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Smart Agricultural Marketing System

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Abstract -Farmers must travel to the closest market to deliver their goods to a certain agent, who then sells them to another agency or a dealer. The agent delivers the money from the sold goods to the recognized farmer after a predetermined period; however, every agent tries to deduct his fee from the money made. The entire process is opaque since farmers have no method to learn about the transaction or the precise price at which their commodity was sold, and there is no facility for them to learn the product prices at various markets where they may sell their products for great profits. This inspired us to create a system that benefits farmers and end consumers. Overcome the disadvantages of the existing system. To bring all related agricultural products into a single platform to manage the income and expenses

Key Words:optics, photonics, light, lasers, templates, journals

1. INTRODUCTION

Agriculture plays a vital role in India but today the people involved in agriculture are of a lower class and face a lot of trouble in their day to day life. In India about 15% of GDP is from agriculture. Income generation is one of the biggest causes of Farm Suicide in India. Due to lack of awareness of advanced techniques it leads farmers to poverty. Even after all the hard work done by the farmers, in today's market the farmers face problems by intermediate persons, which leading to poverty of farmers. Hence direct sales between farmers and customers as to be introduced and an application to guide farmers in all aspects, current market value of different products, total market value and profitability of products sold, access to new e-learning farming techniques, various agricultural related issues and an in-house view of various agricultural government strategies including agricultural compensation schemes. This application assists farmers by ensuring greater profits by selling there products directly to customer and all the information related to crops and there price and also bidding details. So that there is transparency between the farmer and the customer.

E-commerce is starting to have a significant influence on the agriculture industry. The process by which individuals buy agricultural goods is a major problem. many of when customers must travel great distances to obtain Obtaining agricultural goods of the proper grade is difficult. ensured. Our initiative intends to benefit both customers and farmers. for national purchasing and sale of agricultural products utilizing an automated method. The webpage will provide guidance. Farmers may explore new agricultural methods and evaluate existing market value of many items, The total amount spent and the profit made on the items sold. Through user interaction, the website provides a platform for farmers to guarantee higher revenue. The website will serve as a distinctive and secure agro-marketing platform. With some basic online navigational skills, farmers will be able to market their goods across the nation through e-farming. This solution enables customers to rapidly buy desired things by using online payment while examining the many products that are readily available. Agriculture plays a predominant role, which provides food needed for all human beings and for rearing animals and also its an art for cultivating soil, growing and harvesting crops, and raising livestock. In the developing countries like India, agriculture production of food crops must be increased to reduce food security and decrease the rate of people being undernourished.

2. LITERATURE SURVEY

1. "E-Commerce Site For Agriculture Products" Meghanayak, Pinky Wankhede, NehaKhapekar, KomalDhote Year: 2019
This paper provides research on numerous e-commerce site strategies to guarantee the farmer's exact profitability or to earn their products at the present rate of market. In this project, there are a few different tactics which are chosen based on the technology used for implementation used. This initiative provides assistance in comprehending key requirements to create the website and identify the lacks locations and is developing an implementation plan.

2."Application and Website for Farmers to Sell Their Produce at Better Rate" ,AyubSayyed, Kritika Sharma, Kush Mandal, DipaliBhole Year: 2021
A fair price for the farmers' crops and a smile on their faces will result from the analysis we have done so far, which has led us to the conclusion that there are many issues that need to be addressed regarding the commercialization of various crops grown by farmers without the involvement of a third party. The idea behind this suggested method is completely unprofitable and will only serve one purpose: maximising farmer profits. People have worked on this idea in certain ways, but for a variety of reasons, they were unable to connectwith farmers.

3. "Portal For Former So Sell products At Better Rate" , Chirag Namdeo Mande, Sneha Sankhe, NiteshUdayTalekar, VaibhavVishwasNeman Year: 2021
The most crucial sector is agriculture, particularly in a developing nation like India. Utilizing information technology in agriculture can alter the decision-making process and improve crop productivity. With the aid of this initiative, we will advise farmers on how to maximise their profits by helping them sell their goods directly to consumers or users. We also talked about the fact that he might deliver the goods himself and still receive better price therefore, for the farmers profit Smart Agricultural Marketing System.

4. "E-trading of Agricultural Products from Farm to Customer Application", RiturajChauhan, ShreevyankateshJagtap, ShubhamAhire, AkshayBhoyate, rof. Dr.K.C.Nalavade Year: 2017

Have added the chat function, guest login, and different language support to the system as extra features to make it more user-friendly. Through the use of this portal, individuals will be able to get fresh food to eat and will be able to visit sections of their neighboring communities to pick up their purchases and create relationships with farmers while also making money by saving money and assisting farmers.

