IN PARTNERSHIP WITH PLYMOUTH UNIVERSITY

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Deadline Date:	Member of staff responsible for coursework:
Programme:	

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SOFT225SL

SYSTEM ANALYSIS AND DESIGN REPORT

FOR

LIBRO,

A STAND-ALONE APPLICATION

FOR

LIBRARY MANAGEMENT SYSTEM

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OVERVIEW OF LIBRO

This is a standalone application for a library management system. Libro emphasize two main features, which are namely registration of books and registration of members. These two functions are carried out by librarian only. As mentioned earlier to cover all the book types I categorized books into reference books and general books. To carry out any of the features librarian should log into the system by entering the username and password correctly. If the user is a novice user that person have to sign up and then by log in he/she can select books or members section.

In registering books librarian can choose either reference books or general books. Or else librarian can register any book without considering their type. But a book which is going to be registered under these two categories should be first registered in books section. In book registration adding a new book, editing, deleting and viewing books are implemented. Each time when these actions take part message boxes emerge to inform the user regarding the actions. Other than those features librarian is allowed to search books by its title. All the records are displayed for the librarian. Whenever a change is occurred to the records it's frequently refreshed and displayed to the user automatically.

Librarian can select general books after log into Libro. Afterward librarian can add new books, edit, delete and view as in book registration.

Here also records are displayed in a table. If librarian select reference book registration at the beginning adding of new books are allowed. List of reference book names are shown in a jList. In general and reference book section only essential facts are been considered in registration. To register a book in general or reference section first the user should register that book in book section

In the member registration section librarian can add new members through the data provided by the members and then a profile for each member is created. Here librarian have to add the supplied photograph of the particular person. Librarian can view member's profile and if the entered data are not accurate librarian can edit data. If the particular person is no longer a member deleting profiles are also allowed for the librarian.

Another feature is that user can logout when he feel to do so. For example user can logout after registering books or members.

SYSTEM ANALYSIS AND DESIGN

This is the designing phase of Libro, a stand-alone application for Library management system. Here special attention is given for UML diagrams and data flow diagrams. Under UML diagrams mainly class diagram, use case diagram and activity diagram is designed. For data flow diagrams context diagram, zero level diagram and level 1 diagram are designed.

CLASS DIAGRAM

In the class diagram there are six classes and out of them DbCon class and Book class are super classes. Person is an interface .each class has its own variables and actions. Generalization is also shown inside the class diagram. Another feature is there are two aggregations within the diagram where books contain either general books or reference books.

USE CASE DIAGRAM

Here the librarian is the person and first librarian have to log into the system. Then person has to select a section out of registration of books and members to proceed. If the user is new he/she have to sign up before using the application. If book section is selected adding, editing, viewing, deleting actions are extended and person can choose registration of general books or reference books which are included. These two options can be used after registering a particular book in the book section. Each action separately consist the above actions mentioned. If members section is selected adding, viewing, deleting and editing actions are extended. If the person want to logout after engaging in a selected action person can logout according to his/her preference.

