Centurion University of Technology & Management

Bhubaneswar



**Software Requirements Specification**

**Project:** Ebook Management System **— Advance Java Web Project (Servlet, JSP, JDBC, MySQL)**

**Supervisor**

**Mr. Rakesh kumar Ray**

**By**

**Vikas Das (230301120326)**

**Shrabanee Routray (230301120295)**

**Vasetti Dixita (230301120299)**

**Satyapriya Das (230301120308)**

**Jyoti Anurag (230301120003)**

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**1. Introduction**

**1.1 Project Overview**

The Ebook Management System is a web-based application developed as a B.Tech project. It is designed using **Java**, **JSP**, **Servlets**, and **MySQL** to create a dynamic platform for users to browse and interact with a digital book collection. This document outlines the initial phase, which focuses on the design and implementation of the application's home page, as demonstrated in the tutorial video.

**1.2 Purpose**

The primary purpose of this project is to provide a centralized and user-friendly platform for managing and displaying e-books. It aims to deliver a seamless user experience for discovering books, viewing their details, and (in future phases) purchasing them. For a B.Tech student, this project serves as a practical application of web development skills using the Java technology stack.

**1.3 Scope**

The scope of the project as covered in the video is the front-end development of the home page. This includes:

* Designing a responsive layout using **Bootstrap**.
* Creating a navigation system for the application.
* Displaying books in categorized sections such as **Recent**, **New**, and **Old**.
* Implementing interactive elements like buttons and icons using **Font Awesome**.

The project's future scope, mentioned in the video, includes backend development for user registration, login, and book management functionalities.

**1.4 Target Audience**

The primary users of this application are general consumers interested in browsing and purchasing e-books. The secondary audience includes system administrators who will manage the book inventory and user data.

**2. Overall Description**

**2.1 Product Perspective**

This system is a standalone web application that will operate independently. It is designed to be accessible through any modern web browser. The application follows a client-server architecture, where the user's browser is the client and the Java web application running on a server (like Apache Tomcat) is the server, which interacts with the MySQL database.

**2.2 Tools and Technologies**

The development of this project relies on a specific set of tools and technologies identified in the video: | Technology | Version/Type | Purpose | Timestamp | | :--- | :--- | :--- | :--- | | **IDE** | Eclipse | Code development, debugging, and project management. | | | **Database** | MySQL Workbench | Storing and managing all application data. | | | **Build Tool** | Maven | Managing project dependencies and build lifecycle. | | | **Frontend** | Bootstrap 4 | Creating a responsive and visually appealing UI. | | | **Icons** | Font Awesome | Providing scalable vector icons for UI elements. | | | **Backend**| Java (JDK 8+), JSP, Servlets | Core application logic and server-side processing. | |

**2.3 User Classes and Characteristics**

* **General User/Guest:** Any visitor to the site. They can browse books, use the search functionality, and view book details.
* **Registered User (Future):** A user who has created an account. They will have additional privileges like adding books to a cart and making purchases.
* **Administrator (Future):** A privileged user responsible for adding new books, updating existing book information, and managing user accounts.

**2.4 Operating Environment**

* **Server-Side:** The application will be deployed on a web server that supports Java Servlets and JSP, such as **Apache Tomcat**. It requires a Java Runtime Environment (JRE) and a MySQL database server.
* **Client-Side:** The application will be accessible on any device with a modern web browser (e.g., Chrome, Firefox, Safari, Edge) and an internet connection.

**2.5 Design and Implementation Constraints**

* The project must be developed using the specified Java technology stack.
* The initial design must be responsive and adapt to different screen sizes, from mobile phones to desktops.
* The video uses a procedural approach to build the UI, starting with basic HTML structure and progressively adding styling and components.

**3. System Features and Requirements**

**3.1 Home Page Module**

This is the core module developed in the video tutorial.

**3.1.1 Header and Navigation Bar**

* **Description:** The header provides branding and primary navigation for the site.
* **Requirements:**
  + Must contain the "E-Book" logo/brand name.
  + Must include a search bar for finding books.
  + Must have navigation links: **Home**, **Recent Book**, **New Book**, and **Old Book**.
  + Must feature **Login** and **Register** buttons for user authentication.
  + The background color and text styling are customized for a unique look.

**3.1.2 Main Banner / Hero Section**

* **Description:** A large, visually engaging section below the header to attract user attention.
* **Requirements:**
  + Must display a background image related to books or reading.
  + Must prominently display the text "**Book Management System**" in the center.

**3.1.3 Book Display Sections**

* **Description:** The main content area where books are showcased in different categories. The video implements three such sections.
* **Requirements:**
  + Each section (**Recent Book**, **New Book**, **Old Book**) must have a clear heading.
  + Books are displayed in a grid layout (four books per row).
  + Each book is presented as a "card" containing:
    - Book cover image.
    - Book Title (e.g., "Java Programming").
    - Author Name.
    - Price.
    - Action buttons: "**Add Cart**" with an icon, "**View Details**", and "**Order Now**".
  + Each section concludes with a "**View All**" button to see more books in that category.
  + A hover effect is applied to the book cards for better user interaction.

**3.1.4 Footer Section**

* **Description:** The section at the bottom of the page containing supplementary information.
* **Requirements:**
  + Must have a distinct background color matching the header's theme.
  + Must display copyright and developer information (e.g., "Designed and Developed by [Author]").

**3.2 Future Scope: User and Book Management**

The video explicitly states that backend functionality will be covered in subsequent parts. This includes:

* **User Registration:** A form to create a new user account.
* **User Login:** A mechanism for users to sign in.
* **Dynamic Data:** Populating the book cards with data fetched from the MySQL database instead of the current static placeholder content.

**4. External Interface Requirements**

**4.1 User Interface (UI)**

* The UI must be clean, intuitive, and easy to navigate.
* The design must be responsive, ensuring a consistent experience across desktops, tablets, and mobile devices.
* Visual feedback (e.g., hover effects on buttons and links) must be provided for user actions.

**4.2 Software Interfaces**

* **Database:** The application will interface with a **MySQL** database via JDBC (Java Database Connectivity) to perform CRUD (Create, Read, Update, Delete) operations on book and user data.
* **Web Browser:** The application will generate HTML, CSS, and JavaScript that is compatible with all major modern web browsers.

**5. Non-Functional Requirements**

**5.1 Performance**

* The home page should load within 3-5 seconds on a standard internet connection.
* Images should be optimized for the web to reduce load times.

**5.2 Usability**

* The navigation should be logical and predictable.
* All interactive elements (buttons, links) must be clearly identifiable and functional.
* The color scheme and typography should ensure readability.

**5.3 Reliability**

* The application should be available 24/7, with minimal downtime.
* Links should not be broken, and all page elements should render correctly.

**5.4 Security**

* (Future Scope) User passwords must be hashed before being stored in the database.
* (Future Scope) The application should be protected against common web vulnerabilities like SQL Injection and Cross-Site Scripting (XSS).

**Thank You !**