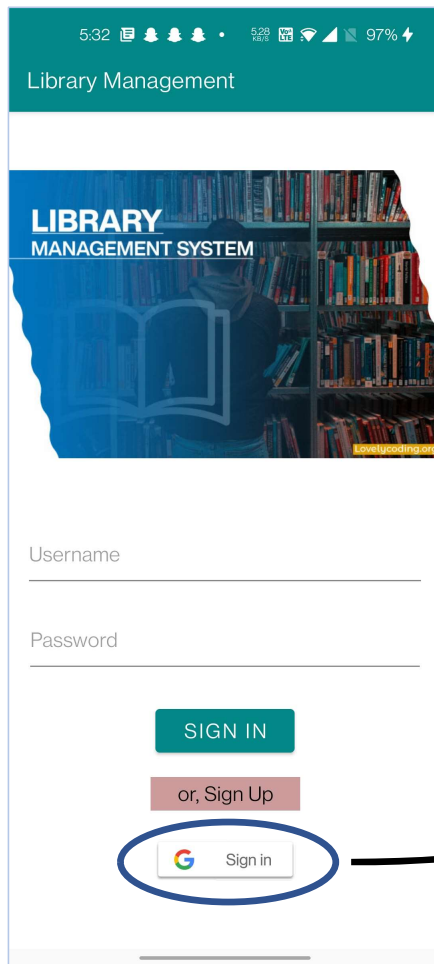# DevClub Recruitment Assignment
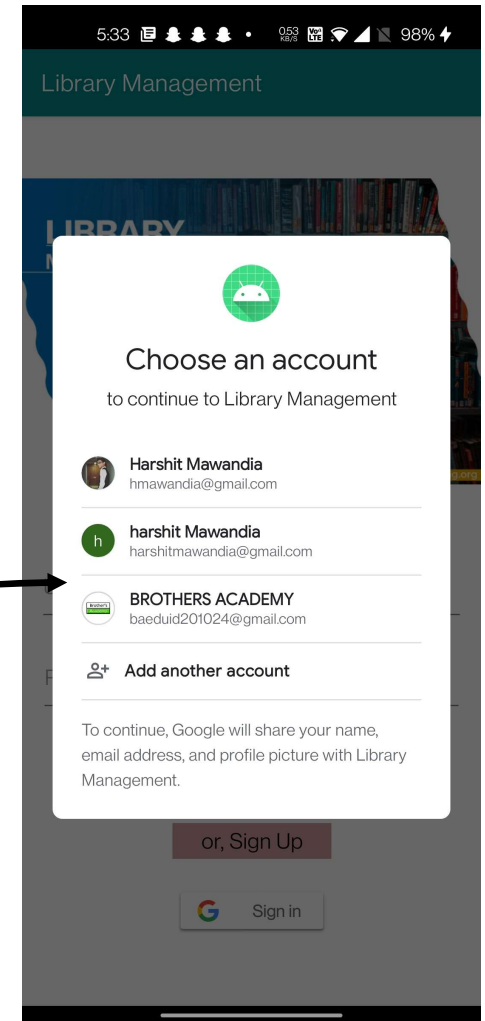
Library Management Database App

Design Document

-By Harshit Mawandia
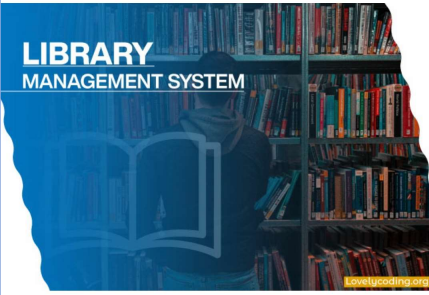
This is the Sign In Page
With Google Sign in support

