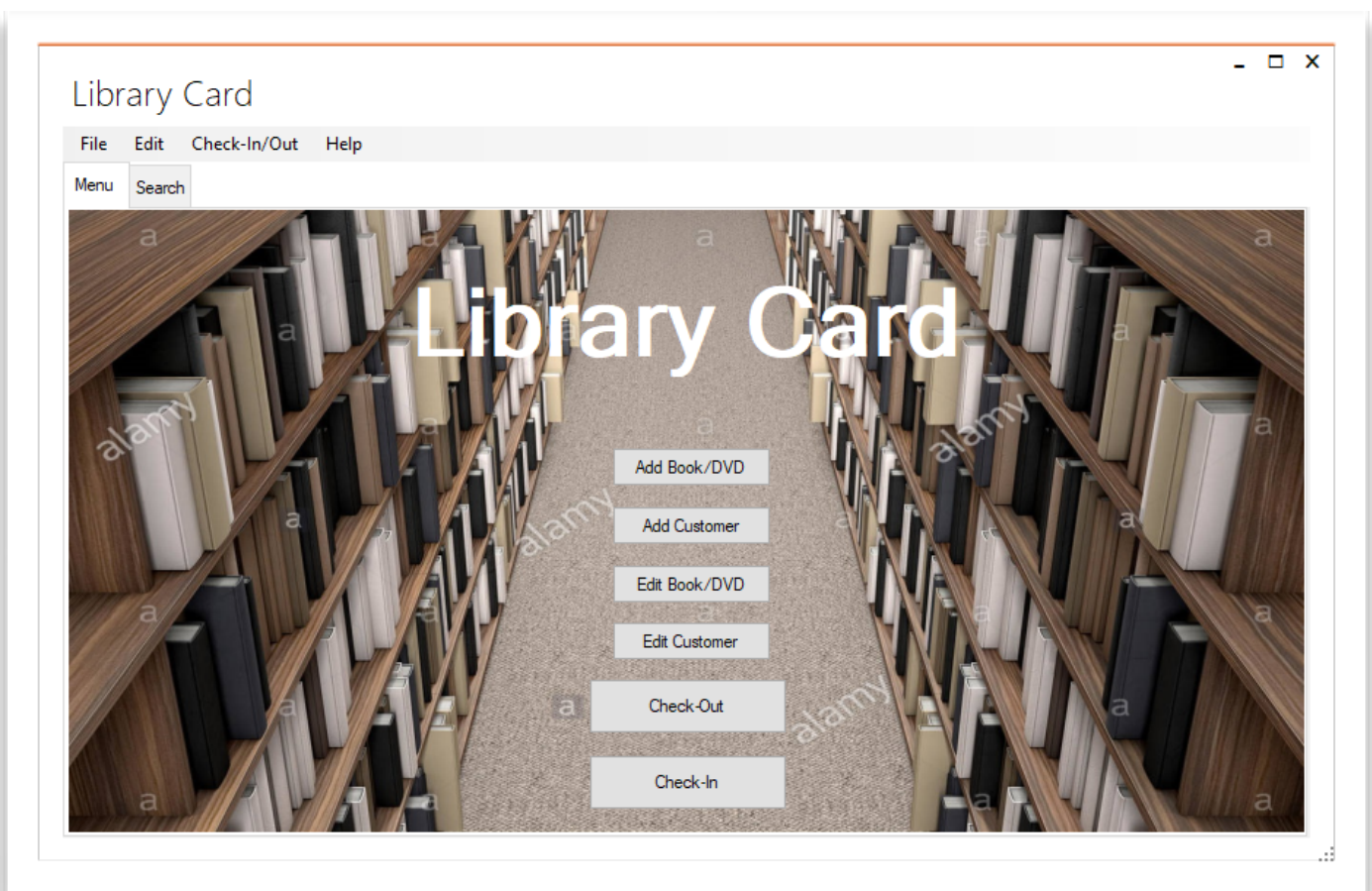

Library Card

User Manual



Version 1.0

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1.0 General Information

This section will explain the system and its purpose.

