

# E-Commerce For Food Products And Crop Disease Prediction

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**Abstract-** The term digital market means a platform that is dedicated to integrate farmer, Merchant/Markets, Admin and end user and thereby bridge the gap between them. It also let everyone to be updated with the changing market scenario. Indian farmers faced many challenges and one of them is that to get a good profit for the efforts and investment that they had put in. There exist different reasons like season limitation, crop life due to which farmer get very limited amount of time to study the market conditions. The study of flourishing crops and products in current market under agriculture sector is very necessary in order to obtain good price. Since it is not feasible to reach all merchant physically for farmers as it consume much time and efforts wherein our farmers has limited amount of time. Also traditionally, methodologies implemented by farmer created limited access to client (merchants) enabling less options to sell the crop product in the market. So by introducing new marketing method wherein farmer can sell his crop or product at each layer of marketing chain (merchants, markets or directly to end user) along with multiple options becomes necessary. Also there was no transparency from Admin's point of view wherein the selling of crop at minimum base price was not traceable ultimately, which was not fulfilling the changing demands. thus a web application is build using PHP under LARAVEL framework for effective use with more security. The technique used are GPS to get the location of the customer. The system has high level security that ensure the truthfulness of any farmer and avoid the fake accounts. The system also has a query section it has the same ability as the helpline desk where customer and farmers can communicate with the admin. Admin plays a superior roll in the system. the web application will lead the farmer to get more profit and at the same time consumer also gets good quality product at a minimal price. Additionally the system also have a plant diseases prediction module. If the plant cause by any disease the user can simply upload the image of it and our module will analyze it with the data set and give an approximate result and also give some tip to cure that disease.

## I. INTRODUCTION

After yielding crop/product farmer has a limited amount of time to find out nearest market, current stock details

& to determine which market will be more profitable for his crop. The study of market situation takes a lot of time. In traditional marketing scheme, farmers had limited option for selling their crops/product due to which they cannot optimize their crop profit at optimum level. When Admin set minimum price for maximum quality of crop/product, it's quite difficult to set and implement such rules and regulations. It is difficult for Admin to handle overhead raised price due less availability of stocks in markets as well as fill up the necessity of crop/product in the market. Because Admin do not have necessary data to predict such conditions before facing actual problem & figure out possible solutions. Thus it becomes necessary to establish such system which will help to resolve farmer's problem time to time using digital platform and technologies in order to remain updated with changing requirements.

## II. LITERATURE SURVEY

This paper proposes that as India is being Associate in nursing agriculture and that country remained victimized by adopting ancient ways for recommendations of agriculture. Presently recommendations for farmers supports mere one to one interaction between farmers and completely different specialists having different recommendations which will provide information about farmer's victimization past agricultural activities that facilitate mining of information & ideas. The market trend may be united with it to supply optimized results from recommender. The paper proposes the utilization of information mining to supply recommendations to farmers for crops, crop rotation and identification of acceptable plan food. The system may be employed by farmers on internet and golem primarily based on mobile devices.

With the evolution of internet 2.0 , ICT has become the first that deal with citizenry. There's a niche between the farmers and therefore the data of agricultural specialists. ICT will fill the gap between farmers and therefore the specialists. During this paper, we've projected a linguistics internet based mostly designed to get agricultural recommendations, mistreatment special knowledge and agricultural data bases. Our cognitive content acts as a site skilled and can send

recommendations to the farmers supporting climate conditions and geographic knowledge. We have shown experimental results as an area of implementation of our projected design. A farmer sends question to the query engine that induces information for a selected crop. Question could also be associated with GIS knowledge, crop cognitive content. The results of the question is displayed on a mobile device.

In this paper author propose that India is admired as associate degree agricultural country, where the recommendations are given by ancient strategies. Also recommendations for farmer's supports communication between farmers & completely different specialists having different style of recommendations. Recommendation will be provided to farmer's victimization past agricultural activities' knowledge. The application provides recommendations to farmers for identification of acceptable plant food and crop. This system will be employed by farmer's mechanical man based mostly on mobile devices. The application will be used for increasing the crop yield. Conjointly the suggested fertilizers will be purchased from the location. Suggestions provided are often purchased fertilizers in combination and thereby given to the user.

Mobile devices are used extensively by the individuals for communication, music, diversion, web and social networking. There's a scarcity of applications, which might be very helpful for the professionals to enhance their operating capabilities. Although mobile phones are utilized by individuals living in rural areas, however there are hardly any relevant applications for them to enhance their productivity. During this paper, we've planned and enforced a system for farmers which might be operated on their mobile phones. The system is developed for victimization service that is destined for design (SOA) using spatial knowledge method and mental object. The mental object is maintained within the sort of ontologies. The system fills the gap between farmers and agricultural consultants. A farmer will give inputs associated with crops being cultivated and site specific data to induce specific suggestions, alerts and proposals to enhance productivity. It'll generate victimization for mental object. Whenever a farmer observes some abnormal behavior for crops or climate, the system is ready to get recommendations supports inputs provided. We've resolved a number of queries as a neighborhood of on-going work and results are displayed on angled primarily based mobile devices for demonstration of the system.

