

Agriculture Assistant Chatbot using Artificial Neural Network

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Abstract

Agriculture is considered to be the backbone of India. There are many people who are involved in farming mostly belong to the lower class and are stuck in poverty. The emergence of middlemen in the Indian agricultural marketing sector can be traced back to as early as bartender system times. The interference of middlemen has led to poor lifestyle for the farmers since time immemorial. The development of a portal will serve as a way for the farmers to sell their products across the country. The portal helps the farmers in registering themselves easily and selling their produce. The farmers can gain more profit than usual by using the web portal since it forms a direct connect to the customers. Removing the intervention of the middlemen. The total sale and the earned profit for the sold products, and customer needs are better known by the farmers through the portal. This would overall give a clear idea to the farmer as to what the customer requirements are and to how to grow only the required crops and needed investments for the same as alike. The max-prior algorithm used helps in allocating the highest requirement customer to the farmers to gain better profit. It also helps the farmers in selling their produce quicker. Thus, by this portal the farmers gain more profit hence increasing the country's economy.

Keywords: Communication Systems, Agriculture Portal



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Introduction

Since ages, agriculture has been closely related with the production of essential food crops. It acts as the backbone to raise our country's economy. Various employment opportunities are also provided in the agricultural sector to a huge number of people. Majority of the population directly depend on agriculture for their livelihood. The crops that are produced have to be processed and distributed to the end users in such a way that both producers and the consumers are benefited. They should be sold directly without middlemen intervention so that the consumers can buy them fresh directly from the farm. In order to ensure that there are no middlemen involved who make indirect sales, an application is developed that connects the farmers directly to the customers. Since the farmer will be dealing with the customer directly, the prices of the products offered by the farmer to the customer will also be affordable to customer. This supports both farmer and the customer where the consumer can reduce their expenses and the producer can gain more profit. The objective of this project is to connect the farmers and the customers so that they can sell their produce directly and execute the agro-business effectively. This application would be very supportive for most of the farmers since they are

less aware of the current trends and technology. Due to this ignorance and lack of appropriate information, the middlemen take advantage over the farmer community and this brings down their profit. These situations should be changed at the earliest and proper awareness must be given to the farmers as this would bring a major impact in the future generations of the agriculture profession and would ultimately contribute a huge amount of rise in the nation's economy. The System consists of the following subdivisions. Section II represents the research gaps containing various models of E-trading systems that benefits the producers and the consumers. Section III discusses the proposed web application along with the algorithm designed to maximize profit for the farmers. Section IV shows the screenshots of the web application along with the price and profit comparison of traditional method and the spry farm application. Finally, the conclusion and future enhancement are mentioned in the last section

Problem Definition

Agriculture is considered to be the backbone of India. There are many people who are involved in farming mostly belong to the lower class and are stuck in poverty. The emergence of middlemen in the Indian agricultural marketing sector can be traced back to as early as bartender system times

Literature Survey

- “A Study of Blockchain Technology in Farmer's Portal”, Rahul Talreja, Rohan Cooksey, Sushma Verma: Blockchain is a method in which a confirmation of a transaction is kept by means of a crypto-currency. The record is maintained transversely, linking several computers in a peer-to-peer network. Contracts, transactions, and the records of them define the economic system of a country. They set boundaries and provide security to the assets. Considering the features of blockchain such as immutability and maintaining the footage of transaction details, this paper highlights the usage of blockchain technology with farmer's portal that keep the footage of selling and buying information of crops. The proposed solution uses the python as a programming language in integration with the blockchain system that will benefit the farmers or vendors and individuals by preserving the contract of trade. An interface for the farmers is designed using a python programming language in addition with blockchain technology, which is used to store the information related to seller, buyer, selling and buying an item and total value transacted.
- “Design of Web Portal for E-Trading for Farmers”, Swapnil: At times, the farmers are not able to receive a price to cover his cost of production while the consumers are paying an abnormally high price for the same commodity. It gives the registration and posting to the farmers in this e-Krishi portal. And identify the potential traders and agents to explore market opportunities. This portal provides a web-based platform for advertising of their commodities and attract potential buyers with the update and delete post options. And the database contains all the information of farmers which help the buyers to contact them. This portal also provides enabled market and price information on various agriculture commodities from selected markets. From this, it enhances the awareness among farmers in order to enable them to negotiate on a fair basis with middleman.
- “Implementing E-Commerce model for Agricultural Produce: A Research Roadmap”, Prasenjit Choudhury: The advancement in technology and the increase in usage of Internet access has revolutionized the landscape of agriculture using E-Commerce. Several E-Commerce websites are operative in India to promote uniformity in agricultural marketing across the integrated markets by removing information asymmetry between buyers and sellers. Stakeholders are reluctant to utilize this new technology for trading agricultural produces in spite of close opportunities. Pricing mechanism of the online trading portals neither generates maximum revenue during high demand and less supply nor ensures minimum loss due to the decay or down selling of the products. Static pricing mechanism prevents the sellers from joining this online system, as it does not provide many benefits to an online customer. A continuous adjustable

