

**iPad app for Mac**

# iPad app for Mac

Basics

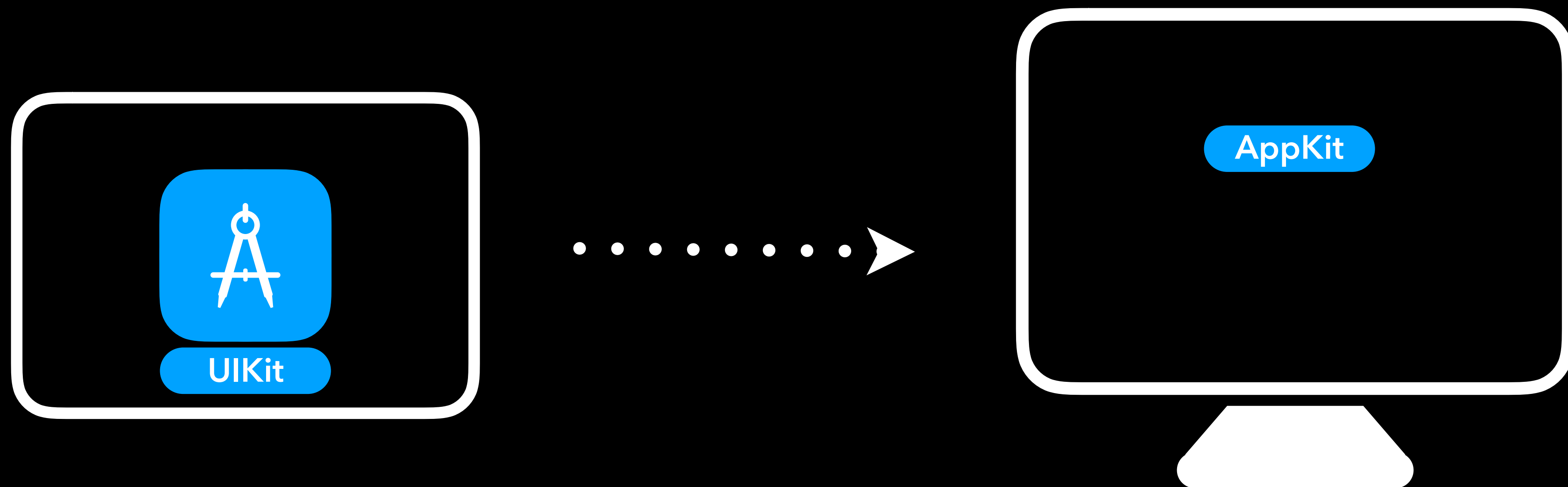
How it works

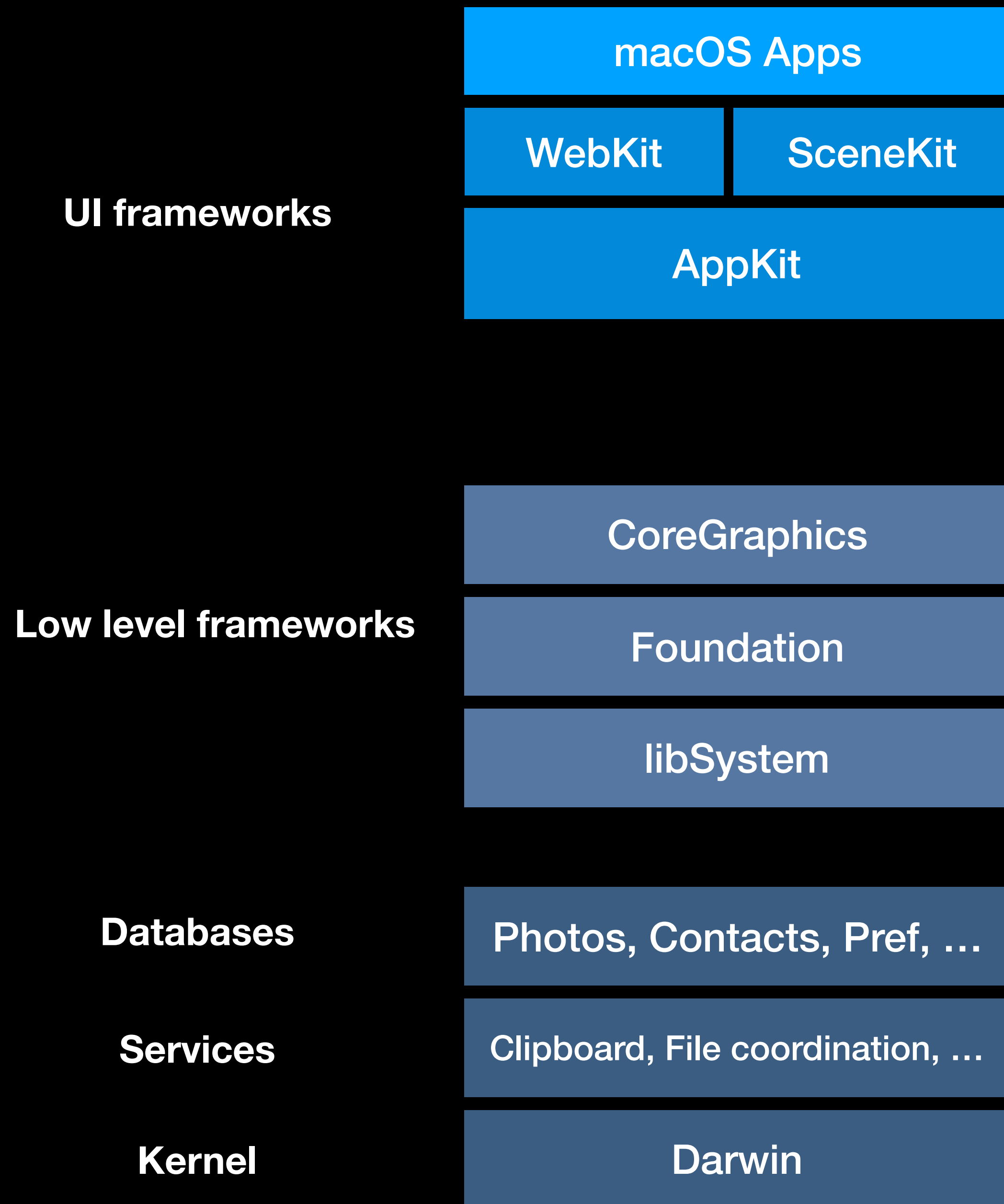
What to consider

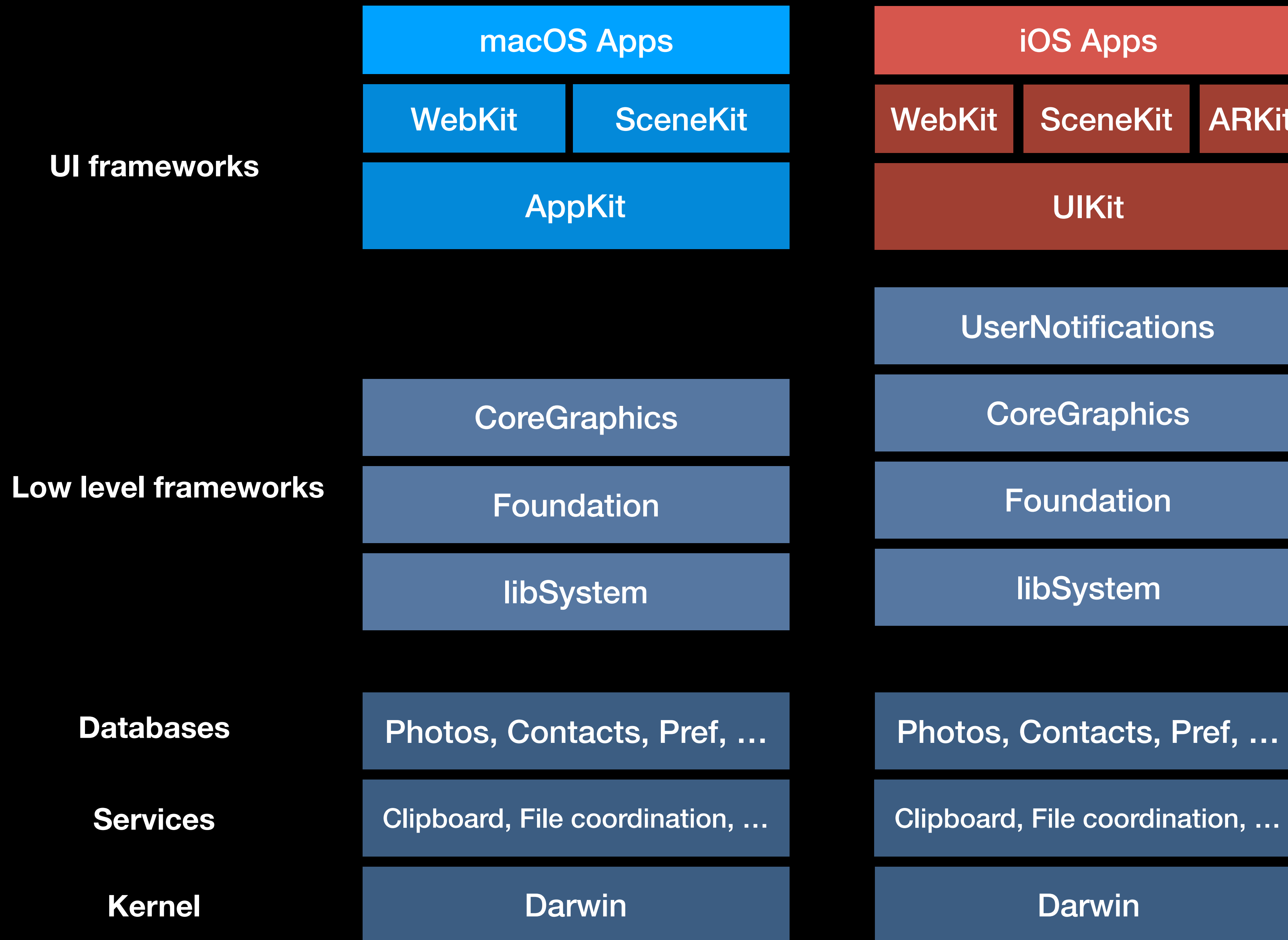
