

CHAPTER-1

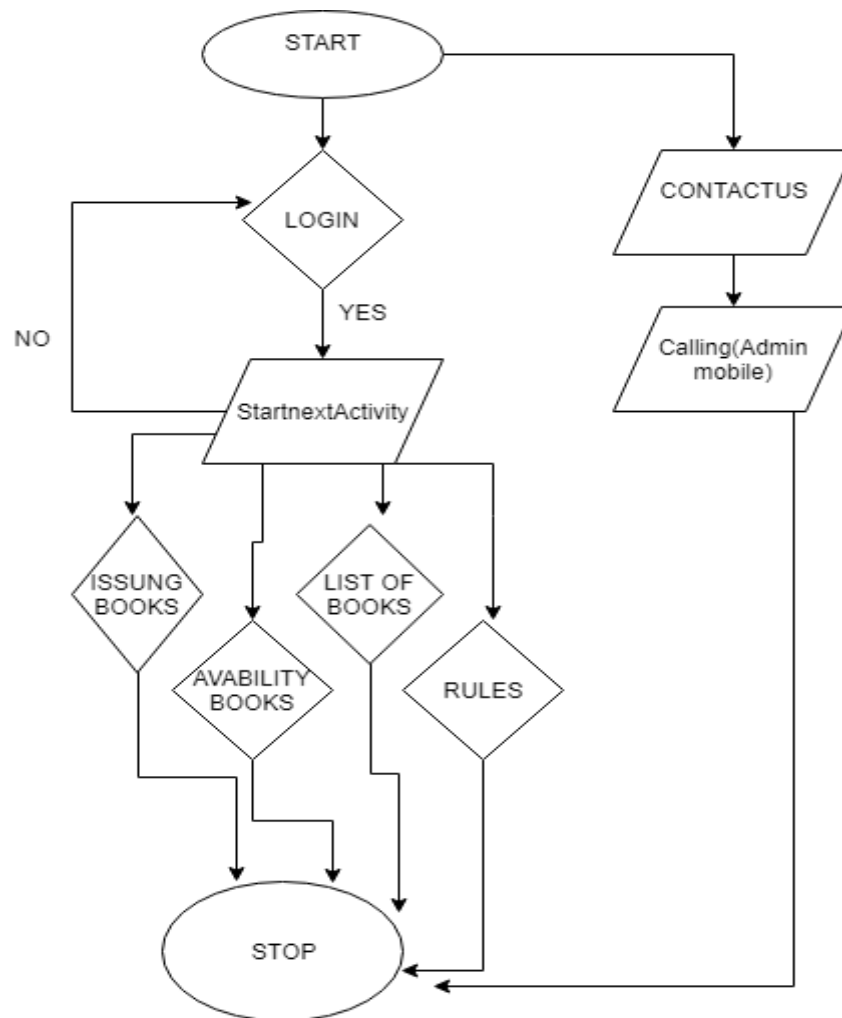
1.1 Project Overview

- **Smartlibrary** has several tools and technology so it is difficult for university person to issuing books a particular tool so with the help of android mobile application it becomes very easy to find a particular tool According to around **80% of android users**.
- This project is to **simulate** the basic Smart Library Android Application.
- Also, at the coding level, maximum efforts have been taken to minimize this code using **efficient algorithm**.
- Concepts of **Android Studio (object oriented programming)** have been applied to utilize the features of OOP.
- All the **data is stored in a Firebase Database** so as to keep record of events even after the restarts & securely safe your Data.
- The Firebase Real-time Database is a cloud-hosted NoSQL database that lets you store and sync between your users in real-time. The Real-time Database is really just one big JSON object that the developers can manage in real-time with just a single API, the Firebase database provides your app with both the current value of the data and any updates to that data.

1.2 PROJECT SCOPE

Android has become the pillar of any technological update. For anything and everything, there is an Android App available. This is the reason why people are switching to learn Android Development in huge mass these days.

The world as such has become very busy and we find it difficult to manage the time. In this context, Android Apps has definitely helped in saving the time.