dynamic pricing mechanism that can adapt the market condition and quality degradation is crucial for maintaining the seller revenue and customer interest. This paper explains several existing dynamic pricing mechanisms and analyzes their relevance in the field of agro-marketing. In this paper, several research challenges on dynamic pricing approach of E-Commerce have been summarized. The factors like demand, supply, and freshness of the Agri-products must be considered for the development of a pricing mechanism in the dynamic environment of E-Commerce

- “E-application and DSS for Farmers to Sell Food Crops through E-auction”, Marpuri Dharmateja: In this paper, Farmers have been facing issues while selling their food crops in market due to intermediate persons, who actually got profit by setting low price while buying from farmers and later sell the same at higher price to the customers. Through application is developed for farmers to set their own price to their products and allows buyers for e-auction. Farmers can set the initial bid amount based on quality, life time and current market price of the products before going for e-auction. The buyers can find nearest sellers through GPS navigation system.

Project Scope

The proposed system follows the max-prior algorithm which works based on the maximum requirement demanded customer. Once the customer's number and their requirement are known the quantity list gets sorted in the descending order to obtain the maximum requirement. Thus, after knowing the maximum requirement it checks the stock available with the farmer. If the stock is available the maximum requirement customer gets the produce else it switches to the next farmer who grows the same crop. After allotting to the maximum, it then decreases the total quantity in stock. The next maximum customer gets allotted to the farmer if stock is available. Thus, this happens until all the requirements are filled. In case if all farmers complete their stocks then it displays out of stock. Hence, in this way the farmers can completely finish their goods with no loss. The customers can also get quality produce at a reasonable price.

Aim and Objectives

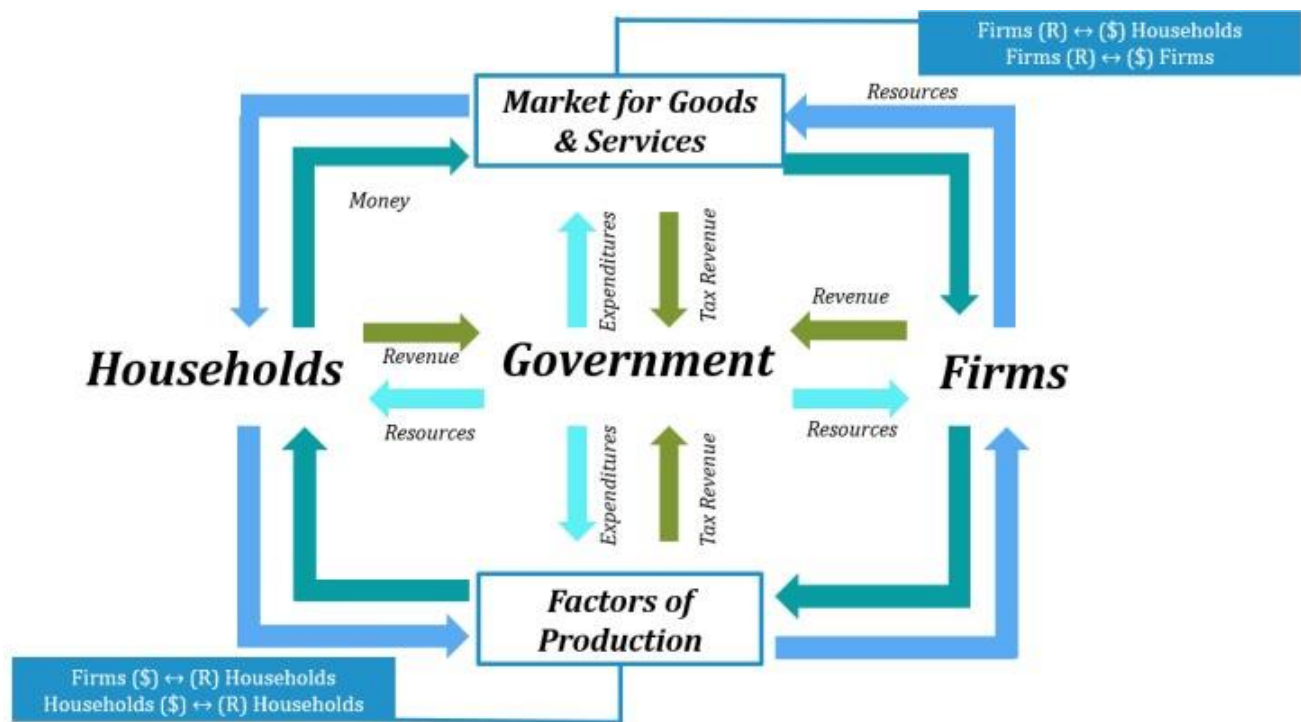
- Easy to use system
- Reliable
- Avoid time consuming process to search information on different platform
- Data security for farmers data

