
Software Requirements Specification

for

Online Library System

Version 1.0

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09th January 2018

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Revision History

Name	Date	Reason For Changes	Version
	21/3/18		2.0

1. Introduction

1.1 Purpose

The purpose of Software Requirements Specification (SRS) document is to describe the external behavior of the Online Library System. Online Library System deals with all the requirements needed for managing libraries. The document gives detailed description of both functional and non-functional requirements. It will deal with the process of maintaining data about the books and many other things as well as transactions. The purpose of this project is to provide a friendly environment to maintain the details of books and library members. The main purpose of this project is to maintain easy circulation system using computers.

1.2 Document Conventions

The following are the list of conventions used in this document and the project as well:

- Administrator/Librarian: A login id representing a user with user administration privileges to the software
- User: A general login id assigned to most users
- Client: Intended users for the software
- User Interface Layer: The section of the assignment referring to what the user interacts with directly.
- Interface: Something used to communicate across different mediums.

1.3 Intended Audience and Reading Suggestions

The audience of this project are students and administrator, students can read and upload the available e-books.

- Any education institute can make use of it for providing information about author, content of the available books.
- Students with an internet access can read books online.
- Readers can also help others by uploading books available with them.

1.4 Product Scope

This project is intended for providing easy and efficient circulation of reading materials.

- The product provides the members with online blocking of book capabilities.
- The system provides sign up facility to the user.

- The system provides members with option to check their account profile.
- The system allows the Librarian to create the books catalog, add/delete books and maintain the books catalog.

1.5 References

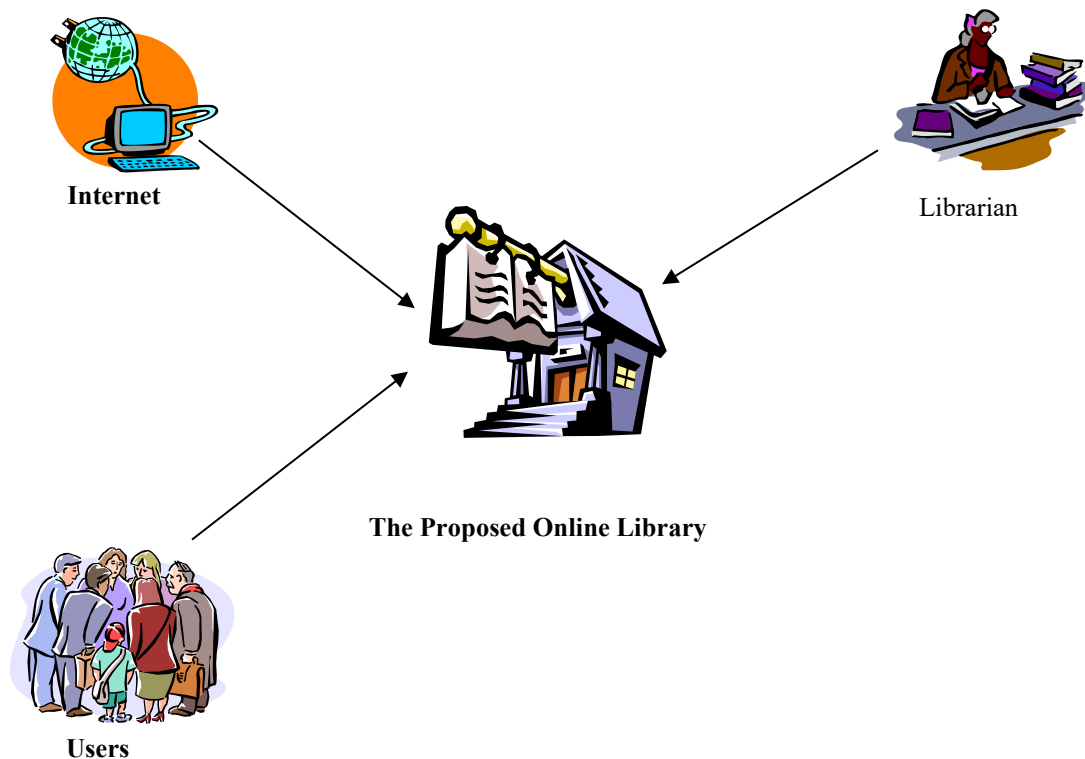
- https://web.cs.dal.ca/~hawkey/3130/srs_template-ieee.doc
- Wikipedia.com
- IEEE 830-1998 standard for writing SRS document

2. Overall Description

2.1 Product Perspective

The Online Library System is a package to be used by Libraries to improve the efficiency of Librarians and Users. The system provides books catalog and information to members and helps them decide on the books to borrow from the library. The Librarian can keep the books catalog updated all the time so that the members (students and the professors) get the updated information all the time.

The complete overview of the system is as shown in the overview diagram below:



Overview of the proposed system

The product to be developed has interactions with the users: Librarian, Members.

2.2 Product Functions

The Online Library System provides online real-time information about the books available in the Library and the user information. The functions of the system include the system providing different type of services based on the type of users [Member/Librarian].

- ✓ The member should be provided with the updated information about the books catalog.
- ✓ The librarian is provided with interfaces to add/delete the books available in the book catalog.
- ✓ The librarian can get the information about the members who have borrowed or returned the books.
- ✓ This project deals with library management with all requirements needed as given below:
 - Book issue
 - Return
 - Renewal
 - Fine
- ✓ The unique functions of this project are as follow:
 - It has online read section.
 - Reader can upload as well as read books online.
 - Readers can download e-books.

2.3 User Classes and Characteristics

There are various kinds of users for the product. Usually web products are visited by various users for distinct reasons. The users include:

- Students who will be using the above features by accessing the Library online.
- Librarian who will be acting as the controller and he will have all the privileges of an administrator.

2.4 Operating Environment

The product will be operating in windows environment. Also, it will be compatible with the IE 6.0. Most of the features will be compatible with the Mozilla Firefox & Opera 7.0 or higher version. The only requirement to use this online product would be the internet connection.

2.5 Design and Implementation Constraints

- The information of all users, books and libraries must be stored in a database that is accessible by the website.
- Xampp SQL Server will be used as SQL engine and database.
- The Online Library System is running 24 hours a day.
- Users may access this system from any computer that has Internet browsing capabilities and an Internet connection.
- Users must have their correct usernames and passwords to enter their online accounts and do actions.

2.6 User Documentation

The product will include user manual. The user manual will include product overview, complete configuration of the used software (such as SQL server), technical details, backup procedure and contact information which will include email address. There will be no online help for the product at this moment. The product will be compatible with the Internet Explorer 6.0 or higher. The databases will be created in the Xampp SQL server.

2.7 Assumptions and Dependencies

The assumptions made during operation of this product are:

- User has good internet connection.
- Web browser being used has required bootstrap and JavaScript compatibility.

3. External Interface Requirements

3.1 User Interfaces

The software provides good graphical interface for the user any administrator operates on the system, performing the required task such as create, update, viewing the details of the book.

- Allows user to view quick reports like book issues or returned etc.
- Maintains profile of users.
- The librarian is provided option to update the data of books.
- UI has basic options like log in, sign up.
- UI provides option to connect with the developer team through feedbacks.

3.2 Hardware Interfaces

- Operating system: window
- Hard disk: 40 GB
- Ram: 256 MB
- Processor: intel core i5

3.3 Software Interfaces

- Database: MySQL
- Frameworks: Bootstrap JavaScript, materialize CSS.
- Language/markups: HTML, PHP.
- Web browser: IE, chrome, Firefox or any other web browser with jQuery enabled.