CHAPTER-2**2.1 Flow Chart****Figure-1 (MAIN ACTIVITY)**

In Figure 1 is Main Activity Flow Chart . When User Clicked on Login Button Email and Password are right and Open the next Activity. In Next Activity 4 Buttons are available and Before Login Contact us Button is available. So Users are contact to Admin.

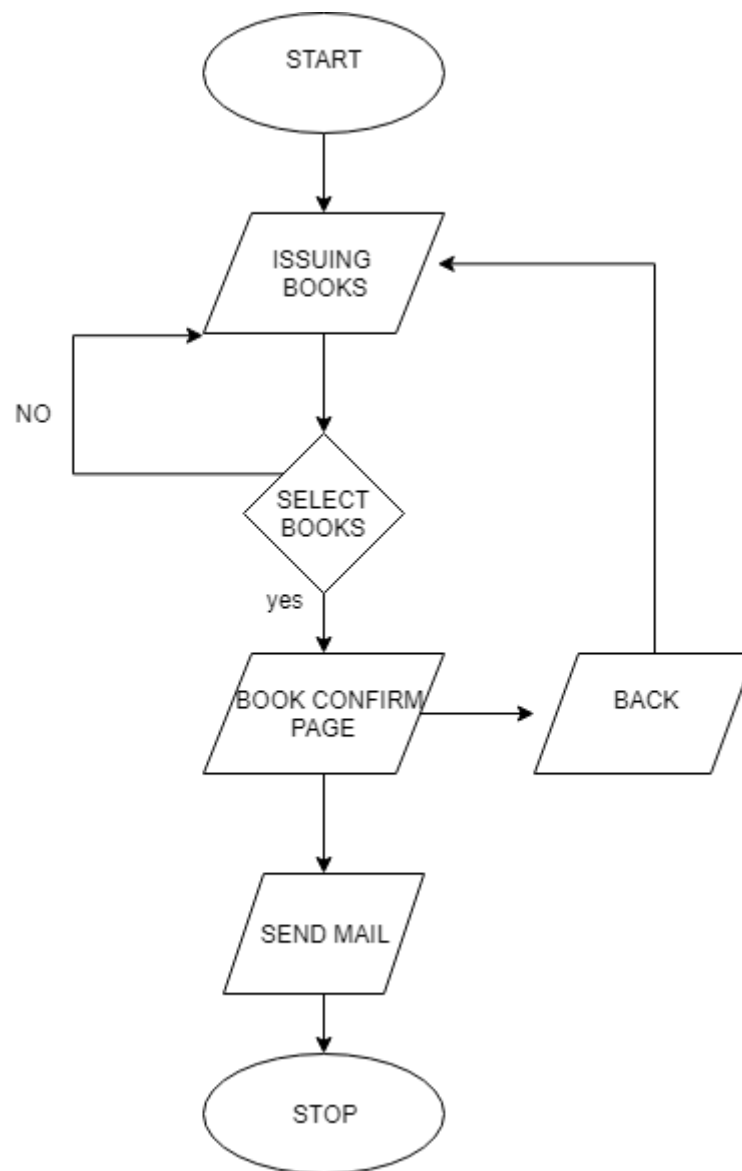


Figure-2 (ISSUING BOOKS ACTIVITY)

In Figure 2 is Issuing book Activity ,In this Activity Users are Select the book and clicked on issuing button.So open Next Confirm Page and Clicked on confirm button ,So In Firebase books are decrease And sent mail to user.

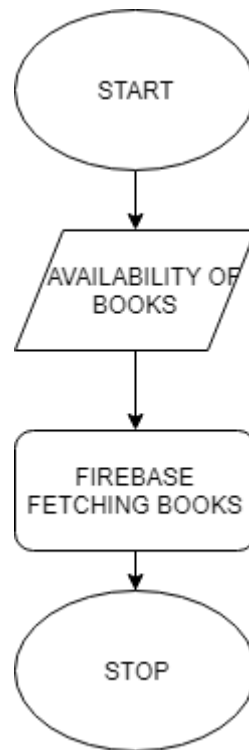


Figure-3 (AVAILABILITY OF BOOKS)

2.2 Major Functionality

In this Android application use to University students id to login and issuing books.

Issuing books to send mail for Admin.

