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Cloud Based Farmer E-Web Application Using Data Mining

Ankitha Mane, Supriya Mali , Priyanka Mali , Sonam Mulik
Department of Computer science and Engineering, Adarsh Institute of Technology and Research Center, Shivaji University, Vita, Maharashtra, India

ABSTRACT

In India, most people are farmers they are working in agriculture so agriculture is one of the most important sector in India. Farmers work hard in farm for growing good quality of crop. In India, Indian farmers do farming in traditional way they are unaware of new technologies and trends in market. Indian farmers also have to face adverse climatically effects. When farmer sells, there agriculture produces in market they are cheated by the market traders and commission agents. In agriculture sector, information and communication technology can play important role to farming community economically increase income and economical standard of farmer.

Keywords : Agriculture Sector, Information and Communication, Economical Standard of Farmer, Data Mining, APMC, ICT, GPS

I. INTRODUCTION

Background

Agriculture sector is critically important for developing country like India, because of agricultural contribution in GDP and human resources engaged with this sector. Agriculture is an information intensive industry, which is spatial in nature. Information and communication technology can play very important role for managing and accessing this information and make use of available records efficiently. ICT can help to provide helpful and necessary information to farmers and keep them aware of new market trends. According to National Sample Survey Organizations 59th round survey, the information about fertilizers and seeds was most frequently accessed, and information about different market prices of agriculture commodities was second most important information accessed by farmers. ICT plays an important role in agriculture marketing by properly and timely record keeping. ICT will also helpful for detailed cost analysis and find out most sophisticated market strategies. Trade in Indian agriculture market (APMC) market are carried as direct auction by licensed commission agent, and details are manually noted by commission agent, because of this government does not have on time and accurate trade records.

E-Agriculture system is our attempt to enforce e-governance on agriculture market. System will have different registration and login for different stakeholders like farmer, trader and government. System will provide an access to government for all the market details of transactions. Government will have access to all the database records of farmers, merchants and market transactions. Farmer can add the crop details and quantity to their cart for selling purpose, similar way merchant will add crop names and respective purchasing prices for crops to buy.

Farmer and merchant will be able to see the minimum support prices of different crops defined by government. This will help government to assure

that farmer will get fair price for his product. Farmer will be able to find the nearest APMC merchants who are offering highest price to his crops. Similar way merchant can also find nearest location farmers with required crops for buying purpose. Government will be able to see all transactions between merchant and farmer it can see how much product is sold and for what price it is sold.

Application in general form in different areas

When farmer gets his production and ready to put on the market, for that he has to find the market where he will get the sufficient profit, but he has to visit different places to sell his product to get better income. Sometimes farmer fails to get good production due to lack of machineries, fertilizers, pesticides, seeds and also due natural disasters. Agriculture is backbone of our country so, to develop our country agriculture sector should get better production, quality and farmer should get better income and to reduce the farmer's suicide cases.

This system will provide the GPS location for the searching the nearby markets which will give the better profit to the farmer.

Challenges in existing system

- Farmer's has to visit all the markets to put their crops on market to get best prices.
- But sometimes its not possible to get the better profit.
- Fertilizers, pesticides and seeds are also not available on time.
- Poor farmers who suffered with lack of work cannot get opportunity to do work and get income.
- Supplier's and dealers faces many problems to good crops and grains at best price.
- Customers are not able to get the grains whenever their required.

II. LITERATURE SURVEY

Existing work

- Farmer's has to visit all the markets to put their crops on market to get best prices.
- But sometimes it's not possible to get the better profit.
- Fertilizers, pesticides and seeds are also not available on time.
- Poor farmers who suffered with lack of work cannot get opportunity to do work and get income
- In rural area's farmer becoming more because of lack of information, ideas, seeds etc.

Proposed work converted to concept

The main aim of this system is to provide easy interactive platform for communication and information exchange between farmers, dealer, retailer and customer. All these users will have their unique log in. All the system related transactions are done using this login ID will make easy to keep watch on overall processes between different entities. Farmers can add information about their crops and crops quantity, quality etc. on this basis they search dealers from nearest markets. List of dealers will be displayed on screen with prices offered by dealers. From this list farmer can send selling request to highest price offering dealers and if dealer accept request transaction can be performed.

All this transaction details will be recorded and will be available for all three stakeholders. In similar way merchant can also search for farmers from database with required crops and send request to them for buying purpose. Prices offered by different merchants to different agriculture product will be displayed to farmers as per there request. Government defined base prices of crops and timely weather updates will be displayed at home pages of both farmers and merchant. This will helpful to assure that farmer will get fair prices for his products. In proposed farming, government acts as an administrator.

