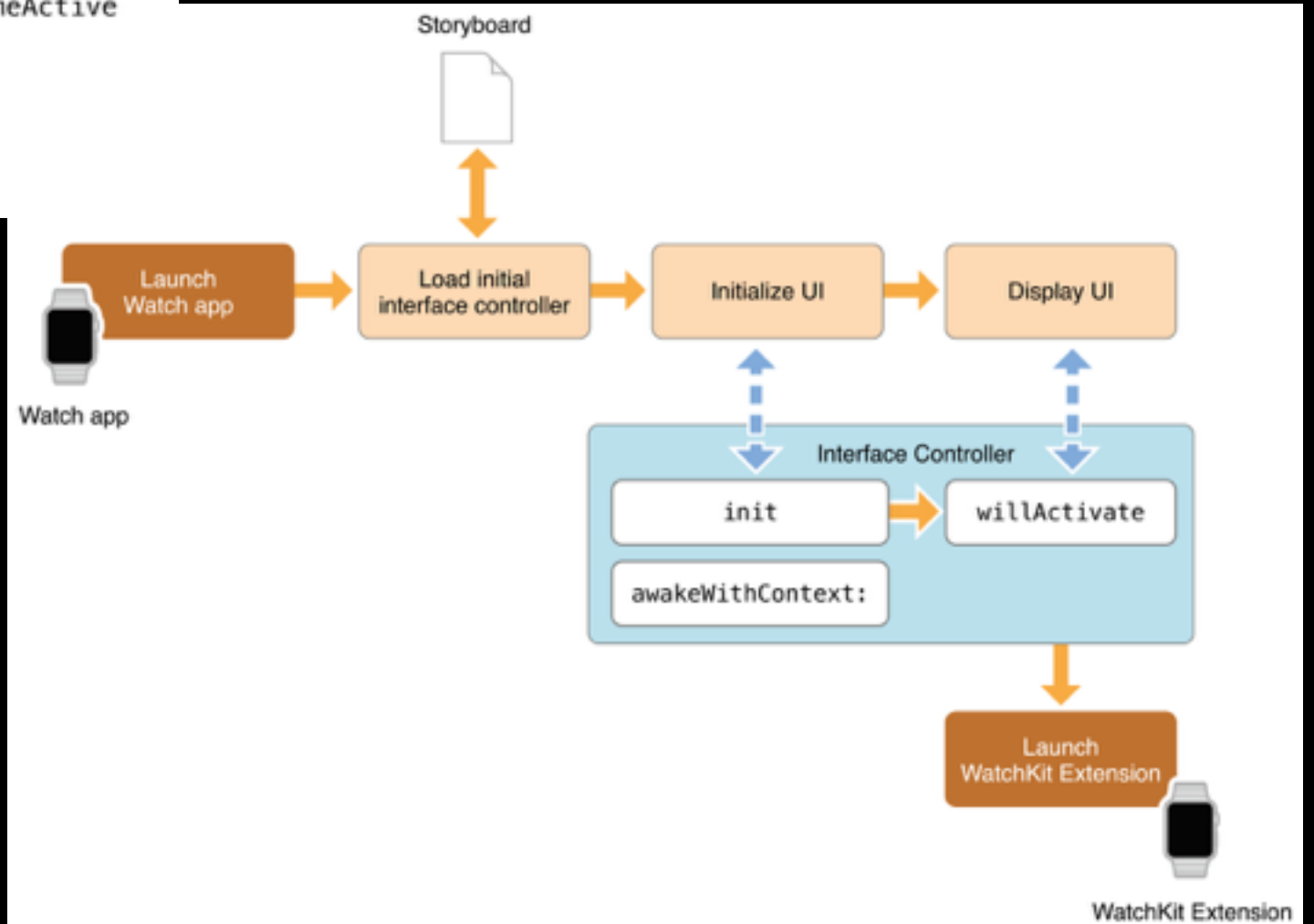
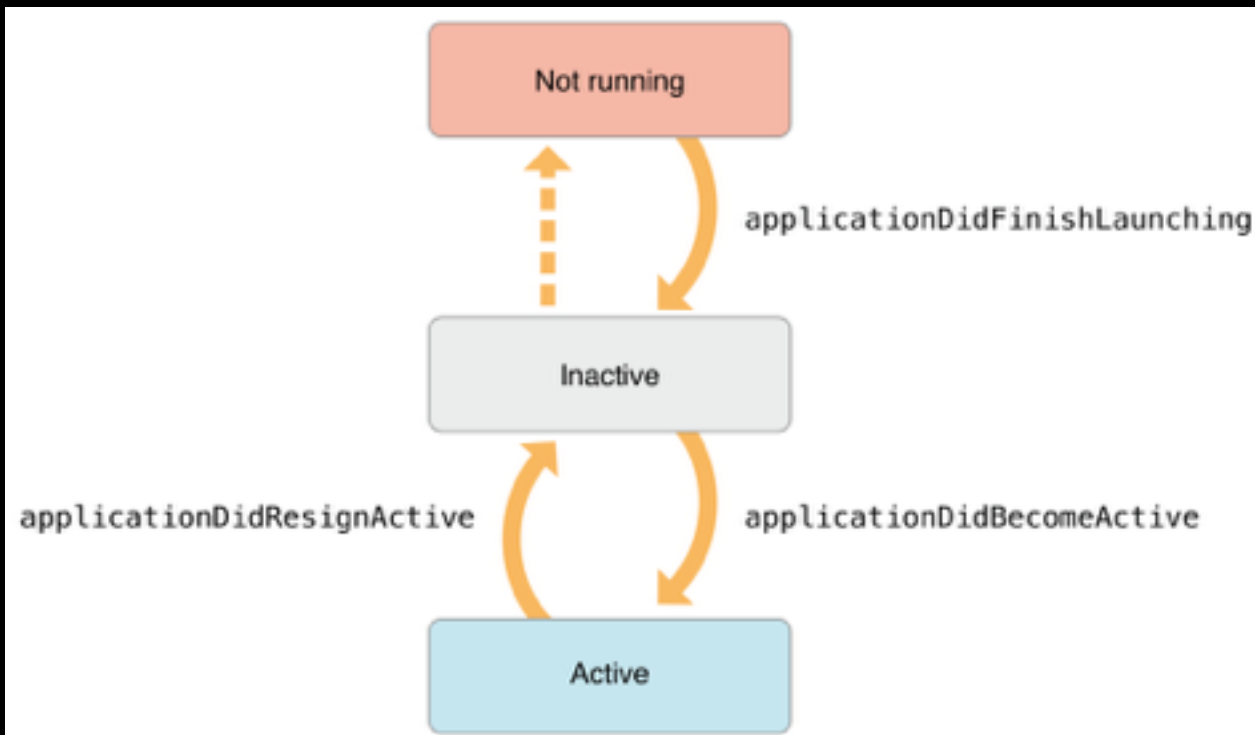
watchOS 3

