ACKNOWLEDGEMENT:

I take this occasion to thank God, almighty for blessing me with his. I extend my sincere and heartfelt thanks to my honorable Teacher, MD. Mahbubur Rahman for providing me with the right guidance and advice at the crucial junctures and for showing me the right way. I extend my sincere thanks to our respected Dean of the faculty Dr. MD. Jamal Hossain, for allowing me to use the facilities available. I would like to thank the faculty members also, at this occasion. Last but not the least, I would like to thank my friends for the support and encouragement they have given me during the course of my work.

ABSTRACT

Library management system is a project which aims in developing a computerized system to maintain all the daily work of library. This project has many features which are generally not available in normal library management systems like facility of user login. It has also a facility where student after logging in their accounts can see list of books issued and its issue date and return date and also the students can request the librarian to add new books by filling the book request form.

Overall this project of mine is being developed to help the students as well as staff of library to maintain the library in the best way possible and also reduce the human efforts.

TABLE OF CONTENTS

CHAPTER 1

INTRODUCTION

This chapter gives an overview about the aim, objectives, background and operation environment of the system.

1.1 PROJECT AIMS AND OBJECTIVES:

The project aims and objectives that will be achieved after completion of this project are discussed in this subchapter. The aims and objectives are as follows:

- Registration page where One can register
- Add new Books
- Add new student
- login page where student can login
- Issue Book from Library
- Return Book to Library
- See Statistics of issue and return.

1.2 OPERATION ENVIRONMENT:

PROCESSOR	INTEL CORE PROCESSOR OR BETTER PERFORMANCE
OPERATING SYSTEM	WINDOWS 10
MEMORY	1GB RAM OR MORE
HARD DISK SPACE	MINIMUM 1GB FOR DATABASE USAGE FOR FUTURE
DATABASE	SQLITE DATABASE

CHAPTER 2

SYSTEM ANALYSIS

In this chapter, I will discuss and analyze about the developing process of Library Management System including software requirement specification (SRS) and comparison between existing and proposed system. The functional and nonfunctional requirements are included in SRS part to provide complete description and overview of system requirement before the developing process is carried out. Besides that, existing vs proposed provides a view of how the proposed system will be more efficient than the existing one.

2.1 SOFTWARE REQUIREMENT SPECIFICATION

2.1.1 GENERAL DESCRIPTION:

- PRODUCT DESCRIPTION: Library Management System is a computerized system which helps user(librarian) to manage the library daily activity in electronic format. It reduces the risk of paper work such as file lost, file damaged and time consuming.
  It can help user to manage the transaction or record more effectively and time-saving.
- PROBLEM STATEMENT: The problem occurred before having computerized system includes:

 File lost: When computerized system is not implemented file is always lost because of human environment. Sometimes due to some human error there may be a loss of records.
 File damaged: When a computerized system is not there, file is always lost due to some accident like spilling of water by some member on file accidentally. Besides some natural disaster like floods or fires may also damage the files.

2.1.2 SYSTEM REQUIREMENTS:

2.1.2.1 NON FUNCTIONAL REQUIREMENTS

1 EFFICIENCY REQUIREMENT:

When a library management system will be implemented librarian and user will easily access library will be very faster.

2 RELIABILITY REQUIREMENT:

The system should accurately perform member registration.

3 USABILITY REQUIREMENT:

The system is designed for a user friendly environment so that student and staff of library can perform the various tasks easily and in an effective way.

4 IMPLEMENTATION REQUIREMNTS

In implementing whole system, it uses java in front end with Sqlite database which will be used for database connectivity and the backend i.e. the database part is developed using Sqlite.

2.1.2.2 FUNCTIONAL REQUIREMENTS

1 USER LOGIN

This feature used by the user to login into system. They are required to enter user name and password before they are allowed to enter the system. The user id and password will be verified and if invalid id is there user is allowed to not enter the system.

-user id is provided when they register

-The system must only allow user with valid username and password to enter the system

-The system performs authorization process which decides what user level can access to.

-The user must be able to logout after they finished using system.

2 REGISTER NEW USER

This feature can be performed by all users to register new user to create account.

-System must be able to verify information

-System must be able to delete information if information is wrong

3 REGISTER NEW BOOK

This feature allows to add new books to the library

-System must be able to verify information

- System must be able to not allow two books having same book id.

4 ISSUE BOOKS AND RETURN BOOKS

This feature allows to issue and return books and also view reports of book issued.

-System must be able to enter issue information in database.

-System must be able to update number of books.

- System must be able to search if book is available or not before issuing books

-System should be able to enter issue and return date information

2.1.3 SOFTWARE AND HARDWARE REQUIREMENTS

This section describes the software and hardware requirements of the system

2.1.3.1 SOFTWARE REQUIREMENTS:

 Operating system- Windows 10 is used as the operating system as it is stable and supports more features and is more user friendly

 Database: Sqlite is used as database as it easy to maintain and retrieve records by simple queries which are in English language which are easy to understand and easy to write.

 Development tools and Programming language- Java is used to write the whole code java SQL for database.

2.1.3.2 HARDWARE REQUIREMENTS

 Intel core i3 6th generation or more is used as a processor because it is fast than other processors provide reliable and stable and we can run our pc for longtime. By using the processor, we can keep on developing our project without any worries.

