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Digitally Available – Digital Ration Shop Application

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Abstract: *The Digital Ration Shop Management System is a web-based application designed to modernize and automate the traditional Public Distribution System (PDS). The current manual system suffers from issues like corruption, lack of transparency, improper record management, and delays in ration distribution. The proposed system provides a digital platform where users can check ration availability, track transactions, and receive notifications. Shopkeepers can manage stock efficiently, and government authorities can monitor operations in real-time. This system ensures transparency, reduces fraud, and improves efficiency in ration distribution.*

Keywords: Digital Ration Shop, Public Distribution System (PDS), Web Application, Transparency, Automation, Database Management

I. INTRODUCTION

The Public Distribution System (PDS) plays a crucial role in providing essential commodities like rice, wheat, and sugar to economically weaker sections. However, the traditional ration shop system is mostly manual and prone to errors, corruption, and inefficiency.

The Digital Ration Shop Application is developed to overcome these problems by introducing a digital platform that connects users, shopkeepers, and government authorities. The system aims to provide transparency, reduce manual work, and improve service quality.

II. EXISTING SYSTEM

The existing ration shop system operates manually, where records are maintained in registers. Customers have to physically visit shops and often face long queues.

Problems in Existing System:

- Lack of transparency in ration distribution
- Chances of corruption and fraud
- Manual record-keeping leads to errors
- No real-time stock updates
- Time-consuming process
- No proper monitoring by authorities

III. PROPOSED METHOD

The proposed system is a **web-based Digital Ration Shop Application** that automates all operations.

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Features of Proposed System:

- Online user registration and login
- Digital ration card management
- Real-time stock updates
- Online transaction tracking
- SMS/notification alerts
- Admin dashboard for monitoring
- Secure database management

This system ensures that ration is distributed fairly and efficiently.

IV. IMPLEMENTATION OF OUR PROJECT

The system is developed using modern web technologies.

Technologies Used:

- Frontend: HTML, CSS, JavaScript
- Backend: PHP / Node.js
- Database: MySQL

Modules of the System:

User Module

- Login/Register
- View ration details
- Check transaction history

Shopkeeper Module

- Update stock
- Manage users
- Record transactions

Admin Module

- Monitor all shops
- Manage users and data
- Generate reports

V. SYSTEM DESIGN

The system follows a client-server architecture.

Components:

- User Interface (Web Pages)
- Application Server
- Database Server

Data Flow:

- User sends request
- Server processes request
- Database stores/retrieves data
- Response is displayed to user

VI. DATABASE DESIGN & APPLICATION

The database is used to store all records securely.

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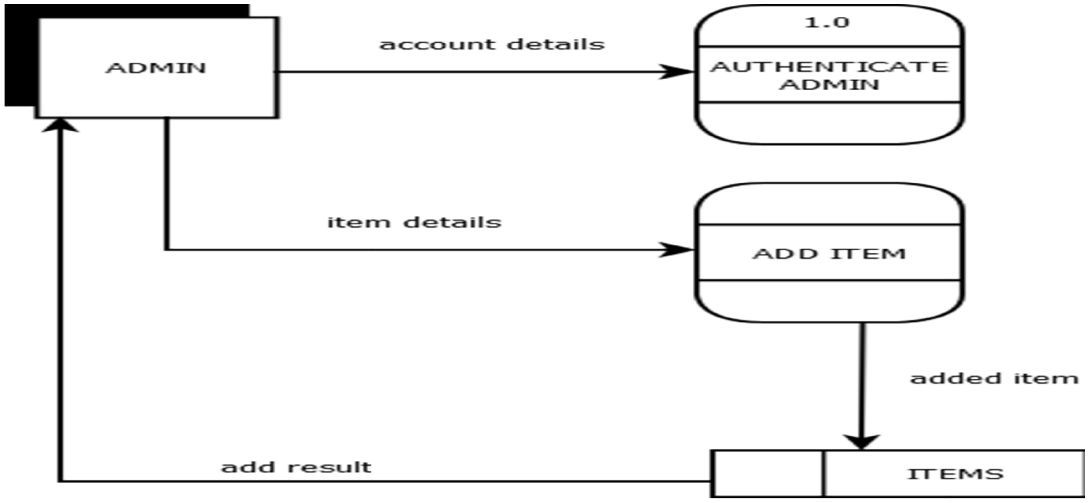
Tables Used:

- Users Table
- Ration Card Table
- Stock Table
- Transactions Table

Functions:

- Store user data
- Track ration distribution
- Maintain stock records
- Generate reports



VII. RESULTS AND DISCUSSION

After implementation, the system showed significant improvements:

- Reduced corruption
- Faster service
- Accurate record management
- Real-time monitoring
- Improved user satisfaction

The system is efficient, reliable, and easy to use.

VIII. FUTURE SCOPE

The system can be further enhanced with:

- Mobile application integration
- Aadhaar-based authentication
- Biometric verification
- AI-based fraud detection
- Online payment system

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IX. CONCLUSION

The Digital Ration Shop Application successfully addresses the problems of the traditional ration system. It ensures transparency, reduces manual errors, and improves efficiency. The system benefits users, shopkeepers, and government authorities by providing a secure and reliable platform for ration distribution.

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REFERENCES

[1] Government of India, Public Distribution System (PDS)
[2] Web Development Documentation (HTML, CSS, JavaScript)
[3] MySQL Database Documentation
[4] Research papers on E-Governance Systems