3.4 Communications Interfaces

For communication, it is required to have:

- good internet connection and
- web browser with JavaScript enabled.
- Web browser with bootstrap compatibility.

4. System Features

4.1 Database – Storage

4.1.1. Description and Priority

Proposed Database is intended to store, retrieve, update, and manipulate information related to university which include

- Books availability
- Student details
- My Account
- Calculation of fines

4.1.2 Stimulus/Response Sequences

Responses for Administrator:

The administrator can Login and Logout. When the Administrator Logs into the Library system. The system will check for validity of login. If the Login and passwords are valid, the response to this action is the administrator will be able to modify, view, add, deleting and all other functions that can be performed on the database.

4.1.3 Functional Requirements

This section gives the list of Functional and non-functional requirements which are applicable to the Library Management System.

4.1.3.1 Interface Requirements

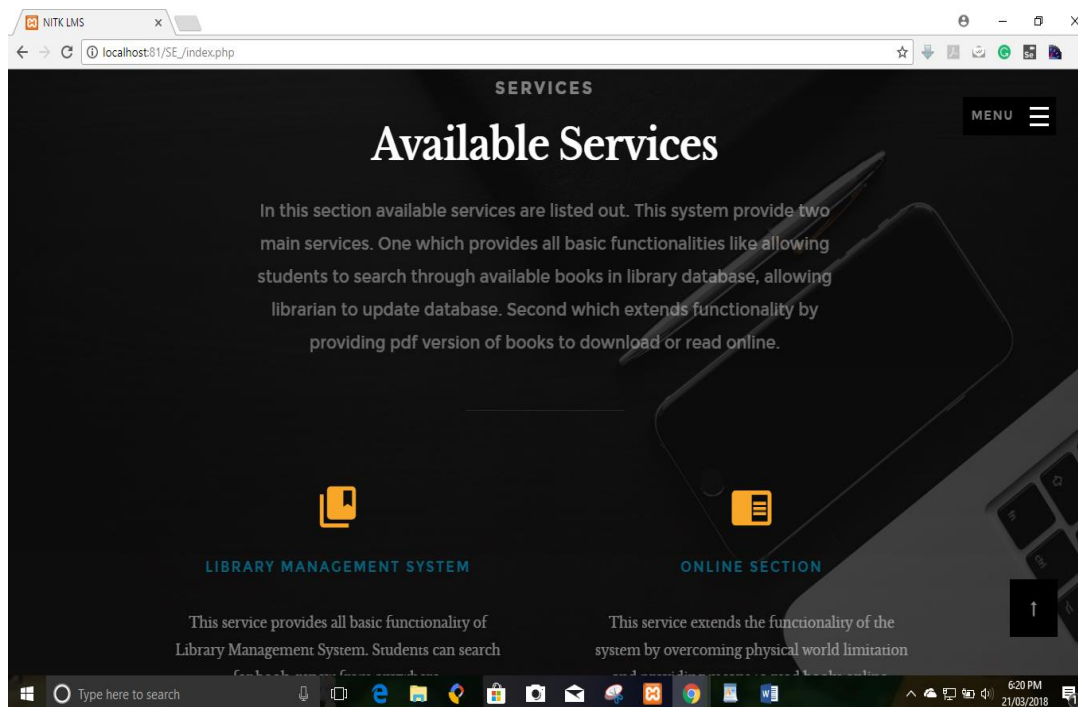
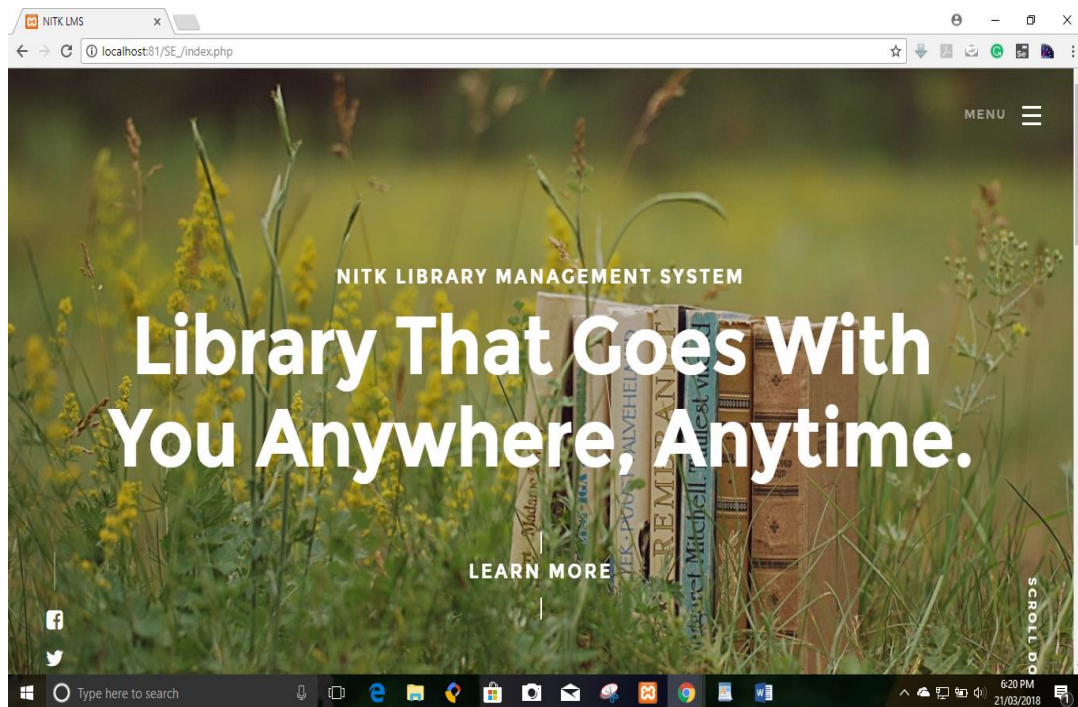
This section describes how the software interfaces with other software products or users for input or output.