- UI Responsiveness
- Snapshots & Dock (Dock was previously Friends button)
- Background Tasks - App Refresh, Snapshot Refresh, Watch Connectivity & URL Session
- Complications - guaranteed to receive 50 push updates per day, Background task updates
- In-App support for Apple Pay
- Workout apps now run in background
- Framework enhancements (WKCrownSequencer) & new APIs available

Solution Layout

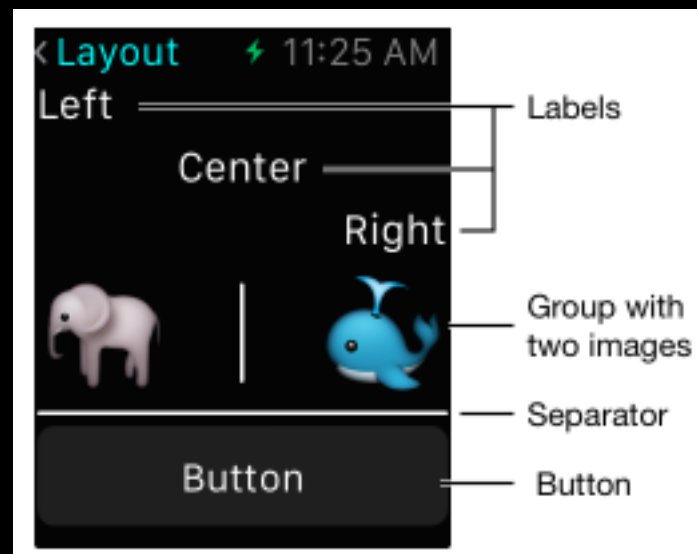
- watchOS apps consist of 3 projects
 - Watch Extension
 - A project that contains the code and large-resource storage for the Watch App. This project runs on the connected iPhone but has no visible representation beyond what the Watch App provides;
 - Watch App
 - A small project, generally consisting of only a storyboard, small resources, and link references to files in the Watch Extension. This project is the only bundle that resides on the Apple Watch; and
 - iOS Parent App
 - A project whose primary purpose is to bundle the Watch App and Extension. This app is a normal iPhone app, has a visible icon, etc.

Lifecycle



UI Objects

- Labels
- Buttons
- Groups
- Switch
- Slider
- Gestures... to name a few



Navigation

- Page based
- Hierarchical



- Controls - button, picker, slider, menu item, etc.

User Notifications

Notifications are primary form of Quick interaction that user typical experiences on watchOS.

- Notifications use similar API across all platforms (iOS, watchOS, tvOS and macOS).
- Local notifications can be scheduled on Apple Watch by time of day or location.
- Background Notification will be routed to app's Extension if they were scheduled on Apple Watch.