Optimizing Your App for Mac

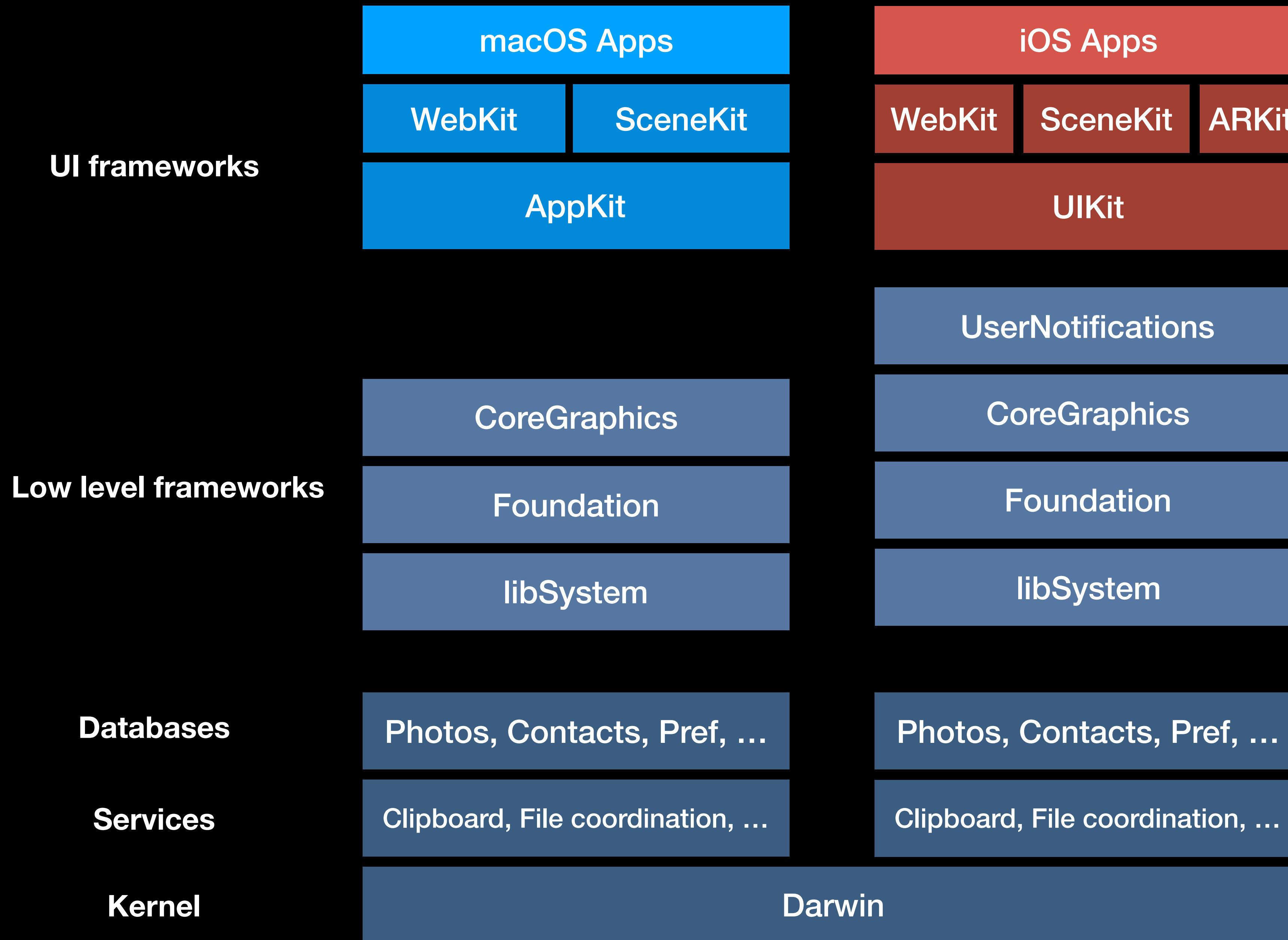
# iPad app for Mac

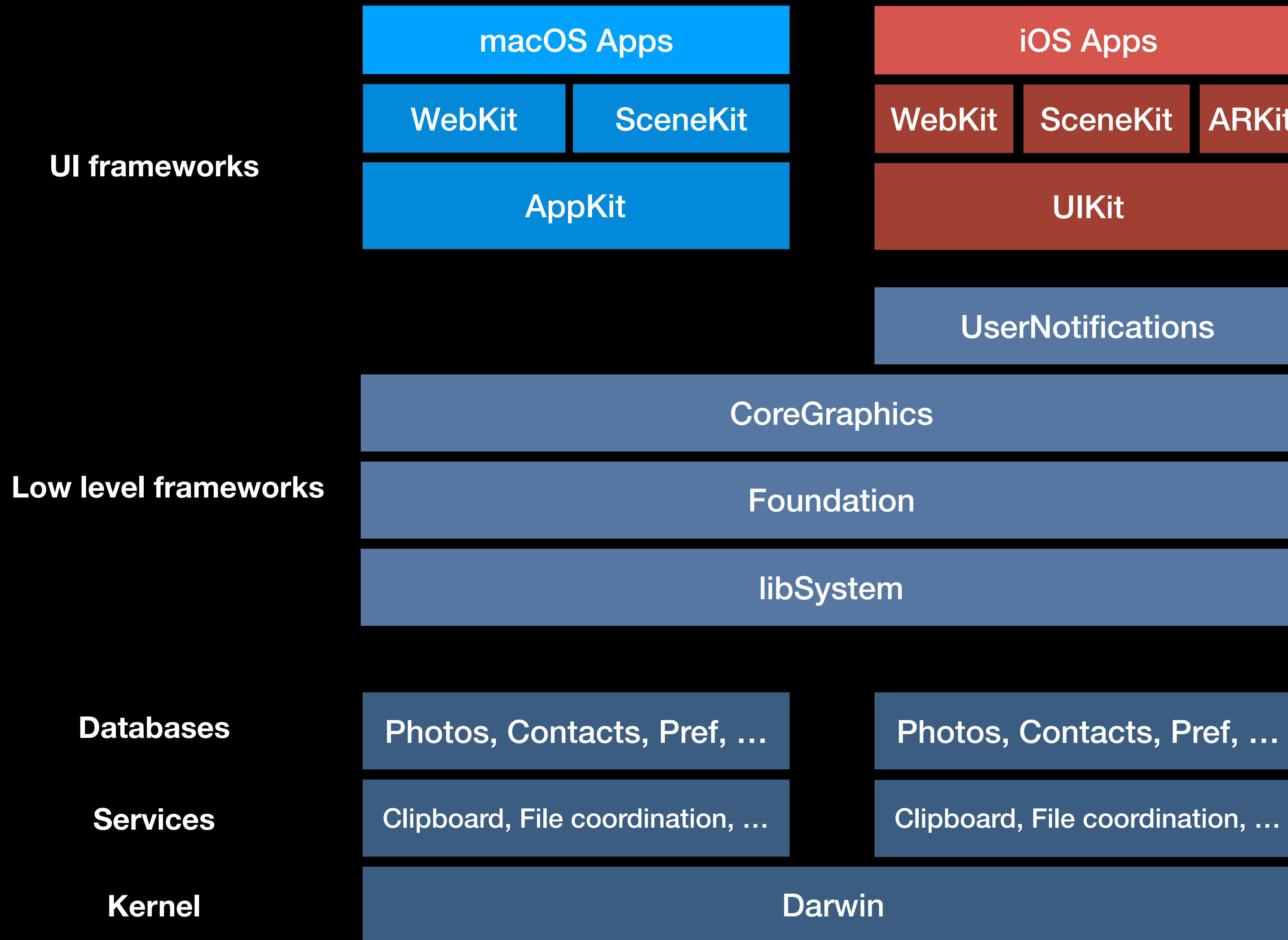
## - Mac Catalyst

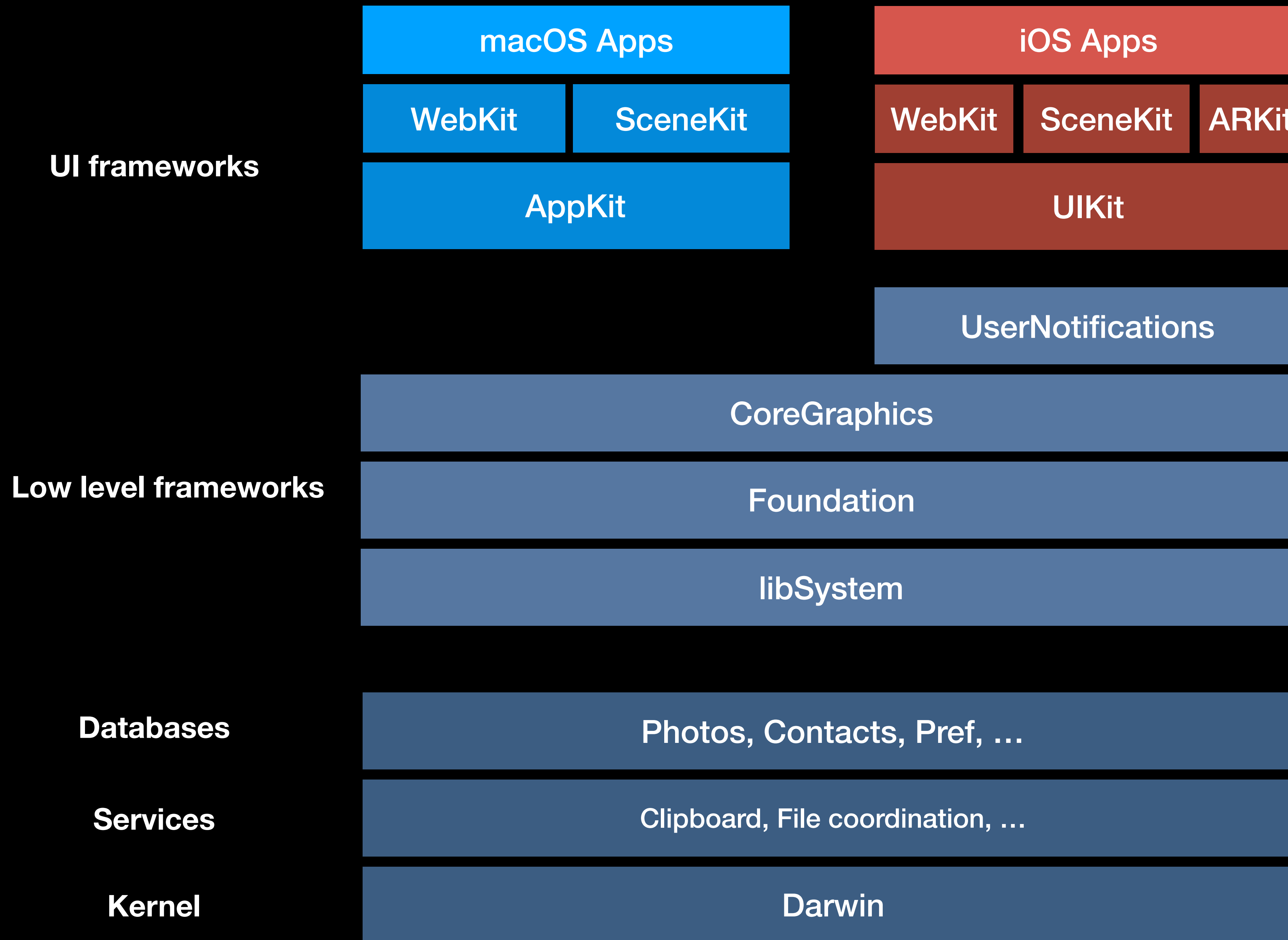




