Farmer-To-Consumer Grocery Shop

J.NOOR AHAMED[1], C.DEEPAN RAJ[2]

[1]Assistant Professor, Department of Computer Applications,

Nehru College of management, Coimbatore, Tamilnadu, India

[2]Student of II MCA, Department of Computer Applications

Nehru college of management, Coimbatore, Tamilnadu, India.

[2]deepanraj0314@gmail.com

[1]jnamca@gmail.com

ABSTRACT:

The Fresh Fields(Farmer-to-Consumer Grocery shop) is a digital platform designed to streamline the sale of agricultural products by directly connecting consumers with verified stakeholders such as wholesalers, cooperatives, and farm distributors. By eliminating unnecessary intermediaries, the platform ensures fair pricing, product transparency, and enhanced accessibility to fresh produce.

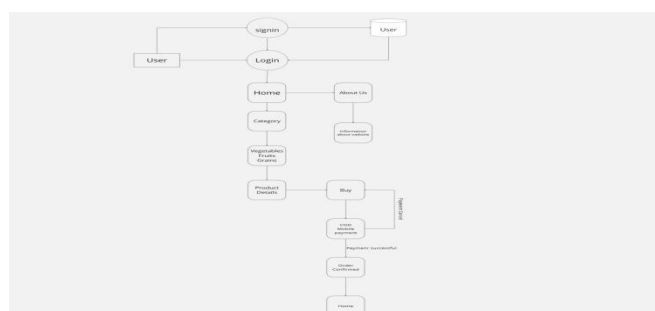The application comprises two core modules:
Consumer Module: Consumers can browse and search for products, filter based on categories, place orders, and make secure payments through an integrated payment gateway. Additional features such as real-time order tracking and personalized recommendations enhance the user experience.

Stakeholder Module: Authorized stakeholders manage product listings, update availability, set prices, and oversee order fulfillment. This ensures a consistent supply of quality agricultural products.

INTRODUCTION:

Agricultural supply chains often involve multiple intermediaries, leading to increased prices, reduced profits for farmers, and limited consumer access to fresh produce. Digital transformation in agriculture can address these challenges by offering a direct-to-consumer marketplace. Fresh Fields is a technology-driven solution that enhances transparency, optimizes supply chain efficiency, and promotes fair trade between stakeholders and consumers.The Fresh Fields is structured into two key modules: the Consumer Module, which provides an intuitive shopping experience with search, filtering, secure payments, and real-time order tracking, and the Stakeholder Module, which enables authorized sellers to efficiently manage product listings, pricing, and order fulfillment. Through this streamlined approach, The Fresh Fields fosters a more efficient, equitable, and sustainable agricultural marketplace.

WORKFLOW:

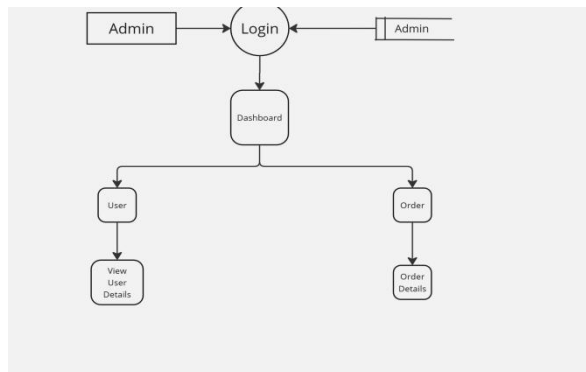USER FLOW: Fig.no:1

ADMIN FLOW:

Fig.no:2

OBJECTIVES:

Establish a seamless digital marketplace that directly connects consumers with verified agricultural stakeholders, reducing dependency on intermediaries. Offer a user-friendly interface with features such as personalized recommendations, and secure payment options. Enable stakeholders to manage product listings, update availability, set prices, and oversee order fulfillment efficiently. Verify all stakeholders (wholesalers, cooperatives, farm distributors) to maintain high product standards and build consumer trust.

SCOPE OF STUDY:

The scope of this study focuses on the development, implementation, and impact of **Fresh Fields**, a digital marketplace designed to connect consumers directly with agricultural stakeholders such as wholesalers, cooperatives, and farm distributors. The study examines the platform's functionality, including its user-friendly interface, secure payment system, and features like real-time order tracking, personalized recommendations, and product filtering. It also explores stakeholder and consumer engagement by analyzing the role of verified suppliers in maintaining product availability and pricing, as well as understanding consumer behavior in purchasing fresh agricultural products online.

