

E-FARMING

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ABSTRACT: Now-a-days e-websites are playing a vital role in every field to be at a peak in their respective field. As a part of it, our project deals with respect to the farmers benefit of getting their products sale at a best price to a genuine wholesaler. In this paper, the work is done in designing a website which will help the farmers of Indian villages to sell their products to different cities. Here, the main users of this website are farmers, wholesalers, computer professionals and admin. Farmer is the one who add his products for sale, check the order and accept the orders from whole salers. On the other hand, wholesalers view all the products updated by the farmers, make orders and check his orders timely for acceptance. Farmers with little knowledge of a computer system can use this website freely, for those who are unable to use the website can go to a computer professional who will be given a special ID to add farmer and their products on the website. Each computer professional can add a limited number of farmers under his id. Finally, Admin is the one who takes care of the entire website, maintains home page, add and delete users according to the feedbacks given by the users. This is how, our project helps farmers to get incredible profits and wholesalers to get a best quality product at a genuine price.

KEYWORDS: farmer; wholesaler; admin; quantity; products

I. INTRODUCTION

The results of the requirements elicitation and the analysis activities are documented in the Requirements Analysis Document (RAD). This document completely describes the system in terms of functional and nonfunctional requirements and serves as a contractual basis between the client and the developers.

Project Perspective

The aim of this project is to develop a website for farmers. The reason behind the construction of this project is, in traditional commerce mediators are getting benefited, but not the farmers who has struggled a lot for cultivating the crops. Now a days online dealings are growing at fast pace. We got an idea of getting the farmers and wholesalers under an online platform which acts as interface between them *i.e.E-Farming*. Through our project both the wholesalers and farmer get benefited.

Definitions, Acronyms and Abbreviations:

Administrator: The one who is incharge of the whole site and maintenance.
Farmer: The registered user who can access the facilities of the site and add the

details of products to his profile and accept orders from the buyer by sending reply.

Wholesaler:

The registered user who can access the details of product which were added the farmer and place the order to the specific farmer who can provide the product at his requirements.

Computer Professional:

The authenticated user who has the power of adding the farmer to the site and acts like supervisor make dealings such as giving reply for the order, adding products to farmer profiles who are under him

II. OVERVIEW

Functional Requirements:

- People can register in the site for some basic e learning like if some user wants to learn how to operate computer, they can go and learn it from

the site. (It will be just HTML page with all basic courses on how to operate computer).

- Site should also be available in Hindi and local languages as per States.
- While registering there should be option of selecting whether one who is registering is farmer or wholesaler
- If user select as farmer then there should be option to select whether he wants to take lesson or if he is already familiar with online buying and selling then he can directly go to sell his products.
- If user select as wholesaler then he needs to fill all details as per requirement – place, shop address, which product he wants to buy, quantity etc.
- Admin should be able to see all record from any users.
- The records shown for selling should be available in a format of Quantity name, Quantity available, price.
- The database should be robust enough to handle all the online transactions which will be happening parallely.
- The data should be stored inside database such that when queried with different parameters the query should retrieve the results quickly , for example – there should be in build query for farmers to view what all products they are selling and how many have been sold + the quantity left. Another query must be there for wholesaler to query for products and also drill down the results in the result page to view how much quantity of that product is available with single farmer in case they are interested in single lot.
- There should be facility of scheduling classes for farmers who enrolled for basic courses.
- Automatic transfer of mails to company's computer professional (teachers) if some user(farmer) enrolled for basic course.

Non-Functional Requirements:

- Secure access of confidential data (user's details). SSL can be used.
- 24 X 7 availability
- Better component design to get better performance at peak time
- Flexible service based architecture will be highly desirable for future extension

User interface priorities

- Professional look and feel
- Use of AJAX at least with all registration forms
- Browser testing and support for IE, NN, Mozilla, and Firefox.
- Use of Graphical tool like JASPER to show strategic data to admin

- Reports exportable in .XLS, .PDF or any other desirable format

III. SYSTEM SPECIFICATION

HARDWARE SPECIFICATION:

Processor	:	Pentium-III
Speed	:	1.1GHz
RAM	:	512MB
Hard Disk	:	40GB
General	:	keyBoard, Monitor,

SOFTWARE SPECIFICATION:

Operating System	:	Windows XP
Languages	:	C#.net
Software	:	visual studio 2010
Technologies	:	Asp.net, Ado.net, Sessions.
Back End	:	MS-Access

IV. DESIGN

DFD:

A **Data Flow Diagram (DFD)** is also known as a **Process Model**. Process Modelling is an analysis technique used to capture the flow of inputs through a system (or group of processes) to their resulting output. The model is fairly simple in that there are only four types of symbols – process, dataflow, external entity, data store. Process Modelling is used to visually represent what a system is doing. It is much easier to look at a picture and understand the essence than to read through verbiage describing the activities. System Analyst after talking with various users will create DFD diagrams and then show them to users to verify that their understanding is correct. The process models can be created to represent an existing system as well as a proposed system.

