

A large, light blue wireframe sphere is positioned on the left side of the slide, partially overlapping the title text.

SEZG503

FULL STACK APPLICATION DEVELOPMENT

BOOK EXCHANGE PLATFORM SHORT PRESENTATION

A smaller, light blue wireframe sphere is located in the bottom right corner of the slide, partially overlapping the author information.

From,

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2023TM93755

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BOOK EXCHANGE APPLICATION

TECHNOLOGIES USED

ASP.NET Core Web API:

- It is chosen for backend development due to its robustness, scalability, and excellent performance for handling RESTful services. It supports modular architecture, making the API highly maintainable and extendable.
- **CQRS Pattern:** This helps in separate reading and writing operations, which improves the application's scalability and maintainability.

Entity Framework Core:

- It serves as the Object-Relational Mapper for handling database operations.
- It provides LINQ support, type safety, and strong integration with SQL Server, simplifying database access.

IdentityServer4:

- It is used for managing user authentication and authorization. It allows secure handling of sign up, sign in, and sign out processes, making it ideal for protecting sensitive operations within App.

React with TypeScript:

- It is selected for the front-end due to its dynamic component structure, which allows for responsive and interactive UI design.
- TypeScript enhances the reliability of the codebase with strong typing, which aids in early error detection.

BOOK EXCHANGE APPLICATION

IMPLEMENTED USER STORIES

User Story 1 – User Authentication

Objective: Enable users to securely register, log in, and manage their accounts to access the book exchange platform.

Acceptance Criteria:

- Registration requires a valid email and password.
- Passwords are securely encrypted in the database.
- Users have access to a password recovery system.
- Users can sign out securely to protect account access.

Implementation Highlights:

- **Authentication:** IdentityServer4 handles secure user registration and login.
- **Encryption:** Passwords are encrypted using industry-standard hashing algorithms.
- **UI:** Forms in React for sign up, sign in, and password recovery.

BOOK EXCHANGE APPLICATION

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IMPLEMENTED USER STORIES

User Story 2 – Book Listing

Objective: Allow users to list books they wish to exchange or lend, making them visible to others on the platform.

Acceptance Criteria:

- Users can add books with essential details like title, author, genre, condition, and availability.
- Each book listing is associated with a unique ID and linked to the user's profile.
- Users can edit or delete their listings anytime.
- Book listings are visible in the user's profile and searchable by others.

Implementation Highlights:

- **Backend:** API endpoints handle CRUD operations (create, read, update, delete) for book listings.
- **UI:** Forms in React for adding, editing, and deleting book details, with real-time updates to user profiles.

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IMPLEMENTED USER STORIES

User Story 3 – Book Searching

Objective: Enable users to search for books by title, author, genre, and location, allowing easy discovery of books that interest them.

Acceptance Criteria:

- A search bar allows users to enter keywords (e.g., title, author).
- Users can apply filters by availability, genre, and location.
- Search results show detailed book information upon selection.
- Search results are paginated for efficient handling of large datasets.

Implementation Highlights:

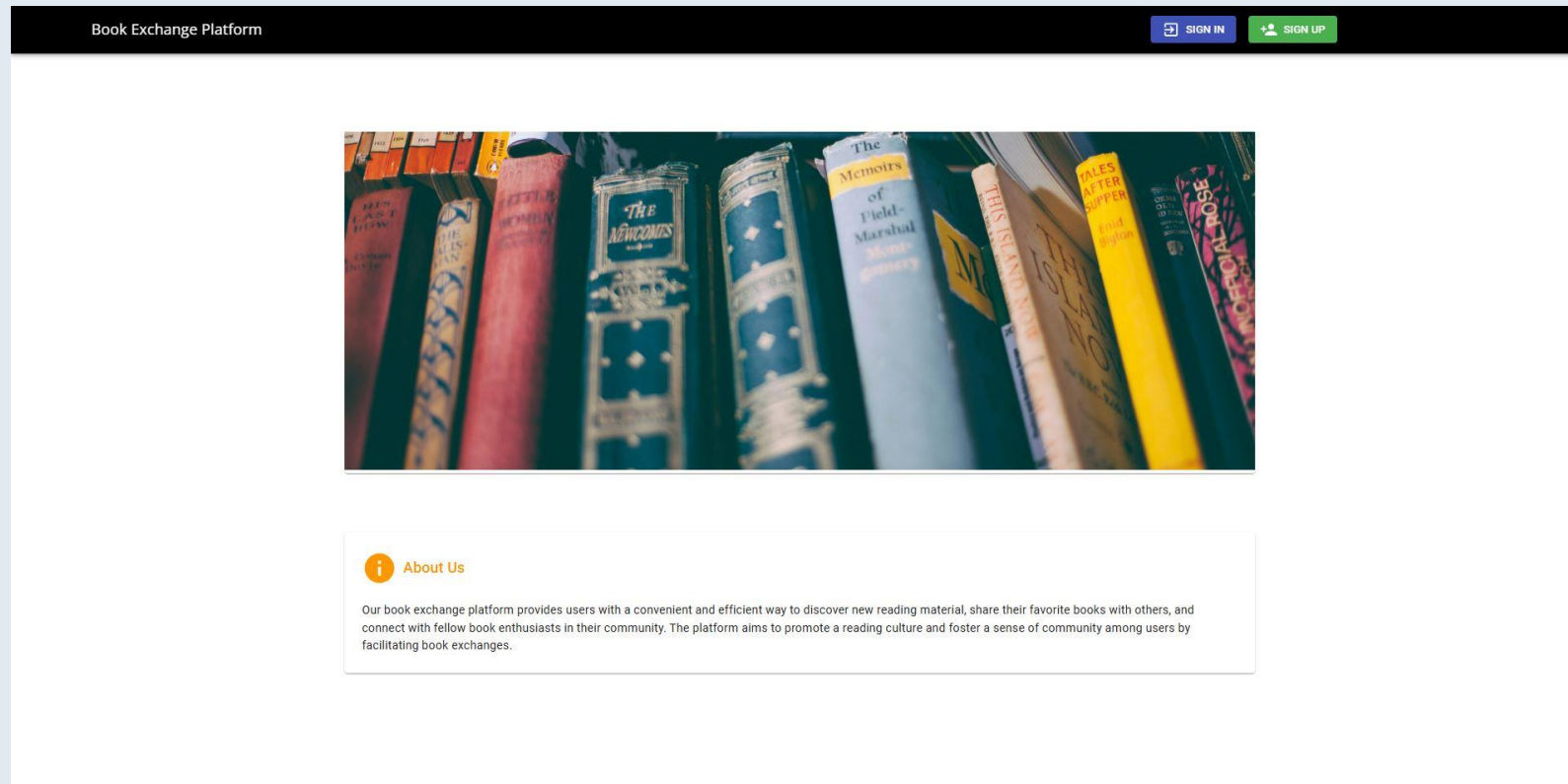
- **Backend:** SQL Server manages and indexes book data for optimized search.
- **UI:** Search bar with filter options in React for easy access to search functionality.

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SNAPSHOTS OF UI

3.1 HOME PAGE



BOOK EXCHANGE APPLICATION

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SNAPSHOTS OF UI

3.2 SIGN UP PAGE

The screenshot displays the 'Sign Up' page of the 'Book Exchange Platform'. At the top, a black navigation bar contains the platform name on the left and 'SIGN IN' and 'SIGN UP' buttons on the right. The 'SIGN UP' button is green, while the others are blue. The main content area is white and features a central sign-up form. The form is titled 'Sign Up' with a red lock icon above it. It includes four input fields: 'Username *', 'Email Address *', 'Password *', and 'Confirm Password *'. Below these fields is a blue 'SIGN UP' button. At the bottom of the form, there is a link that says 'Already have an account? Sign in'.

