

SURVEY PAPER ON E-MANDI A MARKET EXCHANGE BETWEEN FARMERS AND ENDUSER

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Abstract - In this paper, we have proposed to transform the traditional architectural trading into an electronic exchange between the consumers and farmers in the agricultural supply chain. Mathematical modeling and Preferential evaluation of buyer and supplier satisfaction is done. This preference is then given as an input to the Naïve Bayes algorithm. The app will take up the opportunity and will revolutionize the life for farmers through the mobile application, it is substantially designed for farmers that are resigning in rural areas of India. It is a one-step platform for farmers where the information about shop Agri based products and selling their products all will be presented in one mobile application. This platform can link farmers and consumers within the agricultural value chain, that will ease management and communication about market data. This includes selling its product based on information on current prices. The app also has an NGO based feature as a helping hand for providing the needy ones with food at the same time reducing the wastage it is easy to contact farmers and end-users via the app.

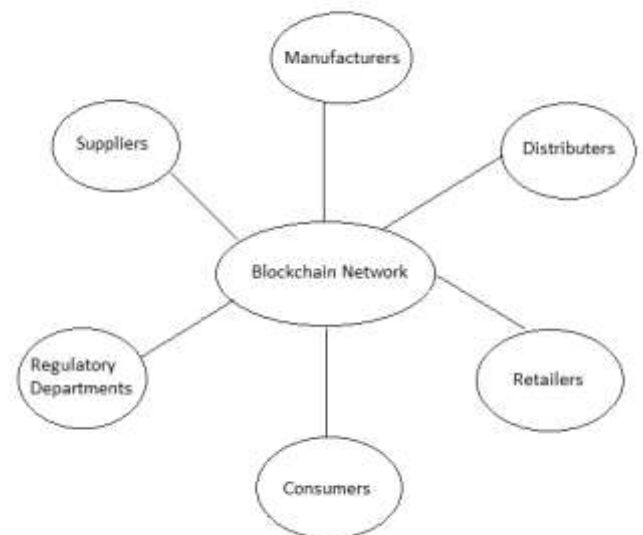
Key Words: Supply Chain, Electronic Exchange, Naïve Bayes Algorithm, Mobile Application.

1. INTRODUCTION

E-Mandi is an online fruits & vegetable store that is dedicated to providing services to people in making online marketing accessible to them. It is an online store which will allow the people buying Vegetables and Fruits with ease and also maintain transparency between the whole seller and retailer. This application helps customers to buy vegetables and fruits at best value. People can easily browse through the various items using the well-defined interfaces that will be provided by the system. The productivity of a region's farms is vital for many reasons. Apart from providing more food, it increases the productivity of farms affects the region's prospects for growth and competitiveness on the agricultural market. The NGO helping feature would provide us a social work for the needy ones by feeding the poor people by the proposed application made.

2. RELATED WORK

2.1 Existing System



Fig, Block Diagram of Existing system

As shown in Figure, the blockchain-based traceability system described in this paper mainly includes enterprise entities, consumers, and regulators in the supply chain, which are connected through a decentralized network. Each node in the network corresponds to an Ethereum account, which represents its identity in the system and can be used to deploy smart contracts. The enterprise entities in the supply chain can be summarized as suppliers, manufacturers, distributors, and retailers. And the functions and specific roles of each network node are described below.

Suppliers: The supplier is the owner of the raw materials and provides raw materials to the manufacturer. Raw materials as the source of products should be registered in the system by the supplier so that the consumer can trace back to the source of the raw materials of a specific product. Similar to the product, each raw material should also have a unique code.

Manufacturers: The manufacturer purchases raw materials from the supplier and processes the raw materials to. At the same time, the manufacturer supplies products to the distributor, which are sold all over the world by the distributor. As the owner of the product, the manufacturer is responsible for encapsulating the product information and registering it in the system. In the design of this paper, we use the international coding standard EAN/UCC-13 to encode the product, and the product has a unique code. We assume that in the process of product production, the products produced in the same batch are identical in quality and structure, and the difference can be ignored. Products that are produced in different batches need to be re-registered. Therefore, this design updates the product transfer process in batches, and each batch of products uniquely corresponds to a production batch number. For mass produced products, they have the same batch number; for non-mass-produced products, the batch number represents the individual product.

Distributors: As the middleman in the process of transferring goods from the manufacturer to the end consumer, the main role of the distributor is to update the direction of the product flow in this process so that the product information remains uninterrupted during the traceability process.

Retailers: The retailer purchases products from the distributor in batches and sells them to consumers in retail, which is a participant that has direct trading relationships with consumers.

Consumers: The consumer is the individual who finally buys and uses the product. He can choose to participate in the network as a lightweight node, realizes the product traceability process by querying the data permanently stored in the block, or as a full node to jointly maintain the blockchain ledger data.