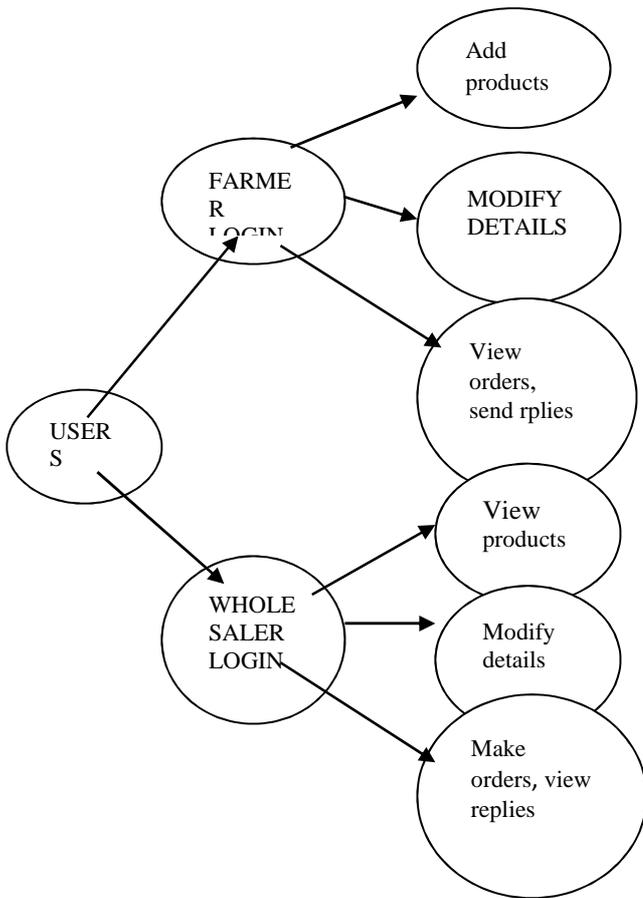
The following clarifies what each symbol in Process Modeling represents.

Process – An activity or a function that is performed for some specific reason; can be manual or computerized; ultimately each process should perform only one activity

Data Flow – single piece of data or logical collection of information like a bill

Data Store – collection of data that is permanently stored

External Entity – A person, organization, or system that is external to the system but interacts with it



V. UML Diagrams

TYPES OF UML DIAGRAMS

Each UML diagram is designed to let developers and customers view a software system from a different perspective and in varying degrees of abstraction. UML diagrams commonly created in visual modeling tools include;

Use Case Diagram displays the relationship among actors and use cases

Class Diagram models class structure and contents using design elements such as classes, packages and objects. It also displays relationships such as containment, inheritance, associations and others.

Interaction Diagrams:

Sequence Diagram displays the time sequence of the objects participating in the interaction. This consists of the vertical dimension (time) and horizontal dimension (different objects).

Collaboration Diagram displays an interaction organized around the objects and their links to one

another. Numbers are used to show the sequence of messages.

State Diagram displays the sequences of states that an object of an interaction goes through during its life in response to received stimuli, together with its responses and actions.

