

E-AGRICULTURE

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Abstract: The well planned; properly executed the utility titled “E-Agriculture” is being developed with the intent to provide easy to find Agriculture Products. It provides linkage between the Customer (User) and Admin and this system used for Easy to maintain Product Details and Customer info. These projects have been developed ASP.NET 4.0 using C# with SQL EXPRESS 2018. This is user friendly, easy to use, understandable and satisfies all user requirements. There is no doubt that in spite of strenuous efforts, errors might remain in the text. I truly apologize for that.

KEYWORDS: E- Farming, Agriculture, ASP.NET, SQL, E-Commerce

I. INTRODUCTION

E-Agriculture is web-based application which covers the services involved in moving an agriculture product from the farmer to the consumers. E-Agriculture is referred to those strategies and techniques which use online ways to reach target customers. This service involves the planning, organizing, directing, and handling of agriculture produce in such a way as to satisfy farmer and consumers. It helps in promoting right agriculture products to its rightful buyers by reaching out to new people across diverse locations. Agriculture products including categories like fruits, vegetables, groceries and nuts. E-Agriculture is most useful to the farmers since the benefits are high and electronic. It is an Online Portal here farmers can submit their Agricultural Products for Sale through which many of the farmer’s problem will be solved. This market helps farmers, traders and buyers for online trading in commodities. This market also helps us to discover better price for the products and smooth marketing of agricultural products.

Using internet as a way of selling agricultural products is changing marketing channels in the agribusiness industry. In this application farmer can add their produced products and consumers can see the products and make their orders by entering their information, the ordered product would be at their doorstep. This application is easy to operate and understood by the users.

A. System References

Today's agricultural marketing has to undergo a series of exchanges or transfers from one person to another before it reaches the consumer. There are three marketing functions involved in this, i.e., assembling, preparation for consumption and distribution. Selling on any agricultural produce depends on some couple of factors like the demand of the product at that time, availability of storage etc. The products may be sold directly in the market or it may be stored locally for the time being. Moreover, it may be sold as it is gathered from the field or it may be cleaned, graded and processed by the farmer or the merchant of the village. Sometime processing is done because consumers want it, or sometimes to conserve the quality of that product. The task of distribution system is to match the supply with the existing demand by whole selling and retailing in various points of different markets like primary, secondary or terminal markets. Most of the agricultural products in India are sold by farmers in the private sector to moneylenders (to whom the farmer may be indebted) or to village traders. Products are sold in various ways. For example, it might be sold at a weekly village market in the farmer's village or in a neighboring village. If these outlets are not available, then produce might be sold at irregularly held markets in a nearby village or town.

B. Overall Description

E-Agriculture is web-based application which covers the services involved in moving an agriculture product from the farmer to the consumers. E-Agriculture is referred to those strategies and techniques which use online ways to reach target customers. This service involves the planning, organizing, directing, and handling of agriculture produce in such a way as to satisfy farmer and consumers. It helps in promoting right agriculture products to its rightful buyers by reaching out to new people across diverse locations. Agriculture products including categories like fruits, vegetables, groceries and nuts. E-Agriculture is most useful to the farmers since the benefits are high and electronic. It is an Online Portal here farmers can submit their Agricultural Products for Sale through which many of the farmer's problem will be solved. This market helps farmers, traders and buyers for online trading in commodities. This market also helps us to discover better price for the products and smooth marketing of agricultural products.

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C. Motivation

Agricultural marketing still continues to be in a bad shape in rural India. In the absence of sound marketing facilities, the farmers have to depend upon local traders and middlemen for the disposal of their farm produce which is sold at throw-away price. The status of farmers in India is such that they buy everything in retail and sell their produce in wholesale. With different Agricultural Product Market Committee (APMC) acts in different states, lack of clarity on the prices set by these agencies, high lobbying capacity of the middlemen has resulted in exploitation of farmers and crops not fetching the right price. Due to short shelf life of fruits and vegetables and other products, there is a high requirement of cold storages and warehouses to have a stable price and quantity across the year. With very few and poorly managed warehouses, the government lacks the main tool for controlling inflation and also giving a fair price to the harvest. Such uncertainties discourage farming. In current competitive scenario every business establishment needs quality processes to increase their efficiency as well as improve their productivity. It is of vital importance that manual, time consuming & monotonous operations are automated so as to streamline the working of an organization. Since, the existing system takes more time and manpower for processing. It is keeping in mind this business philosophy that we propose a Farmer's E-Market. Considering the above scenario faced by farmers we have designed this web portal so that farmers will be able to market their product without the involvement of middlemen or any third party. Our system will deal with all aspects of farmer's products.

II. SYSTEM ANALYSIS

The main objective of E-Agriculture project is to build a website that will help farmers from villages to sell their products to different cities. This market also helps us to discover better price for the products and smooth marketing of agricultural products. This application is easy to operate and understood by the users.

A. Operating Systems Support

There must be used are system type is 64 bit operating system x64-based processor which will support our functions that we are going to built in our project.

B. Programming Language

This project is based on web, so we choose ASP.NET using C# Programming along with localhost62634.com website to collect the data from hardware in our project.

C. Constraints

The main constraints of our project are the user should have good internet connection to order any agriculture products.

D. Performance Analysis

The user will get smooth experience while using E-Agriculture website.

E. Technical Analysis

For developing the software we have used ASP.NET using C# as programming language because the functionalities for developing the modules of requirement as it can be done easily using it. ASP.Net is used for developing the API's is done easily & code can be easily understood by other person without being familiar with other language.