1.1 System Overview

Library Card is an application that stores library information including books, customers, and checkout data. The program stores this information in a MySQL database. This database will need to be set up by the system administrator before the program may be used.

1.2 Organization of the Manual

This manual consists of five sections: General Information, System Summary, Getting Started, Database Configuration, and Using the System.

General Information explains the system and the purpose that it was designed for.

System Summary gives a general overview of the system including system requirements, system configuration, and the system's behavior in case of any contingencies.

Getting Started explains how to download and install Library Card. It also explains the program menus and layout.

Database Configuration details the process of how to setup the MySQL database, including all its tables and fields.

Using the System provides a detailed description of the system's functions.

2.0 System Summary

This section provides a general overview of the system. The summary outlines the uses of the system's hardware and software requirements, system's configuration, user access levels and system's behavior in case of any contingencies.

2.1 System Configuration

Library Card runs on Windows operating systems and is compatible with Windows 7 and above. It requires an Internet connection to connect to the database unless the database is connected to the same Local Area Network as the host machine. The Library Card installer must be run in order to install the program.

2.2 User Access Levels

Only users with database accounts may use the features in the program.

2.3 Contingencies

Data retrieved from the database is not stored in memory. If connection is lost to the database, no data can be retrieved or sent.

3.0 Getting Started

This section explains how to download and install Library Card. It also explains the program menus and layout.

3.1 Installation and Logging In

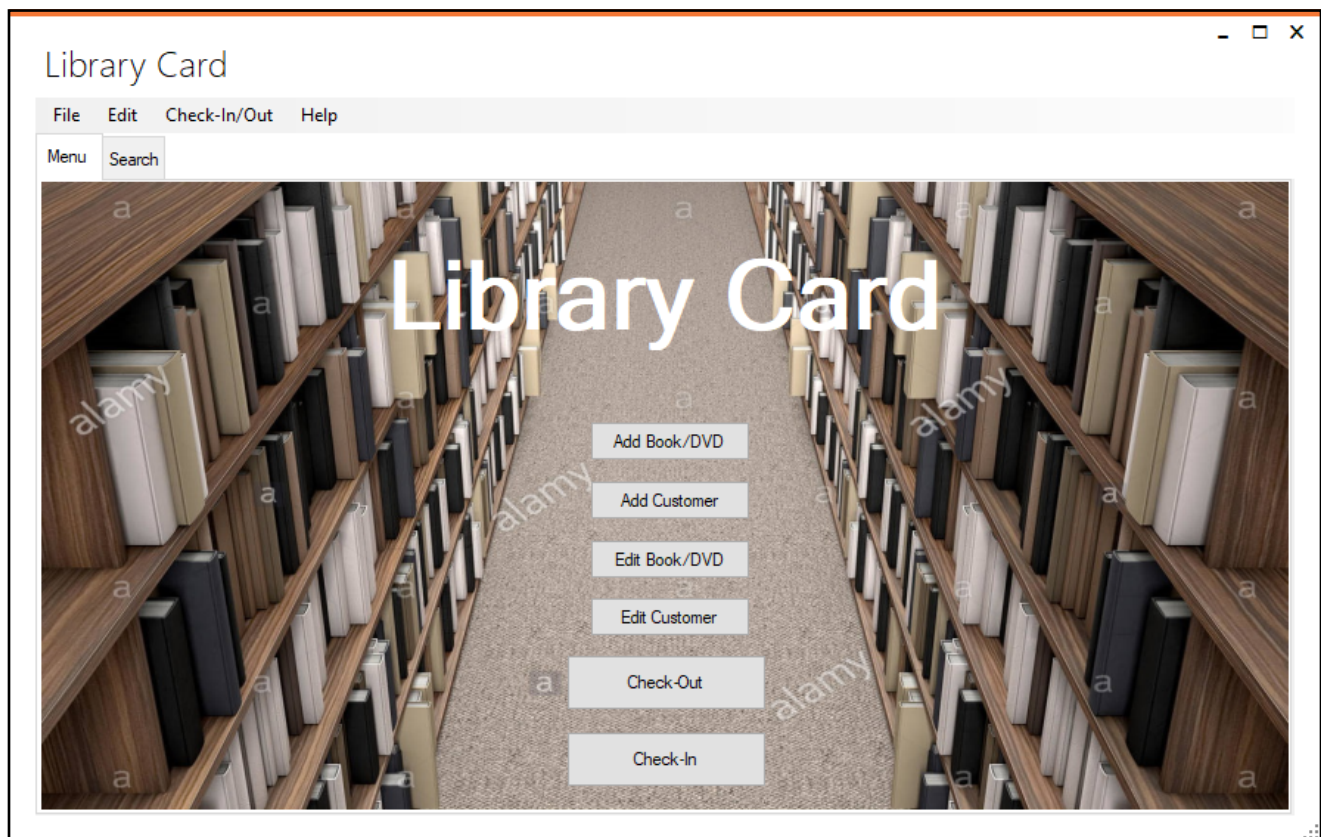
The installer for the latest version currently available can be downloaded from <http://teh.ddns.net/LibraryCard/latest/installer.msi>. This is a .msi installer that, once run, will install all of the necessary files to "C:\Program Files (x86)\Indiana Tech\Library Card" by default. To open the program, launch the desktop shortcut or use "LibraryCard.exe". A user account will need to be created on the database server in order to login. For more information regarding database setup, see section 4.0 Database Configuration.