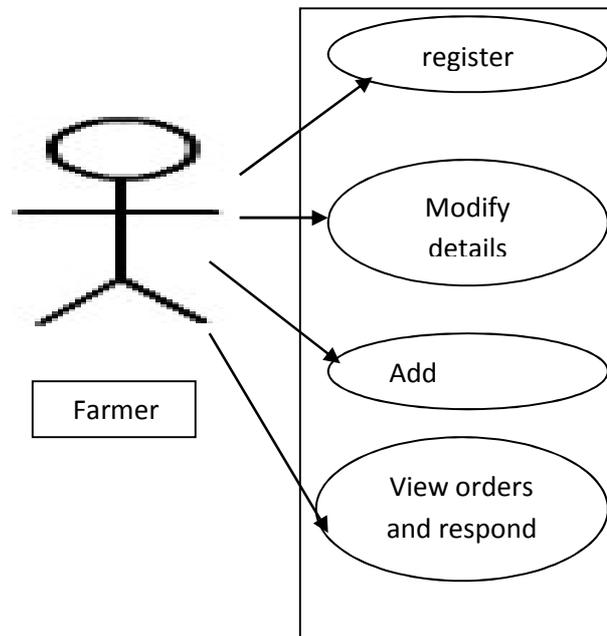
Activity Diagram displays a special state diagram where most of the states are action states and most of the transitions are triggered by completion of the actions in the source states. This diagram focuses on flows driven by internal processing.

Physical Diagrams:

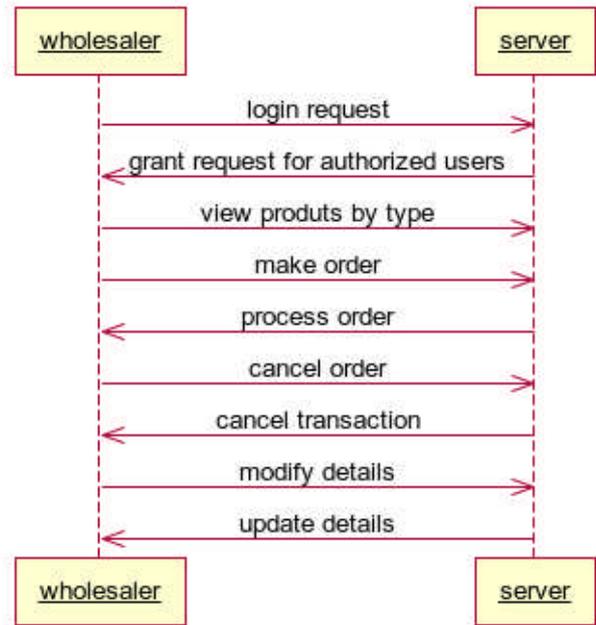
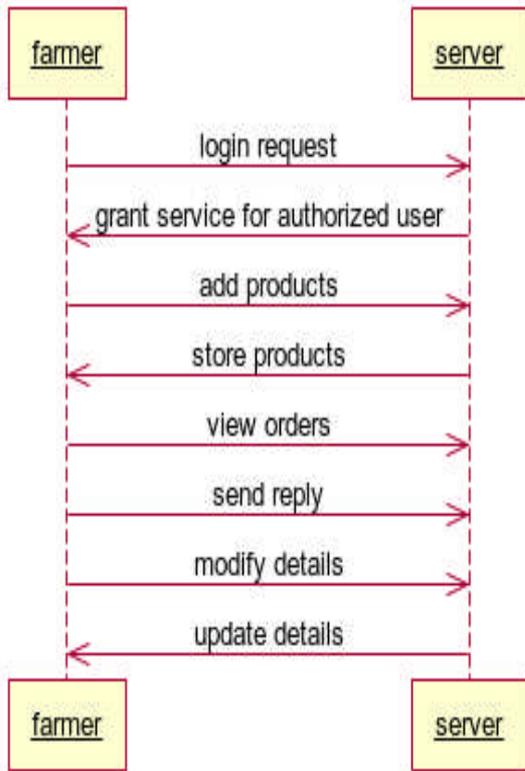
Component Diagram displays the high level packaged structure of the code itself. Dependencies among components are shown, including source code components, binary code components, and executable components. Some components exist at compile time, at link time, at run times well as at more than one time.

Deployment Diagram displays the configuration of run-time processing elements and the software components, processes, and objects that live on them. Software component instances represent run-time manifestations of code units.

