Green University Of Bangladesh

Department Of Computer Science & Engineering

AgriBridge:

The Smart Farming Marketplace

Course Title: Integrated Design Project I

Section:222-D2

Course Instructor: Ms. Babe Sultana

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Abstract

This project introduces a Flutter-based mobile app enabling farmers to sell products directly to consumers. It includes product listings, AI-based product filtering by location, live chat, and in-app payments. The goal is to eliminate intermediaries, ensuring fair pricing and direct communication.

Problem Domain

Farmers often rely on middlemen who reduce their profits. Without direct access to digital tools, they struggle to connect with buyers, resulting in inefficiencies and reduced income.

Motivation

- Remove middlemen in agricultural sales
- Empower farmers through technology
- Provide transparent buyer-seller interaction

Objectives

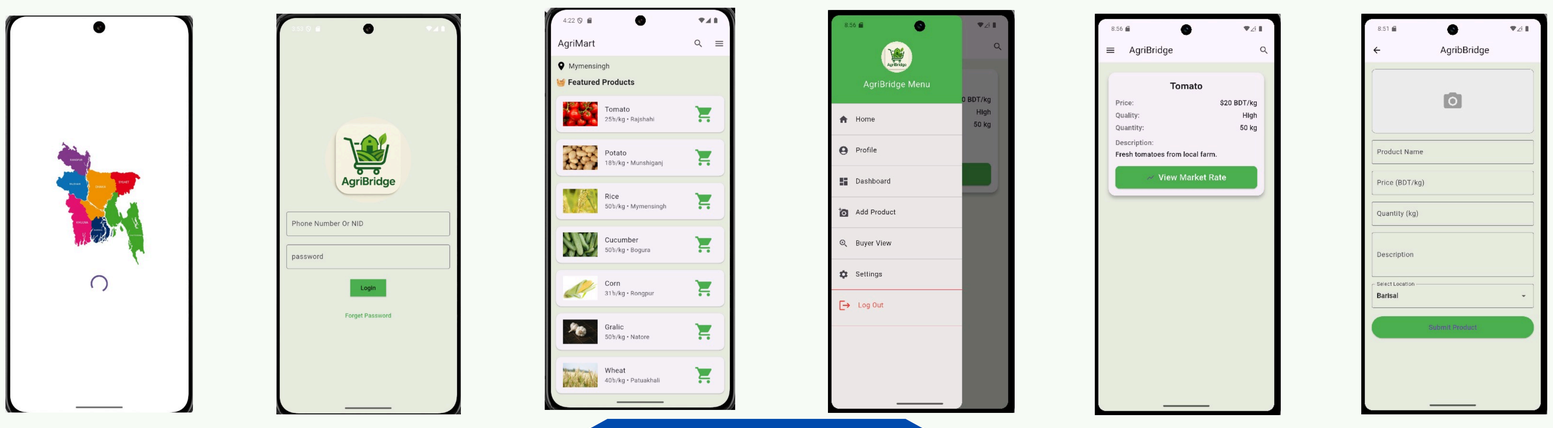
- To build a App For Farmer and Buyer
- To use Ai for smart product recomendation
- To enable realtime chat & secure payment

Literature Review

Table-1: Literature Review of our Project

Study/Source	Focus/Findings	Contribution to our Proposed System
Singh, R. et al. (2022) [1]	Discusses blockchain-enabled agricultural marketplaces that enhance transparency and trust.	Highlights the importance of direct farmer-to-buyer transactions, guiding system design.
Kumar, A. & Rani, R. (2021) [2]	Explores AI applications in agriculture for decision-making, prediction, and smart filtering.	Supports the use of AI for location-based product filtering in the buyer's search flow.
Patel, D. & Mehta, S. (2020) [3]	Examines digital platforms that connect farmers directly with buyers, bypassing intermediaries.	Validates the project's core concept of direct sales and inspires feature development.