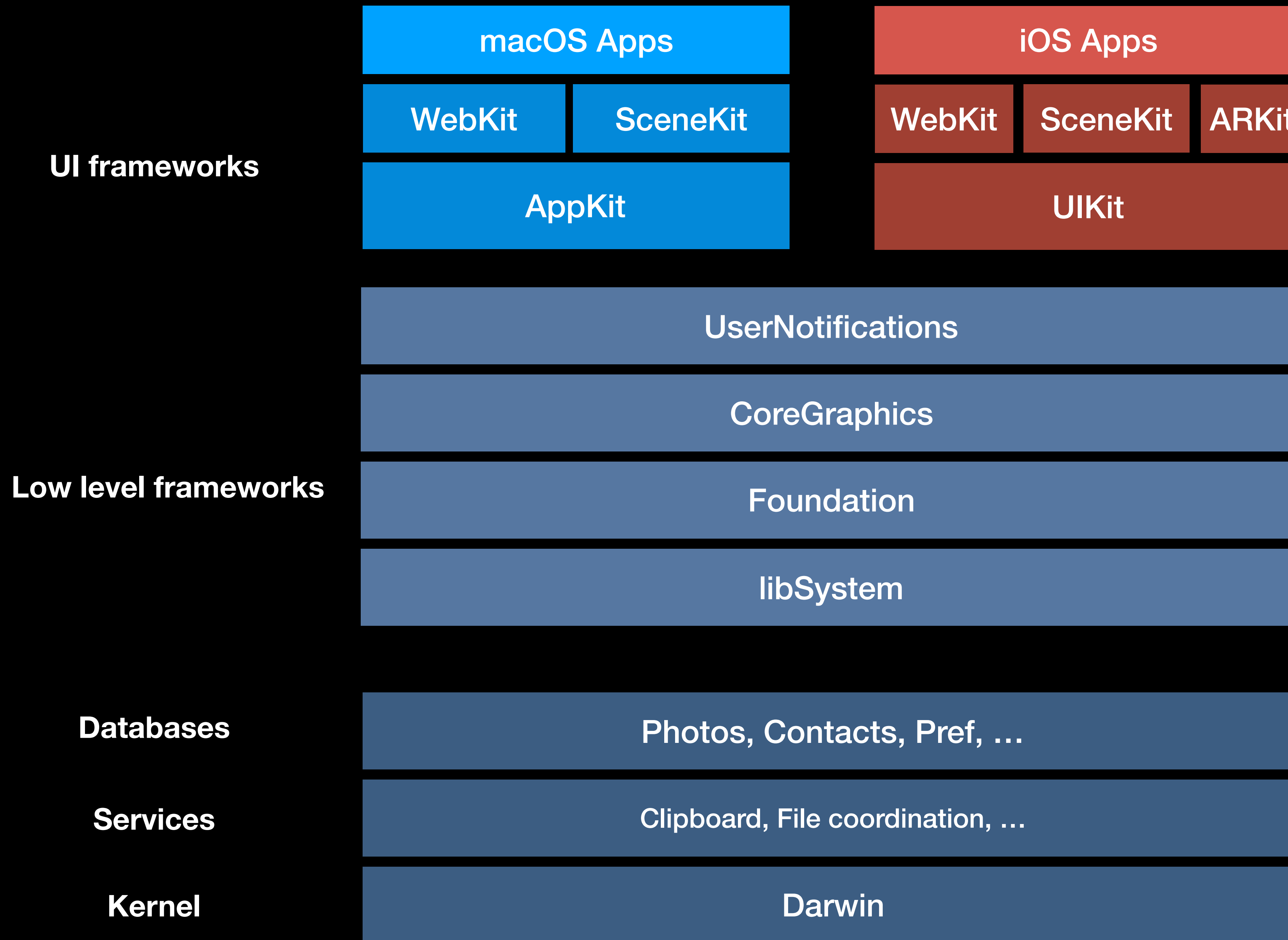


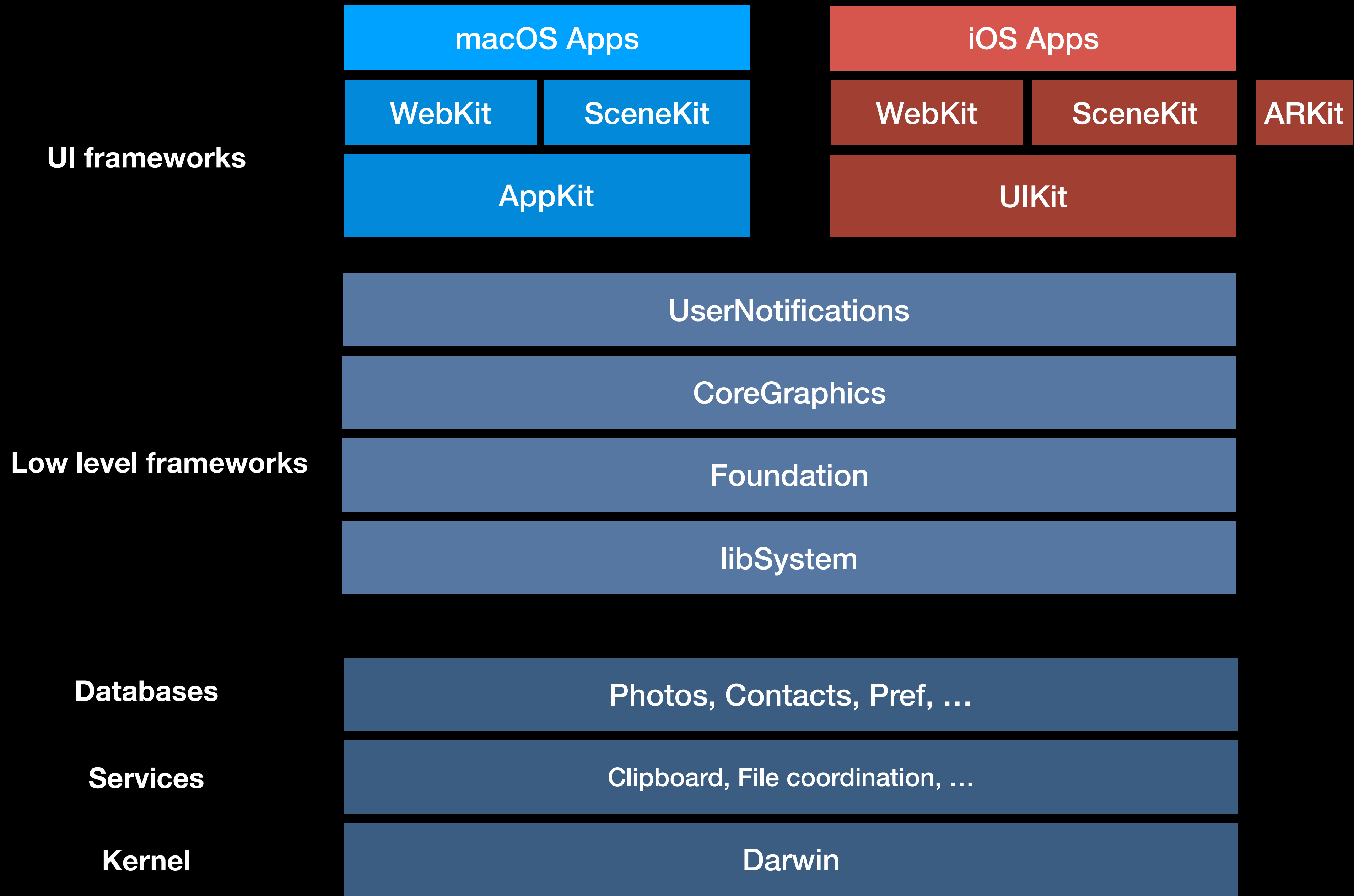


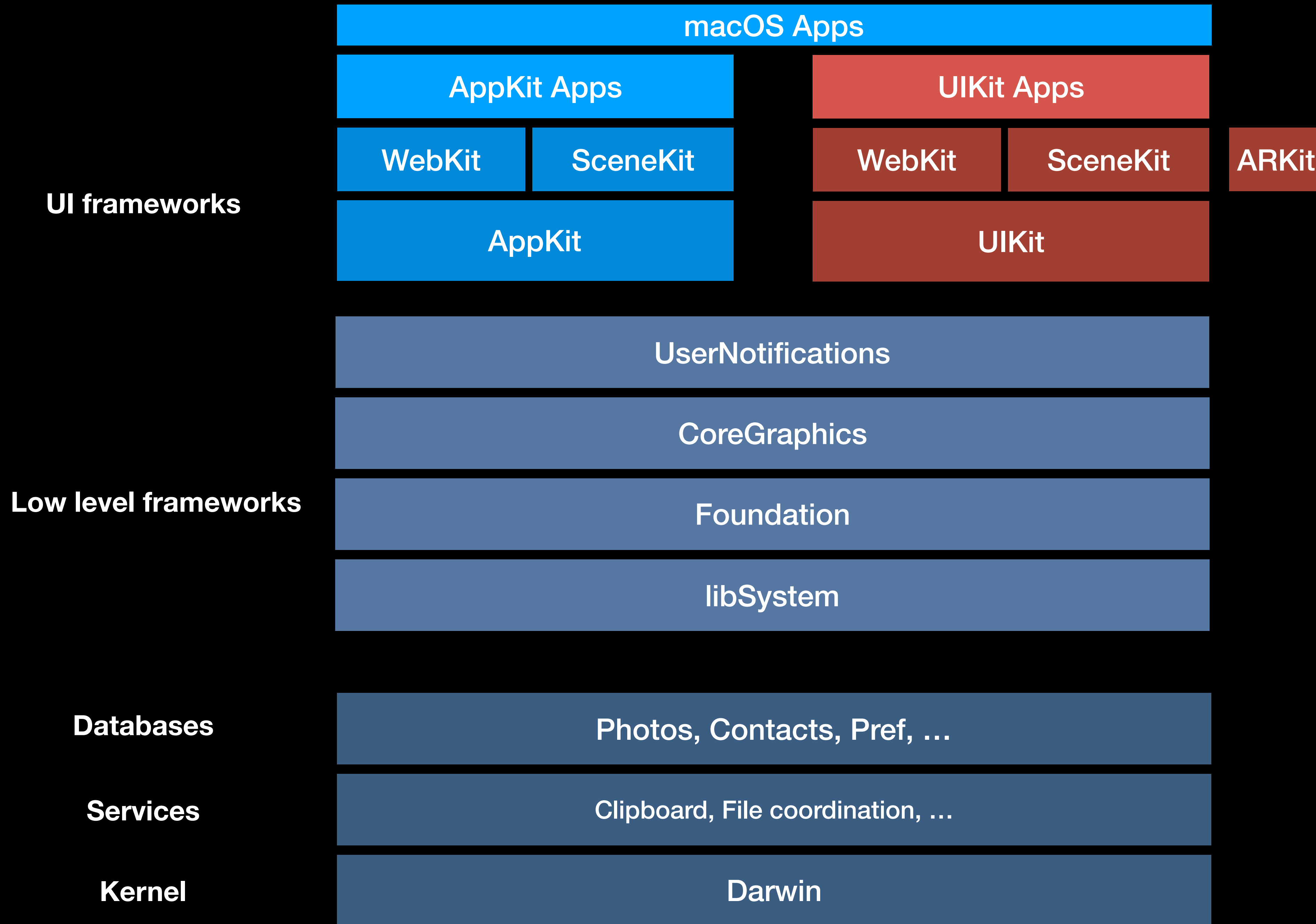


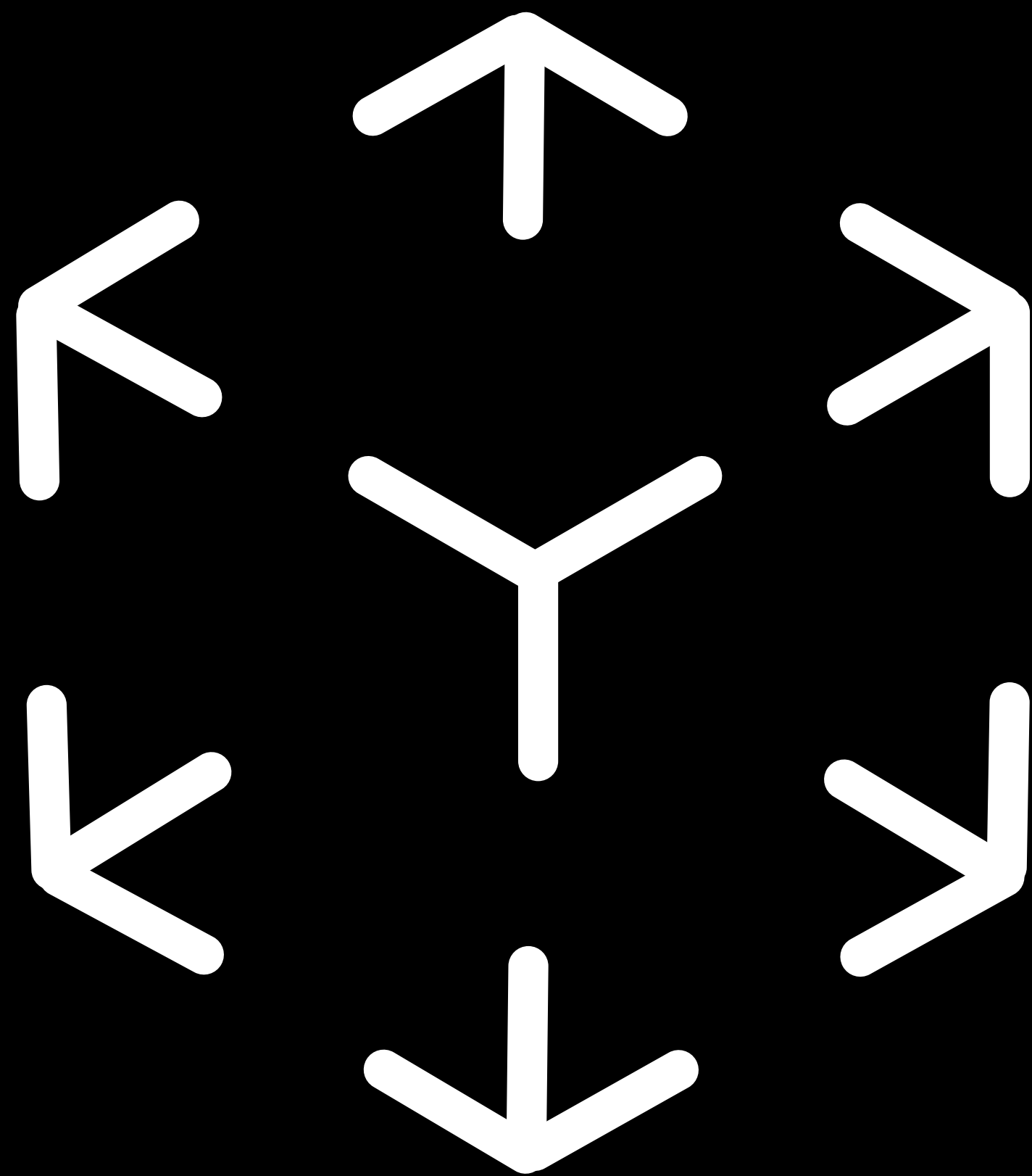






