High Level Design (HLD)

Online Book Shop

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Abstract

The Online Book Shop project is a web-based application aimed at providing a platform for users to browse, search, and purchase books online. This system allows users to explore a wide range of books, view details, add them to the cart, and make secure transactions. It offers an intuitive interface for both customers and administrators to manage book inventory, orders, and user accounts efficiently.

1Introduction

1.1 Why this High-Level Design Document?

The purpose of this High-Level Design (HLD) Document is to add the necessary detail to the current project description to represent a suitable model for coding. This document is also intended to help detect contradictions prior to coding, and can be used as a reference manual for how the modules interact at a high level.

The HLD will:

Present all of the design aspects and define them in detail

Describe the user interface being implemented

Describe the hardware and software interfaces

Describe the performance requirements

Include design features and the architecture of the project

List and describe the non-functional attributes like:

Security Reliability or Maintainability Portability Reusability

Application compatibility o Resource utilization

Serviceability.

# 2 General Description

## 2.1 Product Perspective

The primary objective of the Online Book Shop project is to create an online platform that replicates the experience of browsing and purchasing books from a physical bookstore. It aims to provide a seamless shopping experience, secure payment processing, and efficient management of inventory and orders. The system should be user-friendly, scalable, and robust.

Online Book Shop project is only for learning & hands on experience about Core Java, Advance Java concepts, Hibernate, DBMS, Servlet, JSP and demo model of Online Book Shop.

### 2.2 Problem statement

To create an Online Book Shop the following use cases.

1.Register Admin User

2.Add Books for Sale

3.Register Customer User

4.Show Books

5.Cart Book

### 2.3 PROPOSED SOLUTION

User Registration and Authentication:

Users can register, login, and manage their accounts securely.

Book Catalog:

Browse books by category, genre, author, etc.

View book details such as title, author, price, and description.

Shopping Cart:

Add books to the cart for purchase.

Update quantity or remove books from the cart.

Order Management:

Place orders securely with integrated payment processing.

View order history and status.

Admin Panel:

Manage book inventory, categories, and authors.

View and process orders.

Manage user accounts and permissions.

Search Functionality:

Search books by title, author, genre, or keyword.

Advanced search filters for refining search results.

Responsive Design:

Ensures seamless user experience across devices (desktop, tablet, mobile).

#### 2.4 Tools used

**Java**: Core programming language for backend development.

**Servlet**: For handling requests and generating dynamic web content.

**JSP** (JavaServer Pages): For creating dynamic web pages.

**MySQL**: Relational database management system for storing book data, user information, and orders.

**HTML/CSS**: For frontend user interface design.

**Bootstrap**: Frontend framework for creating responsive web design.

**Apache Tomcat**: Servlet container for running Java web applications.

# 3 Design Details

3.1 Process Flow

For identifying the different types of anomalies, we will use a deep learning base model. Below is the process flow diagram is as shown below.

Open Index Page

START

Login User

User Index Page

All Books Page

Show Books

Added to Cart

Cart Books

Order Placed

Order Book

Return Index Page

Logout

Conclusion

The Online Book Shop project aims to provide a convenient and user-friendly platform for purchasing books online. With its intuitive interface, secure payment processing, and efficient management features, it aims to enhance the overall shopping experience for book enthusiasts while simplifying book inventory management for administrators.