Motivation

- Suicide due to lack of information regarding farming
- Crop failure

System Architecture

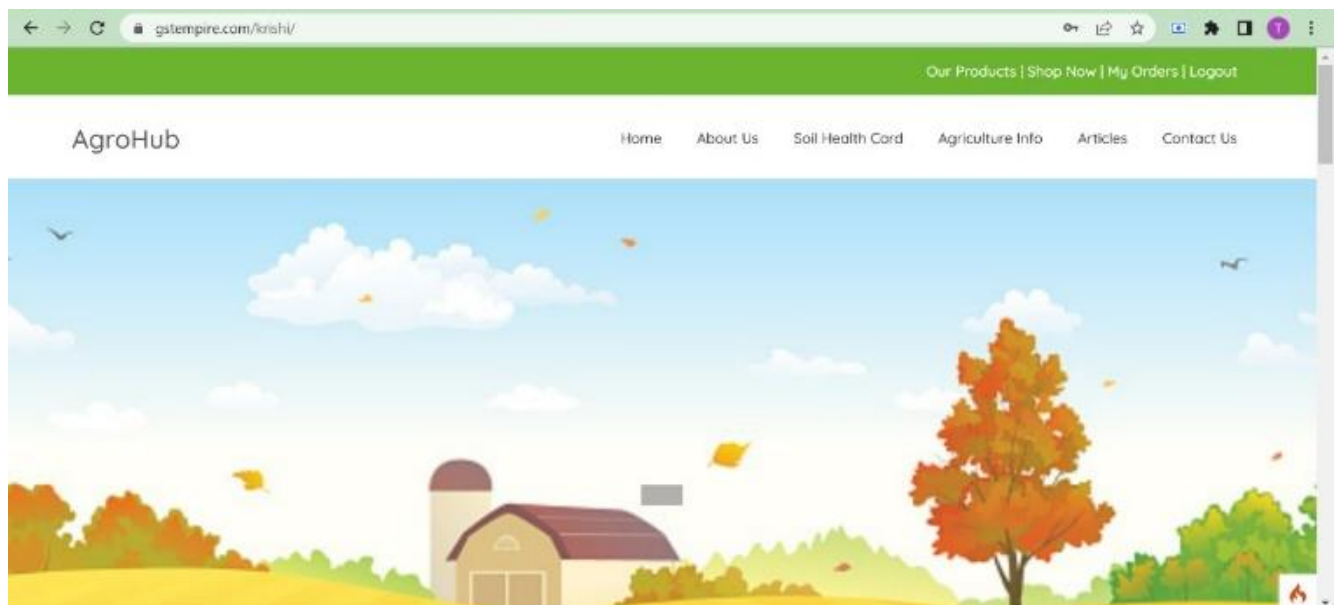
Figure 1: System Architecture Diagram

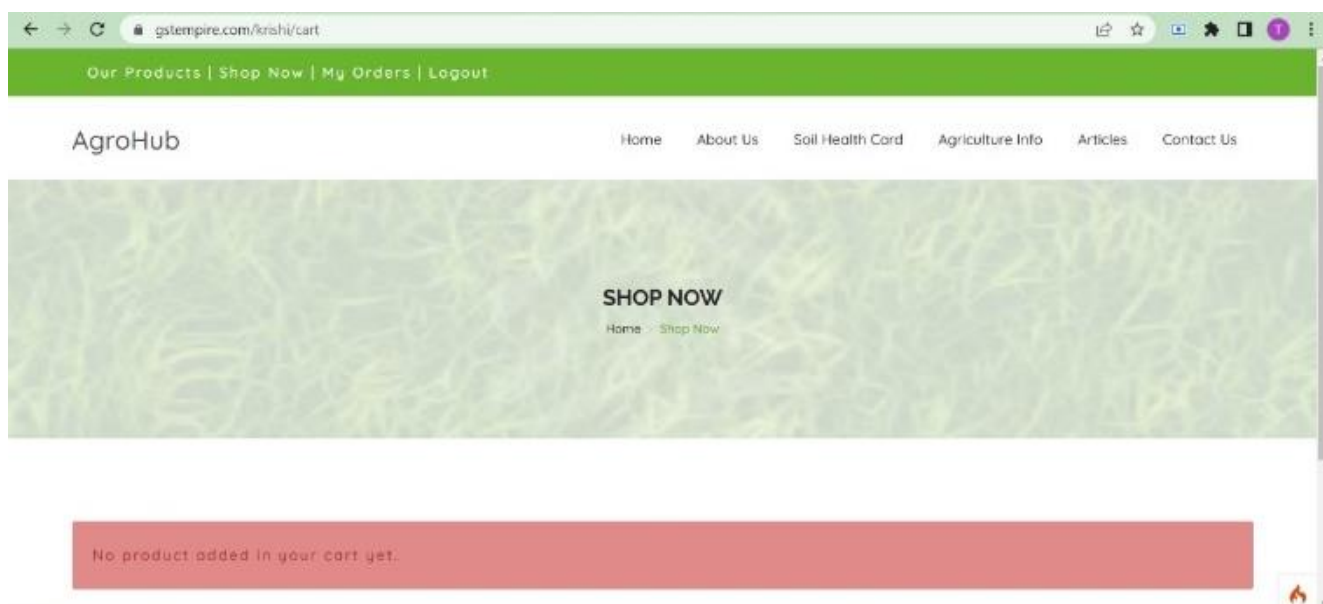
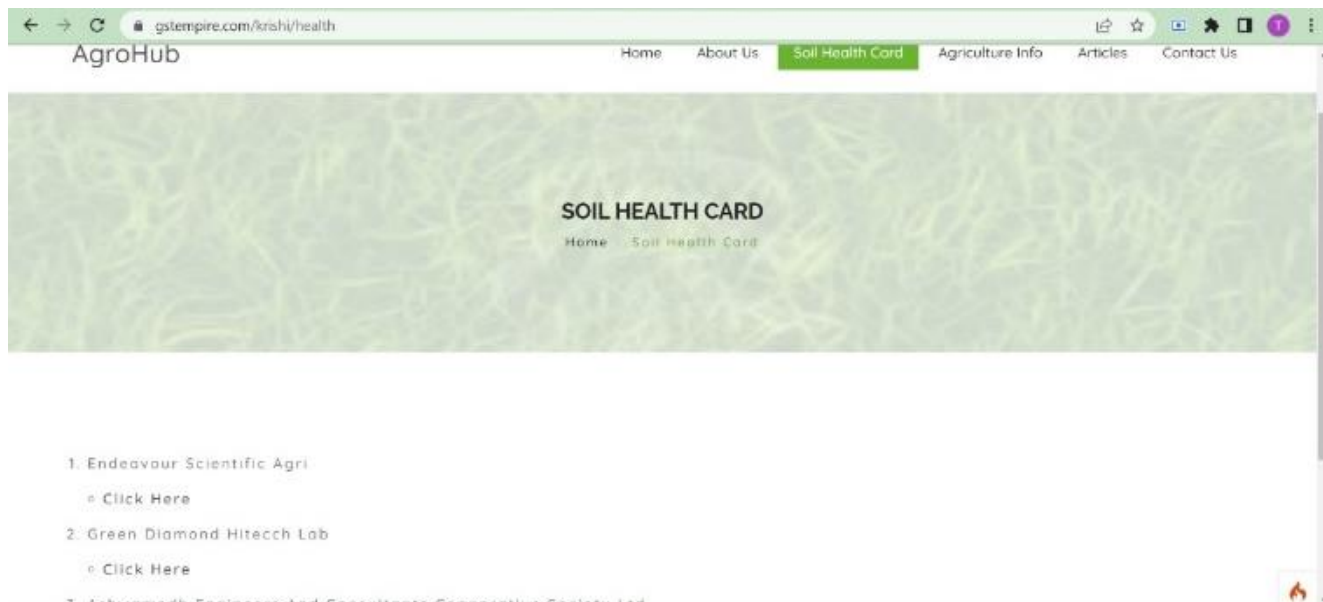


Application

- In farming
- Government sector
- E-commerce

Result





Conclusion

Hence this portal connects nearby locality farmers to customers from urban and rural areas. It is a reliable and is user friendly application. The max-prior algorithm stands as the highlight which allocates the crops to the maximum requirement end user. Through this portal, fresh produce can be obtained and people can explore many parts of their surrounding villages and purchase the products directly from the farmers and as a result the expenses to both farmers and customers are reduced and the profit is increased.

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