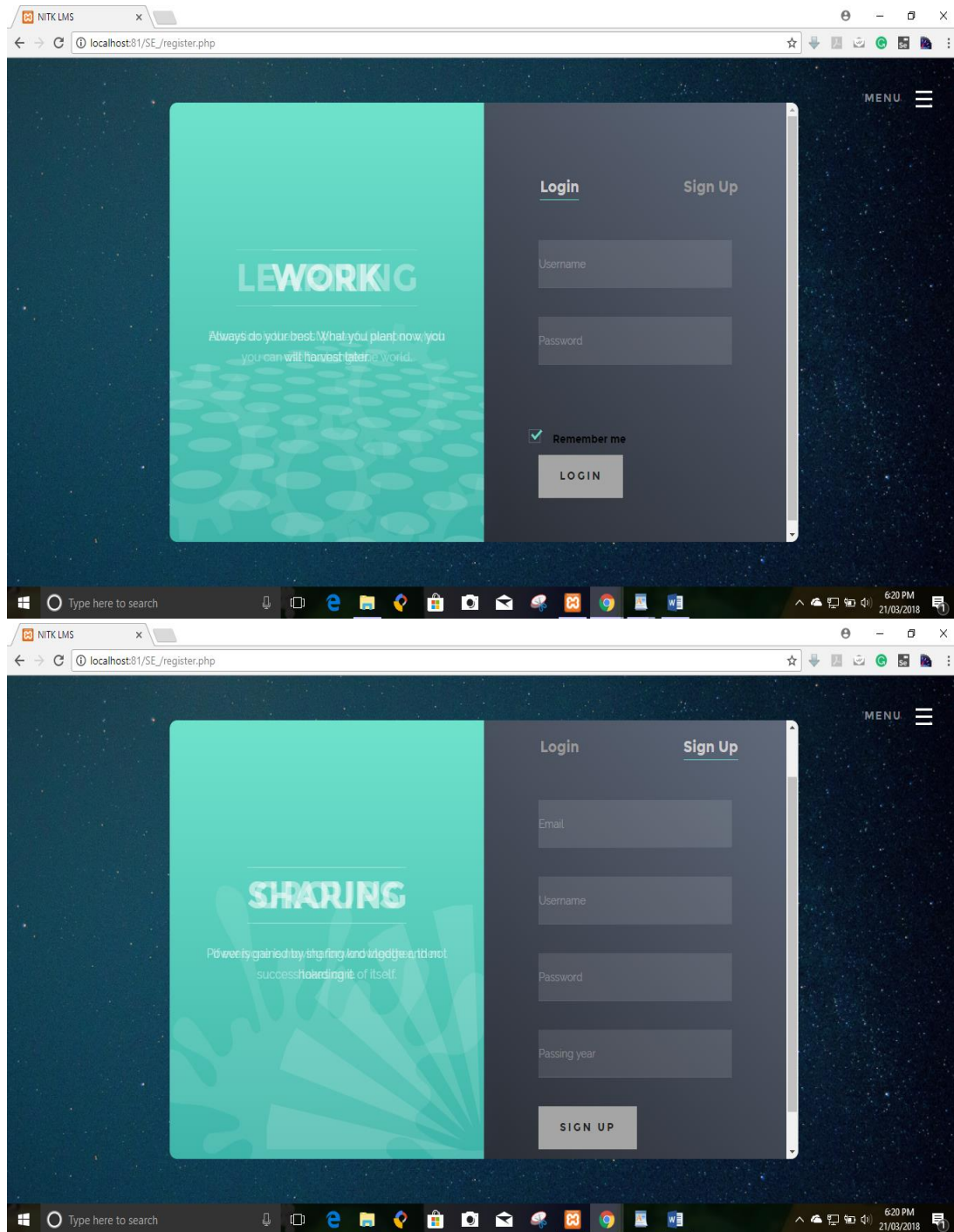
4.1.3.2 User Interfaces

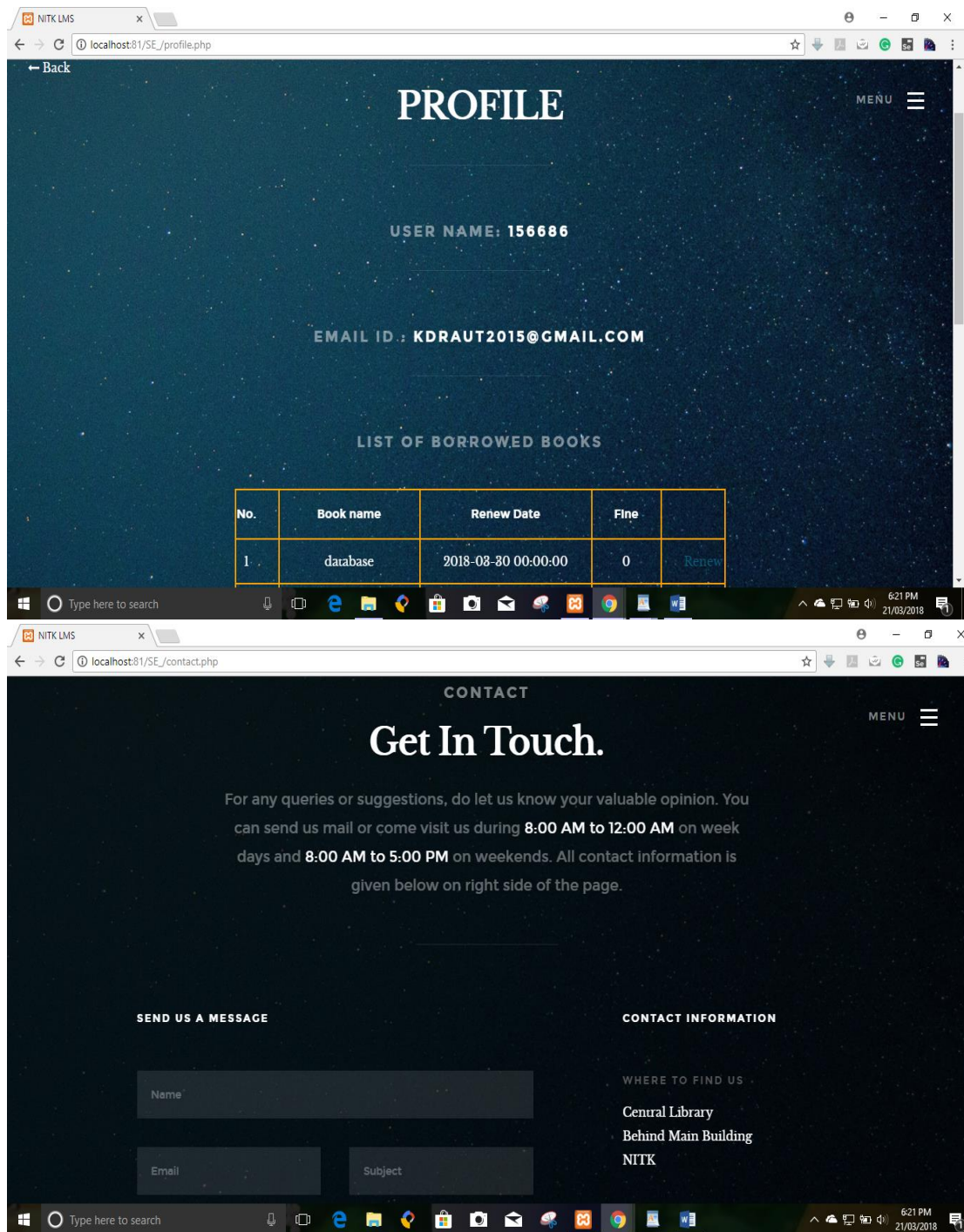
Describes how this product interfaces with the user.

