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AgroDeal: Future Crop Booking and Direct Farm-to-Consumer Sales

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ABSTARCT

F2C (Farmer to Consumer) introduces an innovative approach to bridge the gap between milk, vegetables, fruits producers and consumers. With a laser focus, this platform enhances transparency, efficiency, and trust within these specific agricultural supply chains, ensuring direct connection between farmers and consumers. By leveraging digital tools, F2C provides farmers with an intuitive and comprehensive system to manage their milk, vegetables, and fruits products efficiently. With streamlined CRUD operations and simplified order management, farmers can monitor, update, and optimize their offerings in real time. Consumers benefit from a seamless, user-friendly interface that allows them to browse, place orders, and track their purchase history effortlessly. By eliminating intermediaries, F2C enhances cost efficiency, ensuring fair pricing for both farmers and consumers. This direct interaction fosters a more sustainable, resilient, and reliable agricultural ecosystem. Ultimately, F2C revolutionizes the farm-to-table experience, promoting a healthier food supply chain and greater economic opportunities for local farmers.

Key words: Blockchain, Blockchain technology, decision support system, disaster, disaster management, disaster risk reduction and management, tropical cyclones.

Abbreviations: FFR, False Rejection Ratio; DAA, Decimal Adjust Addition (Arial size 10 normal)

I. INTRODUCTION

F2C (Farmer to Consumer) stands as an innovative endeavour poised to overhaul the agricultural supply chain by establishing direct links between farmers and consumers through an online platform. In conventional agricultural markets, intermediaries wield significant influence, inflating costs for consumers and diminishing profits for farmers. F2C aims to eradicate these intermediaries, ushering in a more streamlined and transparent system.

The F2C platform boasts a user-friendly interface tailored to both farmers and consumers. Farmers can seamlessly register on the platform and exhibit their produce, furnishing details such as price, quantity, and quality. They retain control over their product listings, keeping them updated on availability status, and engage directly with consumers. This direct engagement not only slashes marketing and distribution costs for farmers but also empowers them to glean feedback and discern consumer preferences accurately. Consumers, conversely, can register and pursue a diverse array of fresh produce sourced directly from local farmers. They enjoy the liberty to place orders, monitor delivery progress, and furnish feedback on received products. By fostering connections between consumers and farmers, F2C guarantees consumer access to fresh, locally sourced goods, while simultaneously ensuring that farmers

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receive equitable prices for their produce. This symbiotic relationship forged by F2C epitomizes a paradigm shift towards a more equitable and efficient agricultural ecosystem.

II. LITERATURE SURVEY

TITLE	AUTHORS	YEAR	OUTCOMES
Counting Farmers Markets	Allison Brown	2010	The project on Counting Farmers Markets aims to analyze the growth, challenges, and impact of farmers' markets on local food systems. It will explore historical trends, highlighting the role of policies like the Farmer-to-Consumer Direct Marketing Act of 1976 in market expansion.
Farmers' Markets in Rural Communities	Moya L. Alfonso, Jen Nickelson, Danielle Cohen	2013	The project on Farmers' Markets in Rural Communities focuses on the operational procedures and consumer satisfaction of rural farmers' markets. It highlights their role in promoting healthy eating habits. The project aims to enhance their impact on rural communities and promote long-term sustainability.

III. EXISTING SYSTEM

Existing systems for milk and vegetable supply chains often rely heavily on intermediaries, leading to inefficiencies and reduced transparency. Farmers typically sell their products through middlemen or traditional markets, limiting direct access to consumers. This process can result in price fluctuations and quality inconsistencies. Similarly, consumers often purchase milk and vegetables from supermarkets or local markets, with limited visibility into the product's origin or farming practices. As a result, trust and traceability in the supply chain are compromised. The lack of a centralized platform for direct farmer-consumer interactions exacerbates these challenges, hindering the optimization of the milk and vegetable supply chains.

