

Software Requirement Specification (SRS) for Library Management mobile application

1. Introduction

The introduction of Software Requirement Specifications (SRS) provides an overview of the entire SRS with context problem specification, scope of the document, summary.

A. Context

This SRS document is regarding development of a mobile application for library management at IIT Jodhpur. It focuses on our requirements, interface, stakeholders, and certain regulations that should be applied for smooth functioning of the mobile application. This paper is intended to be understood by a developer or a designer.

B. Problem Specification

To develop a mobile application for the library management at IIT Jodhpur using app development skills to give the students and the librarian a better platform and give us the freedom to organize our institute in a better way.

C. Scope of the document

The basic aim of our application is to act as a platform for the students and librarians to maintain the library in a better and convenient way. In today's world, people have adopted a very busy lifestyle. Our application aims to empower them with this ability. It will just not help the students but also the librarians to manage the library related activities in a simpler way. Be it about issuing books or returning them back to the library, maintaining the attendance record along with the records of books issued and returned with the time mentioned alongside. The app also caters to the requirement of sorting book collections according to their genres, hence making it easier to locate the preferred book.

D. Summary

The application is intended to take the library management in students' hands. Its workflow is the same as that in any real-life library but the only difference is that this is in users' mobile.

This SRS document contains the following:

- General Description
- Functional Requirements
- Interface Requirement
- Performance Requirements
- Design Constraints
- Non-Functional requirements
- Schedule and Budget Estimate

2. General description

A. Workflow

The application will be connected by a number of pages. The landing page will contain login and signup buttons. If a student lands for the first time, he/she'll have to sign up using a unique email address and a password which will be followed by an OTP confirmation at the specified email. Signing up can also be done by google authentication. There will be a unique Id for the librarian which will also give access to the admin panel.

Student:

This dashboard will contain a home page where floating cards show all the features available in the app, clicking on which directs the user to the particular page. The "book lists" page will contain the list of all the books that are available in the library. "My issued books" page will contain all the books that have been issued by the particular user along with the date of the issue. There will be options to return and issue a new book. One of the cards will contain the feature of QR scanning to mark the attendance. A bottom navigation bar for the smooth transition between pages. A profile page option will be there in the navigation bar which will direct the user to the profile page where the user can update profile picture, username and email. Along with this, he/she will be able to check his/her activities.

Librarian:

This dashboard will contain all the features that a student has along with an admin page which lets the librarian add/delete books, track of all the issued books along with the name and email address of the person who issued the books and on which date the book is issued, along with that a list of available books not yet issued and can send an email to the students who haven't returned the books yet.

B. Use Cases

The quantity of books issued should not be more than 5 in a week from a single account.

Verify that a student is able to navigate through books of all the genres and sections/categories.

Verify that all the banners are leading to correct pages.

C. Overall description of the application

So, basically our application is expected to simulate a real library-like experience for our students and a platform for the librarians to maintain the library in the most efficient way. It should contain all the features that are expected in a

library with some additional features like automated emailing, chatting, etc which should mark the advantage of using technology.

3. Functional Requirements

- Login/Sign Up
- Dashboard/Homepage
- Search
- QR Code scanner for marking attendance
- My books
- Issue book
- Issued/Returned books
- Add/delete books (from librarian side)
- Automated emailing
- Report Query
- Profile Page
- Update username/ email
- Recommendations

4. Interface Requirement

The UI and front-end developers should keep in mind to keep the application as user-friendly as possible. The application should be highly responsive and it should be a delight to look at. Designing should be marked as one of the most important elements of the entire application.

5. Performance Requirements

- The application should be highly responsive.
- Any kind of lag or delay should be minimized.
- The data of the users should be kept highly confidential and database management should be highly protected.

6. Design Constraints

The application should be highly responsive, i.e., it should adjust its features according to the size of the screen, be it mobile, tablet or PC.

7. Non-Functional Requirements

- Every login request should be confirmed with an OTP.
- Every book issue request should be confirmed with an OTP.
- Database related security.
- Maintenance with regular updates.

8. Schedule and Budget Estimates

Estimated time for completing all the developmental activities is expected to be around an year and we are having a budget of 10-12 lakhs rupees which includes salaries of

employees hired for development and testing purposes and is negotiable. Further processes may involve some changes which are always open to be added in the final invoice.
