

PROJECT PROBLEM STATEMENT

A City's Department of Public Libraries has hired you to update their library record keeping operations.

The department currently owns and runs a network of public libraries at three different locations within the city. Currently the libraries share an electronic card catalog that contains information such as author, title, publisher, description and location of all of the books in the libraries. All the library member information and book check-in and checkout information, however, is still kept on paper, at each location. This system was previously workable, because the Libraries had only a few hundred registered members. Due to the increasing city population, the Library now needs to automate the check-in/checkout system.

The new system will have a web-based application to allow librarians to check-in and checkout books. The system should also maintain information about each publisher, including their head-office address and main telephone number, to enable the libraries order new supplies of books. All the books in the library are classified under a subject (such as Science, Arts, Medicine, Poetry, Engineering, Music, History etc.), to enable members find books that are pertaining to a subject which they are interested in.

All books in the library have a unique bookid, in addition to the book's unique ISBN number. The books in the library are ordered on the shelves by their bookid. The new system must allow registered library members to search through the electronic card catalog to find the bookid of the desired book.

The system will either run on a server hosted by the library or hosted in a cloud service. Librarians and library members will be able to gain access into and use the system through a web-browser interface. However, only librarians are able to check-in and checkout books.

The system will retain information on all library members, including their addresses, phone numbers and their fees payment options (in form of the debit or credit card information, to be used to pay any fees owed). Only valid identifiable residents of the City of Fairfield can become library members. To be registered as a Library member, a valid City of Fairfield-issued identification card is required to be presented to the Librarian. Standard members can check-out books for a maximum of 21 days. If a standard member returns a book later than 21 days, then he/she has to pay an overdue fee of 25 cents per day. Member who are staff of the Library, including the Librarians, can also checkout books for a maximum of 21 days, but pay an overdue fee of 10 cents per day. Members who are senior citizens (i.e. those of age 70 or older) can checkout books for a maximum of 42 days, and they pay only 5 cents per day for every book returned late. The system will keep track of the amount of money that each library member owes the library. No member will be able to checkout a book if they have another book overdue or owe a fee greater than 100 cents.