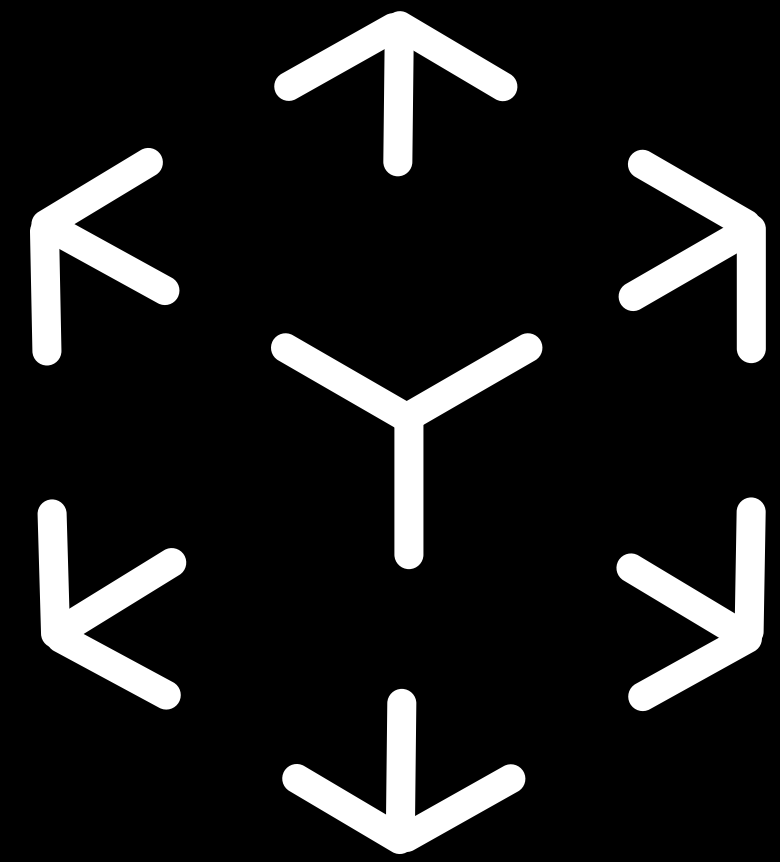




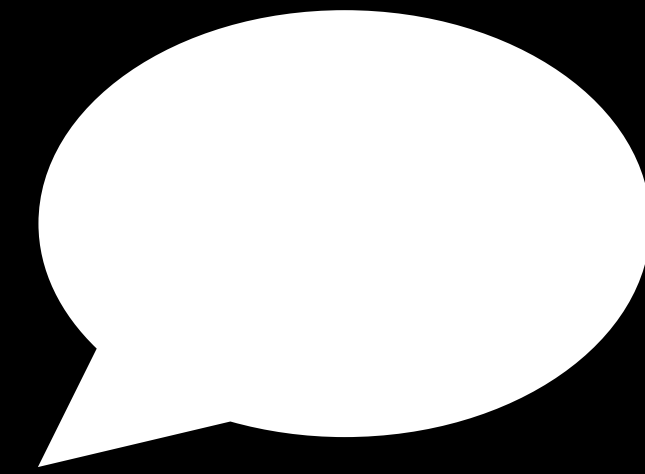


**ARKit**



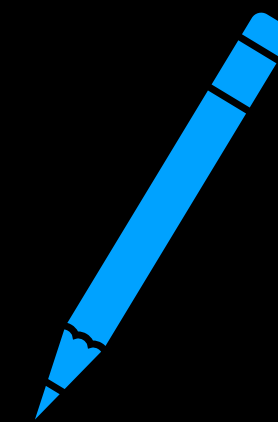


**Extensions**



