PRESIDENCY UNIVERSITY
Private University Estd. in Karnataka State by Act No. 41 of 2013
BANGALORE

A Project Report
On
"Mobile App for Direct Market Access for Farmers"

Batch Details

Sl. No.	Roll Number	Student Name
1	20211CIT0052	ERANTI SAI KISHAN
2	20211CIT0053	ERANTI SAI DINESH
3	20211CIT0049	LAKKI REDDY VARSHITHA
4	20211CIT0067	PAVANI M

School of Computer Science,

Presidency University, Bengaluru.

Under the guidance of,

Ms. BHAVYA B

School of Computer Science,

Presidency University, Bengaluru

CONTENTS

1. INTRODUCTION

Agriculture is the backbone of numerous economies, with sustenance and livelihood for much of the population. Traditional supply chains, however, tend to include several intermediaries, with consumers paying higher costs and farmers getting lower margins. The absence of direct access to markets causes issues like price manipulation, delayed payments, and lack of visibility for small farmers. In order to overcome these issues, this project aims to create an integrated digital platform that fills the gap between consumers and farmers, facilitating direct transactions for produce.

The suggested mobile app is to enable smooth communication between farmers and consumers through providing an easy-to-use interface to buy farm produce directly from the farmers. The site incorporates safe online payment modes, real-time stock updates, and strong user and farmer profile management capabilities. By removing redundant middlemen, the app enables farmers to be paid a decent price for their produce while ensuring consumers get fresh and cheap produce.

One of the platform's essential elements is how administrators contribute to creating trust and credibility in the system. The administrators are charged with bringing verified farmers on board, guaranteeing authenticity and trustworthiness. The administrators are also instrumental in posting and dealing with government or private schemes to favor farmers, thereby giving them a link to monetary and technical aid. This initiative seeks to empower farmers through greater market exposure and simplifying the selling process.

Future growth of the platform involves other features like vehicle and land rental services, which will also be of help to farmers in their farming activities. Furthermore, fertilizer management integration will equip farmers with necessary resources to increase productivity and efficiency. Through the use of technology to build a direct and open marketplace, this project aims to transform the agricultural industry and help the economic prosperity of farmers while making sure consumers have access to fresh and affordable agricultural products.

2. LITERATURE REVIEW

Sl. no	Paper Title	Proposed model	Results	Draw backs
1.	Mobile based agricultural Apps and portals for farmers' welfare in India 2021	Mobile applications for agricultural information dissemination, such as Kisan Suvidha, providing weather, market prices, and pest control updates.	Improved decision-making: Farmers get real-time weather and market updates, helping them make informed choices.	Limited awareness and digital literacy: Many farmers are unaware of these apps or struggle to use them effectively.
2.	Mobile Based Agricultural Apps and Portals for Farmers' Welfare in India 2021	The paper discusses the development of mobile applications and portals to provide farmers with real-time agricultural information, market intelligence, weather forecasts, and advisory services.	Improved trust and traceability in transactions, reducing fraud.	High computational costs and lack of farmer familiarity with block chain technology.
3.	E-Mandi: Digital Marketplace for Farmers 2022	Digital platform to connect farmers with buyers via a bidding system for agricultural produce.	Enhanced competition leading to better price discovery for farmers.	Requires high internet penetration; limited adoption in areas with low digital literacy.
4.	Agro Connect: AI-Driven Marketplace for Farmers 2022	AI-powered app recommending optimal prices and connecting farmers to nearby buyers based on demand.	Reduced time to market and better price optimization.	High processing demands and challenges in adapting AI models to regional variations.
5.	Farmers' Direct Selling Mobile App 2023	Mobile application enabling farmers to list products and directly negotiate prices with consumers.	Simplified selling process and higher profit margins for farmers.	Limited support for logistics and delivery, restricting usability for large-scale operations.
6.	Mobile Based Agricultural Apps and Portals for Farmers' Welfare in India 2023	Blockchain-based supply chain for tracking agricultural produce from farm to market.	Increased transparency, reduced middlemen exploitation.	High energy consumption and complex implementation costs.
7.	Direct Market Access for Farmers 2024	The research proposes a digital platform that allows farmers to sell their produce directly to buyers, eliminating intermediaries.	The adoption of these mobile applications has improved farmers' access to information, helping them make informed decisions about crop management, pest control, and market prices.	Despite the benefits, limited digital literacy and lack of internet connectivity in rural areas hinder widespread adoption. Additionally, farmers' reliance on traditional farming practices and middlemen remains a challenge
8.	Mobile App for Direct Market Access for Farmers 2024	The research proposes the development of a mobile application, FarmConnect, to provide farmers with direct market access by connecting them with consumers and retailers.	During alpha testing, the system successfully allowed farmers to list and manage their produce while enabling real-time updates	While the system effectively connected farmers and consumers, it lacks real-time transaction monitoring
9.	Mobile App For Direct Market Access For Farmers 2024	GPS-Based Direct Market Access App: A mobile application that connects farmers directly with consumers, wholesalers, and retailers, eliminating middlemen and allowing real-time price negotiation.	Improved Market Accessibility: Farmers gain direct access to buyers, increasing profits and reducing dependency on intermediaries.	Limited Digital Infrastructure: Many rural areas lack proper internet connectivity and smartphone access, making adoption challenging.
10.	Farmers E-Commerce Mobile Application 2024	"HarvestHub" E-Commerce Platform: A mobile application that allows farmers to buy and sell agricultural products like fruits, vegetables, seeds, and fertilizers in their local language, enhancing market accessibility.	Enhanced Market Access: Farmers can now directly connect with buyers, eliminating middlemen and improving their profits.	Digital Divide: Many farmers still lack access to smartphones and internet connectivity, limiting adoption.