III. PROPOSED METHODOLOGY

It is an Online Portal here farmers can submit their Agricultural Products for Sale through which many of the farmer's problem will be solved. This market helps farmers, traders and buyers for online trading in commodities. This market also helps us to discover better price for the products and smooth marketing of agricultural products.

The working is as follows:

1. Takes the necessary information from the UI/Front End
2. Maintain records of variety of products.
3. Maintain customer details and orders.
4. Provides the output

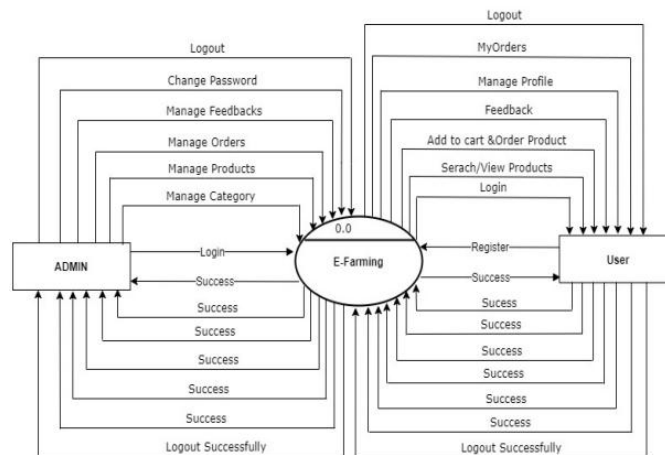


Fig.1 Architectural Diagram

Module Design:

In this Online Shopping System, there are two main Modules are there.

Admin: Admin is a Responsible person to run the whole system. Admin can add, delete, update all information related to the system like category, Product Information.

User/Customer: User is Visitor who visit the site and buy something from our website by making a payment (Cash on Delivery).

Admin Site Modules

- ✓ Login



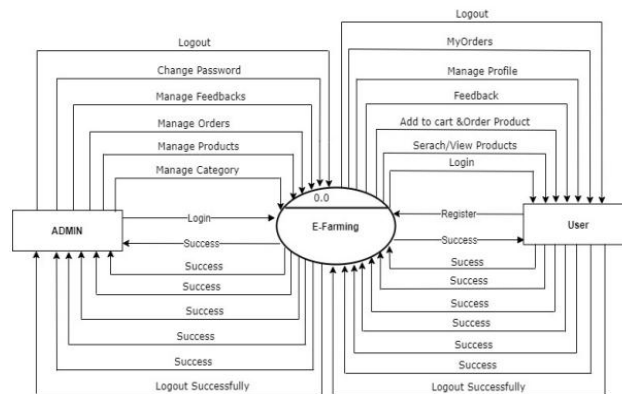
- ✓ Dashboard
- ✓ Manage Category
- ✓ Manage Products
- ✓ Manage Orders
- ✓ View Feedbacks
- ✓ Change Password

User Site Modules

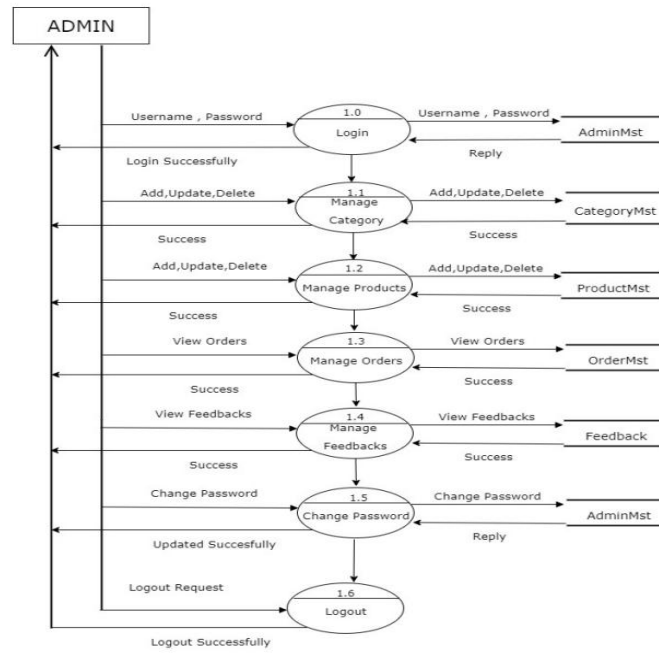
- ✓ Registration
- ✓ Login
- ✓ View Products
- ✓ Make Order
- ✓ Manage Profile
- ✓ Give Feedback
- ✓ Change Password

Data Flow Diagram (DFD):

