iOS Dependency Managers

CocoaPods and SPM

What are Dependency Managers?

1. Tools to manage external libraries and frameworks

2. Automate the process of adding, updating, and removing dependencies

3. Ensure version compatibility

4. Simplify project setup and maintenance

iOS Dependency Managers

1. CocoaPods

2. Swift Package Manager (SPM)

CocoaPods Overview

1. Centralized dependency manager for Objective-C and Swift

2. Uses a Ruby-based CLI tool

3. Dependencies specified in a Podfile

4. Integrates with Xcode workspace

CocoaPods Example

1. **pod init**: Creates a Podfile in your project directory

2. **pod install**: Installs dependencies specified in the Podfile

3. **pod update**: Updates pods to their latest version

4. **pod outdated**: Shows which pods have newer versions available

5. **pod repo update**: Updates the local spec repositories

```ruby
platform :ios, '14.0'
use_frameworks!

target 'PhotoExplorer' do
  pod 'Alamofire', '~> 5.5'
  pod 'SDWebImageSwiftUI', '~> 2.2.3'
end
```

Swift Package Manager (SPM) Overview

1. Integrated with Xcode (since Xcode 11)

2. Native tool for Swift ecosystem

3. No need for separate CLI tool

4. Uses Package.swift file for custom packages

Adding Dependencies with SPM

1. Xcode, go to File > Add Packages

2. Search for the package repository URL

3. Choose the dependency rule (version, branch, or commit)

4. Select the target where you want to add the dependency

5. Click "Add Package"

```swift
// swift-tools-version:5.3
import PackageDescription

let package = Package(
    name: "SwiftyJSON",
    products: [
        .library(name: "SwiftyJSON", targets: ["SwiftyJSON"])
    ],
    targets: [
        .target(name: "SwiftyJSON",
                dependencies: [],
                resources: [
                    .copy("PrivacyInfo.xcprivacy")
                ]
              ),
        .testTarget(name: "SwiftJSONTests", dependencies: ["SwiftyJSON"])
    ],
    swiftLanguageVersions: [.v5]
)
```

CocoaPods vs SPM

Feature	CocoaPods	SPM
Integration	Ruby-based CLI	Native Xcode integratio
Ecosystem	Larger, more established	Growing, Apple-supported
Configuration	Podfile (Ruby)	Package.swift or Xcode UI
Binary Dependencies	Supported	Limited support
Custom Build Configurations	Flexible	Limited