3. OBJECTIVES

- Empower farmers with real-time market access to reduce middlemen exploitation.
- Enhance decision-making through AI-driven weather and crop predictions.
- Facilitate direct selling to consumers and wholesalers.
- Improve awareness about government subsidies, loans, and grants.
- Increase accessibility with voice-based and multilingual features.
- Simplify Product Listing and Management: Enable farmers to easily upload, update, and manage their produce inventory.
- Ensure Fair Pricing: Provide transparent price negotiation tools to help farmers receive fair market value.
- Streamline Logistics: Facilitate transportation through vehicle rental options for efficient delivery**.**

4. METHODOLOGY

The proposed mobile application will act as a one-stop platform providing farmers with:

- **Direct Market Access** – Farmers can list and sell products without intermediaries.
- **Weather & Soil Health Updates** – AI-based alerts on weather conditions and soil health analysis.
- **Expert Consultation** – Real-time chat with agricultural experts.
- **Government Schemes & Subsidies** – Easy access to apply for available schemes.
- **Financial Assistance** – Loan eligibility checker and application support.
- **Knowledge Hub** – Videos, guides, and tutorials on modern farming techniques.

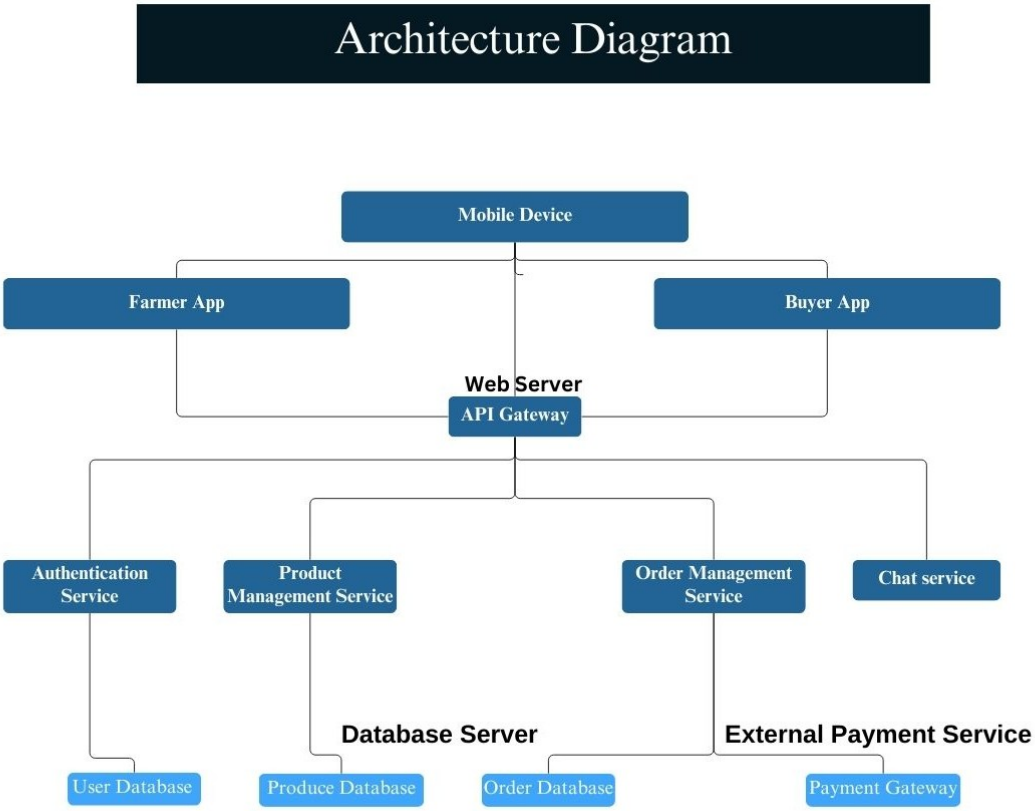
- Hardware and software Used:

- **Build.gradle:** Configures the build process using Gradle by specifying dependencies, plugins, and SDK settings for the app.

- **Google-services.json:** Provides necessary configuration and credentials for integrating Google services like Firebase into the application.

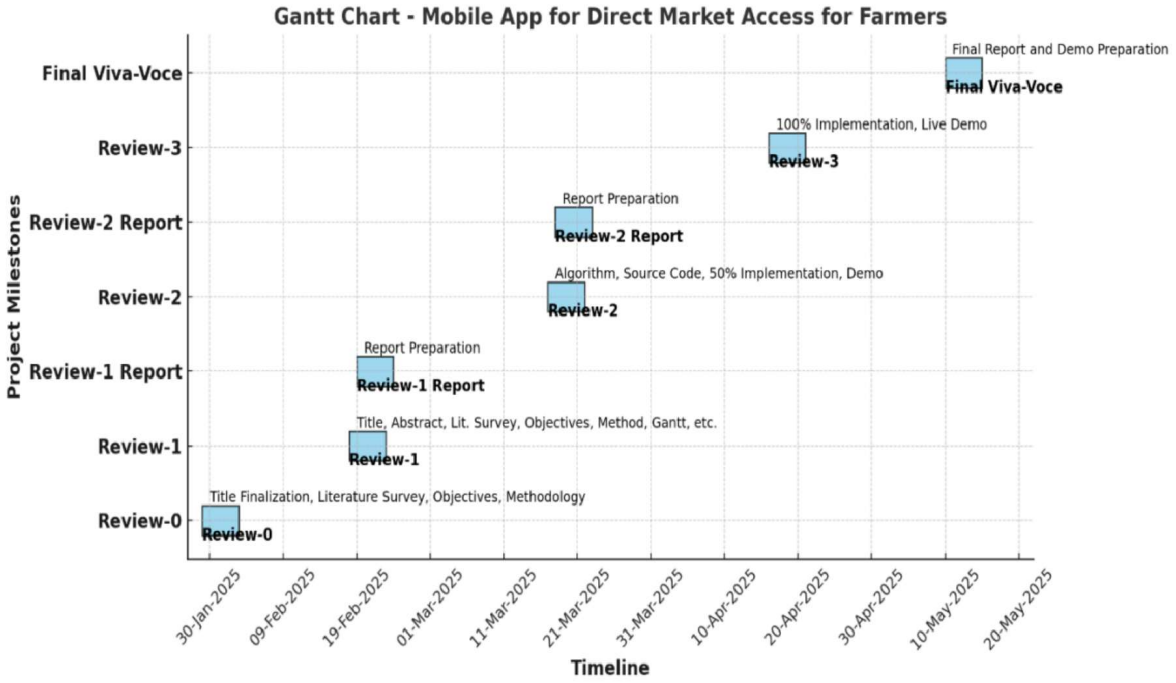
- **Proguard-rules.pro:** Contains rules for code obfuscation and optimization, enhancing app security and performance by reducing reverse engineering risks

- Design Procedure



ARCHITECTURE DIAGRAM

5. TIMELINE FOR EXECUTION OF PROJECT



Gantt Chart

6. EXPECTED OUTCOMES

Improved Farmer Income – The removal of middlemen helps farmers get the appropriate price for their crops, thus resulting in enhanced income.

