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ONLINE INDIAN KITCHEN APPLIANCES

A Project

Presented to the

Faculty of

California State University,

San Bernardino

In Partial Fulfillment

of the Requirements for the Degree

Master of Science

in

Computer Science

---

by

Sharanpreet Patil

June 2012

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June 2012

Approved by:

[redacted] 5/30/12

Dr. Ernesto Gomez, Chair, School of Computer Science and Engineering — Date

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Dr. Richard Botting

[redacted]

Dr. Kerstin Voigt

ABSTRACT

Online Indian Kitchen Appliances is a online user friendly web application focusing on Indian kitchen products. These utensils are not easily available in any general stores. Moreover, there are places where Indian grocery stores are located at faraway places which create difficulties for the customers to find them. The solution to this subject is OIKA. OIKA has different features for both Admin and customers. OIKA utensils are classified by the food items they are used for; this feature is new and is very helpful for customers who are unfamiliar with Indian foods. OIKA is implemented in asp.net intended with c sharp programming language and .net framework. OIKA has sql server as its database backend support.

ACKNOWLEDGMENTS

I would like to give whole hearty thanks to the Almighty for giving me such an intuitive idea which will help many people to solve their basic kitchen appliances problem. Secondly, I would like to thank my advisor Dr. Ernesto Gomez and my committee members Dr. Botting and Dr. Voigt who helped me to turn this idea into an action. This project is possible with their abundance help and support. Thirdly, I would like to thank Monica and all other staff members of School of Computer Science for helping me throughout the process of this Master's Project. Last but definitely not the least; I would like to deeply thank my parents and my younger sister for having so much faith in me and sending me to the States for letting me achieve my educational goal.

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CHAPTER ONE

INTRODUCTION

1.1 Background

Online Indian Kitchen Appliances is a collection of all kitchen appliances required by any Indian customer in his kitchen. Indian culture has numerous food items which are famous for their spice and taste. These food items are made in special utensils. Even though we make a simple dish, we need lot of utensils together. This shows the importance of these utensils to cook any Indian food. Whenever any individual leaves his home country and goes to foreign land for occupation, higher studies or for any other purpose. He cannot pack all these utensils together for his kitchen as they are large in number. So, it will be easier for him, if he gets all his utensils in the foreign land conveniently.

1.2 Purpose

The purpose of the project is to provide an easy online web application for Indian customers to make use of their regular kitchen appliances. There are places where Indian grocery stores are located in distant places. This means customers have to physically visit and look for their kitchen appliances. They have to travel many miles

to check for their appliances availability. I have developed an online web application which is easily accessed by any web browser for any Indian customer. As internet and computers/laptops are the easiest and quickest ways of accessing thing. So, 'Online Indian Kitchen Appliances' helps customer to avoid traveling and saves their time.

1.3 Scope

Almost many Indian kitchen utensils are not available in any general stores. So, Indian customers cannot get their kitchen appliances easily. 'Online Indian Kitchen Appliances' have almost all the utensils needed by the Indian customer. All the related and sub related appliances are shown in single category. This helps the customer to find all the required utensils in a single step. This application has various payment modes such as check, demand draft, credit/debit card and cash on delivery. The customers can select payment methods as per their convenience. Customers can give their suggestions, complains to the Company via feedback form. 'Online Indian Kitchen Appliances' also have significance features for Admin. Admin updates products, payment modes, and feedback forms from the customers. OIKA has an additional feature;

it gives security to its customer by storing password in an encrypted format. OIKA helps its customer to check and buy their desired kitchen appliances quickly and easily.

1.4 Significance

'Online Indian Kitchen Appliances' has in-depth knowledge of Indian authenticate food items, their methods of cooking, and the special utensils involved in the cooking. This acts as a complete Indian grocery store for all the Indian customers. Customers can access this online web application easily via internet. They can purchase and selects payment modes for their products as per their choice. Company owner can check their customer service via feedback form. Admin completes his tasks efficiently. Admin keeps a close eye towards all the transactions taking place in the Company. OIKA kitchen appliances have guarantee and discount prices on all its products. OIKA helps its Indian customer to buy their important products in cheaper rates.

1.5 Project Products

- OIKA: Online web application in Asp.net intended with c sharp programming language. This has SQL server database as its backend.

- Software Manual: This report will describe the Project in a systematic order to the User.

1.6 Definitions, Acronyms, and Abbreviations

OIKA: Online Indian Kitchen Appliances

.NETFramework:.Net Framework is an environment provided by Microsoft cooperation for the object oriented programming developers. This framework helps to execute Windows applications [26].

Asp.net: Asp.net is a technology which helps in building dynamic web server pages [26]. This is supported by .NET framework environment.

Html: Hyper Text Markup Language intended in Asp.Net technology and supported by .Net framework.

Ado.Net:ADO.NET is a technology which helps .NET application to interact with database. This is supported by .NET framework.

C#: C sharp is one of the object oriented programming language. This language is supported in .NET framework [26].

SQL Server: The SQL server database is a backend provided by Microsoft cooperation. This provides backend support to Windows application intended in .NET framework.

IIS: Internet Information Server intended in .NET framework.

HTTP: The Hypertext Transfer Protocol.

JavaScript: The scripting language supported by Asp.NET technology in .Net framework.

Visual Studio: Visual studio is an IDE provided by Microsoft Cooperation. It supports ASP.NET, ADO.NET technologies and C++, c sharp programming languages. It runs in .NET Framework.

Report Viewer: Microsoft Report viewer is provided in Visual Studio IDE. This helps in generating reports for the Windows application. Reports may contain tabular, aggregated, and multidimensional data [27].

Windows Server: This is operating system for developers. This gives complete environment to develop any Windows application. It has Visual studio IDE, SQL Server Management studio and .NET framework indented.

CHAPTER TWO

PROJECT DESIGN

OIKA is developed in Windows server with Asp.net dynamic web applications in Visual Studio IDE supporting .NET framework and indented with c sharp programming language. OIKA is a client/server architecture model. It is supported by SQL Server as its backend. The web applications are encoded in Asp.Net technology. It has all the enabled instructions and server controls for the server since this application is supporting Client/Server model.

2.1 Client/Server Architecture

The client/server architecture has many clients sending requests to the server and server interacting with the client over the network. The request can be given by any input device of the client side. The server interacts with the client in the form of Server functions. The functions are end result from the server such as web access, emails, database access etc [28]. There are various business online applications are build on client/server model. OIKA is one of them. Client/server model is an important concept of networking.

