

Crop Market Information System for Agri SMEs

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Abstract. The Crop Market Information System for Agri SMEs is developed to provide a digital platform that connects farmers and customers while being managed by administrators to ensure reliability and security. Within this system, three main roles are defined. The admin oversees the platform by managing user accounts, monitoring crop data, and controlling overall operations to maintain accuracy and transparency. The Farmer is able to register their products, update crop availability, and access real-time market information that supports better decision-making and wider market reach. The Customer can browse crop listings, compare prices, place orders directly, and communicate with farmers for trustworthy transactions. By integrating these roles into a unified system, the project enhances efficiency in crop marketing, reduces information gaps between producers and customers, and supports the sustainable growth of Agri SMEs.

Keyword: Agriculture, Agri SMEs, Crop Information, Crop-Market,

INTRODUCTION

Agri SMEs is an online platform transforming Myanmar's agriculture sector by providing real-time crop prices, price history, and an easy-to-use online order system. It helps farmers, traders, and consumers make informed decisions and engage more efficiently in the market. Beyond price monitoring, Agri SMEs serves as a digital marketplace where rural producers can post surplus crops, and urban buyers can browse, compare, and order directly. By bridging the gap between agricultural supply and demand, the platform promotes fresher products, fairer prices, and a more efficient market. To support the farmers' economic sustainability, Agri SMEs takes a small commission on transactions, with a tiered rate that rewards high-volume sellers with lower fees.

PROBLEM

In Myanmar's agriculture, small-scale farmers and urban consumers face challenges in market access, fair pricing, and distribution. This digital platform bridges these gaps by connecting stakeholders in the value chain. Farmers reach broader markets, reducing reliance on intermediaries and increasing profits. Urban consumers enjoy a convenient way to browse, compare, and buy fresh produce. Real-time and historical price data ensure transparency and fair trade, while data insights support better planning and resource use. Ultimately, the system improves farmer livelihoods and food access through a smarter, more connected agricultural marketplace that promotes efficiency and sustainability across the sector.

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APPROACH

This system includes three user roles: Admin, Farmers, and Customers. Admins access the platform through a secure login to manage crop prices, monitor product listings, oversee orders, and generate reports to maintain system quality and performance, as shown in Figure 1.

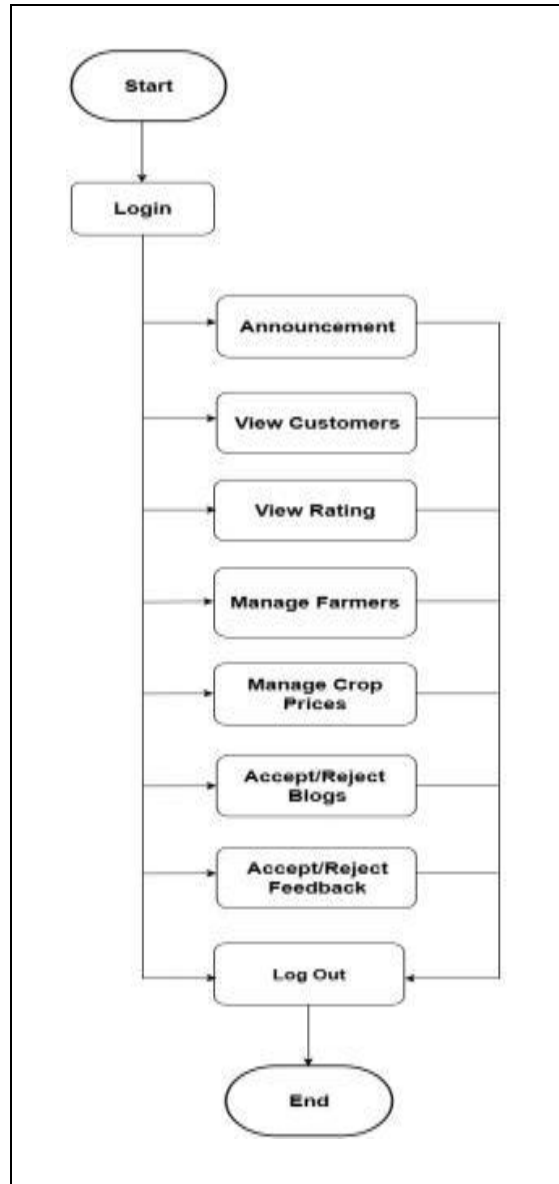


Figure 1: System Flow Diagram for Admin

Farmers can register via the homepage, access a personal dashboard, manage their profiles and product listings, view real-time crop prices, and handle customer orders efficiently.