5. **Online Organic Agricultural Product Selling & Management System:**Mr..BohradeBM,Kajal D. Indore, Shubhada R. Narsale, Akshada N. Korade, Mayuri G. DereYear of Publications:2022. Online Organic Agriculture Product Selling & Management System has helped farmers to provide the knowledge about marketing system. Developed application is faster, secure, and comfortable. As the shortage of supply of agricultural commodities with increase in prices, so productivity needs to increase.

6. Indian Agricultural Marketing- A Review Shakeel-Ul-Rehman, MSelvaraj and MSyed Ibrahim.,Year of Publications:2012Market systemas two aspects i.e, marketing network and regulation.strengthening the regulated market system comes from changing linkages between agriculture and markets**.**It is seen that easy marketing access and good information bringsbetter market orientation in production system.

7. E-Application and Dss for Farmers to Sell Food Crops Through E-Auction, Dharmateja M1, Sriraman Kothuri, KunaVenkateswara rao, Year of Publications:2018web based application has benefited farmers and consumers without the intervention of middle man. It helps in taking right decision seeking experts. This in turn increases the transparency of e-auction. The ratings given in online helps to analyze the crops with more accuracy.

3. HELPFUL HINTS

2.1. Figures and Tables

In this paper there are three modules i.e. Admin, Farmer and Customer.

1. Admin

- Dashboard :In this section, admin can view product category, product details, farmer details and customer view
- Product category: In this section admin can view registered product category (Eg: fruits, pulses, vegetables, etc)
- Product Details: In this section admin can view details about the product added by farmer.
- Farmer Details: In this section admin can view registered famer details.
- Stock view: In this section admin can view stock of products.

Fig -1: Use case diagram of Admin

1. Farmer

- In this section Farmer can view registered login, product upload details, sale request.
- Login: In this section 1st Farmer need to register using email Id / mobile number.
- Product upload: In this section the Farmer will upload the images of products and other details regarding their grown crops.

Fig -2:Use Case diagram of Farmer

3. Customer:

- Customer can see regarding register, login, product view, and online book.
- Register: In this section customer need to Register first using Email Id / mobile number and get begin to the web page.
- Product view : In this section the customer will view their required product and book it through online.

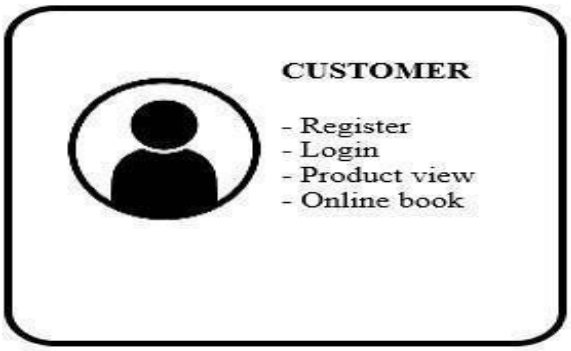

Fig -3: Use Case diagram of Customer

System Flow Diagram:

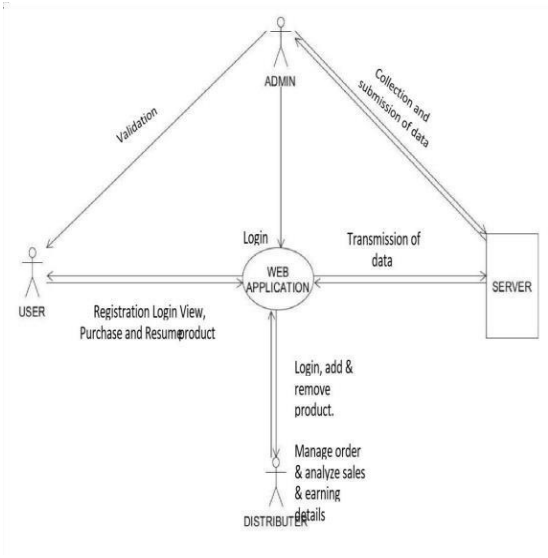

Fig -4:System Flow Diagram

System Design:

Systems design is the process of defining the, components, modules, interfaces, and data for a system to satisfy specified requirements Systems design could be seen as the application of system to product development. There is some overlap with the disciplines analysis, systems architecture and systems engineering. The architectural design of a system emphasizes on the design of the systems architecture which describes the structure, behavior, and more views of that system.