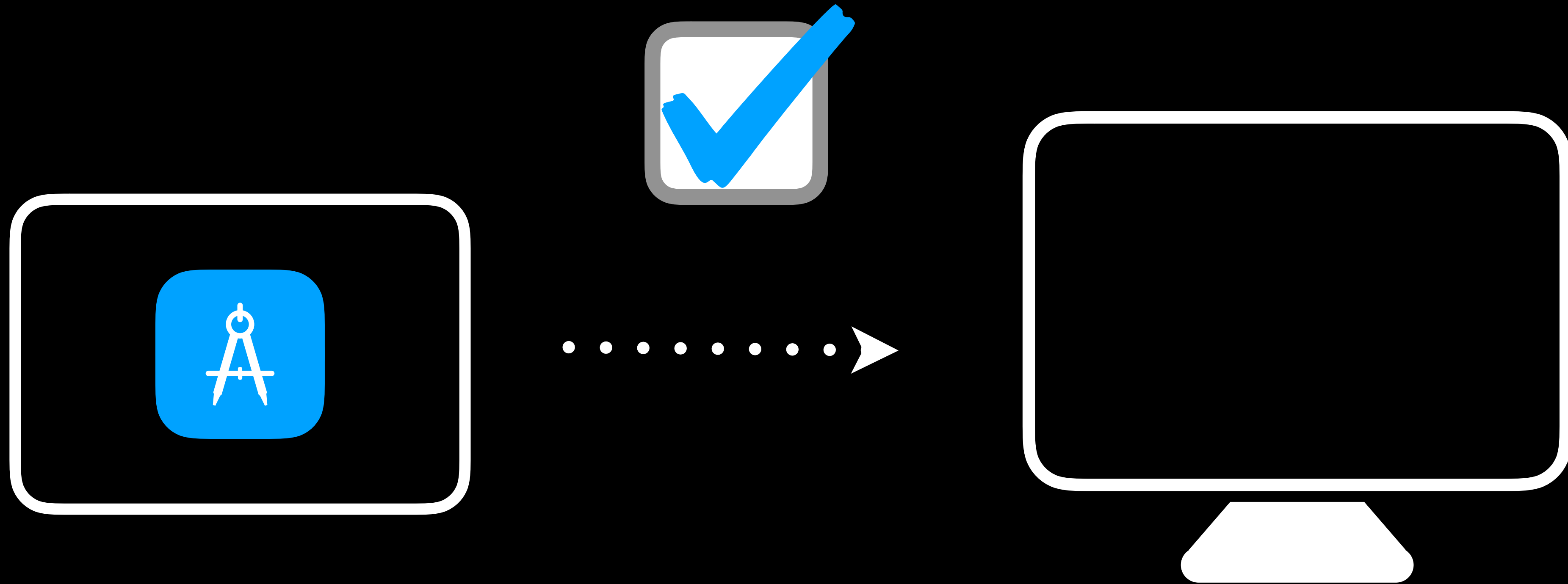
**ARKit**

**iOS specific API's**



**How does it work?**

# How does it work?





**Demo**

# Implemented Automatically



New My Mac run destination