3.2 System Menu

The Library Card program consists of two tabs: Menu and Search. Database operations are performed on the Menu tab, including Add Book/DVD, Add Customer, Edit Book/DVD, Edit Customer, Check-In, and Check-Out. Data stored in the database may be searched through the Search tab, including Books, DVDs, Customers, and Checkout data. Each table may be searched by their respective fields.

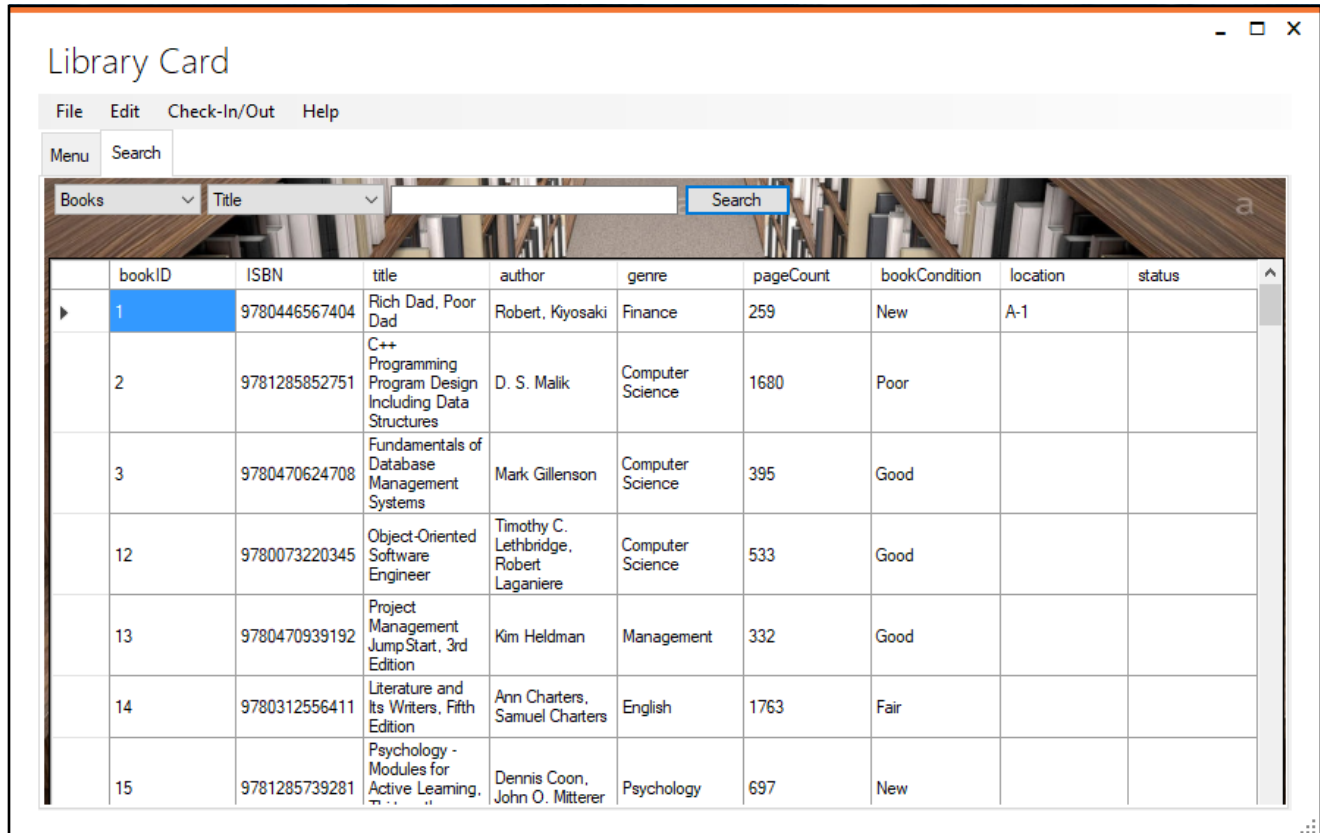
3.2.1 Menu tab

The Menu tab acts as the home screen and contains all of the operations you can do. Note that all of these can be accessed at any time by using File, Edit, and Check-In/Out at the top.



3.2.2 Search tab

The Search tab allows users to search in each table of the database. Results are displayed in the grid at the bottom, along with their respective field names. Note that this data cannot be edited through this table; it can only be modified by using the operations on the Menu tab. Also, for security reasons, customer information will not be displayed all at once; until a valid search is done, no customer information will be shown.



Library Card

File Edit Check-In/Out Help

Menu Search

Books Title Search

	bookID	ISBN	title	author	genre	pageCount	bookCondition	location	status
▶	1	9780446567404	Rich Dad, Poor Dad	Robert, Kiyosaki	Finance	259	New	A-1	
	2	9781285852751	C++ Programming Program Design Including Data Structures	D. S. Malik	Computer Science	1680	Poor		