 Ram 4 GB is used as it will provide fast reading and writing capabilities and will in turn support in processing

2.2 EXISTING VS PROPOSED SYSTEM

i. Existing system does not have any facility student login whereas proposed system will have a facility of student login.

ii. Existing system does not have a facility of reservation of books whereas proposed system has a facility of reservation of books

iii. Existing system does not have any option of showing Statistics of issue book and return book whereas proposed system will have this facility

iv. Existing system does not have any facility to generate as well book issue reports whereas proposed system provides librarian with a tool to generate reports

vi. Existing system does not have any facility for add new book where as in proposed system after logging in to their accounts student add books as well as add student to improve library

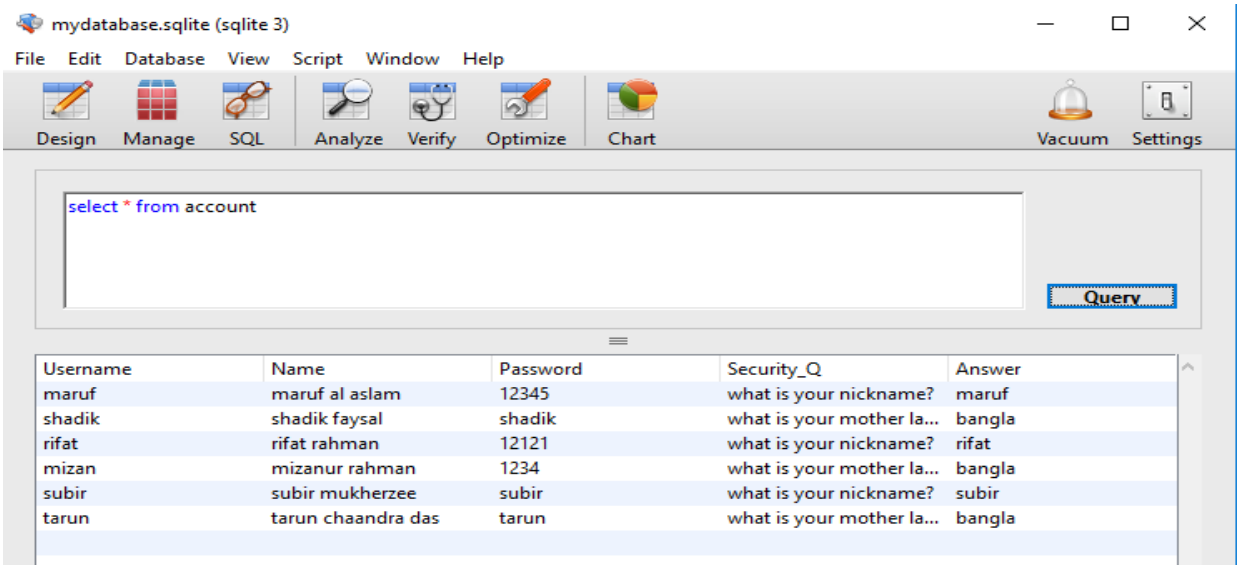
CHAPTER 3

SYSTEM DESIGN

This chapter show all about the design of the system of my application

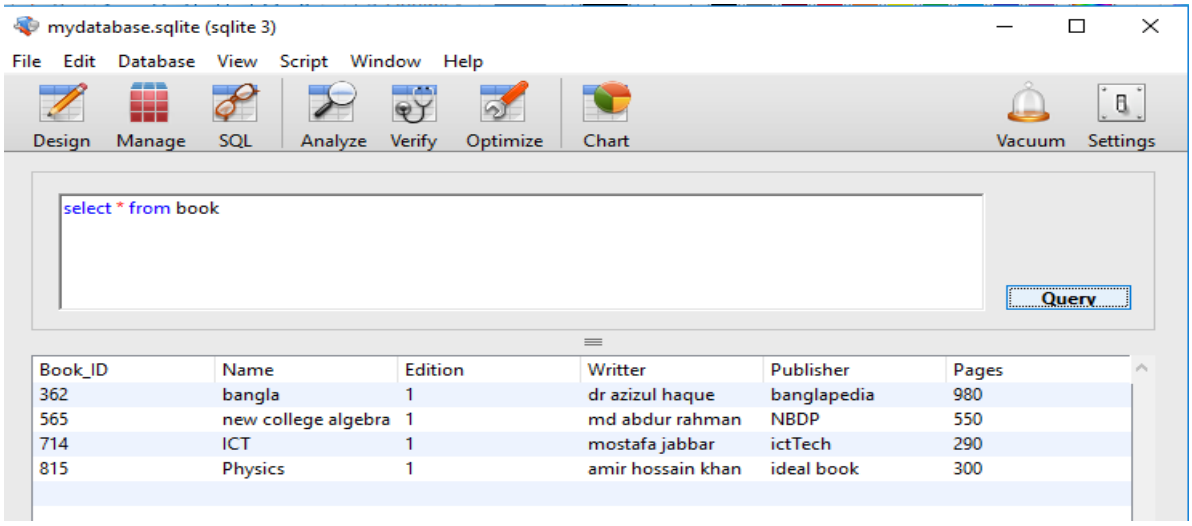
3.1 TABLE DESIGN:

1. Register Table:



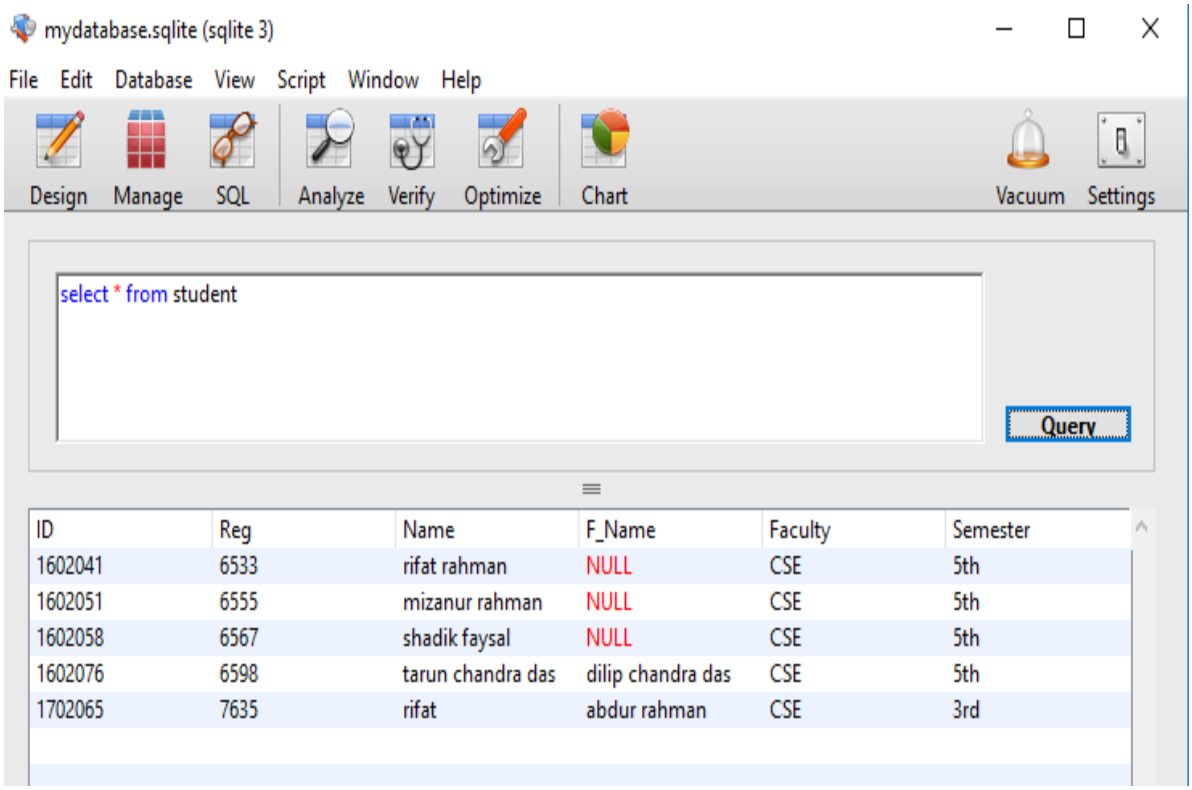
Username	Name	Password	Security_Q	Answer
maruf	maruf al aslam	12345	what is your nickname?	maruf
shadik	shadik faysal	shadik	what is your mother la...	bangla
rifat	rifat rahman	12121	what is your nickname?	rifat
mizan	mizanur rahman	1234	what is your mother la...	bangla
subir	subir mukherzee	subir	what is your nickname?	subir
tarun	tarun chaandra das	tarun	what is your mother la...	bangla

2. New Book Table:

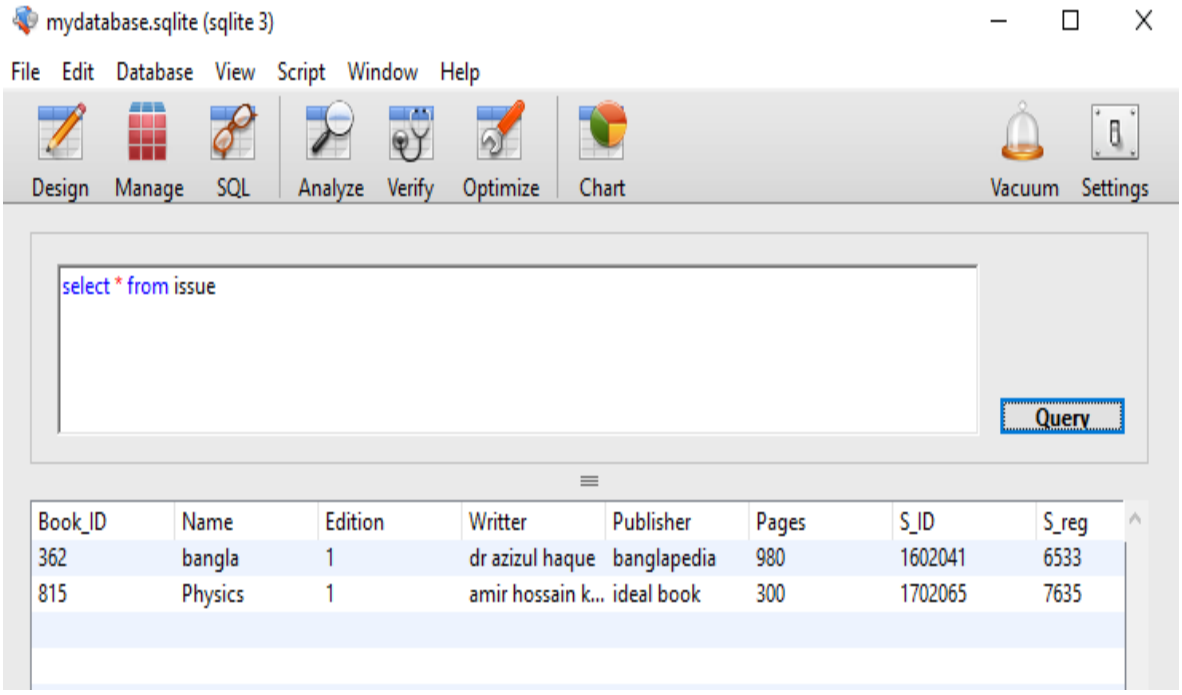


Book_ID	Name	Edition	Writter	Publisher	Pages
362	bangla	1	dr azizul haque	banglapedia	980
565	new college algebra	1	md abdur rahman	NBDP	550
714	ICT	1	mostafa jabbar	ictTech	290
815	Physics	1	amir hossain khan	ideal book	300