Library Management

LIBRARY
MANAGEMENT SYSTEM

Lovelycoding.org

email

Username

Password

Enter OTP sent to mail   SEND OTP

SIGN UP

or, Sign In

This is the sign up page
With Email Verification Support
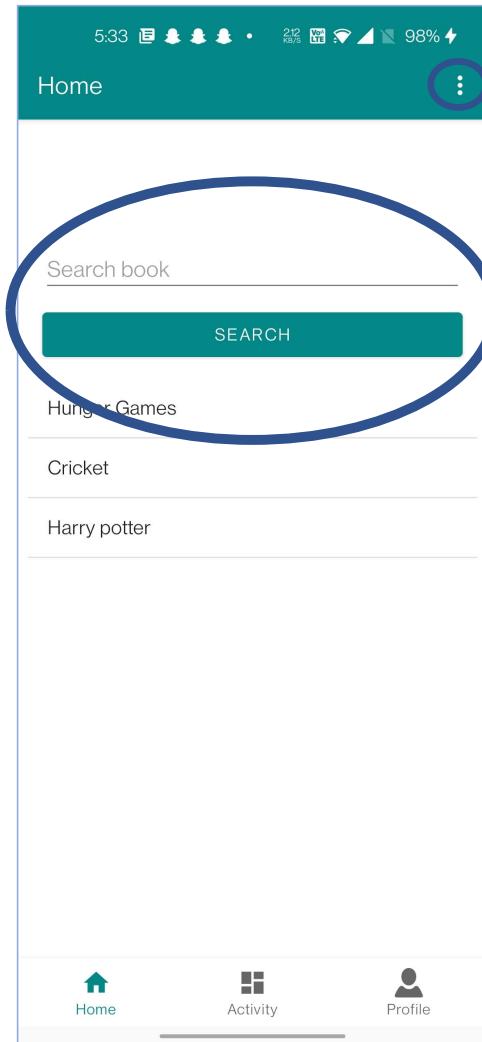
Verification Mail ▶ Inbox

