

# Requirements Analysis

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MAIN PROJECT – 20MCA246

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## FarmConnect

*Empowering Agricultural Commerce through Digital Platform*

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## *Empowering Agricultural Commerce through Digital Platform*

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### 1. Project Overview:

FarmConnect represents a transformative digital platform poised to revolutionize the agricultural commerce landscape. Developed using the versatile Flutter framework for its front-end and the robust Firebase backend, this platform redefines how farmers and buyers interact in the agricultural sector. Its core objective is to seamlessly connect farmers, who are the primary producers of agricultural products, with buyers who seek fresh, locally sourced goods. FarmConnect strives to empower farmers by expanding their market reach and offers buyers a convenient, transparent, and direct way to access agricultural products.

### 2. To what extent the system is proposed for?

FarmConnect is an extensive system designed to encompass a broad spectrum of functionalities. It serves as an end-to-end solution for agricultural commerce, integrating tools and features that enhance the entire supply chain. From user management to product listings, order processing, and communication capabilities, it offers a comprehensive set of services. These include facilitating secure transactions, offering personalized recommendations based on user preferences, and promoting sustainable farming practices. The system's reach extends across the entire agriculture sector, from small-scale farmers to larger agricultural enterprises.

### 3. Specify the Viewers/Public which is to be involved in the System:

FarmConnect's primary audience comprises three key user groups:

- **Farmers:** These are the backbone of the agricultural sector, and FarmConnect empowers them by providing a platform to showcase their products, efficiently manage inventory, and receive valuable seasonal cultivation recommendations. This not only enhances their market access but also supports sustainable farming practices.
- **Buyers:** Buyers use FarmConnect to access a diverse range of agricultural products. They can easily discover products, place orders, track deliveries in real-time, and engage directly with farmers for inquiries or additional product information. This direct communication fosters trust and transparency in the agricultural supply chain.
- **Admins:** The administrative team ensures the platform's smooth operation. They oversee user accounts, moderate product listings, provide support to users, and manage the overall functionality of the platform. Admins play a crucial role in maintaining the platform's integrity and efficiency.

#### 4. List the Modules included in your System:

FarmConnect consists of three core modules:

- **Admin Module:** This module equips administrators with comprehensive tools to manage user accounts, review and approve product listings, facilitate secure transactions, and provide robust support to farmers and buyers.
- **Farmer Module:** Empowering farmers to present their products, efficiently manage inventory and orders, receive personalized cultivation recommendations, and engage in direct communication with both buyers and administrators.
- **Buyer Module:** Providing buyers with an intuitive interface for product discovery, order placement, real-time delivery tracking, and direct communication with farmers for inquiries and product details.

#### 5. Identify the users in your project:

- **Admins:** Responsible for overseeing the entire platform, admins ensure smooth operations, manage user accounts, moderate product listings, and provide support to users.
- **Farmers:** These primary producers use FarmConnect to showcase their products, manage orders and inventory, receive valuable cultivation recommendations, and communicate directly with buyers and admins.
- **Buyers:** Buyers leverage FarmConnect for discovering, selecting, and purchasing agricultural products, with features including real-time order tracking, communication with farmers, and access to their order history.

#### 6. Who owns the system?

The ownership details typically depend on the organization or individuals who initiated and funded the development of the platform.

- Entrepreneur or Founder
- Start-up Company
- Agricultural Cooperative
- Non-Profit Organization
- Government or Public Entity

#### 7. System is related to which firm/industry/organization?

FarmConnect's direct connection is with the agricultural industry. It serves as a catalyst for improving the efficiency, transparency, and sustainability of agricultural commerce. By connecting farmers and buyers directly, FarmConnect contributes to the growth and prosperity of local agricultural ecosystems and empowers farmers to access broader markets. It aligns with the goals of agricultural organizations, government bodies, and industry associations committed to supporting sustainable farming practices and enhancing market access for growers.

## **8. Details of the person that you have contacted for data collection:**

The process of data collection for FarmConnect involves collaboration with a diverse range of stakeholders. It encompasses collecting and curating essential data, such as product information, user profiles, and regional agricultural data. This data collection effort requires engagement with multiple parties, including:

- Farmers and Agricultural Experts
- Government Agencies
- Farmers' Associations
- Local Agricultural Communities.

## **9. Questionnaire to collect details about the project:**

### **1) What types of products do you list or purchase on FarmConnect?**

I do not list or purchase products on the platform myself. My role primarily involves managing user accounts, monitoring platform activities, and facilitating payment processing.

