

# **INDUSTRIAL INTERNSHIP REPORT ON**

## **ONLINE BOOK SHOPPING SYSTEM**

**Prepared by:**

**SHALINI V**

### ***Executive Summary***

This report provides details of the Industrial Internship provided by upskill Campus and The IoT Academy in collaboration with Industrial Partner UniConverge Technologies Pvt Ltd (UCT).

This internship was focused on a project/problem statement provided by UCT. We had to finish the project including the report in 6 weeks' time.

My project was (ONLINE BOOK SHOPPING SYSTEM)

The project aims to develop an online book shopping system using Java. The project type is a software development project focused on creating a platform for users to browse and purchase books online.

This internship gave me a very good opportunity to get exposure to Industrial problems and design/implement solution for that. It was an overall great experience to have this internship.

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TOPIC : ONLINE BOOK SHOPPING SYSTEM

NAME : SHALINI V

# 1 Preface

The purpose of this report is to provide an overview of the design and implementation of an online book shopping system using Java. The report will cover various aspects of the system, including its objectives, proposed solution, design/model, performance testing, and the author's learnings throughout the project. Additionally, future work scope will be discussed to highlight potential enhancements and improvements that can be made to the system.

Week -1 : explore project topics

Week - 2: implemented additional functionalities

Week -3 : implemented user authentication features

Week -4 : completed user authentication features , integrated with database

Week -5 : implemented order creation functionality , allowing user to place orders of a various book

## 2 Introduction

### 2.1 About UniConverge Technologies Pvt Ltd

UniConverge Technologies Pvt Ltd is a software development company that specializes in delivering customized solutions to its clients. With a team of highly skilled developers, UniConverge Technologies has successfully completed numerous projects in various domains.

A company established in 2013 and working in Digital Transformation domain and providing Industrial solutions with prime focus on sustainability and RoI.

For developing its products and solutions it is leveraging various **Cutting Edge Technologies e.g. Internet of Things (IoT), Cyber Security, Cloud computing (AWS, Azure), Machine Learning, Communication Technologies (4G/5G/LoRaWAN), Java Full Stack, Python, Front end** etc.

### 2.3 about upskill campus

Upskilling is a workplace trend that facilitates continuous learning by providing training programs and development opportunities that expand an employee's abilities and minimize skill gaps.

Upskilling focuses on improving current employees' skill sets, usually through training, so they can advance in their jobs and find different roles and opportunities within the company.

As technology creates new opportunities and job positions within the workplace, it becomes increasingly important for companies to fill these new roles with candidates who possess the relevant, specialized skill sets. Upskilling allows organizations to close the digital talent gap and fill these open positions while maintaining their current workforce and creating employee strengthening and learning opportunities.

## **Introduction**

The online book shopping system is a web-based application that allows users to browse, search, and purchase books from the comfort of their own homes. The system provides a convenient and efficient platform for customers to explore a wide range of books, read book descriptions and reviews, and make secure online payments. It also offers features such as personalized recommendations based on user preferences and a user-friendly interface for easy navigation.

The key components of the online book shopping system include a database to store book information, user profiles, and transaction details, a web server to handle user requests and serve web pages, and a payment gateway for secure online transactions. The system aims to provide a seamless and enjoyable book shopping experience for users while ensuring the security and privacy of their information.

### **2.3 Objective**

The objective of the online book shopping system is to create a robust and user-friendly platform that enables customers to conveniently purchase books online. The system should provide a comprehensive catalog of books, personalized recommendations, secure payment options, and a seamless browsing and purchasing experience. It should also allow users to track their orders, manage their profiles, and provide feedback on their purchases.

### **2.4 Reference**

The development of the online book shopping system is based on the following references:

- Java Programming Language
- Java Servlets and JavaServer Pages (JSP)
- Payment gateway integration guidelines

## 2.5 Glossary

- Online book shopping system: A web-based application that allows users to browse, search, and purchase books online.
- User profile: A personal account created by a user to manage their preferences, orders, and other details.
- Catalog: A collection of books available for purchase.
- Payment gateway: A secure platform that handles online payment transactions.
- SSL: Secure Socket Layer, a security protocol that ensures secure communication over the internet.
- RDBMS: Relational Database Management System, a software system used to manage databases.

## 3 Problem Statement

The existing problem in traditional book shopping is the inconvenience of physically visiting bookstores, limited availability of books, and the lack of personalized recommendations for customers. To address these issues, an online book shopping system is proposed to provide a convenient and personalized shopping experience for users.

## 4 Existing and Proposed Solution

The existing solution to book shopping involves visiting physical bookstores, browsing through limited selections, and making purchases in person. This traditional approach has limitations in terms of convenience, availability, and personalized recommendations. The proposed solution is an online book shopping system that overcomes these limitations by providing a comprehensive catalog of books, personalized recommendations based on user preferences, and the ability to make purchases online from anywhere at any time.

