

# E-Farming Management System

KAVULURI SAI PRADEEP<sup>1</sup>, YOGEEETHA B R<sup>2</sup>

<sup>1,2</sup> Department of Computer Science and Engineering, Presidency University, Bangalore, India

**Abstract-** *Clever farming is symbolised by the name "Agri Buzz". A good illustration is the "Agri Buzz" app for the agricultural administration website. This website offers guidance on proper farming practises and aids in the internet promotion of farmers' agricultural products. As a result, businesses have a larger market and are encouraged to grow far from their immediate vicinity. It has made it possible for wholesalers and retailers to buy goods from more farmers. Wholesalers and retailers can subsequently expand their operations. Many various supplies, including tools, insecticides that are fertilisers, and more, are available for purchase online. Additionally, it enables firms to hire workers, allowing agricultural labourers to do so by creating a profile with the website and finding part-time employment.. Farmers can also make use of resources like a virtual diary and weather forecasts to keep track of the success of their agricultural endeavours. Customers of "Agri Buzz" are first exposed to the concept of trading online in all facets of agriculture.*

**Indexed Terms-** *E-farming Modules for customer accounts, products, categories, locations, production, purchase requests, purchase orders, sellers, labourers, work requests, articles and blogs, and dashboards are all included.*

## I. INTRODUCTION

Farmers who were surveyed if they ever experienced storms or heaving deluges—abnormally heavy rainfall events—are also included in the geometric data. The majority of respondents—58%—said yes. Technically speaking, the strategy used in the field of machine learning (Instrumental Variable) IV or different effect regressions is connected to the likelihood for reporting a storm, giving farmers a better possibility of doing so. If farmers regularly got weather information, they were more inclined to be mindful of unexpected rainfall events and disclose them to enumerators. The information allowed researchers to establish if farmers

had the ability to improve production despite the storm or reduce output loss.

Apparently, younger farmers lost more crop during the following storm's harvest. The majority of people in India view agriculture as their primary field of employment. Agriculture is prioritised as the principal employment by most rural inhabitants. However, agriculture within India is not dead and has to be revived. A founding member of the Organisation for People of India (AFPOI) and the foremost specialist in information security, techno-legal ICT, and cyber law in India have looked at the characteristics of agricultural development in light of the advent of electronic agriculture in India.

1.1 The current scenario of agriculture sector in India India's agriculture industry is now struggling. Due to lack of attention, poor land management, inability to pay farmers fairly for their produce, lack of farm reform in the nation facing India, among other factors, India is on the verge of a catastrophic agriculture crisis. India's food consumption is rising while food production and growth are dropping. Due to the demand for biofuels, the situation has gotten better or has been made worse by the usage of food grains. It will be challenging to find a remedy to the issue with regard to grain import because India lacks the logistics infrastructure needed for substantial food import..

### 1.2 Problem Definition

India's food output and agricultural productivity have increased as a result of the usage of ICT. For cutting and turning over land, particularly in plot areas, laser technology is replacing tractors in the industrialised world. This makes it easier to employ various input components, such as water, seedlings, fertilisers, etc., effectively. The issue is that Indian farmers lack the financial means to adopt this technology. Major issues for Indian farmers nowadays include their usage of energy and power as well as their choice of power sources, such as solar panels who are being updated or improved by ICT.

1.3 E-Agriculture

It emphasises the delivery of information, technology produced by the Internet and related technologies, in addition to services related to agriculture. At the nexus of agricultural informatics, innovation, and entrepreneurship, a new field known as "E-Agriculture" has been created. The primary focus of this study is on the use of contemporary technologies for communication and information, or ICTs, in existing or emerging applications. Through improved knowledge access and process switching by employing technology for communication and information, a growing industry called "e-agricultural" seeks to improve food security and contemporary agriculture. The Information Summit of the World E-agriculture comprises one of the ICTs, or communications and information technologies, function areas mentioned in the public's (WSIS) Programme of Action. Finally, e-agriculture will immediately link all participants, from farmers to academics. Farmers can access the information they require at any time from anywhere in the world, as well as may also request assistance from professionals who instantly recognise their problems without travelling.

II. PROPOSE SYSTEM

Here, in this structure, agricultural experts create the recommendations employing recent agriculture, which is highly educative and also calls for timely, consistent, and accurate data on innate assets and how they are used at current and anticipated technological advancements accessible for their utilisation, as well as additional information about market, climate, insurance, funding, etc.

