

Ecommerce using React Native, Node Js and Object Recognition for Farmers

¹Gali Naveen, ²M. Nikhil Bhargav, ³S. Srikanth Reddy,
⁴Ch. Uma Varun, ⁵Dr. B. Selva Priya

^{1,2,3,4}Students, ⁵Assistant Professor,
Department of Computer Science and Engineering
Bharath Institute of Higher Education
and Research

Abstract—Getting a farm fresh product from the market has become an impossible thing during present times. So, we came up with an idea of developing a mobile application in which the farmer can directly sell their produced crop to their customers using our platform and they can easily upload the images and can get the desired details using in app object recognizer and can easily get the data regarding the crop produced and can define the quantity they are having with them. To make farmers who are not literate we make app content translated to their own language using I18N (Internationalization). Customers can easily get the products delivered on time directly from farmers freshly.

Customers can pay directly in the app using a protective payment gateway. Customers can traceback from where the product is cultivated and on which date it is packed and from which farmer it is brought on to the platform and customers can know the complete information of the product that is delivered to them.

INTRODUCTION

Customers Can Choose from various varieties of categories like Fruits, Vegetables, Leafy Vegetables, Seasonal, Exotic and many more. Customers can order through an app where they can get the order directly delivered to them. Customers can see from which location the order has been coming from and the farmer details like name and photo and location of the product. Customers can have a detailed view of the product with images. Customers Can pay the total amount using in app payment gateway and customers can also raise queries regarding their orders and payments.

Farmers can add the products that are cultivated in their farm and they can scan the product using an app scanner and they will be getting the details of the product using object recognizer and they will add the price of the product and the units they are currently holding.

II.LITERATURE SURVEY

A. Recommendation System for farmers

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 recommenders. The paper proposes the utilization of information mining to supply recommendations to farmers for crops, crop rotation and identification of acceptable plant food. The system may be employed by farmers on internet and golem primarily based on mobile devices. [1]

B. Agricultural Recommendation System

With the evolution of internet 2.0, ICT has become the first that deals 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 databases. 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 a 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 questions are displayed on a mobile device. [2]

C. Image recognition in the artificial agriculture officer

Image recognition and image classification is an easy task for anyone with a functioning brain. However, for a computer, it is a very difficult problem. As a human grows up, the brain subconsciously starts collecting visual information and making a large data store of objects and their relationships with the environment. If a child constantly comes across a variety of cars, eventually he will be able to distinguish between the different types, brands, and models. It would be naturally assumed, that if a child is able to learn to classify objects quickly, that it should be quite easy for a machine to as well. However, computers have a hard time differentiating images since it has to consciously take all factors into consideration such as lighting, size, color, etc. [3]

D. Production-grade full-stack apps with AWS Amplify.

Using Aws Amplify as Backend includes getting all the cloud usages like Authentication, Database, Apis and everything directly delivered to application using Amplify CLI and we can use them seamlessly to deliver production grade experience with zero latency.[4]

E. React. "React Native."

React Native is used by organizations worldwide to create cross-platform phone/tablet apps with one code base. This means that you can write code easily that will run on iPhones, iPads, and Android phones and tablets without having to rewrite it in two or more languages -- just one. And that one language is easy to learn if you know React and JavaScript because it is React and JavaScript! Furthermore, these apps run natively and can be deployed to the Apple AppStore or the Google Play store, not web apps that run in some adapter or translator. So they're faster and more reliable. [5]

III. PROPOSED SYSTEM

This proposed application provides products that are directly delivered from the producers. And the main and most important feature of the application includes object recognition which helps the farmers to enlist their products easily. To make it more user friendly we have even integrated I18N (Internationalization) . It translates the app content to local languages and farmers and customers can feel comfortable in the app while ordering and payment can be made in the app so we can go cashless while delivering.

Farmers can add the products simply as the object recognizer analyzes the product and fills all the details like the name and images of the product, farmer simply needs to add the price, quantity he holds currently. The product will be added to the database.

Proposed system is providing a platform such as an android app where a farmer can sell his crop at different layers of the marketing chain (market, merchant or end user) with multiple options.

This platform will help farmers to find out nearest customers , and demand for particular products within less time & less effort. In some cases, we observe overhead raised prices of food products due less availability and many persons in the middle of the supply chain . This price can be 2 to 4 times greater than the actual price. It affects common people's budget and daily life as well. Crop profit can be optimized to maximum level due to multiple options, modern marketing methods and market analysis

Advantages of proposed system

- A Transparent End to End System that avoids the agent taxes and profits made by middle agents.
- Farm Fresh Goods can be delivered to consumers directly from the producers.
- Farmers can sell their products seamlessly.
- Content translation to local languages for better usability

IV. EXISTING SYSTEM

Currently, the farmer visits the nearest market and presents his product to a specified agent, who instructs the farmer to return after a given amount of time to collect cash. At the expense of that market, an agent sells a product to another agency. The farmer will not know the actual sale price of his goods. Agents are increasing the price of the products without the knowledge of farmers and farmers are getting the usual pay and agents are selling for higher prices.

