# Software Requirements Specification

# for

# LIBRARY APP

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Revision History

Since this is the initial SRS draft, we are not showing any revision history here.

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| --- | --- | --- | --- |
| **Name** | **Date** | **Reason For Changes** | **Version** |
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# Introduction

This document is a Software Requirement Specification (SRS) for my passion project i.e., Library app.This a android platform based project. This is the initial draft for the SRS and it will be used for the extensions. This document is prepared by following IEEE conventions for software requirement specification.

Library app is a android-based platform where students and administraters of all the institute finds it easy in accesing and managing the library of the institute amongst the students.

The purpose of this project is to make it free and easy usage of the library of the institute.The students of the institute and the administrater of the library should find it easy through my app.

## Purpose

The aim of the project is to develop a android based application- “Library App”. A lot of institutes have college libraries.They are maintained by an administrater and students can access the library by signing in the register and they can take the books from the library by giving their id cards and by the due date the students they need return the books in order to avoid the fine.This information of would be maintained by the library administraterThis is how the process goes on in an institute.My application would make sure that the procedure goes on online and the information would be saved in my database.My App makes will provide a chat in between students to students and students to admin and to the admins of different institute.

The aim of this document is to specify complete description of the Library App project to be developed. Through this document, the workload needed for development, validation and verification will be eased. To be specific, this document is going to describe functionality, external interfaces, performance, attributes and the design constraints of the system that is going to be developed.

## Intended Audience and Reading Suggestions

This document is intended for android application developers who might develop this project at a later time. It is also intended for the project supervisor, testers and documentation writers.

Section 2 gives an overall description of the project including project functions, user classes, design and implementation constraints. External interface requirements are specified in Section 3. The key system features to be implemented are given in Section 4 followed by the non-functional requirements for the project in Section 5.

## Product Scope

The scope of the project is it can be used by any student and any institute library administrater through the country in order to access,update and manage the library.The server of this app provides many comforts for the admin as well as the student.This app makes sure that every student of the institute can access to his institute library easily.Scope is much for this because anyyhing related to students and library would be useful extensively.

The application would be a simple android-based tool implemented using HTML/Sass, JQuery, Python, MySQL,Machine learning and networking.

## References

1. [http://home.agh.edu.pl/~jsw/io/IEEE830.doc](http://home.agh.edu.pl/~jsw/io/IEEE830.doc#_blank)

2. <http://www.ceng.metu.edu.tr/~e1679216/documents/SRS.pdf>

# Overall Description

## Product Perspective

This android-based application is intended for all the students who wants to use the library of their instate or any other institute through the permission of other institute and also to make the work of the administratrers easy. All the functionalities will be present in the android based application. There would also be a server which would be responsible for major things.

From the students perspective, this application is of a great use.they can use their institute and any other institute through the permission of the administraters,because any student can have the privilege the permission of accessing only the library of his institute.This application provides the freedom of accessing the privilege of accessing of other college library through the permission of administraters of both the institutes.

## Product Functions

The product, Live Learning, will have a number of features which will allow the user to use the different functionalities which have discussed above. The required functionalities of the product can be listed into four categories: user management requirements, user interface requirements, database requirements, the application generator requirements and export method requirements.

* + 1. **Privileges of students**

A student has more privileges through my application. student other than accessing the library and taking the book, student has some privileges of expressing his views and providing ratings and reviews.

**2.2.2 Accessing the book**

Student can see the books of his required interest whether it may be his academics or some other journals or general knowledge.without going to the library student can see all his available books.He can select the book of his interest which sends a notification to the admin of the college from him he can receive the book.

**2.2.3 Reviews and Ratings**

Student can see the ratings and reviews from the earlier readers and can also provide his reviews and ratings.

**2.2.4 Notifications**

Once a book is received the student gets the notifications regarding the due date and just before the date of return student gets a notication about the reminder to return the book.Not only student admin also gets a notification when a student selects a book and if when student don’t return the book.

**2.2.5 online chat**

Online chat amongst students,student-admin chat, admin- admin chat (in case of different institute)

**2.2.6 Accessing other institute libraries**

With the permission of library admins of institutes,student can access the library of other institute.firstly student take the permission of his own institute admin,then the admin of his institute will have a chat with other institute admin to have the permission behalf of student.

**2.2.7 Sharing knowledge**

Students can share knowledge by giving reviews and opinions and by having chat and discussion zone.

**2.2.8 Update Library**

The server of the library app will help the administraters of the institute in updating and managing the library.

## User Classes and Characteristics

The users of the application are only students and the administraters of different institutes.The student uses the library app to see and his character is of knowing the knowledge by taking the books from the library and from the other end he can share his knowledge.The administraters role is to keep on updating about the new books and to maintain the dates and counts of the books where server helps in doing that.