Furthermore, the study assesses market accessibility by evaluating the feasibility of geo-location services to help consumers find nearby agricultural products and the impact of multilingual support in enhancing user adoption. The economic and social impact of the platform is also considered, particularly how eliminating intermediaries ensures fair pricing, improves profit margins for stakeholders, and reduces food waste through optimized supply chains. Additionally, the research investigates the technological and security considerations of the platform, including data encryption, secure transactions, and scalability for future expansion. Compliance with agricultural trade regulations and e-commerce policies is also analyzed to ensure the platform's long-term viability. Overall, this study provides insights into the feasibility, efficiency, and transformative potential of FreshFields in reshaping the agricultural commerce landscape.

METHODOLOGY:

DESIGN: This design ensures Fresh Fields operates efficiently, provides a seamless user experience, and maintains security while promoting direct consumer-stakeholder interactions.

SYSTEM ARCHITECTURE:

Frontend (User Interface): A web and mobile-friendly interface designed using Html and Css for seamless user experience.

Backend (Application Logic): A server-side application developed using Django to handle business logic and database interactions.

Database (Storage Layer): A structured database such as MongoDB to store product listings, orders, user profiles, and transactions.

DATABASE DESIGN:

Users Collection: Stores user details such as name, email, password, and order history.
Product Collection: Contains products information, including category, pricing, and availability.
Orders Collection: Tracks order status, delivery time, payment details, and assigned restaurant.
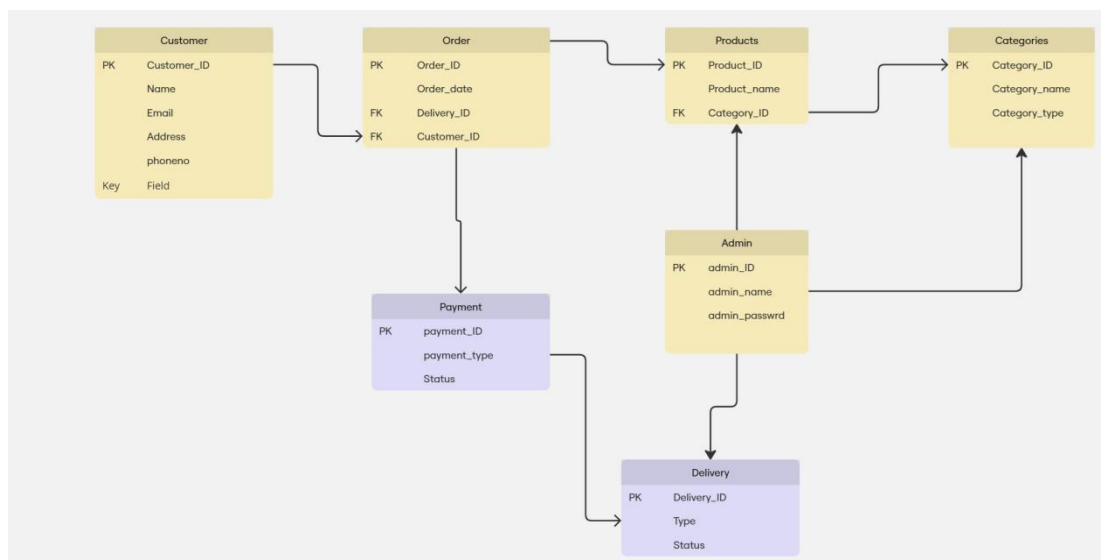Payments Collection: Records transaction details, payment status, and method of payment.

Fig.no:3

FEATURES AND FUNCTIONS:

USER MANAGEMENT:

The User Management System in The Fresh Fields platform ensures secure access, role-based functionality, and a seamless user experience for consumers, stakeholders, and administrators. It includes multi-role registration, allowing consumers and stakeholders to sign up with personal information, username and password. Role-Based Access Control (RBAC) ensures that consumers, Stakeholders and administrator can access separate pages for doing their own functions

ORDER MANAGEMENT:

The Order Management System in The Fresh Fields streamlines the entire purchasing process, ensuring a smooth experience for both consumers and stakeholders. Consumers can browse products, add items to their cart, select delivery preferences, and complete payments securely using multiple options such as credit/debit

cards, UPI. Upon order placement, the system generates an automated order confirmation, notifying both the consumer and the respective stakeholder.For stakeholders, the system facilitates inventory updates, order prioritization, and ensuring efficient stock management and timely deliveries. They can view incoming orders, update order statuses (confirmed, packed, shipped, delivered), and manage cancellations or returns through a dedicated dashboard.

