

## Original Research Article

### E-Mandi Farm

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#### A B S T R A C T

##### Keywords

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Middlemen, Right  
amount of yield,  
service oriented  
scheme, searching  
and decision  
making

This article focuses on a web based E-agricultural system where it helps the farmer to access the wide market portal across the world or it's nearby areas. The framework basically removes the problem of middlemen because of which farmer's don't get the right amount of their yield. In this farmer will register into the portal and provide information like quality and prices of their produce with the duration of the produce to be sold which the customer will browse through and buy as per his/her requirement. It also provides a service oriented scheme in which the produce is delivered at doorstep. The algorithm used in this project is searching and decision making.

## Introduction

E-Mandi is an online fruits & vegetables store that has made available to provide services to people in making online shopping accessible to them. It is an online website which will allow the people to buy produce very easily and also maintain transparency between the farmer and user. This application helps user to buy vegetables and fruits at its best price. The system provides a well defined interface which helps the customer to browse through various items available easily. There are many important reasons for the productivity of a region's farm.

## Fundamentals

Agriculture plays an important role in Indian economy as almost around 70% of rural households depends on it. Even India is second largest producer of almost every

produce in agriculture field. But the farmers working on this does not get the right amount of their yield because half of the revenue goes to the middlemen, distributors, and other agents involved in the process of marketing. So to solve the problem there is need of platform which will allow the farmers to directly sell their produce to the customers and get the right amount of their yield produce. This can be achieved by making this physical mandi- farm to online application.

## Objectives

The main objective of this study is to develop a website which will help the farmers of India to sell their produce so that they get the right amount of their yield since there is no involvement of middlemen. If the farmers from villages want to have access to this facility then they should have some knowledge of computers to use e-farming

efficiently and if they do not know how to operate this they can even contact the company's computer professional and learn from them. On the other side, customers can buy farmers products.

## **Materials and Methods**

After going through several literature reviews, there should be a requirement of a real time system which will be used to develop a E-mandi farm for the farmers and the users. The main objective of the proposed system is to develop a website that will help the farmers to get the right amount from their produce produced. There will be information regarding the produce which will be available up-to-date in the website. The system gives the choice to the farmers of when and where to sell the produce individually. The users then can have a view of the produce sell and then can buy it and can even provide feedback regarding the produce, service etc.

## **Modules**

### **Module 1**

Home Page

Login page for farmers

Sign up page for farmers

### **Module 2**

Shop nearby products for user

Add produce details page for farmers

Delete produce details for farmers

Update produce details for farmers

### **Module 3**

Buy products page

Transaction page

### **Module 4**

Track order page

Delivery status

Help Desk

## **Design Phase**

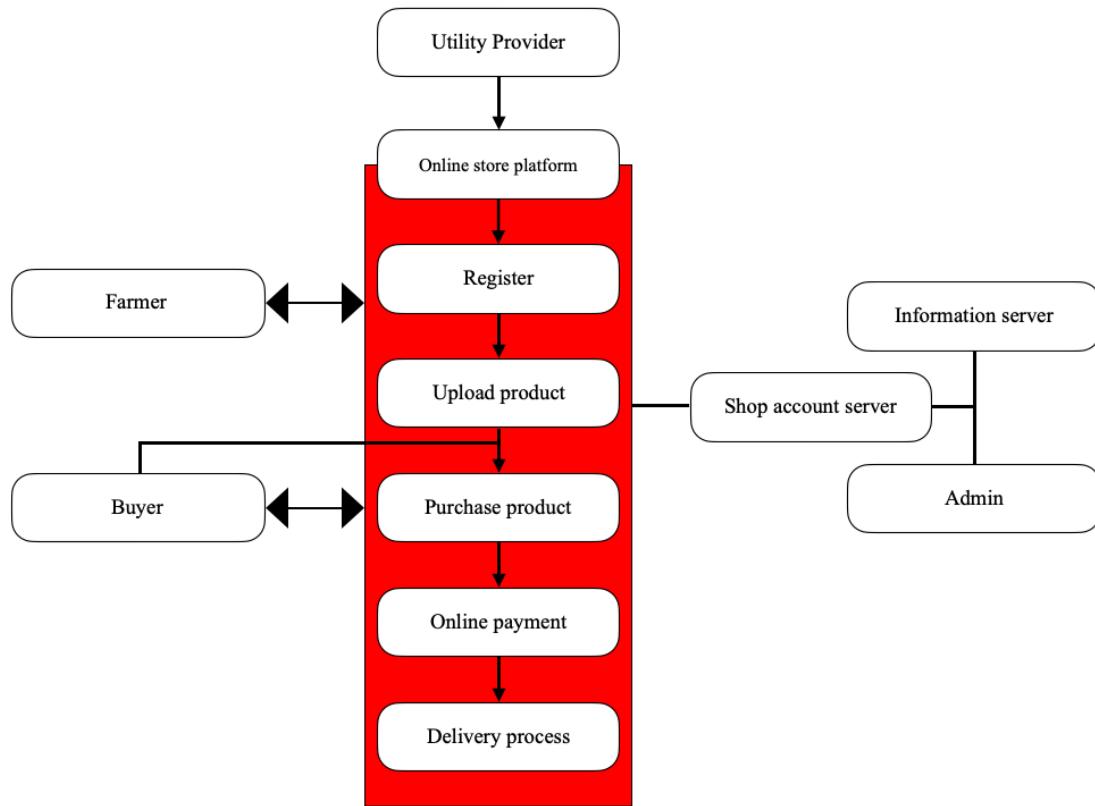
In the design phase the requirement gathering is done by analyzing various activities which are represented and identified using unified modelling language(UML) diagrams.