Methodology



Prototype

System Requirement

Table-2: System Requirement

Functional Requirement	Non Functional Requirement
Registration/Login	Cross-platform (Flutter)
Product Management (Farmer)	Secure & scalable backend
Search & Filter (Buyer)	Real-time chat support
Chat & Payment Integration	Secure Data handling

SDLC Table

Table 3: Comparison Matrix with Different SDLC Mode

Priority	Criteria	Waterfall	V-shape	Iterative	Spiral	Agile	Prototype
4	Well-defined requirements	Yes	Yes	No	No	No	No
3	Technological knowledge required	Yes	Yes	Yes	No	No	No
6	Efficiency with Agri-bridge implementation	No	No	No	Yes	Yes	No
4	Risk analysis for engaging and motivating users	No	No	Yes	Yes	Yes	No
5	User testing for agri-begidge elements	No	No	Yes	No	Yes	Yes
5	Security in user data and platform integrity	No	No	Yes	Yes	Yes	Yes
6	Dependability of the platform and its features	No	Yes	Yes	Yes	Yes	Yes
Total:33	Overall score	7	13	23	21	26	16

UML Sequence Diagram

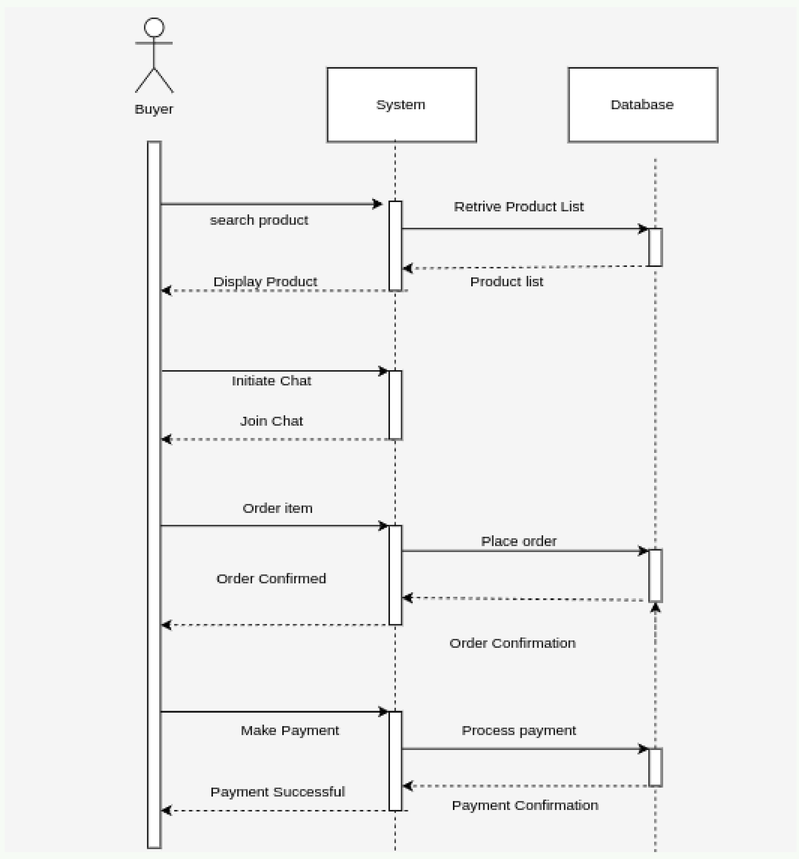


