Internship Task 2 Report - RESTful API Development

Intern Details

Intern Name: Pranay Jadhav

Task Title: RESTful API for Library System

Internship Domain: Software Development

Company: ELiteTEch

Task Number: 2

Objective

To design and implement a RESTful API for a Library System, allowing users to perform basic CRUD operations (Create, Read, Update, Delete) on books.

Tools & Technologies Used

- Language: Python
- Framework: Flask (Micro web framework)
- API Tool: Postman (for testing)
- Code Editor: Visual Studio Code
- Version Control: Git & GitHub
- Frontend: Jinja2 (Flask templating) + JavaScript

API Functionalities

/books (GET) - Get all books

/books/<id> (GET) - Get a book by ID

/books (POST) - Add a new book

/books/<id> (PUT) - Update a book by ID

/books/<id> (DELETE) - Delete a book by ID

/ (GET) - HTML page showing all books

HTML Frontend Features

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- Displays all books in a formatted table
- Integrated search bar for filtering by title or author
- Built using Flask?s Jinja2 templating system
- Responsive layout and clean UI styling with CSS

API Testing via Postman

All endpoints were tested using Postman with different methods:

- POST to add books
- GET to fetch books
- PUT to update book information
- DELETE to remove books

Postman confirmed correct status codes and data integrity.

Sample JSON Payload

```
{
  "id": 3,
  "title": "The Alchemist",
  "author": "Paulo Coelho"
}
```

Browser View

The '/' route renders a webpage that:

- Lists all books in a styled HTML table
- Allows real-time filtering via a JavaScript search box

Conclusion

This task helped in understanding RESTful API architecture, implementing CRUD logic, and integrating simple frontend presentation. It built confidence in:

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- Writing clean backend code
- Structuring API projects
- Testing endpoints with professional tools
- Using Git & GitHub effectively