These diagrams are used to specify, modify, construct the artifacts of object oriented software intensive systems.

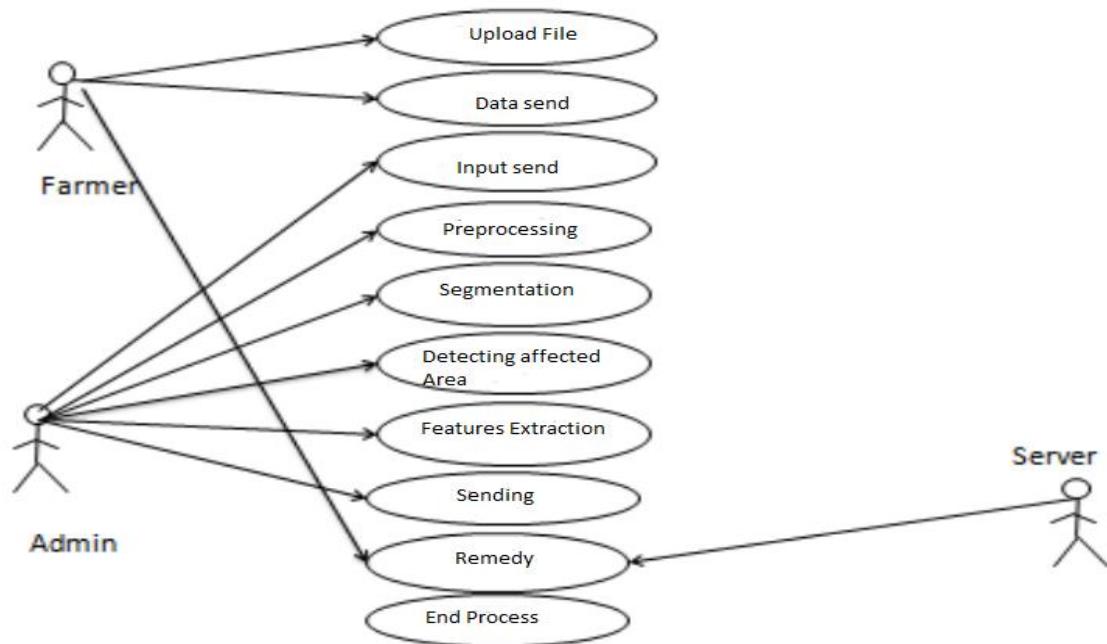
## **Use-case diagrams**

Use case diagram is used to capture the dynamic aspect of a system by gathering the requirements of a system including internal and external influences. It is also used to show the interaction between the actors' requirements. These are drawn by using the actors, internal applications, or external applications by arranging them in an organised manner. The diagram shows relationships and dependency and even uses notes whenever required to clarify some important points.