The architecture of the projected structure is as follows:

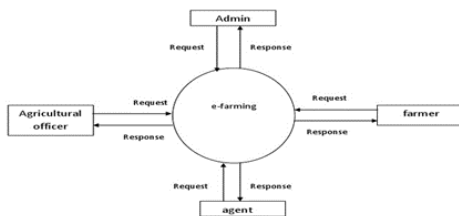


Fig 2.1

III. OVERALL DESCRIPTION

3.1 Product Perspective

With the help of this project, buyers and sellers will soon be able to transact online. Products and seeds would be available for purchase by customers. Customers may send requests for purchases to inquire about a product's quality. Once the product has been transferred to the seller, the money will be given to them. Customers can purchase goods and equipment through this project. With the use of the blog or articles section, farmers can enhance their output and profits. Each report is viewable and printable by the administrator.

3.2 Product Features

The following characteristics apply to this product:

- Producers can sell what they produce through the internet, and consumers may buy a variety of agricultural products online.
- Once it has been collected from each of the farms, it should be sold to the store or wholesaler. Customers who have questions about the product's quality can send purchase requests.
- The payment info is also necessary for such submissions, and this module is applicable. The following four user categories are Farmers, Workers, Administrators, and Customers. Access to the system requires a user ID and password.
- The blog and article sections help farmers increase their produce and income.
- Any kind of report can be viewed and printed by the administrator.

3.3 User classes and characteristics

The suggested system has four different types of users. Administrators:

All content on the website, especially adding and modifying product categories, is managed by administrators. The owner of the website has unrestricted access.

Sellers:

Registered farmers can access the system by entering their login credentials and password. Farmers who have registered can log in to the website using their login information and password.

Customer:

Online purchases of goods are possible. Customers who have questions about the products' quality can email purchase requests.

Worker:

Depending on what they have an appetite in obtaining, workers may grant or reject employment inquiries from various farmers. They can get a range of requests for work from various farmers.

### 3.4 Design and implementation constraints

- The developed system must be able to run any platforms (Unix, Linux, Mac, Windows, etc.) using a web computer that supports PHP, JavaScript, and AJAX.
- Internet access is necessary to send emails.
- The system's user may be authorised to do so.

### 3.5 Assumptions and Dependencies

- The users should be familiar with the basics of computers. To operate the features offered by this system, they must have thorough training.
- Not all of the information will be created automatically; some of it must be provided by the user.
- The system has already generated an administrator.
- Predefined roles and tasks.

## IV. SPECIFIC REQUIREMENTS

### 4.1 External Interface Requirements

- User Interfaces:

The highest level of user friendliness was taken into consideration when designing the user interface. On web pages, the typefaces and icons that are used are designed to load easily and quickly. The internet pages will be kept small so that loading takes place rapidly.

- Hardware Interfaces:

Operating System: Mac, Windows, Linux, Unix, etc.

Pentium or better for the processor.

RAM: at least 312MB.

Typewriter and mouse

- Software Interfaces:

PHP, Hypertext Preprocessor, JavaScript, and Ajax are all development tools.

Apache server, which runs scripts

MySQL database server

Adobe Dreamweaver, or IDE

- Communication Interfaces:

Internet connection is required.

### 3.2 Functional Requirements:

- Login module:

Using their login information, consumers, sellers, employees, and managers can access this module's system. The system shows the primary account page after logging in..

- Customer module:

By providing profile information, the user can register on the website. Products uploaded by the administrator are available for purchase by the client. In order to purchase farm products that farmers have uploaded, they can also send purchase requests. The consumer has the option to accept or reject the purchase request following the quality test and pricing quotation.

- Seller module:

Farmers are the sellers, even though they can do so online. The system will feature farm items on the home page of the website.

- Worker module:

Workers can register in this module by inputting their personal information and experience details. In this section, the farmers can employ farm employees.

- Dashboard module:

Supervisors and staff members should use the dashboard area. The dashboard module houses all of the administrator's website settings. Employees are able to manage all kinds of records.

- Article module:

Employees and administrators can post news and blogs in the article module. For farmers, this article module is useful. The article is accessible to farmers by using the article menu.

- **Category module:**

The administrator can add many categories in this module. The system comprises three different kinds of categories: agricultural equipment & tools, article types, and farm produce.