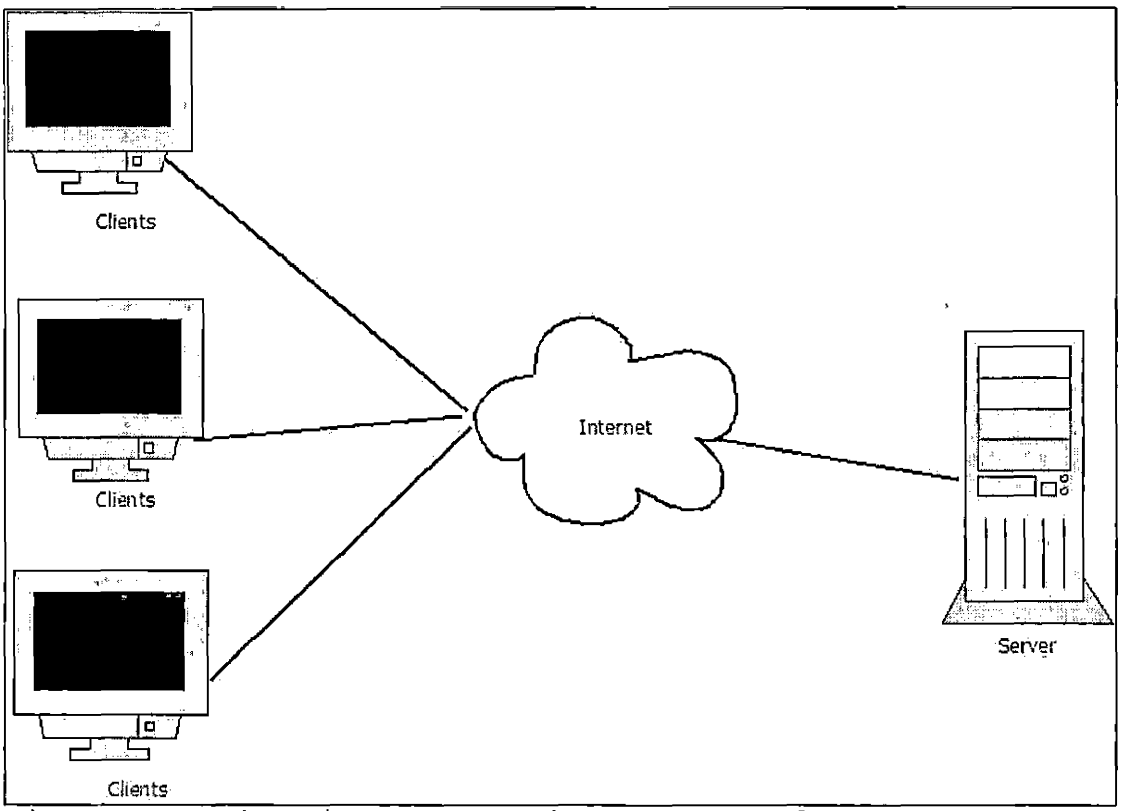


Figure 1. Client/Server Architecture Model

2.2 Interface Design

2.2.1 System Interface

OIKA is an online web application based on client/server model. It has a client machine which can access web application via web browser. The client request is send to the server via internet. The SQL server 2008 is used as database backend.

Whenever client's machine sends request by his web browser. The web browser interacts with web server via HTTP protocol. The request is processed to Asp.net

application in the web server which interacts with SQL server via ADO.Net components. This is how client is interacting with the server as shown in Figure 2.

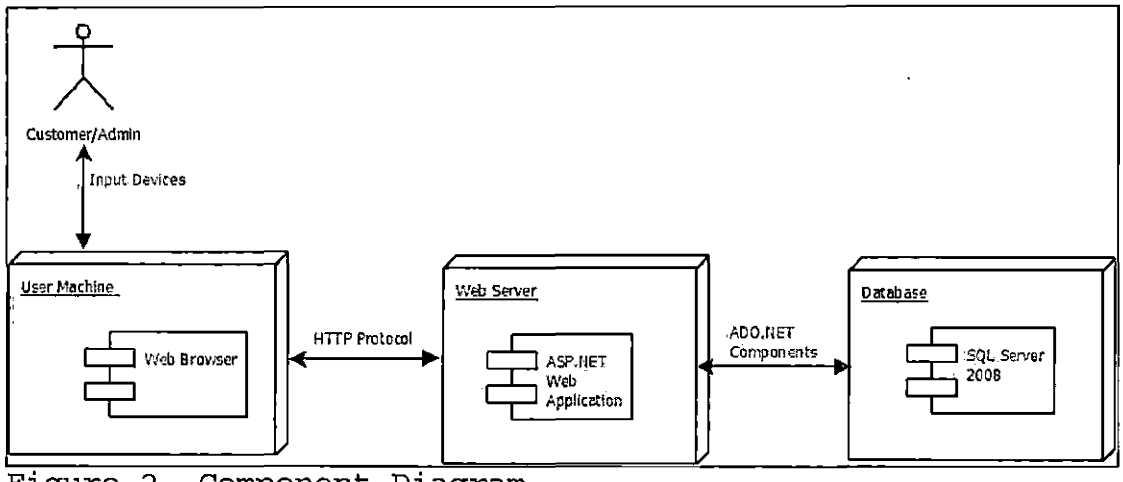


Figure 2. Component Diagram

2.2.2 User Interface

OIKA has two User Interfaces. The Customers User Interface and Admin User Interface. Customer User Interface has no login and password for new/guest customers. As customer wants to buy any product, customer has to register with the company. This way Customers have their own user login and password. Admin User Interface has Login and password function enabled. This helps Admin to perform his functions independently.

2.2.3 Software Interfaces

OIKA is accessed by web browser via internet. This application runs on all types of browsers such as IIS, google chrome etc. The system interfaces supported by this application is Windows. This application is programmed in Asp.net technology, Visual C#, HTML and JavaScript is coded for this application. The SQL Server 2008 version is used in the backend.

2.2.4 Communication Interface

OIKA is an Asp.net application which interacts with ADO.Net components for the database. Ado.Net acts as communication interface in OIKA. The client/Server Model also supports ADO.Net technology. This technology increases performance and efficiency of resources over the network. As, Client/server model supports multiple clients over the network, ADO.NET technology helps in controlling the traffic over the network.

2.2.5 User Characteristic

The Customer User Interface is having the following characteristics as shown in the Use Case diagram below. Customer views kitchen products, selects kitchen items and selects the product to be purchased. All the customers' characteristics are displayed in the Customer Use case diagram.