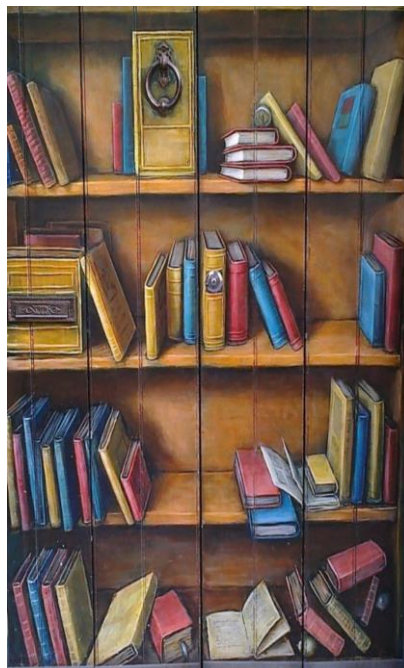
Avability of books to check avaible books in library.

CHAPTER-3

3.1 Module Specification

- Firebase Authentication,
- Realtime Database system,
- Android studio,
- Any Operating System, etc.

3.2 Snapshots of project

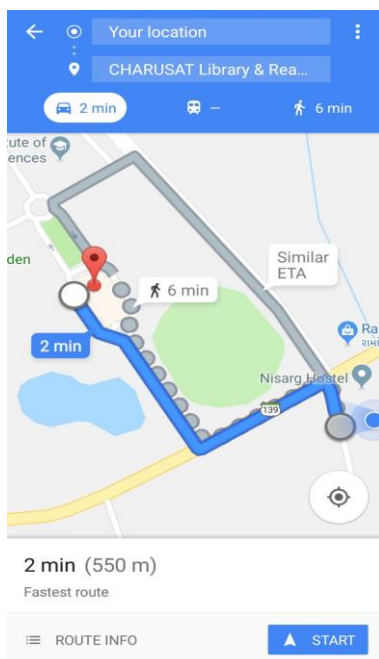


Welcome page



In this Figure is Home page of Our Application. Here Login and Contact us Buttons are available and also Our Smart library App Location Button is available.

Login page



When the Home page Icon Location is Clicked ,App is look like Figure,Here This Page is show path and Distance between Your location and Library location.

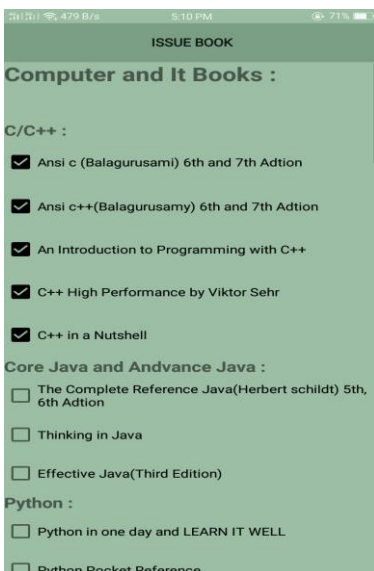
Map view



After Login, Here 5 Buttons are available Such as Issuing Book, Avability of books, List of Books, Rules & Regulations and Log out.

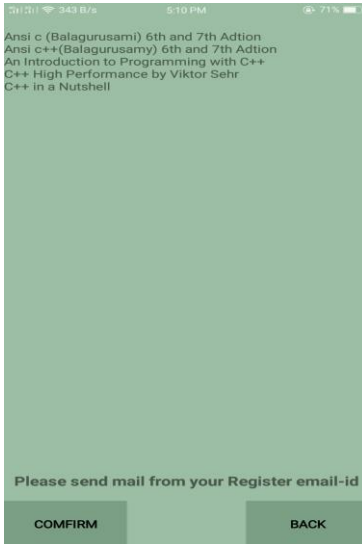
After Login is succesfull, App is Look like Figure.

After login page



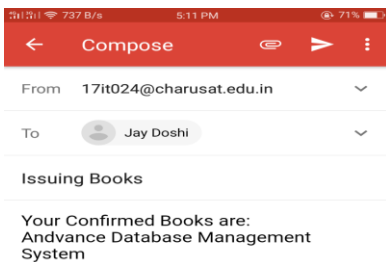
When Clicked on issuing book ,App will Look like Figure, And User Select Maximum 5 books and Minimum 1 book and Click on issue book button.