ACTIVITY DIAGRAM

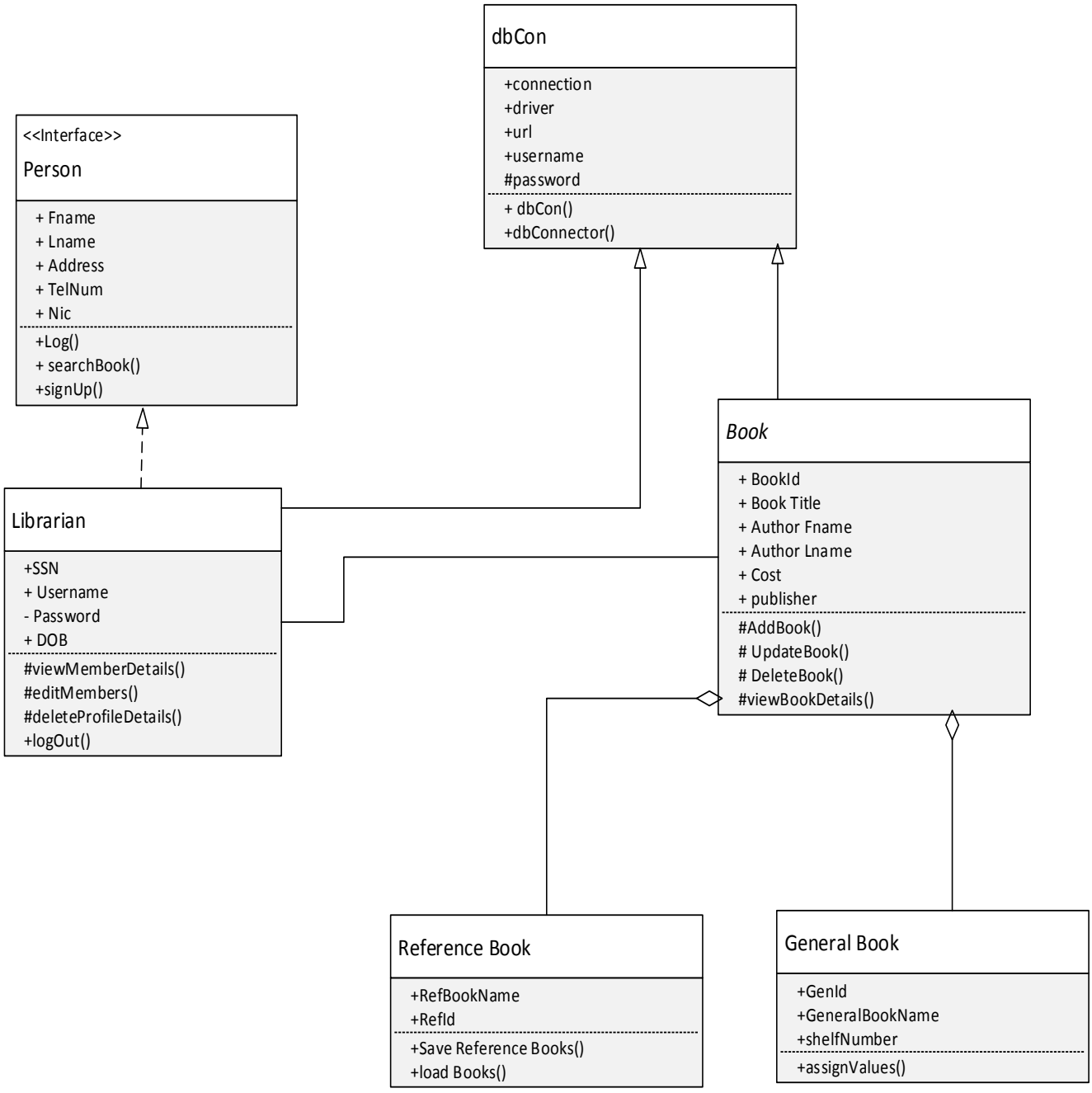
Flow of the Libro system is shown through the activity diagram. Starting point is denoted and login is afterward placed. After checking both username and password librarian can choose registering of books or reference books or general books. If the user is novice then that person have to select sign up action. Afterward remaining processes are taken place accordingly.