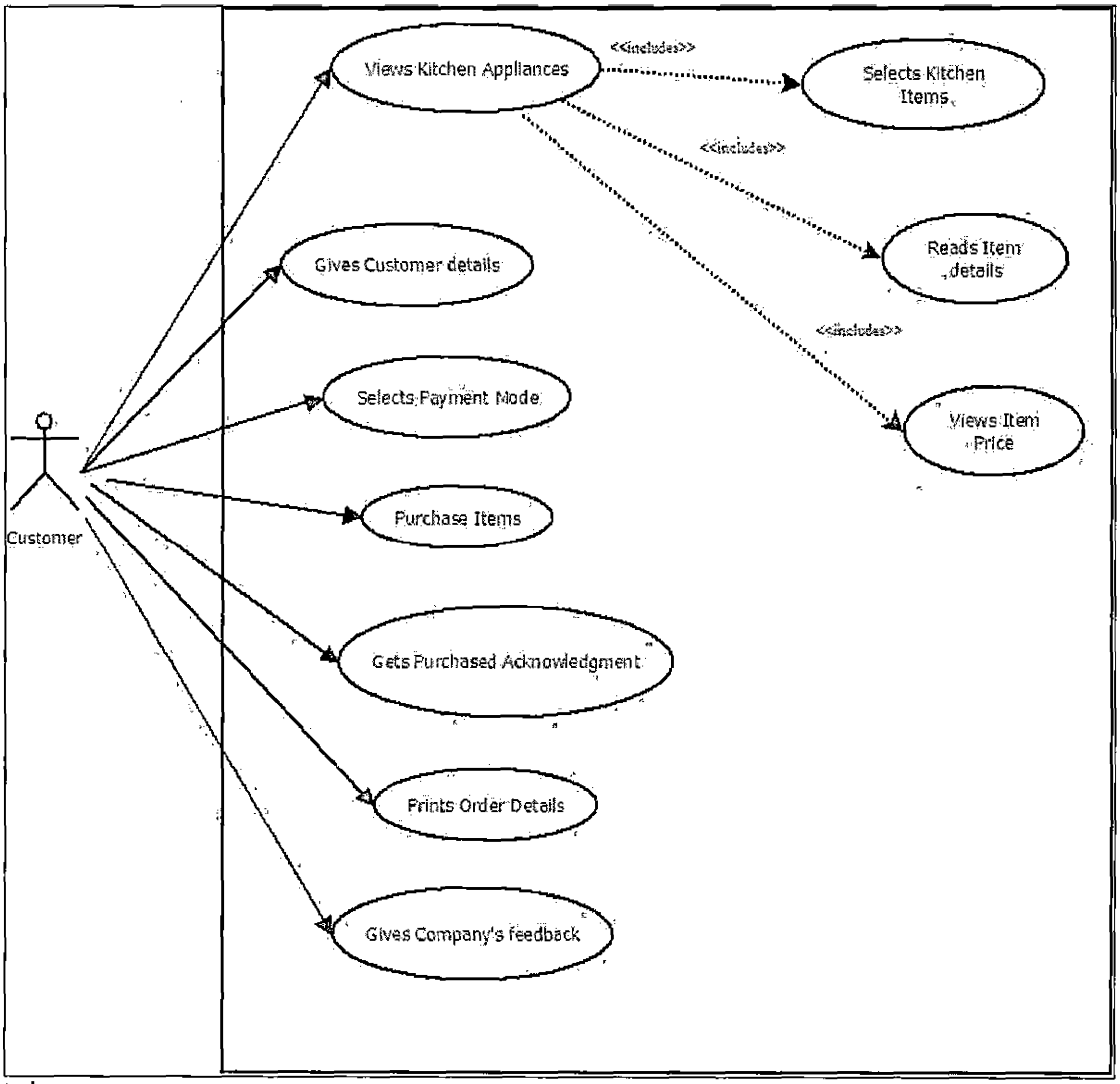


Figure 3. Customer Use Case

The Admin User Interface will have the following characteristics as shown in the Use Case diagram below. Admin updates all the product items, payment methods of customers, checks feedback form, and views the report. All the Admin characteristics are displayed in Admin Use Case diagram.

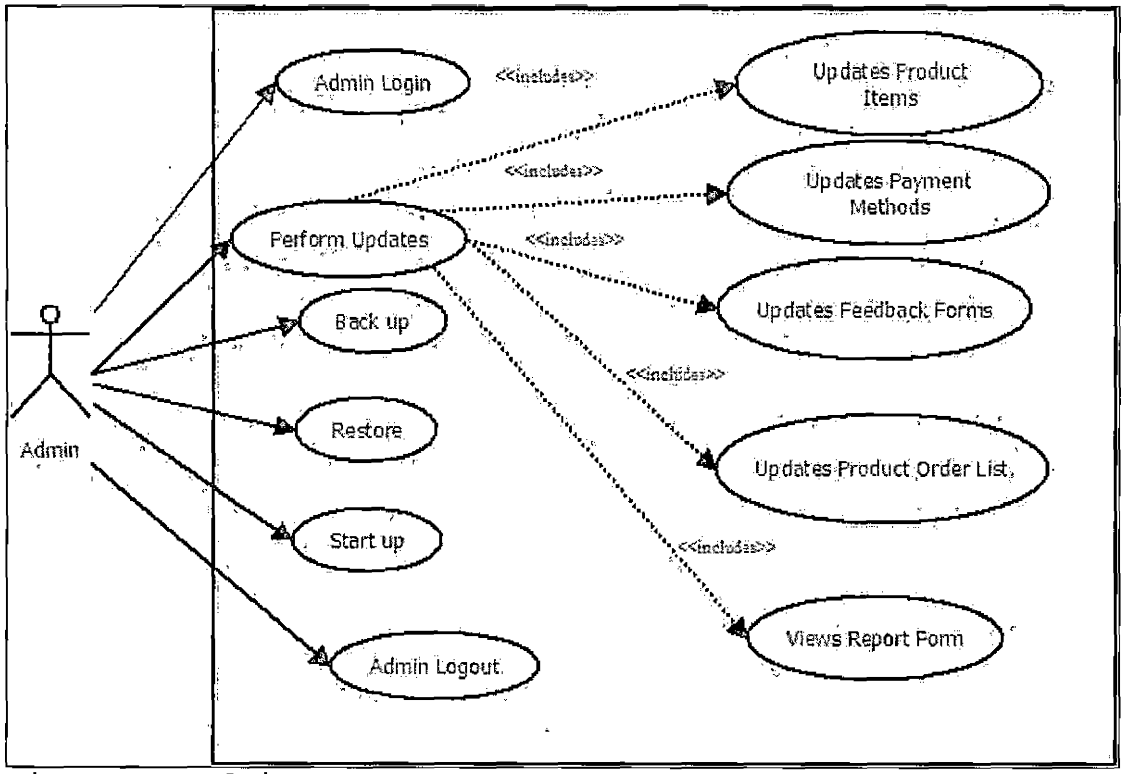


Figure 4. Admin Use Case

2.2.6 System Flowchart

The system flowcharts are divided into two sections. The first one is Customer system flow chart.

