

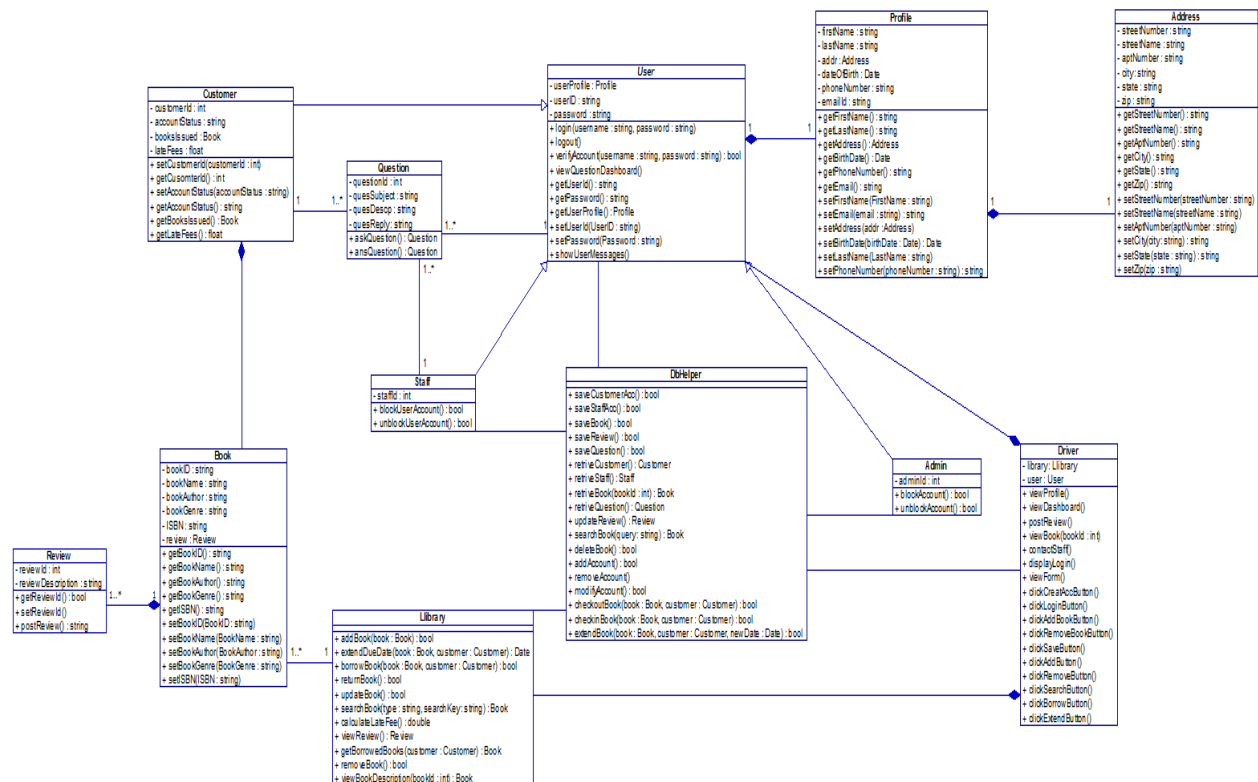
Online Library System

Team: Ankita Singh, Krithika Balan, Omkar Pawar

Title: Online Library System

Project Summary: A website which allows library patrons to browse, check out and return books. The library staff will be able to use the system to manage books in circulation and the customers signed up on the system

Original Class diagram:



Link: https://github.com/ankita-singh4/Library-Portal/blob/master/ClassDiagram_OnlineLibrarySystem.png

Refactored Class Diagram:

While searching for a book, a user can search based on the book title, author, genre or ISBN. Depending on the type of search, different algorithms would be used. For this purpose, the strategy design pattern has been used. When searching for a book, the interface *Search* is used, which has four realizations depending on the type of search, *SearchByTitle*,

SearchByAuthor, *SearchByGenre*, and *SearchByIsbn*. Each of these objects use the search key to implement their own search algorithms based on the type of search requested by the user.

Other Refactoring:

An additional class *UserController* was added to handle operations such as logging a user in, logging out, and creating a user account. The existing *Library* class was split into two classes, *Library* and *LibraryController*. The *Library* class contains operations which describe the current state of the library such as retrieving a list of books and listing the reviews of a book. The *LibraryController* class handles the operations which alter the current state of the library, such as adding and removing books, issuing books to customer and updating details of existing books.