DATA FLOW DIAGRAMS

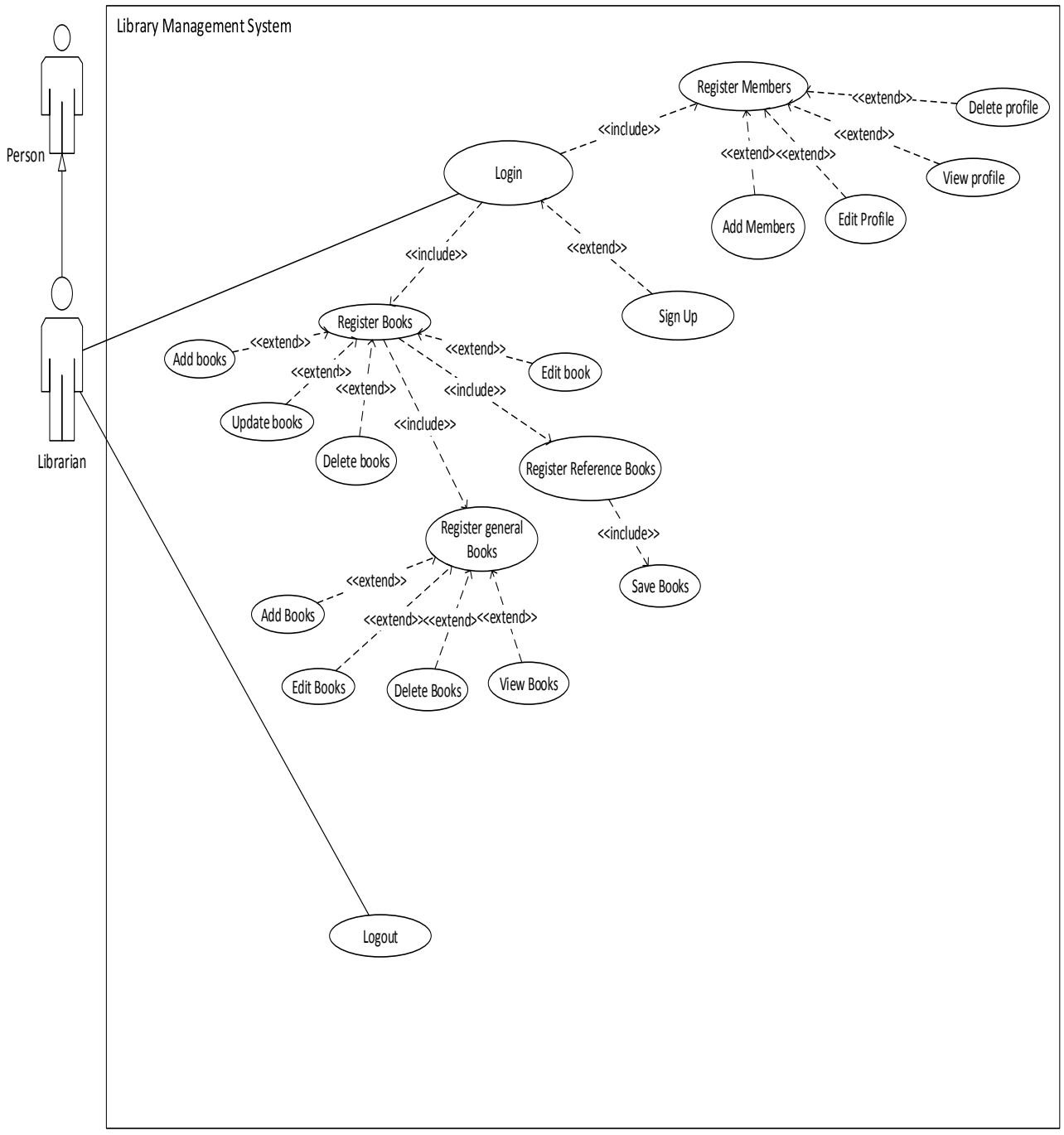
At the first stage context diagram is drawn. The external entities are librarian and members . And the library management system is shown.

Then the level 0 is drawn. Here Libro system is designed briefly. All the actions that is taken place under registration of books and members are included step by step in the diagram. Finally required data are stored in particular data sources as shown in the diagram.

