



Archives available at journals.mriindia.com

International Journal of Recent Advances in Engineering and Technology

ISSN: 2347 - 2812

Volume 14 Issue 02s, 2025

Agrocraft: Farmers' and Consumers' Direct Market Access

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Peer Review Information	Abstract
<i>Submission: 21 Oct 2025</i> <i>Revision: 18 Nov 2025</i> <i>Acceptance: 05 Dec 2025</i> Keywords <i>Agricultural access to the market, web application, fair price, vegetables, fruits.</i>	An Agrocraft site refers to an electronic site where farmers can sell and buy agricultural products to consumers. The system presents an easy interface through which the farmers can put their produce online while enabling viewers to view items and services of the buyers and buy them online. This piece is about the conceptualization and benefit of having a web site dedicated to the selling of farm produce by the farmers directly to consumers. The platform acts as a middleman between farmers and consumers, bringing convenience, transparency, and sustainability to agricultural transactions.

Introduction

The rural division plays a significant part in the economies of numerous nations, serving as an essential source of nourishment and crude materials for various businesses. In any case, despite its importance, agriculturists frequently experience critical challenges that prevent their financial development and well-being. One of the most squeezing issues they confront is the trouble in getting to broader markets and getting reasonable costs for their creation. Conventional promoting frameworks, characterized by an organization of mediators, frequently result in decreased benefits for agriculturists, as they have restricted control overestimating and confronting data asymmetry. In reaction to these diligent challenges, there's the critical requirement for imaginative arrangements that use innovation to engage agriculturists, make more effective showcase channels, and advance impartial estimating. The objective of this extension is to

set up a coordinated association between farmers and buyers, cutting out the middle people that have long overwhelmed the agrarian exchange. By leveraging the control of the web this stage points to revolutionizing the way farmers connected with the showcase, guaranteeing reasonable estimating and expanded benefits [3]. The overarching vision is to convert the agrarian scene and give ranchers superior financial openings, eventually contributing to maintainable country improvement. This paper gives a comprehensive diagram of the extent, digging into its targets, scope, and potential effect on the rural division. By investigating the transformative potential of technology-driven arrangements, we point to shed light on the importance of the proposed farmer-focused e-commerce stage. Also, we look at the benefits of coordinating farmer-buyers intuitively, emphasizing how such an approach can make strides to showcase proficiency, advance maintainability, and foster

comprehensive development.

Literature Survey

The paper "Farm to Home: Web-Based Agricultural Marketplace" emphasizes the use of technology in linking farmers directly with consumers by eliminating the middlemen in the agricultural value chain. Most of the current research works and systems have been reported to demonstrate the overflowing potential volumetric digital advancements can bring to basic agricultural systems through the use of advanced technologies. The use of AI in agriculture is explored by scientists who developed a chatbot on Microsoft's LUIS platform. The chatbot implemented is capable of supporting communication as it can directly identify user intents, exemplifying how conversational AI can render responsive support for farmers' inquiries and recommendations [1].

Mobile technology integration in agriculture has played a vital role in contemporary farming. The reviewed literature in this paper identifies various novel strategies in augmenting farm practices with the use of Android applications and mobile-based solutions to cater to technical issues as well as socio-economic hindrances. Introduced a system that utilizes Cloud Computing to assist Indian farmers in overcoming critical agricultural issues like weather unpredictability, crop disease, and poor access to market information. Their solution put forward the application of mobile computing to provide multilingual support, live market information, and weather updates, thus facilitating farmers with the power of technology [5].

Marketers must explore various strategies to sell their products, and currently, e-commerce is the most popular method. Whether it's durable or non-durable goods, virtually anything can be found on websites. Some sites focus on specific categories of products, while others offer a wide range of items. Several key factors influence consumers to choose online shopping over traditional retail. These include detailed product information, convenience, and the ability to shop at their own pace, which saves time. Additionally, the variety of options, fast delivery, lower prices, and positive word-of-mouth from previous customers encourage online purchasing. Younger generations particularly favor online shopping, especially during holiday and festival seasons when many online stores provide numerous discounts and offers, leading to a significant increase in online traffic.

Other attractive features of online shopping include free shipping, cash on delivery, as well

as easy exchange and return policies, all of which draw more customers to this mode of shopping [6].

Existing System

Nowadays, most people still go offline shopping to compare and check the products offered offline and online. Customer loyalty is diverted where they receive value, timely delivery, and satisfaction. In offline shopping, the product comes to the buyer instantly. If we prepare a list of what we need before going shopping, then shopping can become simpler. It can assist you in planning your shopping without spending much time on how customers are segmented and changes with variations. Technology is one of the main drivers. As technology advances, people's behavior also varies. With these variations, the managers will identify new operations to introduce new products. Using computer systems, information users, and data processing specialists, strategies generate product output results to entice and satisfy customers. In this age of digitalization, something as basic as purchasing a coffee mug is a decision that is influenced thoroughly by technology. Leaders utilize this advantage of technology and employ computer systems to make decisions of consequence that will have an impact on their customers and cause a reaction.

Proposed System

Agrocrafft, is an electronic e-commerce system aimed at facilitating direct market access between farmers and consumers without relying on intermediaries. The Android-based application allows farmers to register, post-agricultural products, update availability, and determine reasonable prices.