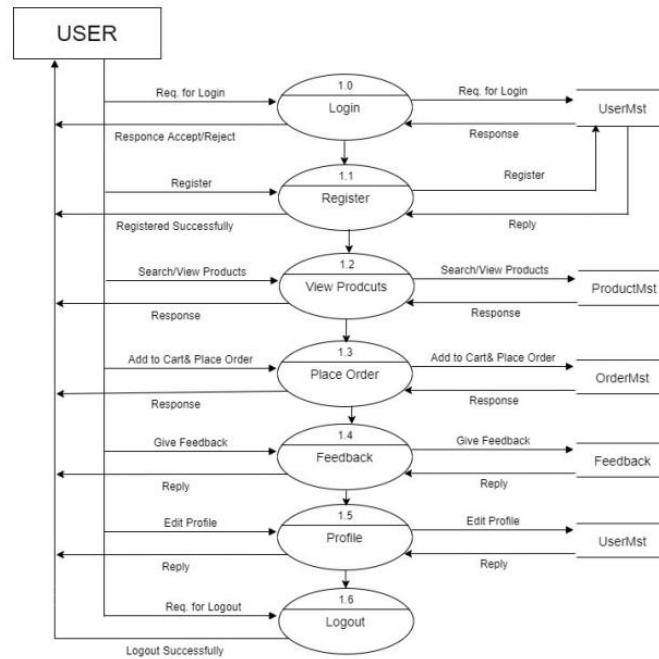
Context Level DFD:-



1st Level DFD (ADMIN):-

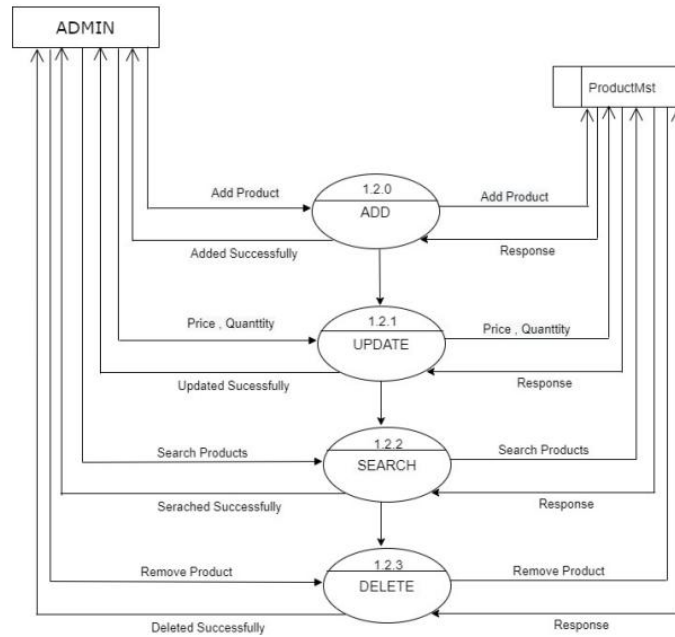


1st Level DFD (User):-

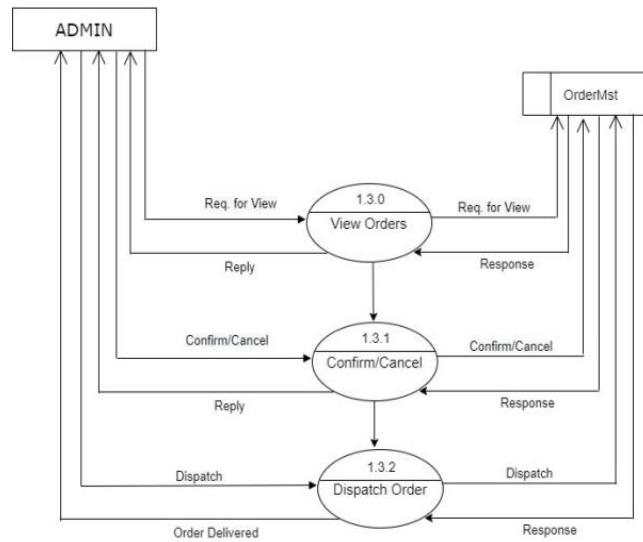


2nd Level DFD (ADMIN):-

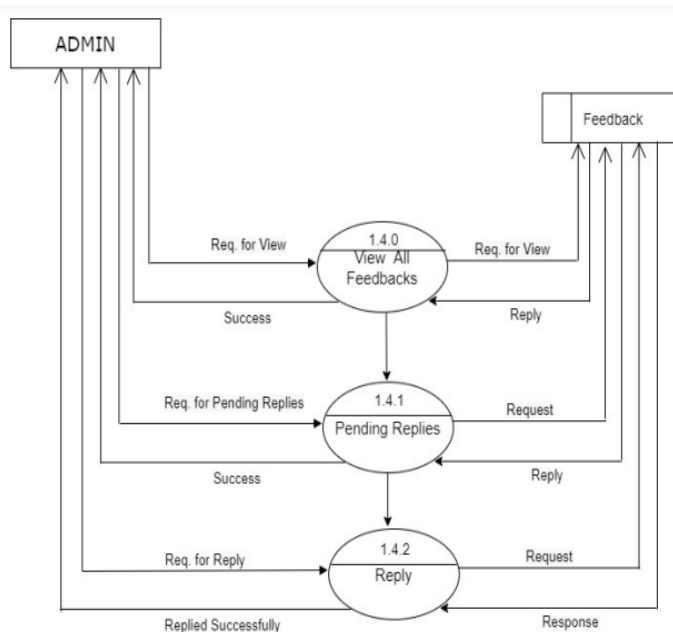
Manage Products Process



Manage Order Process

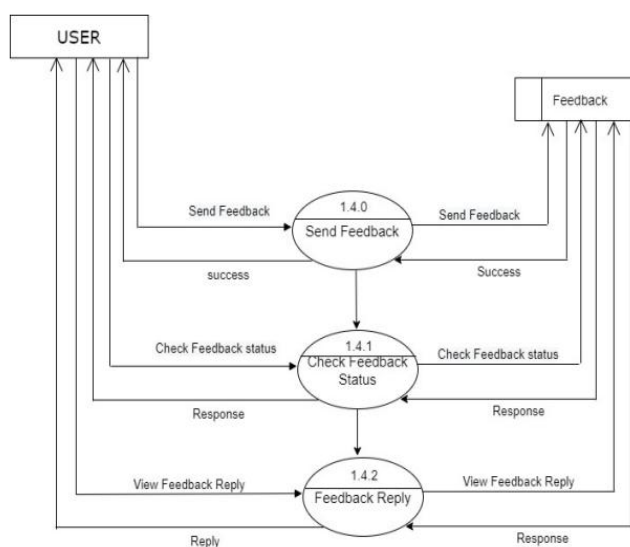


Manage Feedback Process

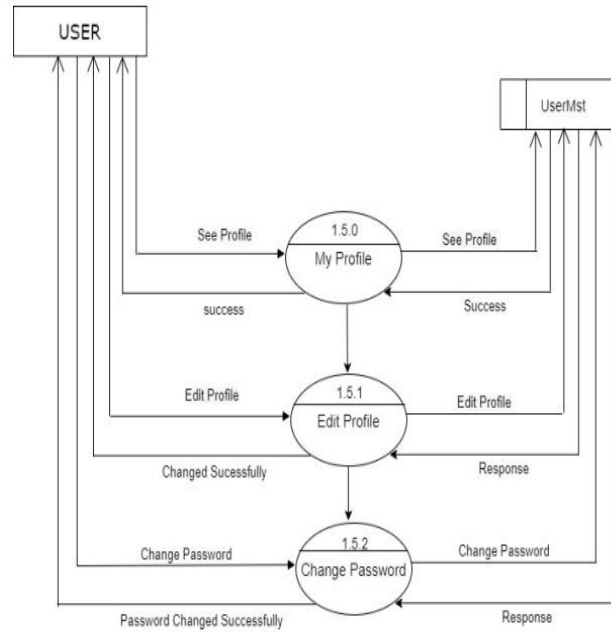


2nd Level DFD (User):-

Feedback Process



My Profile Process



Entity Relational Diagram (ERD):-

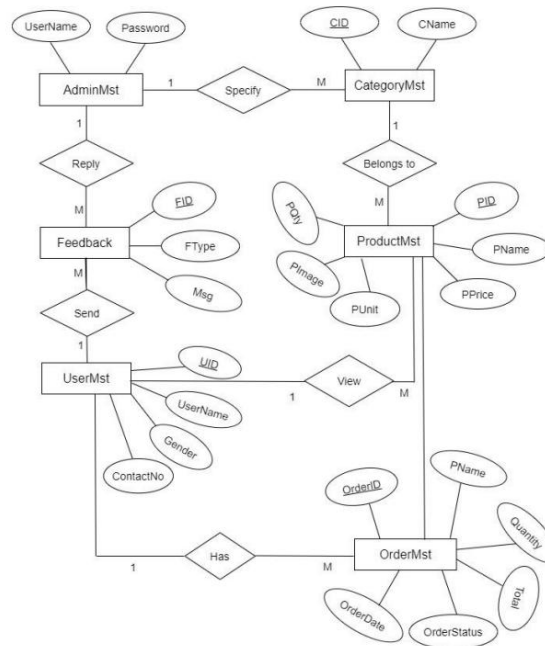


Table Design

AdminMst Table:(Taking from Database)

Column Name	Data Type	Allow Nulls
UserName	varchar(50)	NOT NULL
Password	varchar(12)	NOT NULL

The Above Table Stores the Admin UserName and Password

CategoryMst Table(Taking from Database)

Column Name	Data Type	Allow Nulls
<u>CID</u>	Int	NOT NULL
CName	varchar(50)	NOT NULL

The above table stores the category information.

ProductMst Table:(Taking from Dtabase)

Column Name	Data Type	Allow Nulls
<u>PID</u>	Int	NOT NULL
PName	varchar(50)	NOT NULL
CID	Int	NOT NULL
PDetail	varchar(100)	NOT NULL
PPrice	Float	NOT NULL
PImage	nvarchar(MAX)	NOT NULL
PUnit	varchar(50)	NOT NULL
PQty	Int	NOT NULL
EntryDate	Date	NOT NULL

The above table stores the Product information.

UserMst Table: (Taking from Dtabase)



Column Name	Data Type	Allow Nulls
UID	numeric(18, 0)	NOT NULL
FirstName	varchar(50)	NOT NULL
LastName	varchar(50)	NOT NULL