	3	9780470624708	Fundamentals of Database Management Systems	Mark Gillenson	Computer Science	395	Good		
	12	9780073220345	Object-Oriented Software Engineer	Timothy C. Lethbridge, Robert Laganieri	Computer Science	533	Good		
	13	9780470939192	Project Management Jump Start, 3rd Edition	Kim Heldman	Management	332	Good		
	14	9780312556411	Literature and Its Writers, Fifth Edition	Ann Charters, Samuel Charters	English	1763	Fair		
	15	9781285739281	Psychology - Modules for Active Learning	Dennis Coon, John O. Mitterer	Psychology	697	New		

4.0 Database Configuration

4.1 Getting Started

The data to be stored contains private information, including customer names, addresses, and phone numbers. Because this information should be set up by the database administrator, we do not provide a database for you to use. We have found phpMyAdmin to be very helpful in creating databases; thus, we will explain the process of using phpMyAdmin to you. In our example, we will be using Ubuntu 16.04. We will assume you have sudo privileges and have completed a LAMP installation (Linux, Apache, MySQL, and PHP). An in-depth tutorial for installing phpMyAdmin can be found on DigitalOcean's website: <https://www.digitalocean.com/community/tutorials/how-to-install-and-secure-phpmyadmin-on-ubuntu-16-04>

4.1.1 Installing phpMyAdmin

1. Install phpMyAdmin from the default repositories

- `sudo apt-get update`
- `sudo apt-get install phpmyadmin php-mbstring php-gettext`