While the existing e-commerce platforms present till date have a long process to get the products enlisted and the user interface of the applications can not be adopted by all the farmers. Many of the platforms don't offer products directly from the producers and the items were either stored or preserved.

Disadvantages of Existing System

- Agents earn high profits by weaving taxes and other charges.
- Farmers are not able to make good profits by selling their products.
- Goods are being stored in cold storages to create high scarcity of the product

V. MODULAR DESCRIPTION

1. Logging In to App

Customers and Farmers login to the app through their respective login portals and they can access their desired features

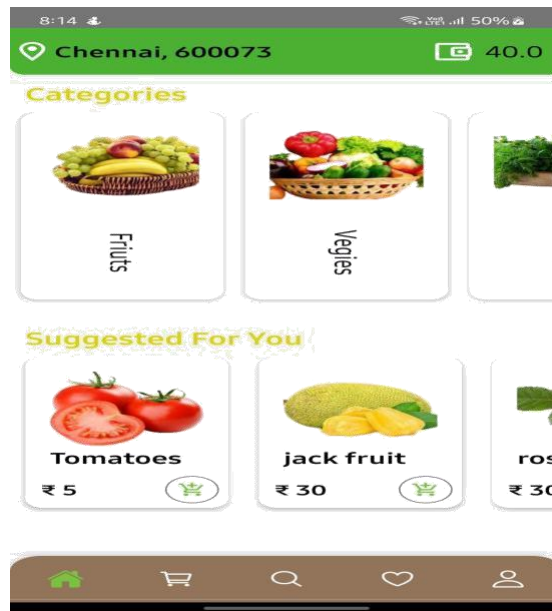
2. Adding Product

Farmers can add products from their farm and can get them for sale to customers. Customers can't access this feature. Farmers when scan the product using the respective scanner will get the details regarding the product and he will be adding the price and quantity he possesses.

3. Home Screen

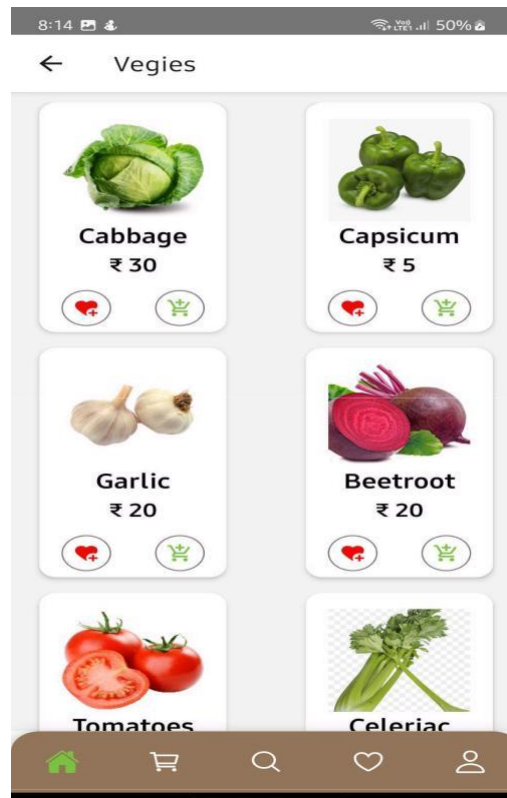
Customers start off from this screen and they see various categories of products that are available in the app and they will be able to select the desired category and will see all the products in that category. The home is designed in such a way that the user interface is easy to use and understand. Home screen also consists of all the basic functionalities like:

- Cart
- Search
- Wallet
- Account
- Wishlist
- Location



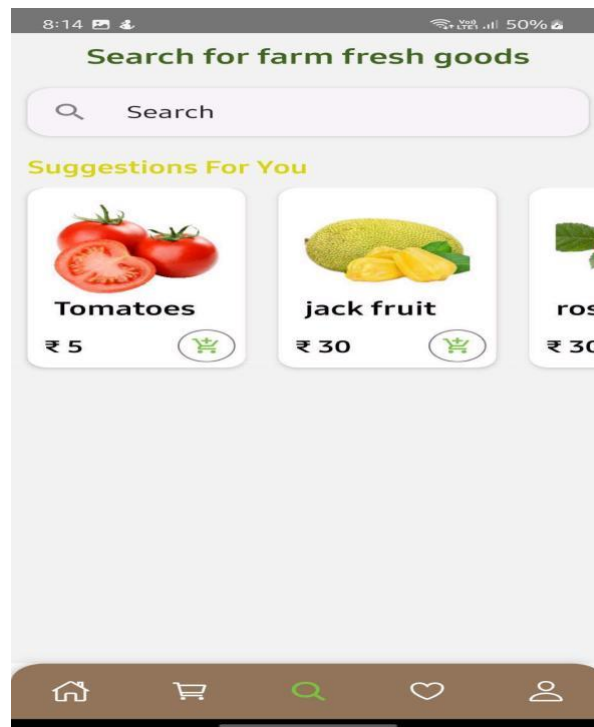
4. Category Products Screen

In this Screen, Customers can access the products in the desired category that was selected in the home screen and the products will be properly arranged with their prices per unit.



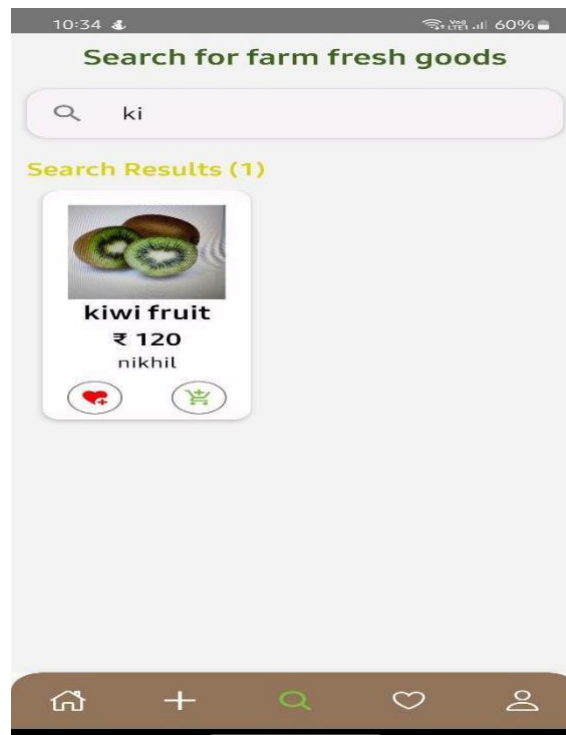
5. Search Functionality

Customers can search for their particular product and they can find that product and they can either add it to the cart or have it saved for their favorites.



6. Dynamic Search Suggestions

The application automatically shows the matching results in the feed below the search page. This feed changes with the input in the search bar. The feed consists of products along with price, producer.

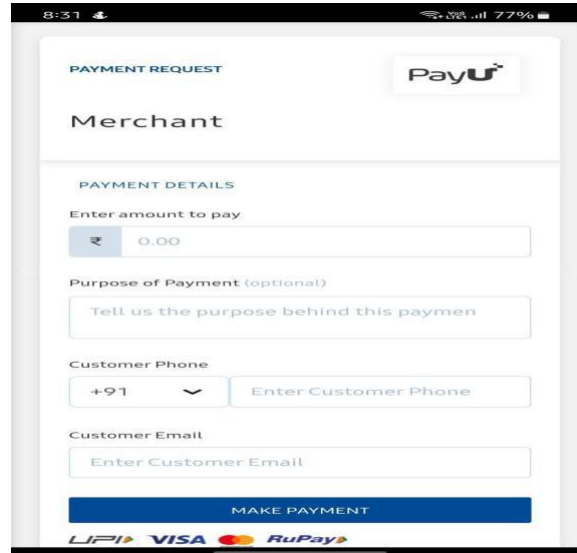


7. *Cart*

Customers can see their products that are added to the cart and they can change the quantity they want prices will be added for the quantity chosen and can order it from the cart directly.

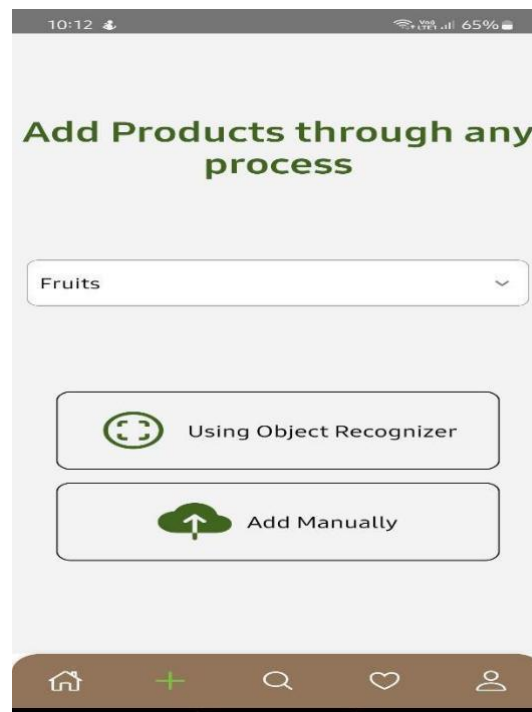
8. *Payment*

We have integrated a payment gateway for seamless payment of customers for their orders and these orders can be cashless if paid online.



