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E-Agro Cart: Agriculture Equipment Rental System

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ABSTRACT: Agriculture is a labor-intensive sector, requiring a lot of machinery for agriculture. In comparison to workers, these machines are able to finish tasks in agriculture considerably sooner. The machinery used for farming or other agricultural purposes are referred to as "farm equipments." The various types of machinery used in agriculture include tractors, harvesting tools, mower conditioners, tillage tools, and other farming equipment. However, these machinery and gear are frequently very pricey, and every farmer cannot afford to buy them. The high price of purchasing new farm equipment and its corresponding high costs of upkeep increase the demand for farm rental services. This website provides a system for renting agricultural machines and vehicles called E-Agro Cart that allows farmers to get the latest data for farming and farm machinery such as tractors, tillers, rotavators, etc. Farmers can rent farming equipment and machinery through this website and perform all tasks related to farming while sitting at home. Farmers use rental services to earn some profit by balancing the costs of keeping their farm equipments. In order to avoid paying an immense amount of capital as a down payment on essential farm equipment, leasing out machinery for agriculture helps farmers to harvest their crop on time. Also, the agricultural operation is not profitable, farmers might find it hard to afford getting heaviest farm equipment. In spite of improving the efficiency of the agricultural machinery that is already accessible, this approach will help individual farmers who are willing to rent out their equipment and machinery for farming to improve their agricultural income. This system will offer farmers an area to buy and rent used agricultural machinery.

KEYWORDS: Farmer Equipment on rent system, e-agro cart application, online equipment hire

I. INTRODUCTION

E-Agro Cart (e-commerce website for selling Agricultural items and renting the agricultural tools) is a site which helps ranchers in buying items like seed, pesticide, fertilizers and it also has agriculture tools where ranchers can take the agriculture tools for sell. The E-Agro Cart System is a software solution designed to manage the operations of an agricultural retail store, serving as a platform for shop owners, sellers, buyers, and administrators. The system offers a variety of features to streamline store management, such as inventory tracking, sales processing, and customer relationship management. Shop owners can manage product catalogues and receive orders from buyers, while sellers can add products to the store and manage their inventory. Buyers can browse the product catalogue and place orders, while administrators oversee the entire system, managing user accounts and setting up promotions and discounts. The system improves the efficiency of day-to-day store operations, reducing costs and enhancing the overall customer experience for both buyers and sellers. With real-time inventory tracking, the Agriculture shop Management System helps shop owners optimize their stock levels and make informed purchasing decisions. Overall, the system provides an efficient and effective platform for agricultural retail management, benefiting all parties involved.

II. LITERATURE REVIEW

Title -Agriculture Marketing and Management System: System For Rural It defines agro-marketing and strategic vison effectiveness can be achieved with electronic commerce related process. It helps the wholesalers and retailers in buying product from larger number of farmers. It helps farmers to keep track of their production with features such as virtual calendar, forecasting. It features online shopping of fertilizers, pesticides, etc.





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Title -Agri shop in overall it defines idea of Agri shop: to minimize the effort which is invested in to field of agriculture and makes the process easier and efficient by providing facilities. The application is allowing farmers to rent tools which are required for farming rather than purchasing themselves. It provides knowledge about the various schemes which is introduced for the betterment of farmers by our government.

Title -Design and Implementation of Agriculture Management System: This research paper describes the design and implementation of an agrishop management system using Java technology. The system includes features such as inventory management, sales tracking, and customer relationship management.

Title -Development of Agrishop Management System: Using Visual Basic.NET This research paper describes the development of an agrishop management system using Visual Basic.NET. The system includes features such as inventory management, sales tracking, and customer relationship management

III. PROBLEM DEFINATION

The agriculture industry is heavily reliant on machinery for efficient and effective production .Farmers often require specialized agricultural machinery for specific tasks such as planting, tilling, harvesting, and spraying. However, the cost of purchasing and maintaining these machines can be prohibitive for many farmers, particularly those with small to medium-sized farms. Additionally, the high capital investment required for purchasing these machines may not be justified for farmers who need them only occasionally. As a result, farmers may resort to manual labour or outdated machinery, which can negatively impact their productivity and profitability. Moreover, farmers who own agricultural machinery often face underutilization of the equipment and may struggle to generate enough revenue to cover their investment. Additionally, maintaining and repairing the machinery can be costly, especially for farmers who do not have the technical knowledge or expertise to do it themselves. Another problem is the lack of access to modern and specialized machinery in some regions. In many developing countries, farmers may not have access to the latest agricultural machinery and may have to rely on outdated equipment, which can negatively impact their productivity and yield. Additionally, some farmers may not be able to afford to purchase specialized machinery that is designed for specific crops or tasks, limiting their ability to improve their productivity. A third problem is the limited availability of spare parts and technical support. In some regions, it can be challenging to find spare parts for agricultural machinery, which can lead to extended downtime and reduced productivity. Lastly, there is a problem of underutilization of agricultural machinery. Some farmers may not use their machinery to its full potential, leading to inefficient use of resources and reduced profitability. To address this problem, Agro Ecom an web-based agriculture machinery rental system can be developed to connect farmers with individuals who own agricultural machinery.