Regulatory Departments: Since the blockchain data is exposed to all nodes, it is highly transparent. Therefore, the regulatory department as a blockchain node can monitor product dynamics in real-time and can recall in time when safety or quality problems occur in the product and deal with issues quickly and efficiently. To better show consumers the source traceability data of the product, when the product is transferred from one party to the other, we record the process by initiating a blockchain transaction. And add the product code and batch number to the transaction when the product is first transferred, and then in each subsequent transaction, by referring to the previous transaction hash to form a hash chain that traces the source of the product.

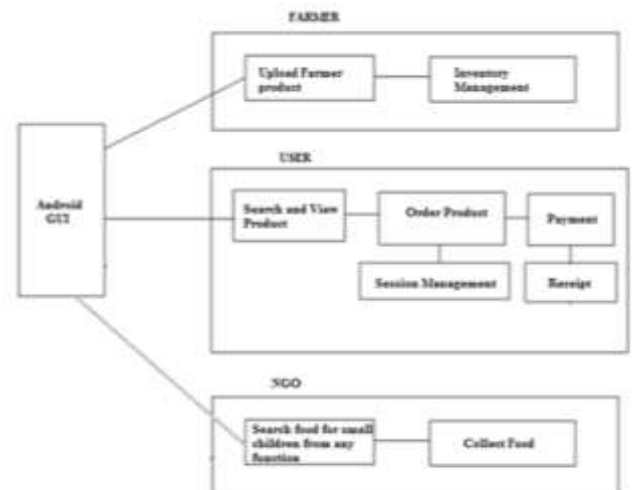
Existing System Drawbacks:

- Book keeping and reporting system could not be done
- It has lack of prompt availability of information, reports & analysis to the stake holders

- It would instantly display the Mandi rates
- Also tedious for farmers

2.2 Proposed System

The main objective of the proposed application is to build a website that will help the farmer to get the best from his inputs. There will be the availability of up-to-date information on rates in various state Mandis. It gives choice to decide when and where to sell the product.



Fig, Block Diagram of Proposed system

Functionalities of Proposed Model:

- People can now register to have a complete view of the agriculture market prices
- Feedback or complaint facilities is directly connected to government bodies that keeps a view on the market and mentions the unique id of the complainer
- It is available in regional language
- It ensures display of daily market rate updates to registered users through SMS
- It can Provide Government Warehouse information and booking facility to registered users

3. LITERATURE SURVEY

Literature survey is the most vital step in software development process. Before developing the tool we need to determine the time factor, economy and company strength of the system. Once these things are satisfied, next steps are

To be determined which operating system and language can be used for developing the tool. Once the programmers will start building the tool the programmers need lot of external support for execution. This support can be obtained from various senior programmers, from book or from any other websites. Before building the system we need to take the above consideration into account for developing the given proposed system.

- To build a web application which gives information about vegetables and fruits.
- To Design an application with which user can feel free to know the details.

4. MODULES

Module 1

- Home Page
- Login Form
- Sign Up Form

Module 2

- Crop Entry Form
- Updation of Rate Entry Form
- Rate View Form
- Generation of Graph

Module 3

- Fertilizer Entry Form
- Fertilizer View Form

Module 4

- Layout of Warehouse Management
- Register Entry Form
- Transaction Form
- Capacity Check Form
- Receipt Generation
- Book Facility

Other Features

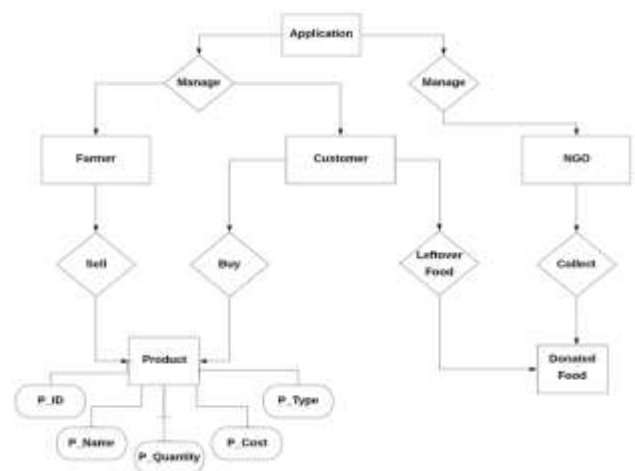
- Feedback and Complaint Form B.
- Regional Language Implementation
- SMS Alert.

5. DESIGN PHASE

Requirements gathering is followed by carefully analyzing leads to a systematic Object-Oriented Design (OOAD). There are various activities that have been identified and are represented using Unified Modeling Language (UML) diagrams. UML can be used to specified, visualized, modified, & can construct and document the artifacts of an object-oriented software-intensive system under the development process.