2. Enable PHP extensions

- `sudo phpenmod mcrypt`
- `sudo phpenmod mbstring`

3. Login with username and password used in MySQL installation

- `https://domain_name_or_IP/phpmyadmin`

4.1.2 Creating the Database

1. On the homepage of phpMyAdmin, click "Databases"

2. Under "Create database", for "Database name" enter "librarycard". Leave other options as default and click "Create".

4.1.3 Creating Tables

1. With the database "librarycard" selected on the left side, click the tab "Structure". Create three tables named "books", "dvd", "customers", and "checkout" with the structure shown below. Alternatively, you can import the tables by using the Import tab and import the mssql file at <http://teh.ddns.net/LibraryCard/latest/librarycard.mssql>

Table: books			
Name	oks	Action	Extra
bookID	INT(11)	Primary Key	AUTO_INCREMENT
ISBN	VARCHAR(100)		
title	VARCHAR(200)		
author	VARCHAR(200)		
genre	VARCHAR(100)		
pageCount	INT(100)		
bookCondition	VARCHAR(100)		
location	VARCHAR(25)		
status	VARCHAR(20)		

Table: dvd			
Name	oks	Action	Extra
dvdID	INT(11)	Primary Key	AUTO_INCREMENT
title	VARCHAR(200)		
genre	VARCHAR(100)		
year	INT(11)		
rating	VARCHAR(10)		
director	VARCHAR(100)		
Actors	VARCHAR(500)		
location	VARCHAR(25)		
status	VARCHAR(20)		

Table: customers			
Name	Type	Action	Extra
customerID	INT(11)	Primary Key	AUTO_INCREMENT
FName	VARCHAR(100)		
LName	VARCHAR(100)		
phone	VARCHAR(100)		
address	VARCHAR(300)		
birthdate	VARCHAR(100)		
notes	MEDIUMTEXT		

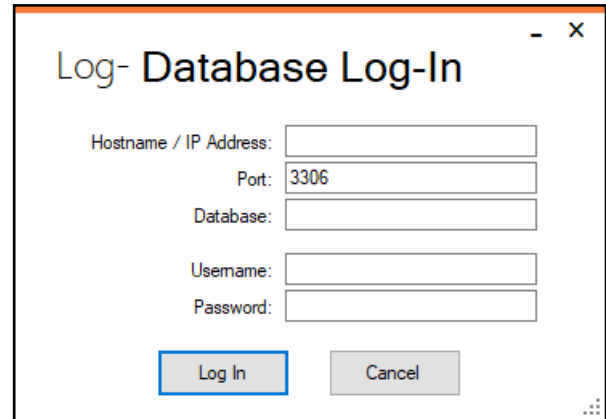
Table: checkout			
Name	Type	Action	Extra
checkoutID	INT(11)	Primary Key	AUTO_INCREMENT
customerID	INT(11)		
bookID	INT(11)		
outDate	DATETIME		
inDate	DATETIME		
bookStatus	VARCHAR(100)		

5.0 Using the System

This section explains how to use the features in Library Card.

5.1.1 Logging In

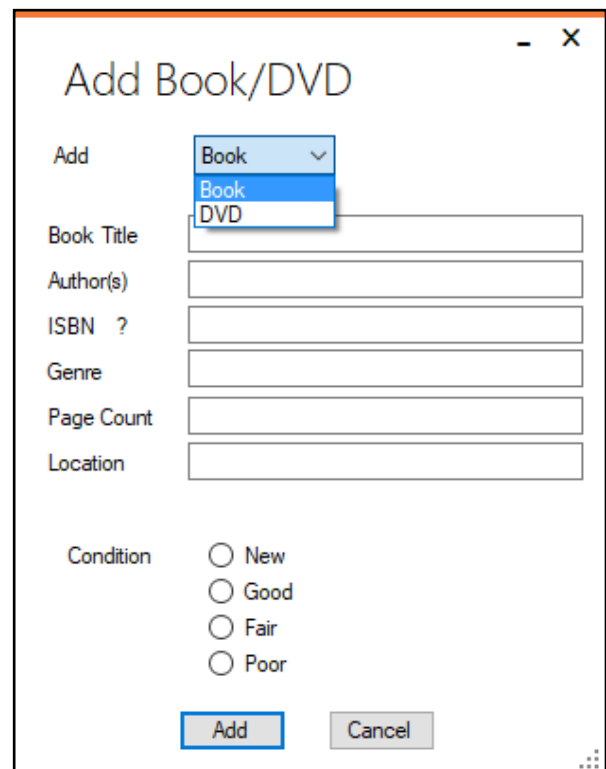
Upon launching Library Card, you will be prompted to login to the database. Include the hostname or IP address of the server hosting the database, along with the port (default is 3306), database name, and the database username and password. After the login is successful, the IP address, port, and database name will automatically be provided next time. This information will be stored in “db_log.txt”.



