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**605. 782.71: Web Application Development with JSP and Servlets**

**Faculty: Mr. Kiran Chittargi**

**Term: Summer 2025**

**Term Project: Preliminary Proposal**

**Project Name: PageTurners**

**Team Members:**

**Cyrus Wang**

**Christopher Young**

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# Modification History

| **Version Number** | Description | Modified Date | Modified By |
| --- | --- | --- | --- |
| Draft 1 | Created | 06/27/25 | Cyrus Wang |
| Draft 2 | Modified | 6/28/25 | Chris Young |
| Draft 3 |  |  |  |
| Rev. R0 |  |  |  |

# Introduction

* 1. **Purpose:**

This project is being developed to fulfill the requirements of the Web Application Development with JSP and Servlets course. It demonstrates key concepts such as session tracking, dynamic content, input validation, and the Model-View-Controller (MVC) architecture.

* 1. **Project Description:**
     1. We propose to build an Online Bookstore named PageTurners. This web application will allow users to:
        + Register for an account and log in securely
        + Browse books by category (e.g., Fiction, Non-Fiction, Academic)
        + Add books to a shopping cart, and allow the user to update or remove items at any time
        + Check out securely, with the checkout page using SSL
        + Receive an on-screen order confirmation after checkout (this will simulate an email confirmation)
  2. **Functions of the System:**
     1. Multiple navigation options at each step (browse, view cart, continue shopping, checkout)
     2. Session-based shopping cart that persists as the user navigates
     3. User profile data pre-filled during checkout for convenience
     4. Input validation on all forms, with user-friendly error messages
     5. Uniform, simple, and readable user interface

# Glossary

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| Term | Definition |
| HTML | HyperText Markup Language for web page structure. |
| Java | Object-oriented programming language. |
| JavaScript | Scripting language for client-side interactivity. |
| JSP | Java Server Pages for embedding Java in HTML. |
| Servlet | Server-side Java component for request handling. |
| MVC | Model-View-Controller pattern separating logic, data, and presentation. |
| Shopping Cart | Session-based storage for items selected by the user. |
| SSL | Secure Sockets Layer for encrypted communication. |

# System Architecture:

* + 1. **Client-Side**
       - Registration and login pages
       - Browse books by category
       - View and edit shopping cart
       - Secure checkout page
       - Order confirmation page
    2. **Server-Side**
       - Servlets handle user requests and control navigation
       - JSPs tender the pages
       - Java Beans hold session data such as user info and cart contents
       - SSL will be implemented for the checkout process
    3. **Technologies Used**
       - Frontend: JSP, HTML, CSS, JS
       - Backend: Java Servlets, Java Beans, HTTP Session
       - Security: SSL for Checkout
       - Storage: Session storage for cart and user data (database optional)

# Work Distribution

* + 1. **Cyrus Wang**
       - Implement Servlets for user login, registration, cart management, and checkout
       - Manage session data with Java Beans
       - Configure SSL for checkout
    2. **Christopher Young**
       - Develop JSP pages and overall UI
       - Handle input validation with JS
       - Create error pages with user-friendly messages
       - Test user flows and confirmation displays
    3. **Both Members will test and integrate the MVC components and prepare the final presentation demo together**

# Website Pageflow