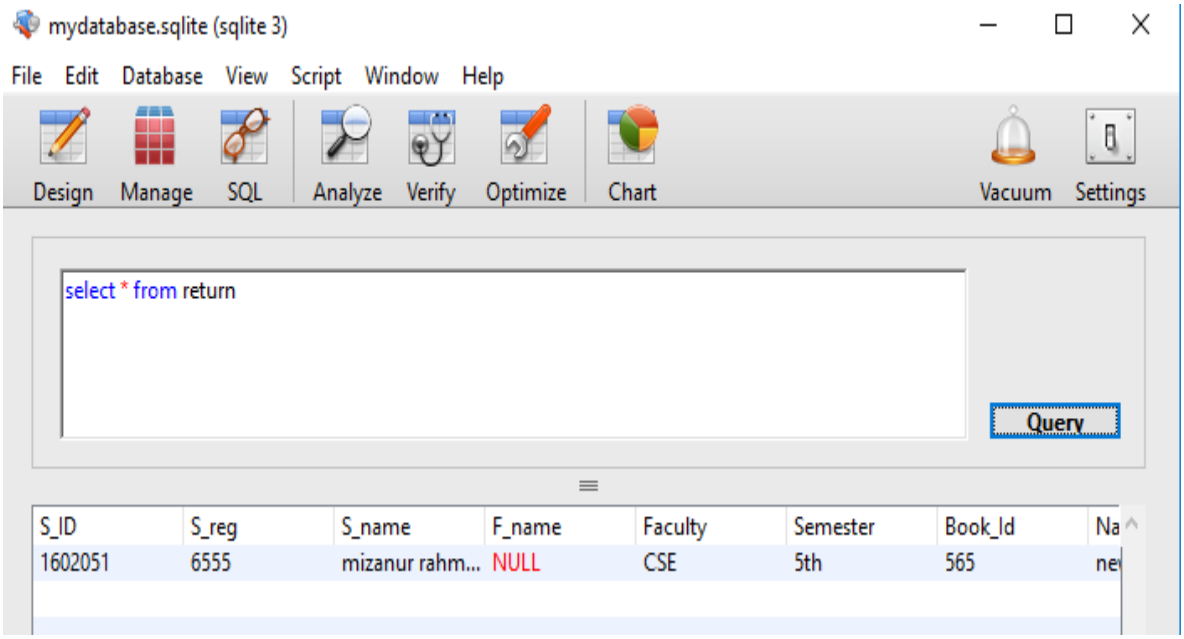
3. New Student Table:



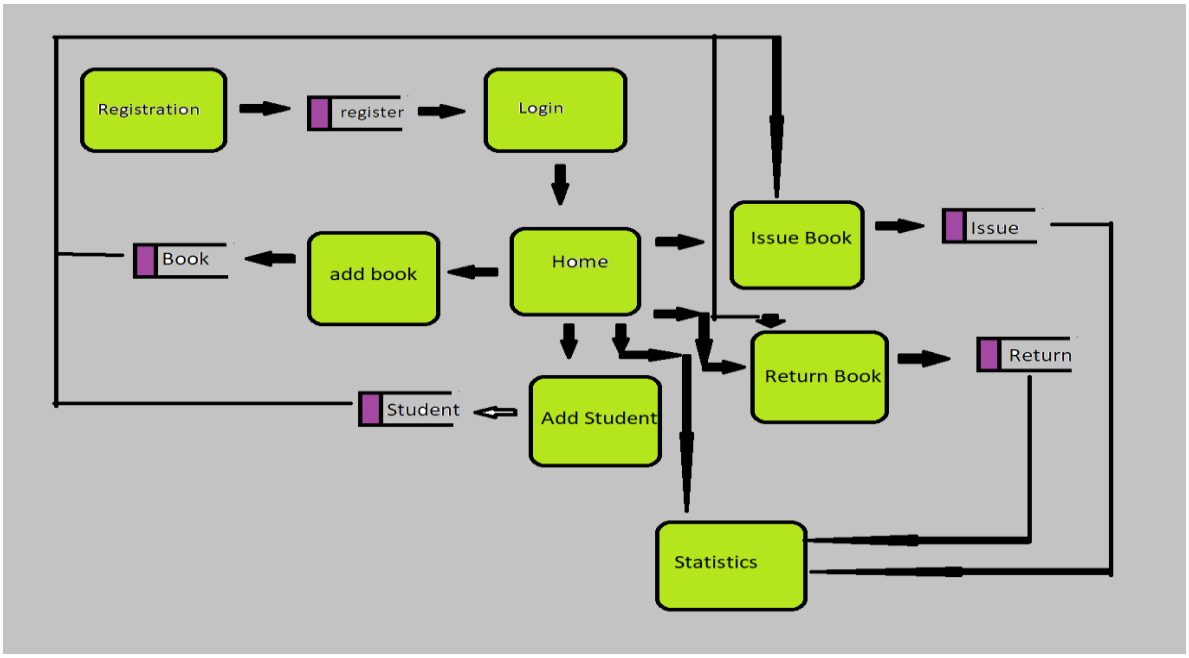
4. Issue Book Table



5. Return Book Table:



3.2 DATA FLOW DIAGRAM



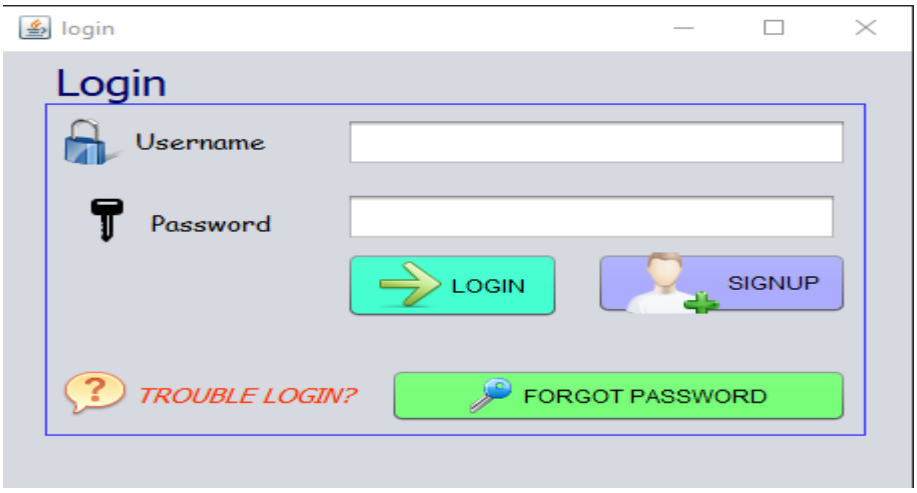
CHAPTER 4

SYSTEM IMPLEMENTATION

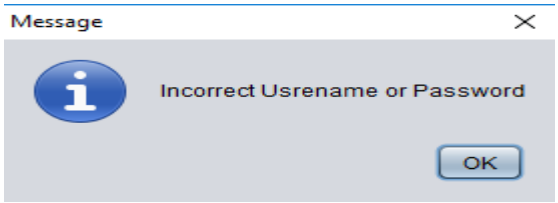
This chapter shows that how I implement the system with screenshots of each interfaces of my project.

