# SURYAVANSHI LIBRARY MANAGEMENT SYSTEM

Business requirement document

Arctech Info Private Limited

# Contents

# Business Requirements Document (BRD)

Suryavanshi Books is a large book publisher who wants to start a library as part of its CSR program. They want to make the biggest library in India. To support their day-to-day operations, they have approached your company to build them a Library Management System.

## Requirements

### Manage Authors

1. Author Entity

| Properties/Fields | Field Type | Field Size |
|---|---|---|
| Id [PK] | Int | |
| Name | string | 250 |
| Notes | string | 2050 |

2. Author Management (CRUD)
    a. List
    b. Create
    c. Update
    d. Delete
        i. Only allowed if no books exist

### Manage Publishers

1. Publisher Entity

| Properties/Fields | Field Type | Field Size |
|---|---|---|
| Id [PK] | int | |
| Name | string | 250 |
| Phone | string | 250 |
| Email | string | 250 |
| Notes | string | 2050 |

2. Publisher Management (CRUD)
    a. Create
    b. Read
    c. Update
    d. Delete
        i. Only allowed if no Books exist

Manage Books

1. Book Entity

| Properties/Fields | Field Type | Field Size |
|---|---|---|
| ISBN [PK] | string | 25 |
| Title | String | 250 |
| PublisherId | int | |
| AuthorId | int | |
| IssuedStatus | bool | |
| IsDeleted | bool | |

2. Book Management
    a. Display Books List
        i. All Books
        ii. Available Books
        iii. Issued Books
    b. Search Book
        i. Search By ISN
        ii. Search By Name (Partial word search)
        iii. Search By Publisher
        iv. Search By Author
    c. Add new books
    d. Edit an existing book
        i. ISBN cannot be edited
    e. Delete an existing book
        i. Book can be hard deleted
            1. If Book has never been issued to a customer.
        ii. Book can be soft deleted
            1. Add a IsDeleted property to Books entity
            2. If Book has been issued in the past.
        iii. Book cannot be deleted
            1. If Book is currently issued.

### Manage Customers

1. Customer Entity

| Properties/Fields | Field Type | Field Size |
|---|---|---|
| Id [PK] | string | 25 |
| Name | string | 250 |
| Email | string | 250 |
| Phone | string | 250 |
| Address | string | 500 |
| IsDeleted | bool | |

2. Customer Management
    a. Display Customer List
        i. All Customer
        ii. Customers holding books
    b. Search Customer
        i. Search By Name (Partial word search)
        ii. Search by email
        iii. Search By phone

    In all 3 cases if results found then display Id, Name, Email, Phone, Address in tabular format. Also display the list of books, for each Customer.

    Example: Search by Name: su

    Result:

| Id | Name | Email | Phone | Address | Total Books |
|---|---|---|---|---|---|
| 12 | Suman Tiwari | … | … | … | 1 |

| ISBN | Name | Author |
|---|---|---|
| 111-222-333-444 | The Road to Trepidation | Sudhanshu Roy |

| Id | Name | Email | Phone | Address | Total Books |
|---|---|---|---|---|---|
| 33 | Rasuja Moi | … | … | … | 3 |

| ISBN | Name | Author |
|---|---|---|
| 999-999-999-999 | The rise and fall of Rome | Rossell Donald |
| 878-787-878-787 | Running towards Health | Arnold Diesel |

    c. Add new customer
    d. Edit an existing customer
        i. Id cannot be edited
    e. Delete an existing customer
        i. Customer can be hard deleted
            1. If Customer has never been issued to a Book.
        ii. Customer can be soft deleted
            1. Add a IsDeleted property to Customer entity
            2. If Customer has been issued a book in the past.
        iii. Customer cannot be deleted
            1. If Customer is currently holding a book.

## Manage Transactions

1. Transaction Entity

| Properties/Fields | Field Type | Field Size |
|---|---|---|
| Id | string | 25 |
| BookId | string | 25 |
| CustomerId | string | 25 |
| DateOfIssue | string | 25 |
| DateOfReturn | string | 25 |

2. Transaction Management
   a. Issue Book
      i. Enter BookId & CustomerId
      ii. DateOfIssue is populate automatically to today & return date should be empty/null.
      iii. If the requested book is already issued, show message "Book is already issued" if not, them Create entry in Transaction file and show message – Book has been issued to customer <Customer Full name>, return date - <7 days from date of issue>
      iv. when a book is issued to a customer
         1. Make an entry in transaction
         2. Set IssuedStatus = true for the book entity
   b. Return Book
      i. Enter BookId & CustomerId
      ii. Search for the transaction and
         1. set DateOfReturn as today
         2. Update the IssuedStatus = false for the book entity
      iii. If the return is delayed, display the due fine.
         1. Currently fine is Rs. 100 per late day.
         2. Make it configurable so it can be changed later.
   c. Search Customer
      i. Search By Name (Partial word search)
      ii. Search by email
      iii. Search By phone
      In all 3 cases if results found then display ISBN, Book, Author Name, Publisher Name, in tabular format.
   d. Show Late Books
      i. List all transactions who have missed the default return date.
         1. TransactionId, ISBN, Book, Customer Id, Customer Name, Due Date, Late by Days, Fine Due