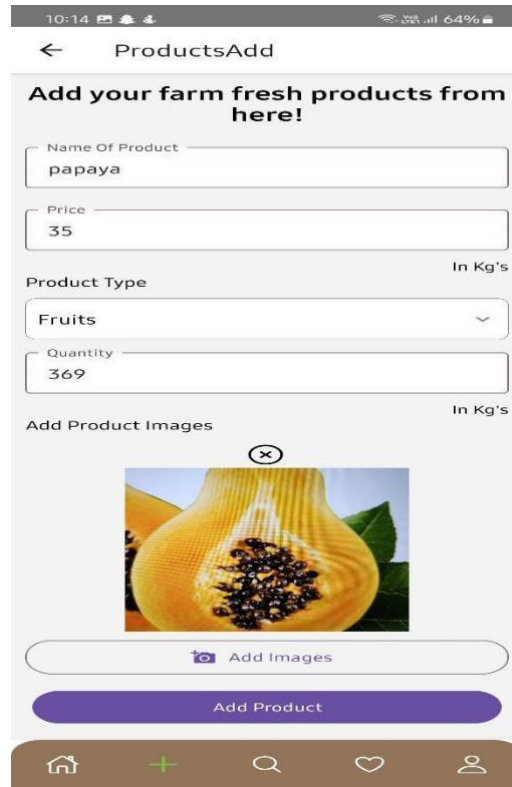
9. *Addition of products*

Addition of products takes place in two processes, one that is added manually and another through object recognition. This can be selected by the farmer where he usually decides whether to add the product manually or through Object recognition.



10. *Manual Addition*

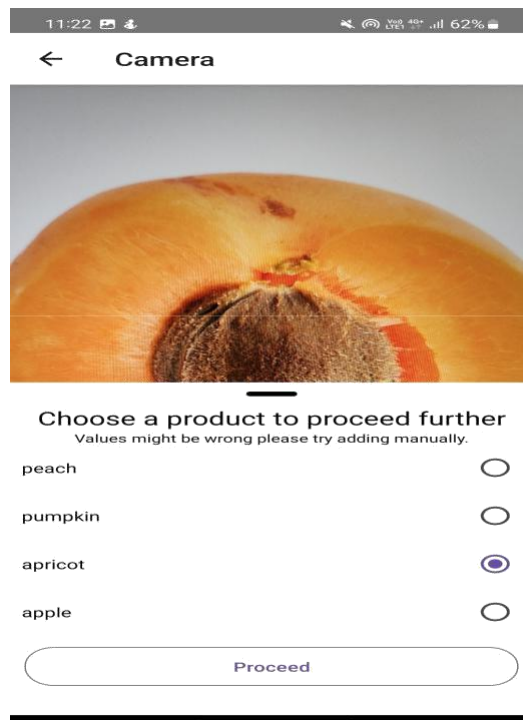
Manual edition the farmer has to select the type of the product he reaches to add whether it is a fruits or vegetables or any other categories and has to manually select the photographs for the products and the whole description for the product should be typed manually by the farmer.



11. Object Recognition

In object recognition the farmer can add the product directly by taking a photograph of the product through the camera of the application and using object recognition by clarify ai and it gives all the description of the product along with the image of the products that was taken by the farmer.

Object recognition technology has revolutionized the way farmers keep track of their products. By simply taking a photo of the product using the camera in the application and running it through the object recognition software, farmers can obtain a wealth of information about the product. This includes a detailed description of the product along with an image of the product that was captured by the farmer. This technology not only saves farmers time, but also allows them to make more informed decisions about their products. Additionally, object recognition technology is continuously evolving and improving, which means that its applications in the agricultural industry will only become more useful in the future.



VI. Future Scope

We can further develop this app and can help farmers get the correct price for what they have produced. We can even integrate help desk and other chat related functionalities ordering from whatsapp or from SMS related booking.

CONCLUSION

Ecommerce app for farmers hence can help farmers deliver their products directly to customers without mediators or third party vendors and Customers can get healthy and farm fresh goods directly from customers. Customers can directly pay the amount online for their orders and get them delivered to their preferred locations

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