4.1 SCREENSHOTS:

1. LOGIN PAGE:

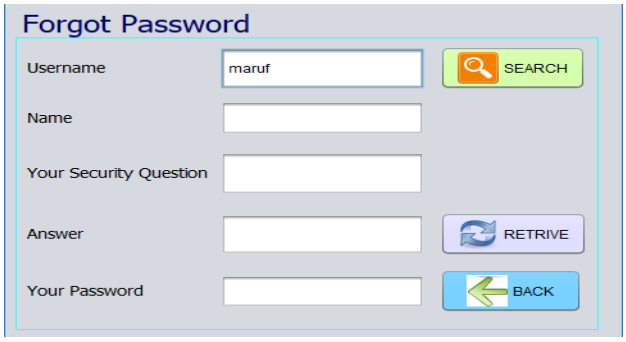


This is the first page appears when one opens the application. If he has the username and password, then he can login to the app, Or the app shows a message that the username or password is incorrect

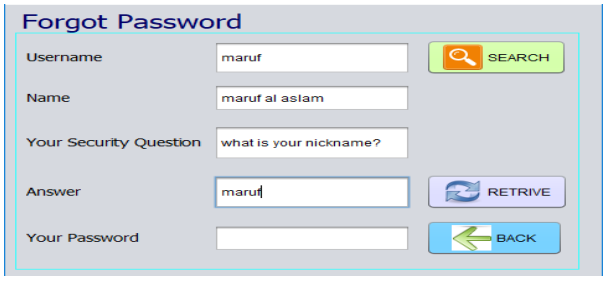


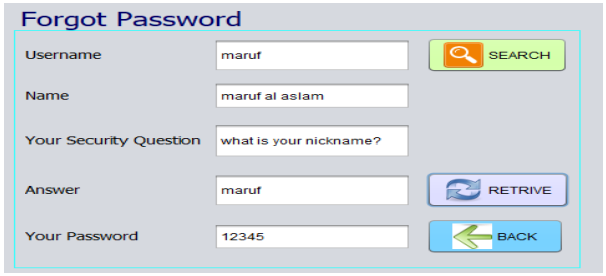
2. FORGOT PASSWORD PAGE:

When Someone forget his/her password, he/she can easily retrieve the password by forget password button from login page.



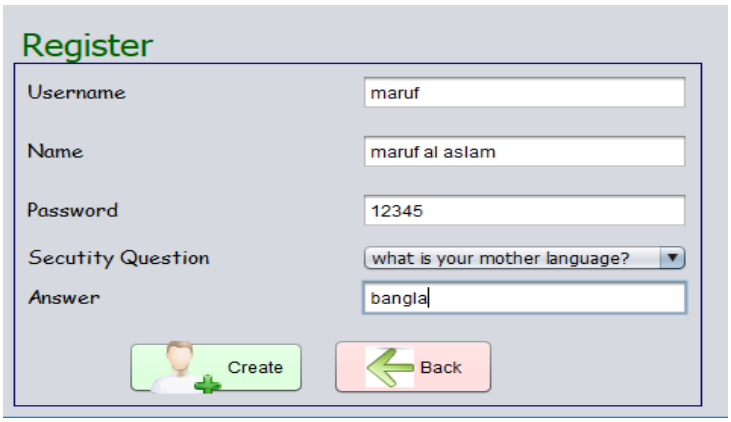
User can search their account by entering their username and when they click search button, they will see their name and a security question. when user enter the right answer, only then they can retrieve





3. REGISTRATION / SIGNUP PAGE:

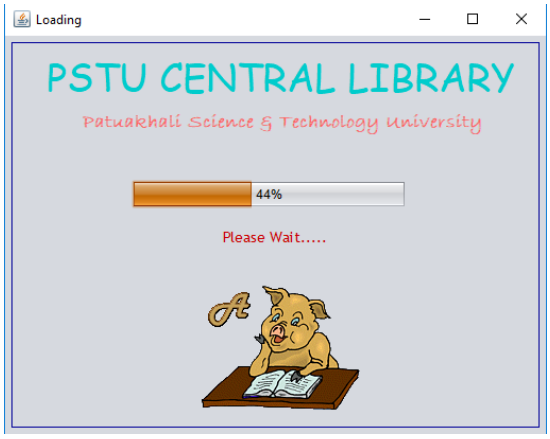
   One can create a new account for login into the application by clicking signup button.



When one opens an account, the data goes to account database which is shown in section 3.1.

4. LOADING PAGE:

After a successful login, A Loading screen appears.

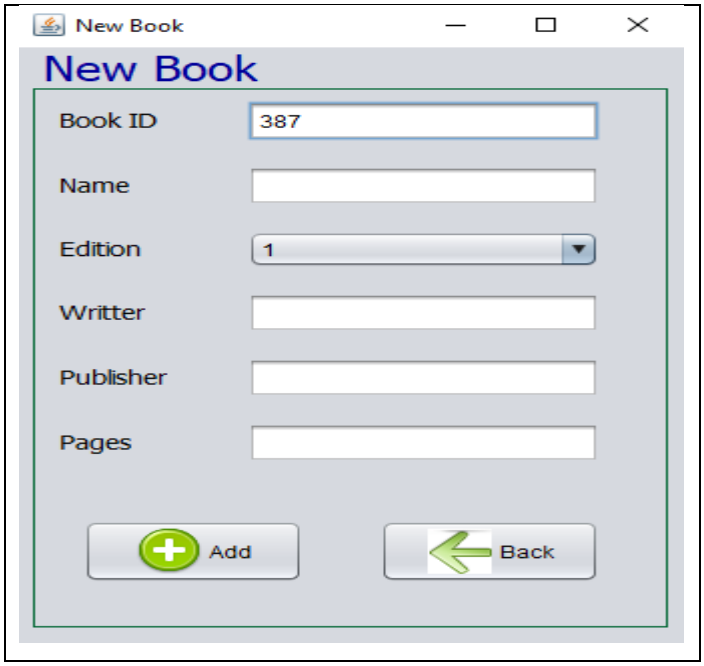


5. Main Page / Home page:

After loading screen, the main page appears where some operation and action buttons. It has a menu bar where 2 icons are shown. One is for settings and another is for about the app.