A. ER Diagram

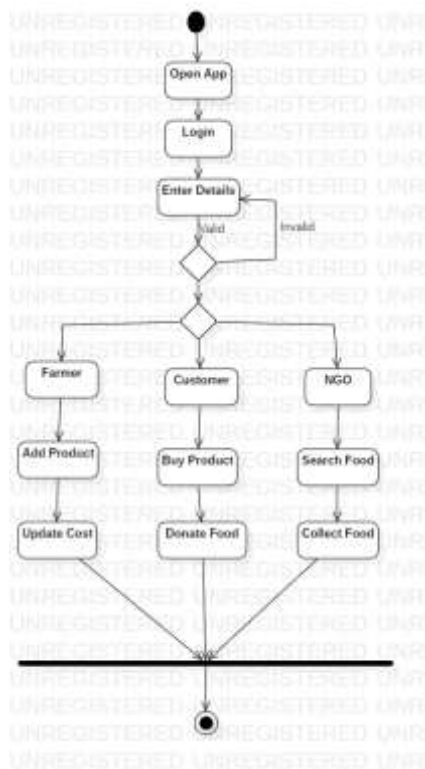
An ER model is an abstract way that describes a database. Describing a database usually starts with a relational database, which stores data into tables. Some of the data in the tables point to data in other tables - for instance, your entry in the database could point to several other entries for each of the phone numbers that are yours. The ER model would say that you are an entity, and each phone number will be an entity, and the relationship between you and the contact numbers is 'has a contact number'. Diagrams are created for designing these entities and relationships are called entity-relationship diagrams or ER diagrams.



Fig, ER Diagram

B. Activity Diagram

Activity diagram is an important diagram in UML that describes dynamic aspects of the system. The activity diagram is nothing but a flow chart to represent the flow from one activity to another activity in a system. We can describe activity as an operation of the system performance. So the control flow is drawn from one operation to another operation. This flow can be sequential, branched or concurrent flow. Activity diagrams deals with all types of flow that are controlled by using different elements like fork, join etc. Activity is a particular operation of the system performance.



Fig, Activity Diagram

6. IMPLEMENTATION

The implementation process is very easy. At first, the farmer and trader need to register themselves with their appropriate categories whether registering as a farmer or trader. For both the farmer and trader a unique ID is given to them, this ID is also called as their license to use the portal. Before going to plant the farmer need to make an entry on the portal with the details of what he/she going to plant, which quality, expected quantity and harvest. After that he/she needs to update their status after the harvest in the portal. All the portal entries are visible to all the members of the portal without any restrictions.

After confirming the auction the commodities need to be transported to existing mandi's, where all the Mandi norms are done then the trader get their quoted commodities. Once the commodities reach the trader the payment will be made through online to the respected farmer's account. Through this process, farmers will get their right-backs at their right time without any middle persons or commissioning agents in between them. It also helps the farmers to preserve their valuable time, prevent from wastage of their commodities in storing the mandi's for long time. All the process is carried out through online only.

A. Pseudo Code

1. Start
2. Login
3. If success goto next step
4. Else return login
5. Updates
6. Add new product(cn1, cn2.....c nn)
7. View product
8. E-auction (Prize quote, Purchase)
9. If best prize goto next step
10. Else return to updates
11. Payment is processed
12. End

B. Algorithm

- Step 1:- Start.
- Step 2: User Search Farmer fruits, vegetable area wise.
- Step 3:- Algorithm will check for the farmer vegetable records in database.
- Step 4:- If any record is found in database having all or any of the input record match then the entry that record is added to result array.
- Step 5:- Again next records are searched from database of the match this records are entered in result array set.
- Step 6:- Same procedure is followed throughout until complete database is scanned.
- Step 7:- The result string now contain the entire Farmers product available, to the end user.
- Step 8: Order Farmer vegetable and fruit.
- Step 9: User (NGO) also Check the users vegetable and fruit available any location before wastage that to the small children.
- Step 10: If available list then collect form end user.
- Step 11; Stop

7. PROJECT SCOPE

The actions performed by user are

- Register into the system
- Get all the information about vegetables, fruits and their prices
- Give the feedback about the items, services and other things which can be improved & any other items should be added if necessary
- Give the complaint if services, items are not up to the mark.

The actions performed by admin are

- Admin maintains the page in appropriate way
- Manages the customer details
- Adds the vegetables and fruits details to the website
- Publish the details in website and to the people
- Updates the vegetables and fruits details to the website
- Adds and updates the prices of vegetables and fruits to the website

8. CONCLUSION

The proposed system in which we took the idea that will make every farmer reach the homes in their nearby locality or cities by the medium of this android application. In this we have used some simple database. Finally, we achieve the farmer profit to directly connected to the end user. There are some trends that indicate the transformation of agricultural information systems in India is occurring. This application provides availability of rates in various Mandis help to give good rates to farmers. Transportation losses reduced after e-agriculture marketing. This is important for the transformation of agriculture in India.

9. REFERENCES

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