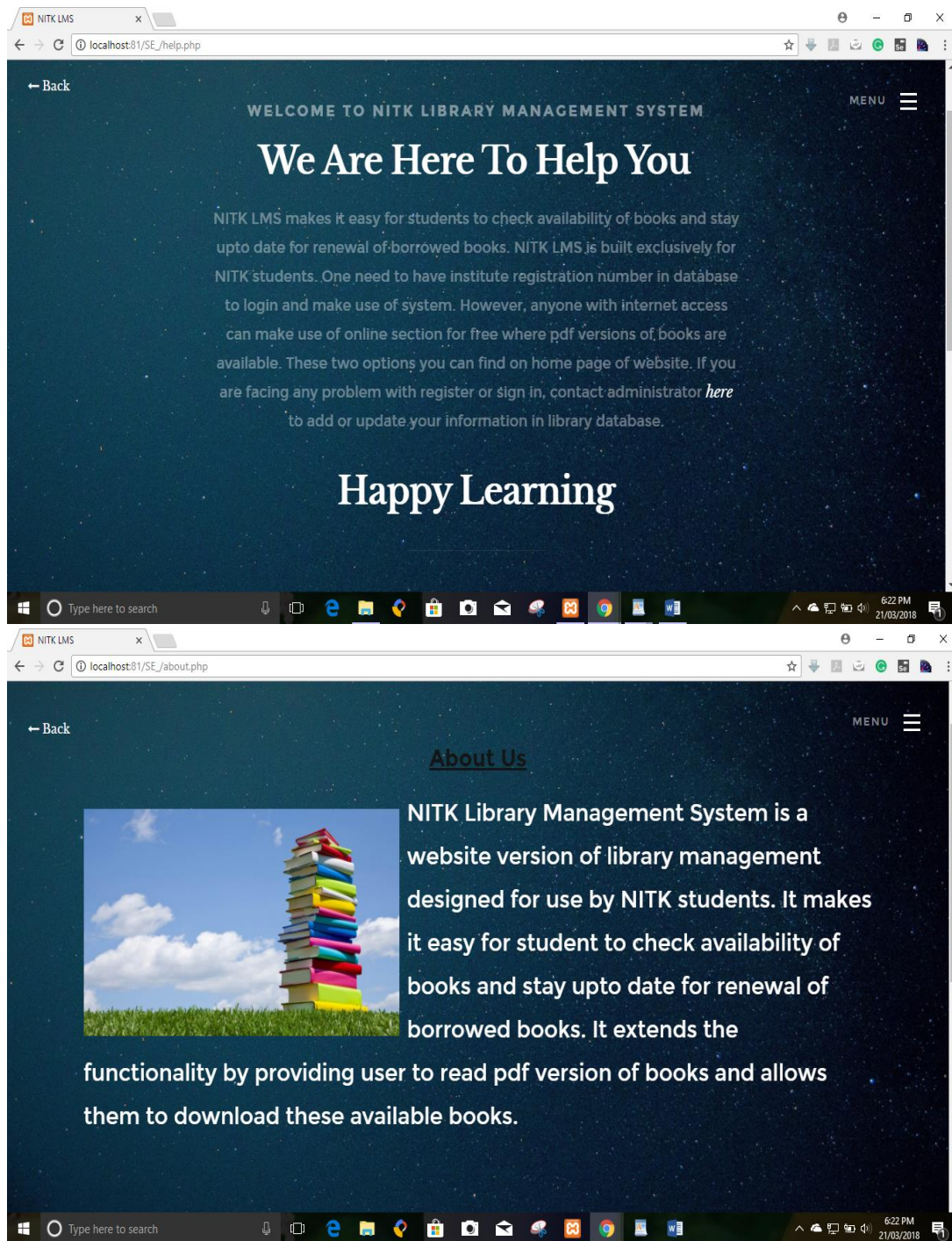
GUI

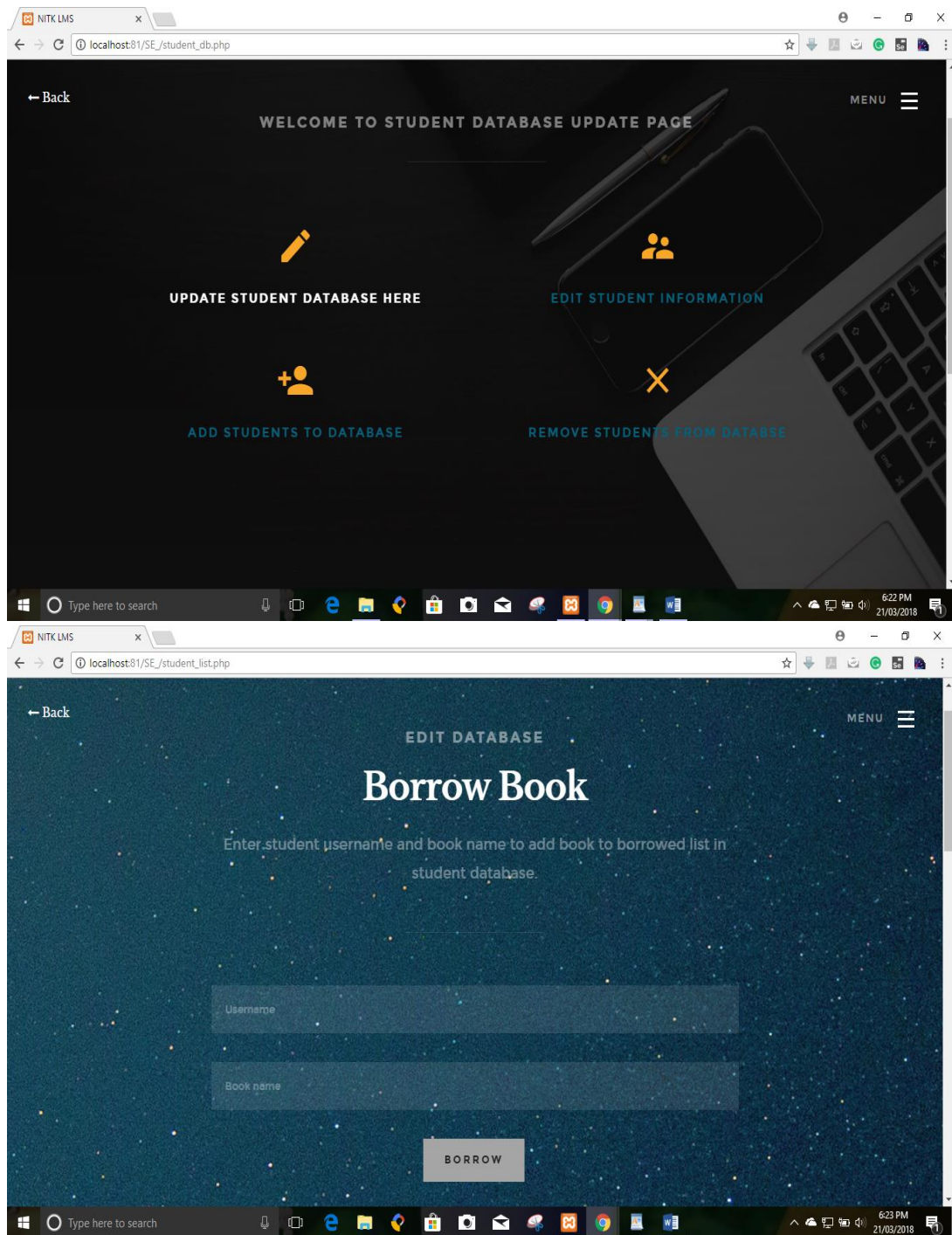
Describes the graphical user interface if present. This section should include a set of screen dumps or mockups to illustrate user interface features.

