Practice Exercise: Building a Book Finder Application using Google Books API

Objective

Develop a web application using .NET Core and MVC that allows users to search for books and display results by consuming the Google Books API.

Requirements

- Set up a .NET Core MVC Project
- Utilize the Google Books API to fetch book data based on user queries.
- Define a model to represent the book data.
- Implement a controller to handle API requests and a view to display the search results.

Detailed Steps

Project Setup

- Create a new ASP.NET Core Web Application project named "BookFinder".
- Ensure the project targets .NET Core 8.0 or later.

Install Required Packages

- Add the Newtonsoft.Json package for JSON parsing.

API Key Configuration

- Sign up for an API key from Google Developers Console.
- Store the API key securely in the `appsettings.json`.

Creating the API Client

Develop a service class `BookService` that uses HttpClient to make requests to the Google Books API. Use dependency injection to manage instances of HttpClient.

Building the MVC Components

Model

Define a Book model with properties such as Title, Authors, Publisher, and PublishedDate.

Controller

Create a `BooksController` with actions for searching and displaying results.

View

Develop views for entering search queries and displaying book information.

Error Handling

Implement try-catch blocks within the API calls to handle potential exceptions and provide feedback to the user.

Testing the Application

Test the application to ensure it can send requests to the Google Books API, parse the responses, and correctly display book data in the views.