### **2) Are there specific features or functionalities you would like to see added to FarmConnect?**

Adding additional features like real-time chat support for users, more comprehensive reporting and analytics tools, and tools for promoting sustainable farming practices would be valuable enhancements.

### **3) Provide more information about your target user base? Are there any specific demographics or regions you are primarily focusing on?**

FarmConnect aims to cater to a diverse user base that includes:

**Farmers:** Both small-scale and large-scale farmers who want to expand their market reach.

**Buyers:** Individuals, restaurants, and businesses looking for quality farm products..

### **4) Are there any unique features or functionalities you envision that will set FarmConnect apart from other agricultural commerce platforms?**

To set FarmConnect apart from other agricultural commerce platforms, we envision unique features such as:

- Personalized cultivation recommendations based on local weather data.
- Real-time order tracking for buyers.
- Direct communication channels between farmers and buyers.
- Robust image recognition for product search.
- Integrated disease detection and pest control guidance.

**5) How do you plan to ensure the security of user data and financial transactions on the platform?**

To ensure the security of user data and financial transactions, FarmConnect will implement:

- Robust encryption protocols.
- Regular security audits.
- Compliance with industry best practices.

**6) Are there any specific technologies or integrations you require for the image recognition, disease detection, and pest control modules?**

We plan to integrate machine learning models and image processing technologies for image recognition, disease detection, and pest control modules. Collaborations with specialized technology providers will be pursued.

**7) How do you plan to gather and maintain information on organic products, and how will they be distinguished on the platform?**

Information on organic products will be collected through a separate section on the platform. They will be distinguished by relevant certifications and labels, ensuring transparency for buyers.

**8) What specific functionalities should the admin dashboard include?**

The admin dashboard in the FarmConnect platform should provide comprehensive tools and functionalities to enable administrators to effectively manage user accounts, oversee platform operations, and ensure a smooth and secure experience for all users.

- User Management
- Product Approval
- Block and Unlock Users
- Quality Assessment
- Reports
- System Settings
- User Feedback and Ratings

**9) Are there any legal or regulatory requirements that the platform must adhere to, especially in the agricultural sector?**

Yes, there may be legal and regulatory requirements that the FarmConnect platform must adhere to, especially in the agricultural sector. Compliance with these regulations is essential to ensure the platform operates within the bounds of the law and maintains the trust of users. The specific regulations and requirements can vary by region and country, but some common considerations in the agricultural sector include:

- Data Privacy and Protection
- Food Safety and Quality Standards
- Organic Certification
- Pesticide and Chemical Regulations
- Intellectual Property

#### **10) Are there any optional or mandatory fields for user profiles?**

User profiles on the FarmConnect platform may have both optional and mandatory fields to ensure that essential information is collected while allowing users the flexibility to provide additional details based on their preferences.

##### **Mandatory Fields:**

- Full Name
- Email Address
- Password
- Phone Number
- Location/Address
- User Type

##### **Optional Fields:**

- Profile Picture
- Bio/About Me
- Preferred Payment Methods
- Product Preferences
- Favorite Products
- Languages Spoken
- Notification Preferences

#### **11) What types of notifications and alerts should users receive?**

Users of the FarmConnect platform should receive various types of notifications and alerts to keep them informed about important events, updates, and interactions on the platform. These notifications are essential for providing a smooth and engaging user experience

- Order Updates
- Chat Messages
- Product Updates
- Promotions and Offers
- Shipping and Delivery

**12) What methods of communication should be available between users, admins, and farmers?**

Effective communication channels between users (buyers and farmers), admins, and farmers are crucial for ensuring a smooth and transparent experience on the FarmConnect platform.

- In-App Messaging
- Live Chat and Chatbot
- Phone Support
- Help Center and Knowledge Base

**13) What information should be available to buyers for order tracking?**

To provide an effective order tracking experience for buyers on the FarmConnect platform, it's essential to offer comprehensive information that helps buyers stay informed about the status and progress of their orders.

- Order Number or ID
- Order Date and Time
- Order Status
- Delivery Address
- Contact Information
- Delivery Provider Information (if applicable)

Overall, the requirement analysis affirms FarmConnect's potential to bridge the gap between farmers and buyers, foster sustainable agricultural practices, and create a vibrant marketplace. As we move forward in the development process, these insights will serve as a guiding light to ensure that FarmConnect meets and exceeds the expectations of all its stakeholders.