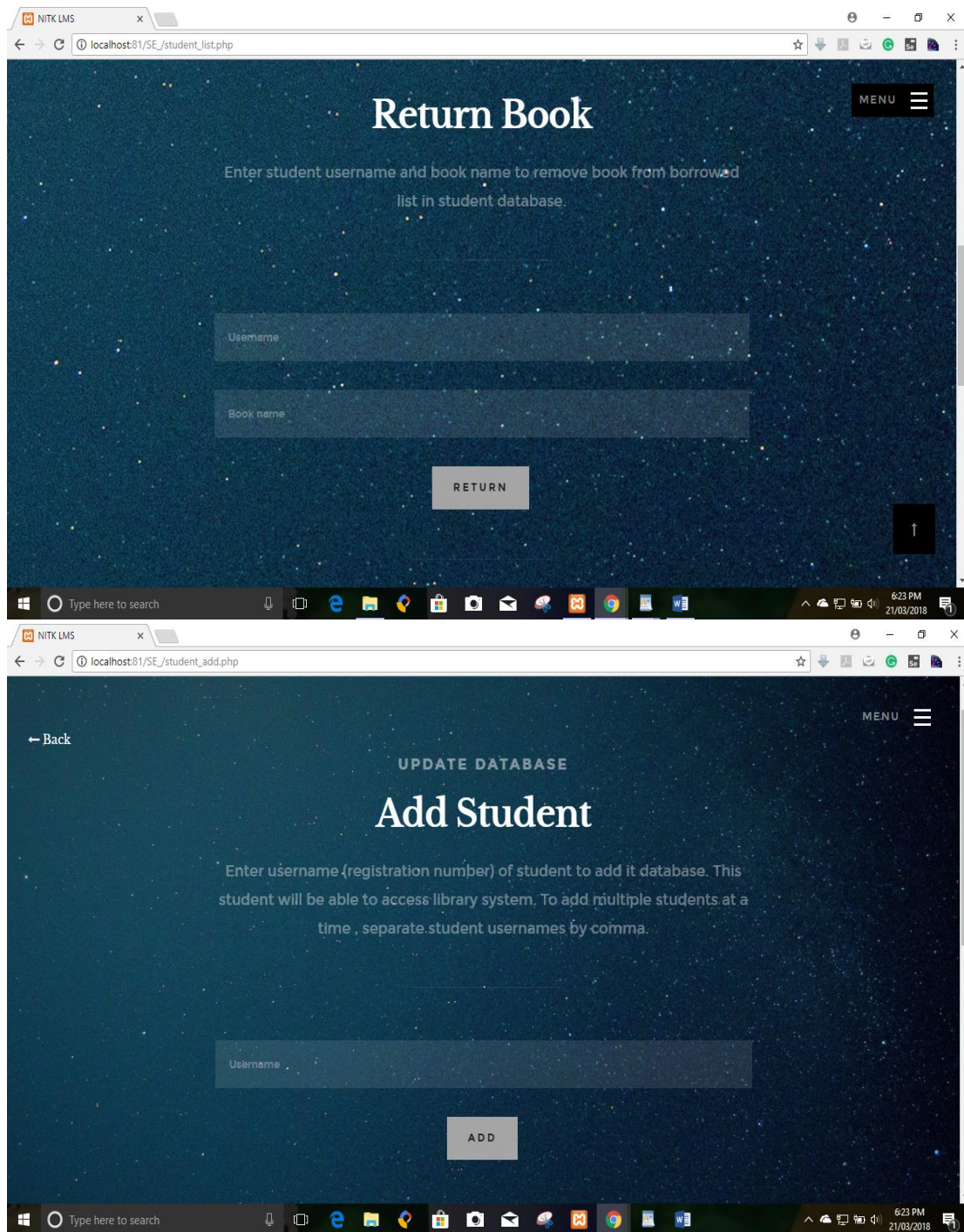


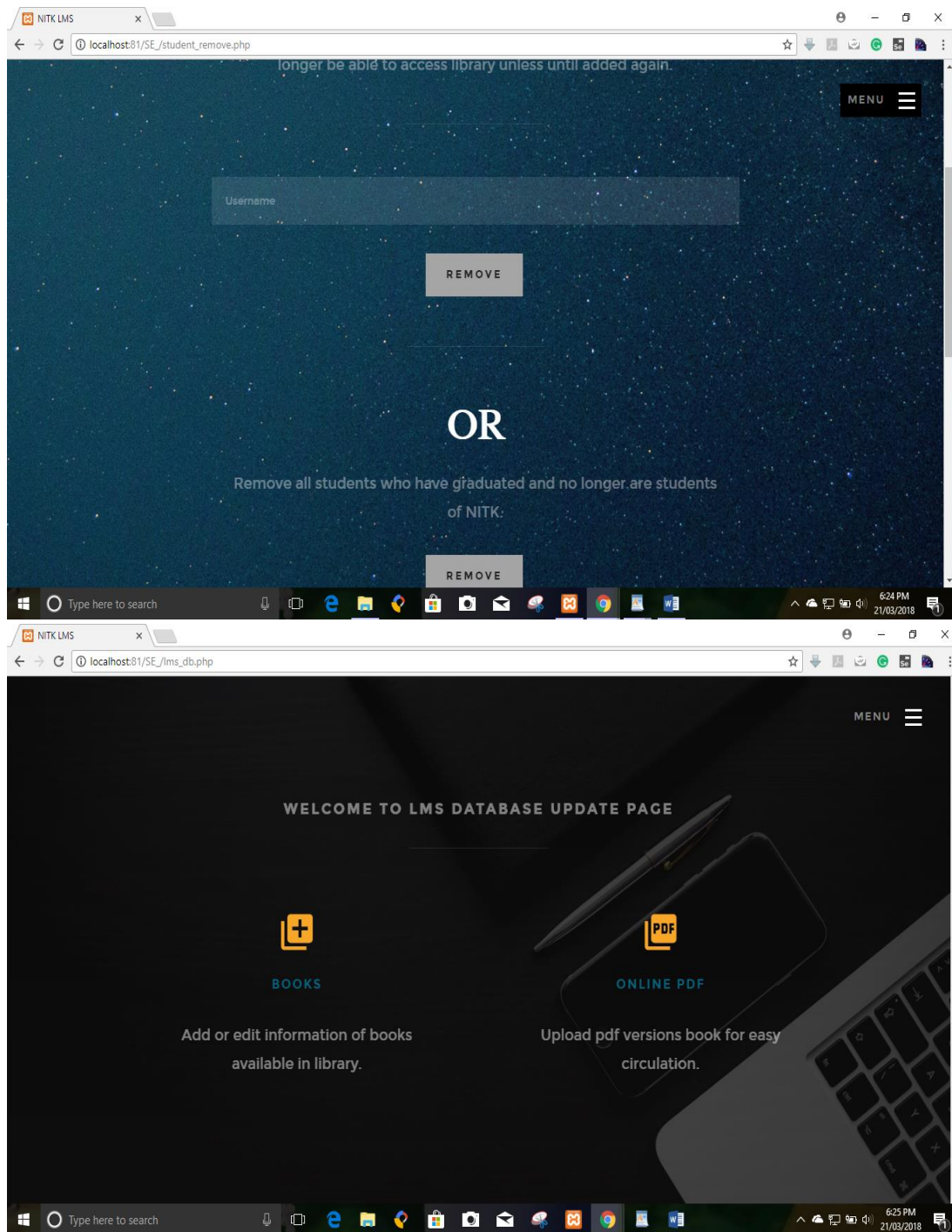


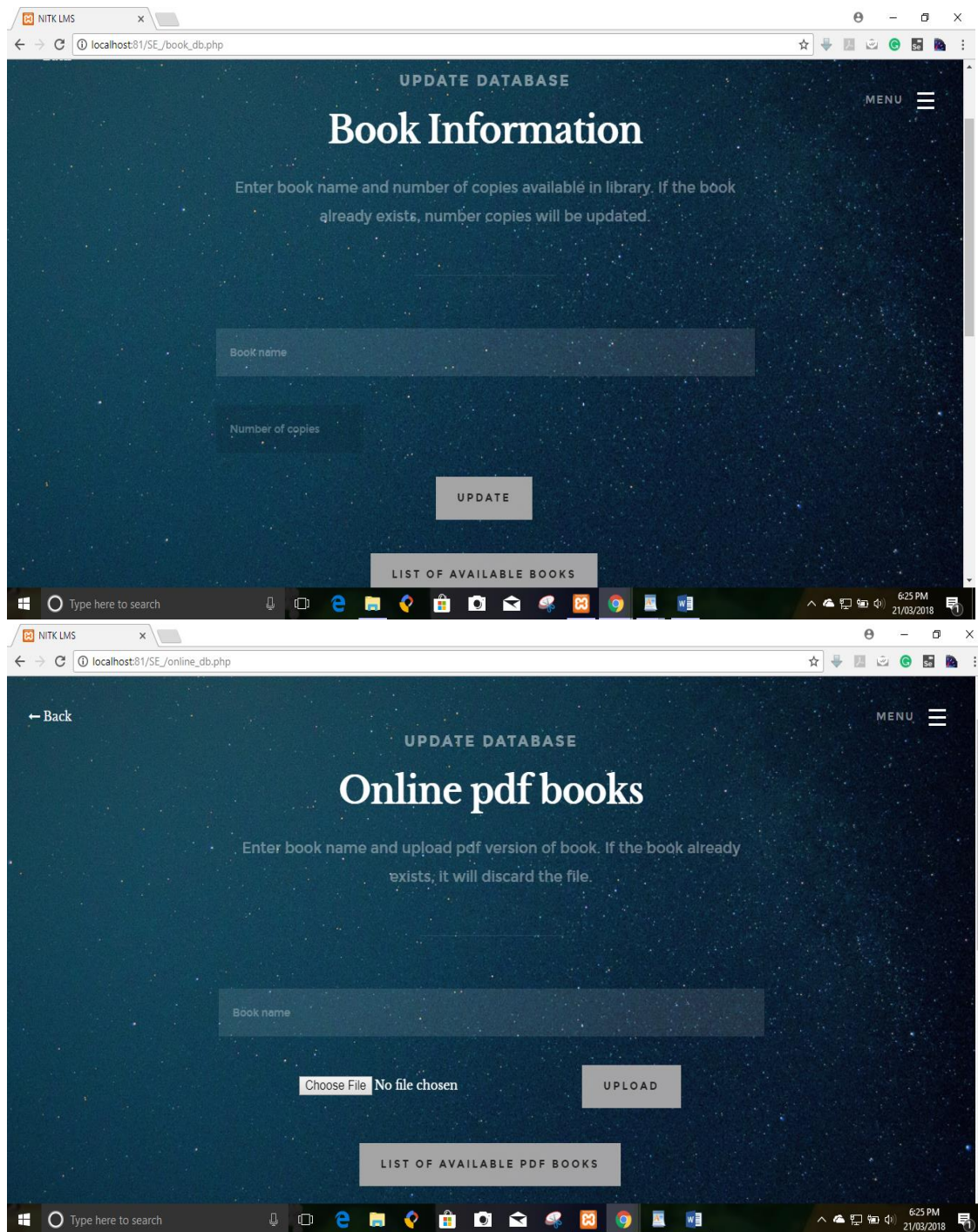


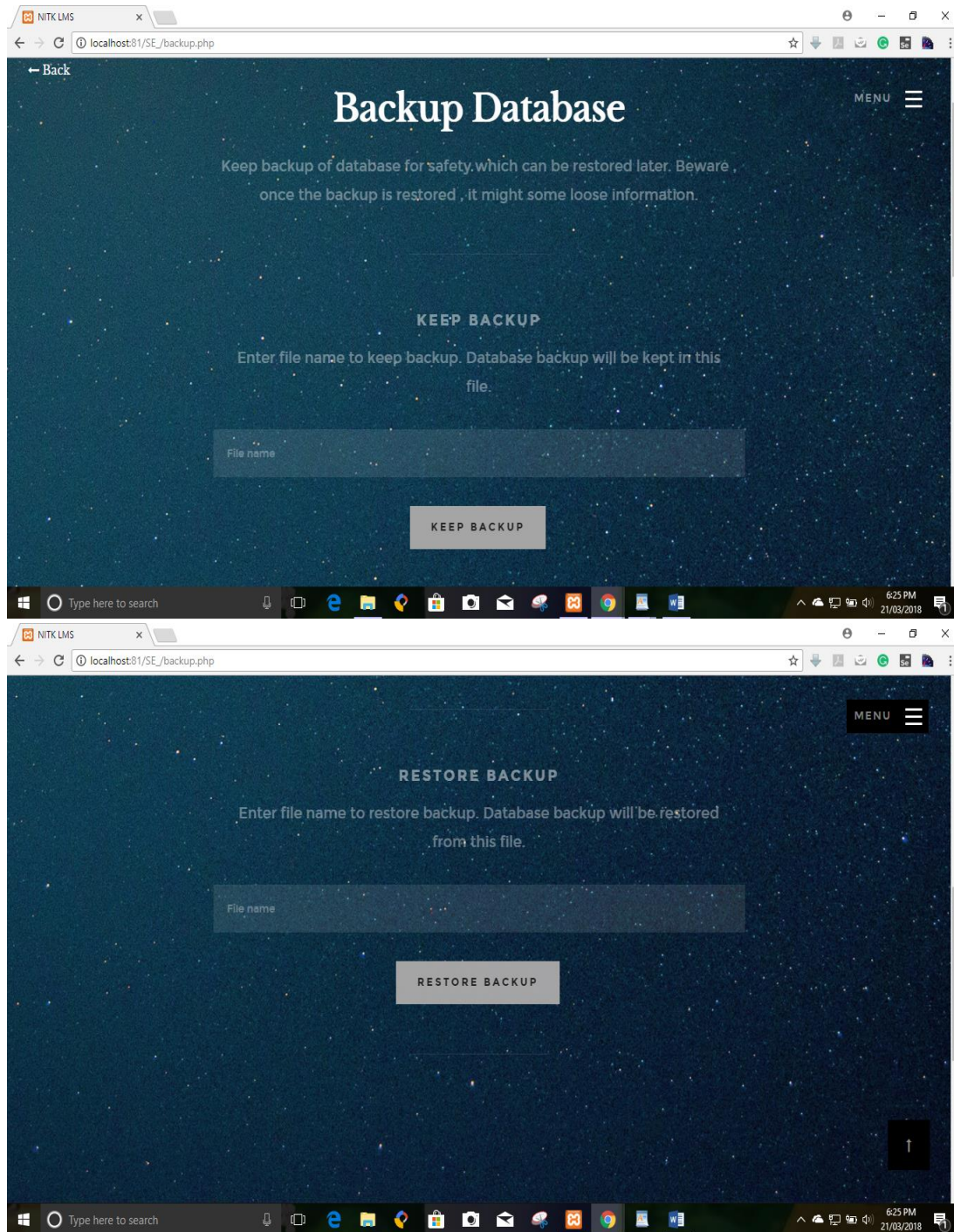












1. Description

The user interface must be customizable by the administrator

2. Criticality

This issue is essential to the overall system. All the modules provided with the software must fit into this graphical user interface and accomplish to the standard defined.

3. Technical issues

To satisfy this requirement, the design should be simple, and all the different interfaces should follow a standard template. There will be the possibility of changing colors and images, plus switching between interfaces with the minimum impact for the users.

4. Risks

To reduce the circumstances under which this requirement might not be satisfied, all the designers must have been developed web sites previously and they must be aware of html restriction and cross browsers implementations before starting the designing. To reduce the probability of this occurrence the entire design team will be trained in basic html development and macromedia fireworks, this tool will be used instead of Photoshop.

5. Dependencies with other requirements

All user interfaces should be able to interact with the user management module and a part of the interface must be dedicated to the login/logout module.

5. Other Nonfunctional Requirements

5.1 Performance Requirements

The proposed system that we are going to develop will be used as the Chief performance system within the different campuses of the university which interact with the university staff and students. Therefore, it is expected that the database would perform functionally all the requirements that are specified by the university.

5.2 Safety Requirements

There are chances of system crash, database manipulation by attackers in this system. As a safety measurement, the administrator(librarian) is provided with option to keep backup of the database.

