Agriculture Rental Machinery Using React JS

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Abstract: *The e - marketplace has emerged as an efficient and important vehicle for transactions in the e - commerce industry and academia and industry alike have recognized trust as a central factor enabling e - commerce. We need to design and implement a system that will check both buyers and sellers so that both parties will have trust in one another when transacting. Our project operates an online marketplace for consumer - to - consumer sales, particularly targeting users in emerging markets, with a view to providing a safe, reliable and efficient way for consumers to buy and sell goods. The agricultural application provides its users with information about the nearby available products like plants, seeds, pesticides, agricultural machinery. Sometimes, these products may get abide due to surplus purchase. Collaterally, there are some people who may require the same quantity of products. The main features of this application include information retrieval facilities and marketing from anywhere in the form of obtaining statistical information about fertilizers, pesticides, seeds, and plants.*

Keywords: React JS, Agricultural Marketplace, Surplus Management, E - commerce, Trust, Node. js.

1. Introduction

In today's agricultural landscape, the issue of surplus produce often plagues farmers, leading to significant wastage and financial losses. This prevalent problem is all too familiar in our communities. However, there's a solution on the horizon: our innovative application aims to empower farmers and alleviate this challenge.

By seamlessly connecting sellers with potential buyers, our application serves as a vital bridge between those with excess agricultural products and individuals seeking precisely those goods. Through intuitive interfaces tailored for both sellers and buyers, our platform revolutionizes the way agricultural surplus is managed.

Farmers can now effortlessly market their surplus produce to interested buyers, effectively reducing wastage and maximizing profits. Moreover, this platform isn't just limited to selling; it also facilitates purchasing opportunities, ensuring a streamlined experience for all users.

With our application, farmers can transform surplus into opportunity, fostering a sustainable agricultural ecosystem while addressing the pressing issue of food wastage in our communities.

2. Proposed System

Our proposed system is to develop an application using which the above entire flow can be automated so that the farmers can sell or buy the surplus products. Users get to know the information about the nearby available products like plants, seeds, pesticides, agricultural machinery. Sometimes, these products may get abridged due to surplus purchase. Collaterally, there are some people who may require the same quantity of products. The main features of this application includes information retrieval facilities and marketing from anywhere in the form of obtaining statistical information about fertilizers, pesticides, seeds, and plants.

Benefits of proposed system:
- With the help of our application, We can reduce the wastage of the product and can sell that to the required person.
- connects local people to buy, sell or exchange used goods and services enabling people to post a listing through their mobile phone or on the web.
- customers can now create and interact with the easy reports on various key business metrics.
- The maps integration feature within the app makes it possible to present the location of the address.
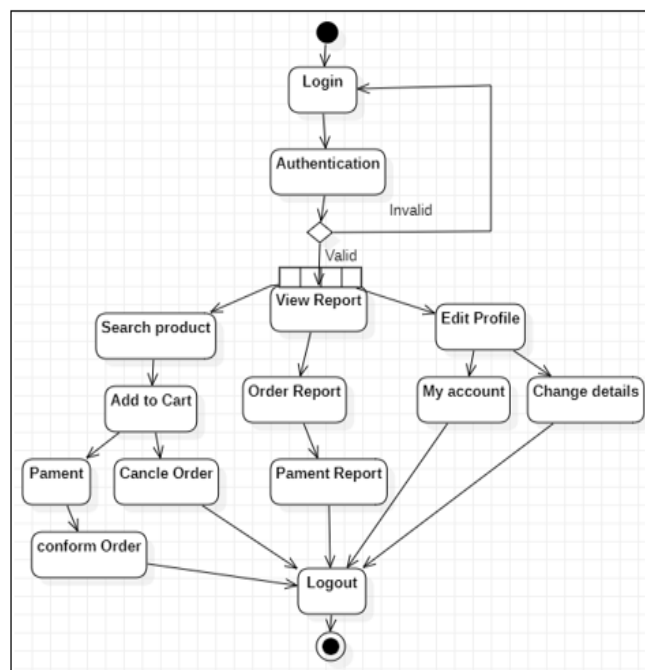
3. Deployment