Bundle Identifier for the Mac Version

Entitlements for certain protected Resources

Excludes incompatible frameworks

# Things we need to implement

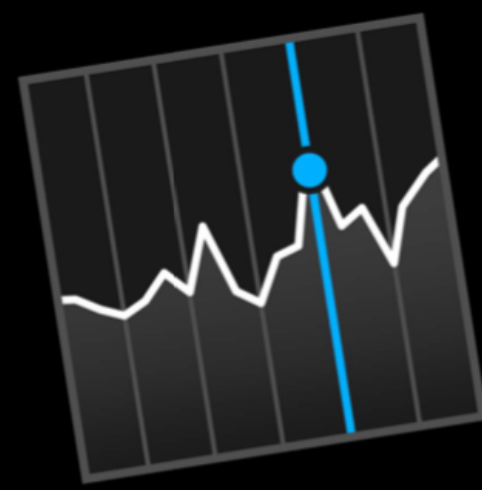
Mac App Icon

Support Varying Screen Sizes

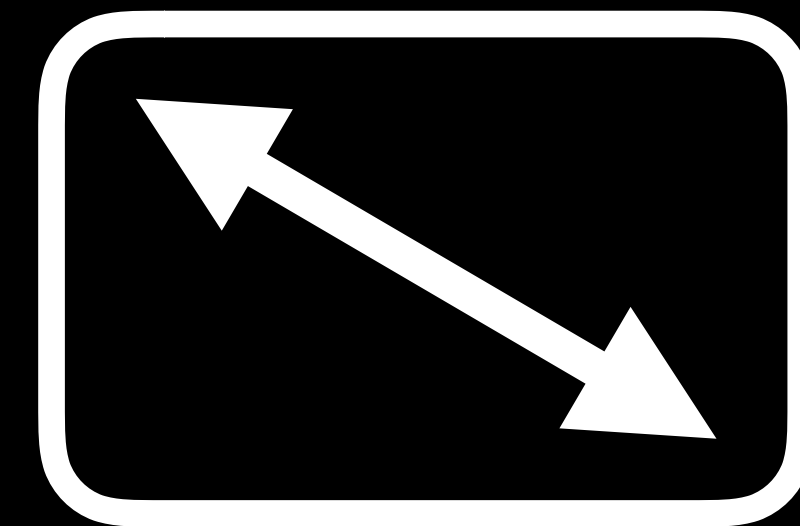
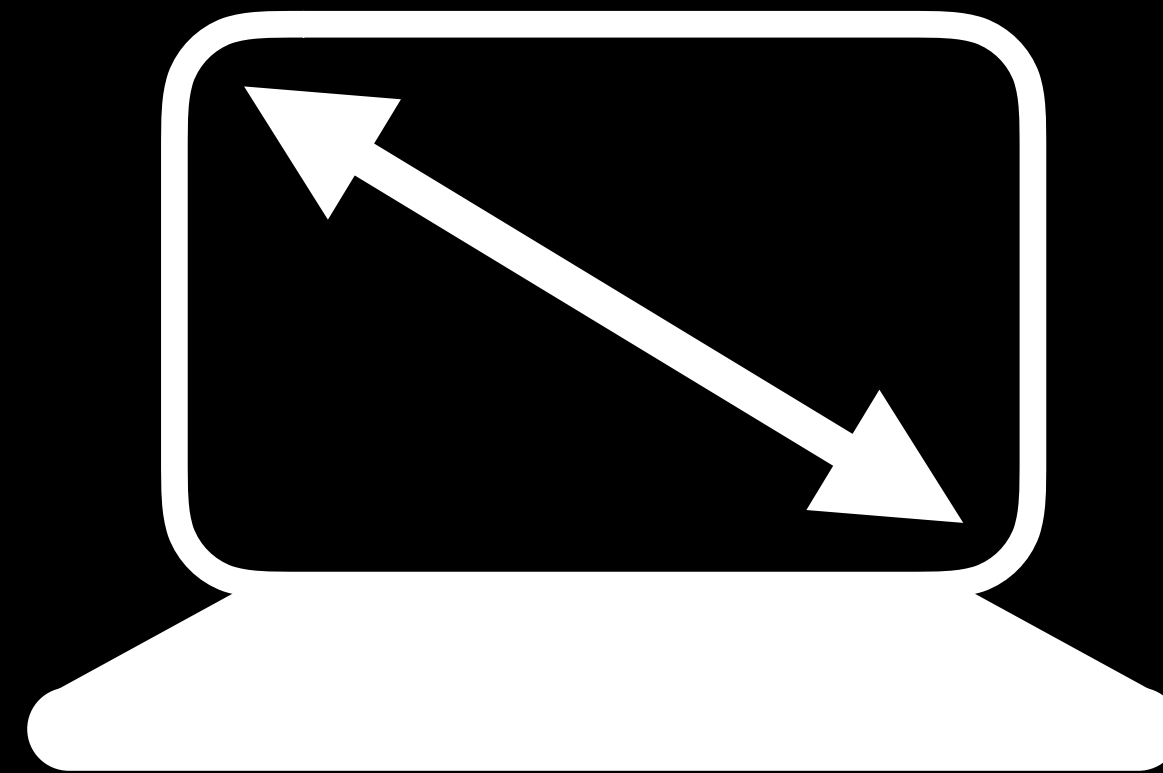
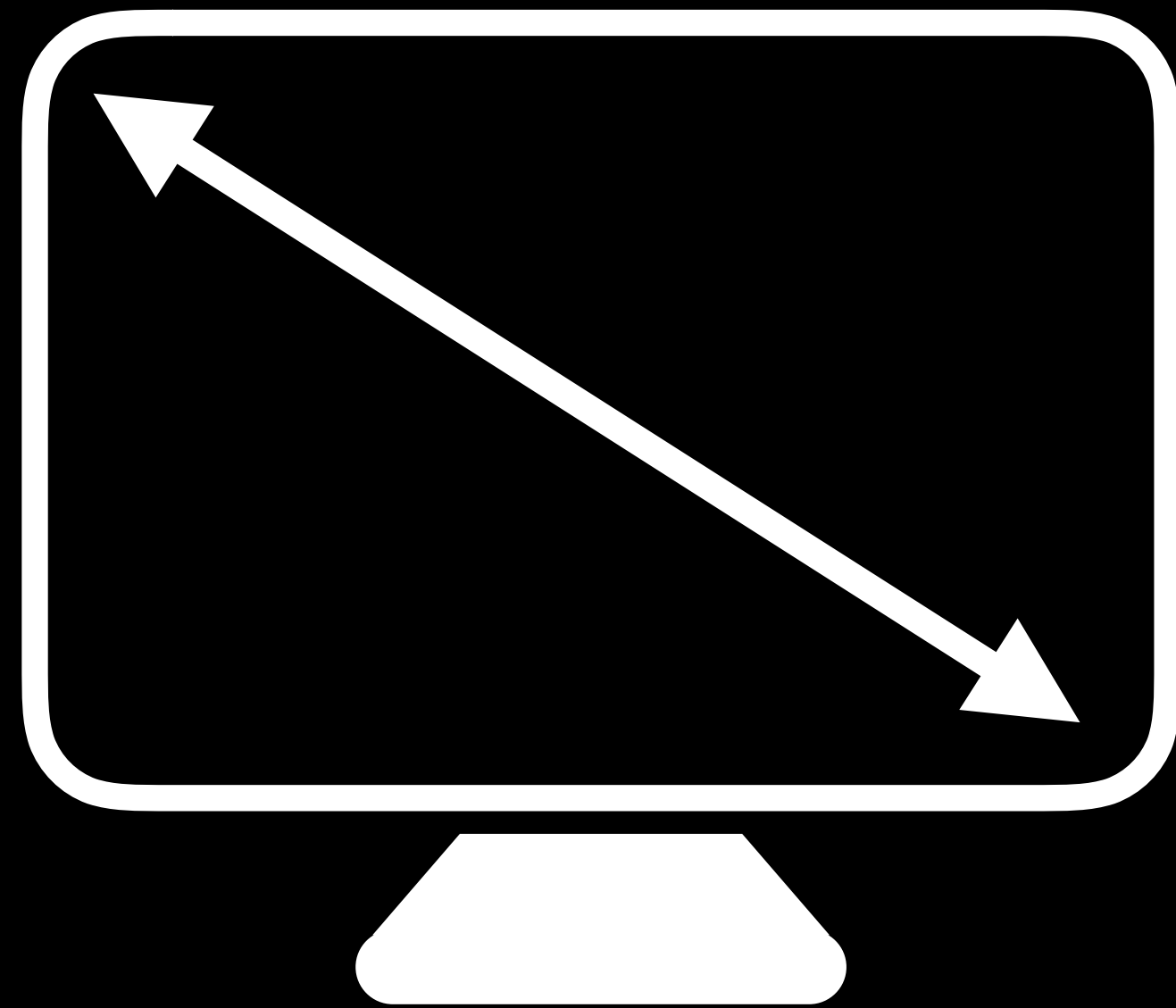
Mouse and touch events

