



THE UNIVERSITY OF  
CHICAGO



# 🍏WATCH APPLICATION DEVELOPMENT

---

MPCS 51032 • SPRING 2020 • SESSION 5

# DEVELOPING FOR WATCH

# DEVELOPING FOR WATCH

- With Apple Watch, users can access data in a way that is both distinctly personal and unobtrusive





# DEVELOPING FOR WATCH

- Unless you have an Edition (that was the really expensive gold version)





# DEVELOPING FOR WATCH

- “Without having to pull an iPhone out of a pocket, users can get important information quickly just by glancing at their Apple Watch”
  - Of course, most useful things need an iPhone



# **A HISTORY OF WATCHOS**

# DEVELOPING FOR WATCH

- Apple Watch and Its Paired iPhone
  - Apple Watch requires the presence of an iPhone to run third-party apps
  - No iPad support
- To create a third-party app, you need two separate bundles
  - WatchKit app (that runs on Apple Watch)
  - WatchKit extension
    - 1.0 runs on the user's iPhone
    - 2.0 runs on watch





# DEVELOPING FOR WATCH

- A WatchKit app extends the behavior of your existing iOS app
  - WatchKit app and WatchKit extension are bundled together and packaged inside your iOS app bundle
- During installation of your iOS app
  - System prompts the user to install the WatchKit app when a paired Apple Watch is present





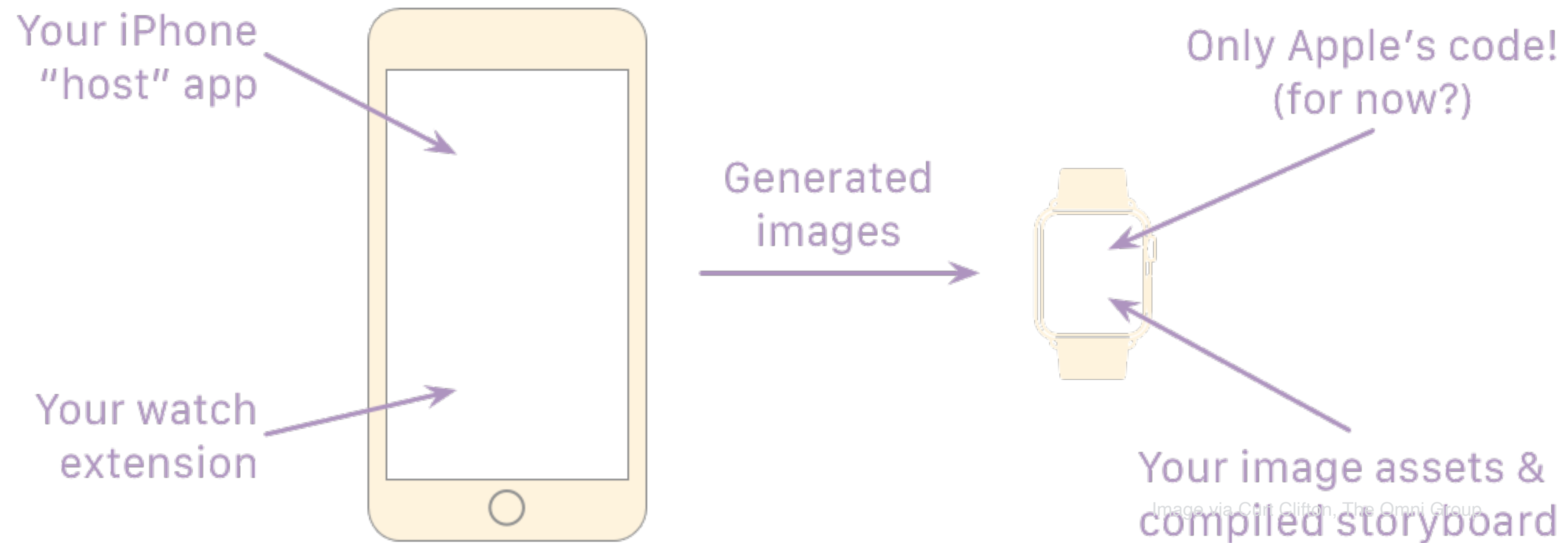
# DEVELOPING FOR WATCH

- 1.0
  - WatchKit app (that runs on Apple Watch)
  - WatchKit extension runs on the user's iPhone and projects on to the watch