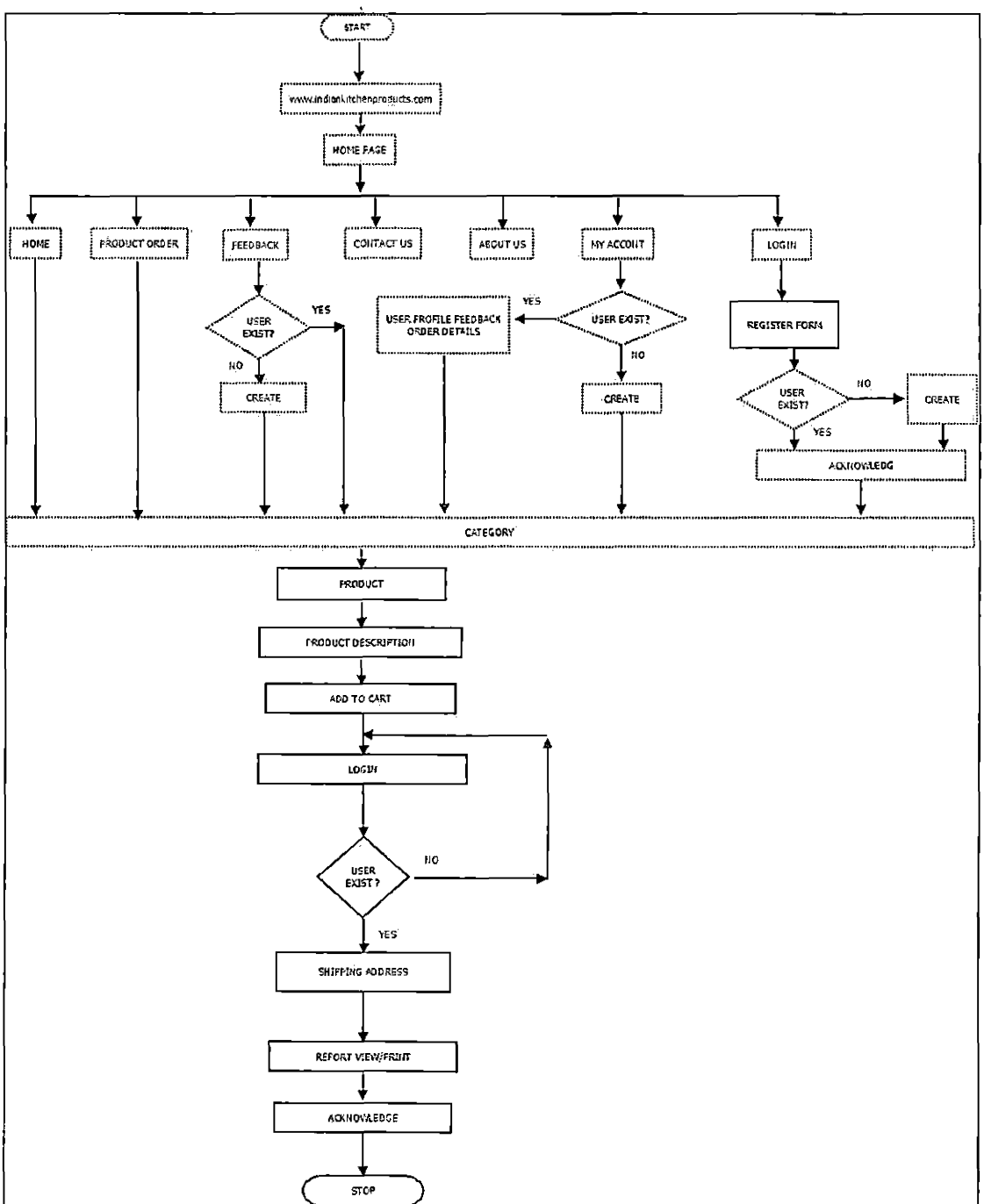


Figure 5. Customer System Flow Chart

This second section displays the Admin system flow diagram.

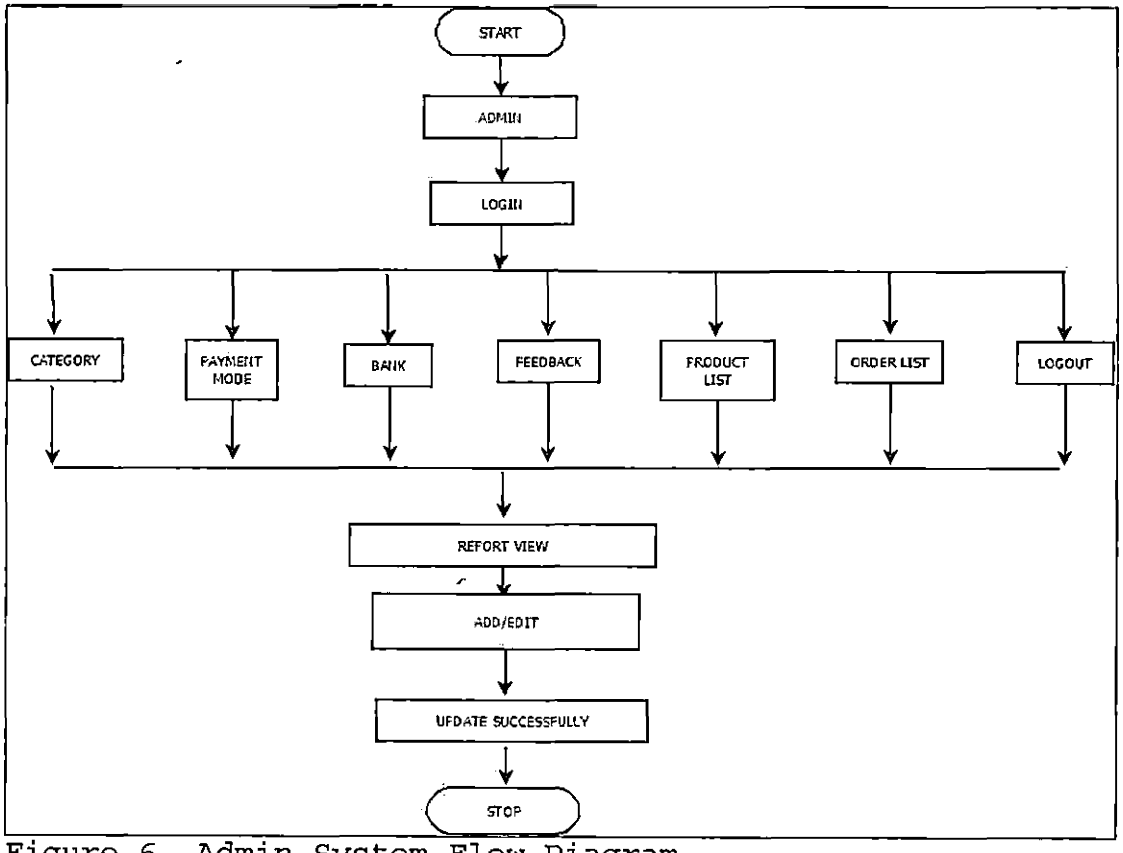


Figure 6. Admin System Flow Diagram

CHAPTER THREE

DATABASE DESIGN

3.1 Data Analysis

OIKA is an Asp.net application supporting .NET framework which uses Ado.NET technology to set up connection and performs various functions with the SQL Server database. ADO.Net set up connection with SQL server via using SqlConnection. This technology enhances DataSet, DataTable, DataRow, and DataColumn classes which set up a relation between tables and constraints as a part of DataSet [26]. ADO.NET has components interacting with database in an application. The components are 'trusted connectionString', SqlConnection, DataSet, DataTable, DataRow, DataColumn, DataSet, and closing the connection. This technology helps in reducing the lifespan of resources over the network. It increases the performance of the application in the network. OIKA database has encrypted password security for its user.

3.2 Database Specification

The database specification is divided in the following two categories.

