



Junior .NET Developer Task

Task Overview

We are excited to see your application for the Junior .NET Developer position at **Future of Egypt Organization**. To assess your skills and approach to problem-solving, we have prepared the following task. Your task is to develop Book Management API using .NET, which demonstrates your understanding of .NET concepts, coding practices, and your ability to deliver a functional and maintainable codebase.

Task Description

Create a Book Management API

Your task is to build a Book Management API with the following features:

1. User Authentication:
 - Implement user registration and login functionality.
 - Ensure that only authenticated users can access the application.
 - Implement role-based access control (Admin, User) where Admins can manage all books and users can only manage their own books.
2. Book Management:
 - Each book should have the following fields: Title, Author, ISBN, Publication Date, and Genre.
 - Allow users to perform CRUD (Create, Read, Update, Delete) operations on books through API endpoints.
 - Implement endpoints to allow users to rate books and leave reviews. Each review should have a rating (1-5) and a comment.
3. Search and Filtering:
 - Implement a search endpoint to find books by title or author.
 - Allow users to filter books by genre, publication date range, and average rating.
 - Implement sorting options (e.g., sort by title, author, publication date, and rating).
4. Basic Unit Tests:
 - Write unit tests for key components of your application.
5. **[Bonus Points (Plus)]** Book Statistics:
 - Provide endpoints to display statistical data such as the number of books per genre, average rating per book, and total number of reviews.
 - Implement an endpoint to show the most popular books based on ratings and reviews.

Bonus Points for Frontend Integration:

While the primary task is to create an API, you will receive bonus points if you also create a frontend application using a modern frontend library or framework (e.g., React, Angular, or Vue.js) to consume the API. The frontend should:

1. Consume the API:
 - Display books and allow users to perform CRUD operations.
 - Implement search, filtering, and sorting functionalities.
 - Display ratings and reviews.
2. User Authentication:
 - Implement frontend user authentication to work with the API's authentication endpoints.
3. Responsive Design:
 - Ensure the frontend application is responsive and works well on both desktop and mobile devices.

Submission Instructions

Send an email to **tech.careers@foe.gov.eg** with the public GitHub repository link.

Please submit your completed task by **25th May 2024**.

If you have any questions or need further clarification, please do not hesitate to contact us at **tech.careers@foe.gov.eg**.

Good luck!