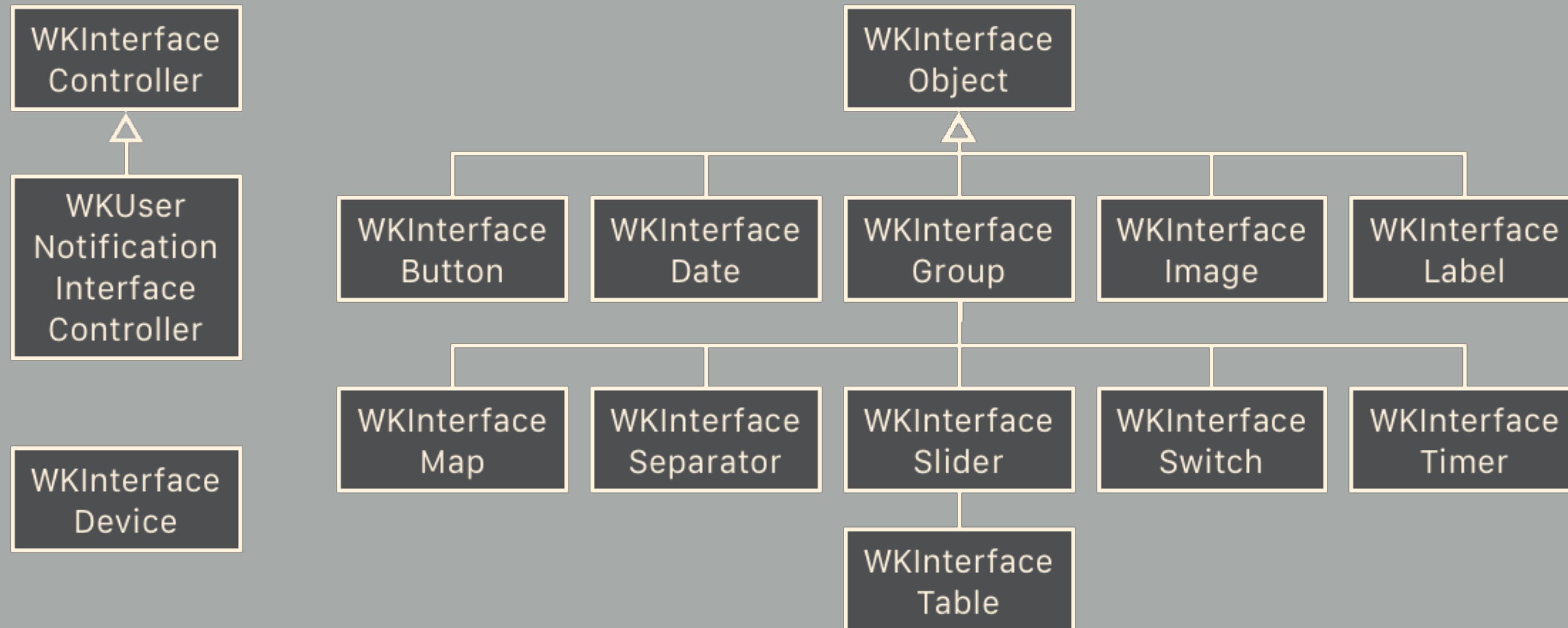


# DEVELOPING FOR WATCH

 Watch 1.0



# DEVELOPING FOR WATCH





# DEVELOPING FOR WATCH

- 2.0
  - Moves code execution onto the watch
  - Improves responsiveness
  - Extends capabilities
    - Non-tethered wifi
- 1.0 apps are no longer accepted after June 1, 2016