A dialog box titled "Log- Database Log-In" with a standard window control bar (minimize, maximize, close). It contains five text input fields: "Hostname / IP Address:", "Port:" (with "3306" pre-filled), "Database:", "Username:", and "Password:". At the bottom are two buttons: "Log In" (highlighted with a blue border) and "Cancel".

5.1.1 Adding Books/DVDs


Adding books to the database is straightforward: use the form and fill out each field. The fields for book information are Title, Author(s), ISBN, Genre, Page Count, and Condition. ISBN numbers must be in ISBN-13 format (9781234567896) with no dashes. This ISBN may also be scanned from the book's barcode. If you are unsure how to convert ISBN-10 to ISBN-13, a converter can be found at http://www.isbn.org/ISBN_converter. Each book added to the database will receive its own identification number. ID's start at 1 and increment after each new book is added.



A dialog box titled "Add Book/DVD" with a standard window control bar. It features a dropdown menu labeled "Add" with "Book" selected and "DVD" as an option. Below are six text input fields: "Book Title", "Author(s)", "ISBN ?" (with a question mark icon), "Genre", "Page Count", and "Location". At the bottom right are four radio buttons for "Condition": "New", "Good", "Fair", and "Poor". At the bottom are two buttons: "Add" (highlighted with a blue border) and "Cancel".

5.1.2 Adding Customers

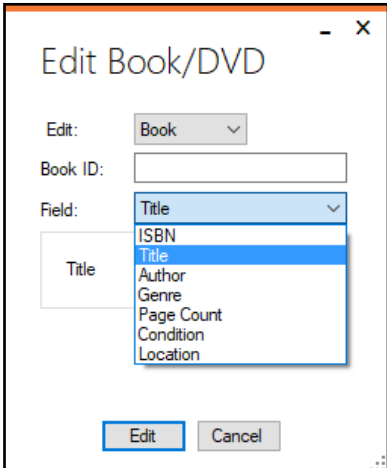
Adding customers is straightforward: use the provided form to input the desired information. The fields for customer information are First Name, Last Name, Phone Number, Address, and Date of Birth. Each customer added to the database will also receive their own identification number. ID's start at 1 and increment after each new customer is added.



The 'Add Customer' form is a window with a title bar containing a close button. It contains the following fields: 'First Name' (text box), 'Last Name' (text box), 'Phone #' (text box), 'Street Address' (text box), 'City' (text box), 'State' (dropdown menu), 'ZIP Code' (text box), and 'Date of Birth' (MM/DD/YY format with three text boxes). At the bottom are 'Add' and 'Cancel' buttons.

5.1.3 Editing Books/DVDs

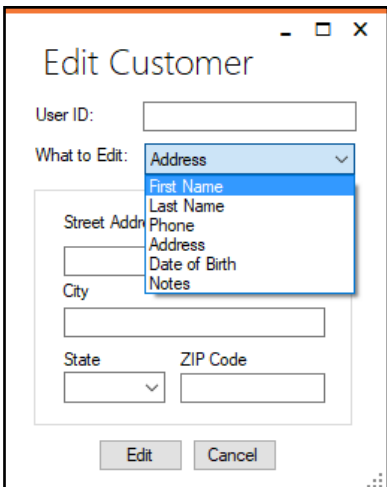
In the event that book information must be edited, users may use the Edit Book function. To find the Book ID, use the Search tab. Once the ID is provided, one can choose which field to edit: ISBN, Title, Author, Genre, Page Count, and Condition. After a selection is made, the respective text box will appear.