Fig: UML Sequence Diagram

UML use case Diagram

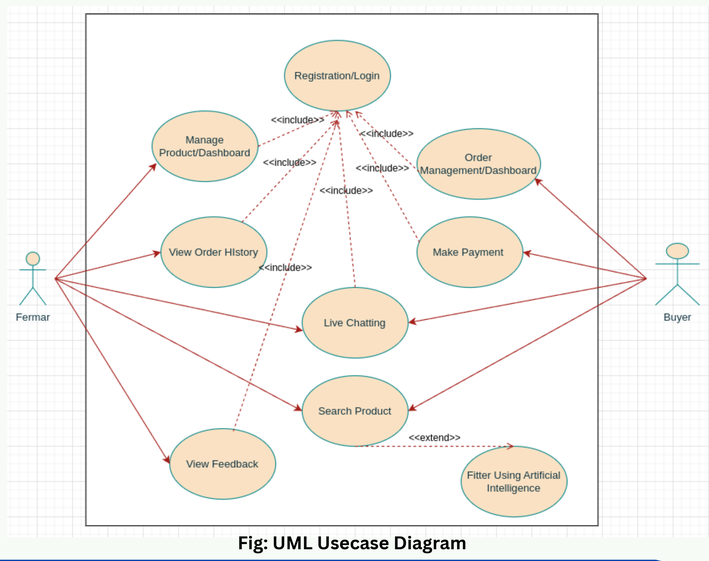


Fig: UML Usecase Diagram

UML Class Diagram

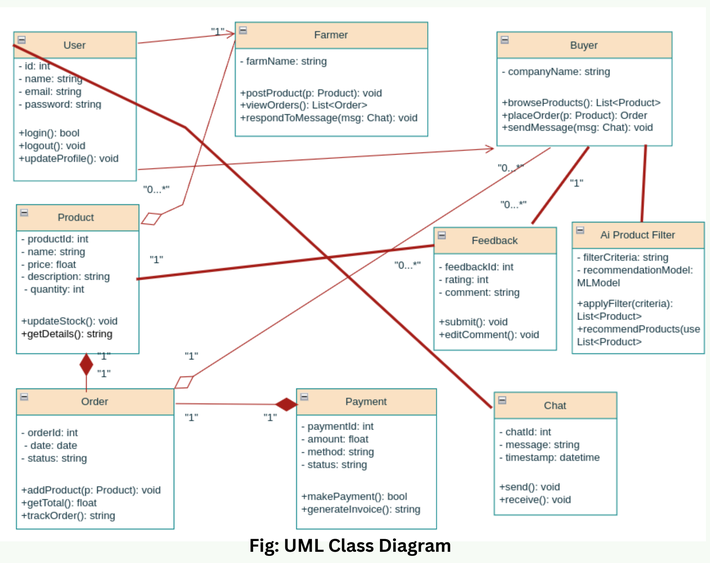


Fig: UML Class Diagram

Data Flow Diagram

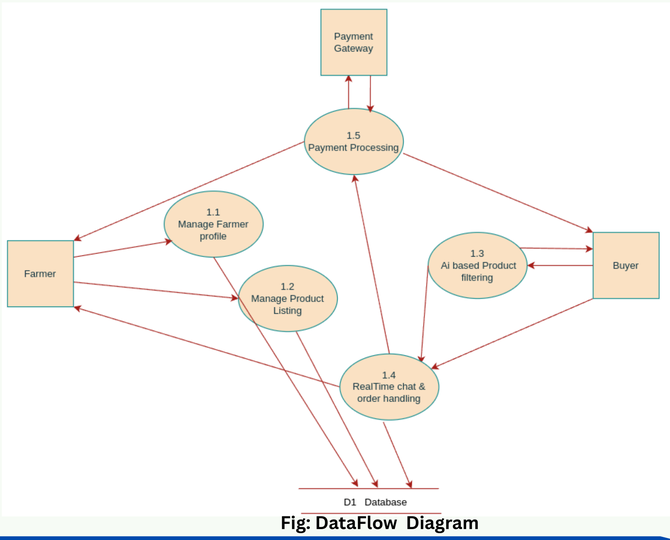


Fig: DataFlow Diagram

Social Impect

- Empowers rural farmers with technology
- Ensures fair pricing and income
- Builds consumer trust through transparency
- Encourages digital adoption in agriculture

Conclusion

The proposed system bridges the gap between farmers and consumers by creating a direct digital marketplace.It ensure a user-friendly, scalable platform that promotes sustainable agriculture and fair trade.

References

【1】 Singh, R. et al. (2022). Blockchain-enabled agricultural marketplaces. Accessed: 11 Feb, 2020.

【2】 Kumar, A. & Rani, R. (2021). AI in agriculture for decision-making and filtering. Accessed: 8 May ,2021.

【3】 Patel, D. & Mehta, S. (2020). Digital platforms connecting farmers and buyers. Accessed: Aug , 2020.