librarymanagement...   3 days ago
to me ∨

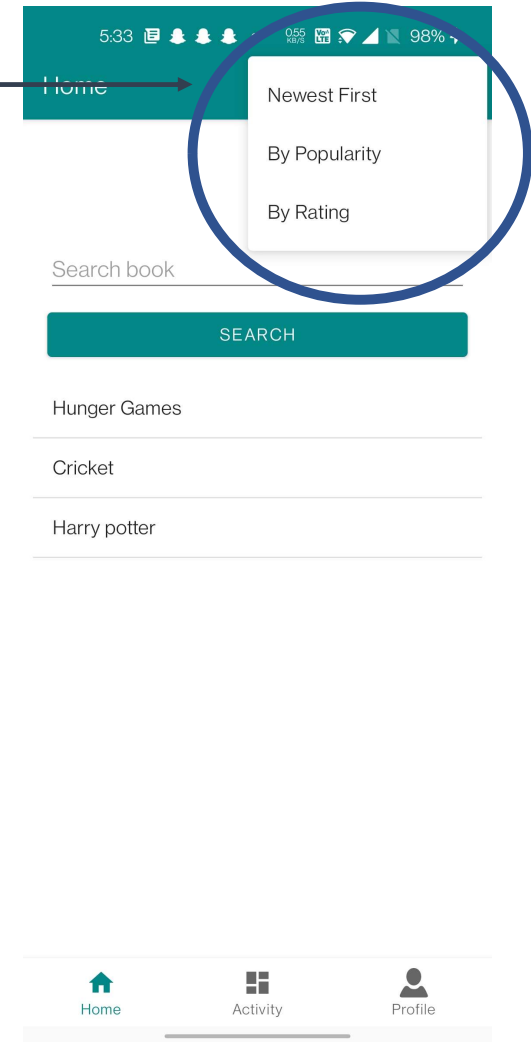Your Verification Code is:
655797

librarymanagementdatabase@g...   Apr 22
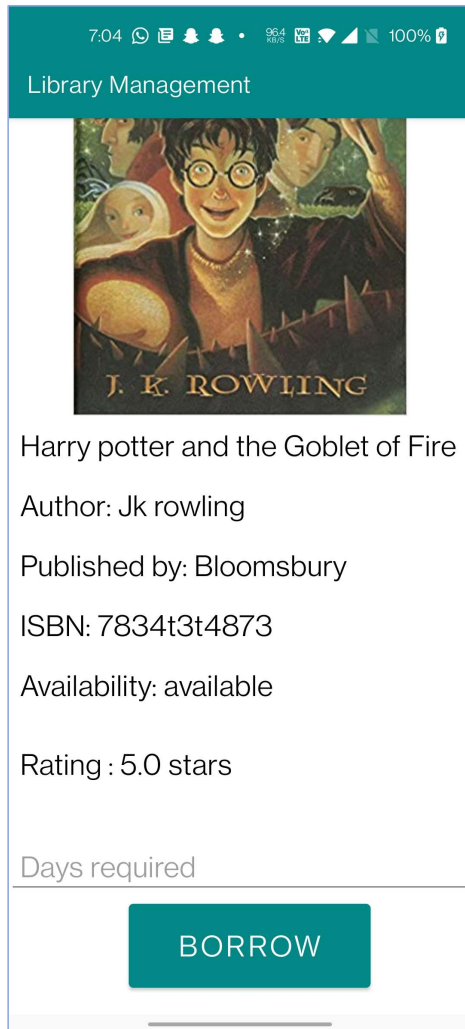Your Verification Code is: 718414

librarymanagementdatabase@g...   Apr 22
Your Verification Code is: 925908
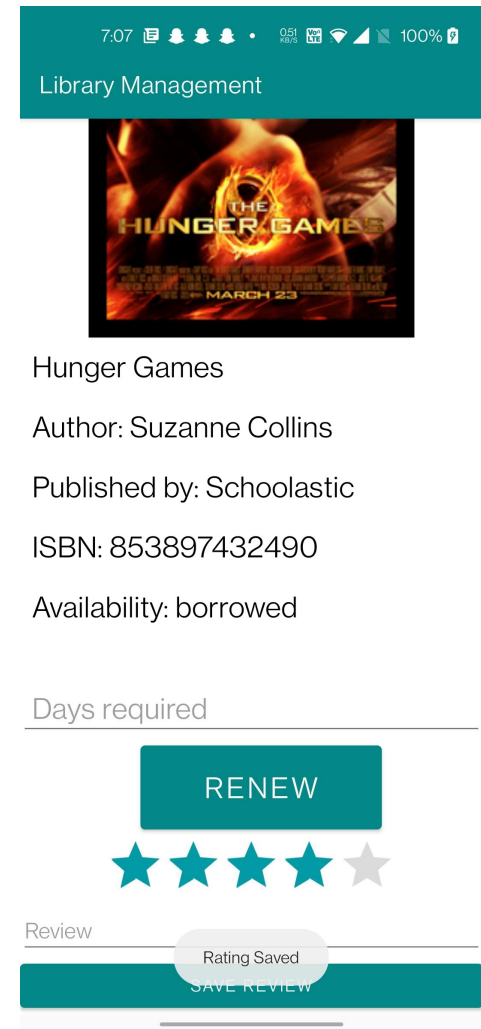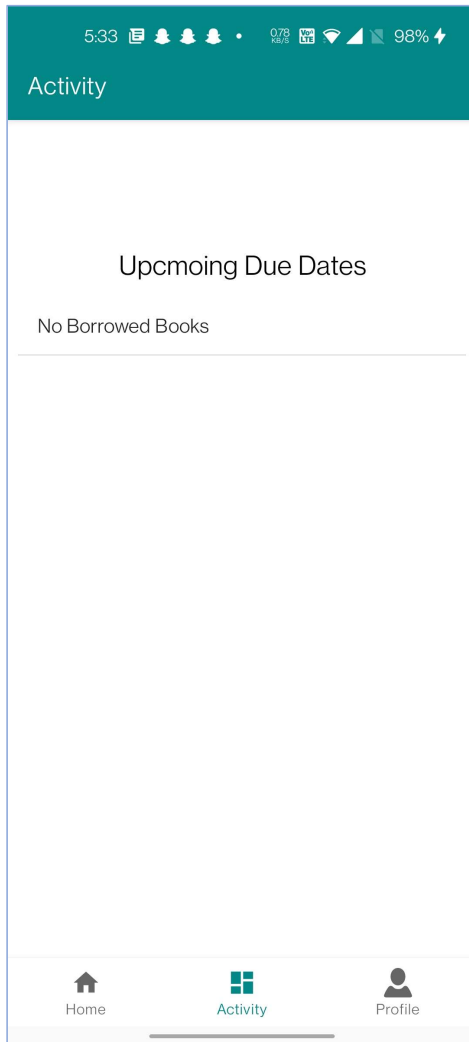
Reply   Reply all   Forward