6. NEW BOOK PAGE:

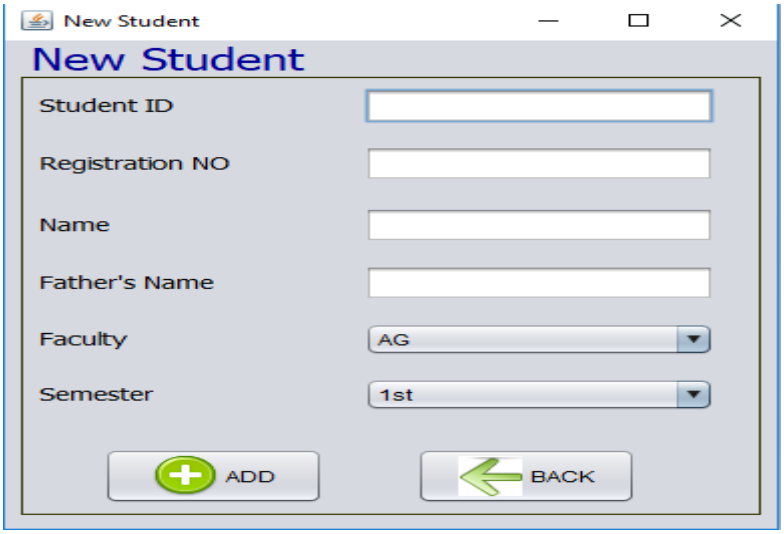
User can add a new book into the library using this system by clicking new book button.



When user click add, book added to the database. Database table is show in section 3.1.

7. NEW STUDENT PAGE:

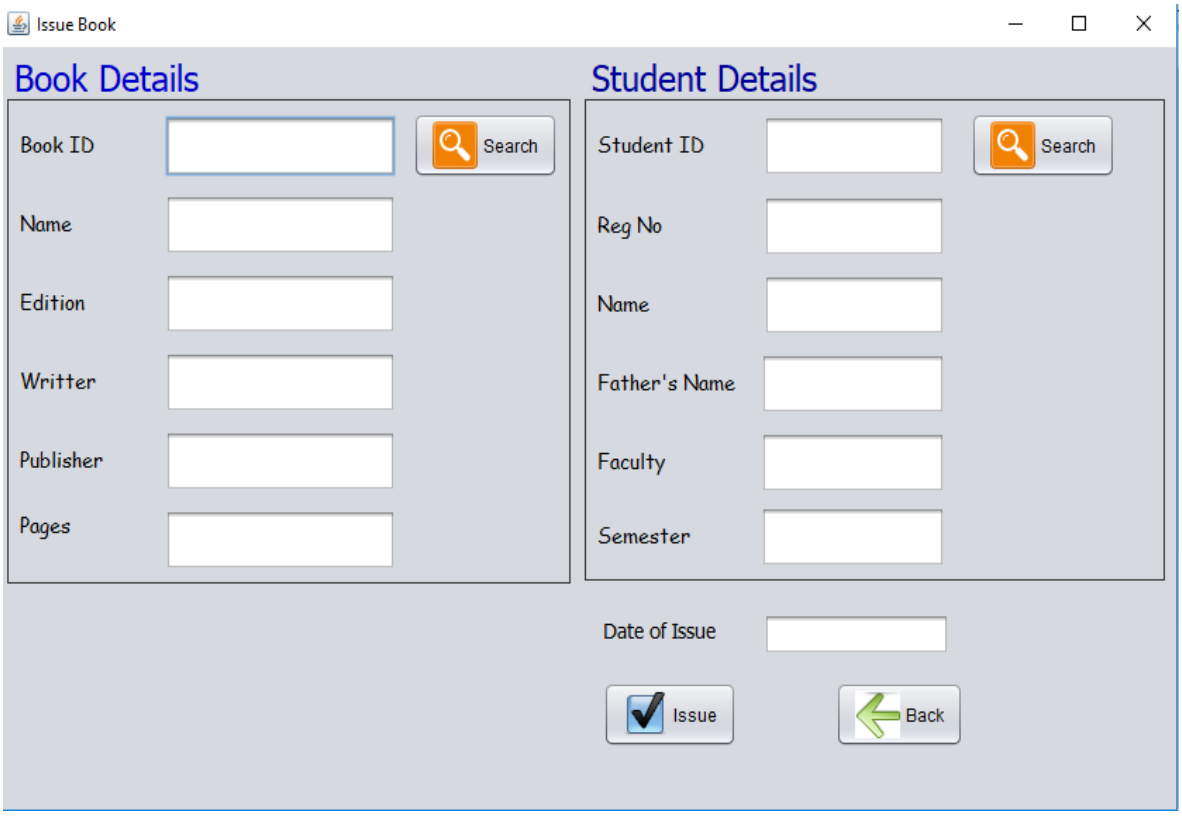
User can add a new student by clicking new student button.



Added student will add into student database which is shown in section 3.1.