Book Exchange Platform

SIGN IN SIGN UP

 Sign Up

Username *

Email Address *

Password *

Confirm Password *

SIGN UP

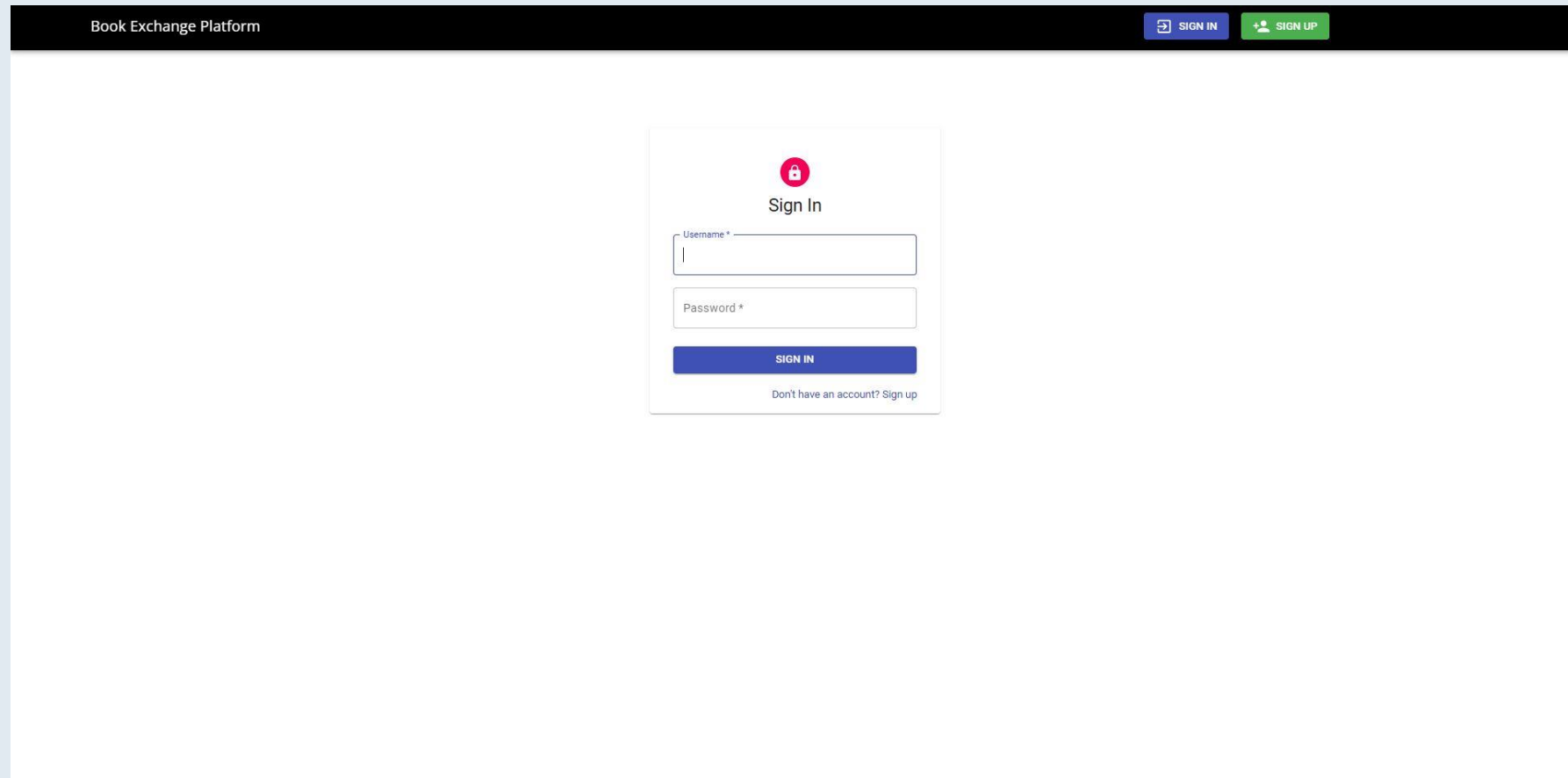
Already have an account? Sign in

BOOK EXCHANGE APPLICATION

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SNAPSHOTS OF UI

3.3 SIGN IN PAGE



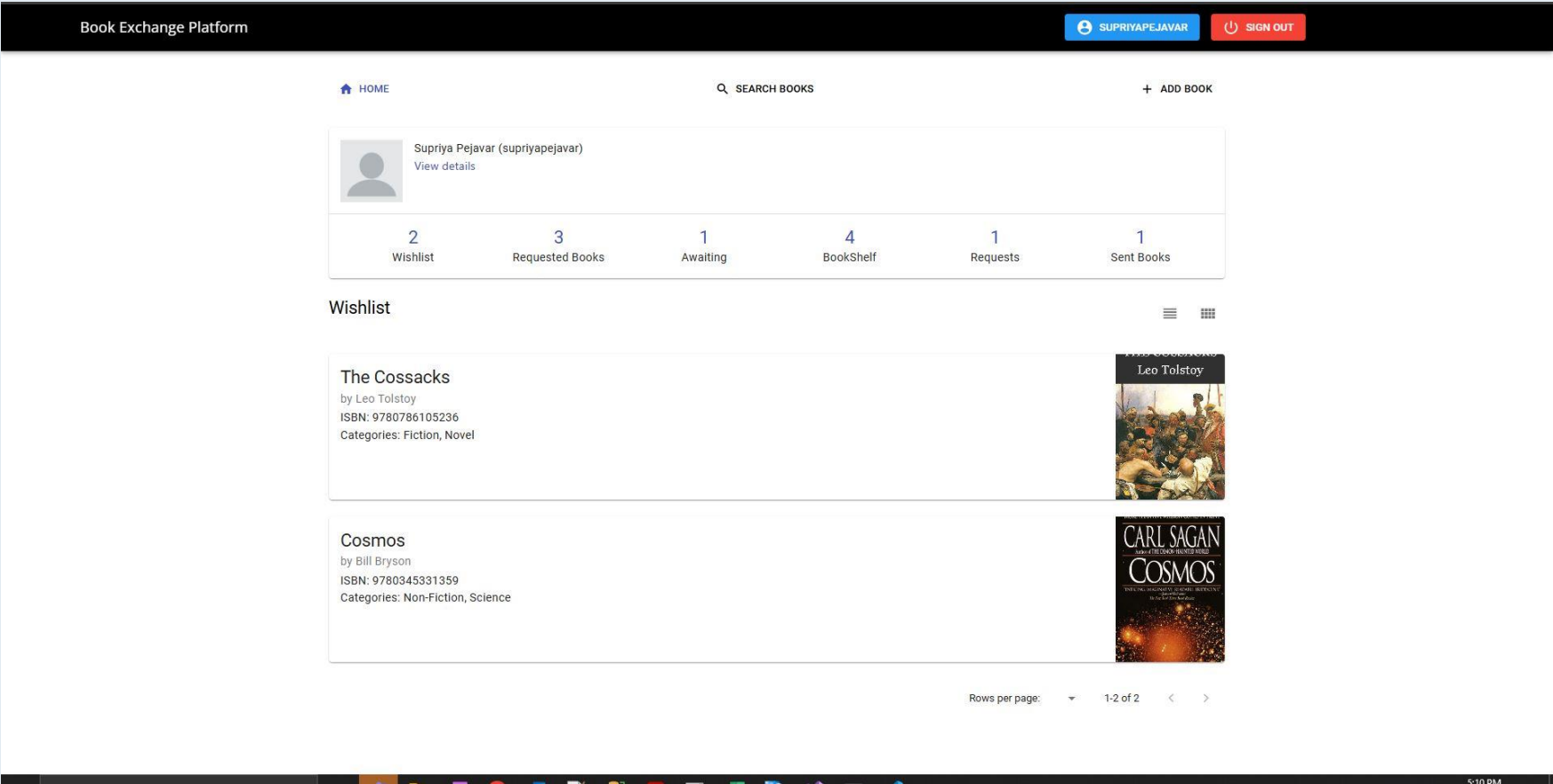
The image shows a web application interface for a book exchange platform. At the top, a black navigation bar contains the text "Book Exchange Platform" on the left and two buttons on the right: a blue "SIGN IN" button with a lock icon and a green "SIGN UP" button with a plus icon. The main content area is white and features a centered "Sign In" form. The form has a red lock icon at the top, followed by the title "Sign In". Below the title are two input fields: "Username *" and "Password *". A blue "SIGN IN" button is positioned below the password field. At the bottom of the form, there is a link that says "Don't have an account? Sign up".

