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Review On: Farmer Product Auction System

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ABSTRACT

The utilization of mobile internet presents a valuable opportunity for farmers to directly connect with consumers and food processing industries, streamlining the process of selling their produce. This paper outlines a mobile application designed to provide market information in a user-friendly interface tailored for farmers. With native language support, the app aims to facilitate transactions, treating farmers both as sellers and buyers. By leveraging market prices from data.gov.in, the system maintains control over selling and buying prices. To simplify product browsing, various filters are available. Addressing the challenges farmers encounter in selling their goods, the system offers an intuitive platform for transactions, ensuring fair prices and transparency. On the consumer side, the app provides a wide selection of products, allowing users to select items according to their preferences and apply price filters. Location-based features enable users to find products nearby. Ultimately, the system aims to cater to the needs of all stakeholders involved in agricultural transactions, promoting fair and transparent business practices.

INTRODUCTION

The emergence of mobile applications has revolutionized the mobile industry, reshaped traditional business models and created new market opportunities. With the widespread adoption of smartphones, mobile app development has rapidly expanded, driven by the competitive nature of the app marketplace. Smartphones offer users unparalleled advantages such as portability, location awareness, and accessibility, making them indispensable tools for various purposes including agricultural decision-making. This is especially crucial as agriculture becomes increasingly reliant on information-intensive processes. Technology, particularly Information and Communication Technology (ICT), has been harnessed to provide farmers with timely and cost-effective information, addressing critical challenges like transportation, storage, and access to quality inputs. Moreover, efforts to eliminate intermediary entities in agricultural transactions aim to create a more stable market and ensure better returns for farmers. In parallel, there's a growing consumer demand for organic food, driven by concerns over the health and environmental impacts of conventional farming practices. Initiatives like interactive chatbots facilitate direct communication between consumers and farmers, enabling the procurement of fresh, organic produce and bridging the gap between supply and demand.

PROJECT DESCRIPTION

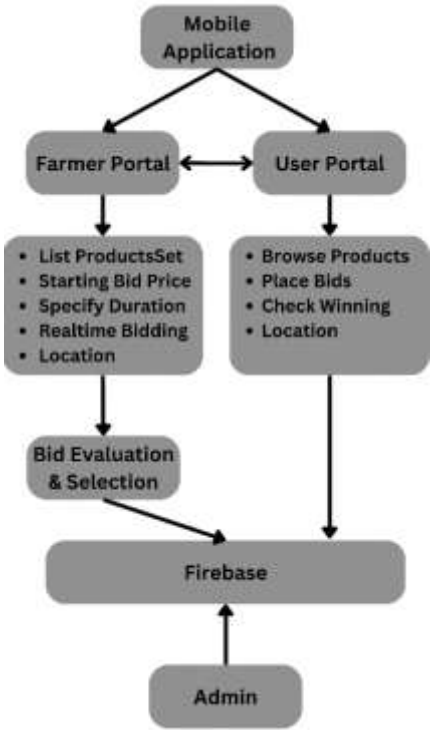
We use Android Application using English Auction Algorithm. After we use Google's Firebase database to manage all transaction and user details on application. This farmer product auction system used by farmers and consumer to make marketing efficiently. The contribution made by this research has enabled the Farmers to sell their products with fair prices with the help of android application. Previously, farmers were not able to auction their products online using the existing auction systems. The multitude of auction platforms along with their settings enabled their use in various contexts, but these platforms were not accessible to farmers. Online auction systems are not suitable for all types of people, such as farmers, as they may not have the necessary technology or knowledge to participate. An online auction system tailored specifically for farmers, where they can easily list and sell their products, is rare. This system primarily benefits farmers and agricultural producers, providing them with a convenient platform to sell their goods. The architecture of the online auction system provides a user-friendly interface, making it easy for farmers to navigate without the need for complex technical skills. This

application is designed to be accessible to both farmers and regular users, ensuring inclusivity and ease of use for all participants.

2.1 TECHNOLOGIESUSED

2.3.1 Operating System: Windows 10
2.3.2 IDE: Android Studio
2.3.3 Programming Language: Java & Kotlin
2.3.4 Android Development

2.2 SYSTEM ARCHITECTURE



System Architecture

ALGORITHM

3.1 English Auction: -

English Auction Algorithm: - The English auction algorithm, also known as an open ascending price auction, is a method of selling goods or services where the auctioneer starts with a low initial price and progressively raises it as participants bid higher amounts. Bidders openly compete by submitting successively higher bids until no further bids are made, at which point the highest bidder wins the item at the price they offered. This auction format encourages transparency and competition among bidders, as each bid is publicly announced and visible to all participants. The auction concludes when the auctioneer determines that bidding has ceased or reaches a predetermined end time. The winner is obligated to pay the final bid amount and receives the item upon payment completion, making the English auction algorithm a widely used and effective mechanism for conducting auctions across various industries.

LITERATURE SURVEY

Joe Marie D. Dormido; Alvin R. Malicdem; [1] The paper "A Development of a Revolutionized Farmer Assisted Agricultural Product Forecasting Mobile App System" introduces a novel mobile application designed to aid farmers in

predicting agricultural product outcomes. It reviews existing methods, outlines the app's development process, and presents evaluation results. The app aims to improve decision-making and boost agricultural productivity.

Mr. Pranav Shriram; Mr. Sunil Mhamane; [2] This paper examines the landscape of existing mobile applications designed for this purpose. It outlines the challenges faced by farmers in traditional marketing channels and explores how technology, particularly mobile apps, can address these issues. The survey reviews features offered by current apps, technical considerations in app development, user experience, and adoption factors. It also discusses the potential impact of these apps on agricultural supply chains and highlights the importance of policy support and future research to maximize their benefits in empowering farmers and streamlining agricultural markets.

