Description for Project Library Management

# A. User Instructions for Librarians

We have five tabs for different aspects of the management system: Search, Book Chek Out, Book Check In, Fine Payment, Borrower Management.

## Search

You are able to search for a book, given any combination of **book\_id**, **title**, and/or **Author(s)**, which may be either **author\_name** **OR** (radio\_button?) any combination of parts of an author's name (i.e. **Fname**, **Minit**, and/or **Lname**). This query should support substring matching.

The table below shows the result that matching the information you provide.

You can select on row, and click “Check Out” button, to check out the book you want. It will automatically switch to **Book Check Out tab,** and fill necessary information for user.

## Book Check Out

You are able to check out a book, given the combination of BOOK\_COPIES(book\_id, branch\_id) and BORROWER(Card\_no), i.e. create a new tuple in BOOK\_LOANS.  Generate a new unique primary key for loan\_id. The date\_out should be today’s date. The due\_date should be 14 days after the date\_out.

We have two textfields to show the available number of books and total number of copies in library once you input the book id.

## Book Check In

You are able to locate BOOK\_LOANS tuples by searching on any of book\_id, Card\_no, and/or any part of BORROWER name.

The result will be listed in the table below. You can select one then check it in.

## Fine Payment

You are able to retrieve the fine by searching on Loan ID

The textfield named “Fine (est.)” will tell you the fine of this loan if book returned, otherwise the estimated fine.

In the table below, by clicking the “Refresh” button, you can retrieve the Fines be grouped by card\_no. i.e. SUM the fine\_amt for each Borrower

Button “Submit Payment” to pay the fine. If the book NOT returned, the payment rejected and a dialog will display.

## Borrower Management

Add borrowers.

# B. Design Decision and Justification

## 1) Use separate categories of system into tabs instead of one panel

Because every categories of system have few dependency on other categories, it is fiscal to separate them into tabs. Since the system have lots of functionalities, one panel is limited to show all the necessary components.

# C. Software dependency

Java, JDBC for mysql