## 5 Proposed Design / Model

The proposed design for the online book shopping system consists of several components, including:

### - User Interface:

The user interface will be developed using HTML, CSS, and JavaScript to provide an intuitive and user-friendly experience. It will include features such as book search, browsing categories, book descriptions, and customer reviews.

### - Server-Side Programming:

The server-side logic will be implemented using Java Servlets and JavaServer Pages (JSP). Servlets will handle user requests, process data, and interact with the database. JSP pages will generate dynamic web content based on user interactions.

### - Database:

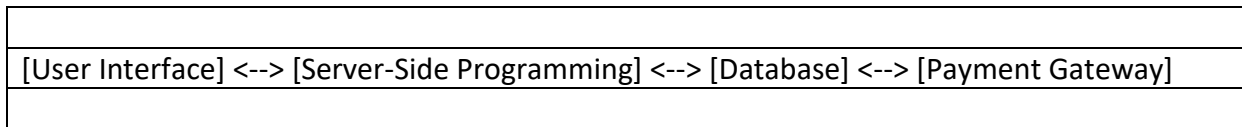
The system will utilize a relational database management system (RDBMS) to store and manage book information, user profiles, and transaction details. The database will be designed to ensure data integrity, scalability, and efficient retrieval of information.

### - Payment Gateway Integration:

The system will integrate with a payment gateway service to enable secure online transactions. The integration will involve following the payment gateway's guidelines for encryption, handling payment callbacks, and ensuring data security.

## 5.1 High-Level Diagram :

A high-level diagram of the proposed design can be depicted as follows:



The high-level diagram of the online book shopping system consists of four main components:

### - User Interface:

This component includes the web pages and forms that allow users to interact with the system. It provides the interface for browsing books, searching, managing the shopping cart, and completing the purchase.

### - Application Logic:

This component handles the business logic of the system, including user authentication, book search algorithms, shopping cart management, and payment processing.

### - Database:

This component stores the system's data, including book information, user profiles, orders, and transactions.

### - External Services:

This component integrates with external services, such as payment gateways and shipping APIs, to enable secure payments and order fulfillment.

## 5.2 Low-Level Diagram :

The low-level diagram illustrates the internal components and interactions within the application logic component of the online book shopping system. It includes modules for user authentication, book management, shopping cart, payment processing, and order management. These modules communicate with each other and the database to perform their respective functions.



## **5.3 Interfaces :**

The system will provide the following interfaces for users:

### **- Registration and Login:**

Users can create new accounts and login using their credentials.

### **- Book Search and Browsing:**

Users can search for books based on various criteria, browse different categories, and view book details.

### **- Personalized Recommendations:**

The system will provide personalized book recommendations based on user preferences, purchase history, and ratings.

### **- Shopping Cart:**

Users can add books to their shopping cart, review the contents, and proceed to checkout.

### **- Order Management:**

Users can track their orders, view order history, and manage their account details.

### **- Payment:**

The system will provide secure payment options for users to complete their purchases online.

## **6. Performance Test :**

### **6.1 Test Plan/Test Cases :**

A comprehensive test plan will be developed to ensure the performance, reliability, and scalability of the online book shopping system. The test plan will include test cases for various scenarios, such as user registration, book search, order placement, payment processing, and system scalability.

## **6.2 Test Procedure :**

The test procedure will involve executing the test cases defined in the test plan, monitoring system behavior, and recording any issues or performance bottlenecks encountered. The tests will cover both functional and non-functional aspects of the system, including user experience, response time, system stability, and security.

## **6.3 Performance Outcome :**

The performance outcome will be evaluated based on the test results, including response time, throughput, and system stability. Any performance issues identified during the testing phase will be addressed and optimized to ensure the system meets the desired performance standards.

## **7. My Learnings :**

Throughout the development of the online book shopping system, several key learnings were gained, including:

- Understanding of Java Servlets and JSP for server-side programming.
- Proficiency in designing and implementing a relational database schema.
- Integration of a payment gateway for secure online transactions.
- Designing and developing an intuitive user interface using HTML, CSS, and JavaScript.
- Applying best practices for system performance, scalability, and security.
- Gaining insights into the challenges and considerations involved in developing an online shopping system.

## **8 .Future Work Scope :**

There are several potential areas for future work and enhancements to the online book shopping system, including:

- Integration with third-party APIs for book reviews, author information, and social media sharing.
- Implementation of advanced recommendation algorithms based on machine learning and user behavior analysis.
- Expansion of the system to support e-books and audiobooks in addition to physical books.
- Integration with inventory management systems to ensure real-time stock availability.
- Development of a mobile application for seamless shopping on smartphones and tablets.
- Implementation of a rating and review system for users to share their feedback on books.

## **Conclusion :**

In conclusion, the online book shopping system developed using Java provides a convenient, secure, and personalized platform for users to browse, search, and purchase books online. The system utilizes server-side programming, a relational database, this report provides an overview of an online book shopping system developed using Java. It covers the project's objective, design, performance testing, and future work scope. The system aims to offer a user-friendly interface, efficient search and recommendation features, secure transactions, and a seamless online shopping experience for book enthusiasts.