8. ISSUE BOOK PAGE:

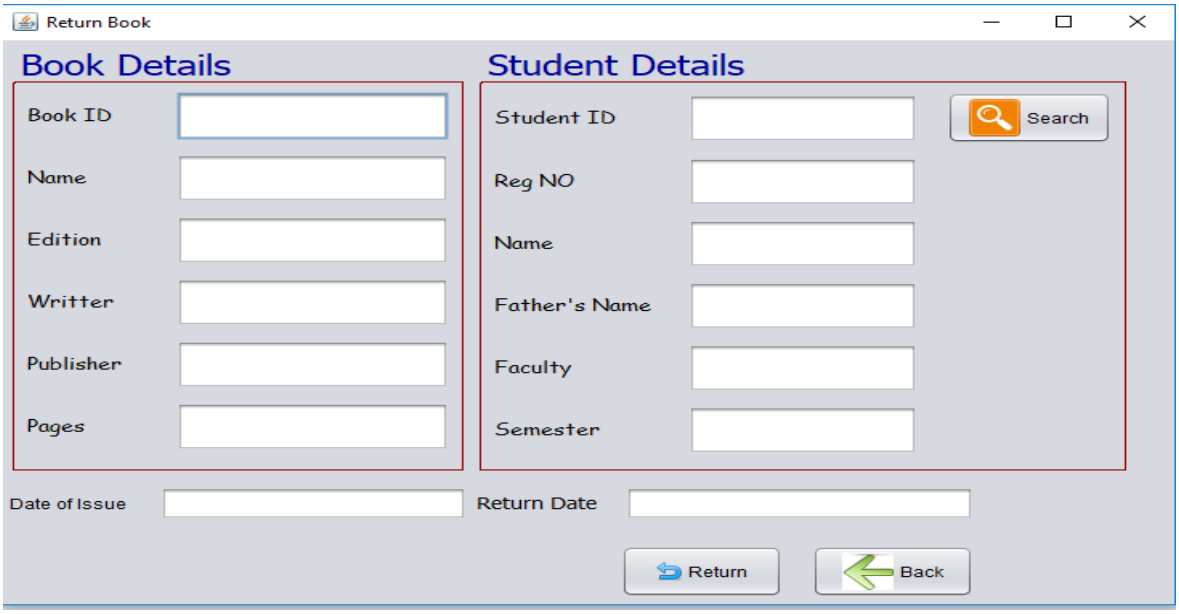
User can issue book from library by this application.



When issue button is clicked, data are get from book and student database and added into issue table. Issue table is shown in section 3.1.

9. RETURN BOOK PAGE:

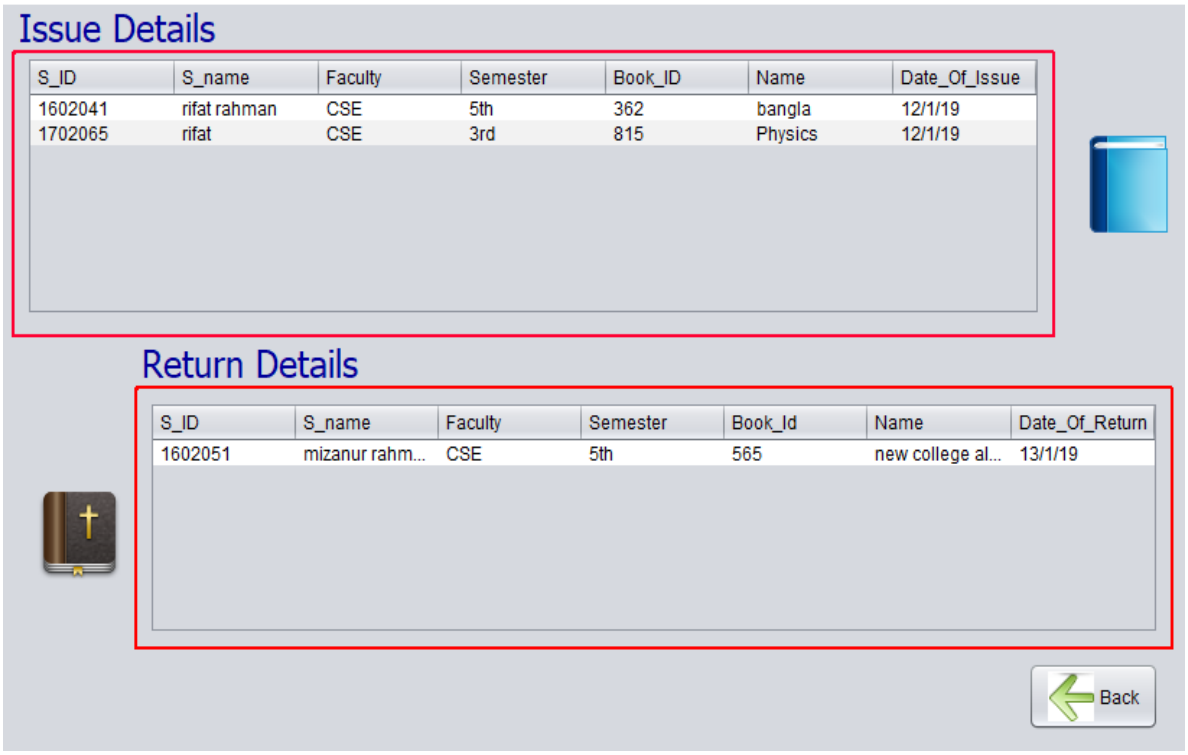
User who issued a book can also return the book by using the application system.



When user returned a book, the record for issue the book is deleted from the issue table and is moves to the return book database. return database table is shown in section 3.1.

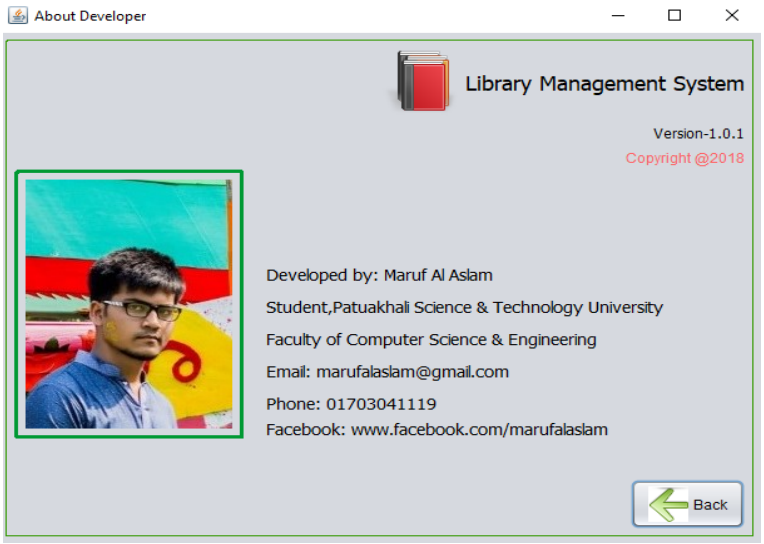
10. STATISTICS PAGE:

User can also see the statistics of issue books and return books. In this page, two tables hold the data for issue book and return book which are gets from issue and return database.



