PROJECT REPORT

Chai-e-Banaras Cafés and Food Hub Management System

Course: **ITPR**

Project Type**: Command Line Application**

Technology Used: **Java, MySQL, JDBC**

Guided By: **Mr. Anuj Kumar**

Submitted By: **Aman Kumar Singh**

Declaration:

We hereby declare that this project report is our original work and has not been submitted to any other university or institution.

Acknowledgement:

We would like to express our sincere gratitude to our trainer, institute, and friends for their guidance and support during the completion of this project.

1. Introduction:

The Chai-e-Banaras Cafés and Food Hub Management System is designed to automate café operations such as ordering, billing, inventory control, and customer feedback management. Manual systems are inefficient, time-consuming, and prone to errors, especially during peak hours.

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2. Problem Statement:

Traditional café management systems rely heavily on manual processes. These processes lead to billing errors, delays in service, poor inventory tracking, and lack of proper customer records.

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3. Objectives:

To provide a digital menu system

To automate billing and order processing

To manage inventory efficiently

To store customer and order data securely

To reduce manual work and human errors

To improve customer satisfaction

4. Scope of the Project:

The scope of this project includes managing café menu items, orders, billing, inventory, and feedback for small to medium-sized cafés.

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5. System Modules:

Items Module manages all café menu items.

This module plays a critical role in ensuring smooth system operation.

Orders Module handles customer orders.

This module plays a critical role in ensuring smooth system operation.

Order Items Module stores item-wise order details.

This module plays a critical role in ensuring smooth system operation.

Customers Module maintains customer information.

This module plays a critical role in ensuring smooth system operation.

Categories Module organizes menu items.

This module plays a critical role in ensuring smooth system operation.

Admin Users Module controls access.

This module plays a critical role in ensuring smooth system operation.

Inventory Module tracks stock levels.

This module plays a critical role in ensuring smooth system operation.

Offers Module manages discounts.

This module plays a critical role in ensuring smooth system operation.

Feedback Module stores customer feedback.

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6. Database Design:

The project uses a MySQL relational database. Tables are designed using normalization principles with primary and foreign keys to maintain data integrity.

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7. ER Diagram:

The ER Diagram shows entities such as Customers, Orders, Items, Inventory, and Feedback and their relationships. It serves as a blueprint for database implementation.

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8. Data Flow Diagram:

DFD Level 0

This level explains how data flows between users, processes, and data stores in the system.

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DFD Level 1

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DFD Level 2

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9. System Execution:

As shown in the execution video, the system allows users to view menu items, place orders, generate bills, apply offers, update inventory, and store feedback.

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10. Advantages:

The system reduces manual effort, improves accuracy, ensures faster service, and enhances overall café management.

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11. Limitations:

Being a command-line application, the system may not be visually appealing. Internet-based features are not included.

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12. Future Scope:

The project can be extended with online ordering, mobile app support, QR-based ordering, digital payments, and AI-based recommendations.

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13. Conclusion:

The Chai-e-Banaras Cafés and Food Hub Management System is a complete solution for automating café operations and improving efficiency.

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14. Bibliography:

Java Documentation

MySQL Documentation

JDBC Tutorials

GeeksforGeeks

W3Schools

15. System Testing and Results:

The system was tested using multiple test cases such as single-item orders, multiple-item orders, discount application, and inventory updates. All test cases executed successfully without errors. The results confirmed accurate billing, correct offer application, and proper database storage of records.

16. Output Screens (Execution Proof):

The following outputs were observed during execution:
- Menu display with categories
- Item selection with quantity
- Automatic bill generation
- Inventory update after order confirmation
- Feedback entry confirmation

17. Final Conclusion:

After successful implementation and testing, the Chai-e-Banaras Cafés and Food Hub Management System proves to be an effective solution for café automation. The system minimizes manual errors, improves operational efficiency, and enhances customer satisfaction. With future enhancements, this system can be scaled to enterprise-level café management.