Advantages

Trust in Traditional Markets: Many consumers still prefer buying from established markets due to familiarity and reliability.

Market Reach: Farmers can sell their produce through multiple channels, including local markets, mandis, and cooperatives, ensuring wide access to consumers.

Bulk Selling Opportunity: Farmers can sell large quantities of produce at once, reducing individual transaction efforts.

Disadvantages

Dependency on Technology: F2C relies heavily on technology infrastructure. Any technical glitches or system failures could disrupt the entire supply chain, affecting both farmers and consumers.

Limited Reach: Despite its innovative approach, F2C may struggle to reach all farmers and consumers, especially those in remote or underdeveloped areas with limited internet access or technological literacy.

Dependency on Farmer Participation: The success of F2C heavily relies on active participation from farmers. If a significant number of farmers do not engage with the platform, consumers may not find

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the variety or quantity of products they desire, leading to reduced consumer interest and platform viability.

IV. PROPOSED SYSTEM

F2C employs a multifaceted approach to revolutionize milk and vegetable supply chains. Firstly, it offers a user-friendly platform where farmers can register, manage their products using CRUD operations, and track orders seamlessly. Secondly, consumers register, browse, place orders, and access order history effortlessly. Thirdly, F2C leverages direct interactions between farmers and consumers, eliminating intermediaries to enhance transparency and trust. Through these methods, F2C optimizes supply chain efficiency, fosters direct relationships, and promotes sustainable agricultural practices in the milk and vegetable sectors. In this project, farmers can upload details about their future crops in the app. This will allow consumers to view the available produce in advance and make deals directly with the farmers, and a direct communication feature in the app allows consumers to connect with farmers.

Advantages

Direct Interaction: F2C facilitates direct communication and transactions between farmers and consumers, eliminating the need for intermediaries. This direct interaction fosters trust and transparency in the supply chain.

Reduced Costs: F2C reduces overhead costs associated with traditional distribution channels by cutting out intermediaries. This cost-saving benefit can lead to competitive pricing for consumers and improved profitability for farmers.

Promotion of Sustainability: By facilitating direct transactions, F2C promotes sustainable practices in agriculture. It encourages the consumption of locally sourced and seasonal produce, reducing carbon emissions associated with transportation and supporting small-scale farmers in their communities.

ARCHITECTURE

The source PDF contains an architecture heading but no legible architecture diagram or explanatory text in the extracted content.

MODULE

Farmer Module

Register: Farmers should be able to create an account with their details.

Login: Registered farmers should be able to log in to their accounts.

CRUD Operations on Milk and Vegetables: Farmers should be able to add, view, update, and delete their milk and vegetable products.

View Orders: Farmers should be able to view orders placed by consumers for their milk and vegetable products.

Consumer Module

Register: Consumers should be able to create an account with their details.

Login: Registered consumers should be able to log in to their accounts.

View Milk and Vegetable Products: Consumers should be able to browse and view milk and vegetable products listed by farmers.

Order Milk and Vegetable Products: Consumers should be able to place orders for milk and vegetable products.

View Orders: Consumers should be able to view their order history and status for milk and vegetable products.

V. CONCLUSION

A Farmer-to-Consumer (F2C) model revolutionizes the traditional supply chain by eliminating intermediaries, ensuring fair pricing for farmers, and providing fresh, high-quality products to consumers. This approach enhances transparency, trust, and efficiency in the agricultural market while reducing wastage, price fluctuations, and carbon footprint. By leveraging digital platforms, direct communication, and smart logistics, the F2C model empowers farmers with better market access and enables consumers to make informed choices about their food sources. The integration of pre-booking systems, personalized farming, and traceability solutions further strengthens its impact. Ultimately, an F2C platform fosters a sustainable, profitable, and consumer-centric agricultural ecosystem, benefiting both farmers and buyers while promoting a more resilient and transparent food supply chain.

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