

AGRICULTURE MANAGEMENT SYSTEM – A SURVEY

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ABSTRACT

This survey report investigates "Agronet," an e-commerce platform specifically created to bridge the gap between farmers and customers by providing a dynamic environment for purchasing and selling agricultural goods and products. Agronet not only allows for smooth transactions, but it also delivers vital market information, networking opportunities, and technology-driven solutions for information sharing. Agronet uses current e-commerce infrastructure to help farmers reach a larger audience, improve market transparency, and provide consumers with fresh, locally produced products. This article discusses the platform's core features, its role in improving the agricultural supply chain, and its potential influence on farmer livelihoods while providing consumers with better access to high-quality products. Agronet also incorporates elements like real-time price tracking, demand forecasts, and personalized recommendations. Through networking opportunities, the platform encourages community engagement by facilitating the sharing of best practices and insights among farmers. Through the application of cloud-based services and data analytics, Agronet seeks to improve market efficiency for farmers. This survey explores the platform's technology foundation, user experience, and the opportunities and problems facing e-commerce in the agriculture industry.

Keywords: Networking Opportunities, Real-Time Price Tracking, Market Efficiency, Market Transparency.

I. INTRODUCTION

Maintaining attendance is an important way for all institutions to keep an eye on their students' academic progress. Every institute has a unique method for doing this. Developed especially for the agriculture industry, Agronet is a cutting-edge e-commerce network that links farmers and buyers in an easy-to-use marketplace for the purchase and sale of agricultural goods. Agronet acts as a link between buyers and producers in response to the growing need for openness in the agricultural supply chain and the requirement for farmers to have access to wider markets. Farmers can sell their products on the site, monitor market pricing, and get real-time demand projections through an easy-to-use interface. Meanwhile, consumers can buy locally produced, fresh products straight from producers. By providing value-added features like networking possibilities, allowing farmers to share best practices, and utilizing cutting-edge technology like data analytics and cloud computing to optimize decision-making, Agronet goes beyond standard e-commerce. The platform seeks to close the gap between rural and urban producers and customers by using contemporary technological solutions, hence fostering fair trade and economic progress. Agronet's ultimate goal is to build an inclusive and sustainable agricultural environment that benefits all parties involved in the food supply chain.

1.1 CHARACTERISTICS

1. Dual Interfaces: Agronet offers distinct user interfaces for buyers and sellers, which are accessed via the navbar. Signup and Sign In options are available, along with email verification for newly formed accounts.
2. Visualizing Sales Data: The project's incorporation of Recharts, or graphs, has made it possible to produce perceptive sales data visualizations.
3. Product management: Sellers can add items with ease, editing and deleting them at any time. items can include photographs, information, a map of the product's location, current stock levels, minimum order quantities, and more.
4. CropSense AI: Utilizing Gemini AI as its power source, this tool forecasts crops based on specified parameters.
5. Real-Time Stock Updates (WebSocket): Real-time stock updates are now provided with the use of WebSocket capabilities. Without having to refresh the page, users can observe changes in stock availability

in real time. Please be aware that because Vercel does not support WebSocket connections, this functionality could not be displayed on the deployed website (deployed on Vercel).

II. LITERATURE REVIEW

SR.NO	TITLE	YEAR	CONTRIBUTION	RESEARCH GAP	RESULT
1	FARMKART: E-COMMERCE WEBSITE FOR FARMING RELATED PRODUCTS	2022	To streamline agricultural e-commerce. First, it eliminates the middlemen by creating a direct link between farmers and consumers.	PHP is used to manage the server-side operations, ensuring dynamic content delivery and interaction with the database.	The aim is to overcome the difficulties in the existing method. Its main aim is to develop a user friendly and easier to access the portal .
2	E-FARMING AN E-COMMERCE WEBSITE FOR FRESH FARM PRODUCE VEGETABLES AND FRUITS	2023	A notable contribution is the inclusion of multilingual support, which allows farmers from various regions to use the platform in their native languages, making it more accessible. Additionally, the platform integrates real-time communication.	The website plans to include information from organizations like IFFCO (Indian Farmers Fertilizer Cooperative) and other agricultural resources. This feature would provide farmers with essential data.	The user only needs basic products like a computer and internet connections. This website is mainly developed to replace the existing system .
3	E-Commerce Website for Agricultural Products using Flutter and Cloud Technologies	2023	contributions to the development of an e-commerce platform for agricultural products using Flutter and cloud technologies. First, it provides a cross-platform solution that allows users to access the platform on both mobile and web devices	It leverages Flutter, a UI toolkit developed by Google, and cloud technologies to create an e-commerce platform where farmers, suppliers, and consumers can connect and transact directly.	Developing an ecommerce website for agricultural products using Flutter and cloud technologies presents
4	Connect Farmer	2022	Contributes several key innovations to the agricultural sector by developing an application that directly connects farmers, retailers, and consumers. One major contribution is the automatic regional language adaptation feature	The app integrates sensors, such as PIR sensors and flame detectors, to notify farmers of external dangers like fire.	The application will track the location of the users and provides us the facility to sell and buy the crops in an efficient way with language adaptability based .