Deployment diagram is a diagram that shows the configuration of runtime processing nodes and components that live on time. Deployment diagram is a kind of structure diagram used in modelling the physical aspects of an object - oriented system. They are often used to model the static

deployment view of a system.
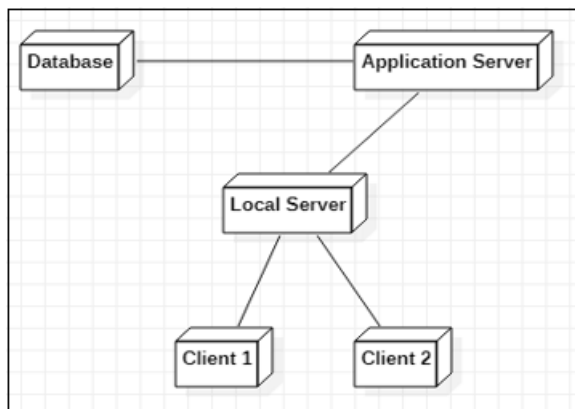
4. Architectural Design

Architectural design is a concept that focuses on components or elements of a structure. Any changes the client wants to make to the design should be communicated to the architect during this phase. Flow diagram is a collective term for a diagram representing a flow or set of dynamic relationships

in a system. A data flow diagram (DFD) is a way of representing the flow of data of a process or a system, usually an information system. The DFD also provides information about the outputs and inputs of each entity and the process itself.
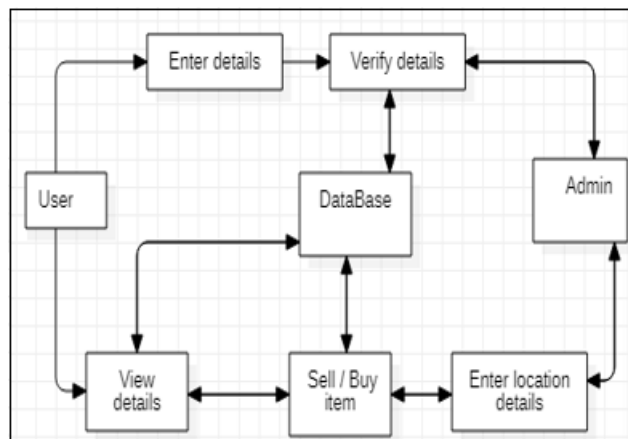
5. Data Flow
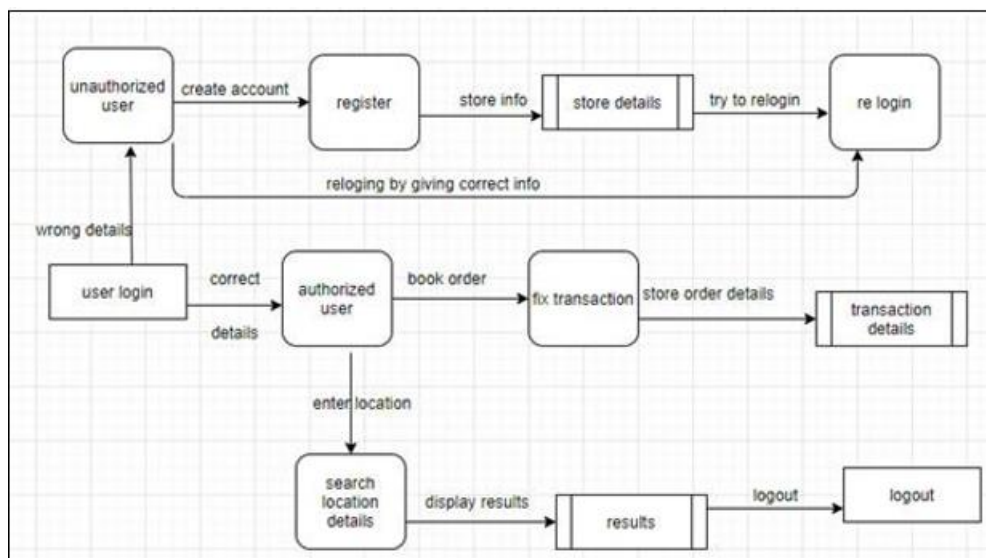
6. Testing

The purpose of testing is to discover errors. Testing is the process of trying to discover every conceivable fault or weakness in a work product. It provides a way to check the functionality of components, sub - assemblies, assemblies and or a finished product. It is the process of exercising software with the intent of ensuring that the Software system meets its requirements and user expectations and does not fail in an unacceptable manner. There are various types of tests. Each test type addresses a specific testing requirement.