The purpose of the design phase is to plan a solution of the problem specified by the requirements document. This phase is the first step in moving from the problem domain to the solution domain. In other words, starting with what is needed; design takes us toward how to satisfy the needs. The design of a system is perhaps the most critical factor affecting the quality of the software; it has a major impact on the later phases particularly testing and maintenance.

The design activity often results in three separate outputs,

- Architecture design.
- High level design.
- Detailed design.

Architecture Design:

Two Tier Architecture: A two-tier architecture is a software architecture in which a presentation layer or interface runs on a client, and a data layer or data structure gets stored on a server. Separating these two components into different locations represents two-tier architecture, as opposed to a single-tier architecture. Other kinds of multi-tier architectures add additional layers in distributed software design.

Experts often contrast two-tier architecture to a three-tier architecture, where a third application or business layer is added that acts as an intermediary between the client or presentation layer and the data layer. This can increase the performance of the system and help with scalability. It can also eliminate many kinds of problems with confusion, which can be caused by multi-user access in two-tier architectures. However, the advanced complexity of three-tier architecture may mean more cost and effort.

An additional note on two-tier architecture is that the word "tier" commonly refers to splitting the two software layers onto two different physical pieces of hardware. Multi-layer programs can be built on one tier, but because of operational preferences, many two-tier architectures use a computer for the first tier and a server for the second tier.

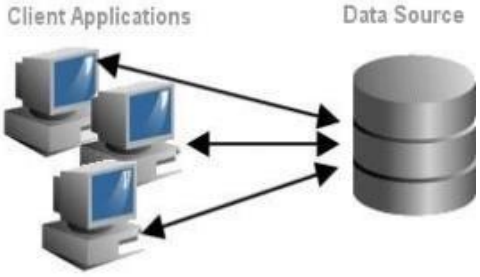

Fig -5:Two tier Architecture

Three Tier Architecture:

Three-tier architecture is a client-server architecture which the functional process logic,data access,computer data storage and user interface are developed and maintained as independent modules on separate platforms. Three-tier architecture is a software design pattern and well-established software architecture.

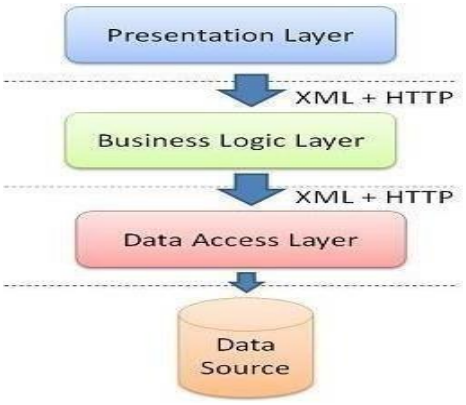

Fig -6: Three-tier Architecture

Three-tier architecture allows any one of the three tiers to be upgraded or replaced independently. The user interface is implemented on a desktop PC and uses a standard graphical user interface with different modules running on the application server. The relational database management system on the database server contains the computer data storage logic. The middle tiers are usually multi-tiered.

The three tiers in three-tier architecture are:

Presentation Tier: Occupies the top level and displays information related to services available on a website. This tier communicates with other tiers by sending results to the browser and other tiers in the network. The presentation tier contains the UI (User Interface) elements of the site, and includes all the logic that managers the interaction between the visitor and the client's business. (ASP.NET Web Forms, Web User Controls, ASP.NET Master Pages)

Application Tier:

Also called the middle tier, logic tier, business logic or logic tier, this tier is pulled from the presentation tier. It controls application functionality by performing detailed processing. The business tier receives requests from the presentation tier and returns a result to the presentation tier depending on the business logic it contains. (C# Classes)

Data Tier: Houses database servers where information is stored and retrieved. Data in this tier is kept independent of application servers or business logic. The data tier is responsible for storing the application's data and sending it to the business tier when requested. (SQL Server StoredProcedures).

System Architecture: Architecture focuses on looking at a system as a combination of many different components, and how they interact with each other to produce the desired result. The focus is on identifying components or subsystems and how they connect. In other words, the focus is on what major components are needed.