API Differences

# Mac App Icon

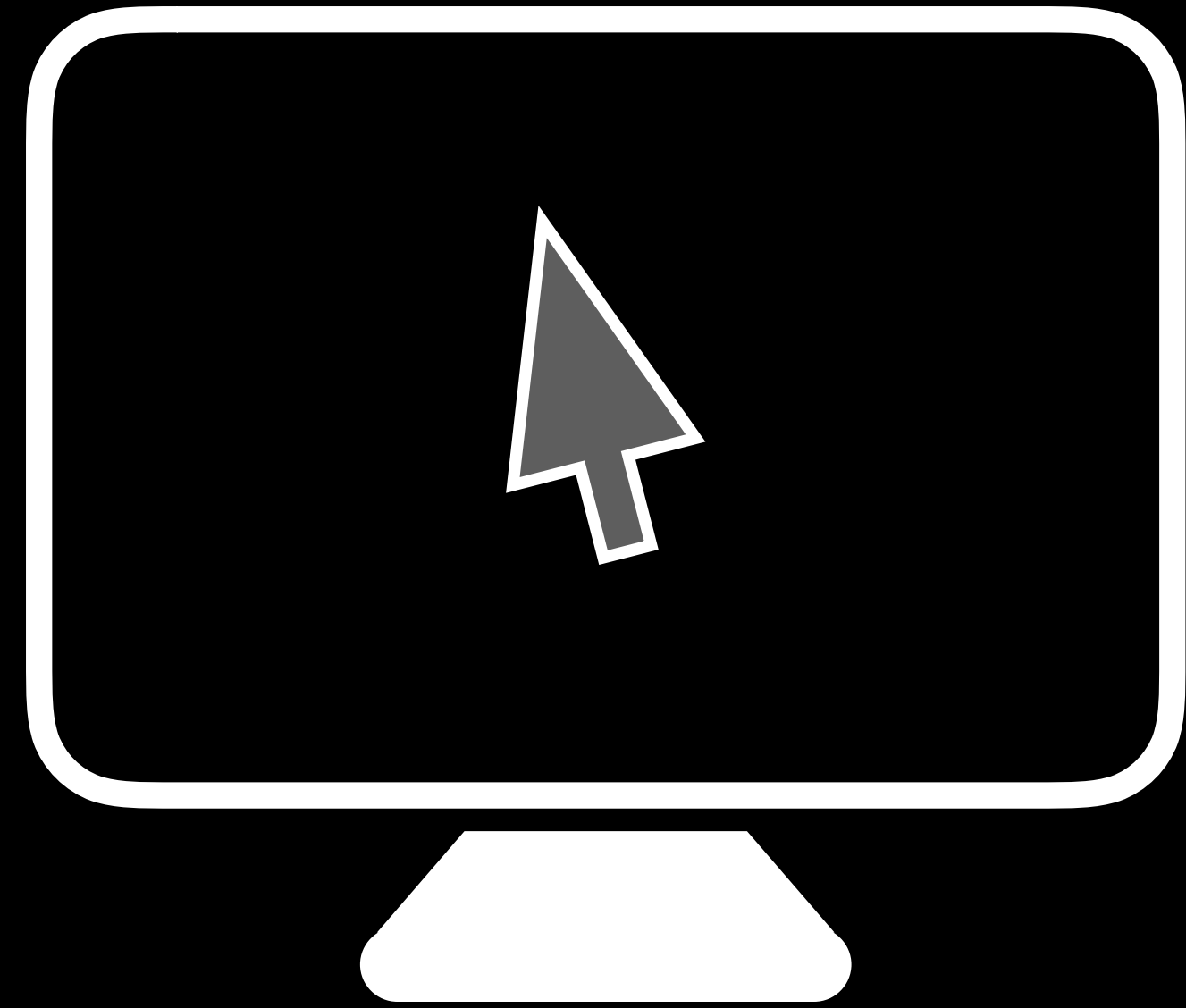
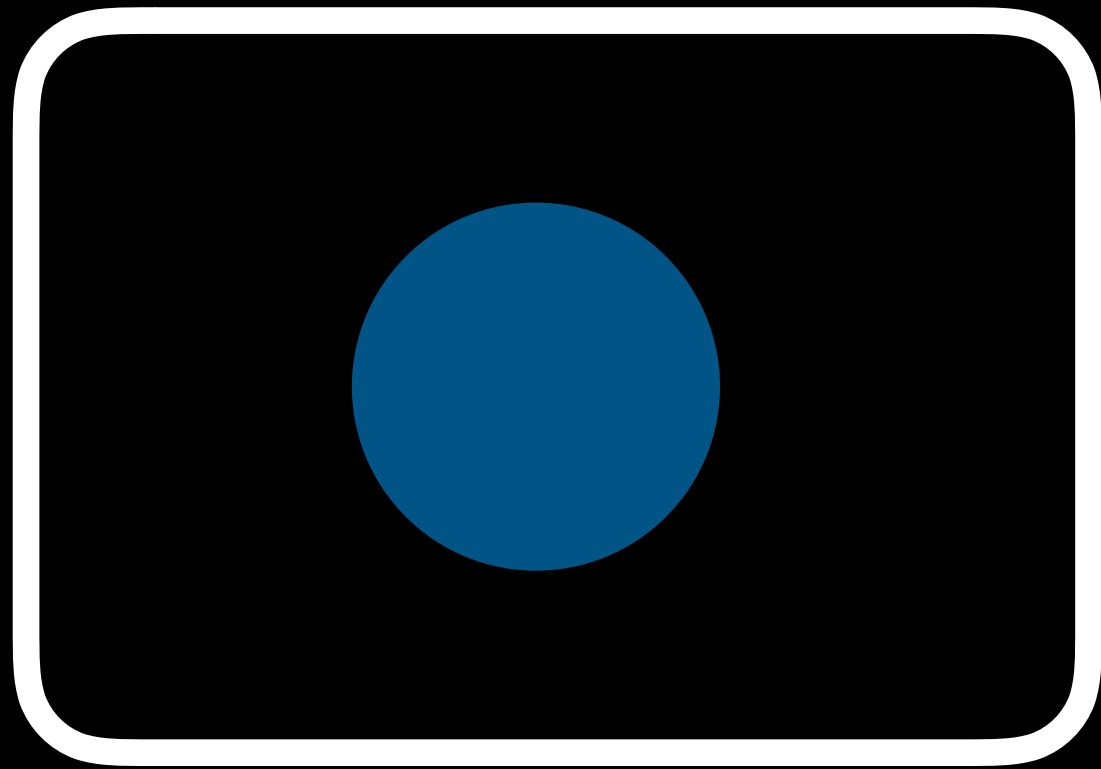


# Supporting Varying Screen Sizes



# Mouse and Touch Events

Some gestures convert automatically



Note: Custom touch gestures are not supported

# API Differences

1. API with identical behavior
2. API mapped to macOS functionality
3. API that is unavailable

# API Differences

API that is unavailable

1. Deprecated Frameworks
2. IOS Specific Frameworks
3. Hardware specific Framework
4. Framework differences



# **API Differences**

API that is unavailable

Framework differences

# Framework differences

## Data Protection

```
NSData.WritingOptions.noFileProtection
    .completeFileProtection
    .completeFileProtectionUnlessOpen
    .completeFileProtectionUntilFirstUserAuthentication
```

Framework differences

**Data Protection**

# Framework differences

## Data Protection

```
try data.write(to: fileURL, options: .completeFileProtection)
```

```
// Encrypt Data
```

```
let key = SymmetricKey(size: .bits256)
```

```
let sealed = try AES.GCM.seal(data, using: key)
```

```
// Decrypt Data
```

```
let key = SymmetricKey(size: .bits256)
```

```
let sealed = try AES.GCM.seal(data, using: key)
```

# Framework differences

## Bundle Format



BeerTracker.app

- BeerTracker
- Info.plist
- en.lproj
  - Localizable.strings
  - MainWindow.nib
- MyImages
  - Image1.png
  - Image2.png

BeerTracker.app

- Contents
  - Info.plist
  - MacOS
    - BeerTracker
  - Resources
    - en.lproj
      - Localizable.strings
      - MainWindow.nib
    - MyImages
      - Image1.png
      - Image2.png

# Conditionalizing Code

```
#if !targetEnvironment(UiKitForMac)
    // iOS-specific Code
#else
    // Something else
#endif
```

```
#if !TARGET_OS_UIKITFORMAC
    // iOS-specific Code
#else
    // Something else
#endif
```

# API availability

```
@available(macOS 10.10, iOS 8.0, watchOS 2.0, tvOS 9.0)
```

```
@available(macOS 10.10, UIKitForMac 13.0) @unavailable(iOS, watchOS, tvOS)
```

```
@available(macOS 10.10, iOS 8.0, watchOS 2.0, tvOS 9.0) @unavailable(UIKitForMac)
```

# Optimizing Your Mac App



Custom Menus

Toolbar

Hover events

Side Bar

Touch Bar

Great Keyboard Support



**Better iPad App =  
Better Mac App**

Support iOS 13 Features

Drag and Drop

Multiple windows

Context Menu



# Distribution

Signing for Mac

Capabilities

Upload

# Signing for Mac

Use automatic signing

Creates one provisioning Profile for Mac and one for iOS

New unified Apple Developer Certificate

Unique Bundle identifier with prefix `.uikitformac`

# Capabilities

- ✓ Share Entitlements
- ✓ Mac capabilities added
- ✓ Explicit iCloud container
- ! Add keychain Sharing capability
- ! Push notifications send to both apps

# Upload

Create an App Record on App Store Connect

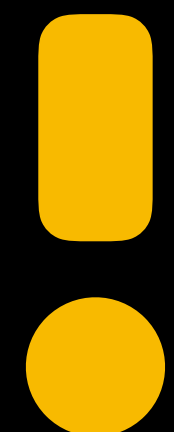
Associate your Mac synthesized App Identifier

Increment Build number

Select Mac Run Destination

Product -> Archive

Xcode creates a Mac package

 No Receipt Validation

# Thank you!

Content from [developer.apple.com](https://developer.apple.com)  
and [apple.com](https://apple.com)