- **Location module:**

The administrator can add a country, state, and city on this master page.

- **Products module:**

The products sold on this website fall into two categories. There is the option for administrators or employees to sell products directly, and farmers have the option of selling their harvests online.

- **Billing Report:**

After the goods has been purchased, the system produces billing. The system automatically determines the overall cost. Contact information for the customer, billing information, and specifics about the acquired goods are all shown in the billing report.

### 3.3 Other non-functional Requirements

- **Performance Requirements:**

Performance standards set the permitted time frames for system functionality.

- The system must have sufficient memory, and ideally, the RAM should be bigger than 256 MB.
- Powerful and excellent graphics and sound cards are required.
- It ought to take a maximum of three seconds for the user interface screen to load.
- The log-in information must not be verified for three seconds.
- Queries must return results within three seconds.

- **Safety Requirements:**

In The password is stored in the database in the form of an encrypted password, and in the event that a customer forgets their password, they can retrieve it in the Forgot Password panel.

- **Security Requirements:**

Access to this system is restricted to authenticated users.

- **Software quality attributes:**

- **Reliability:**

This system's very basic database was created specifically to meet the needs of "iAgro." At the development stage, all the restrictions are tested.

- **Availability:**

Only when the system on which it is installed is active will this system be functional.

- **Security:**

This system requires authentication, which is provided, before any user can access it. Therefore, the programme can only be used by authorised users. If the authorised users share the authentication information, then anyone else can access the system.

- **Maintainability:**

The webpage needs to be maintained. The database is provided by both the administrator and the intended user.

- **Portability:**

The system works anywhere with the internet connection.

## V. DATABASE DESIGN

### 4.1 Database Design:

A database is planned to meet the needs of end users inside the data system it is intended to support before it is developed. The database design specifies the necessary data as well as data formats for such a database.

The database is physically implemented using MySQL.

The "iAgro" database contains 19 tables.

admin article category city country customer produce  
product product\_purchase\_bill  
product\_purchase\_record purchase\_order  
purchase\_order\_bill purchase\_request seller  
selling\_product state variety worker worker\_request

## CONCLUSION

The following judgements were reached in light of the above evidence: The majority of farmers in the region or the nation are unaware that cell telephones can be utilised for information gathering and for conducting commerce. To enable the greatest number of farmers have access to the latest news about agriculture throughout the state or country, mobile phone costs should be reduced. E-agriculture has yet to be put into effect because farms in the nation have not been made aware of it [1][18] and because prospective farmers lacked the farm skills required for e-agriculture to give them with relevant information in the crops that they had cultivated.

We are pleased to acknowledge our topic, E-Agriculture Management System Supporting Farm Activity. This topic is brought up since it is pertinent to the fields of adaptive systems, security, and machine learning. We are writing to express our sincere appreciation for everybody who has offered us sound counsel and helped to enlighten our path. We value the efforts made by these lecturers to assist us with our coursework

## REFERENCES

- [1] Peter Namisiko and Moses Aballo “Current Status of e-Agriculture and Global Trends:A Survey Conducted in TransNzoia County, Kenya” in International Journal of Science and Research Volume 2 Issue 7, 2013
- [2] Marcel Fafchamps and Bart Minten “Impact of SMS-Based Agricultural Information on Indian Farmers” in Oxford journals VOL. 26, NO. 3, pp. 383–414, 2012
- [3] Nidhi Dwivedy “Challenges faced by the Agriculture Sector in Developing Countries with special reference to India” in International Journal of Rural Studies vol. 18 no. 2, 2011
- [4] Sami Ayramo Tommi Karkkainen "Introduction to partitioning based clustering methods with a robust example" University of Jyvaskyla Department of Mathematical Information Technology ISBN 951392467X, ISSN 14564378, 2006

- [5] Jaideep Vaidya and Chris Clifton “Privacy Preserving K Means Clustering over Vertically Partitioned Data” Department of Computer Sciences CM 1581137370/ 03/0008, 2003
- [6] Geetha Jagannathan, Krishnan Pillaipakkamnatt and Rebecca N. Wright "A New Privacy-Preserving Distributed k-Clustering Algorithm" International Conference on Data Mining (SDM), 2006
- [7] Varun Kumar" intelligent data mining: data mining powered by artificial intelligence" in Journal of Computer Science and Information Technology, ISSN 0973-4872./