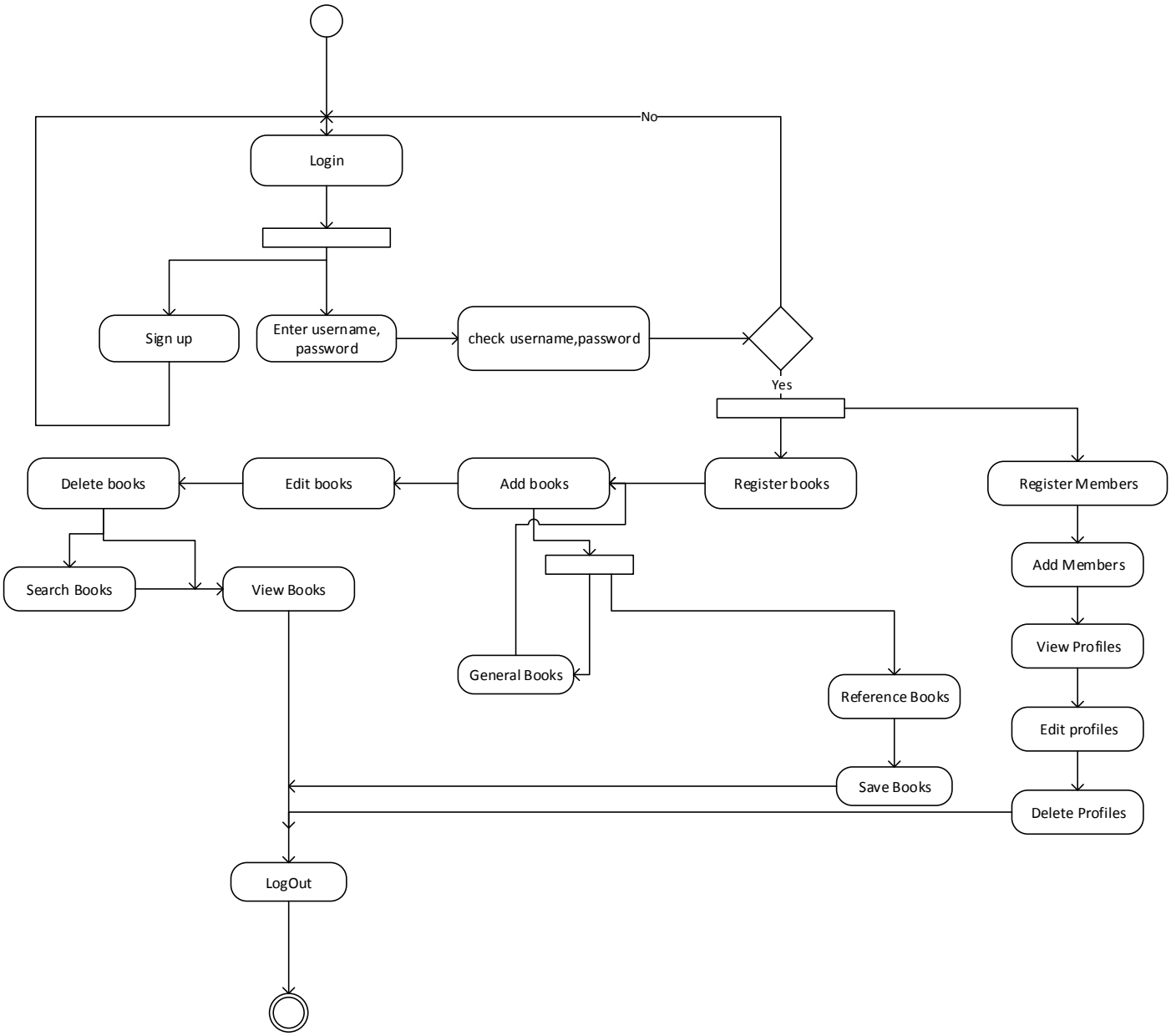
Level 1 diagram is drawn for certain parts taken from level 0 diagram. I have used book registration by librarian in level 1 DFD. Here after login of librarian the processes that take place are shown briefly. For example librarian can add a book, edit, delete a book and store those data inside the data source. Afterward an option is provided for the librarian to manage general books or reference books. Their details are also stored in separate data sources.