USE CASE DIAGRAM FOR FARMER:



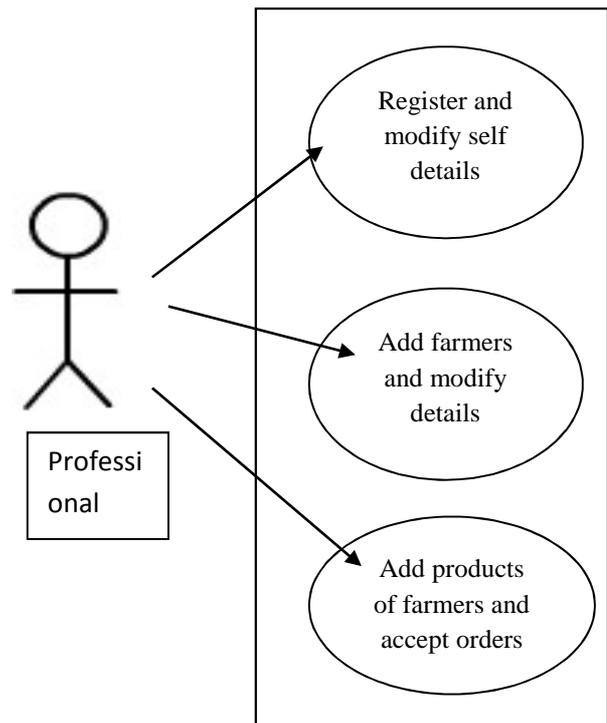
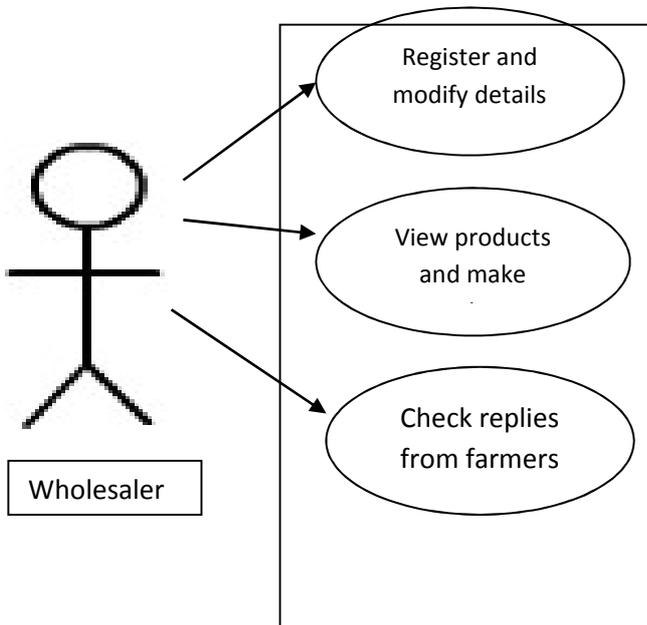
SEQUENCE DIAGRAM:



USE CASE DIAGRAM FOR COMPUTER

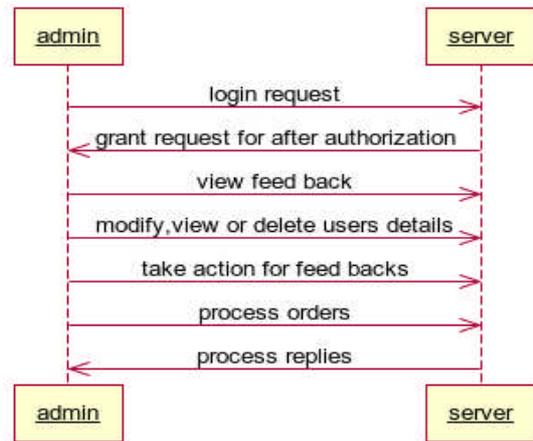
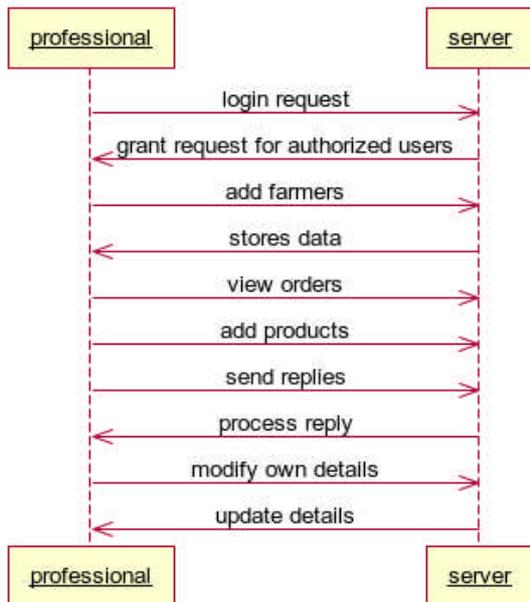
PROFESSIONAL:

USE CASE DIAGRAM FOR WHOLESALER:



SEQUENCE DIAGRAM:

SEQUENCE DIAGRAM:



VI. SOFTWARE ENVIRONMENT

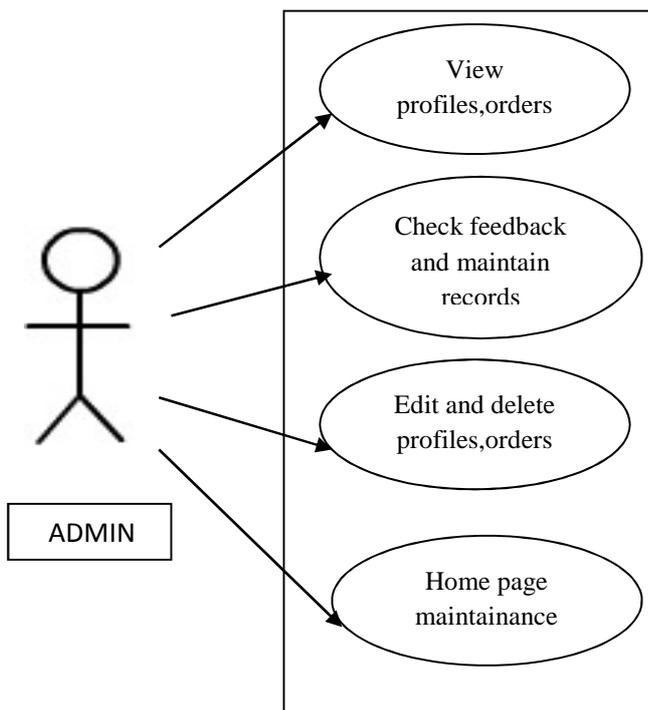
LANGUAGE DESCRIPTION

Active Server Pages.NET

ASP.NET is a programming framework built on the common language runtime that can be used on a server to build powerful Web applications. ASP.NET offers several important advantages over previous Web development models:

- **Enhanced Performance.** ASP.NET is compiled common language runtime code running on the server. Unlike its interpreted predecessors, ASP.NET can take advantage of early binding, just-in-time compilation, native optimization, and caching services right out of the box. This amounts to dramatically better performance before you ever write a line of code.
- **World-Class Tool Support.** The ASP.NET framework is complemented by a rich toolbox and designer in the Visual Studio integrated development environment. WYSIWYG editing, drag-and-drop server controls, and automatic deployment are just a few of the features this powerful tool provides.
- **Simplicity.** ASP.NET makes it easy to perform common tasks, from simple form submission and client authentication to deployment and site configuration. For example, the ASP.NET page framework allows you to build user interfaces that cleanly separate application logic from presentation code and to handle events in a simple, Visual Basic - like forms processing model. Additionally, the common language runtime simplifies development, with managed code services such as automatic reference counting and garbage collection.
- **Manageability.** ASP.NET employs a text-based, hierarchical configuration system, which simplifies applying settings to your server environment and Web applications. Because configuration information is stored as plain text,

USE CASE DIAGRAM FOR ADMIN:



SEQUENCE DIAGRAM

new settings may be applied without the aid of local administration tools. This "zero local administration" philosophy extends to deploying ASP.NET Framework applications as well. An ASP.NET Framework application is deployed to a server simply by copying the necessary files to the server. No server restart is required, even to deploy or replace running compiled code.

- **Scalability and Availability.** ASP.NET has been designed with scalability in mind, with features specifically tailored to improve performance in clustered and multiprocessor environments. Further, processes are closely monitored and managed by the ASP.NET runtime, so that if one misbehaves (leaks, deadlocks), a new process can be created in its place, which helps keep your application constantly available to handle requests.
- **Customizability and Extensibility.** ASP.NET delivers a well-factored architecture that allows developers to "plug-in" their code at the appropriate level. In fact, it is possible to extend or replace any subcomponent of the ASP.NET runtime with your own custom-written component. Implementing custom authentication or state services has never been easier.
- **Security.** With built in Windows authentication and per-application configuration, you can be assured that your applications are secure.

Language Support

The Microsoft .NET Platform currently offers built-in support for three languages: C#, Visual Basic, and JScript.

What is ASP.NET Web Forms?

The ASP.NET Web Forms page framework is a scalable common language runtime programming model that can be used on the server to dynamically generate Web pages.