Siti Nurliana Jamali; Novia Admodisastro; Azrina Kamarudin; Sa'adah Hassan - [3] The survey paper explores how to design user interfaces for farmers in Malaysia by using a metaphorical approach centered on the users' needs. Symbols can be used to make digital tools more intuitive and accessible for farmers. By understanding the unique challenges and preferences of farmers, the paper aims to create user interfaces that resonate with their experiences and cultural context. Through a user-centered approach, the paper seeks to develop interfaces that are easy to navigate and understand, ultimately empowering farmers to effectively use digital tools for their agricultural activities.

Usha Kiruthik; S. Kanaga Suba Raja; V. Balaji and C. J. Raman; [4] The survey paper explores e-agriculture's use of chatbots for direct marketing of food crops. Chatbots, as conversational interfaces, offer farmers a streamlined way to engage with consumers. These digital assistants provide personalized recommendations, address queries, and facilitate transactions efficiently. By leveraging chatbots, farmers can connect directly with customers, showcasing their products and improving market accessibility. Ultimately, chatbots have the potential to revolutionize agricultural marketing by enhancing communication and transaction processes.

RESULT

5.1 Login page

Our Android app's login page combines Java and XML for functionality and layout, respectively. We've integrated Firebase Authentication for secure user login, providing a seamless experience for our users.

5.2 Registration page

Our Android app's registration page is built using Java for functionality and XML for layout. It also incorporates Firebase Authentication for secure user registration, ensuring a smooth and reliable registration process for our users.

5.3 Farmer Interface

The interface of our Android app, featuring options like "Add Product" and "Show Orders". We've designed it for intuitive navigation and seamless user interaction, prioritizing a smooth experience for managing products and viewing orders.

5.4 Add Product

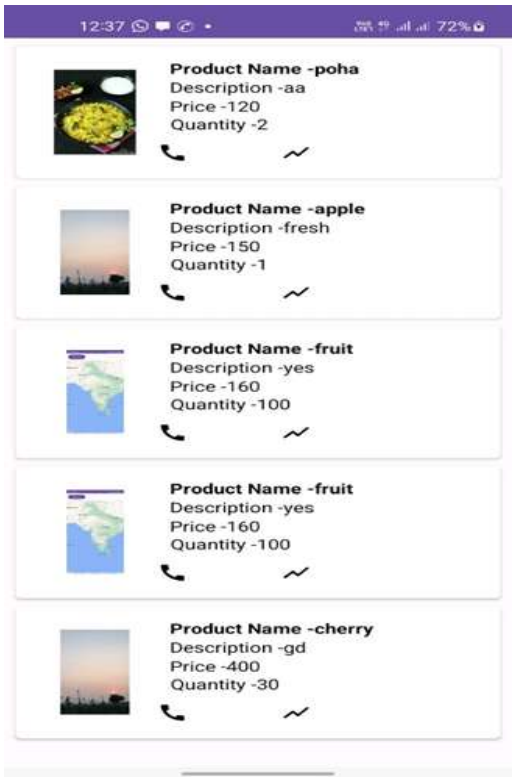
Our "Add Product" page on the Android app allows users to effortlessly input product details like image, name, price, quantity, and timestamp. It's designed for simplicity and efficiency, streamlining the process of adding new products.

5.5 Bidder Details

Our Bidder Details page on the Android app enables users to input key details including Name, Location, Expected Price, and Time of Bid. This streamlined interface simplifies the process of capturing bidder information efficiently.

5.6 Show Orders

Our Show Orders page on the Android app displays essential details of bidders, including Username, Price, Time, and Product Name. This user-friendly interface provides a comprehensive view of order information, enhancing user experience and facilitating efficient order management.



5.7 Auction List

Our Auction List page on the Android app showcases various products listed by farmers for auction. Users can browse through the displayed products and place bids on items of interest directly from the page.

CONCLUSION

In summary, the farmer product auction system offers a streamlined solution to market agricultural products directly, reducing reliance on intermediaries. Through its user-friendly interface and secure transactions, the system enhances market access and transparency, benefiting both farmers and buyers. Overall, it holds promise for revolutionizing agricultural markets by empowering farmers and facilitating fairer transactions.

FUTURE SCOPE

Expansion to Global Markets and Diversification of Products: As the digital infrastructure and connectivity continue to expand globally, the Farmer Product Auction System has the potential to scale its operations beyond local boundaries. By integrating multi-currency support and language localization features, the platform can attract international buyers and sellers, facilitating cross-border agricultural trade. Furthermore, diversifying the range of products beyond traditional crops to include livestock, dairy, and specialized agricultural products could broaden the platform's user base and market reach. Embracing globalization and product diversification opens up new avenues for growth, collaboration, and innovation, positioning the system as a leading player in the global agricultural marketplace of the future.

Sustainability and Traceability Integration: Looking ahead, integrating sustainability and traceability features into the Farmer Product Auction System could enhance its appeal to environmentally conscious consumers and support efforts towards supply chain transparency. By implementing blockchain technology, the system can securely record and verify the origin, production methods, and environmental impact of agricultural products. This not only builds trust among consumers but also empowers farmers who adhere to sustainable practices by providing them with a competitive edge in the marketplace. Additionally, incorporating sustainability metrics into the bidding process, such as carbon footprint calculations or organic certification status, can encourage responsible consumption while promoting the growth of eco-friendly farming practices. By embracing sustainability and traceability, the system can contribute to the ongoing global efforts towards a more environmentally friendly and socially responsible agricultural industry.

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