Functional testing:
Functional tests provide systematic demonstrations that functions tested are available as specified by the business and technical requirements, system documentation, and user manuals. Functional testing is centered on the following items:
- Valid Input: Identified classes of valid input must be

accepted. Invalid Input: Identified classes of invalid input must be rejected. Functions: Identified functions must be exercised.
- Output: Identifies classes of application outputs must be exercised. Systems/Procedures: Interfacing systems or procedures must be invoked.

Test Case 1: This test case focuses on evaluating the functionality of the user login module when provided with valid data. Our objective is to ensure seamless access to the system's interface for users with correct login credentials. During this test, we expect the system to authenticate the user's credentials successfully and grant access to the designated interface. By verifying the system's response to valid data inputs, we aim to validate the reliability and effectiveness of the user login module. This test is crucial as it establishes the foundation for user interaction within the application, ensuring a smooth and secure login process.

Test Case 2: In this test case, we prioritize assessing the system's response to invalid data inputs during the customer login process. Our objective is to validate the system's ability to detect and handle invalid login attempts effectively. When users provide incorrect or invalid credentials, we expect the system to reject the login attempt and display an appropriate error message. By rigorously testing the system's response to invalid data, we aim to enhance security measures and provide users with clear feedback when authentication fails. This test helps ensure that the application maintains integrity and safeguards user accounts against unauthorized access.

Test Case 3: It focuses on evaluating the functionality of the admin login module when provided with valid data. Our primary objective is to verify whether the system correctly grants access to the admin interface upon entering valid login credentials. During this test, we expect the system to authenticate the admin's credentials and allow entry into the designated interface without any issues. By validating the system's response to valid admin login attempts, we ensure seamless access to administrative functionalities, essential for managing the application effectively. This test is critical for maintaining system security and facilitating efficient administration of the platform.

Test Case 4: This test case aims to assess the system's response to invalid data inputs during the admin login process. Our objective is to validate the system's ability to detect and reject unauthorized access attempts effectively. When incorrect or invalid admin credentials are provided, we expect the system to deny access and display a corresponding error message. By rigorously testing the system's response to invalid login attempts, we enhance security measures and mitigate the risk of unauthorized access to administrative functionalities. This test helps ensure the integrity and confidentiality of sensitive administrative features within the application.

Test Case 5: It focuses on validating the functionality of the user registration module, specifically concerning the addition of user data into the database. Our objective is to ensure that user registration proceeds smoothly and that all relevant user details are accurately stored in the system's database. During this test, users provide necessary information and submit the registration form. We verify that the system processes the registration request successfully, adds the user's data to the database, and allows subsequent login with the registered credentials. This test is crucial for establishing a seamless onboarding process for new users, ensuring accurate data management, and facilitating user engagement within the application.

7. Implementation

Implementation is the carrying out, execution, or practice of a plan, a method, or any design, idea, model, specification, standard or policy for doing something. As such, implementation is the action that must follow any preliminary thinking in order for something to actually happen. Many preparations are involved before and during the implementation of the proposed system.

Implementation Steps
- The system must have a proper Internet connection to run the project.
- Open the website. It shows various options there.
- If you are a user then choose the user login option in order to login into your account.
- If you are new to the site then you can create your new account by choosing the sign in option on the home page.
- After logging into the site, you can perform the operations by choosing the corresponding
- option.

If you are the admin, then you can login into the site by clicking admin login on the home page.
- Admin can perform the required analysis in his valid account.
- After completing the activities to be performed you can logout.
- If you are the admin, then you can login into the site by clicking admin login on the home
- page.
- Admin can perform the required analysis in his valid account.
- After completing the activities to be performed you can logout

8. Conclusion

The present study gives a clear idea on how to sell or buy the unused products in agriculture. in this Agrirevender app we mainly focus on two points one is reselling the agriculture products and the other is to buy the products. in order to sell the product user gives necessary information of the product like price, quantity, item name, etc., and post the product into the website likewise if a user wants to buy the product he searches for the product and buys it.

9. Future Enhancements

The conducted experiments showed that a good performance had been achieved with overall accuracy around 70% for both. In Future accuracy of the same can be improved with the help of improved techniques. With the use of the proposed model, we are able to check the nearby products which are available and can sell or buy the product to the one needed. So that it reduces the time for the farmers. This app can help those who are in need. The same system can be implemented with cloud storage of large amounts of data where it can maintain all the details for farmers for future purposes.