Customers also register easily through the homepage. They can update profiles, search products by name or category, view ratings, and purchase items based on categories, best sellers or promotions.

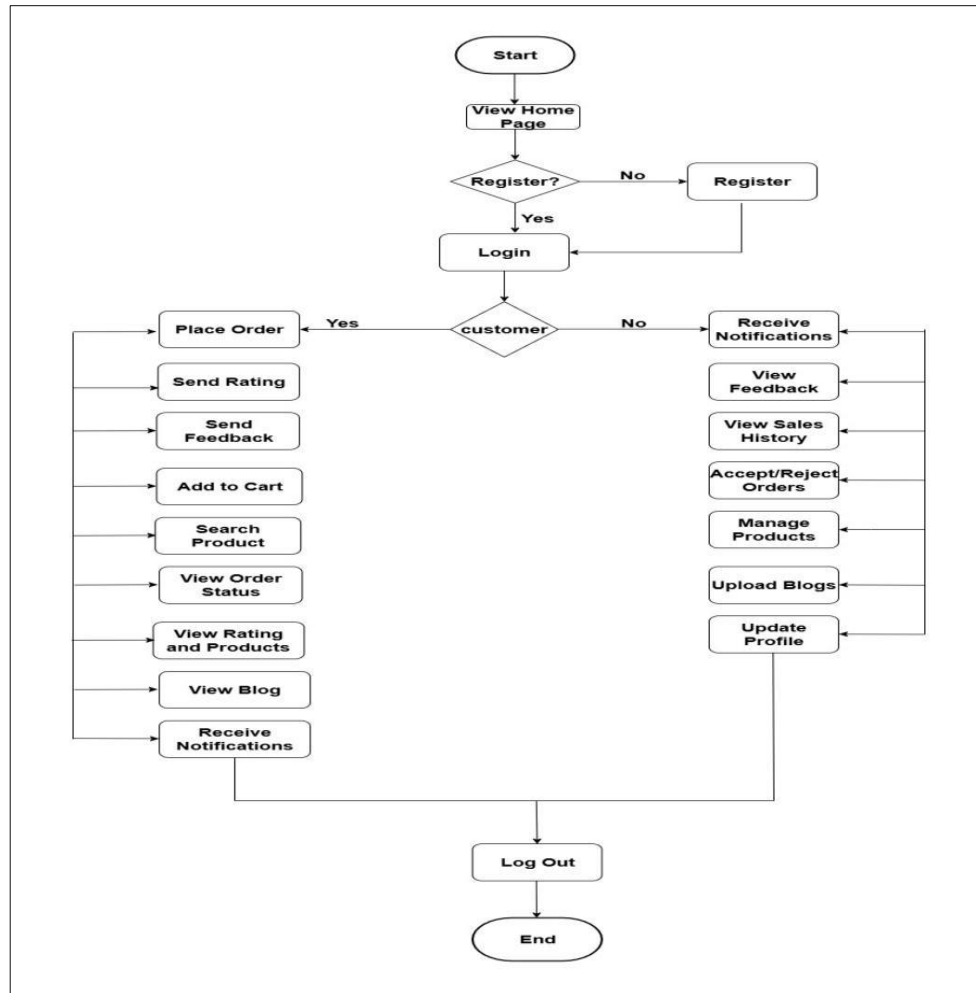


Figure 2: System Flow Diagram for Users

This ER Diagram represents the data structure designed for managing the operations of a Crop Market Information system for Agri SMEs. Category entity is used to group products under specific types such as vegetables, grains, or fruits. Each category can be associated with multiple products, establishing a one-to-many relationship with the Product entity. The product entity stores information about the crops listed for sale by farmers. Each product record includes details such as product name, quantity, price, unit, associated category, and the farmer who listed it. Products are directly linked to farmers and belong to a specific category. The farmer entity represents the crop producers who use the system to sell their goods.

Farmers can register, manage their profile, upload and update their products, publish blog posts, and receive feedback from customers. Each farmer can be associated with multiple products, blogs, and feedback entries.