1. The Conceptual Database

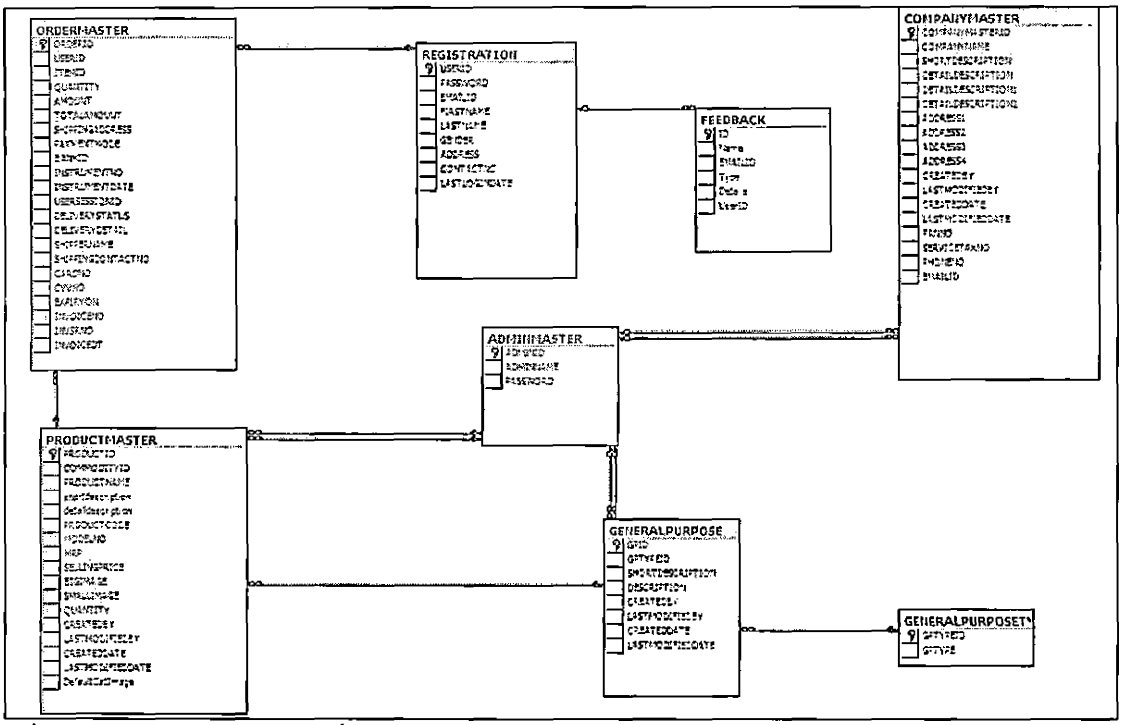


Figure 7. Class Diagram

The Conceptual database is showing all the entities involved in the OIKA database. The primary key is represented by a key symbol in the conceptual database diagram.

2. The Logical Database Model includes Tables and structures

This logical database models displays the database schema relations. The underlined attribute is the primary key and other column names of respective tables.

Table 1. Database Schema Logical Model

COMPANYMASTER

COMPANYMASTERID	COMPANYNAME	SHORTDESCRIPTION	DETAILDESCRIPTION	DETAILDESCRIPTION1
DETAILDESCRIPTION2	ADDRESS	PANNO	SERVICETAXNO	PHONENO
EMAILID	CREATEDBY	LASTMODIFIEDBY	CREATEDDATE	LASTMODIFIEDDATE

ADMINMASTER

ADMINID	ADMINNAME	PASSWORD		

GENERALPURPOSEType

GPTYPEID	GPTYPE			

GENERALPURPOSE

GPID	GPTYPEID	SHORTDESCRIPTION	DESCRIPTION	CREATEDBY
LASTMODIFIEDBY	CREATEDDATE	LASTMODIFIEDDATE		

ProductMaster

PRODUCTID	COMMODITYID	PRODUCTNAME	shortdescription	detaildescription
PRODUCTCODE	MODELNO	MRPPrice	SELLINGPRICE	BIGIMAGE
SMALLIMAGE	QUANTITY	CREATEDBY	LASTMODIFIEDBY	CREATEDDATE
LASTMODIFIEDDATE	DefaultCatImage			

Registration

USERID	USERNAME	PASSWORD	EMAILID	FIRSTNAME
LASTNAME	GENDER	ADDRESS	CONTACTNO	LASTLOGINDATE

OrderMaster

ORDERID	USERID	ITEMID	QUANTITY	AMOUNT
TOTALAMOUNT	SHIPPINGADDRESS	PAYMENTMODE	BANKID	USERSESSIONID
DELIVERYSTATUS	DELIVERYDETAIL	SHIPPERNAME	SHIPPINGCONTACTNO	CARDNO
CVVNO	EXPIRYON	INVOICENO	INVSRNO	INVOICEDT

FEEDBACK

ID	Name	EMAILID	Type	Details
UserID				

3.3 Database Description

The Logical database model tables form OIKA database in SQL Server. The detailed description of each table is given below along with their sub titles. The sub titles are field, data type, null/not null keys; description of each field is given below.

Table 2. Structure of Table COMPANYMASTER

Field	Type	Key	Null	Description
COMPANYMASTERID	numeric	primary	No	Company Master ID
COMPANYNAME	Varchar			Company Name
SHORTDESCRIPTION	Varchar			Short description of Company
DETAILDESCRIPTION	Varchar			Detailed description part 1
DETAILDESCRIPTION1	Varchar			Detailed description part 2
DETAILDESCRIPTION2	Varchar			Detailed description part 3
ADDRESS	Varchar			Address of the company
PANNO	Varchar			PAN Number of Company
SERVICETAXNO	Varchar			Service Tax Number of company
PHONENO	Varchar			Phone number of company
EMAILID	Varchar			Email ID of Company
CREATEDBY	numeric	Foreign		categoryid for Add record
LASTMODIFIEDBY	Numeric	Foreign		Category id for Edit record
CREATEDDATE	Datetime	Foreign		Add record date
LASTMODIFIEDDATE	datetime	Foreign		Last edit record date

Table 3. Structure of Table ADMINMASTER

Field	Type	Key	Null	Description
ADMINID	Numeric	Primary	No	Auto Generated id
ADMINNAME	Varchar			User name
PASSWORD	Varchar			User password

Table 4. Structure of Table GENERALPURPOSEType

Field	Type	Key	Null	Description
GPTYPEID	Numeric	Primary	No	Auto generated id
GPTYPE	Varchar			This table used for "Category, Bank name, Payment mode (CreditCard, DebitCard, Cash)

Table 5. Structure of Table GENERALPURPOSE

Field	Type	Key	Null	Description
GPID	Numeric	Primary	No	Auto Generated id
GPTYPEID	Numeric	foreign	No	General Purpose Type ID
SHORTDESCRIPTION	Varchar	Foreign	No	Short name of Categoryname, Banks name, Payment names
DESCRIPTION	Varchar	foreign	No	Full name of Categoryname, Bank name, Payment mode name
CREATEDBY	Numeric	Foreign	No	categoryid for Add record
LASTMODIFIEDBY	Numeric	foreign	No	Categoryid for Edit record
CREATEDDATE	Datetime		No	Add record date
LASTMODIFIEDDATE	datetime		No	Last edit record date