Issue books



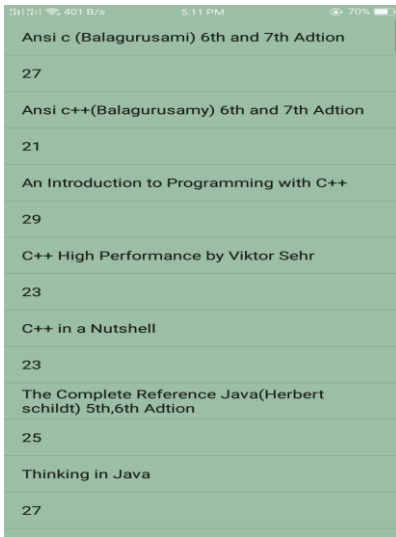
After Click On issue book, App will look like Figure,And Here Confirm and Back Button are available,When click on confirm. We will show in next figure.

Selected books(Before confirm page)



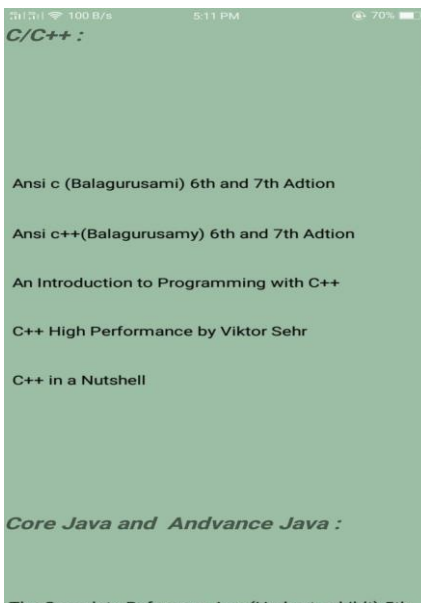
When Click on confirm,App will look like Figure.And Sent Mail to user for Your book is issue.So Books are decrease in Firebase.

Confirm page(gmail)



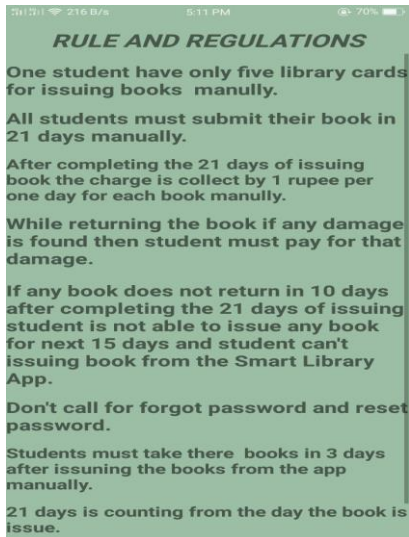
When Click on Availability App Will Look like Figure and in This Figure Show Number of Available books.

Availability of books



When Click on List of App will look like Figure. Here Show Books are in Library.

List of books



When Click on Rules & Regulation. App will look like Figure Here Show Rules for issue books and Library rules.

Rules & Regulations

CHAPTER-4**Constraints:**

Android API 9.

Future Enhancement:**Optimization of the present code.**

Code optimization is any method of code modification to improve code quality and efficiency. A program may be optimized so that it becomes a smaller size, consumes less memory, executes more rapidly, or performs fewer input/output operations. The basic requirements optimization methods should comply with, is that an optimized program must have the same output and side effects as its non-optimized version.

We try to make our app with better.

- 1.) Reducing the App size
- 2.) Innovation drives success
- 3.) Improving UI

CHAPTER-5**Conclusion:**

In this project our team has created library management system which consumes less time for the student to issue book from the library and provides many services to the students of charusat.

The Smart Library App has been computed successfully and created successfully by testing it properly. It is user friendly and has required option, which can be utilized by the user to perform the desired operations.

References:

→ <https://developer.android.com/> for the android app development guide.

→ firebase.google.com for connecting the android app with firebase and database connecting guide.

→ It is used to get the information of how to import the google API in the android app and related document of its.

→ www.android.com

→ It is the official website of the android.

→ Youtube Simplified coding(How to use Firebase).