The consumers are allowed to search, browse, and purchase fresh fruits and vegetables from the farmers, ensuring transparency of price and quality. The platform allows for real-time inventory management, a secure payment gateway, order tracking, and order status update notifications. Moreover, AGROCRAFT offers multilingual support, GPS mapping for delivery logistics based on location, and customized dashboards for buyers and sellers. Sellers are provided with market information, demand patterns, and price analysis to make decisions accordingly. The system includes a review and rating system for trust and credibility purposes of sellers. AGROCRAFT has a simple and intuitive interface with low-end optimization to make it accessible in low-bandwidth areas with low digital literacy in rural regions.

Methodology

The creation of AGROCRAFT adheres to a modular and sequential approach with PHP as the primary programming language for server-side development. The architecture of the system depends on the Model-View-Controller (MVC) pattern of design to separate the code and make it maintainable. The front end is developed based on HTML, CSS, JavaScript, and Bootstrap for a responsive user interface, with PHP being used for server-side scripting and business logic. MySQL is utilized as a relational database to store user information, product catalogs, orders, and transactions. The system features secure session management, user authentication, and role-based access control. Real-time features like order notifications and product updates are implemented using AJAX and JSON-based communication. Comprehensive testing, such as unit and integration testing, is performed throughout the development process to guarantee system reliability, performance, and security.

Implementation

The deployment of AGROCRAFT includes creating a full-stack web application with PHP as the server-side scripting language and MySQL as the database management system. The front end is implemented using HTML, CSS, JavaScript, and Bootstrap to develop a responsive user interface. The system begins with farmer and consumer registration modules, then secure login and role-based redirection to the dashboard.

Producers can add product information, such as name, quantity, price, and photos, via a product management module. Consumers can browse, filter, and search for products, add products to the cart, and order. The order management system manages status changes, order history, and alerts.

Business logic, database operations, and form validations are handled by PHP scripts. AJAX is employed to update dynamic content without a page refresh. Firebase Cloud Messaging (or a competing notification service) can be implemented for real-time order notifications. There is an admin interface to monitor user behavior, manage listings, and view reports. The app runs on a local or cloud-based LAMP (Linux, Apache, MySQL, PHP) server for deployment.

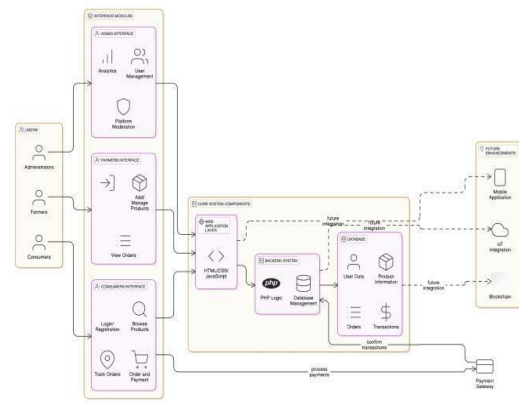


Fig. 1. Architecture diagram

Result And Discussion

Major features such as user login, registration, product upload, cart, and order management functioned flawlessly. The app ensured data consistency across numerous transactions occurring simultaneously, allowing proper orders to be processed and stock account.

Login Page: A clean and accessible login interface for users to effortlessly log in with their email and password to the role-secure dashboards.



Fig. 2. Login Page

Product Page: A secure and searchable list of available products with images and prices with quantity and an add-to-cart option.

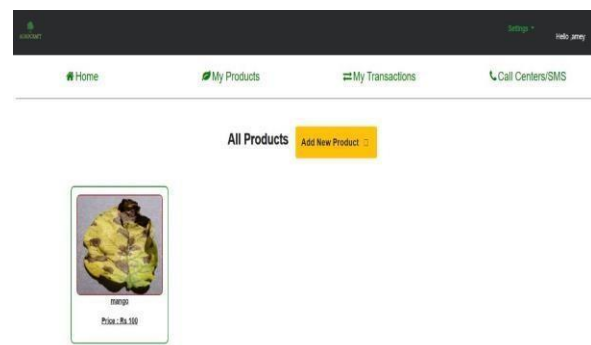


Fig. 3. Product Page

Transaction History Page: A detailed transaction history of past orders with dates, products, payment method, and delivery cycle.

TRANSACTION HISTORY					
Product Name	Name	Phone Number	Delivery Address	Quantity	Amount
mango	amey	9307433008	satara	2	200

Payment Option	
	

Fig. 4. Transaction History Page

Insert Product Page: An easy interface for farmers to upload new products by filling in fields for product name, price, quantity, and product description and for farmers to upload their product images.

Insert Your New Product ☐

Product Title:

Product Stock (in kg):

Product Categories:

Product type:

Product Expiry:

Product Image:

Product MRP: (Per kg)

Product Description:

Product Keywords:

Delivery: ☐ Yes ☐ No

Fig. 5. Insert Product Page

Conclusion

The imagined improvement of an e-commerce site only outlined for farmers holds the potential to revolutionize rural operations and bring forward a bunch of benefits for those locked in cultivating hoes. Past streamlining exchanges, this stage addresses basic angles of the agrarian supply chain, stamping itself as an encompassing arrangement that rises above conventional boundaries. It consistently coordinates showcase inquiries about, cutting-edge innovation, and government activities to set up an all-encompassing environment that advocates for effectiveness, reasonableness, and straightforwardness in agricultural transactions. This proposed e-commerce stage isn't fair a value-based apparatus; it may be a comprehensive arrangement that considers the

differing needs of farmers. Combining the control of computerized stages with real-time showcase bits of knowledge enables farmers to form educated choices, subsequently improving their by and large efficiency and productivity.

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