5.3 Security Requirements

To have a secure product is very important. The system is only accessible by the students of institute. Hence, students with valid institute ID can register and make use of the system. The record of all students of institute is kept in database and whenever first-time registration takes place, the credentials are verified with the database record. The database keeps updating as new students enter institute and graduate students leave institute.

5.4 Software Quality Attributes

- Availability
The system is available 100% for the user and is used 24 hrs a day and 365 days a year. The system shall be operational 24 hours a day and 7 days a week.
- Portability
The system can be accessed by anyone with good internet connection.
- Usability
The system is very easy to use. It is provided with required instructions. The system is user friendly which makes the system easy.

5.5 Business Rules

Following rules need to be followed to make proper use of this system:

- To borrow a book from library, user needs to log in first.

- In library section, only librarian can update the available data.
- In online read section, anyone can upload books to share online which can be read online or downloaded.
- The due, if any, must be paid beforehand while returning the books online.
- This system provides user with block the book facility where reader can block the book for next 24 hours.

6. Other Requirements

It is required that student must have an institute ID in library database to make use of system. If not, must contact the administrator regarding it.

Appendix A: Glossary

The following are the list of acronyms used in this document and the project as well:

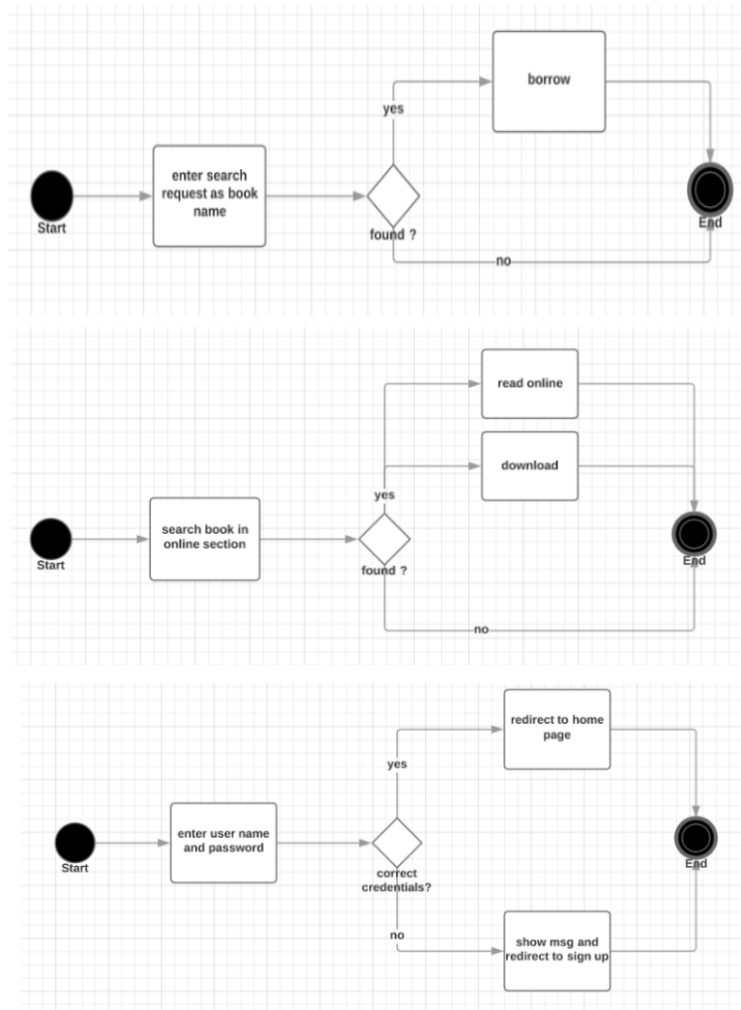
- SQL: Structured Query Language; used to retrieve information from a database
- SQL Server: A server used to store data in an organized format
- CSS: Cascading Style Sheet used to style the elements.
- HTML: Hyper Text Markup Language, used to design basic web pages.