11. ABOUT PAGE:

In this page, user can see about developer.



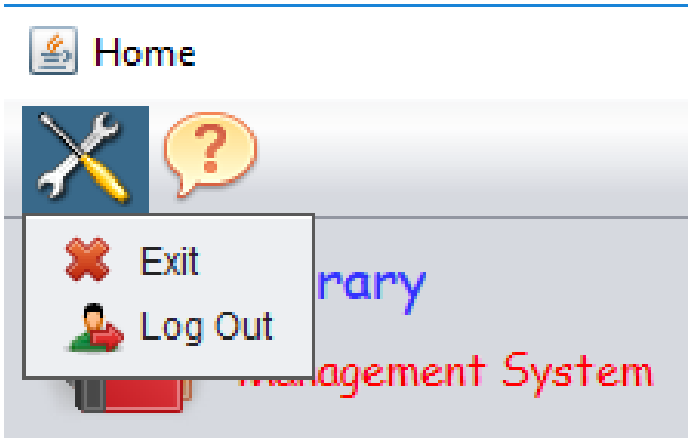
12. ANOTHER PAGES:

There are also 2 menu bar options in the left top corner of the home page.

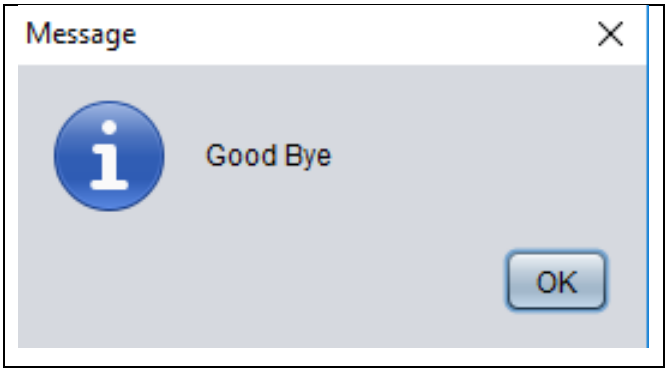
i. Settings

ii. About.

When settings button clicked, 2 dropdown menu popup from it.

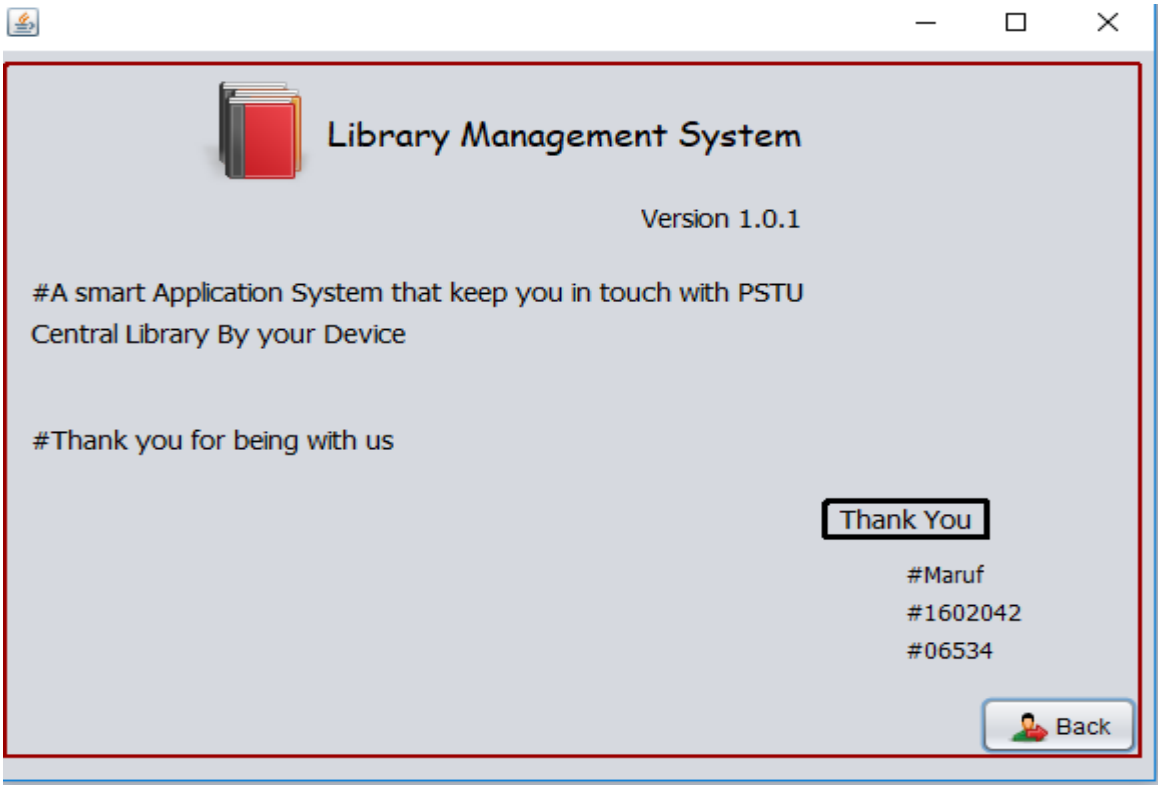


When exit is clicked, message box is shown with a message “GOOD BYE”



When user press logout, he will reach the login page.

Another menu button or about button will show about the application.



CHAPTER 5

CONCLUSION & FUTURE SCOPE

5.1 CONCLUSION:

This application provides a computerized version of library management system which will benefit the students as well as the staff of the library.

It makes entire process easier where student can issue books, staff can generate reports about issue and return books and do book transactions. It also has a facility for student login where student can login and can see status of books issued as well request for book. There is a future scope of this facility that many more features such as lectures or tutorials can be added by teachers as well as online assignments submission facility.

A facility of group chat where students can discuss various issues of engineering can be added to this project thus making it more interactive more user friendly and project which fulfills each users need in the best way possible.

5.2 FUTERE SCOPE:

1. Teacher login page can be added.
2. Teacher can directly communicate with the registered student through the system.
3. 2 or more book can be issued by a student at a time.
4. Punish for late return of a book can be added.
5. Messaging system can be added.