The 'Edit Book/DVD' form is a window with a title bar containing a close button. It contains the following fields: 'Edit:' (dropdown menu set to 'Book'), 'Book ID:' (text box), 'Field:' (dropdown menu with a list showing 'Title', 'ISBN', 'Author', 'Genre', 'Page Count', 'Condition', and 'Location'), and a 'Title' text box. At the bottom are 'Edit' and 'Cancel' buttons.

5.1.4 Editing Customers

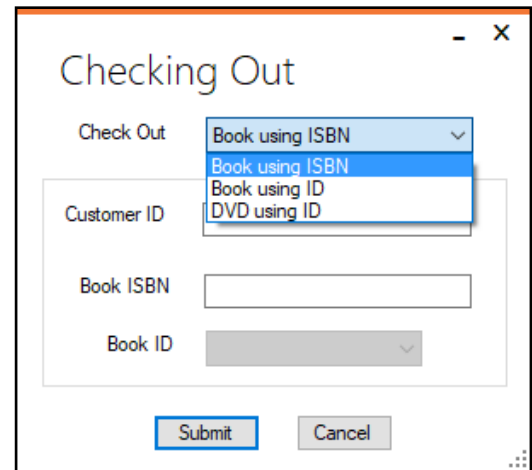
In the event that customer information must be edited, users may use the Edit Customer function. To find the Customer ID, use the Search tab (note: when searching for customers, no information will be displayed until a match is found). Once the ID is provided, one can choose which field to edit: First Name, Last Name, Phone, Address, and Date of Birth. After a selection is made, the respective text box(es) will appear.



The 'Edit Customer' form is a window with a title bar containing a close button. It contains the following fields: 'User ID:' (text box), 'What to Edit:' (dropdown menu with a list showing 'Address', 'First Name', 'Last Name', 'Phone', 'Address', 'Date of Birth', and 'Notes'), and a 'Street Address' text box. Below the 'Street Address' text box are 'City', 'State' (dropdown menu), and 'ZIP Code' text boxes. At the bottom are 'Edit' and 'Cancel' buttons.

5.1.5 Check-out

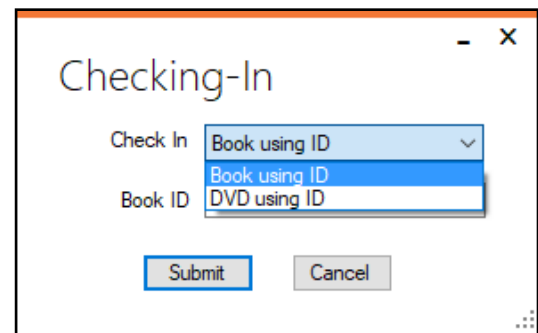
When checking out a book or DVD, one must provide the customer's ID and the item's ID. A book's ISBN may also be used. Once the form is submitted, a checkout "invoice" is created which contains a checkout ID, customer ID, book/DVD ID, checkout date and time, and current status. If the book is not checked in within a certain number of days specified in the program settings, the status will become "overdue". After a book is checked in, the check-in date is saved and the status becomes "complete."



The 'Checking Out' form is a window with a title bar containing a minus sign and a close button. The title 'Checking Out' is centered at the top. Below the title, there are four fields: 'Check Out' with a dropdown menu showing 'Book using ISBN' (selected), 'Book using ISBN', 'Book using ID', and 'DVD using ID'; 'Customer ID' with a text input field; 'Book ISBN' with a text input field; and 'Book ID' with a dropdown menu. At the bottom, there are two buttons: 'Submit' and 'Cancel'.

5.1.6 Check-in

When checking in a book or DVD, the only information required is the book or DVD ID which can be found through the Search tab. After the item is checked in, the checkout status will be set to "complete".



The 'Checking-In' form is a window with a title bar containing a minus sign and a close button. The title 'Checking-In' is centered at the top. Below the title, there are two fields: 'Check In' with a dropdown menu showing 'Book using ID' (selected), 'Book using ID', and 'DVD using ID'; and 'Book ID' with a text input field. At the bottom, there are two buttons: 'Submit' and 'Cancel'.