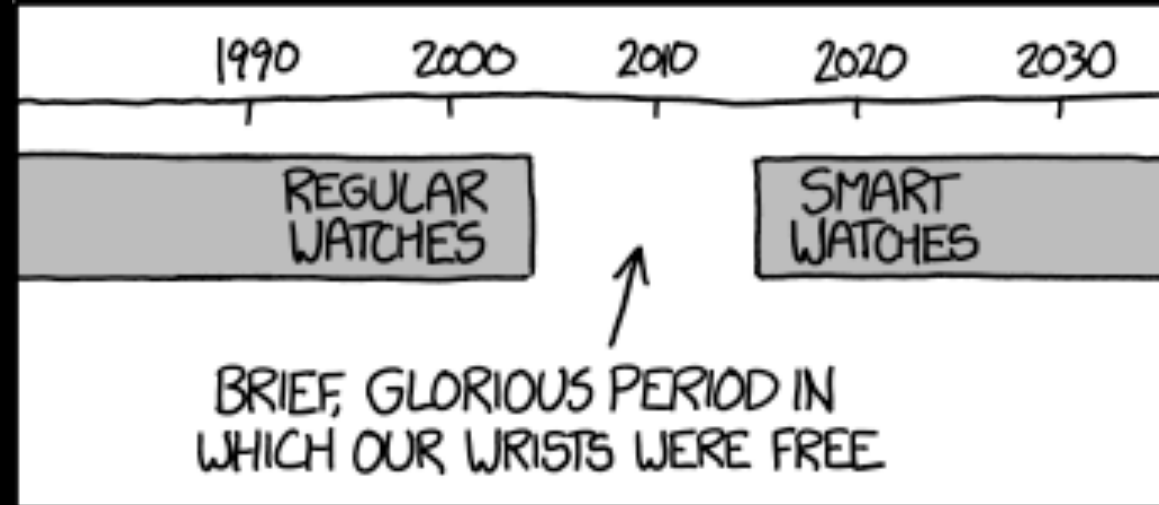


WatchKit



@bwhiteley

image from xkcd

Architecture

- WatchKit App
 - Installed on watch
 - Storyboard
 - Images
- WatchKit Extention
 - Code
 - Runs on iPhone

Concepts

- WatchKit Extension is like a mini version of parent app
- No layout in code (You can show/hide elements)
- No views/frames
- `WKInterfaceController` and `WKInterfaceObjects`
- Handoff
- No AppDelegate (Main Interface Controller is quasi-AppDelegate)

WKInterfaceController

- Analogous to UIViewController
- Performs many roles
 - Page Controller
 - Navigation Controller
 - Table Delegate
 - Respond to Notifications/Handoffs

WKInterfaceController Lifecycle

- `init()`
- `awakeWithContext(_ context: AnyObject?)`
- `willActivate()`
- `didDeactivate()`

UI updates must be performed while Interface Controller is active

Entry Points

- WatchKit App
- Glance
- Notification

Navigation

- Push or Present Interface Controllers by storyboard identifier
- Provide the identifier and context (don't instantiate)

Handoff

```
updateUserActivity(_ type: String,  
                  userInfo: [NSObject : AnyObject]?)
```

Publishes the app's current activity to the iPhone for handoff.
For Glance Controller, also publishes handoff activity to WatchKit App.

Handoff

`handleUserActivity:(NSDictionary *)userInfo`

Called on the initial interface controller to respond to handoff events.

WKInterfaceTable

- No datasource
- Interface Controller is automatic delegate
 - `table:didSelectRowAtIndex:`
- No indication of scroll offset
- No base class for rows

Notifications

- Short Look
- Long Look Static
- Long Look Dynamic
- Multiple Interface controllers (category)
- Interactive (Foreground, Background)

WKUserNotificationInterfaceController

- `didReceiveRemoteNotification:withCompletion:`
- `didReceiveLocalNotification:withCompletion:`

Within 3 seconds, call the completion block with a value of `.Custom` or the static interface will be used.

Notification Actions

- Background actions sent to App Delegate of parent app

`application:handleActionWithIdentifier:forLocalNotification:completionHandler:`
`application:handleActionWithIdentifier:forRemoteNotification:completionHandler:`

- Foreground actions sent to initial WatchKit Interface Controller

`handleActionWithIdentifier:forLocalNotification:`
`handleActionWithIdentifier:forRemoteNotification:`

UIImageView

- setImage or setImageNamed
- Image cache (20MB) managed on WKInterfaceDevice

Communicate With Containing App

```
// WKInterfaceController
class func openParentApplication(_ userInfo: [NSObject : AnyObject]!,
                                reply reply: ([NSObject : AnyObject]!, NSError!) -> Void)!) -> Bool

// AppDelegate of Containing App
- application:(UIApplication *)application
  handleWatchKitExtensionRequest:(NSDictionary *)userInfo
  reply:(void (^)(NSDictionary *))reply
```

Launches the containing app in the background.

Tools

- Limited simulator (External Display)
- 3 Schemes (App, Glance, Notification)
- Limitations
 - Handoff
 - Notifications
 - Dictation
 - Lacks context (Watch homescreen, etc.)

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