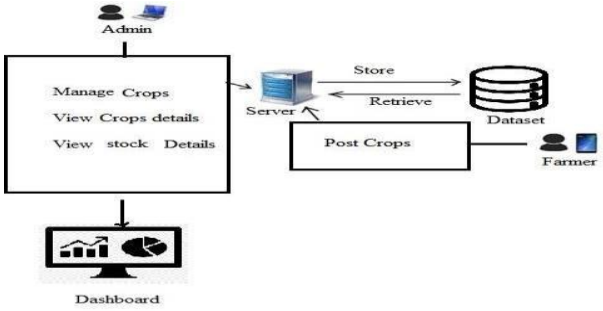

Fig -7: System Architecture

Context Dataflow Diagram:

It is common practice to draw a context-level data flow diagram first, which shows the interaction between the system and external agents which act as data sources and data sinks. On the context diagram (also known as the 'Level 0 DFD') the system's interactions with the outside world are modeled purely in terms of data flows across the system boundary. The context diagram shows the entire system as a single process, and gives no clues as to its internal organization. This context- level DFD is next "exploded", to produce a Level 1 DFD that shows some of the detail of the system being modeled.

The Level 1 DFD shows how the system is divided into sub-systems (processes), each of which deals with one or more of the data flows to or from an external agent, and which together provide all of the functionality of the system as a whole. It also identifies internal data stores that must be present in order for the system to do its job, and shows the flow of data between the various parts of the system.

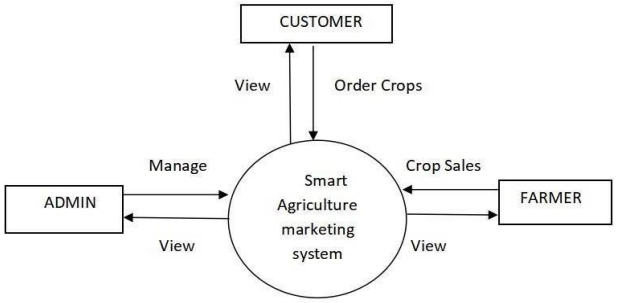

Fig -8:Context dataflow

Data Store:

Adatastoreisapassiveobjectwithinadataflowdiagramthatstoresdataforlateraccess.Unlikeanactor,adatastoredoes not generate any operations on its own but merely responds to requests to store and access data.

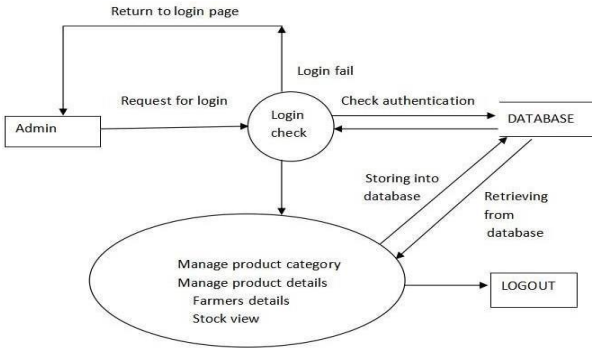

Fig -9: Dataflow Diagram of Admin

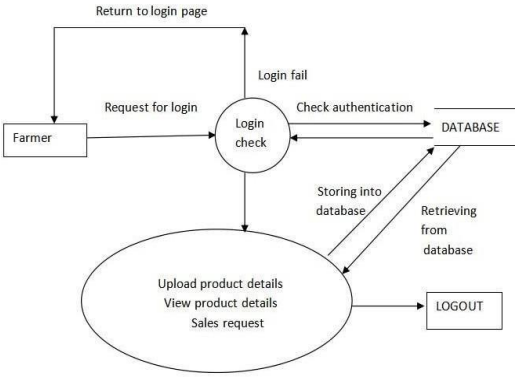

Fig -10:Dataflow Diagram of Farmer

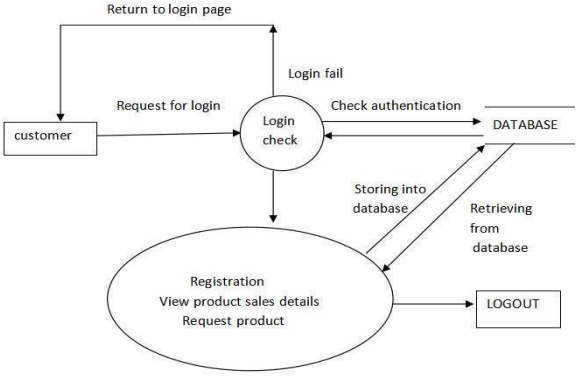

Fig -11: Dataflow Diagram of Customer

Sequence Diagram:

The Sequence Diagram models the collaboration of objects based on a time sequence. It shows how the objectsinteract with others in a particular scenario of a use case. With the advanced visual modeling capability, you cancreate complex sequence diagram in few clicks. Besides, Visual Paradigm can generate sequence diagram fromthe flow of events which you have defined in the use case description. The sequence diagram models thecollaboration of objects based on a time sequence. It shows how the objects interact with others in a particularscenario of a use case.It depicts the objects and classes involved in the scenario and the sequence of messagesexchanged between the objects needed tocarryout thefunctionalityof the scenario.