Next Comes
the Book Browsing Page
With Search Bar
As Well as Sorting Options
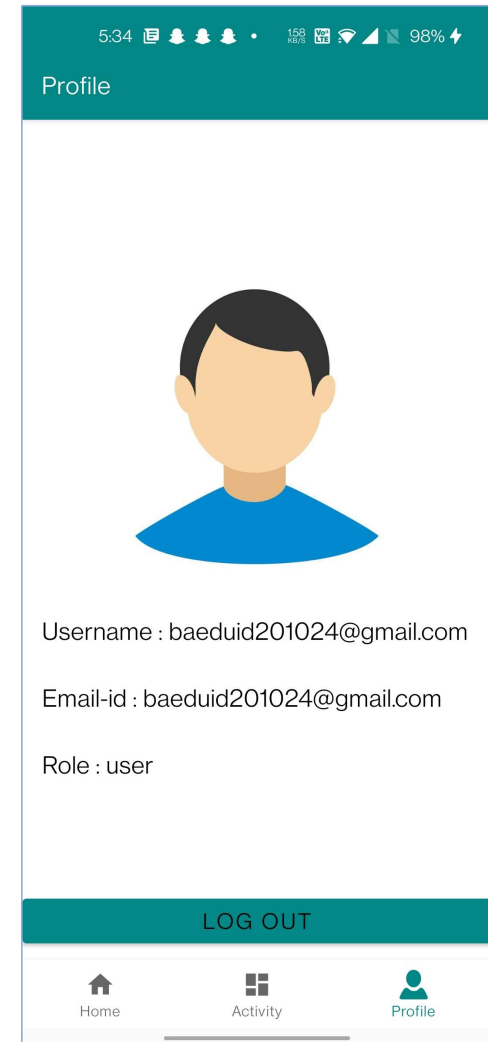Also, there's bottom navigation