Gender	varchar(50)	NOT NULL
Address	varchar(100)	NOT NULL
City	varchar(50)	NOT NULL
Pincode	varchar(6)	NOT NULL
ContactNo	varchar(50)	NOT NULL
DOB	Date	NOT NULL
SecQue	varchar(50)	NOT NULL
SecAns	varchar(50)	NOT NULL
UserName	varchar(50)	NOT NULL
Password	varchar(12)	NOT NULL
RegDate	Date	NOT NULL

The above table stores the User information.

OrderMst Table: (Taking from Dtabase)

Column Name	Data Type	Allow Nulls
OrderID	numeric(18, 0)	NOT NULL
UID	numeric(18, 0)	NOT NULL
UserName	varchar(50)	NOT NULL
PID	Int	NOT NULL
PName	varchar(50)	NOT NULL
Quantity	Int	NOT NULL
Total	Float	NOT NULL
OrderStatus	varchar(MAX)	NOT NULL
OrderDate	Datetime	NOT NULL

The above table stores the User Order Details.

Feedback Table: (Taking from Dtabase)

Column Name	Data Type	NOT NULL
FID	numeric(18, 0)	NOT NULL
UID	Int	NOT NULL
FType	varchar(50)	NOT NULL
Msg	varchar(200)	NOT NULL
FirstName	varchar(50)	NOT NULL
LastName	varchar(50)	NOT NULL
MailID	varchar(50)	NOT NULL
Status	varchar(50)	NOT NULL
Reply	varchar(200)	ALLOW NULL
EntryDate	Datetime	NOT NULL

The above table stores the User Feedback Details and admin reply.

IV. RESULTS AND DISCUSSION

Language:

This project is based on the concept of e-agriculture. We used ASP.Net using C# language to do our project.

Tools used:

- Visual studio 2022

Software requirements

1. Operating System: -windows 10 or above
2. Programming Language: ASP.net Using C#
3. Editor: -Visual Studio 2022
4. Backend Database: - SQL server 2018.