Direct Consumers' Access to Fresh Produce – Customers enjoy high-quality fresh products directly from agricultural sources at good prices.

Secure Online Transactions – Coupling digital payment systems within platforms ensures simple, secure payments for farmers as well as buyers.

Effective Inventory Management – Real-time inventory levels allow farmers to control stock levels efficiently, minimize wastage, and guarantee timely sales.

Enhanced Trust and Transparency – Administrator-verified onboarding of farmers lends credibility and fosters consumer trust in the platform.

Scalability and Future Growth – The platform is scalable to support future features

like vehicle and land rentals, fertilizer management, and further automating farming activities.

Easy Profile Management – Farmers and consumers can easily manage their profiles, change preferences, and monitor transaction history.

Support for Agricultural Sustainability – The platform promotes effective use of resources, minimized food wastage, and improved market access, ensuring sustainable farming.

Strengthened Rural Economy – By creating direct market access, the application helps strengthen the rural farm economies.

7. CONCLUSION

The Direct Market Access for Farmers app is a revolutionary solution that closes the gap between farmers and consumers by creating an efficient digital platform. Through facilitating direct transactions, secure online payment, and real-time inventory tracking, the platform increases transparency and trust. Adding verified farmer onboarding and farm schemes further increases its reliability and support for farmers. With projected expansions to vehicle and land rentals, as well as fertilizer management, the app is on track to be a one-stop-shop ecosystem for farmers, stimulating sustainable agricultural development and economic empowerment.

8. REFERENCES

- 2020 – Chang, H.-H., & Meyerhoefer, C.D. "COVID-19 and the demand for online food shopping services: Empirical evidence from Taiwan." American Journal of Agricultural Economics, 103, 448–465.
- 2020 – "Android App to Connect Farmers to Retailers and Food Processing Industry." IEEE Xplore. Available at: https://ieeexplore.ieee.org/document/9034434
- 2021 – Saxena, S., & Limbad, A. "Consumption change of household food habits pre and post lockdown during COVID-19: A perspective study of Gujarat and Maharashtra." Global Journal of Interdisciplinary Studies, 4, 16–36.
- 2022 – Zhao, L., Zhang, Y., & Zhang, H. "Research on the Impact of Digital Literacy on Farmer Households' Green Cooking Energy Consumption: Evidence from Rural China." International Journal of Environmental Research and Public Health, 19, 13464.
- 2023 – Manocha, S., Bhullar, P.S., & Sachdeva, T. "Factors determining the investment behaviour of farmers—The moderating role of socioeconomic demographics." Journal of Indian Business Research.
- 2023 – "Smart Kisan: A Mobile App for Farmers' Assistance in Agricultural Activities." IEEE Xplore. Available at: https://ieeexplore.ieee.org/document/10199471
- 2023 – Hinojosa, C., Sanchez, K., Camacho, A., & Arguello, H. "AgroTIC: Bridging the Gap Between Farmers, Agronomists, and Merchants Through Smartphones and Machine Learning." arXiv preprint arXiv:2305.12418. (arxiv.org)
- 2023 – Kumar, R. "Farmers' Use of the Mobile Phone for Accessing Agricultural Information in Haryana: An Analytical Study." Open Information Science. (degruyter.com)
- 2023 – "Is Agricultural Digitization a Reality Among Smallholder Farmers in Sub-Saharan Africa? Unpacking the Digital Agricultural Paradox." Agriculture & Food Security.

- 2024 – Mdoda, L., Christian, M., & Agbugba, I. "Use of Information Systems (Mobile Phone App) for Enhancing Smallholder Farmers' Productivity in Eastern Cape Province, South Africa: Implications on Food Security." Journal of the Knowledge Economy, 15, 1993–2009. (link.springer.com)
- 2024 – "Bridging the Digital Divide: Empowering Rural Women Farmers through Mobile Technology." Sustainability, 16(21), 9188. (mdpi.com)