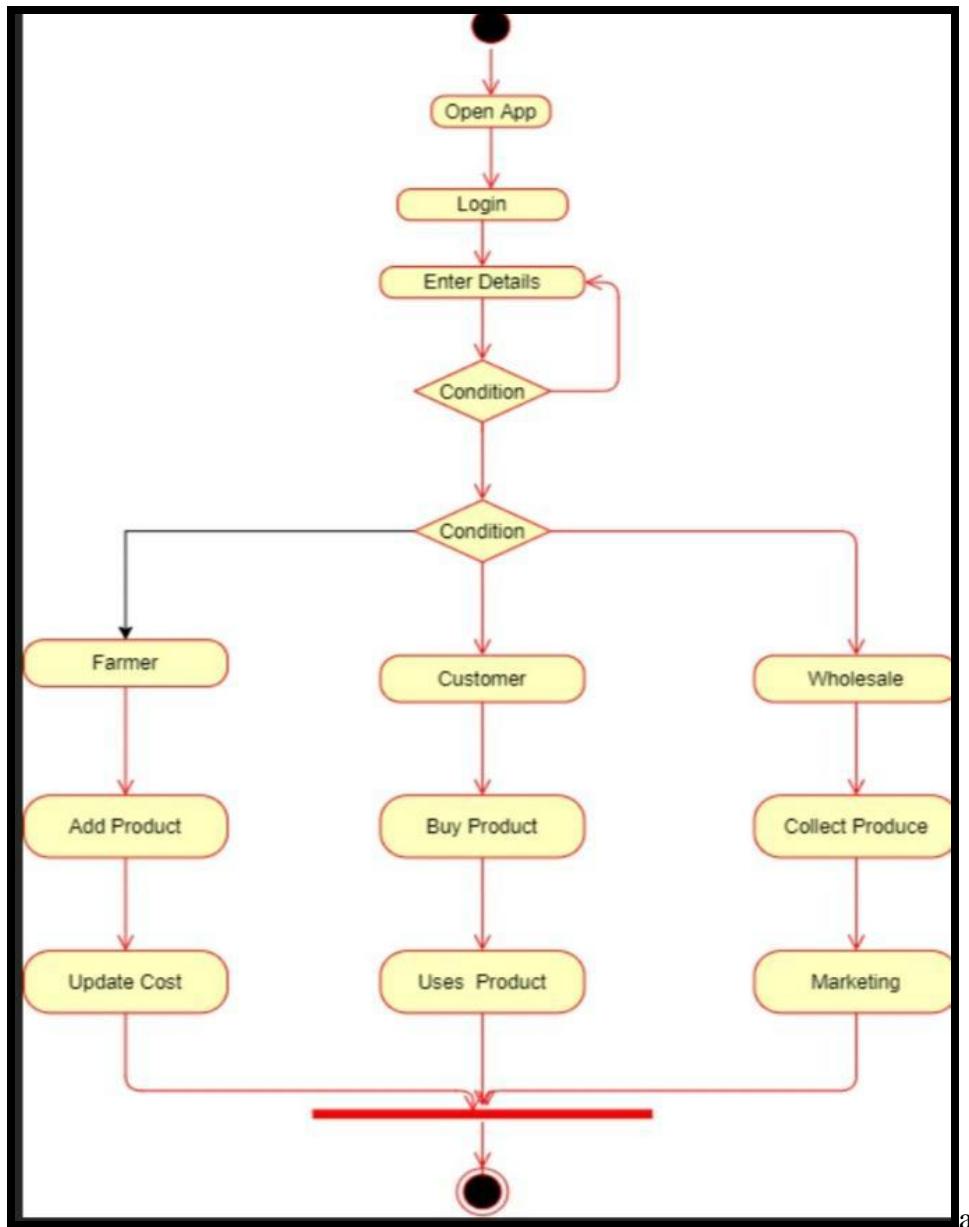
**Fig.1** Block diagram of proposed system



**Fig.2** Use Case Diagram



**Fig.3** Activity diagram



## Activity diagrams

The activity diagram describes the dynamic aspects of any system. It's basically a flow diagram to represent the flow from one activity taking place to another in any system. The flow of the system described can be either sequential, branched or concurrent. The activity is controlled by using different elements like fork, join etc. Hence describes

the operational performance of the system as a whole.

