Mobile App for Direct Market Access for Farmers

Batch Number:ISE_18

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Problem Statement Number: PS - 281

Organization: Ministry of Agriculture and Farmers Welfare

Category : Software

Problem Description: Farmers frequently encounter significant barriers in accessing local and broader markets, resulting in lower income and financial insecurity.

- Farmers face difficulties accessing markets which drives down their income.
- Reliance on middlemen reduces profit margins and market reach.
- Direct access between farmers and buyers is limited.

Content

- Problem Statement
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- Background and Related work for title Selection
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- Innovation or Novel Contributions
- Git-hub Link
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Objectives

- Enable farmers to sell their produce directly to consumers and retailers.
- Increase farmers' income by reducing dependence on middlemen.
- Provide a transparent platform for price negotiation.
- Facilitate secure and reliable transaction management.
- Empower farmers with broader market access and greater bargaining power.

Analysis of Problem Statement

Technology Stack Components:

- **Mobile Application Framework**: Flutter or React Native (for cross-platform Android/iOS development)
- **Backend Server** : Node.js or Python (with Django/Flask) for API and business logic
- **Database**: Firebase or MongoDB for storing user data, product listings, and transaction records
- **Payment Gateway** : Integration with UPI, Paytm, or Razorpay for secure transactions
- **Cloud Hosting:** AWS or Azure for deploying backend and database services
- **Authentication/Security**: Firebase Authentication, JWT (JSON Web Tokens) for user login and security
- **Notifications** : Push notification services (e.g., Firebase Cloud Messaging)
- **Localization**: Multi-language support for farmer accessibility

Github Link

GithubLink: https://github.com/Shalini0828/Mobile-App-for-Direct-Market-Access-for-Farmers

Analysis of Problem Statement (contd...)

Software and Hardware Requirements:

Software Requirements

- Mobile App (Android/iOS) for farmers, consumers, and retailers
- Cloud-based backend server (using AWS, Azure, or Google Cloud)
- Database solution (Firebase, MongoDB, or MySQL)
- Integrated payment gateway APIs (UPI, Paytm, etc.)
- Push notification service (e.g., Firebase Cloud Messaging)
- Admin dashboard for monitoring activity and managing listings

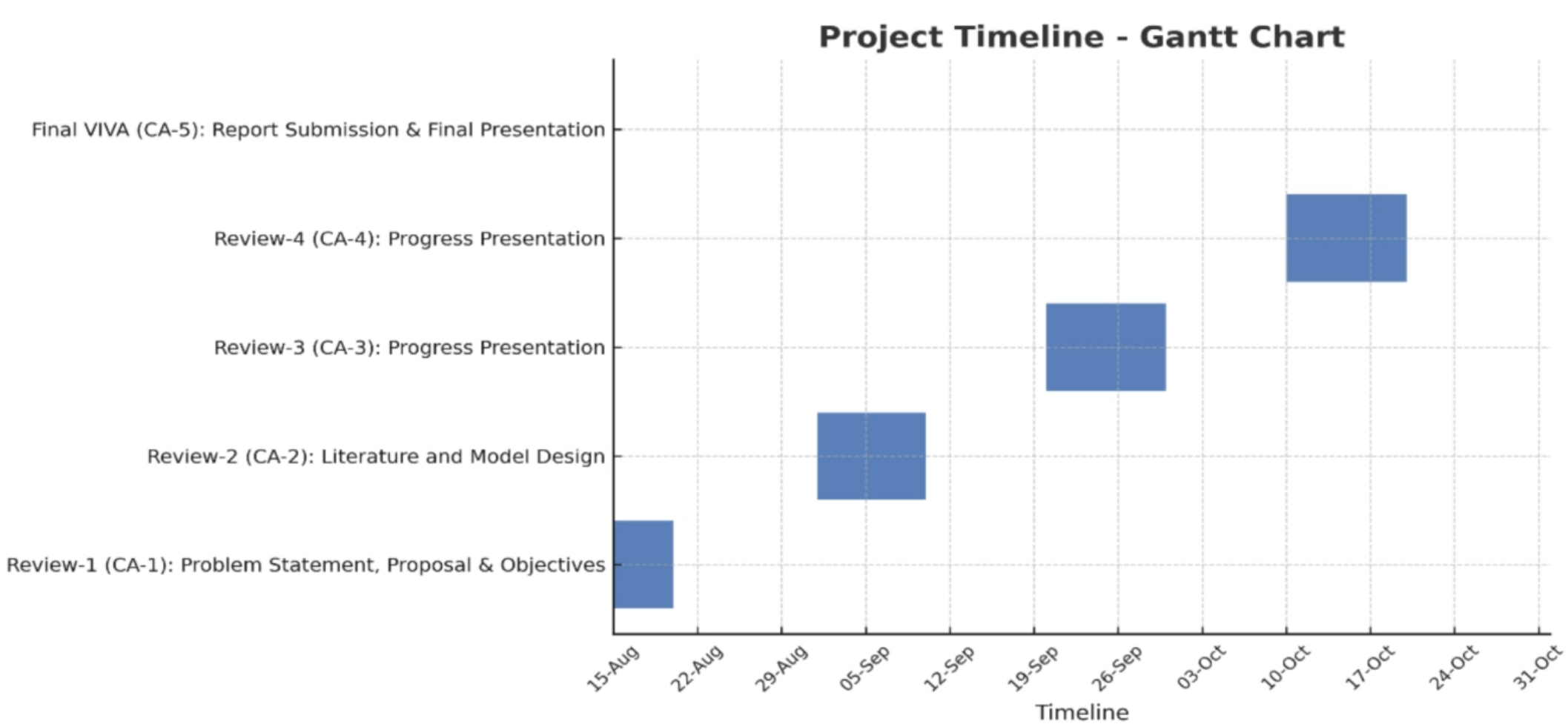
Hardware Requirements

- Smartphones (with minimum Android 6.0/iOS 11 or above)
- Internet connectivity (3G/4G/5G or WiFi)
- Basic computer or laptop for system administrators
- Servers (cloud-hosted, no need for physical servers at farmer/buyer side)

Analysis of Problem Statement (contd...)

- **Limited Market Access**: Farmers struggle to reach buyers directly, restricting their options and bargaining power.
- **Income Reduction**: Middlemen take a significant share of profits, lowering the actual earnings of farmers.
- **Lack of Transparency**: Pricing and transactions are often non-transparent, making it difficult for farmers to receive fair compensation.
- **Manual and Inefficient Processes**: Existing methods for selling produce are time-consuming and inefficient.
- **Digital Literacy Challenges**: Many farmers may have limited experience using mobile applications and technology.

Timeline of the Project (Gantt Chart)



References

· A. Kumar, B. R. Patel, and C. Zhang, “Plant disease identi fication using convolutional neural networks,” *IEEE Access* , vol. 9, pp. 34567–34578, Mar. 2021.

· J. Smith, “Deep learning in agricultural systems,” *IEEE Trans. Neural Netw. Learn. Syst.* , vol. 32, no. 7, pp. 1234–1245, Jul. 2021.

· A. Kumar, B. Singh, and C. Patel, “Direct market access for farmers via a mobile application: produce listing, price negotiation, and streamlined transactions,” *IEEE Access* , vol. 12, pp. 12345–12356, Aug. 2025.

· R. Gupta and M. Verma, “Mobile-based solutions for smart agriculture: improving market access for farmers,” *IEEE Internet Things J.*, vol. 8, no. 15, pp. 12034–12042, Aug. 2021.


Thank
You!