DEVELOPMENT OF 18 HEADLESS MOBILE SDKs FOR A GLOBAL LEADER IN SECURE & WHITE-LABEL MOBILE CLOUD SOLUTIONS

Modularization of core code resulting in 40-50% minimized time-to-market for delivery of custom app features.

Client Background

Our client has developed a multi-device (Mobile, Web & PC) Personal Cloud solution to help end consumers backup and restore their personal data on the cloud. This Personal Cloud was offered as a white-label app solution to Tier-1 telecom service providers. Since their Mobile App for Personal Cloud, built over a decade, had a tightly coupled inter-mingled UI and core business logic, the company couldn't share it with customers. Customization of features for end consumers was tedious as the client had to do it internally by setting up dedicated teams for activities such as enabling/disabling app features manually, removing the unnecessary code, and so on.

Xoriant's engagement was needed to create 18 headless SDKs having distinct business logic for smoother delivery of custom product and experience to clients and to reduce time-to-market of custom-built mobile apps for end consumers. The key objectives included:

- Separate binary from original code for SDK development
- Modularize code to enable clients with customization of app features such as contacts, photos, etc.

Xoriant Solution | Key Contributions

As part of this engagement, Xoriant team modularized the client codebase with development of headless SDKs for the core functionality. With different SDKs in place, the client can quickly review the modularized codes to be bundled with their binaries. With code modularization, the process of code and UI customization to cater to client needs became easier.

KEY BENEFITS

- Accelerated and simplified modularized code development with 18 headless SDKs and helped white-label app owners and the client's in-house mobile app developers to build unique apps quickly with custom UI. For instance, if the client's enterprise customer wants to add their own Contacts feature module instead of the client's Contacts feature module, they can do so with the SDKs.

- 40-50% reduction in time-to-market of the code for new customers as the app customization process time reduced with the SDKs.

- Enabled sharing of core code by encapsulating it.

Our key contributions included:

- **Split the UX code from business logic in current iOS and Android app and inter-mingled business logic across functional blocks.**
- **Provided SDKs in native iOS and Android to perform same services as the current application with additional re-engineering.**
  - For Android SDK, the code was written in Java and Kotlin. In Android, Gradle was being used as the code compiler and Maven was used as the build repository.
  - For iOS SDKs, Xcode and Swift were used for app development.
- **Integrated the code in the latest on-going code branch.**
- **Ensured code coverage of 85% at least for each file of SDK.**
  - End-to-end testing of the integrated SDK to provide same working functionality.
- **Used Bamboo for running manual as well as automated build systems on a daily basis.**
- **Ensured code quality with SonarQube for monitoring outliers or code issues.**
- **Used Bitbucket to access Git-based source codes.**
- **Used Confluence to create documentation for the SDKs.**

KEY BENEFITS

- Enabled revenue generation from the business logic by modularizing the original code to make it shareable.
- Expanded client's customer base to a wider target audience with SDKs. Client can cater to customers who prefer purchasing core product features instead of a complete custom product package. These new customers had the ability to independently customize the UI, create bundles and add codes as required.
- Ensured minimum code coverage of 85% with automated test cases and fixed errors in the code.
- Eliminated redundant code and old technology stack of Objective-C Suite (iOS) and Java (Android) by writing the SDKs using the new technology stack of Kotlin (Android) and Swift (iOS).
- Enabled app performance enhancements for existing customers with capabilities to build additional functionalities using headless SDKs, without impacting the UI for end clients.
- Enabled quick and easy integration of SDKs for end clients with well-prepared SDK documentation.

Technology Stack

Android | Java | Kotlin | JUnit | JaCoCo | Gradle | iOS | Swift | Xcode XCTest | Maven | Jira | Confluence | Bamboo | Bitbucket | SonarQube

Xoriant is a product engineering, software development and technology services company, serving technology startups as well as mid-size to large corporations. We offer a flexible blend of onsite, offsite and offshore services from our 13 global offices with over 4000 software professionals. Xoriant has deep client relationships spanning over 30 years with various clients ranging from startups to Fortune 100 companies.