

**COCOAHEADS HAMBURG**

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# **INTRO TO TVOS**

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IOS  
WATCHOS  
TVOS

**YET ANOTHER PLATFORM  
BASED ON IOS**

**FAMILIAR IF YOU KNOW IOS**

**BUT NOT THE SAME**



**NO DIRECT INPUT**

**TYPING SUCKS!**

**DESIGN FOR ~~NO~~ REDUCED TYPING**

# Enter URL to play

SPACE

**a**

b c d e f g h i j k l m n o p q r s t u v w x y z 

1 2 3 4 5 6 7 8 9 0 . - \_ ! @ # \$ % ^ & \*

ABC

abc

#+ -

Done



# DON'T LET THE USER 'TYPE' PASSWORDS

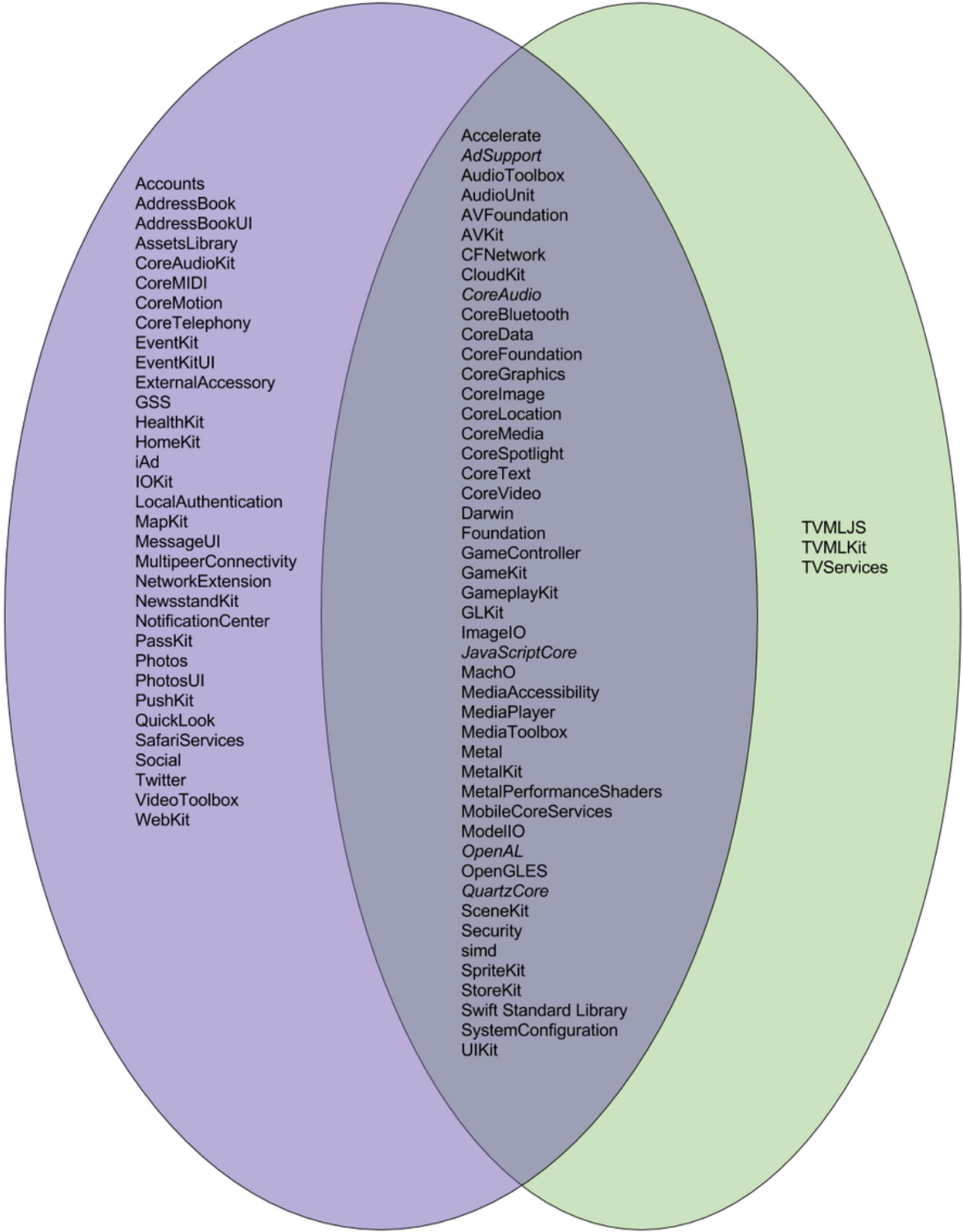
- ▶ Share authentication tokens via iCloud keychain if possible.
- ▶ Let the user only enter the username/email.
- ▶ Show a code which must be entered on the website or in iOS app.