Hardware Requirements

1. Processor: - Intel Core i3 or above.
2. Hard disk: - 256GB or above
3. RAM: - 4 GB or above

1. Visual Studio:

Visual Studio is an Integrated Development Environment (IDE) developed by Microsoft to develop GUI(Graphical User Interface), console, Web applications, web apps, mobile apps, cloud, and web services, etc. With the help of this IDE, you can create managed code as well as native code. It uses the various platforms of Microsoft software development software like Windows store, Microsoft Silverlight, and Windows API, etc. It is not a language-specific IDE as you can use this to write code in C#, C++, VB(Visual Basic), Python, JavaScript, and many more languages. It provides support for 36 different programming languages. It is available for Windows as well as for macOS.

Evolution of Visual Studio: The first version of VS(Visual Studio) was released in 1997, named as Visual Studio 97 having version number 5.0. The latest version of Visual Studio is 15.0 which was released on March 7, 2017. It is also termed as Visual Studio 2017. The supported .Net Framework Versions in latest Visual Studio is 3.5 to 4.7. Java was supported in old versions of Visual Studio but in the latest version doesn't provide any support for Java language.

2. ASP.NET-Front End:

2.1 Easy programming model:

ASP.NET makes building real world Web applications dramatically easier. ASP.NET server controls enable an HTML-like style of declarative programming that let you build great pages with far less code than with classic ASP. Displaying data, validating user input, and uploading files are all amazingly easy. Best of all, ASP.NET pages work in all browsers including Netscape, Opera, AOL, and Internet Explorer.

2.2 Flexible Language Options:

ASP.NET lets you leverage your current programming language skills. Unlike classic ASP. which supports only interpreted VBScript and J Script, ASP.NET now supports more than 25 .NET languages (built-in support for VB.NET, C#, and JScript.NET), giving us unprecedented flexibility in the choice of language.

2.3 Great Tool Support:

We can harness the full power of ASP.NET using any text editor, even Notepad. But Visual Studio .NET adds the productivity of Visual Basic-style development to the Web. Now we can visually design ASP.NET Web Forms using familiar drag-drop-double click techniques.

3. C#.NET - MIDDLE END:

In brief, C#.NET a next generation of ASP (Active Server Pages) introduced by Microsoft. Similar to previous server-side scripting technologies, C#.NET allows us to build powerful, reliable, and scalable distributed applications. C#.NET is based on the Microsoft .NET framework and uses the .NET features and tools to develop Web applications and Web services. Even though C#.NET sounds like ASP and syntaxes are compatible with ASP but C#.NET is much more than that. It provides many features and tools, which let you develop more reliable and scalable, Web applications and Web services in less time and resources. Since C#.NET is a compiled, NET-based environment; we can use any NET supported languages, including VB.NET, C#, JScript.NET, and VBScript.NET to develop C#.NET applications.

4. SQL SERVER 2018-BACK END:

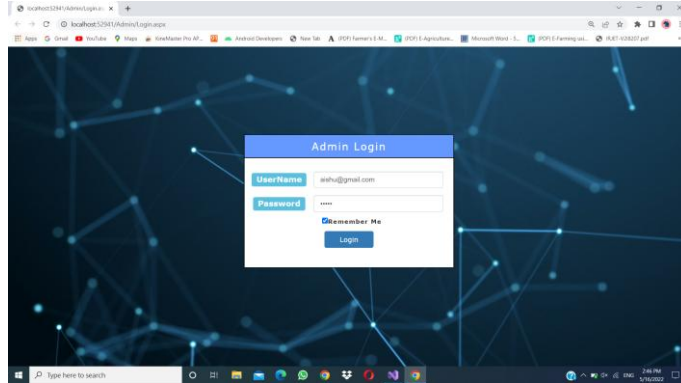
Microsoft SQL Server is a relational database management system developed by Microsoft. As a database server, it is a software product with the primary function of storing and retrieving data as requested by other software applications which may run either on the same computer or on another computer across a network (including the Internet).

Microsoft markets at least a dozen different editions of Microsoft SQL Server, aimed at different audiences and for workloads ranging from small single-machine applications to large Internet facing applications with many concurrent users.

In this section, the resulting summary of the proposed approach is summarized in clear manner and Figure below shows the details of performance analysis of localhost52941.com

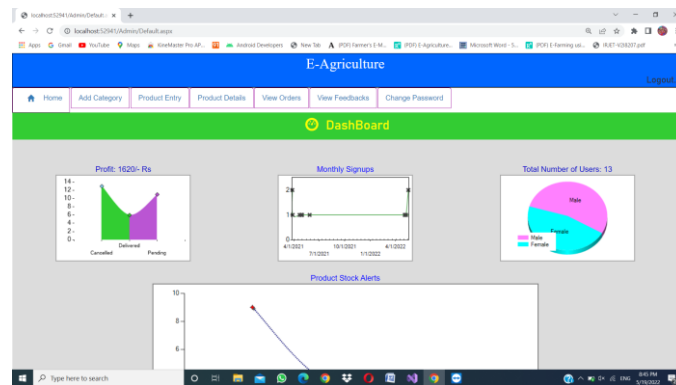
1. Admin Side Module

Step 1: Browse for www.localhost52941.com.