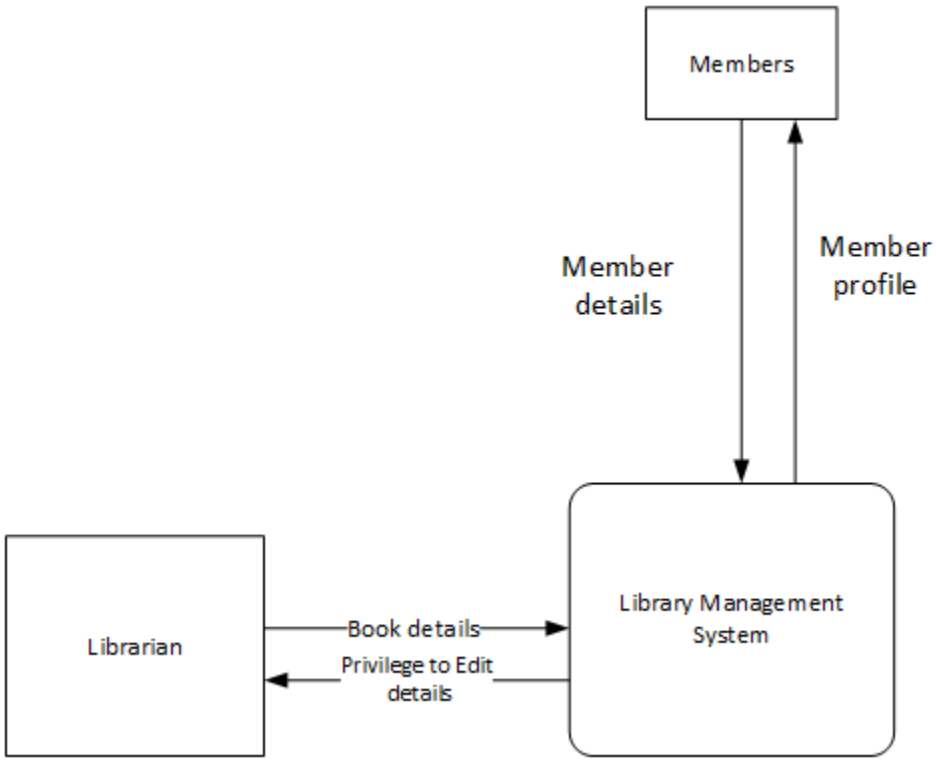
Class diagram



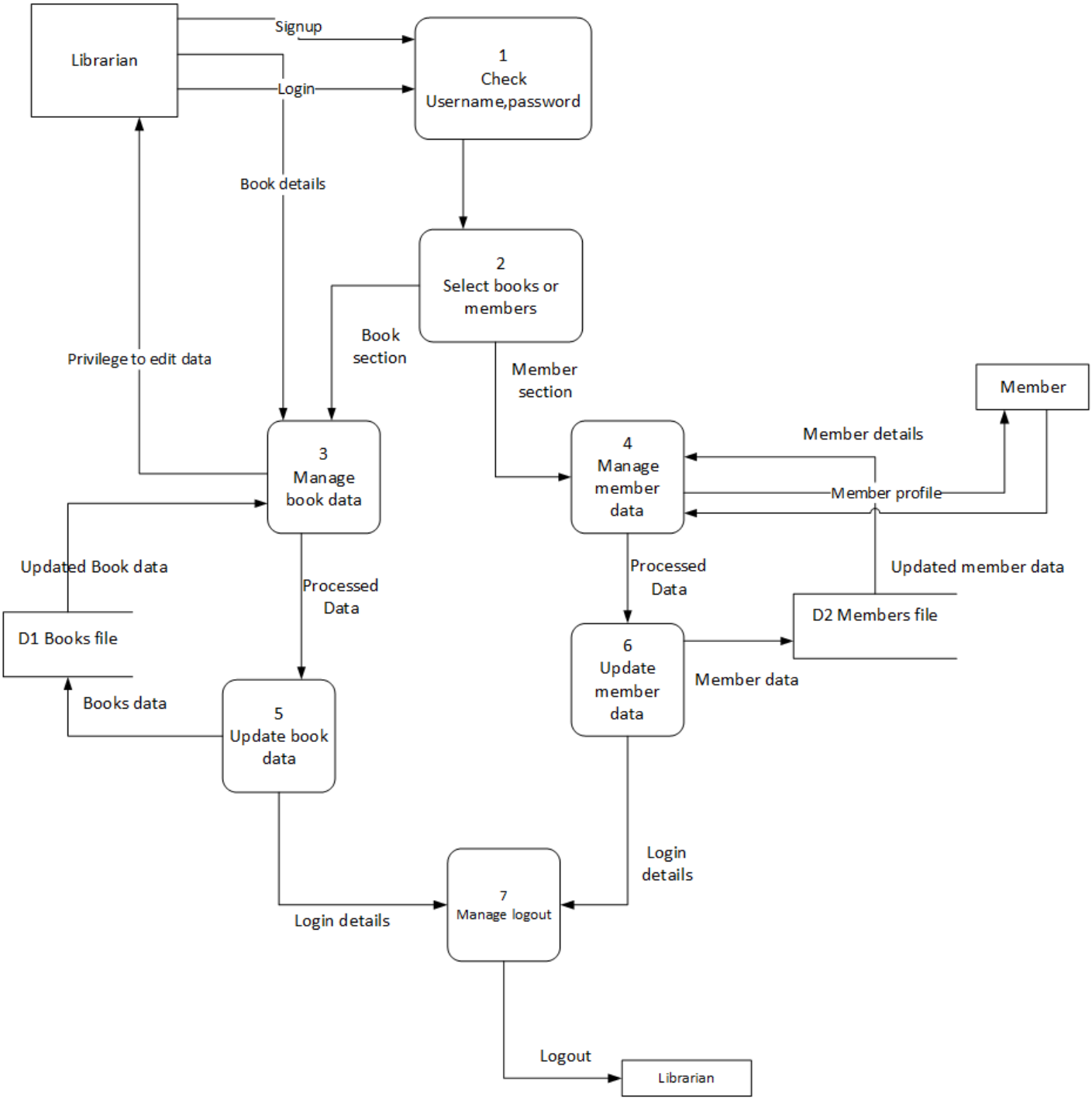
Use case diagram



