Project Proposal

For

Library Management System

Scope Document

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**Project Category:**

* **A-**Desktop Application/Information System

# Abstract

Managing and maintaining the customer record pose a great challenge if done manually. Records can be lost, data is not secure and can be manipulated easily, the cost for performing searching is great and can take a long time and accountability is difficult. Today, the computer systems are chaining the world and are very much able to facilitate user according to their needs. To solve this issue the aim is to develop an application which can become a complete management package for the libraries.

The application will use oracle data base and will be developed in java and modern and effective user interface UI which will provide a great experience to the user. The system will provide the service that are daily required in the library. In future this system can be extended in to a complete package according to the users need.

# Introduction

Library management system is built to manage housekeeping jobs of the library. It involves

Managing of the library. Form adding new books to managing the members and other such duties.

In doing these duties manually many valuable data can be lost and the chance of error is increased

and is a time taking process.

So the need arises to automate this process of managing libraries. So the purpose of this proposed

Project is to develop a software that helps in managing housekeeping duties to the end user.

The system will be developed in java with oracle database integrated in it for better management of

the system. The methodology used for this project will be object oriented model and the processes

model will be incremental model process model.

# Proposed System

The proposed project will be a desktop based application. It will provide the user the power to manage library more efficiently with the help of using a database. The system will provide many functionalities to the user like performing the basic operations such as inserting, deleting, update etc. on the user and library records. With the effective and simple to use user interface UI, implemented using Java swing library the user will get the best possible experience. And all the hassle of managing the library will be rectified.

# Advantages/Benefits of Proposed System

The System will provide the following benefits:

* The system will allow efficient management of data without the need of managing it manually.
* The search operation on the data will be faster.
* The chance of error will be less
* Will provide a user friendly interface
* The system will provide large storage capacity.

# Scope

The proposed project is library management system. It will allow the user to manage library more efficiently. The system will allow the user to manage admin, users and book, the admin will first login to the system. The user will have to enter correct id and password in order to access the application. After successfully logging in to the system the user will have access there to add, update, delete, display, search the admin, user and books records respectively. For the user the user will also first log into the system by using the id and the user password. Then the user will have access to the application. Then the user can search books, borrow books, etc. the both the types of the users i.e. members and admin can log out of the system anytime they want. The admin will have access to the records of then information of all the types of the user, admin will be able to see the details of the members and all the other employees working in the library.

# Modules

## Module 1: Registration and Authentication:

The module will be used by the user in order to log in to the system. The user will provide the correct id and password. Then the user will have the access to the application. For the admin there will be a different interface and for the member there will a different interface. This module will also allow the admin to register new member and add new admin in to the system.

## Module 2: User Maintenance

This module will provide the admin user to maintain the member and admin records. Some of the functions that will be available to the user are updating the user information, deleting users etc.

## Module 3: Book Maintenance:

Module will allow the admin user to add new books to the system and the update the information about the system and delete the books.

## Module 4: user Functionalities:

Module will the user to perform function like view book, search etc.

## Module 4: Borrow

This module will allow the user to borrow books from the system. The system will check the already borrowed book of the users and will also check if there are any fines and then will allow the user to borrow the book.

# System Limitations/Constraints

Limitation and constraints are as follows:

* The user information is prone to malicious manipulation, if the account passwords are leaked.
* The application is not accessible everywhere as it is a PC application.

# Tools and Technologies

Table 1 Tools and Technologies for library management system

|  |  |  |  |
| --- | --- | --- | --- |
| **Tools**  **And**  **Technologies** | **Tools** | **Version** | **Rationale** |
| NetBeans | 11.2 | IDE |
| oracle | 11g | DBMS |
| MS Word | 2015 | Documentation |
| **Technology** | **Version** | **Rationale** |
| java | JAVA SE 11 | Programming language |
| SQL | 2013 | Query Language |

# Entity Relation Diagram

Erd Diagram of the proposed library management system is given below.

# 

# Implementation Details

Functionalities in each module are given below:

**Module 1:**

1. user registration i.e. Student and Faculty
2. user login
3. admin login
4. sign out

**Module 2:**

1. updating user information
2. resolving fines of user
3. delete user account
4. view all user

**Module 3:**

1. add new books
2. update books
3. search book by ISBN number
4. search book by Name
5. view all books
6. delete books
7. view borrowed book

**Module 4:**

1. search history
2. search book
3. view currently borrowed books
4. view all book

**Module 5:**

1. borrow books
2. return books
3. calculate fine

# User Manual:

**Project Setup Instructions:**

* Import the zip file in in net-beans or IDE of your choice
* Create a connection in Oracle SQL developer or use an existing connect.
* Open a file “script.ddl” in the SQL developer and execute in the connection of your choice.
* Change the connection string in the class “conn” in library management system.

**Admin:**

* Admin can login by using clicking on admin button and then by providing the correct credentials that are required.
* Admin can register the user from members according to their type by clicking on manage members and then going register user and then selecting the type of user. After that entering the required information and then clicking register.
* Admin can view all members and resolve there fine from the manage members screen.
* Admin can add, update delete new books, view all and the books that are currently borrowed by going to manage book screen.

**User:**

* User can login by providing the id given by librarian and the password.
* The user can then borrow book by clicking the borrow button on the screen and then providing the required information.
* User can return book by opening the return book screen and providing the required information
* From the user screen user can search book, view his fines, history of borrowed books by him and the books currently borrowed by him.

# Conclusion

The purpose of the proposed project library management system is to lessen the human effort in managing the library. The proposed system will be a computerized system that will automate the daily task and manage and store the records in an efficient way through the use of databases. Currently 4 modules will be developed and more modules can be added if the need arises. All the information for the project scope has been documented.