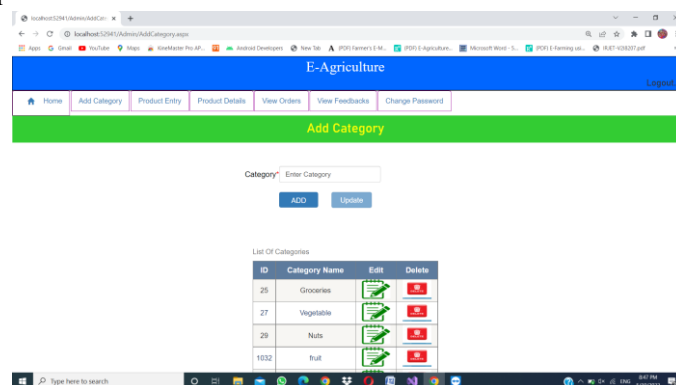
This form is use to admin Login page.

Step 2: Admin Home Page

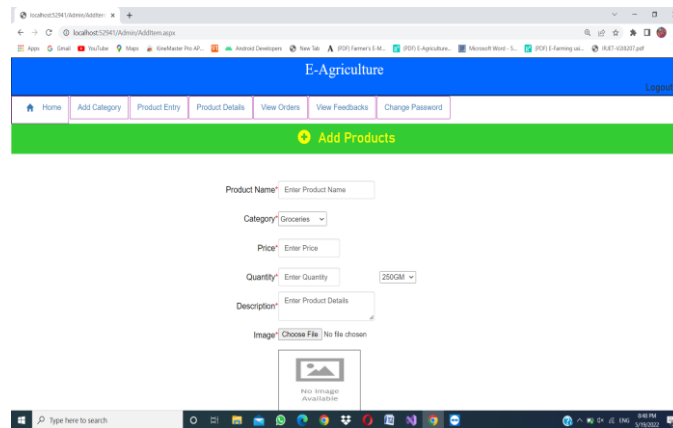


This form is the admin home page.