Table 6. Structure of Table ProductMaster

Field	Type	Key	Null	Description
PRODUCTID	numeric	primary	no	Auto generated id
COMMODITYID	numeric			Store category id
PRODUCTNAME	Varchar			Product name
shortdescription	Varchar			Short name of product
detaildescription	Varchar			Product description
PRODUCTCODE	Varchar			Product code
MODELNO	Varchar			Model number
MRPPrice	Float			Product price
SELLINGPRICE	Float			Product selling price
BIGIMAGE	Varchar			Big image path store for display in Product detail page
SMALLIMAGE	Varchar			Small image path store for display in main page
QUANTITY	Numeric			Quantity available in stock
CREATEDBY	Numeric			categoryid for Add record
LASTMODIFIEDBY	Numeric			Categoryid for Edit record
CREATEDDATE	Datetime			Add record date
LASTMODIFIEDDATE	Datetime			Last edit record date
DefaultCatImage	bit			Default category Image

Table 7. Structure of Table Registration

Field	Type	Key	Null	Description
USERID	Numeric	primary	no	Auto generated id
USERNAME	Varchar		No	customer user name
PASSWORD	Varchar		No	Customer password
EMAILID	Varchar		No	Customer email ID
FIRSTNAME	Varchar		No	customer first name
LASTNAME	Varchar		No	customer last name
GENDER	Varchar		No	Male/Female
ADDRESS	Varchar		No	Customer Address
CONTACTNO	Varchar		No	Customer contact number
LASTLOGINDATE	datetime		no	Last customer login date

Table 8. Structure of Table OrderMaster

Field	Type	Key	Null	Description
ORDERID	Numeric	Primary	No	Auto generated id
USERID	Numeric	Foreign		Customer user id
ITEMID	Numeric		No	Product id
AMOUNT	Float		No	Amount
TOTALAMOUNT	Float		No	Total purchase amount
SHIPPINGADDRESS	Varchar			Customer Shopping/ Delivery address
PAYMENTMODE	Numeric			Payment mode
BANKID	Numeric			Bank id
USERSESSIONID	Varchar			User Session id
DELIVERYSTATUS	Numeric			Delivery status- Delivered, Pending
DELIVERYDETAIL	Varchar			Delivery details
SHIPPERNAME	Varchar			Delivery Person Name
SHIPPINGCONTACTNO	Varchar			Delivery telephone number
CARDNO	Varchar			Credit Card Number
CVVNO	Varchar			Credit Card security Number
EXPIRYON	Varchar			Credit Card Expiry on
INVOICENO	Varchar			Invoice Number
INVSRNO	Int			Invoice serial number
INVOICEDT	datetime			Invoice date

Table 9. Structure of Table FEEDBACK

Field	Type	Key	Null	Description
ID	Int	Primary	No	Auto generated id
Name	Varchar	Foreign	No	Feedback person name
EMAILID	Varchar	Foreign	No	Email id
Type	Varchar		No	Store word - Suggestion/Request
Details	Varchar		no	Details
USERID	Numeric	Foreign	no	Customer user id

CHAPTER FOUR

PROJECT IMPLEMENTATION

4.1 User Interface Design

OIKA is an ASP.NET client/server web application. The web pages were built in Visual studio IDE encoded with C sharp programming language. Customer can access OIKA from any web browser such as IIS, google chrome, mozila etc. Multiple users can view, select and purchase the kitchen products online. Asp.net technology helps in building dynamic web server pages. Windows Server provides complete environment for the execution of all the User Interfaces of OIKA. The invoice print report is generated by Microsoft Report viewer in Visual Studio. The JavaScript is used in the Payment modes print out. Hence, all these features make OIKA user-friendly.

4.1.1 Home Page

This is the main home page. This page is for Guest/new customer. The main page has first item of eight different utensils category. The categories helps customer to find its kitchen products. Each product has its price on them.

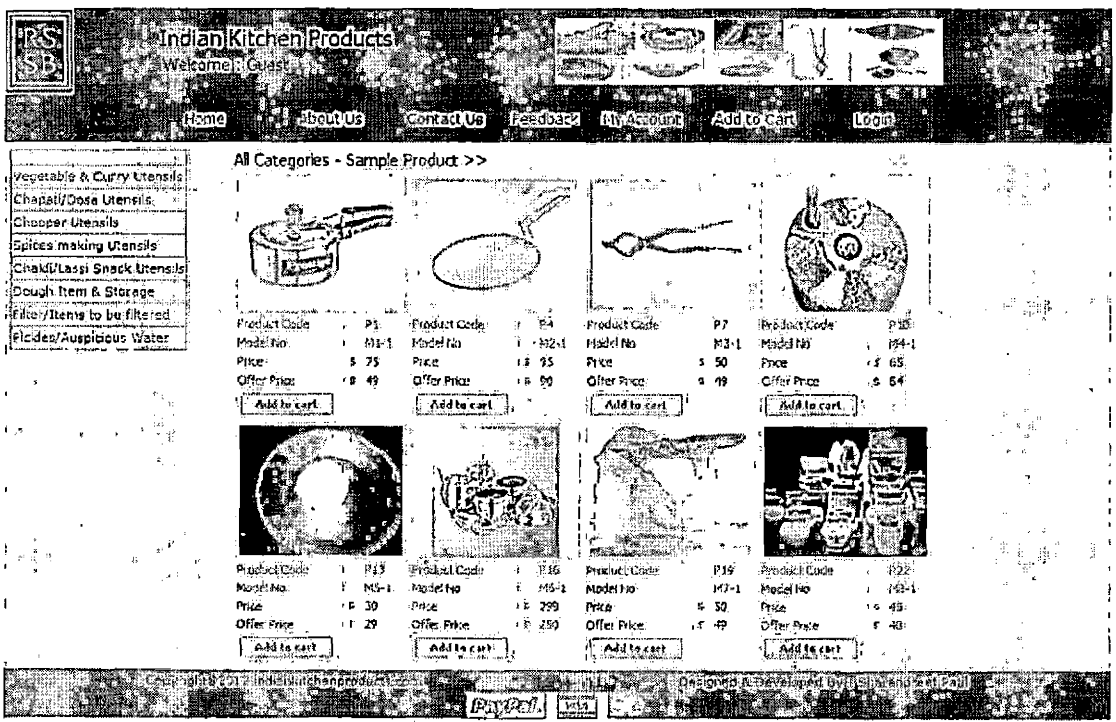


Figure 8. Home Page

Category 1: Vegetable and Curry Utensils. This page shows utensils used for making Vegetables and curry. Customers select Vegetable and Curry Utensils in this category.