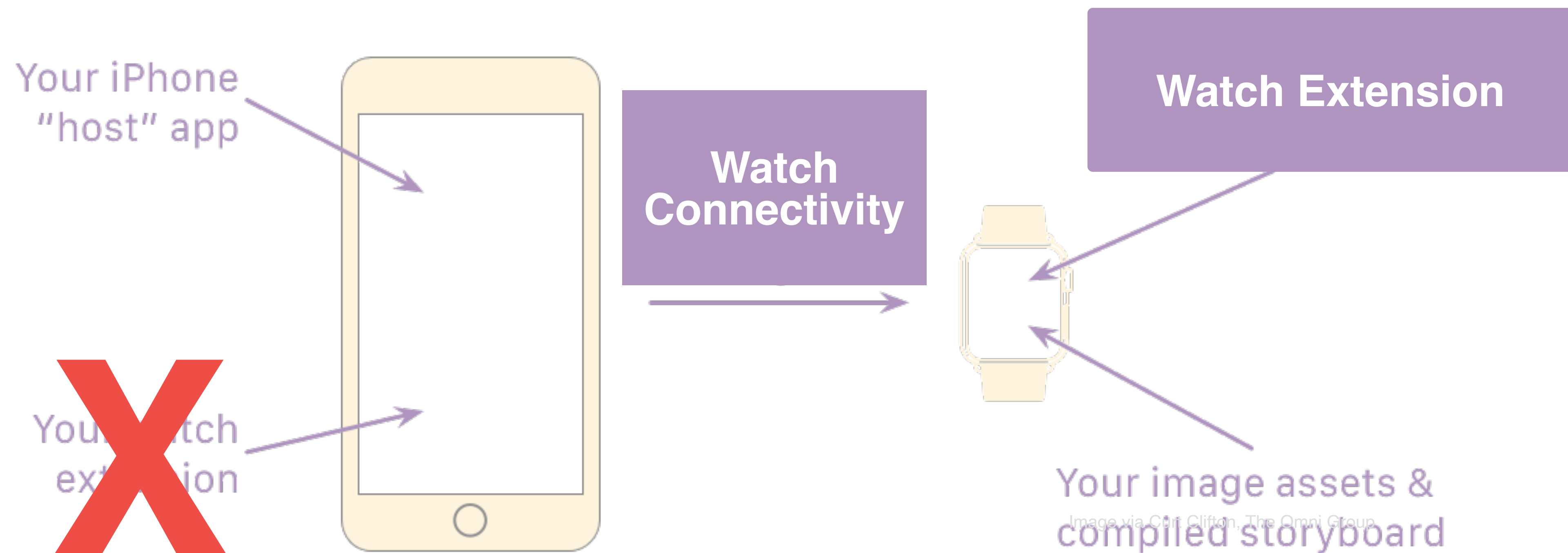
# DEVELOPING FOR WATCH

- The WatchKit app
  - Contains the storyboards and resource files associated with all of your app's user interfaces
- The WatchKit extension
  - Contains the extension delegate
  - Contains the code for controllers for managing those interfaces and for responding to user interactions