IV. METHODOLOGY

Proposed E-Agro Cart a Web based Agricultural Machinery Rental System would be an online platform that connects farmers with rental companies or individual owners offering agricultural machinery for rent. The system would offer a range of equipment, including tractors, tillage equipment, harvesting equipment, and other specialized machinery. The proposed system would have the following features:





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Equipment Listings: Rental companies or individual owners would be able to list their equipment available for rent on the platform, including information about the equipment, such as model, make, availability, rental rate, and location. Equipment Search: Farmers would be able to search for equipment based on location, type of equipment, rental rate,

and availability.

Online Booking: Farmers would be able to book equipment online and make payment through the platform. Ratings and Reviews: Farmers would be able to rate and review the equipment and the rental companies, providing

feedback that can be used to improve the quality of service provided. The proposed Web based Agricultural Machinery Rental System would provide farmers with access to a wide range of equipment at competitive prices, increasing their efficiency and productivity while reducing their costs. Rental companies or individual owners would benefit from increased exposure and a wider customer base, helping to expand their businesses. Overall, this proposed system would offer a convenient and efficient solution for farmers to rent agricultural machinery.

V. ALGORITHM USED

1. Matching Algorithms This algorithm is widely used when there are two distinct sets of agents (in this case, landowners and farmers) and each agent has preferences over the members of the other set. The goal is to find a "stable" matching where no farmer and landowner would both prefer to be matched with each other over their current partners. – Collaborative Filtering (Recommendation System): This algorithm works by recommending land to farmers based on similar users' preferences or historical renting patterns. This could be a good choice if the system has enough data on past transactions to recommend land plots to farmers.). – Optimization Algorithms: This algorithm works by recommending land to farmers based on similar users' preferences or historical renting patterns. This could be a good choice if the system has enough data on past transactions to recommend land plots to farmers' preferences or historical renting patterns.

2. Market-Based Systems A more sophisticated approach could involve modeling the agricultural renting system as a market, where prices adjust based on supply and demand. This can be done through: – Supply and Demand Matching: The rent prices can be dynamically adjusted based on supply and demand for agricultural land in a particular region or area. – Scheduling: Notification algorithms use scheduling (e.g., Firebase Cloud Messaging (FCM)

3. Machine Learning-Based Prediction Models: – Decision Trees: These can be used to predict the success of a rental agreement based on land attributes (soil quality, location, price) and farmer attributes (type of crops, experience level). – Time Series Analysis (ARIMA): Train a model on historical rental agreements. Use this model to predict the suitability of land for a particular farmer based on new data inputs. – K-means Clustering: Agriculture renting system, useful for identifying those with similar tools behaviors.





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VI. RESULT

1.Login Page

Tege ta sear	
Mobile Number 史 Mobile Number	
Password	
Log In	
Forgot Password? Didn't have an account? Register Now	
VIEW AS QUEST	

2.Home Page:











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5.Database:

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VII. FUTURE SCOPE

We can open offices in every village, executive in that office can help farmers in using this application who does not the basic knowledge which is required to use application. • It can be made to a mobile app so that every can able to use this application with minimum • requirements. • Another module can attached to the application where farmers can do sell their products through the application. So that he will get the correct price and end users can get good quality product when compared to the present system. • There should be a option of using the application in various native languages. • Interface can be made much more user friendlier. • No of products on application can be increased so that it will match each and every requirement of agriculture. • One more module can be attached which includes present market rates for the products • It can provide different payment options. • Performance of the application can be made much better in terms of loading time. • It could be developed in other programming languages like java so that the application could be platform independent. • Application can be uploaded to the server so that customers can access it remotely.

VIII. CONCLUSION

Agri Shop is an e-commerce site created to support the ranchers and future individuals who are keen on cultivating, in present time there is a huge decline in cultivating and food creation which prompts food emergency, Agriculture is one of the mail pillar for all the nations on this earth. Agri Shop fills in as a rancher inviting site which gets well known and for the most part utilized when individuals think about the estimation of food and horticulture gets mainstream. Agri Shop facilitates the client who knows nothing regarding farming, development, agricultural products. In this application client will receive point by point data related to the item that is utilized in cultivating to get great yield. As referenced before this site as rancher cordial, it includes the office of leasing the farming hardware for development of yields, the gear like harvester, tiller, bug sprayer and so forth it could be leased in an hourly way. In the event that a client is new to cultivating he will get total method for utilizing the gear and why, when and how the hardware to be utilized to get a decent yield. Agri Shop is not only e-commerce site but also it is like a web page which gives the data of the government plans and facilities from both the legislature and private manages an account with low financing costs, Agri Shop assumes significant job in teaching the both urban and provincial side ranchers.





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