

Libraro Requirement Specification

1. Introduction

Purpose of Document

The following document presents the requirement specifications of the Libraro Library App. It serves as a reference for developers during the development process.

Overview of the App

Libraro is an Android Library App designed to engage users in an attractive book-reading experience. Users can:

- Buy, read, and upload books.
- View their reading progress and comprehensive reports.
- Utilize an easy-to-use, intuitive interface, which works offline if books have been downloaded.

The application is tailored for avid readers and casual readers, offering convenience and flexibility.

2. Functional Requirements

User Actions:

- **Buy books** using the Libraro Library App.
- **Upload PDFs** to be readable as books.
- **Search the library** for specific books.
- **Highlight reading progress** for currently read books.
- **View basic analytics** about user interaction with the application.
- **Rate books** based on user experience.
- **Save books to a Wishlist** for future purchases.
- **Preview books** before purchasing.
- **Set reminders** for reading sessions.

System Behaviours:

- Save bought books to the user's account.
- Sync user details to their account.
- Display suggested books on the home page.

- Provide offline access to all purchased books and uploaded files.
- Authenticate users before login.
- Track user progress in reading each book.
- Send push notifications for user-set reminders.
- Generate book previews before purchase.

3. Non-Functional Requirements

Performance:

- Application startup should take less than **3 seconds** on average devices.
- Book search results should display in less than **1 second**.
- Scrolling through search results should be smooth, even on minimum device specifications.
- The app's installation size should not exceed **50MB**.

Usability:

- Use appropriate and readable typography.
- Support multiple themes.
- Provide a **Material Design 3 compliant** user interface.

Reliability:

- Ensure a crash-free rate of at least **99%**.
- Implement automatic crash reporting.
- Enable automatic backups when users buy new books.
- Regularly back up reading time data for enhanced analytics.

Security:

- Provide **end-to-end encryptions** for all users' sensitive information.
- Ensure secure payment processing via **Stripe**.
- Allow secure login through **Google account** integration.
- Offer optional **two-factor authentication** for login.

4. Technical Requirements

Development Tools:

- Use **Android Studio Koala** as the development environment.

- Develop using **Kotlin 1.5** or above.
- Minimum SDK: **API 24 (Android 7.0)**.
- Preferred SDK: **API 33 (Android 13)**.
- Use **GitHub** for version control.

Libraries:

- Utilize **AndroidX libraries** for modern Android development.
- Use **Firestore** for data storage.
- Implement **ViewModel and LiveData** to handle UI-related data.
- Use **Retrofit** for network operations.
- Leverage **ImageLoader** for storing book covers and book information.

Testing Requirements:

- Perform **unit testing** for the app's core logic.
- Conduct **UI testing** with **Espresso**.
- Utilize **Android Profiler** for performance testing.

5. Constraints

Platform Limitations:

- The application must be an **Android application**.
- Support for **Android 7.0 (API 24)** and above.
- Maximum upload size for a book: **20MB**.
- Offline storage is limited by the device's available space.

Network Constraints:

- An **internet connection** is required for login, book purchases, searching for books, and sync operations.

Development Constraints:

- The application must comply with **Google Play Store policies**.
- Third-party libraries used must be **widely adopted** and **well-maintained**.