Design and Implementation of Library Management System App

Group Member:

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| Thomas, Cui  StdNo:104717853 |
| Keyang, Gao  StdNo: 104474011 |
| Zhiming, Huang  StdNo: 104660131 |
| Ebuka, Nwakoby  StdNo: 105042642 |

Acknowledgement

In our project, we created 4 tables in the database:

user table

book table

borrow book table

return book table.

Then Implement:

add book

search book

check book information

check return book

check borrowed book

add user to user table

update user

delete user

main login and register staff for administrator and user

Finally, put everything together.

Introduction

Android smart goods are increasingly the mobile terminal products of choice for more and more people as mobile terminal usage rates soar. A growing number of applications built on the Android development platform have also appeared as a result of the widespread use of Android smartphones and tablet computers in our daily lives. A library management system App is created in order to give mobile terminal users easy access to book borrowing services and increase the productivity of librarians.

The system finally realises the system development of the two roles of administrator and user. It is built on the Android Studio development platform and employs a SQLite-based structured data storage method. Users can register, log in, view all of the books on the shelves, explore extensive book information, use the borrowing feature, and edit personal information. The administrator is in charge of background management, which includes tasks like information searching and bookkeeping.

Objectives

Android smart goods are increasingly the mobile terminal products of choice for more and more people as mobile terminal usage rates soar. The way we read now has also experienced significant change. The conventional book industry must adopt scientific and technological trends have had in long-order to term growth. The variety and number of volumes in the library are expanding as a result of the school library's ongoing expansion. The school employs the library management system to streamline operations, eliminate many issues that plague librarians' work, and significantly time required the for pupils to borrow books. Utilize the library management system to manage book records in an organised manner, including features for adding new book records, changing existing book records, deleting existing book records, etc. This will allow you to systematise, standardise, and automate the book management process while also making book management easier. The system should be able to manage the library's data in an effective, rapid, and stable manner.

The system is primarily capable of doing the following tasks: searching for books, borrowing and returning books, managing books, managing reader information, etc. To effortlessly accomplish tasks like book inquiries, book borrowing, and book return, administrators only need to visit this system. They can also utilise this system to swiftly and efficiently maintain library information. The system achieves the digitalization of library resources management, enhances the effectiveness, and raises the bar for management task standards.

Project Requirements

• Need to work in a team of four students, where each member of the team has a specific

and significant contribution to the project.

• Project must have multiple activities.

• Project must have database connectivity and related functionality.

• Upload project codes to GitHub, where each member must push

their contribution are required.

• Project must be different from the projects demonstrated during class/assignment.

• It is optional to upload the project to the Google Play store.

Tools and Components

There is no such an special tool for our project. The only thing need to mention is that this project was created using Android 4.1.0.0. So w`e must set up the proper Android SDK and JDK environments. The appropriate JDK version is 10.0.2.

Conclusion, Limitations and Future scopes

The library management system has now essentially served its intended purpose and been realized. I had no notion when I first received the design specifications. I used to write partial functions, but now I want to realize the full flawless system, and it can't just be a bunch of functions; it needs to take into account the overall business logic.

The system's flawless functionality, which enables simultaneous fulfillment of the roles of user and administrator as well as interactive role information management, is its greatest strength. In order to ensure that the user is unique, the user specified the user name check at registration. This makes it convenient to query user information and borrow information afterwards.

Menu settings are pre-set to enhance the ease of use for consumers. Users can manage the books they have gathered and borrowed by clicking on the menu, which will then reveal their personal centre on the left. The administrator console allows for the management of both users and books, as well as the search, deletion, addition, and modification of both users and books, as well as the timely updating of user and book information. The effectiveness of management is substantially increased by the administrator's ability to see the user's borrowing and returning activities. The project is still lacking in some areas. Functions like adding reading notes and commenting on books on the client side have not been realised due to time constraints. Afterwards, the project will keep becoming better, and the learning will get stronger. A library management system with full business logic, a stunning user interface, and all necessary features is anticipated to be finished in the future.