Government can find out different crops quantity at farmers and merchants records. Government will also able to see each and every transaction between farmers and merchants, this will helpful for bringing transparency in agriculture market. Along with this system will reduce the corruption, inconvenience and uneasiness of viewing market and will provide one touch access to descent and accurate market information.

III. METHODS AND MATERIAL

REQUIREMENT ANALYSIS

Introduction

This innovative site allows for good farmer, retailer and supplier communication As well as provides Security for database. In This Project we can maintain data and suppliers, dealers. It allows farmers to login and communicate to respective dealers. When dealers publish an advertisement or offer, the respective farmers get notified via message. The farmers may also submit their grievances and complaints to respective dealers or authorities using their farmer login on a separate complaints page and authorities will get access to that page regularly using their login id and passwords.

Purpose

1. Provide a system for acquisition of data for all the parameters related to the identification of drought situation.
2. Provide a mechanism to monitor and identify the onset of Drought like situations.
3. Provide a mechanism to associate and correlate the field data with the scientifically available data for a better insight in to the situations.
4. Provide a set of Business Intelligence tools which can assist the users in the decision making process..
5. Provide a mechanism to provide expert advisories to the Farmers in the Drought like situations.
6. Provide a mechanism for the Farmers to register their grievances.

Scope

- This project will help the farmer to find nearby markets, as well as it will reduce the time which waste in searching the markets with better rates.
- Farmers will get the machineries, labours, fertilizers, seeds, pesticides whenever necessary because of that it will help the farmer for the proper farming and help for proper maintenance of crops.
- Farmer wills also sale their production directly to the dealers or suppliers as well as to the customers.

Definitions, Acronyms, and Abbreviations

- APMC -Agriculture Produce Market Committee
- ICT -Information and Communication Technology
- GPS- Global Positioning System

Overview

We are developing the application, which can help the farmers to get more knowledge about different crops by watching the online videos of different crop farming which takes place on the different farms. This application will also provide prevention solution, which will be slightly helpful for the farmers.

This innovation site allows for good farmer, retailer and supplier communication .It allows farmers to login and communicate to respective dealers. When dealers publish an advertisement or offer, the respective farmers are notified via SMS message. The farmers may also submit their grievances and complains to respective dealers or authorities using their farmer login on a separate complaints page and authorities will get access to that page regularly using their login id and passwords.

Separate login areas with appropriated functionality for farmers, administrators and dealers/retailers. A separate page where only assigned administrators can read and edit this page. Pages where dealers and

retailers may post their ads and notification,. Farmers are notified of these notifications via message whenever new ads are published. An effective GUI, that rural people may easily use the service. Can be over for multiple villages to communicate and deal with each other.

Functional Requirements

Introduction

All the system related transactions are done using a login ID will make easy to keep watch on overall processes between different entities. Farmers can add information about their crops and crops quantity, quality etc. on this basis they search dealers from nearest markets. List of dealers will be displayed on screen with prices offered by dealers. From this list farmer can send selling request to highest price offering dealers and if dealer accept request transaction can be performed.

Input

The user of the system should clearly register or fill his information at the time of creating account on the web app. The system will save user's information and update into the database.

For the every user using the web app they should upload their crops, requirement, details of machinery, pesticides, and fertilizers with the quality, quantity and prices. Moreover, every user (farmer, customer, dealers, and suppliers) can communicate directly with each other and can deal.

Output

After uploading other user can rate that production if that user had already purchased that product from the farmer, dealer, supplier or from the market. In case of machinery farmer will take machine on the basis of rent or also can purchase that machine. Result will also include the guidence of farming which is provide by the videos or articles.In some amount time farmer can sell his crops and seeds and can also purchase or booked the machines.

External Interface Requirements

User Interfaces

1. Web application

Hardware Interfaces

1. Computer
2. Key Board : Standard Windows Key Board
3. Mouse : Two or Three Button Mouse

Software Interfaces

1. Operating System : Windows xp/7/8/10

Non-Functional Requirements

Performance

Performance of the system will be excellent. There is registration is mandatory for the further process. If user does not fill the information properly at the time of registration then there will be definitely some problem. Except that there is no any performance problem will be there.

Reliability

This system is reliable, as there is aadhaar card number and mobile number is mandatory, so there will be no fake person can access or register to the web application.