Harry potter and the Goblet of Fire

Author: Jk rowling

Published by: Bloomsbury

ISBN: 7834t3t4873

Availability: available

Rating : 5.0 stars

Days required

BORROW

The Registered users can
Borrow a book
Renew it, Rate it
Or, even review it

Hunger Games

Author: Suzanne Collins

Published by: Schoolastic

ISBN: 853897432490

Availability: borrowed

Days required

RENEW

★★★★☆

Review
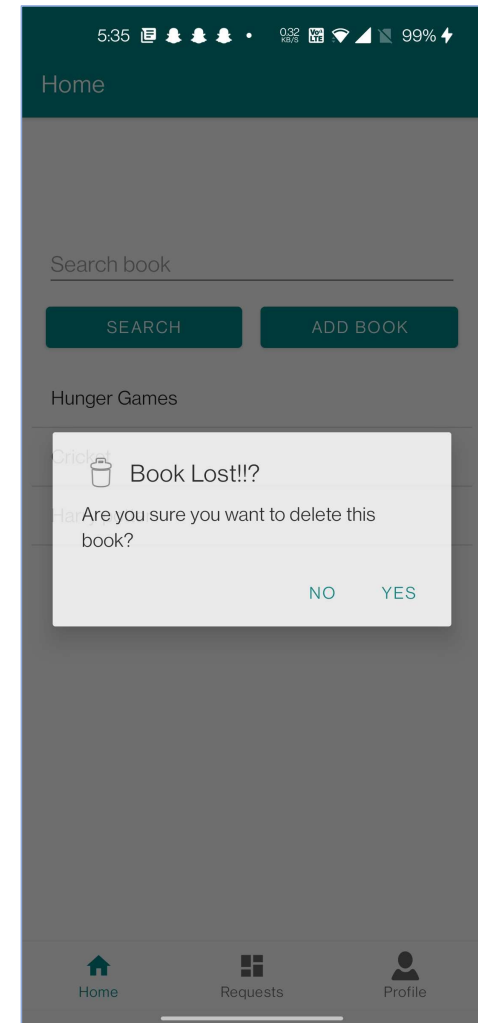
Rating Saved

SAVE REVIEW

Upcmoing Due Dates

No Borrowed Books

Then there is
the Borrowed book section
And
User Profile Section

Username : baeduid201024@gmail.com

Email-id : baeduid201024@gmail.com
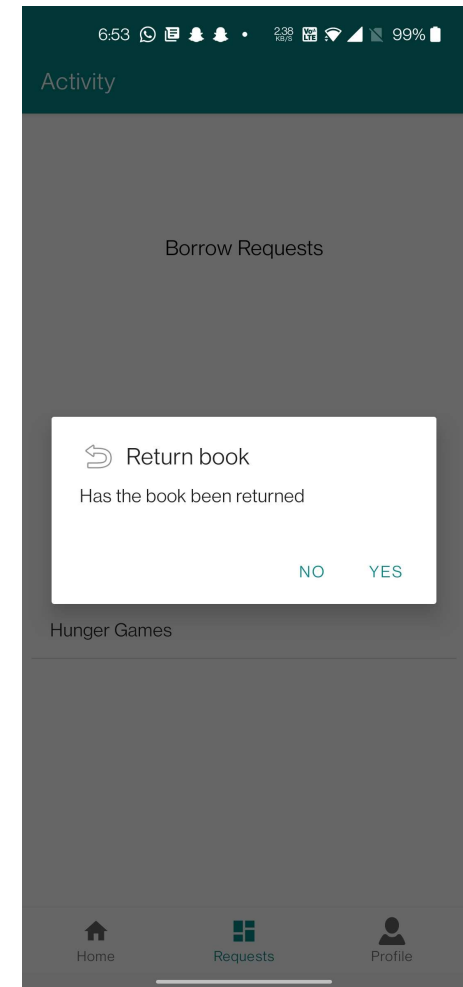
Role : user

LOG OUT
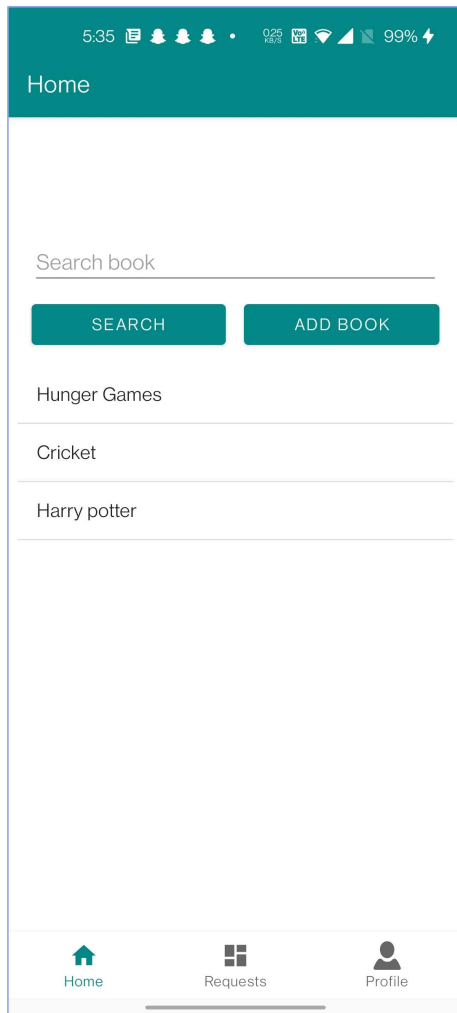
Now for the
Librarian Access
He can add, edit or delete a book
(To delete long press any book)

5:35 · 99%
Home

Search book

SEARCH   ADD BOOK

Hunger Games

Cricket   Book Lost!!?

Are you sure you want to delete this book?