BOOK EXCHANGE APPLICATION

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SNAPSHOTS OF UI

3.4 PROFILE PAGE WITH BOOK LISTINGS



BOOK EXCHANGE APPLICATION

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SNAPSHOTS OF UI

3.5 ADD BOOK PAGE

Book Exchange Platform

SUPRIYAJAVAR SIGN OUT

HOME SEARCH BOOKS + ADD BOOK

Add New Book

Title ISBN Author

Short Description

Description

Category Publisher Pages Publication Year

CHOOSE FILES Cover Photo

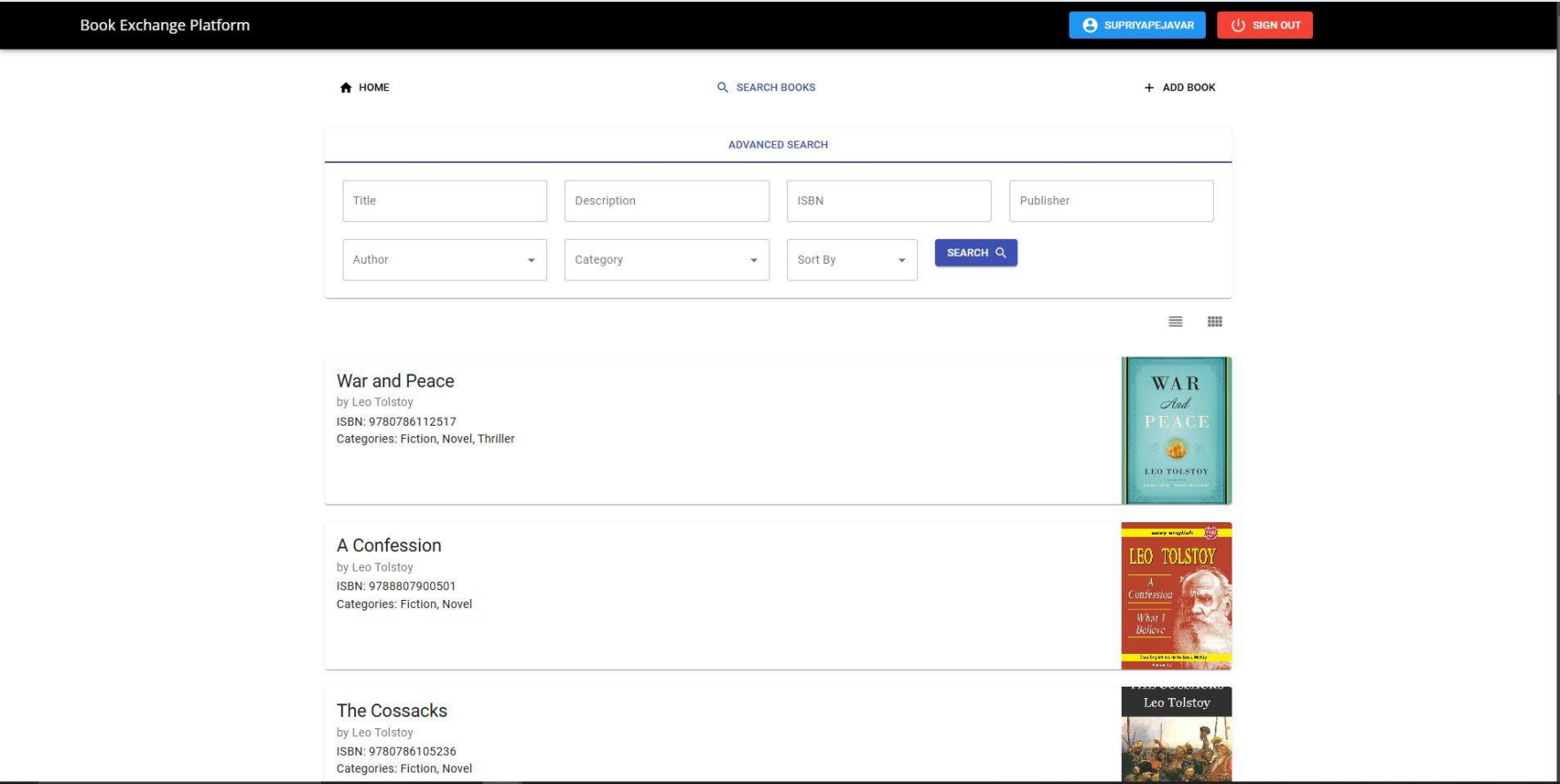
UPLOAD

SUBMIT

BOOK EXCHANGE APPLICATION

SNAPSHOTS OF UI

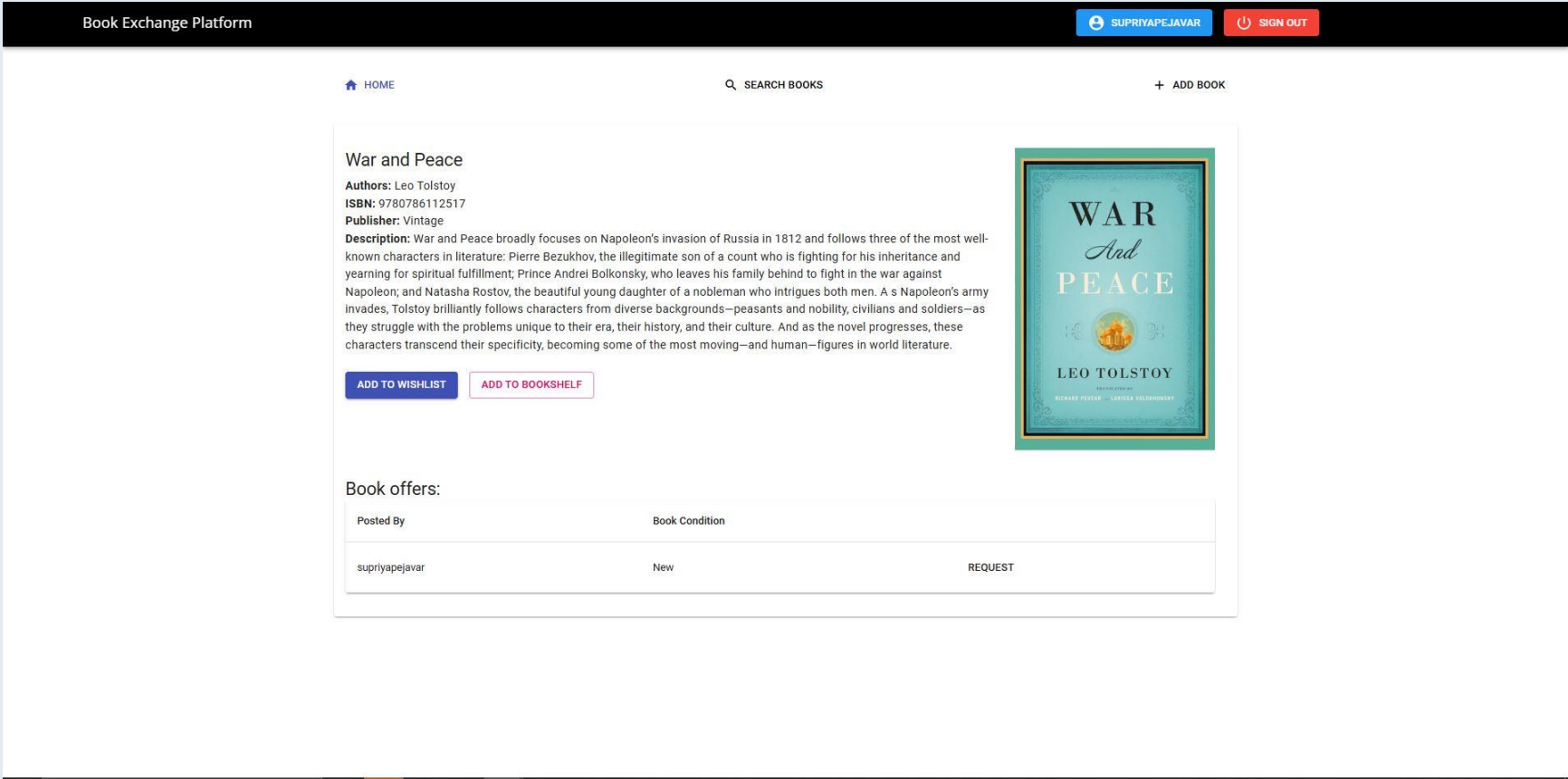
3.6 SEARCH PAGE



BOOK EXCHANGE APPLICATION

SNAPSHOTS OF UI

3.7 REQUEST BOOK PAGE

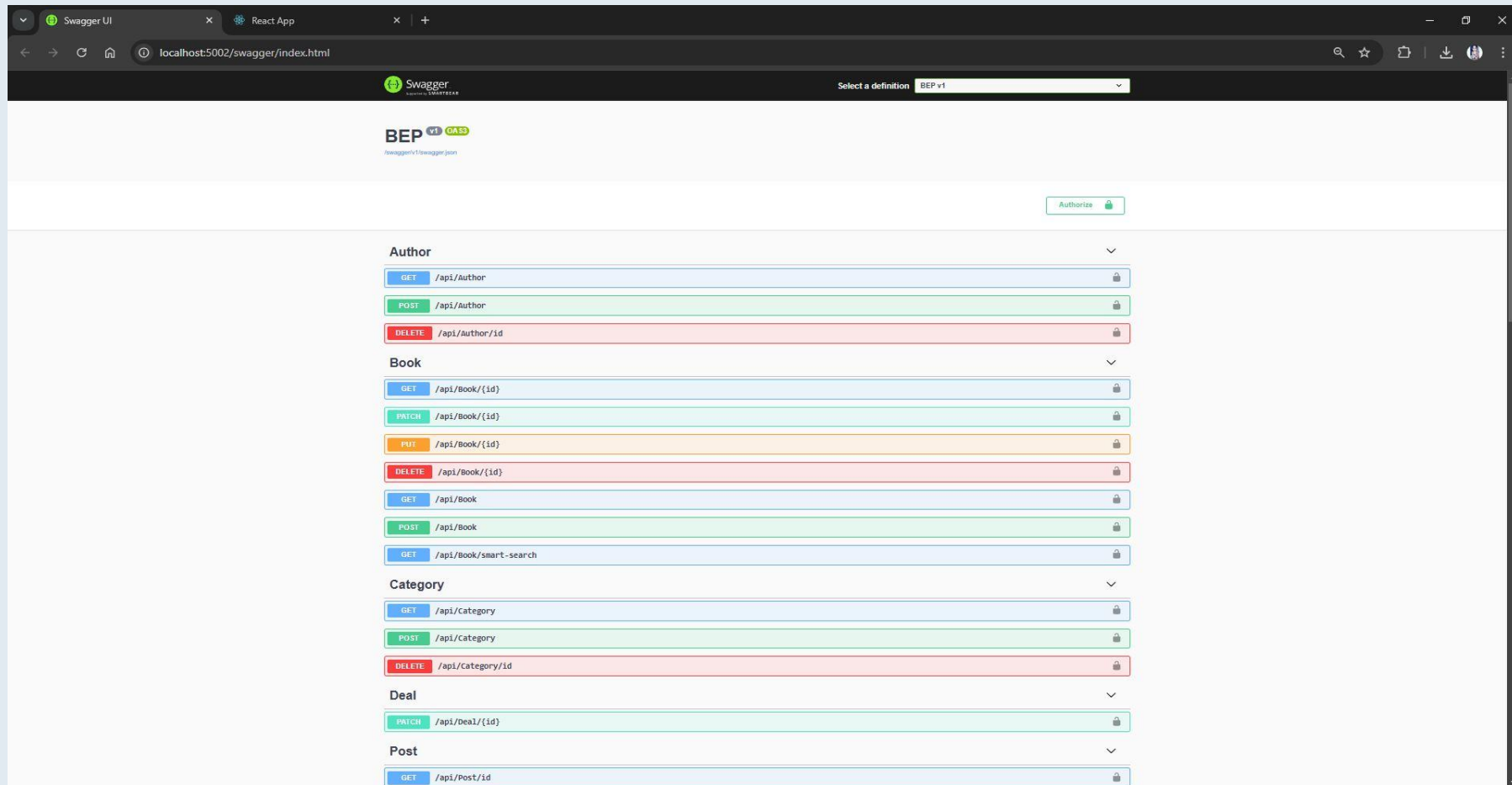


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SNAPSHOTS OF API

4.1 API Endpoints In Swagger



BOOK EXCHANGE APPLICATION

SNAPSHOTS OF API

4.2 API Endpoints In Swagger

Request		⌵
PUT	/api/Request/{id}	🔒