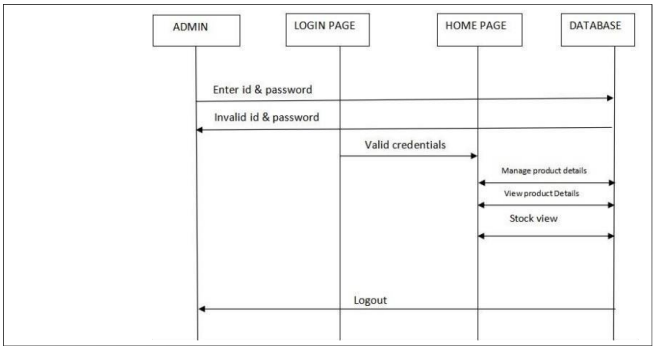

Fig -12:Sequence Diagram of Admin

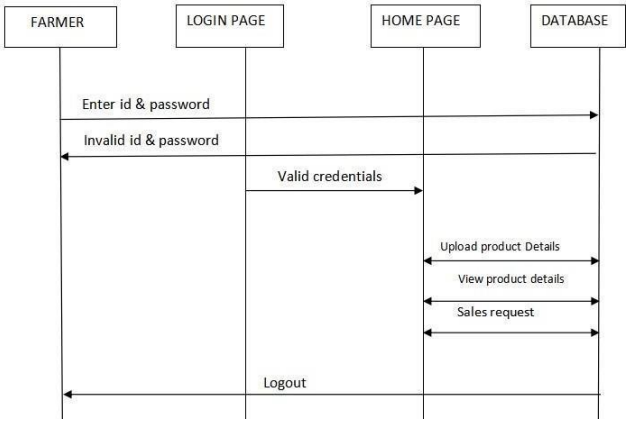

Fig -13:Sequence Diagram of Farmer

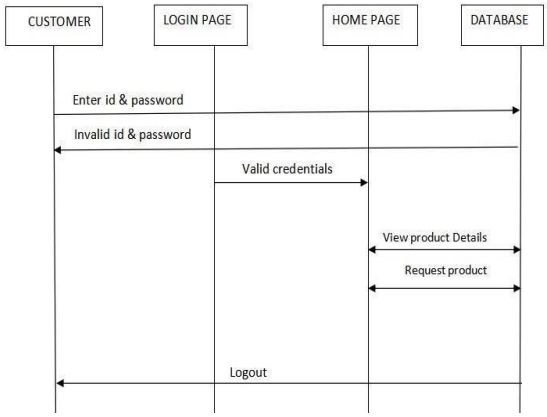

Fig -14: Sequence Diagram of Customer

4. RESULTS AND DISCUSSION

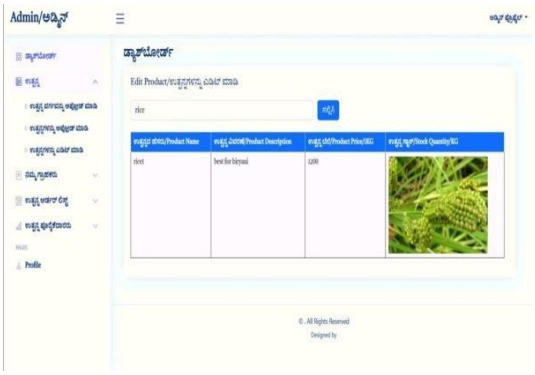

Fig -14:Display of a crop image along with its name andfeature

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The satisfaction and euphoria that accompany the successful completion of my project work would be incomplete unless I mention the names of people who made it possible and whose guidance and encouragement served as a beacon light to my efforts with success. It gives me immense pleasure to acknowledge and express my deepest gratitude to all who helped me throughout my project work.

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I am grateful to my parents, friends and to those who have directly or indirectly helped me in completing the project successfully.

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BIOGRAPHIES

Dr. Punith Kumar M B presently working as Professor in Department of Electronics and Communication Engineering, PES College of Engineering Mandya. His current research interests include image processing, video processing, video shot detection, Embedded system, etc. Published 20 paper in the international and national journal and obtained one patent, Published the book on his research work. DrPunith Kumar M B is a Member of IEEE. Life Member of the Indian Society for Technical Education (ISTE) and Associate Member of the Institution of Engineers (AMIE), He was the Judge, Chairperson and Review member for the National and International Conference.

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