Cold Drink Agency Management System

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Abstract—**This project explains the design and development of** a **Cold Drink Management System** using **a web application. The main aim of this system is to replace the manual process of ordering and managing cold drinks with an online system. Customers can view different cold drinks, place orders online, and check their order status. The admin can add new drinks, update prices, manage stock, and view customer orders. The system is developed** using **Advanced Java technologies such as JSP, Servlets, and JDBC**, with **MySQL as the database. This system reduces paperwork, saves time, and improves customer service by making the ordering process fast and simple.**

Index Terms—**Advanced Java, Cold Drink Management System, Database Management System, Online Cold Drink Ordering, Web Application.**

I. INTRODUCTION

The rapid growth of web technologies has significantly transformed traditional business operations into digital platforms. In the beverage industry, especially cold drink sales, manual systems often lead to inefficiencies such as order mismanagement, inventory errors, and delayed services. To overcome these challenges, there is a need for an automated system that can efficiently manage cold drink ordering and administration.

The Cold Drink Management System is a web-based application designed to provide an easy and reliable platform for customers and administrators. Customers can view available cold drinks, place orders online, and manage their profiles, while administrators can manage products, stock levels, and customer orders through a centralized dashboard. The system ensures secure data handling and improves overall operational efficiency

II. PROCEDURE FOR PAPER SUBMISSION

A. Review Stage
The manuscript describing the Cold Drink Management System is submitted electronically for review. The paper is prepared in a two-column format including system architecture diagrams, database schema, and user interface screenshots wherever required.

B. Final Stage
After acceptance, the final version of the manuscript is submitted along with the copyright form as per IJIRT guidelines.

C. Figures
Figures such as system architecture, flow diagrams, and user interface screenshots are inserted using appropriate Word tools with text wrapping set to top and bottom.

III. MATH

Mathematical equations are minimal in this project. However, if required for performance evaluation or sales analysis, equations are formatted using Microsoft Equation Editor or MathType following IJIRT standards.

IV. UNITS

Standard SI units are used wherever applicable. Database size, response time, and performance-related measurements are represented using appropriate and consistent units.

V. HELPFUL HINTS

A. Figures and Tables Figures represent system architecture, data flow diagrams, and database design. Tables include product lists, order details, and user information. All figures and tables are properly labeled and referenced in the text.

B. References

In the Cold Drink Agency Management System project, references play an important role in supporting the concepts, technologies, and methodologies used during system development. References provide a strong theoretical foundation and validate the practical approaches adopted in the project. All references are numbered sequentially and cited within square brackets such as [1], [2], and [3]. When multiple references are cited together, they are written as [2], [3], following standard academic conventions. Sentence punctuation is placed after the reference citation.

The references used in this project include standard software engineering textbooks, database management books, official framework documentation, and reliable online learning resources. These references assist in understanding important topics such as system analysis and design, backend development using Java and Spring Boot, frontend development using HTML, CSS, and JavaScript, RESTful API communication, and relational database management using PostgreSQL

By consulting these references, the project ensures correctness, efficiency, scalability, and maintainability. The reference material also helps future developers or students understand the design decisions taken during the project and enables further enhancement or replication of the system.

C. AbbreviationsandAcronyms

The abbreviations and acronyms used in this project are defined at their first occurrence in the document to ensure clarity and readability. Common technical abbreviations such as DBMS (Database Management System), API (Application Programming Interface), CRUD (Create, Read, Update, Delete), UI (User Interface), and MVC (Model View Controller) are used throughout the project to represent frequently occurring technical concepts. Abbreviations are written without unnecessary spaces and punctuation.

Once defined, the abbreviated forms are consistently used across the documentation. Abbreviations are avoided in section headings and titles unless their usage is essential. This approach helps maintain clarity for readers who may not be deeply familiar with technical terminology while still following standard software documentation practices.

D. Equations

The Cold Drink Agency Management System is mainly focused on software development and business process automation; therefore, it does not involve advanced mathematical or scientific equations. However, several logical and arithmetic calculations are implemented within the system to support daily business operations.

These calculations include:

- Calculation of total order amount based on product price and quantity
- Automatic updating of stock quantity after each sale
- Validation of payment types and transaction records

Generation of summary data for reporting and dashboard views

All calculations are implemented programmatically within the backend services to ensure accuracy, consistency, and reliability. Logical conditions and validation checks are used to prevent incorrect data entry and maintain data integrity in the database.

VI. PUBLICATIONPRINCIPLES

The Cold Drink Agency Management System project follows standard academic and software engineering publication principles. The project is designed to demonstrate the practical application of theoretical concepts learned during the course of study. The system addresses a real-world problem faced by cold drink agencies, such as manual record keeping, data inconsistency, and difficulty in tracking stock and orders. The design and implementation are appropriate to the complexity of agency operations and use modern technologies to improve efficiency and reliability. Adequate documentation is provided in the form of system architecture, database design, API structure, and module descriptions. The project implementation is tested thoroughly, and the results

are recorded to ensure correctness. Sufficient technical details are included to allow future enhancement, maintenance, or replication of the system by other developers.

VII. CONCLUSION

The Cold Drink Agency Management System successfully fulfills its objective of automating and simplifying the management of cold drink agency operations. The system integrates backend services developed using Spring Boot with a responsive and user-friendly frontend interface designed using HTML, CSS, and JavaScript.The application provides efficient handling of customers, products, stock, and orders, reducing manual workload and minimizing errors. The use of PostgreSQL ensures reliable data storage and fast retrieval. The MVC architecture improves maintainability and scalability of the system. Overall, the project demonstrates effective use of full-stack development technologies and serves as a practical solution for small and medium-scale cold drink agencies. It is suitable for academic evaluation and can be extended further to include advanced features such as billing, authentication, and analytics.

APPENDIX

Appendixes, if needed appear before the acknowledgment.

ACKNOWLEDGMENT

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