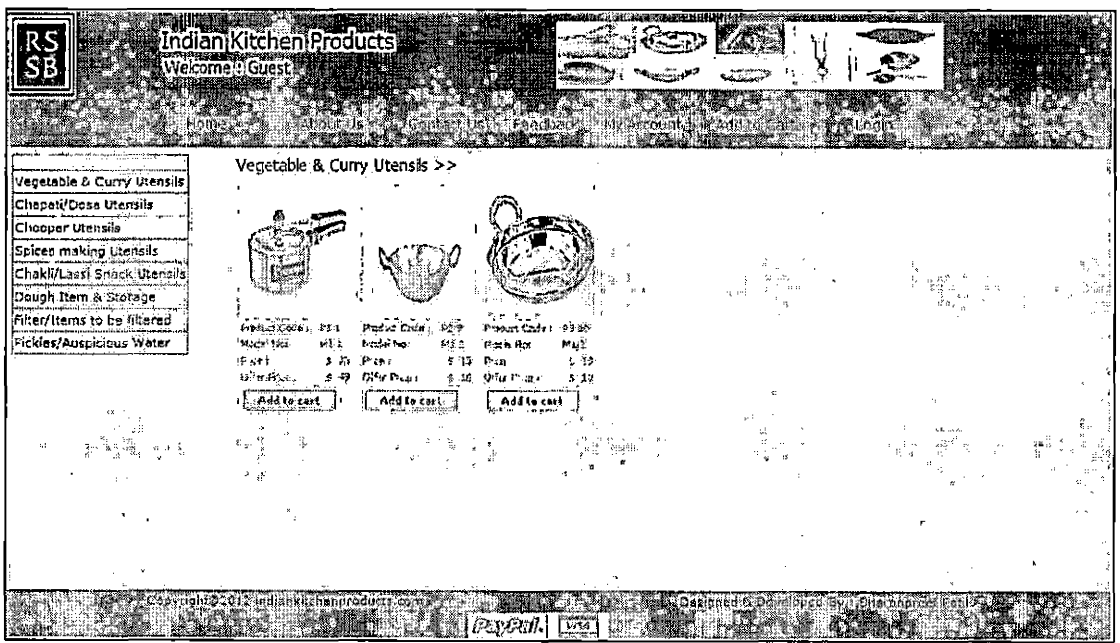


Figure 9. Category One

Category 2: Chapati/Dosa Utensils. This page shows Chapati/Dosa/Tandoori roti/tacos Utensils. Each product has discounted price by the company. Customers select Chapati/Dosa Utensils in this category.

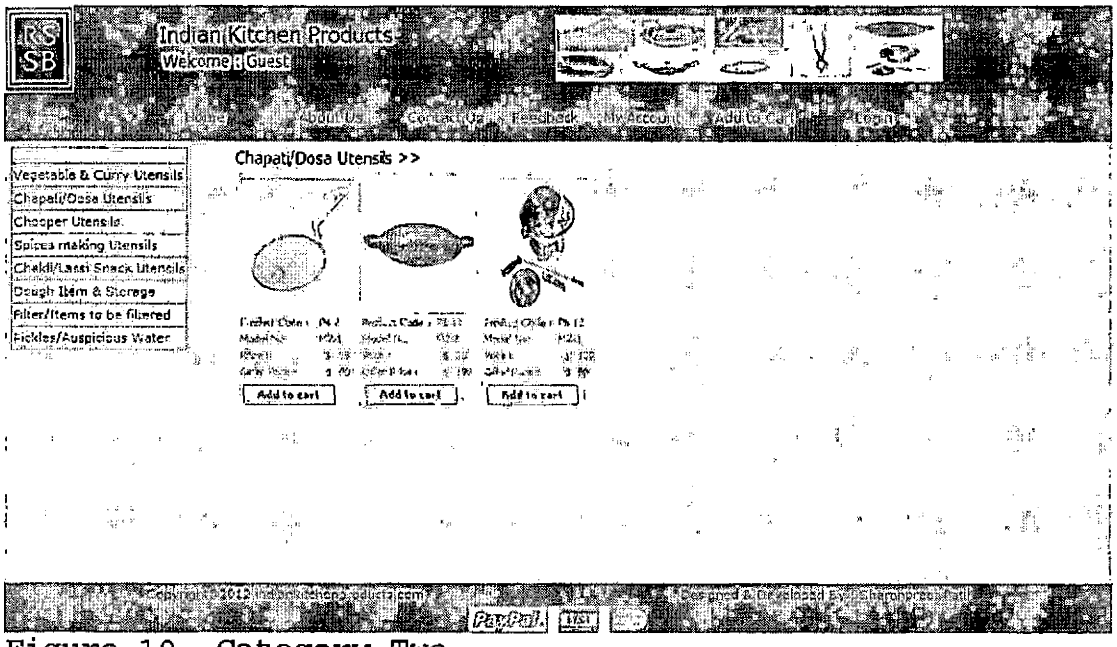


Figure 10. Category Two

Category 3: Chopper Utensils. This page shows Chopper Utensils. Customers select Chopper Utensils in this category.

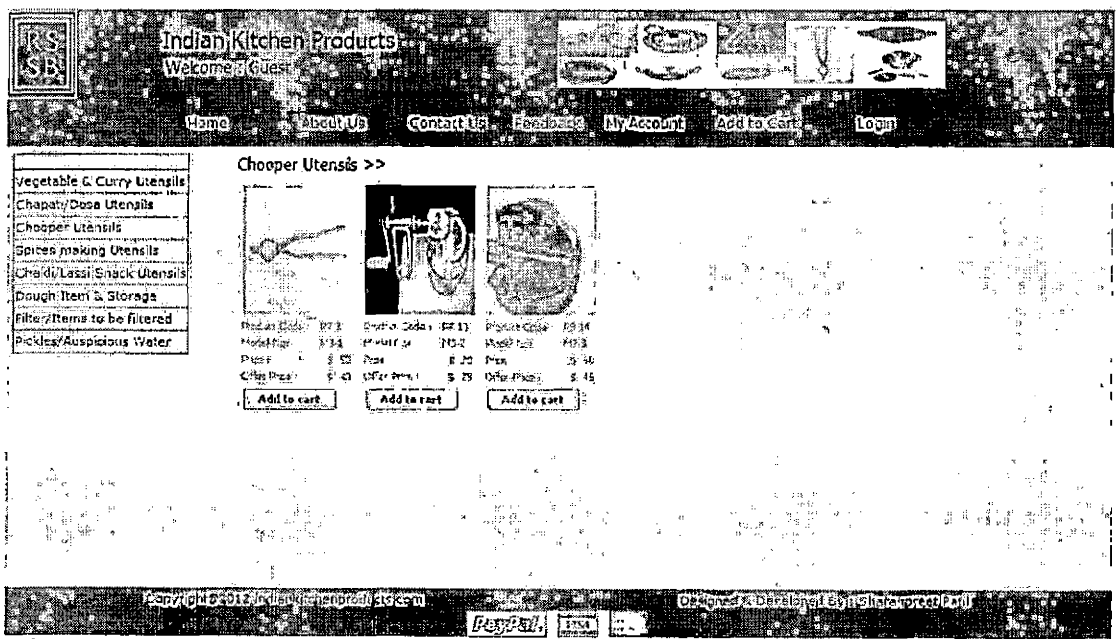


Figure 11. Category Three

Category 4: Spices Making Utensils. This page shows utensils used for making Spices making Utensils. Customers select Spices making Utensils in this category.