Intended as a logical evolution of ASP (ASP.NET provides syntax compatibility with existing pages), the ASP.NET Web Forms framework has been specifically designed to address a number of key deficiencies in the previous model. In particular, it provides:

- The ability to create and use reusable UI controls that can encapsulate common functionality and thus reduce the amount of code that a page developer has to write.
- The ability for developers to cleanly structure their page logic in an orderly fashion (not "spaghetti code").
- The ability for development tools to provide strong WYSIWYG design support for pages (existing ASP code is opaque to tools).

Introduction to ASP.NET Server Controls

1. ASP.NET Web Forms provide an easy and powerful way to build dynamic Web UI.
2. ASP.NET Web Forms pages can target any browser client (there are no script library or cookie requirements).
3. ASP.NET Web Forms pages provide syntax compatibility with existing ASP pages.
4. ASP.NET server controls provide an easy way to encapsulate common functionality.
5. ASP.NET ships with 45 built-in server controls. Developers can also use controls built by third parties.

ACTIVE X DATA OBJECTS.NET

ADO.NET Overview

ADO.NET is an evolution of the ADO data access model that directly addresses user requirements for developing scalable applications. It was designed specifically for the web with scalability, statelessness, and XML in mind.

ADO.NET uses some ADO objects, such as the **Connection** and **Command** objects, and also introduces new objects. Key new ADO.NET objects include the **Data Set**, **Data Reader**, and **Data Adapter**.

1. ADO.NET is the next evolution of ADO for the .Net Framework.
2. ADO.NET was created with n-Tier, statelessness and XML in the forefront. Two new objects, the **DataSet** and **DataAdapter**, are provided for these scenarios.
3. ADO.NET can be used to get data from a stream, or to store data in a cache for updates.
4. There is a lot more information about ADO.NET in the documentation.
5. Also, you can use a **DataSet** to bind to the data, move through the data, and navigate data relationships

MS-ACCESS

Benefits of using MS-ACCESS

1. Get better results faster with the Office Fluent user interface.

Office Access 2007 provides a completely new experience with the Office Fluent user interface, new navigation pane, and tabbed window views. Even with no database experience, any user can start tracking information and creating reports to make more informed decisions.

2. Get started quickly using prebuilt solutions.

With a rich library of prebuilt solutions, you can start tracking your information immediately. Forms and reports are already built for your convenience, but you can easily customize them to meet your business needs. Contacts, issue tracking, project tracking, and asset

tracking are only few of the out-of-the-box solutions included in Office Access 2007.

4. Create tables quickly without worrying about database complexity.

With automatic data type detection, table creation in Office Access 2007 is as easy as working with a Microsoft Office Excel table. Type your information and Office Access 2007 will recognize whether it is a date, currency, or another common data type. You can even paste an entire Excel table into Office Access 2007 to begin tracking the information with the power of a database.

5. Enjoy new field types for even richer scenarios.

Office Access 2007 enables new field types such as attachments and multi value fields. You can now attach any document, image, or spreadsheet to any record in your application. With the multi value field, you can now select more than one value (for example, assign a task to more than one person) in each cell.

VII. TESTING

A process of executing a program with the explicit intention of finding errors, that is making the program fail.

Some of the interesting points about, what really testing does in the development of efficient program is as follows

- Testing is a process of executing a program with intent of finding an error.
- Testing presents an interesting anomaly for the software engineering.
- The goal of the software testing is to convince system developer and customers, that the software is good enough for operational use. Testing is a process intended to build confidence in the software.
- Testing is a set of activities that can be planned in advance and conducted systematically.
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SOFTWARE TESTING STRATEGIES:

A strategy for software testing will begin in the following order

1. Unit testing
2. Integration testing
3. Validation testing
4. System testing

Unit Testing

It concentrates on each unit of the software as implemented in source code and is a white box oriented. Using the component level design description as a guide, important control paths are tested to uncover errors within the boundary of the module. In the unit testing, the step can be conducted in parallel for multiple components.

Integration Testing

Here focus is on design and construction of the software architecture. Integration testing is a systematic technique for constructing the program structure while at the same time conducting test to uncover errors associated with interfacing. The objective is to take unit tested components and build a program structure that has been dictated by design.

Validation testing

At the culmination of the black box testing, software is completely assembled as a package, interfacing error have been uncovered and corrected and a final series of software tests. That is, validation tests begin, validation testing can be defined many ways but a simple definition is that validation succeeds when the software functions in manner that can be reasonably expected by the customer. After a validation test has been conducted one of the two possible conditions exists.