Availability

Requirements about how difficult it will be to learn and operate the system. The requirements are often expressed in learning time or similar metrics. It will be available on web application.

Security

System we provided with the end-to-end security. Only the user who has the account with the system can only use this service. While creating an account user have to provide some information, which will be used for only authentication purpose, and providing secure service from the system.

Maintainability

Admin need to maintain overall server updated and he has to add as many as diseases solutions as possible

so the user can make it use for many plants or even for the many diseases.

DESIGN METHODOLOGY

Model approach

We are developing the web application, which can help the farmers to analyze their need properly, which takes place on the different farms. This application will also provide solution, which will be slightly helpful for the farmers.

We are developing web application, which will be very easy to use for the anyone as registered users. So we decided to make a use of this thing to give the solutions for the problems .We are always working on different issues faced by the farmers and we are developing the smart solutions for those issues. So the application can be used very easily by the registered users.

Use of this application will be very easy and will be on time Just user of the application has to take a photo of his crop and mention the details and request about and needs, crops and upload that on our application .also the result of that action will be provided at that time. Therefore, there is no need to wait for a longer time and solution will be provided at that time. So this will very efficient as concerning the quick processing And quick result.

Introduction of design methodology

1.Farmer/Citizen:

Farmer first registers his name with aadhaar card number. Automatically he will receive one time password on his email. He also can register the unemployed farmers to do work in others fields.

2.Suppliers:

Supplier first registers his name with aadhaar card number. Automatically he will receive one time password on his mobile through email. He will fill his form details such as price details.

3.Retailers:

Retailers first register his name with aadhaar card number. Automatically he will receive one time password on his email. He will buy crops from suppliers, dealers, or farmers according to their prices and sale with his own rate.

4.**Customers:**

Customer has to register his user name on this application. He / She can buy the items directly from the farmers.

5. Labour:

Labour has to register first on the application. Then he/she will be notified about work in farms. In addition, they would be get source of income easily.

OVERALL SYSTEM DESIGN

4.3.1 DFD LEVEL 0:

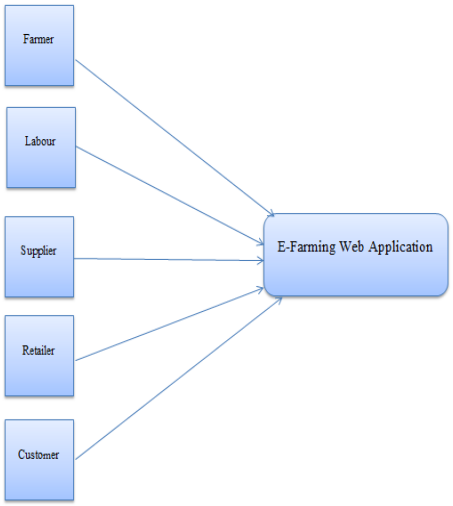

Figure 1. DFD level 0

4.3.2 LEVEL 1:

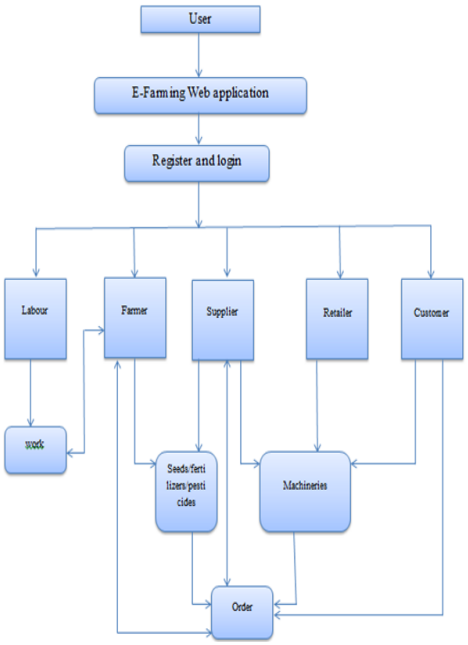

Figure 2. DFD Level 1

IV. CONCLUSION

This project is although developed for the farmer's point of view. This paper looks over the problems of farmers, Suppliers, Dealers. This paper solves the problems of farmers; they can exports and imports crops, grains, seeds. Farmers can order the machineries, fertilizers, pesticides for farming. This project has authentication security that is aadhaar card number should enter at the time of the registration. Poor farmers can get the job opportunity, to get work and work for it and get paid. Farmers can get their crops at best price.

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