**LIBRARY MANAGEMENT SYSTEM**

**INTRODUCTION:**

Library Management System is a project which aims to provide the functionalities that help the Librarians to interact with the Library Circulation Desk DBMS through a Graphical User Interface(GUI). This system is evolved around the need of the Librarian. The operations such as registration of borrowers, check-out and check-in of books etc. are done from a GUI. This system automates the basic operations such as calculating fines etc. and also provides logon facility to the Librarians.

The purpose of this document is to describe the high-level features of the system. This document includes design decisions and assumptions, which gives an understanding of the Library Management System.

**FUNCTIONAL COMPONENTS:**

The following are the functional components of the system.

* **Borrower Registration:** The librarian has to enter the details about the borrower like SSN, Name, Address etc. If proper details are not entered at the same time, an appropriate error message will be displayed and the record will not be stored and if the entered details already exists, then the details cannot be stored and an appropriate error message is displayed. If proper details are entered it will be stored in the database.
* **Book Issue:** The Librarian enters the required details to issue a book and the system associates current date at the time of issuance. The Due date is 14 days after the book issuance. Attempts to checkout a book copy that is not available is rejected and displays an appropriate message. The system makes sure that each borrower is allowed to borrow a maximum of 3 books and borrowers are not permitted to borrow a book if they have an unpaid fine or currently overdue book.
* **Book return:** The Librarian enters the required details to check-in a book and the system associates current date at the time of return. If an overdue book is checked in, fine is created against that borrower.
* **Search/View Book details:** The system provides a single search field to locate a book given any combination of information.
* **Fine:** The system also allows librarians to view and to enter payment of fines.

**ASSUMPTIONS AND DEPENDENCIES:**

* This system runs only on the local host server.
* There is only one administrator for the whole system.
* If a borrower returns a book after his/her due date, then a fine is levied based on the number of days rather than time.
* The coding should be error free.

**SQL DATABASE USED:**

* MySQL

**SOFTWARE’s USED:**

* Swing (Java)
* Eclipse Mars 2.0
* rs2xml.jar
* mysql-connector-java-5.1.40-bin.jar

**CONCLUSION:**

The Library Management System is made computerized to reduce human errors and to increase efficiency. The system lessens the human effort.