NO   YES

Home   Requests   Profile

Borrow Requests

Borrowed Books

Hunger Games

Home   Requests   Profile
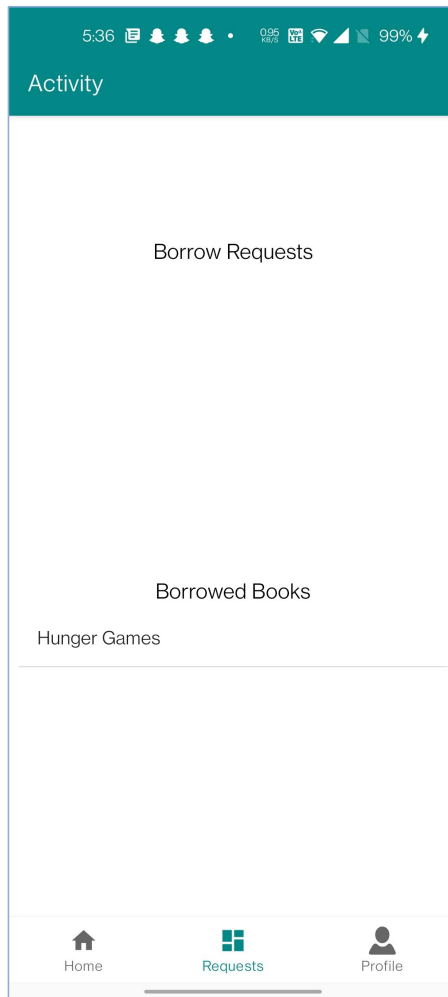
The Librarian can
See all the borrow requests
And also return the books

Borrow Requests

↩ Return book

Has the book been returned

NO   YES

Hunger Games

Home   Requests   Profile

Users

User: user4
Role: user

User: librarian
Role: librarian

User: user3
Role: user

User: user2

Change Roles

User: anirudh
Role: user

LIBRARIAN   USER

Role: user

Users   Activity   Profile
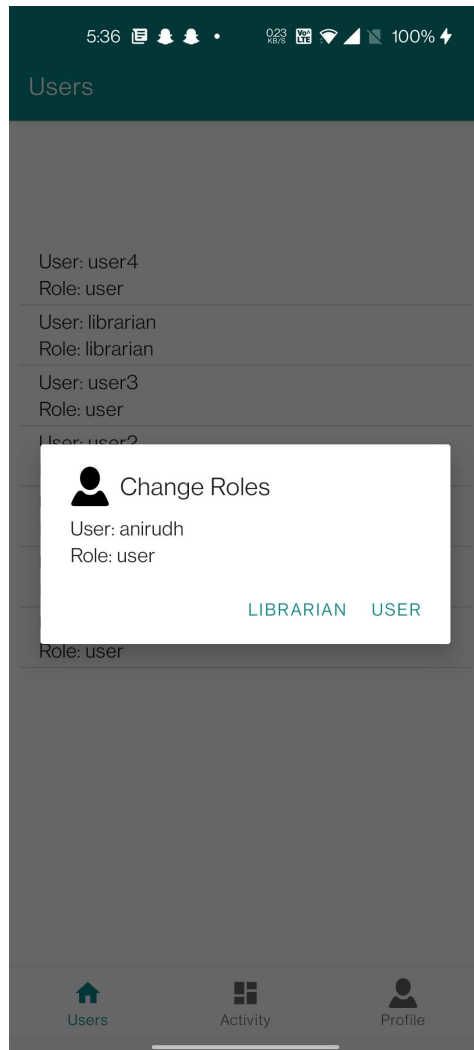
Now comes the Admin interface:
He can change the roles of users
And monitor all the reviews
posted by users

Activity

Recent User Reviews

Amazing Book

Users   Activity   Profile

Activity

Recent User Reviews

Amazing Book

Offensive Review??