Customer entity represents the users who purchase products on the platform. Customers can register, log in, browse products, place orders, give feedback, and read blog posts. Each customer may have multiple orders and can provide feedback on products or farmers. Orders entity stores information about customer purchases. Each order record includes an order ID, customer

ID, order date, and order status. An order is associated with one customer and may include multiple products through the Order Detail entity. Order Detail entity acts as a linking table between orders and products.

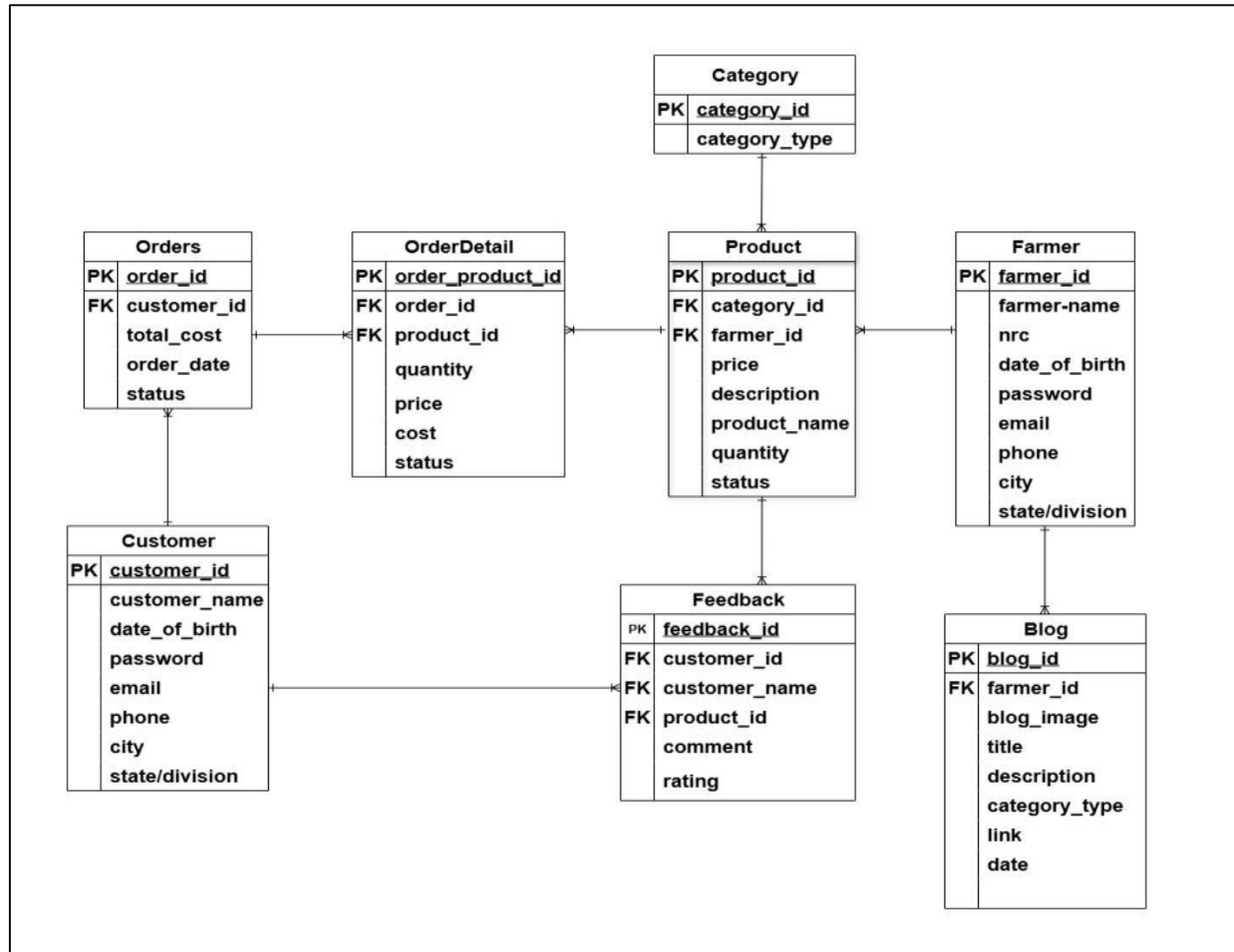


Figure 3: Database Design

RESULTS

The Crop Market Information System for Agri-SMEs was successfully implemented and tested. The primary objective of the system was to improve market access, sales transparency, and information flow between farmers and customers. Customers were able to rate farmers based on criteria such as product quality, delivery timeliness, and overall satisfaction. Evaluation reports confirmed its effectiveness. The admin module achieved over 95% accuracy in managing users and monitoring data. Over 80% of farmers reported the system was helpful.