System testing:

Testing of the debugging programs is one of the most critical aspects of the computer programming triggers, without programs that works, the system would never produce the output for which it was designed. Testing is best performed when user development are asked to assist in identifying all errors and bugs. The sample data are used for testing. It is not quantity but quality of the data used the matters of testing. Testing is aimed at ensuring that the system was accurately an efficiently before live operation commands.

TEST CASE NO	EXPECTED OUTPUT	OBTAINED OUTPUT	REMARKS
1.	Displays File Size , Number Of Frames, Transmission Time And Frame latency Based on input data	Displays File Size, Transmission Time but not reception time and frame latency.	Error occurs in transmission of files.

	given.		
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VIII.SCREENS

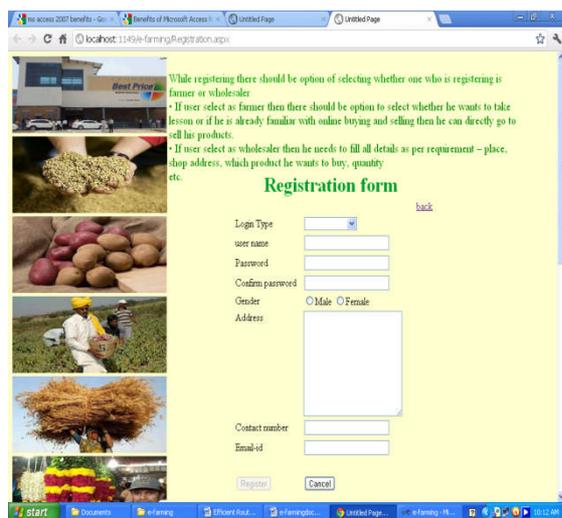
Login page:

This page takes login type, user name, password and navigates to their home pages with refers to login type. Here login page is constructed as a drop down box with list as farmer, wholesaler, computer professional.



Registration page:

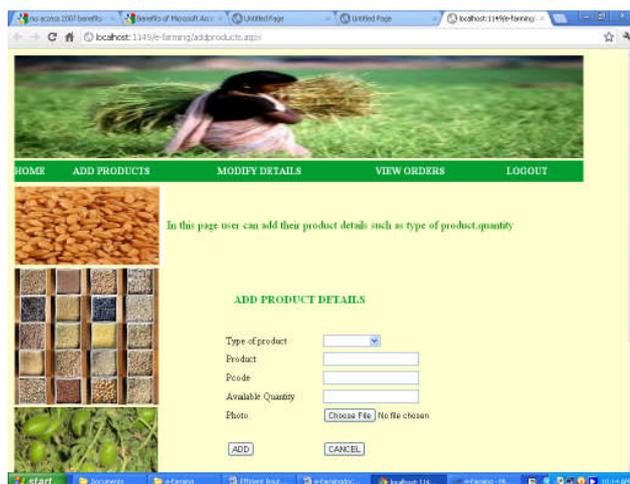
This page takes login type, user name, password, gender, Address field, contact number and Email ID. After filling all the necessary information a dialogue box is going appear in which the message is conveyed that “successfully registered”.



Add products page:

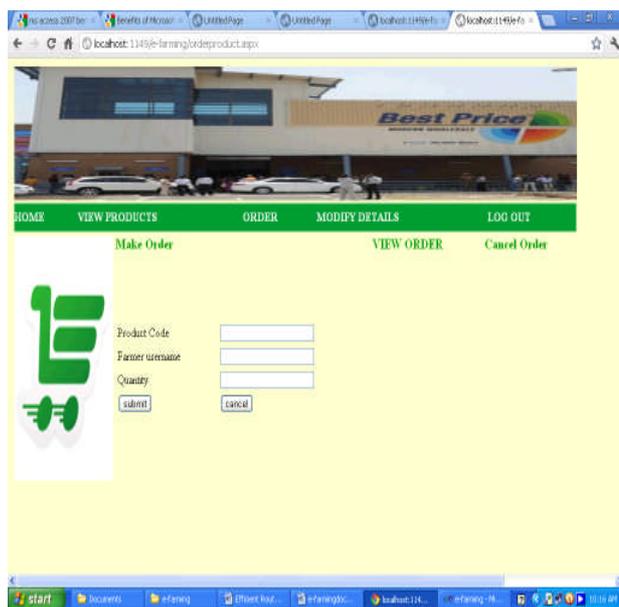
This page can be accessed by authenticated farmers only. In this page farmer add the products which are cultivated by him. This page has tags like Type of product, Product, Product code, Product Quantity he can supply, Photo of

product which can be uploaded. The information is update by clicking on the button “ADD”.