Short-Look Interface

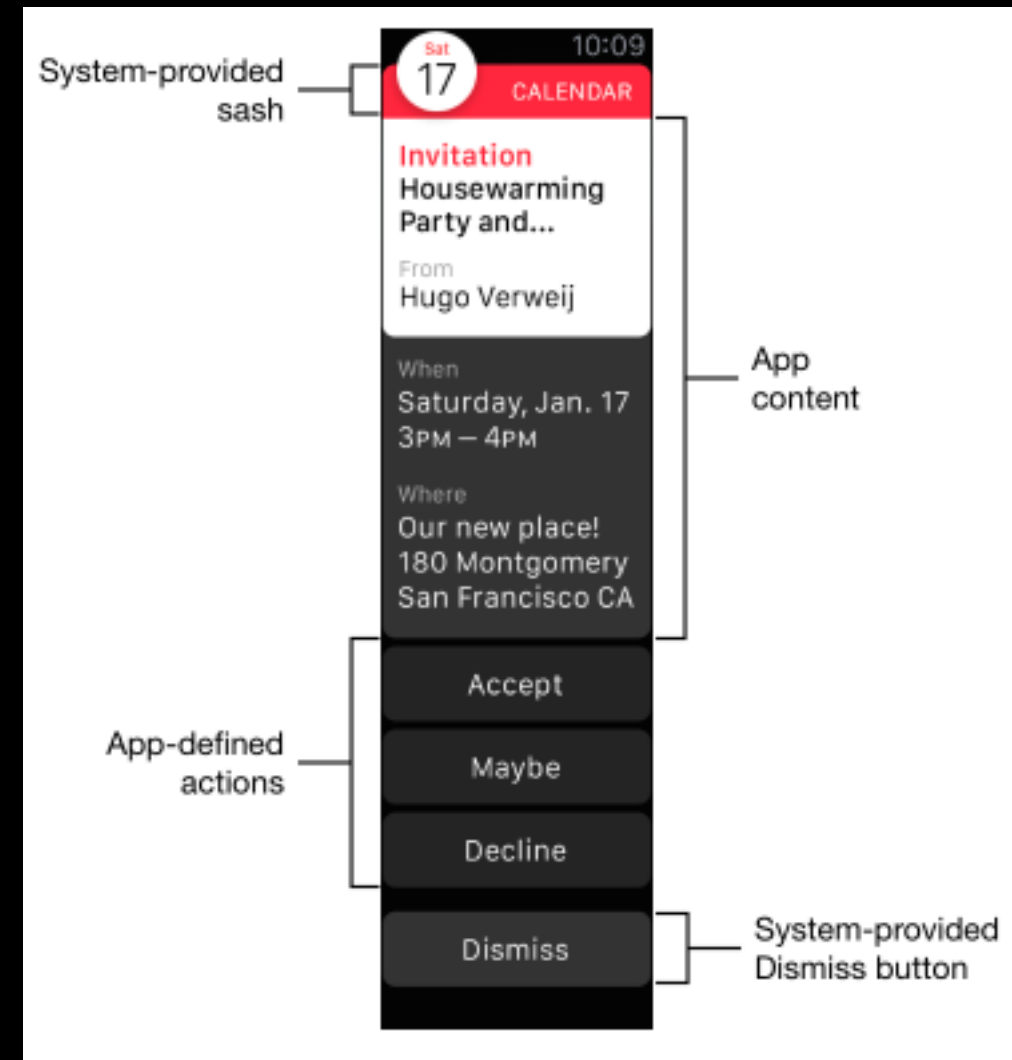


```
{
  "aps": {
    "alert": {
      "body": "Test message",
      "title": "Optional title"
    },
    "category": "myCategory"
  },

  "WatchKit Simulator Actions": [
    {
      "title": "First Button",
      "identifier": "firstButtonAction"
    }
  ],

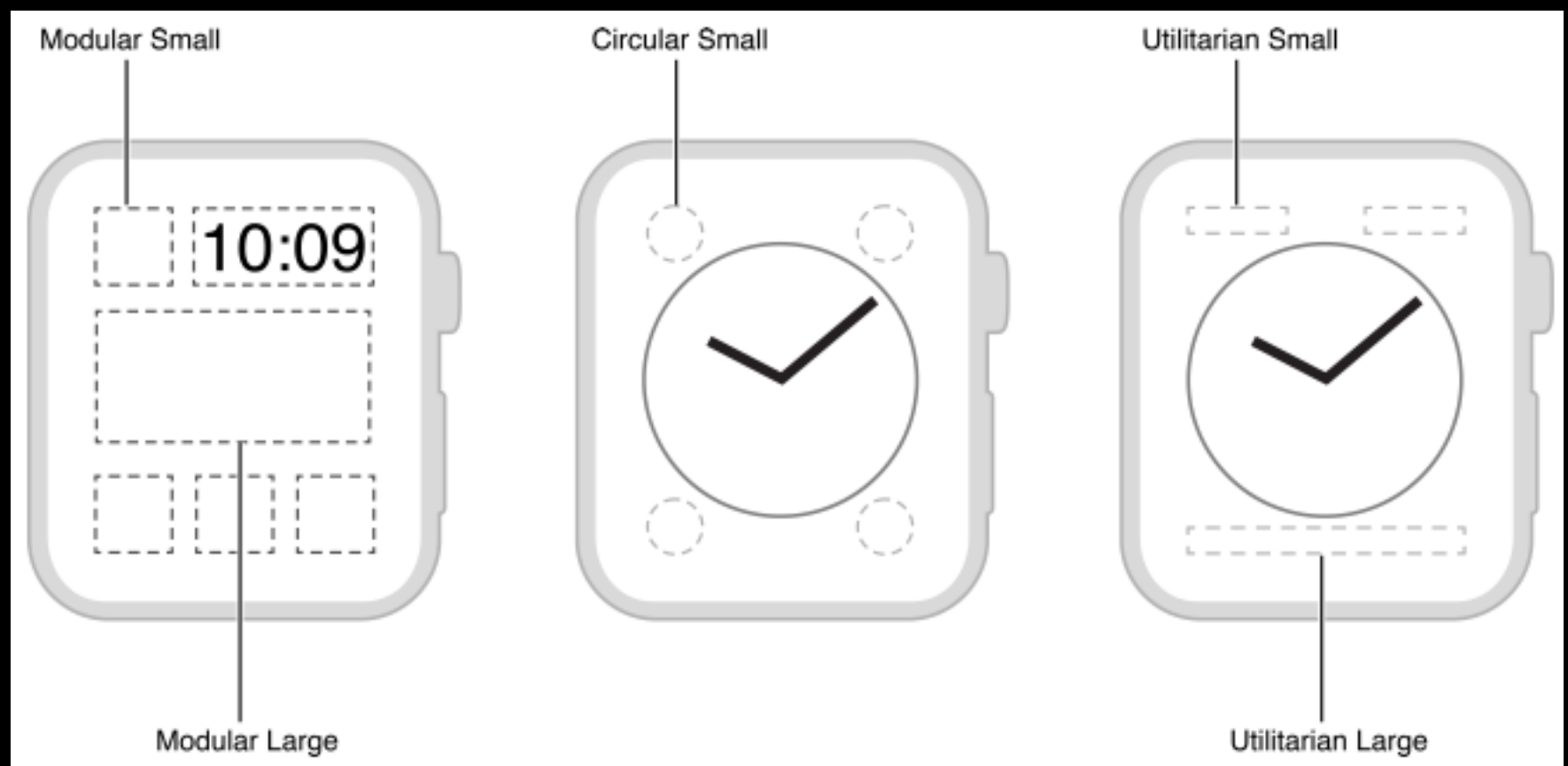
  "customKey": "Use this file to define a testing payload for your notifications."
}
```