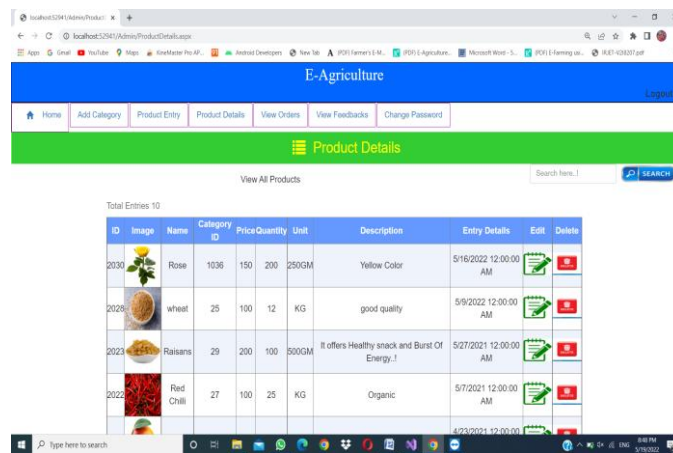
Step 3: Add Category Form



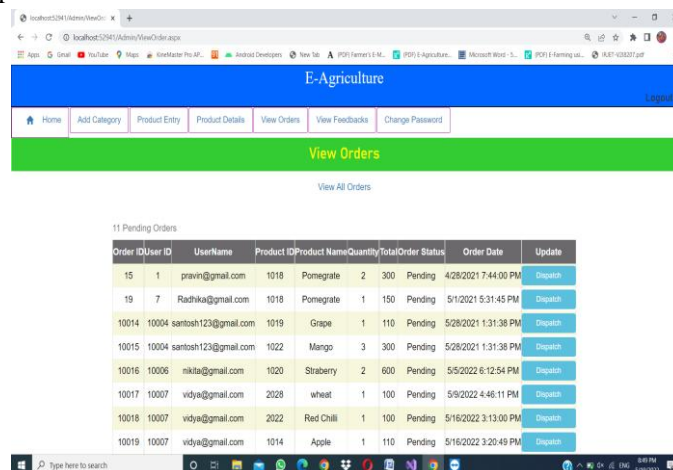
Step 4: Add Product Form



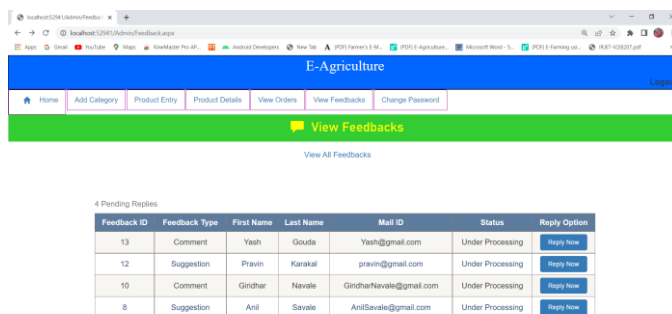
Step 5: View Product Details



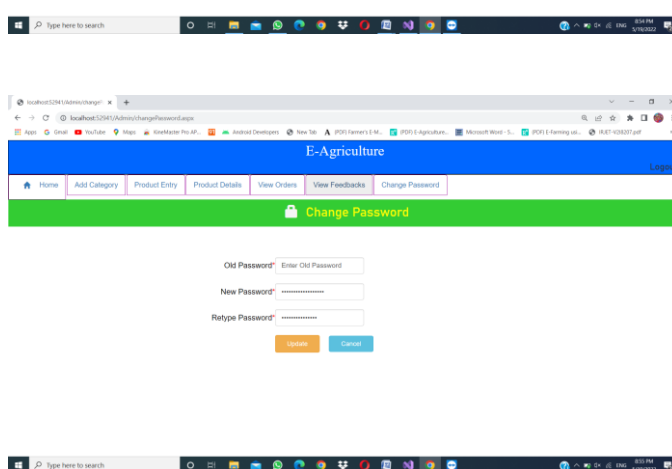
Step 6: View Pending Order



Step 7: View Feedback



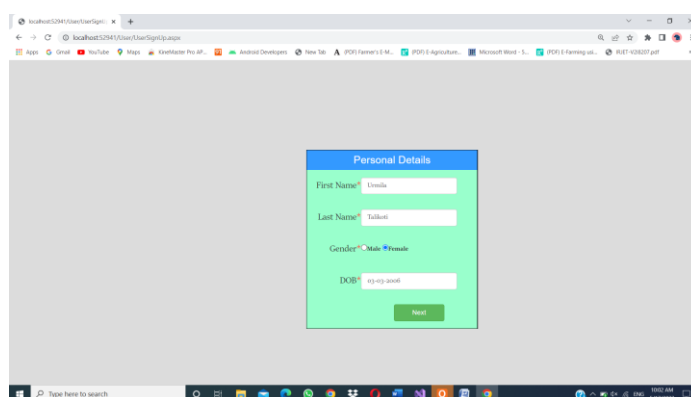
Step 8: Change Password

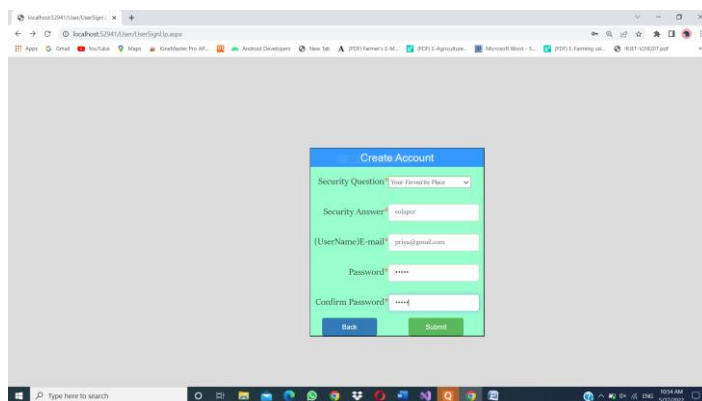
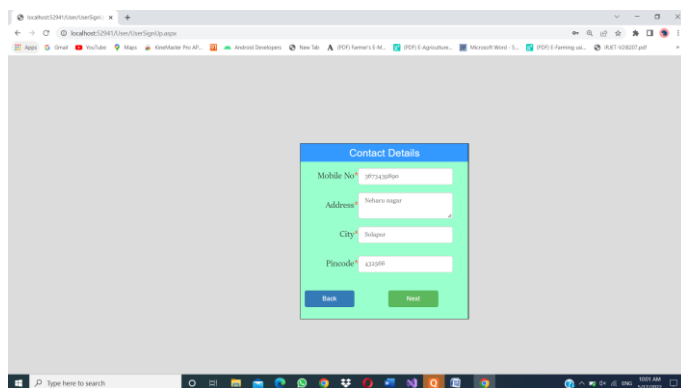