# DEVELOPING FOR WATCH

 Watch 2.0





# DEVELOPING FOR WATCH

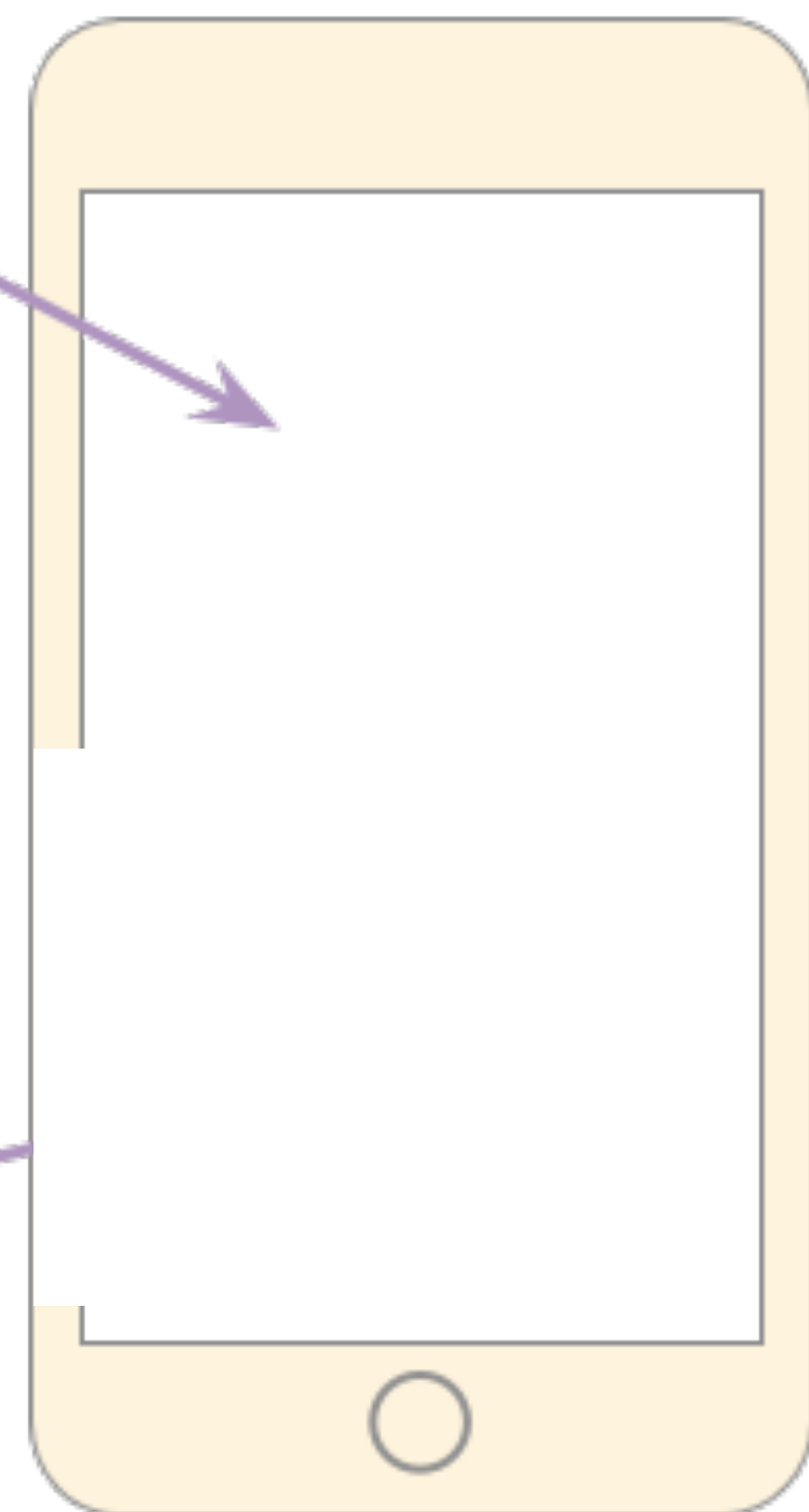
- 3.0
  - Opened up access
  - Network connectivity
  - New sensors and chips (on Model 2)
  - Framework availability (CoreData, SpriteKit, SceneKit, UNNotifications)



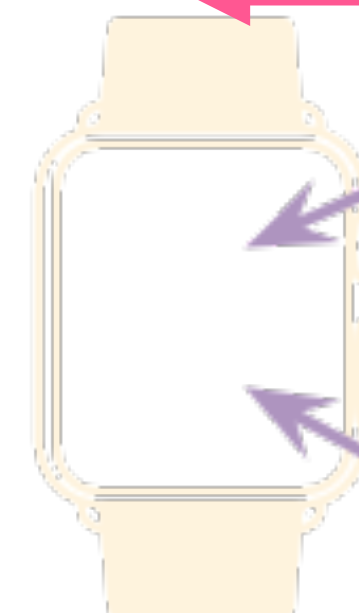
# DEVELOPING FOR WATCH

 Watch 3.0+

Your iPhone  
"host" app



Watch  
Connectivity



Watch Extension

URLSESSION  
EXTENSION

Your image assets &  
compiled storyboard

# DEVELOPING FOR WATCH

- 4.0
  - Background modes
  - Cellular integration
- 5.0
  - Audio modes
  - New health features





# DEVELOPING FOR WATCH

- 6.0
  - Independent apps
    - Purchase from App Store
  - Dependent apps
    - Rely on companion apps to function properly
    - Bundled with iOS app



# DEVELOPING FOR WATCH

- 6.0
  - Independent apps
    - Purchase from App Store
  - Dependent apps
    - Rely on companion apps to function properly
    - Bundled with iOS app

Seems like Apple is favoring this style of development



# DEVELOPING FOR WATCH

- Independent apps must function completely on the watch
  - Let users sign in
  - Request permissions
  - Download data directly (no Watch Connectivity)
  - Handle notifications







THE UNIVERSITY OF  
CHICAGO



# Apple WATCH APPLICATION DEVELOPMENT

---

MPCS 51032 • SPRING 2020 • SESSION 5