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| Final Report on  **IIT Library** | | |
| Submitted to  SPL II Evaluation Committee 2020-2021  Bachelor of Science in Software Engineering  Institute of Information Technology  Noakhali Science and Technology University | | |
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# Project Description

* + **Introduction**

This chapter gives an overview about the aim, objectives ,background

of the system.

**PROJECT AIMS AND OBJECTIVES**

Our system will fulfill the following objectives to provide a hassle-free system.

1. Manage Membership: Our first objective is to maintain a detailed database

of the members. The system will generate a library card for each and

individual authentic member of the IIT Library.

2. Book Tracing: Our second objective is to trace the movement of books.

The location of any book at any point in time can be traced. Misplaced or

missing books can be traced easily.

3. Borrow Books: We have to borrow new books and add them digitally.

Irrelevant and outdated books are deleted.

4. Bar-coding and Scanning: Our system will give specific identification to

each book. All books, old and new, are bar-coded based on title, author,

topic, and date of publishing. The database is automatically updated when

books are scanned while issuing or returning.

5. Searching: Our system will help both the office staff and the members to

search the catalog of books in the library. The search functions can be

filtered to the need of each user.

6. Fine Calculation: The system calculates the fine due for non-return or lost

and damaged books. The members will be notified about the fines by the

system.

Background of music

IIT Library is an application refer to other library system and it is suitable to use by small and medium size library. It is divide into online and offline. In this document will only mention about online which is website and part of offline system. It use by librarian, Director of IIT, faculty member of IIT and Students of IIT. Example, To know this book currently exist in library or not. For admin users

* **Target Users**

The target customers for our system are students, faculty members denoted as members in the proposal. We have a role for permitting to get the library card which will be performed by the Director of IIT, NSTU. The work of checking in or checking out and adding new books to the system will be performed by one of the staff of the office.

**Requirements**

Functional Requirement

-User registration and login

-Borrow Book

-Extend Book Period

-Access Electronic Copy

-Calculate and Check Fine

-Report Generate

-Send Email

Non Functional Requirement

-Searching Books

-Speed and Latency Requirement

-Develop Maintainable Code

-Safeguards are provided by the system

-Text color and front

**Models, Tools and Resources**

Model

Our project is highly inspired by SPL I. We faced different problems with our selected model to develop our project which was an iterative process. This time, taking experience from the previous year’s project, we want to implement something new and we have selected the agile model to develop this project. Agile Model break tasks into smaller iterations. The division of the entire project into smaller parts helps to minimize the project risk and to reduce the overall project delivery time requirements.

Tools and Resources

|  |  |
| --- | --- |
| **Category** | **Name or Description** |
| Text Editor | Visual Studio Code |
| Server | Xampp |
| RDBMS | MySQL |
| Language | HTML, CSS, JavaScript, PHP, SQL |
| Learning Resource | 1. Head First HTML and CSS: A Learner's  Guide to Creating Standards-Based Web  Pages 2nd Edition by Elisabeth Robson  2. Head First JavaScript Programming: A  Brain-Friendly Guide 1st Edition by Eric  Freeman  3. PHP & MySQL: Server-side Web  Development by Jon Duckett |

**Project Members**

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| --- | --- |
| **Team Members** | **Supervisor** |
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# **User Guide of IIT Library**

# **User Manual**

# About who the user is in our system:

We have four users in our system.

1) Staff

2) Student

3) Teacher

4)Officer

Here, librarian a staff who is able to add books, categories to system. He or she can issue book directly to any kind of users registered in our system. He or she can accept book request from teachers and students.This acceptance means to issue a book to the specific users.

* 1. User Manual: Staff (Librarian)

2.1.1 Staff Login & issue book directly:

# Source Code Documentation

It will contain the code structure of the project, general metrics i.e. lines of code of code and API documentation. The descriptions of a function, its parameters and its returns are written in API documentation.

# SRS & Development Mapping

|  |  |  |
| --- | --- | --- |
| Use Case No | Use Case | Implementation |
| 01 | Send Registration Request |  |
| 02 | Borrow Request |  |
| 03 | Extend Book Period |  |
| 04 | Access Electronic Copy |  |
| 05 | Request New Book |  |
| 06 | Check Fine |  |
| 07 | Search Book (By User) |  |
| 08 | Login |  |
| 09 | Admin Login |  |
| 10 | Logout |  |
| 11 | Send Emails |  |
| 12 | Validate Borrow ID |  |
| 13 | Authenticate User and Librarian |  |
| 14 | Calculate Fine |  |
| 15 | Show Books |  |
| 16 | Borrower Receipt Generate |  |
| 17 | Report Generate |  |
| 18 | Watch new book requests |  |
| 19 | Send Request for approval |  |
| 20 | Search Book (By Librarian) |  |
| 21 | Add New Books |  |
| 22 | Update Book |  |
| 23 | Delete Book |  |
| 24 | Remove Book |  |
| 25 | Approve Request |  |
| 26 | Add Library |  |
| 27 | Delete Librarian |  |
| 28 | Delete User |  |
| 29 | Update Password |  |

# **Challenges and Future Work**

**Challenges**

* 1. The main challenges to face during developing this system are,
  2. Defining strict rules and regulations for each operation and making accountable each member for any problems created by them.
  3. Implementing a payment gateway and developing a transaction system for taking due and membership amounts from the members of our system.
  4. Solving the complexity of distributing a specific book when the quantity of the book is less than the number of requests made by the library members.
  5. Validate each member and check if he/she is an authentic member of IIT or not.
  6. Generating library cards as soon as possible after the application form is completed by the member.
  7. Tracking a book precisely and making the member responsible to keep the book safe and return before the due date

**Future Work**

This website provides a computerized version of IIT library which will benefit the students as well as the staff of the library. It makes entire process online where student can search books, staff can generate reports and do book transactions. It also has a facility for teacher, student, staff, officers login where they can login, download electronic copy of books and can see status of books issued as well request for book or give some suggestions.

There is a future scope of this facility that many more features such as online lectures video tutorials can be added by teachers as well as online assignments submission facility, a feature 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.