2. User Side Module

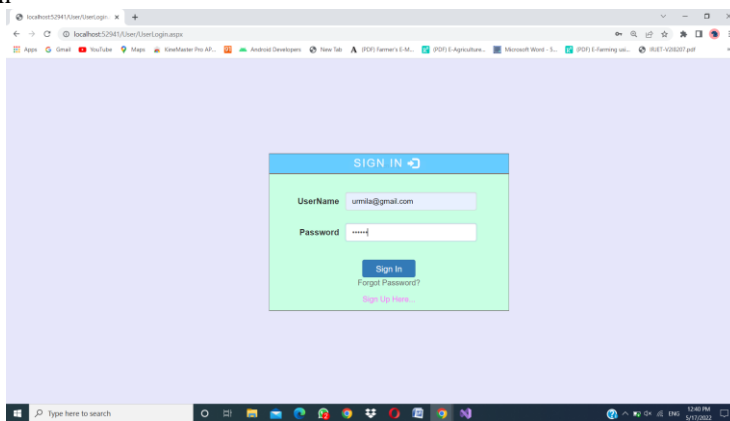
Step 1: Sign Up Page

1.1: Personal Details

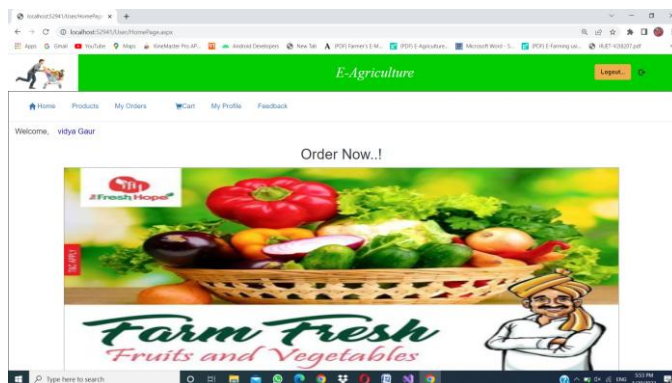




Step 2: User Sign In Form

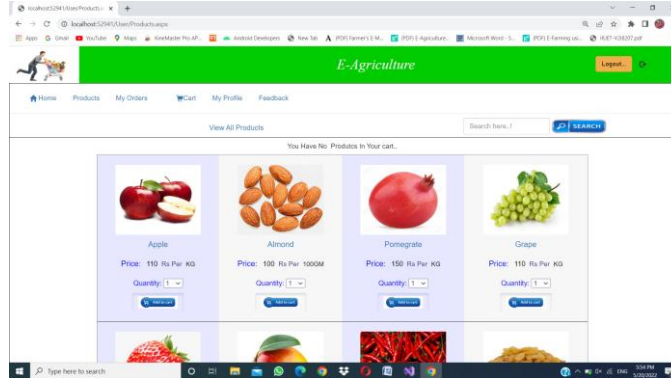


Step 3: User Home Page

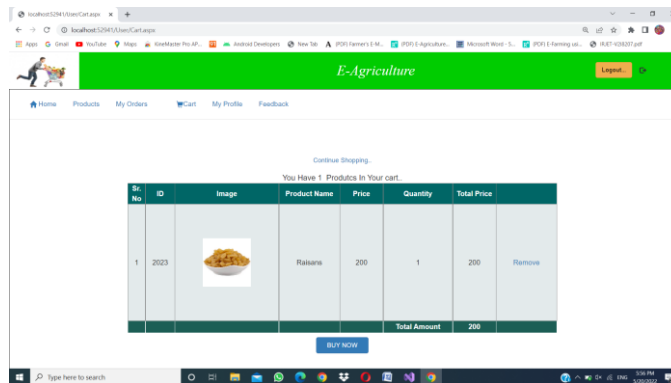




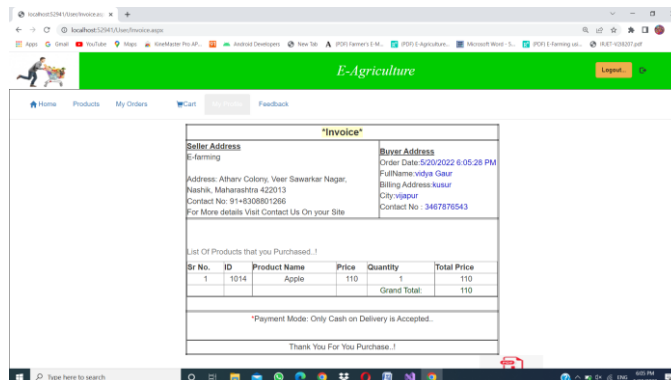
Step 4: View Products



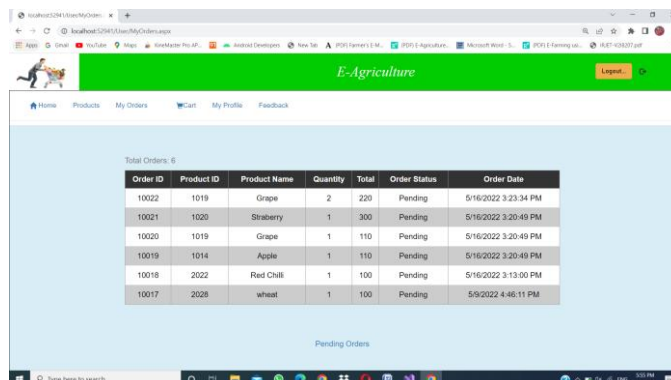
Step 5: Cart



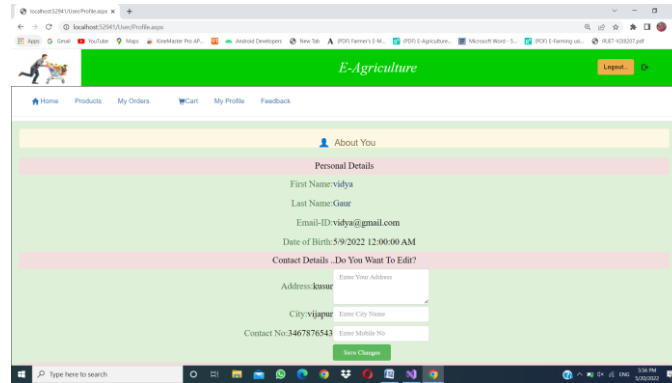
Step 6: Purchase Receipt



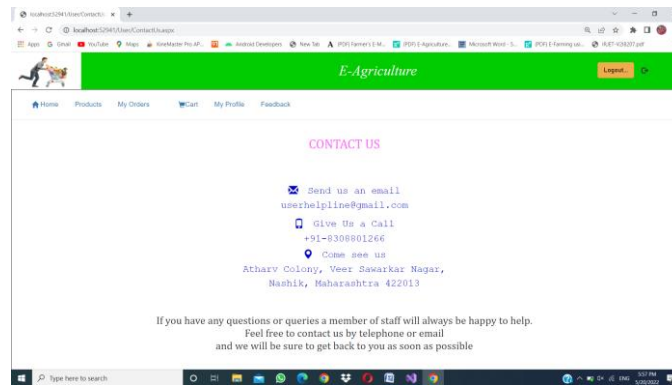
Step 7: My Orders



St 8: My Profile



Step 9: Contact Us Form



APPLICATIONS

This project can be modified and used in following areas:

- Provides user friendly site for the marketing purpose.
- This application is easy to operate and understood by the users.
- Each channel has its own unique audience that sellers can reach. An online site can help you reach a new customer.
- This E-Agriculture website allows them to visit the same store virtually.
- Customers can enquire about a product or service and place orders anytime, anywhere from any location.

V. CONCLUSION AND FUTURE SCOPE

In our project the user can access all information about the Products and Order the required Products. To establish this project, we use various methodologies. To develop this project, we have faced many problems but we hardly tried to develop this project. Our supervisor helps us by giving this valuable opinion, decision and time. Technology has made significant progress over the years to provide consumers a better online shopping experience and will continue to do so for years to come. People have speculated that online shopping will overtake in-store shopping. The availability of online shopping has produced a more educated consumer that can shop around with relative ease without having to spend a large amount of time. During the course of this assignment, we have gone through many obstacles which made us to research and though increased our knowledge. After applying all the data modeling, object modeling and process modeling techniques now we are very well all these concepts and fundamentals which will be going to help us in the future.

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