User		⌵
GET	/api/User/current-user	🔒
POST	/api/User	🔒
GET	/api/User	🔒
DELETE	/api/User	🔒
GET	/api/User/id	🔒
GET	/api/User/{id}/stats	🔒
GET	/api/User/leaderboard	🔒
GET	/api/User/{id}/books/recommended	🔒
GET	/api/User/{id}/books/wished	🔒
POST	/api/User/{id}/books/wished	🔒
GET	/api/User/{id}/posts/owned	🔒
POST	/api/User/{id}/requests	🔒
GET	/api/User/{id}/requests/to	🔒
GET	/api/User/{id}/requests/from	🔒
GET	/api/User/{id}/deals/from	🔒
GET	/api/User/{id}/deals/to	🔒
Wishlist		⌵
GET	/api/Wishlist	🔒

BOOK EXCHANGE APPLICATION

SNAPSHOTS OF API

4.3 Few instances of API response using Swagger (Didn't include all the screenshots as I have made use of more than 10 APIs)

Author

GET /api/Author

Try it out

Parameters

No parameters

Responses

Curl

curl -X GET "http://localhost:5002/api/Author" -H "accept: */*"

Request URL

http://localhost:5002/api/Author

Server response

Code

Details

200

Response body

```
{
  "id": 1,
  "name": "Leo Tolstoy",
  "books": []
},
{
  "id": 2,
  "name": "John Green",
  "books": []
},
{
  "id": 3,
  "name": "Greg McKeown",
  "books": []
},
{
  "id": 4,
  "name": "Carl Sagan",
  "books": []
},
{
  "id": 5,
  "name": "Yuval Noah Harari",
  "books": []
},
{
  "id": 6,
  "name": "Bill Bryson"
}
```

Download

Response headers

```
content-length: 251
content-type: application/json; charset=utf-8
date: Wed 13 Nov 2024 12:34:43 GMT
server: Kestrel
```

Responses

Code	Description	Links
200	Success	No links

BOOK EXCHANGE APPLICATION

SNAPSHOTS OF API

4.4 Few instances of API response using Swagger (Didn't include all the screenshots as I have made use of more than 10 APIs)

Book

GET

/api/Book/{id}

Parameters

Cancel

Name	Description
id * required	
integer(\$int32)	2
(path)	
includeDetails	--
boolean	
(query)	

Execute

Clear

Responses

Curl

curl -X GET "http://localhost:5002/api/Book/2" -H "accept: */*"

