**University of Maryland Global Campus**

**Library Management System (LMS)**

**User’s Guide**

**CMSC 495 7380**

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**Version 1.2**

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**Revision History**

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| **REVISION** | **DATE** | **DESCRIPTION** | **Author** |
| 1.0 | 4/30/2023 | Initial | Ben Ramos |
| 1.1 | 5/1/2023 | Modification to Requirements | Ben Kus |
| 1.2 | 5/4/2023 | Modifications to Add Books, Remove Books, and Issue Books  Addition of display windows | Brandon Durham  Ben Kus |
| 1.3 | 5/5 | Modification to Module Installation | Ben Ramos |
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# Introduction

A library management system is a project which aims in developing an application to maintain the book catalog of a library. The purpose of this is to provide administrators with the ability to conduct daily maintenance to its book catalog. It will provide an easy and administrator-friendly way to track books, add and remove users, as well as track overdue books and numerous other functions.

# Requirements

## System Requirements

The following are the minimum required system and software to support the Library Management System:

* Processors:

Intel Core 2 Duo 1.8 GHz

* Memory:

2 GB of RAM

* Disk space:

150 GB

* Operating Systems:

Windows 10

* Applications:
  1. Eclipse IDE
  2. Java
  3. Java Swing
  4. MySQL Community Server
  5. MySQL JDBC Connector
  6. JX-Date\_Picker Jar File

The Library Management System is maintained on the Social Software Development Site GitHub and can be retrieved at [Library Management System](https://github.com/kusbenjamin/LibraryManagementSystem/tree/main/LMS%20Java%20Files) To install the LMS for initial use, please follow the below Installation guidelines.

# Installation

To install the Library Management System, Eclipse IDE along with JDK X.X or higher. Please refer to [Eclipse Install Downloads](https://www.eclipse.org/downloads/) and [Overview of JDK Installation](https://docs.oracle.com/en/java/javase/20/install/overview-jdk-installation.html) prior to installing the LMS.

## Downloading Source Code

1. Download the Source Code (src folder) from https://github.com/kusbenjamin/LibraryManagementSystem/tree/main/LMS%20Java%20Files
2. The contents should be the following:
   * 1. Java Files
     2. Java Files
     3. Java Files
3. (Note) Your directory path (C:\xxxx\xxxx\src) may look different depending on where you install the src code.

## Installing Modules

Java provides default packages such as Abstract Window Toolkit (AWT) & Swing packages to create user interfaces (UI) for desktop applications. Also, we need two more libraries: Mysql-JDBC-connector and java-date-picker.

1. Download [jxdatepicker library](https://jar-download.com/artifacts/no.tornado.databinding/jxdatepicker-support/1.0/source-code).
   1. To import:
      1. Right-click on LMS and select Build Path >> Configure Build Path.

Graphical user interface, application

Description automatically generated

* + 1. Select “Libraries”
    2. Select “Add External Libraries” on the left-hand side

Graphical user interface, text, application

Description automatically generated

* + 1. Navigate to the location on your system where the jxdatepicker library is located and select that file
    2. Select “Apply”

Graphical user interface, text, application

Description automatically generated

1. Download [MySQL-connector](https://jar-download.com/artifacts/mysql/mysql-connector-java)
   1. To Import:
      1. Right-click on LMS and select Build Path >> Configure Build Path.

Graphical user interface, application

Description automatically generated

* + 1. Select “Libraries”
    2. Select “Add External Libraries” on the left-hand side

Graphical user interface, text, application

Description automatically generated

* + 1. Navigate to the location on your system where the MySQL Connector file is located and select that file
    2. Select “Apply and Close”

Graphical user interface, text, application

Description automatically generated

# 

# Operations

## LMS Start-Up

* From the src directory type: python \_\_main\_\_.py

## Log In

* The LMS application has started when you see the following screen.

Graphical user interface

Description automatically generated

* Enter the Username in the designated “Username” block.
* Enter the Password in the designated “Password” block.
* When Username and Password are entered corrected the System menu screen will be displayed
  + <Image of UN and PW inserted>

Graphical user interface

Description automatically generated

* A message will be displayed if an incorrect Username or Password is entered
  + <Image of Login Error Message>

## Issuing a Book

* From the Librarian’s Screen, click on Issue Book

Graphical user interface

Description automatically generated

* Enter the ISBN in the designated “ISBN” block, followed by the Title and Author

### Can we make it so the book will populate after entering ISBN”#####

* Enter the Borrower’s First Name and Last in the designated block.
* Enter the Borrower’s Home Address in the “Address” block.
* Enter the Borrower’s Email Address in the “Email” block.
* Click “Submit” to Issue the Book. The book will then be entered into the database and a message will be displayed that the book was issued will be displayed.

## Adding a Book

* From the Librarian’s Screen, click on “Add Book”

Graphical user interface

Description automatically generated

* Enter the ISBN in the designated “ISBN” block. The ISBN can only be numbers. Symbols (ex. !@#^) or letters are not valid inputs
* Enter the Book Title in the designated “Title” block.
* Enter the Author’s Name in the designated “Author” block.

Graphical user interface

Description automatically generated

* Click “Submit” to add the book. The book will then be entered into the database and a message will be displayed that the book was added.

Graphical user interface, application

Description automatically generated

* To cancel adding a book, click “X” in the upper right corner of the Add Book Window.

Graphical user interface

Description automatically generated

* If the book was not added to the library a message will be displayed “Failure to Add Book”.

Graphical user interface, application

Description automatically generated

## Removing a Book

* From the Librarian’s Screen, click on “Remove Book.”
  + <Image of Login Screen>
* Enter the Book Title in the designated “Book Title” block.
  + <Image of Login Screen>
* Enter the ISBN in the designated “ISBN” block.
  + <Image of Login Screen>
* Enter the Author’s Name in the designated “Author” block.
  + <Image of Login Screen>
* Click “Submit” to remove the book. The book will then be removed from the database and a message will be displayed that the book was removed will be displayed.
* If the book can not be found, an error message will be displayed indicating the book could not be found and removed.

## Searching for a Book

* From the Librarian’s Screen, click on “Search Book.”
  + <Image of Login Screen>
* To Search for a book, enter the ISBN in the designated “ISBN” block.
  + <Image of Login Screen>
* Click “Submit” to search for the book. The administrator to then be given a choice to remove or issue the book. The administrator will also have the option to close the window and return the Librarian’s menu.
* If the book cannot be found, an error message will be displayed indicating the book could not be found.

## Log Out

* The LMS application has started when you see the following screen.
  + <Image of Login Screen>
* Enter the Username in the designated “Username” block.
  + <Image of Login Screen>
* Enter the Password in the designated “Password” block.
  + <Image of Login Screen>
* Enter Username and Password are entered corrected the following screen will be displayed.
* A message will be displayed if an incorrect Username or Password is entered.
  + <Image of Login Error Message>