Figure 4 shows that the system provides farmers with a sales history report, allowing them to view their transaction records categorized by crop type, sales date, and revenue, and enabling them to track performance over specific time periods.

Sales History

Product Name:

No	Order Date	Product	Quantity	Price	Total
1	7/23/25	ပန်းစင်္ကါမီ	10	4000.0	40000.0
2	7/23/25	ခရမ်းသီး	5	2500.0	12500.0
Total Earned					52500.0

Figure 4: Farmer report for sales history

Figure 5 shows that farmers can view feedback from customers, including ratings and written reviews, allowing them to assess customer satisfaction and make improvements based on direct user input.

လယ်သမားထုတ်ကုန်များ

ပန်းစင်္ကါမီ
Price: 4000.0
မျှင်ချင်းအမျိုးမျိုး ပီအက် A, K, Fiber အရပ်များသည် လယ်သမားထုတ်ကုန်အတွက် အားသာရရှိပါသည်။
Average Rating: 3.0 ★
[View Feedback](#)

တောပတ်သီး
Price: 2500.0
အစိစတင်ဖြင့် သဘာဝကပ်လပ်ပါဝင်သည်။ သုပ်၊ Smoothie, Toast ထည့်သွင်းသည်။
Average Rating: 5.0 ★
[View Feedback](#)

ခရမ်းသီး
Price: 5000.0
မိမိကပ် မျှော်စင် စုတ်သီးခွံဖြင့် ဟင်းချက်နိုင်သည်။
Average Rating: 0.0 ★
[View Feedback](#)

ခရမ်းချဉ်သီး
Price: 5000.0
ဆာလက်သုပ်နှင့် ဟင်းချည်များတွင်လည်း အသုံးပြုသည်။ မိမိကပ် C, A များစွာပါဝင်သည်။
Average Rating: 0.0 ★
[View Feedback](#)

Figure 5: Farmer views feedback from customers

CONCLUSION

Agri SMEs stands as a pivotal digital initiative poised to transform Myanmar's agricultural landscape. By seamlessly integrating real-time market data, an efficient online ordering system, and a farmer-centric tiered commission model, the platform addresses critical challenges in transparency, market access, and economic empowerment for rural communities. It fundamentally aims to bridge the long-standing gap between producers and consumers, ensuring fair pricing, reducing post-harvest losses, and promoting the distribution of fresh, quality produce across the nation. Agri SMEs is more than just a marketplace; it is a catalyst for modernizing agricultural practices, fostering greater economic inclusion, and building a more resilient and interconnected food system in Myanmar.

REFERENCES

- [1] A. Sharma, "Web-based Agricultural Market System Using J2EE Framework," Journal of Emerging Technologies and Innovative Research (JETIR), Vol. 8, Issue 6, June 2021, ISSN 2349-5162.
- [2] A. Desai and K. Patel, "Implementation of Smart Agriculture Information System using Java Technology," International Journal of Advanced Research in Computer Science (IJARCS), Vol. 10, Issue 4, July–August 2019, ISSN 0976-5697.
- [3] M. Verma and P. Singh, "Database Driven E-Marketplace for Farmers using MySQL and Java," International Journal of Engineering Research in Computer Science and Engineering (IJERCSE), Vol. 7, Issue 9, September 2020, ISSN 2394-2320.
- [4] Pranita Malusare, "Online Smart Agriculture Product," International Journal of Advanced Research in Science, Communication and Technology (IJARSCT), Vol. 2, Issue 1, November 2022, ISSN 2581-9429.
- [5] R. Mehta, "Development of Online Agri-Trade Portal Using J2EE and Cloud Database Integration," International Journal of Research in Engineering, Science and Management (IJRESM), Vol. 3, Issue 5, May 2020, ISSN 2581-5792.
- [6] S. Kumar and R. Gupta, "Design and Development of Crop Information System using Java and MySQL," International Journal of Computer Applications (IJCA), Vol. 183, Issue 32, October 2021, ISSN 0975-8887.