## Implementation

The implementation process is a very important step in designing of the system. In this first the farmers will register themselves by using the OTP system. Once they get registered they can add, modify, delete, or

update the quantity and the quality of their produce to sell.

The users can directly view the produce updated by the farmers according to their nearby range. Then they can buy the produce accordingly and can trace the ordered item through the track order page. This system basically helps the farmers to get the right amount of their yield without the involvement of middlemen. The whole process is done through online.

### Pseudo code

Start

Sign up

Login

If successful go to next step

Else return login

Updates

Add, Delete product

View product

Buy the product

Payment Processed

If successful proceed to next step

Else go to buy product

End

### Algorithm

Step 1: Start

Step 2: User search for farmers and produce area wise.

Step 3: Then the algorithm will check for the mentioned product in the database.

Step 4: If the record is found and matched the expected result is displayed.

Step 5: If required the steps 2, 3 and 4 are repeated for the new product search.

Step 6: The product matched is further proceed to buy now

Step 7: If the product is available to buy then the transaction process is carried on.

Step 8: Stop

The paper describes an E-agricultural system which basically allows each and every farmer to sell their produce directly at the doorstep of the customer. The database stores the information of the registered farmers, buyers, and the produce information. The farmers of this website handles several activities like updating, deleting, modifying the information of the produce. The payment in this portal is either done through online or as Cash on delivery and payment goes directly to the farmers account. Hence this website will let the farmers get their right amount at their right time without any middlemen or any other involvement of commission agency. This portal will be easily accessible and even can be comfortably used by both the users and the farmers. This is one of the most important steps for the transformation of agriculture in India.

### References

- Ramesh Chand Member, NITI Aayog, New Farm Acts; understanding the implications, November 2020.  
J. P. Yadav, Abhishek Sharma, "National Agriculture Market: The Game Changer for Indian Farming

- Community”, University of Rajasthan, Jaipur, IJSRM Volume 5 Issue 07 July 2017.
- Samruddhi Suresh Khandare, Prof. Sushopti Gawade, “Information Communication Technology with Digital India in Agriculture domain”, International Journal of Modern Trends in Engineering and Science, Volume: 04 Issue: 02 2017.
- Tanuja R. Patil, Shamshuddin. K., Rajashekhar Patil, Sadanand P., “Krishi Samriddhi: A Decision Support System for Farmers to get High Yield Crops”- International Conference on Computational Techniques in Information and Communication Technologies (ICCTICT), March-2016.
- Kapile Manoj S, Bhoge Manoj M., Babar Jalindar S., Prof. Prabhudev Irrabashetty, “KISAN: An Improved Interface for Indian Farmers”- International Journal of Advance Research and Innovative Ideas in Education, 2016.
- S. Prasanna Devi, Y. Narahari, N. Viswanadham, S. VinuKiran, S. Manivannan, EMandi Implementation Based on Gale-Shapley Algorithm for Perishable Goods Supply Chain, 2015.
- Manav Singhal, Kshitij Verma, Anupam Shukla, “Krishi Ville-Android based Solution for Indian Agriculture”, Advanced Networks and Communication Systems (ANTS)2011, Bangalore, 26th 2nd November 2015, pp. 134-139.
- S. Prasanna Devi, Y. Narahari, N. Viswanadham, S. VinuKiran, S. Manivannan, EMandi Implementation Based on Gale-Shapley Algorithm for Perishable Goods Supply Chain (2015).
- Meltem Huri Baturay and Murat Birtane, Responsive web design: A new type of design for web-based instructional content (2013).
- Komal Raikar, Sushopti Gawade, Varsha Turkar. “Usability improvement with crop disease management as a service”. 2017 International Conference on Recent Innovations in Signal Processing and Embedded Systems (RISE-IEEE).
- Sushopti Gawade and Dr. Varsha Turkar, “Analysis of Digital Media Compatibility with Framers in Maharashtra and Recommendation of Service Provider Design Framework E-Krishimitra”, International Journal of Applied Agricultural Research – Volume 12 Number 1, 2017.
- Komal Raikar and Sushopti Gawade, “Review of Usability and Digital Divide for ICT in Agriculture”, International Journal of Advanced Research, January 2017.