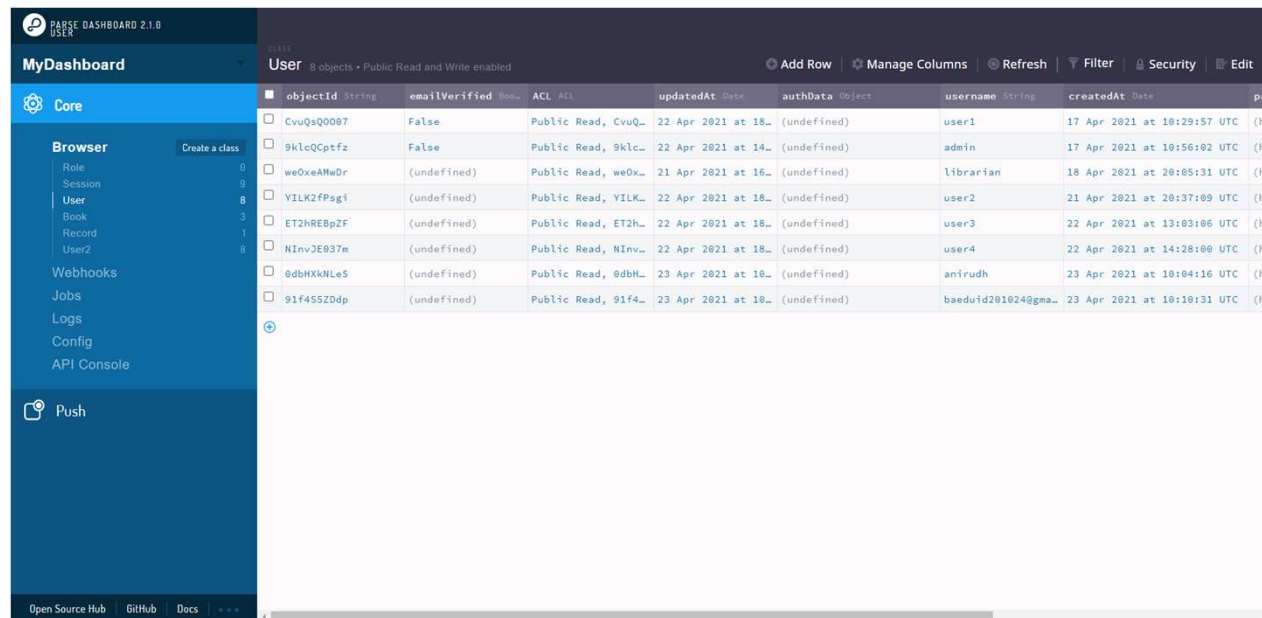Do you want to warn user and delete review?

NO   YES

Users   Activity   Profile
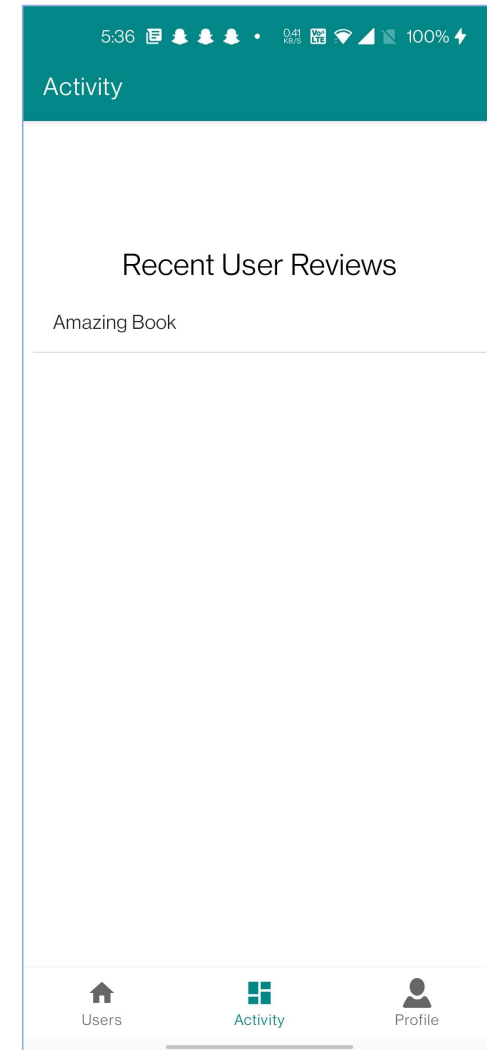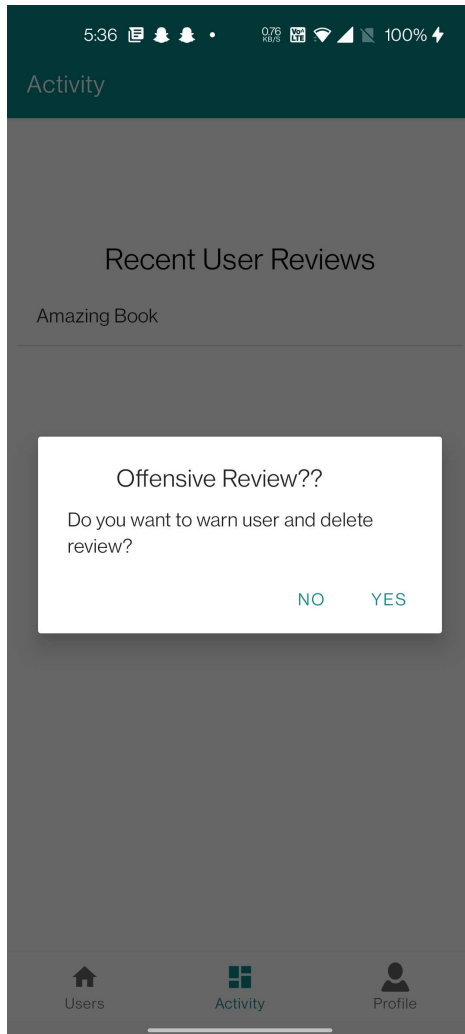
Incase the review is offensive
The admin could issue a warning