### III. PROPOSED SOLUTION

System is providing platform such as android app and website app at Admin level wherein farmer can sell his crop

products at different layer of marketing chain (market, merchant or end user) with multiple option. This platform will help farmers to find out nearest markets, its current stock details and its demand for particular product within less time & with less effort. This analysis will thereby help to determine which market will be more profitable for his crop/product. Here we are providing a complaint box for farmers to launch complaint, e.g. :- suppose any merchant offers less price than the Admin's specified price for minimum quality of crop/product then farmers can directly launch complaint against him via the complaint box. This complaint will be registered in Admin's database so that Admin can take action on it.

Admin module has the authority to set minimum price for minimum quality of crop/product (Hamibhav) as well as to set and update different rules and regulations time to time. In some cases, we observe overhead raised price of food product due less availability of stock in market. This price can be 2 to 4 times greater than actual price. It affects common people budget and daily life as well. With the help of the market details Admin can predict such conditions before facing the actual problem. This will give a little more time to figure out possible solutions for such conditions. Load balancing technique can help to share load balance between different markets so that shortage of particular product can be reduced. This will help us to handle the overhead price of crop/product due to less availability in the market. This platform can accommodate traditional marketing method as well as modern marketing methods.

This web based application will provide the information like market detail, list of merchants ,list of farmers ,list of end users , list of complaints etc. This will leads to a better management for Admin.

### IV. SYSTEM DESIGN

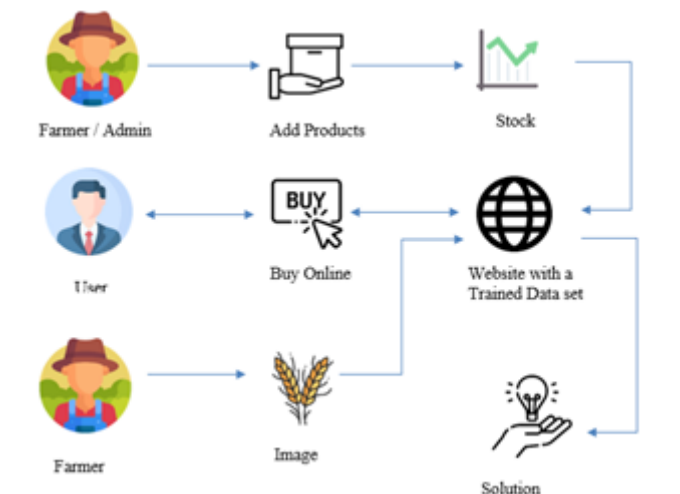


Fig. 1 Use case Mechanism

We have provided here multiple options i.e. market, merchant and end user for respective farmer. There are two ways in which farmers can sell his crop/product: Firstly he can sell his crop to merchant and then merchant will sell this crop to end user and secondly he can sell his crop/product direct to market or end user. A complaint box is provided for launching complaint and resolve farmer’s problem. This complaint will be registered in Admin’s database so that Admin can take appropriate action to resolve complaints.

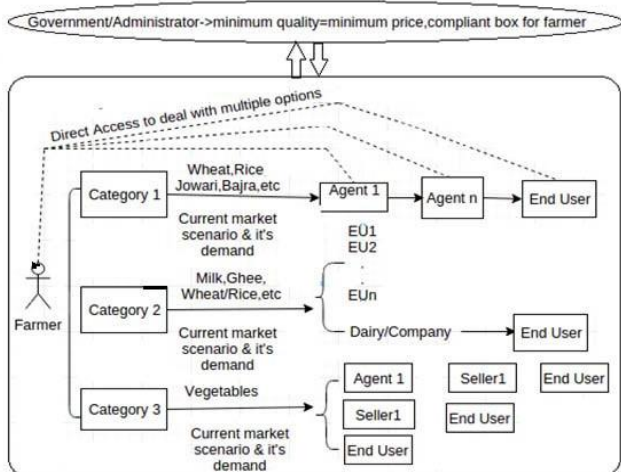


Fig. 2 Data Flow Mechanism

On the other hand, “Admin module” will control all the system by setting in updating rules and regulations time to time for better management .Admin can set minimum price for minimum quality of crop /products and thereby resolve complaints. It also handles overhead raised prices with load balancing technique. Predict different problems with the help of market details (i.e. due to overhead raising of price due to shortage of supply).