Request URL

http://localhost:5002/api/Book/2

Server response

Code	Details
200	<div><div>Response body</div><div><pre>{ "id": 2, "title": "A Confession", "isbn": "9788807900501", "shortDescription": "A Confession, or My Confession, is a short work on the subject of melancholia, philosophy and religion by the acclaimed Russian novelist Leo Tolstoy. It was written in 1899 to 1900, when Tolstoy was in his early fifties.", "thumbnailPath": "uploads\\books\\confession.jpg", "details": null, "authors": [], "categories": [] }</pre></div><div><div>Download</div></div></div> <div><div>Response headers</div><div><pre>content-length: 389 content-type: application/json; charset=utf-8 date: Wed 15 Nov 2024 12:38:44 GMT server: Kestrel</pre></div></div>

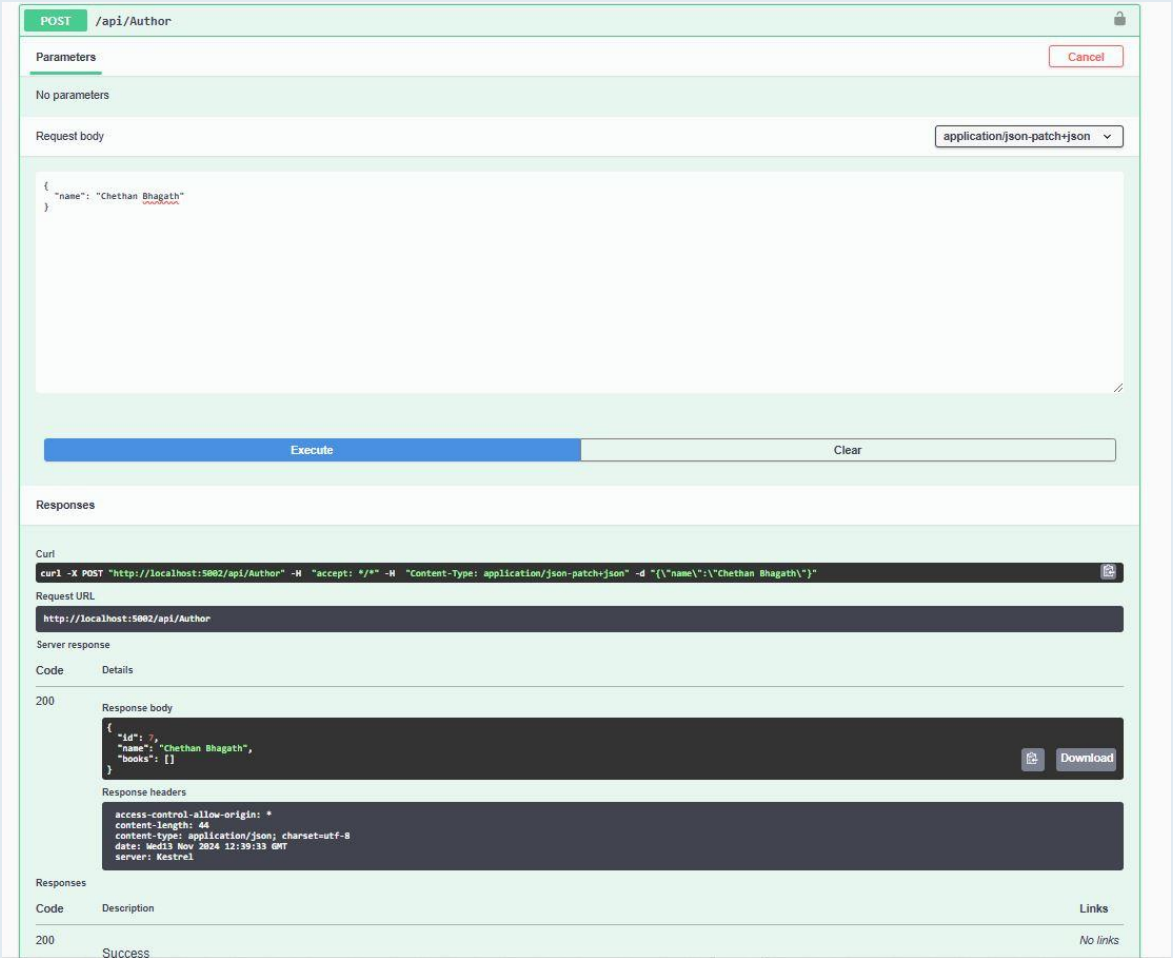
Responses

Code	Description	Links
200	Success	No links

BOOK EXCHANGE APPLICATION

SNAPSHOTS OF API

4.5 Few instances of API response using Swagger (Didn't include all the screenshots as I have made use of more than 10 APIs)





THANK YOU

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