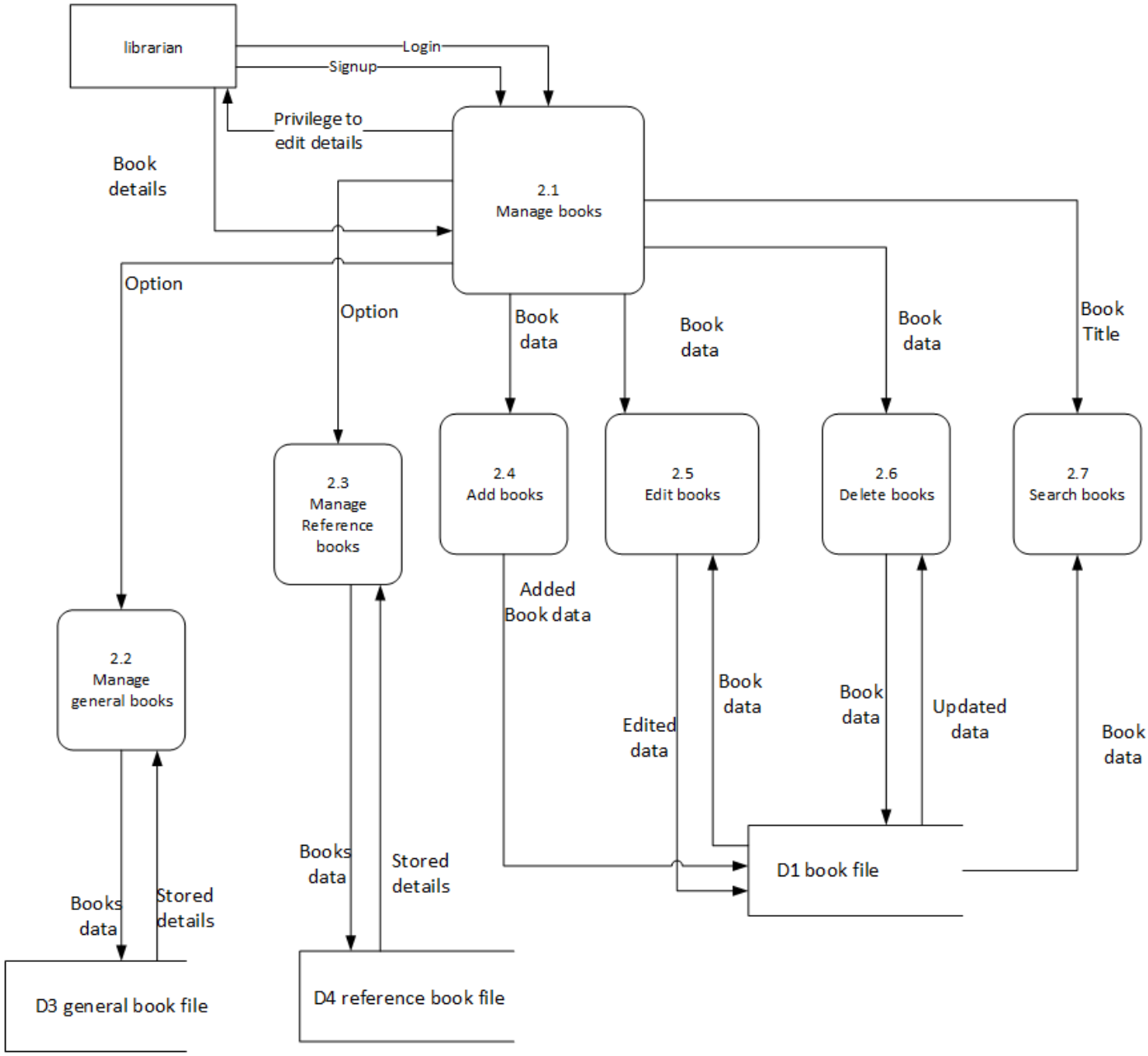
Activity diagram



Context diagram



Level 0 diagram



Level 1 diagram