As soon as the user logs in,
The warning pops up

Home

Search book

SEARCH

Hunger Games

Warning!!

Your recent review was reported to be offensive!
Do not repeat this!

OKAY!

Home   Activity   Profile

Parse Database:

I have created a Parse server(Node.js based) and am hosting it online on AWS platforms
It basically contains an SQL like database
I pass the queries in my backend using JAVA.

Access Control:

I have managed the Access control by creating a new field(column) in the data base and defined it to be user by default.

During the login, this field is checked and if it matches the respective roles, the activity to start next is fixed accordingly

Admin can change the roles of all the other users except himself as and when needed which makes the desirable change in the database
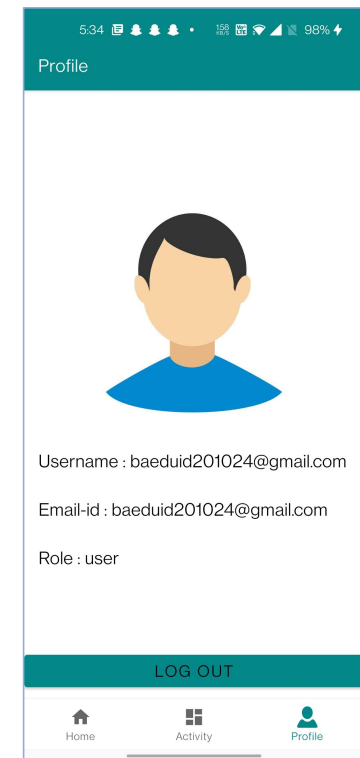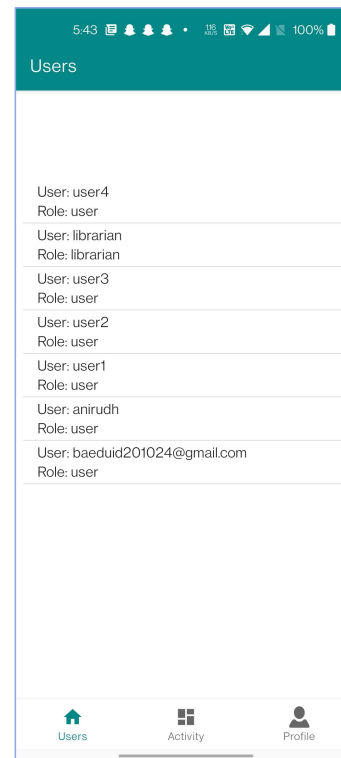
Special Features:

- Not just backend, but a not-so-bad UI too
- Email Verification
- Google sign In option
- Rating and Review System
- Multiple Sorting Options (Newest arrivals, By Rating, By Popularity)
- Search Feature
- Admin can monitor user activity and issue warnings

Working:

- Created on Android Studio

- Uses JAVA for backend(a bit for frontend as well) and XML for the frontend and UI

- All the records of users, books and their availabilities and user ratings and reviews are stored in the dynamic database and are updated instantly by queries.