Long-Look Interface



Complication

Information at-a-glance from watch face.



Dock (Snapshots)



Background Tasks

- Background App Refresh - app can update its state in background. Typically includes tasks such as downloading new content from internet using NSURLSession
- Background Snapshot Refresh - allows app to update its content and UI before system takes snapshot to populate Dock.
- Background Watch Connectivity - task started for app when it receives background data from paired iPhone.
- Background URL Session - task started for app when background transfer requires authorization or completes (successfully or in error)

WatchConnectivity / Enhancements

- Facilitates communication between WatchKit extension and companion app
- API has new property **HasContentPending** of the **WCSession** class to indicate that the session has received data in background
- And the **RemainingComplicationUserInfoTransfers** property returns the remaining times that the iOS app can update its watchOS Complication

Demo Time!

New in watchOS 3

- Apple Pay
- Security & Privacy Enhancements
- Proactive suggestions
- New frameworks (SceneKit, SpriteKit, AVFoundation, CloudKit, Core Audio & GameKit)
- WatchKit (WKCrownSequencer, WKApplicationState, WKGestureRecognizer, WKInterfacePaymentButton etc.)

Series 2

- Built-in GPS and GLONASS (Russian version of GPS)
- Water resistant to 50 meters
- Updated 2nd-gen OLED Retina display (2x brighter than series 1)

watchOS 3.2 Betas

- Theater mode to temporarily disable raise to wake feature
- SiriKit to allow third party access to Siri

Thank you for attending my watchOS 3 session

Enjoy the rest of your South Florida Code Camp!

dannycabrera@gmail.com
@dannycabrera

<https://github.com/dannycabrera/CodeCamp2017>

Text 954.828.0941 for link