# Introduction

This document contains the business requirement and technical design used for developing the library management APIs.

# Functional Requirement

The requirement to build Restful APIs application to manage the basic functionality of Library modules.

Build the set of APIs that would allow user to perform the following activities.

1. Add a book to the list of books they have read.
2. View a list of books they have completed reading.
3. Search for a book by name.

# Technical Design

This application was developed using ASP.Net Core 5.0 and xUnit library for Unit testing.

Note: I have used the static data for fetching and storing data. In future if you want to add database class then you can introduce new class as SQL and inherit the IBookRepository.

* Created BookContoller which holds the following API’s.

1. **GET: ​/api​/Book​/GetCompletedBooks**

**Parameter:** *userID(integer)*

**Description:** This API will return the list of books read by the user.

**Sample Request:** <https://localhost:5001/api/Book/GetCompletedBooks?userID=1>

**Response Body:**

[

{

"bookID": 1,

"userID": 1,

"bookName": "Rich Dad And Poor Dad",

"userName": "User1"

},

{

"bookID": 2,

"userID": 1,

"bookName": "Into The Wild",

"userName": "User1"

},

{

"bookID": 3,

"userID": 1,

"bookName": "The Secret",

"userName": "User1"

}

]

1. **GET: /api/Book/SearchBookByName**

**Parameter:** *bookName(string)*

**Description:** This API will return the list of books based on the input bookName.

**Sample Request:** <https://localhost:5001/api/Book/SearchBookByName?bookName=rich>

**Response Body:**

[

{

"bookID": 1,

"bookName": "Rich Dad And Poor Dad",

"createdDate": "2022-06-08T12:37:40.9743363+08:00",

"status": 1

}

]

1. **POST: /api/Book/AddBookToShelf**

**Parameter:** *bookID (integer), userID(integer)*

**Description:** This API will add the books to the user’s shelf.

**Sample Request:** <https://localhost:5001/api/Book/AddBookToShelf?bookID=1&userID=5>

**Response Body:**

6

API Details:

{

"openapi": "3.0.1",

"info": {

"title": "Project.Library.Management",

"version": "v1"

},

"paths": {

"/api/Book/GetCompletedBooks": {

"get": {

"tags": [

"Book"

],

"parameters": [

{

"name": "userID",

"in": "query",

"schema": {

"type": "integer",

"format": "int32",

"nullable": true

}

}

],

"responses": {

"200": {

"description": "Success"

}

}

}

},

"/api/Book/SearchBookByName": {

"get": {

"tags": [

"Book"

],

"parameters": [

{

"name": "bookName",

"in": "query",

"schema": {

"type": "string",

"nullable": true

}

}

],

"responses": {

"200": {

"description": "Success"

}

}

}

},

"/api/Book/AddBookToShelf": {

"post": {

"tags": [

"Book"

],

"parameters": [

{

"name": "bookID",

"in": "query",

"schema": {

"type": "integer",

"format": "int32",

"default": 0

}

},

{

"name": "userID",

"in": "query",

"schema": {

"type": "integer",

"format": "int32",

"default": 0

}

}

],

"responses": {

"200": {

"description": "Success"

}

}

}

}

},

"components": { }

}