# Apple Frameworks

*AdSupport, CoreAudio, JavaScriptCore, OpenAL and QuartzCore are available on both platforms but not listed as Inherited iOS Frameworks in the tvOS documentation at [https://developer.apple.com/library/prerelease/tvos/documentation/General/Conceptual/AppleTV\\_PG/](https://developer.apple.com/library/prerelease/tvos/documentation/General/Conceptual/AppleTV_PG/)*

iOS

tvOS



NOT ALL FRAMEWORKS

[@DAVIDOLESCH TWITTER.COM/DAVIDOLESCH/STATUS/656152648433799168](https://twitter.com/DAVIDOLESCH/status/656152648433799168)


**NO (PERSISTENT) LOCAL STORAGE.**

- ▶ **Maximum app size 200 MB.**
- ▶ **500 KB persisten local storage (NSUserDefaults).**
  - ▶ **Store persistent data in iCloud.**
- ▶ **Use on-demand resources for read-only app resources.**
- ▶ **Cached data might be deleted when the app ist not running.**

*iPad tvOS Apps shouldn't be just scaled  
up iPhone iPad Apps.*

# CAN'T REUSE XIBS

▼  VLCNetworkListCell.xib

 iOS xibs do not support target device type "tv".

FOCUS

**The user moves the focus around using a remote:**

**Siri Remote**

**IR Remote**

**Game Controller**



# FOCUS DIRECTIONS

Up

Left

Right

Down

Next

Previous

# UIFOCUSENVIRONMENT PROTOCOL

- ▶ preferredFocusedView: UIView?
  - ▶ setNeedsFocusUpdate
  - ▶ updateFocusIfNeeded
- ▶ shouldUpdateFocusInContext(context: UIFocusUpdateContext) -> Bool
- ▶ didUpdateFocusInContext(context: UIFocusUpdateContext, withAnimationCoordinator coordinator: UIFocusAnimationCoordinator)

# UIFOCUSENVIRONMENT

- ▶ UIView
- ▶ UIViewController
- ▶ UIWindow
- ▶ UIPresentationController

# FOCUS GUIDE

- ▶ Invisible guide
- ▶ Redirects focus to a view

# FOCUS DEBUGGING

- [UIView \_whyIsThisViewNotFocusable]

**break on:**

UIFocusEnvironment.shouldUpdateFocusInContext()

UIFocusEnvironment.didUpdateFocusInContext(withAnimationCoordinator:)

**QuickLook on "context"**

# DEMO FOCUS

[github.com/toco/Intro-to-tv0S](https://github.com/toco/Intro-to-tv0S)

# USER INPUT

- ▶ Manual event handling rarely needed when using default UI elements.
  - ▶ UITapGestureRecognizer for button presses.
  - ▶ UITapGestureRecognizer.allowedPressTypes



# UIPRESS

- ▶ Button presses are represented by `UIPress`.
- ▶ New `UIResponder` methods for `UIPress` similar to `UITouch`.
- ▶ No public API to differentiate between hardware button presses and synthesized presses (arrows).
  - ▶ Private property `'isSynthetic'` (Use at your own risk).

# UIPRESS

- ▶ **Arrows: Up, Down, Left, Right**
  - ▶ **Select**
  - ▶ **Menu**
  - ▶ **PlayPause**

# TOUCH TRACKING

- ▶ Touch position always begins in the center of the view.
- ▶ Absolute position on trackpad not accessible with public API.
- ▶ UIEvent has private 'digitizerLocation' (Use at your own risk).
  - ▶ GameController API might be a better public option.

# DEMO

# TOUCHES AND PRESSES

[github.com/toco/Intro-to-tvOS](https://github.com/toco/Intro-to-tvOS)

# RESOURCES

- ▶ [developer.apple.com/tvos/human-interface-guidelines/](https://developer.apple.com/tvos/human-interface-guidelines/)
- ▶ [speakerdeck.com/neonichu/bring-your-apps-to-the-big-screen](https://speakerdeck.com/neonichu/bring-your-apps-to-the-big-screen)
  - ▶ "Ich glotz TV", @avbelow, Macoun 2015
- ▶ [eternalstorms.wordpress.com/2015/10/05/pair-the-apple-tv-developer-kit-siri-remote-with-xcodes-simulator/](https://eternalstorms.wordpress.com/2015/10/05/pair-the-apple-tv-developer-kit-siri-remote-with-xcodes-simulator/)



**WE ARE ~~HIRING~~  
LOOKING FOR  
CONTRIBUTERS.**



# VLC FOR IOS

- ▶ approx. 13000 daily downloads
- ▶ 11.1M downloads since Juli 2013 (- 4 month not in App Store)

Want to contribute?

- ▶ [videolan.org/developers/](http://videolan.org/developers/)
  - ▶ @feepk, @toco91

**QUESTIONS?**