A Brief Description of the System and the Functionality you must implement

The description of the functionality below is not a complete specification it is just a list of the functions to be supported. It is up to individual group to design their application to exploit the functionality of Visual Studio and .NET technology to deliver an appropriate implementation of the functionality, supporting the users' task as effectively as possible.

The system is to support the following functions:-

1. Allow the user to enter book name or publishers or an author's name and see all books stocked by the library (whether on loan or on the shelves).
2. Allow the user to enter book name or publishers or an author's name and see the books and the number of copies on the shelves of all books and which have at least one copy on the shelves.

   (Hint – a book copy is on the shelf if it is not on loan. A book copy is on loan if there exists a Loan row for that copy where the DateReturned is Null)
3. Allow the user to enter or select a member by member number or member name and view a list of all the books (by title and copynumber) that they have been loaned in the last 31 days (i.e. where there is a Loan row with DateOut >= Current_date-31, whether the book has been returned or not).
4. List the publisher, press (where book has been printed) and authors name of all books in the library with the books in increasing order of published date, showing the title of each book and the names of all the authors in alphabetic order of last name.
5. Allow the user to enter or select a Copy by CopyNumber and find the details of the last loan for that copy (whether it is still on loan or has been returned), ie the Name of the Member who borrowed it, the date out, due and back (if any) and the title of the book.
6. Allow the User to issue a book Copy on loan to a member.
   This process records the member going to the counter with the book and should involve
   Checking that, if the member is under 18, that Age Restricted on book category for the Copy's Title is False

   That the member has not already got on loan the number of books they are allowed (from the corresponding MembershipCategoryTotalLoans)
   Creating a row in Loan with
   LoanNumber 1 more than the highest value currently on file (hint, this will be the loan number on the last row currently in the table)
   LoanTypeNumber corresponding to the LoanType requested by the Member (decode options on LoanType table)
   CopyNumber the copy number of the book being issued
   MemberNumber the member number of the member borrowing the book
   DateOut the date part of the current (system) date DateDue date out plus the LoanDuration for the LoanType chosen
   DateReturned Null
   Displaying the charge the Member has to pay (the StandardCharge for the book title times

the LoanDuration)

7. Allow a user to record the return of a book copy
   This involves
   Locate the row on loan for this Copy which has DateReturned Null
   Updating DateReturned to the date part of the current (system) date, indicating the book has been returned
   Checking if the DateReturned is after the DateDue and, if it is, calculating what the Member has to pay which is the number of days DateReturned is greater than DateDue times the PenaltyCharge for the Book and displaying this

8. Produce an alphabetic list of all members (including members with no current loans) with all their details (with membership category decoded) and the total number of books they currently have on loan. This report should highlight with the message "Too many books' any member who has more books on loan than they are allowed from their MembershipCategory.

9. Allow the user to enter a new book Title into the system. This should allow for situations where it is the first Title involving a particular Producer, Studio and/or Actor, i.e. requiring adding row(s) to Producer, Studio and/or Actor. A new title will always require adding rows to CastMember. This task is particularly difficult to get perfect, so reasonable attempts can score full marks.

10. National Library has a policy of removing from stock all book copies which are more than 365 days old. This function should a. Produce a list of all book Copies which are more than a year old and which are not currently on loan b. Delete all these copy rows (the assumption is that the staff use the list to remove the books from the shelves)

11. Produce a list of all book copies currently on loan (DateReturned Null on Loan), in date order of date out with the loans of a particular day ordered by the title. The list should show the Title of the BOOK, the copy number and the name of the member who borrowed it and, for each date out, the total number of loans.

12. Allow the user to produce a list of all Members who have not borrowed any book in the last 31 days (defined on DateOut of their most recent Loan). You may ignore any Member who has never borrowed a book.

    This list should be in increasing order of the DateOut of their most recent loan, showing the member First and Last Names and Address and the DateOut and book title of the last Loan and the number of days since the last loan.

13. Allow the user to display a list of all book titles in the shop where no copy of the title has been loaned in the last 31 days (ie all titles for which there exist no copies with loan rows for the copy where the DateOut is >= Current_date – 31).

14. Allow Assistants to change their own passwords (on User) while Managers can change any detail on any row on User (including adding and deleting rows).

User Access Control

Access to the system is to be controlled by password. Different users should have access to different set of the system's functions.

1. Any user can access to functions 1 and 2 bypassing the login. The other functions require to login either as Assistant or Manager as follows.
2. Assistants should have access to functions 1 to 13, and change ONLY their own password in function 14.

Managers should have access to all the functions 1 to 14 of the application