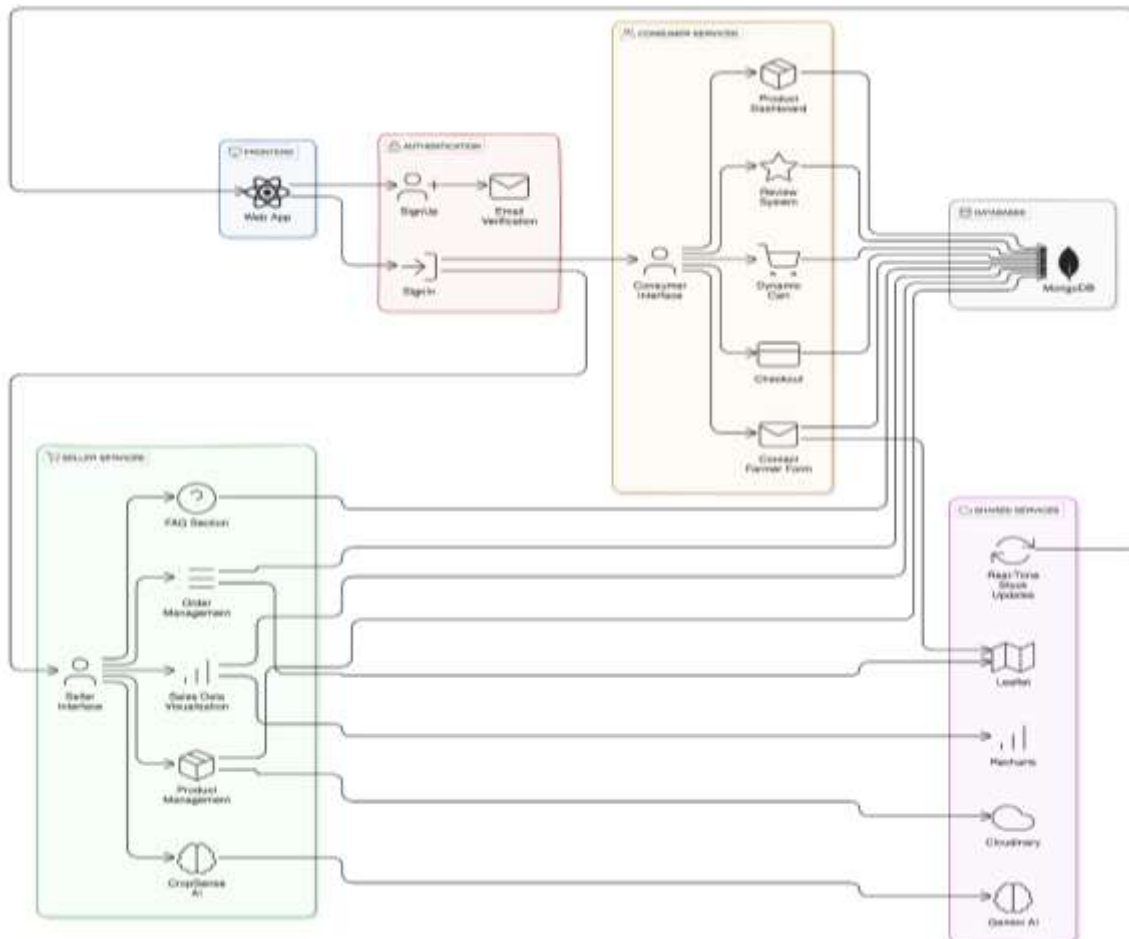
III. RESEARCH GAP

1. The website plans to include information from organizations like IFFCO (Indian Farmers Fertilizer Cooperative) and other agricultural resources. This feature would provide farmers with essential data such

as weather forecasts, market prices, and farming techniques, all integrated into the platform. It helps bridge the gap between farmers and vital agricultural data

2. PHP is used to manage the server-side operations, ensuring dynamic content delivery and interaction with the database. MySQL is employed to store user data, product information, transactions, and other records securely
3. It leverages Flutter, a UI toolkit developed by Google, and cloud technologies to create an e-commerce platform where farmers, suppliers, and consumers can connect and transact directly. Flutter provides cross-platform compatibility, enabling the development of applications for mobile, web, and desktop from a single codebase, thus ensuring accessibility for users across various devices. The platform's UI is enhanced by Flutter's customizable widgets, making it user-friendly and visually appealing.
4. The app integrates sensors, such as PIR sensors and flame detectors, to notify farmers of external dangers like fire. Another notable contribution is the inclusion of secure online payment options, enhancing convenience for users. Overall, the application serves as a comprehensive tool for improving communication, efficiency, and safety in farming operations

IV. SYSTEM ARCHITECTURE



V. CONCLUSION

The Agronet e-commerce platform holds significant potential to revolutionize the agricultural industry by providing farmers and consumers with an efficient and transparent marketplace. By leveraging modern technology, Agronet empowers farmers with crucial market information, real-time pricing, demand forecasts, and networking opportunities, thereby enhancing their market reach and profitability. For consumers, Agronet ensures easy access to fresh, locally produced goods, fostering a direct connection with the producers. The platform's integration of cloud services, data analytics, and personalized recommendations further strengthens its ability to enhance decision-making and streamline the supply chain.

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