PAYMENT INTEGRATION:

The Payment Integration System in The Fresh Fields ensures seamless, secure, and flexible transactions for consumers and stakeholders. The platform supports multiple payment methods, including credit/debit cards, UPI, net banking, and cash on delivery (COD), catering to a wide range of user preferences. Integrated with trusted payment gateways, the system ensures end-to-end encryption compliance for secure transactions.The system also includes real-time payment verification, ensuring that transactions are processed instantly with status updates sent via SMS, email, and push notifications.
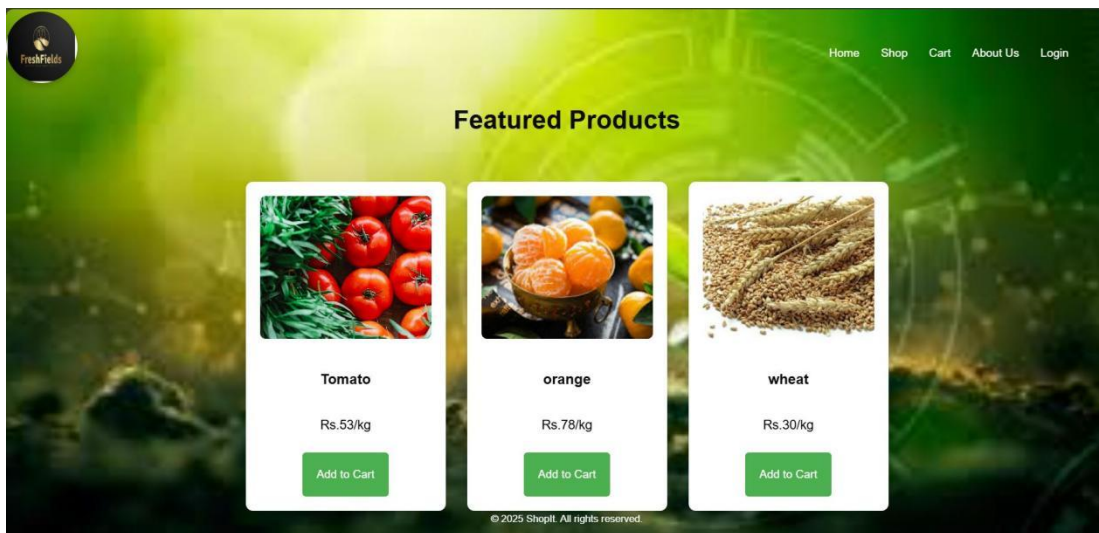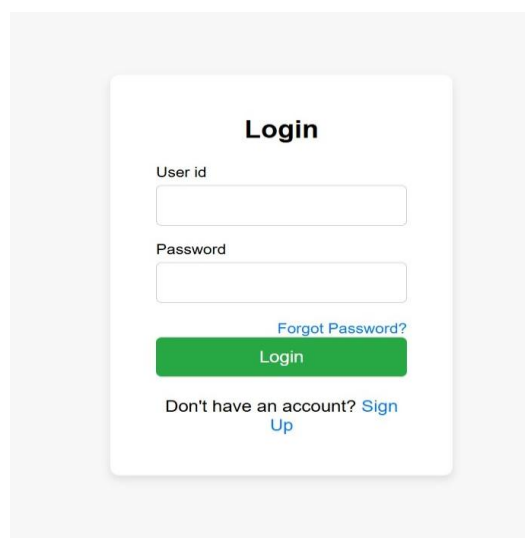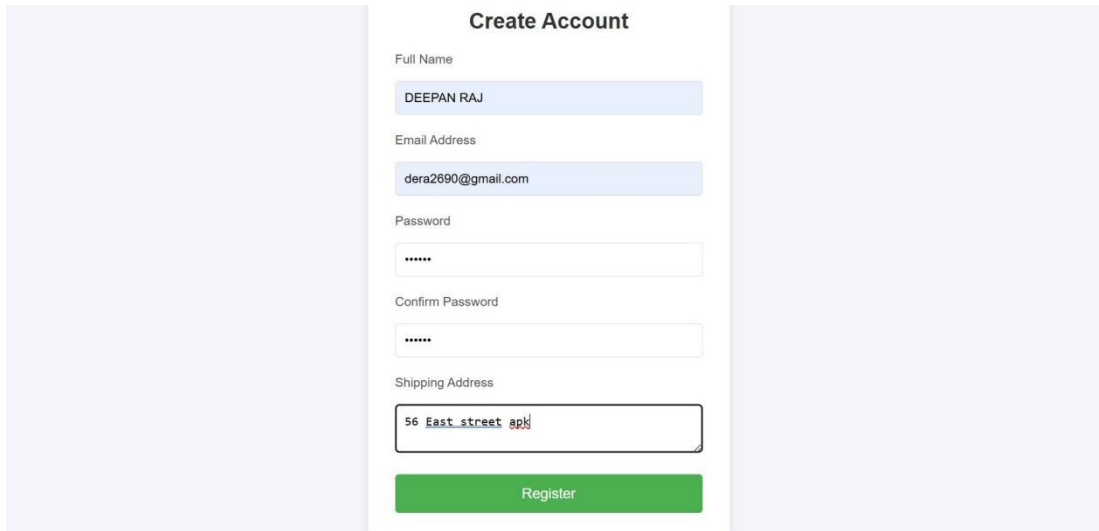
RESULT:

Fig.no:4

Fig.no:5

Fig.no:6

CONCLUSION:

In conclusion, The Fresh Fields provides a comprehensive, user-friendly, and secure digital platform that bridges the gap between farmers, wholesalers, and consumers by streamlining grocery shopping through direct farm-to-consumer connections. With robust features such as user management, order processing, and secure payment integration, the platform ensures fair pricing, transparency, and efficiency in the agricultural supply chain. Consumers benefit from friendly approach and multiple payment options, while stakeholders can efficiently manage inventory, pricing. The Fresh Fields empowers both consumers and stakeholders, making fresh, high-quality produce more accessible while supporting local farmers and distributors.

REFERENCES:

1. R. Adithya, A. Singh, S. Pathan and V. Kanade, (2017). Online food ordering system. International Journal of Computer Applications [Online]. Available: https://doi.org/10.5120/ijca2017916046

2. N. N. Li, X. F. Zhang, Y. F. Wang, and R. Zhang, "Design and Implementation of Campus Dining Application Based on Android," Applied Mechanics and Materials, vol. 556–562, pp. 5250–5254, May 2014, doi: 10.4028/www.scientific.net/amm.556-562.5250. [Online]. Available: http://dx.doi.org/10.4028/www.scientific.net/amm.556-562.5250

3. R. Aulia, A. Zakir, H. Dafitri, D. Siregar, and Hasdiana, "Mechanism of Food Ordering in A Restaurant Using Android Technology," Journal of Physics: Conference Series, vol.930, p. 012030, Dec. 2017, doi: 10.1088/1742- 6596/930/1/012030. [Online]. Available: http://dx.doi.org/10.1088/1742- 6596/930/1/012030

4. Dr. Vinayak, V. Ranjan, N. Masiwal, and N. Verma, "e-Restaurant: Online Restaurant Management System for Android," International Journal of Advanced Computer Science and Applications, vol. 3, no. 1, 2013, doi: 10.14569/specialissue.2013.030108. [Online]. Available: http://dx.doi.org/10.14569/specialissue.2013.030108

5. Mayur Kumar Patel. "Online Food Order System for Restaurants," Computer Information Systems, Grand Valley State University, ScholarWorks@GVSU, December 2015.

6. Anitta Abraham. "A Study on the effectiveness Of Online Food Applications on Registered Restaurants," International Journal of Creative Research Thoughts (IJCRT) ISSN: 2320-2882, Volume 9, Issue 1 January 2021.

7. Prof Upendra More, Prof Ria Patnaik, Reema Shah." "A Study on Online Food delivery services during the COVID -19 in Mumbai", Thakur Global Business School & Thakur Institute of Management Studies & Research, friend arch's journal of archaeology of Egypt, PJAEE, 18 (7) (2021).