Appendix B: Analysis Models

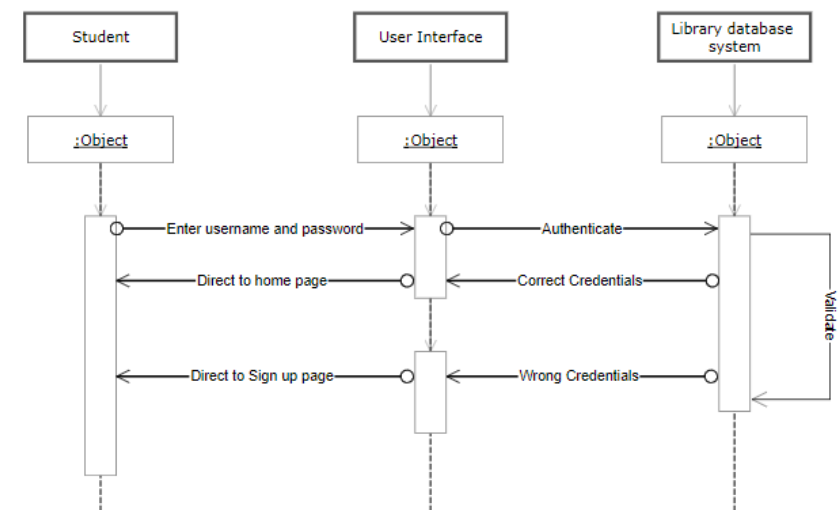
1. Use case diagram

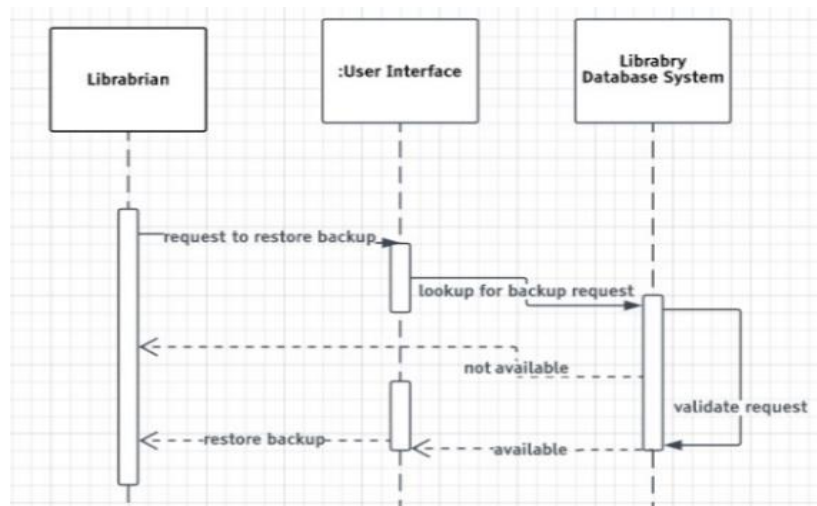
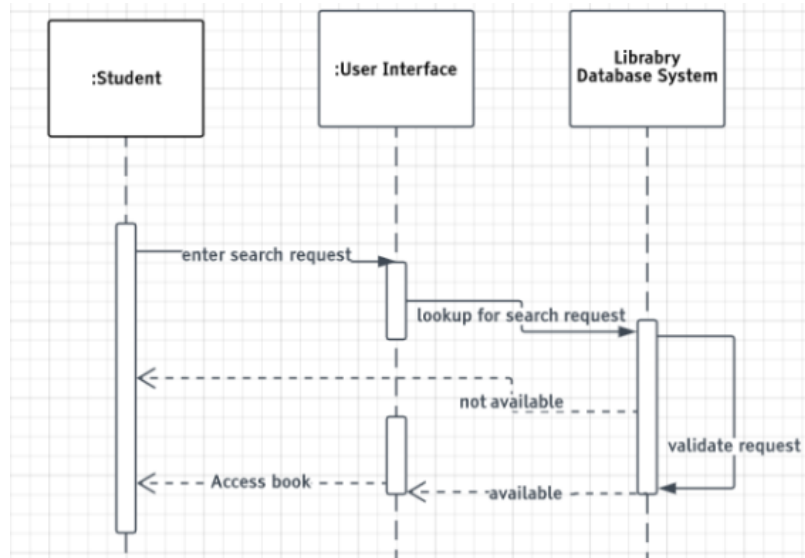
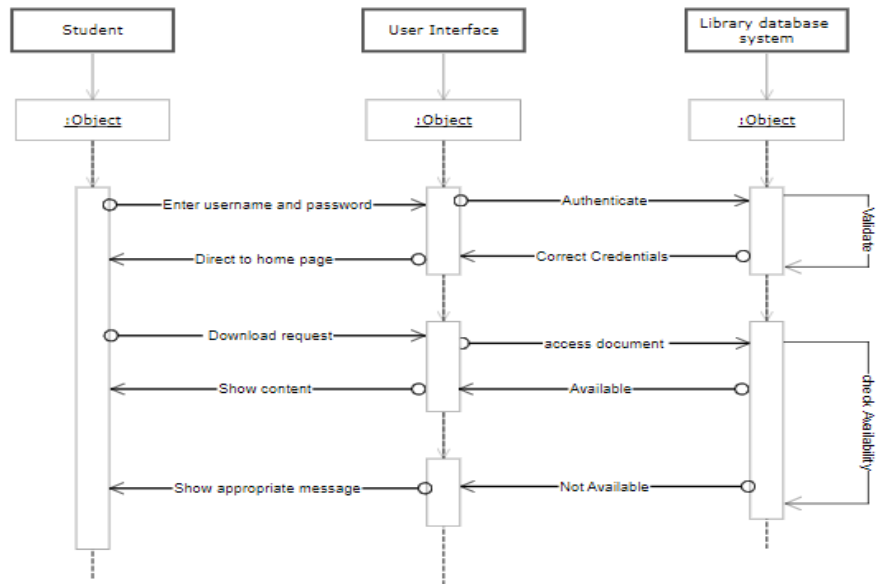


2. Activity diagrams

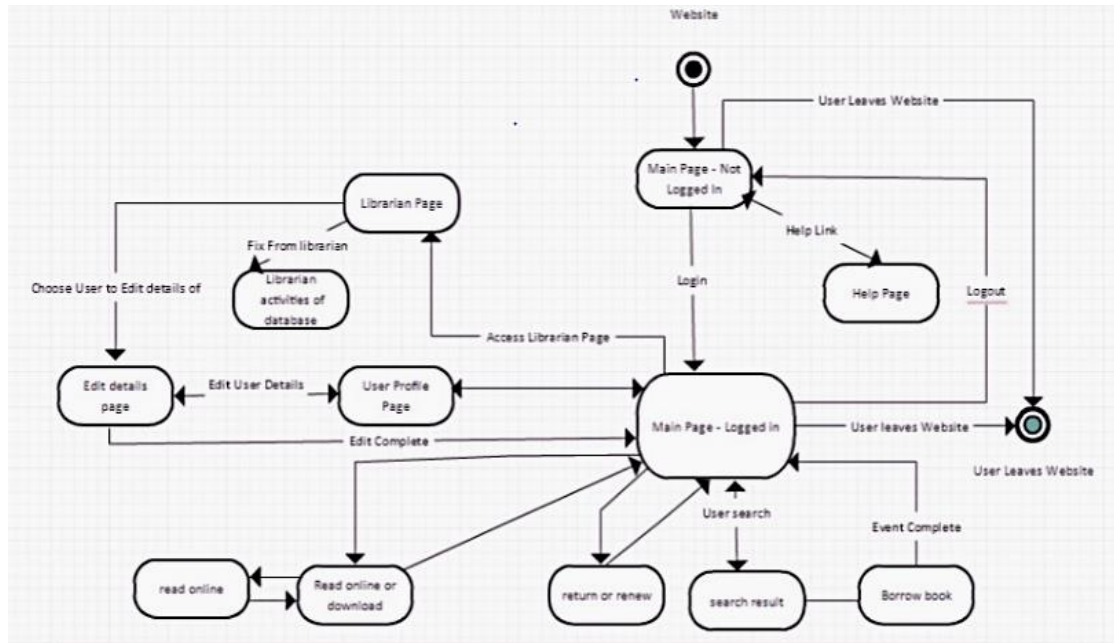


3. Sequence diagrams

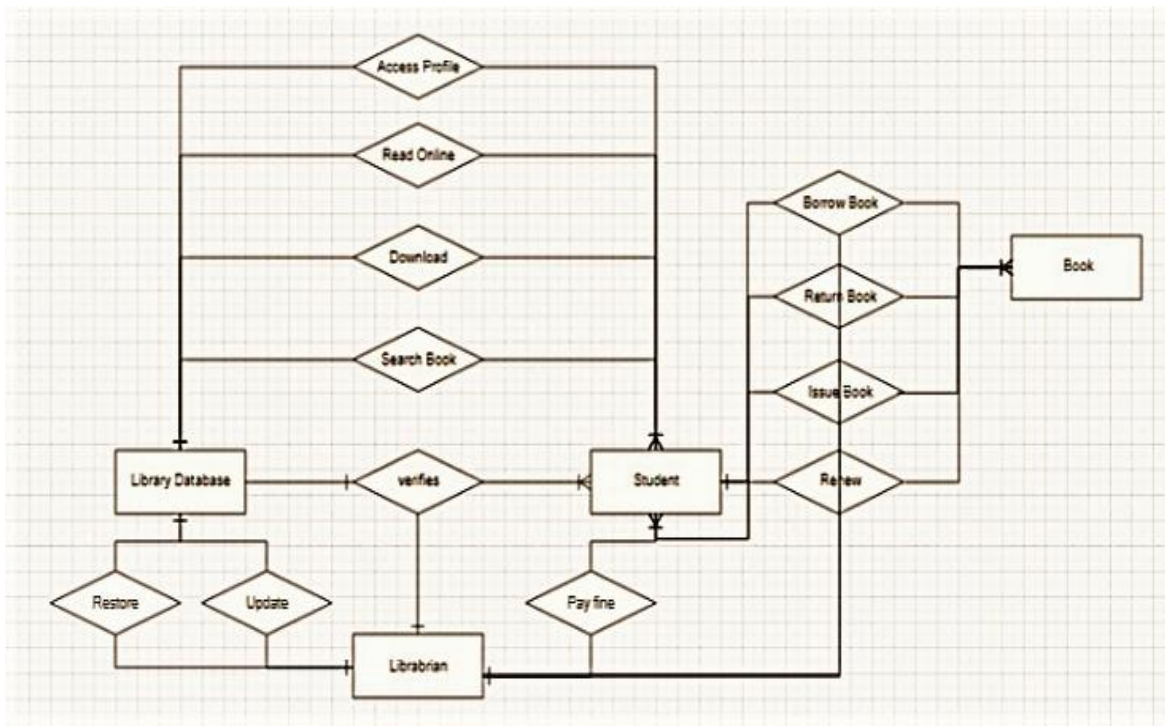




4. Navigation



5. ER diagram



6. Swim lane diagram