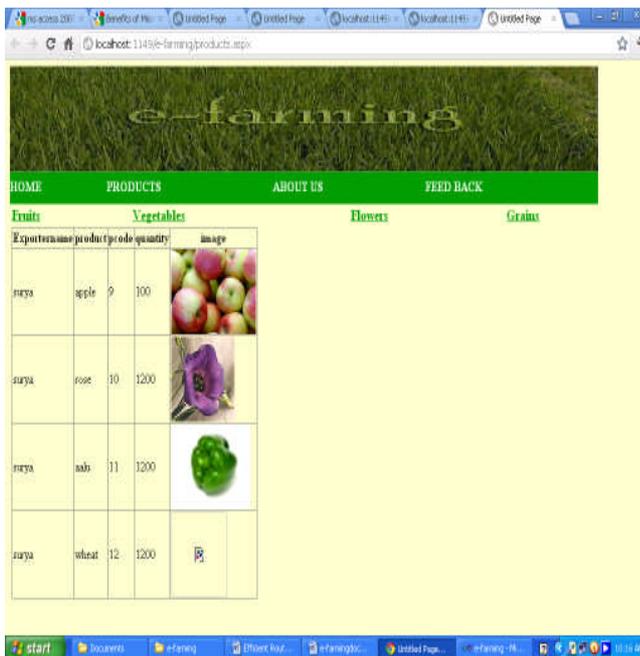
Order the product page:

This page is the homepage for an authenticated wholesaler. Through this page the wholesaler can view the products which are add by farmer and place an order, if he is interested in the product. This page takes Product code, farmer name and Quantity he can purchase from the above specified farmer.



View products page:

This page is meant for wholesaler who views the products in categorical manner which were added by farmers. The wholesaler views products based on their category like fruits, vegetables, flowers, grains .displaying the products which were add by farmers.



Feed back page:

Farmers, wholesaler, computer professional can give their valuable feedback about the website. Through these feedbacks the ADMIN can maintain and enhance the functionalities of website.



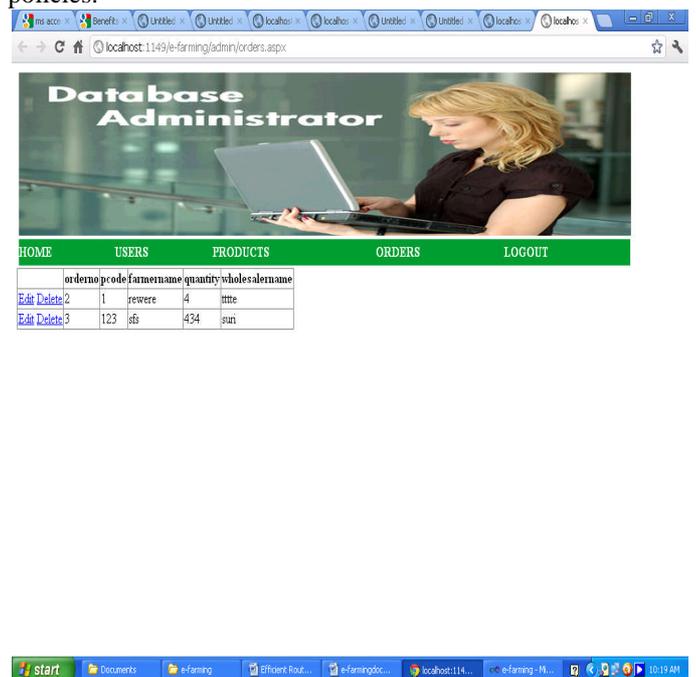
View orders page:

Computer professional, farmer can access the page for visualizing the received orders to him. The orders were paced by the wholesaler in grid view with order number, product code, wholesaler name and quantity of orders.



Admin orders page:

Admin page for scrutinizing the orders placed in the website for effective maintenance. Admin can Edit, delete the order placed by wholesaler based upon his own policies.



View user details page:

Admin can view the list of entire registered users i.e. farmers, wholesalers, computer professionals. Admin can modify the details of users.