## Operating Environment.

This application uses android environment.

## Design and Implementation Constraints

While designing the application, we will have many constraints that we need to take care of. We may find it difficult to convince the management of the institutes but this helps the students and library administraters in maintaining the library to higher level.

Also, we need to make sure that the students returns the books and maintain a healthy relation with the admins of other colleges too.

# External Interface Requirements

## User Interfaces

1. Home page will have login/Sign up.

2. User should register/login before the user can enter into the application.

3. Once user enters his/her correct credentials in login field, the user will be logged in.

4. The user will be categorized into two 1.student and 2.admin.

5. The student can search for a required book.

6. The admin can update and manage the info.

7. The student van share knowledge through chats.

8.students can give opinions and reviews.

## Communications Interfaces

The application will be requiring an android server to run upon since it will be launched as a mobile based application. Also it will be using HTTP protocol for all the communication interfaces.

# System Features

In this subsection, we will examine the features of the application in detail by categorizing them according to their functionality. Alternative flow of events will be given in stimulus/response subsection.

## User management

**4.1.1 User Authentication**

There will be a login page in which the users will enter their credentials like username and password. The server will verify the authenticity of the credentials provided by the user and will let the user log into his/her account. If the user is not registered with the application, the user will be asked to sign up using the sign up form. Once the user has successfully registered with the application, the user can log into his/her profile.

***4.1.1.1 Register***

Normal Flow

**User ----> Details ----> Information valid ---> Verification--->Registered successfully**

1) User clicks on sign up.

2) User enters the details.

3) If information is valid, verification mails is sent to the user.

4) If user verifies his/her email, (s)he is registered successfully.

Alternate flow

1) If details entered are not valid or insufficient, registration fails and the users is being asked to enter the details again.

2) If user fails to do the verification, then also registration is unsuccessful

***4.1.1.2 Log In***

Normal flow

**User ----> Username & Password ----> Correct---->Logged in successfully**

1) User enters username and password.

2) Server verifies username and password.

3) If both username and password are matched, the user is successfully logged in.

Alternate flow

1) If username and password don't match, log in is shown unsuccessful.

***4.1.1.2 Forgot Password***

Normal flow

User----> Forgot Password---->Recovery mail sent---->Password changed successfully.

1) User clicks on Forgot password.

2) Recovery mail sent to users email.

3) User can reset the password by opening recovery mail.

Alternate flow

1) If user is not able to access the recovery email sent, he may not be able to reset the password.

**Functional Requirements**

**REQ 1: Log In**

**REQ 2: Sign Up**

**REQ 3: Forgot Password**

**REQ 4: Facebook Login**

**REQ 5: Gmail Login**

## Home Page for each user after logging in

**4.2.1 Search for book**

1) student logs in.

2) student selects the course and dept..

3) student selects the required book in the searched list.

**4.2.2 admin issues the books**

1) student logs in.

2)student selects a book .

3) admin gets a notication.

4)admin issues the book.

**4.2.3 Notifications**

1) student logs in.

2) student selects a book .

3) Admin gets notification.

4) Student receives the book and he ll get notication about due date.

**4.2.4 Share knowledge**

1) student logs in.

2) student goes for chat option.

3) student queries with the earlier reader for guidance or student can provide guidance for an upcoming reader.

4**.2.5 Post Review and Rating**

1) student logs in.

2) After reading the book student can give rating and review by providing his name.

**4.2.6 permission to access other institutes library**

1) student logs in.

2) student chats with his institute library admin to request for accesing other institute.

3) admin chats with other institute admin from his chats,he requests permission.

4)once he gets permission,admin of other college sends a password for accessing library.

5)student gets the permission to access.

**FUNCTIONAL REQUIREMENTS:**

**REQ 6: Search for a book**

**REQ 7:admin issues the book**

**REQ 8: Notifications**

**REQ 9: Share knowledge**

**REQ 10: Post review and rating**

**REQ 11: Permission to access other institutes library**

1. **OTHER NON FUNCTIONAL REQUIREMENTS**

In this section, we will look at the non-functional requirements of the application. The non-functional requirements of the application includes performance requirements, security requirements and other requirements.

## Performance Requirements

The application will be android based. All the data will be stored on the cloud server. Thus, we will be need high-speed and high capacity back-end support. Moreover, we will need to store all the data in a highly secured manner so that the data doesn't leak because data bout all the users will be stored on the cloud. The back-end should be able to support multiple users at the same time. As the number of users who will use our application at the same time can be high, we need to make sure that the server speed is high in all cases.

## Security Requirements

Since the data is on the cloud, we need to be very particular about the security of the data. We need to encrypt the data and store it in a highly secured manner. We need to make sure that the user is not able to get all the privileges in terms of exploiting the features of the application. Also, username and password table should be highly secured and its access should be highly maintained.