Here is the benefits that farmer as well as user will be able to use analysis of market location, stock details and its demand within less time and with less effort .Crop profit can be optimized to maximum level due to multiple options, modern marketing methods and market analysis details that is available for the study .Admin module has the authority to set the minimum price for minimum quality of products/crop. Admin can set and update the rules and regulations time to time for better and effective management.

Admin can predict overhead price raised problem before facing the actual problem with the help of market details so that they can take actions to find out solution .Admin can apply load balancing technique as current market details is available which will cause to reduce these overhead prices due to less availability in the stocks in the market. Any merchant trying to cheat the farmer will ultimately lead to

launch a complaint against him via the complaint box in the system provided. limitation and challenges faced previously:

- After yielding crop/product farmer has limited amount of time to study nearest markets, finding out which market will be more profitable for selling his crop/product.
- Another limitation of traditional marketing method wherein farmers had limited access to clients (Merchants/markets) and thereby getting limited options to sell their crops/products.
- In this entire process, Admin has very loose control as well as no existence of transparency in the process was visible from Admin’s point of view.
- (Hamibav)-In case Admin set the minimum price/base price for better quality of crop/product, there was no such system which will help to implement these rule and regulation in well define manner.
- Load balancing technique: It observed that when particular product is available in less amount of stock then its price can be raised up to 2-4 times more that it’s actual price which cause bad effect on common peoples’ life. There is no such platform wherein Admin can control these raised prices and fill the demand for particular crop/product in respective market.

### Crop Disease Prediction

Crop diseases are a noteworthy risk to sustenance security, however their quick distinguishing proof stays troublesome in numerous parts of the world because of the non attendance of the important foundation. Emergence of accurate techniques in the field of leaf-based image classification has shown impressive results. This paper makes use of Random Forest in identifying between healthy and diseased leaf from the data sets created. Our proposed paper includes various phases of implementation namely dataset creation, feature extraction, training the classifier and classification. The created datasets of diseased and healthy leaves are collectively trained under Random Forest to classify the diseased and healthy images. For extracting features of an image we use Histogram of an Oriented Gradient (HOG). Overall, using machine learning to train the large data sets available publicly gives us a clear way to detect the disease present in plants in a colossal scale.

The histogram of oriented gradients (HOG) is an element descriptor utilized as a part of PC vision and image processing for the sake of object detection. Here we are making utilization of three component descriptors:

- Hu moments
- Haralick texture
- Color Histogram

Hu moments is basically used to extract the shape of the leaves. Haralick texture is used to get the texture of the leaves and color Histogram is used to represent the distribution of the colors in an image.

### **Experimental Results**

- Merchant's information will also be maintained.
- Efficiency and ease of searching will be increased.
- Accounting process is used systematically.
- List of merchant to the farmers according to their requirements.
- Stocks details of markets will be maintained.
- Quality products will be supplied.
- Launching complaint becomes easy and simple for farmers.
- Fetching market details from app anywhere and at anytime

Thus, the Admin will have full authority and control over the system for analyzing the data and make improvement in the current system. The goal is to explore new market places for farmers in current market scenario declared by the Admin and get the good quality grains at good price and we would be able to maintain successful stock maintenance and accounting process management in a systematic way, display list of merchant to the farmers according to their requirements.

**Explanation of Output Analysis** :In above figure gives possible outcome for the given input. This figure shows that how above model is influencing different people's life and in what manner.

The people getting affected are:

- Customer / End user
- Merchant/Retailer
- Farmer
- Admin
- Market Flow

And the risk that is found as negative impact on system outcomes are:

- Resource availability
- Scalability

- Efficiency

There is dependency in the operation that provide the status between farmer ,merchant and users wherein user's username and password will be stored in database leading to login system. Also the input user id act as valid user which gets stored in cloud thereby loading the information through sql queries that fetch data and store in cloud via web pages to get overall data. The entire working/operation depicts respective valid user wherein Admin will see farmer claim and updates regarding data, merchant will see minimum price and post the status as well as explore the nearest location and on the other hand farmer will explore nearest location, accept/reject request status and claim the price for crops.

### **V. CONCLUSION**

Analysis of Market location, stock details and its demand can be done within less time and with less effort. Crop profit can be optimized to maximum level due to multiple options, modern marketing methods and market analysis details that is available for the study. Admin module has the authority to set the minimum price for minimum quality of product/crop. Admin can set and update the rules and regulation time to time for better and effective management. Admin can predict overhead price raise problem before facing the actual problem with the help of market details so that they can take action to find out solutions. Admin can apply load balancing technique as current market details is available which will cause to reduce these overhead prices due to less availability in the stocks in the market. Any merchant trying to cheat the farmer will ultimately lead to launching of complaint against him via the complaint box in the system provided. With the help of this system, farmer can optimize his crop profit and launch complaint. Admin can set minimum price for minimum quality of crop/product. Admin can set and update rules and regulations time to time for better and effective management. Admin can deal with different problem with the help of market details and load balancing technique

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