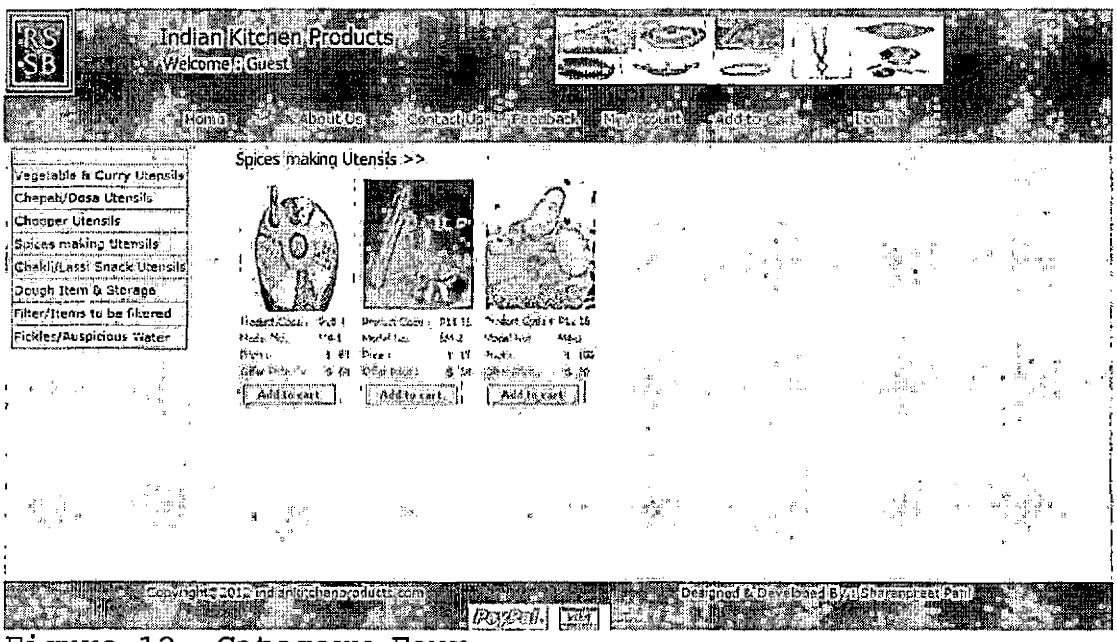


Figure 12. Category Four

Category 5: Chakli/Lassi Snack Utensils. This page shows utensils used for making Chakli/Lassi Snack Utensils. Customers select Chakli/Lassi Snack Utensils in this category.

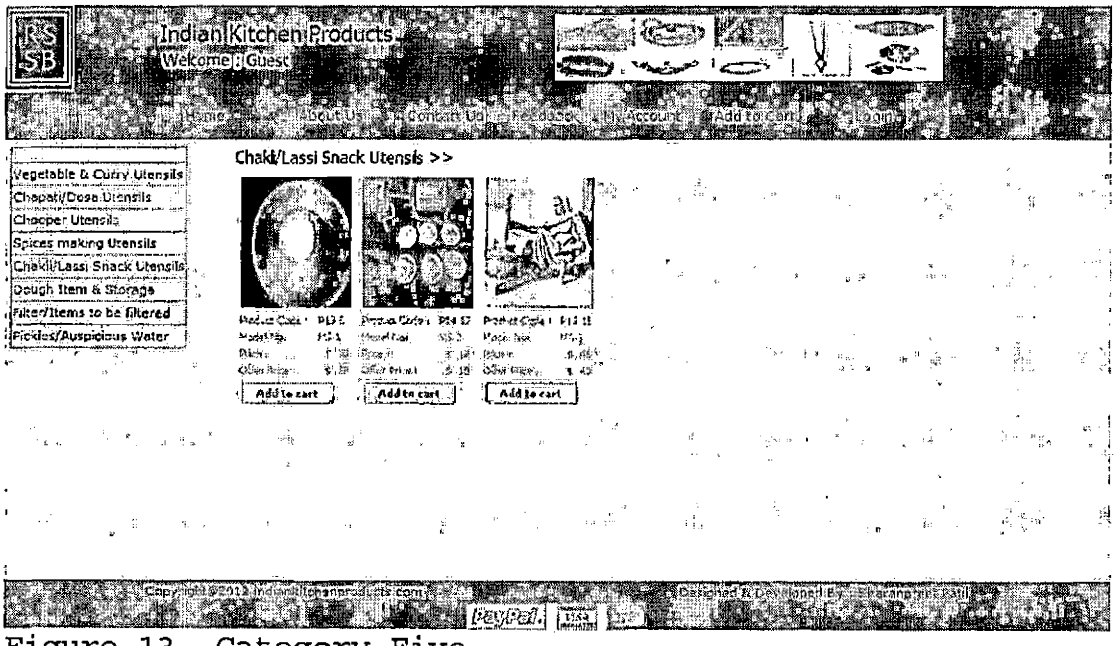


Figure 13. Category Five

Category 6: Dough Item and Storage. This page shows utensils used for making Dough Item and Storage Utensils. Customers select Dough Item and Storage Utensils in this category.

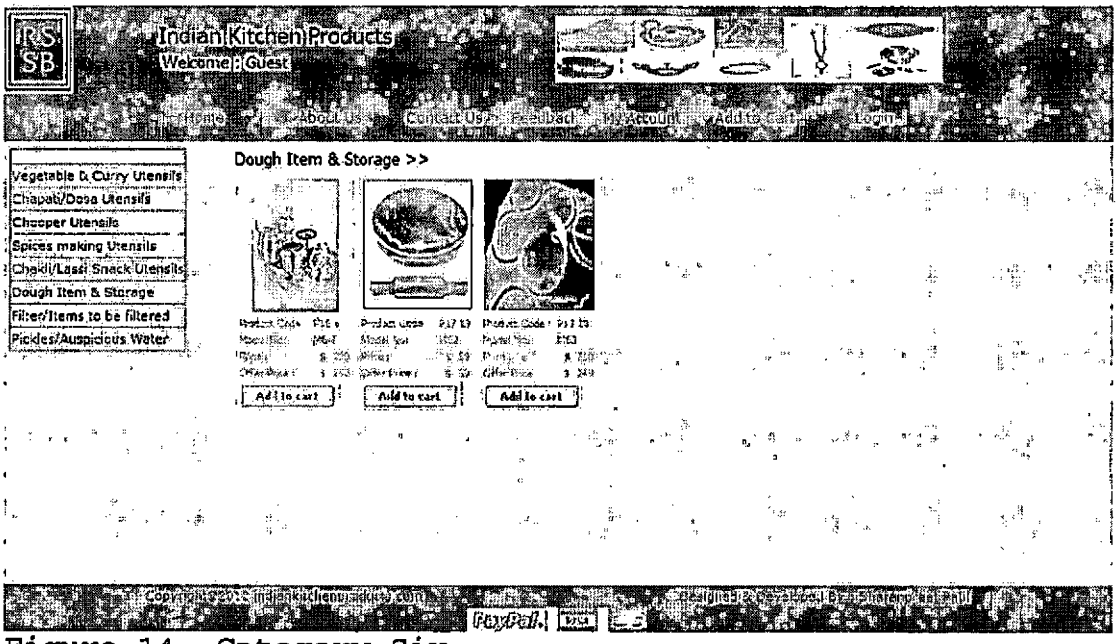


Figure 14. Category Six

Category 7: Filter/Items to be Filtered Utensils.

This page shows utensils used for making Filter/Items to be filtered Utensils. Customers select Filter/Items to be filtered Utensils in this category.

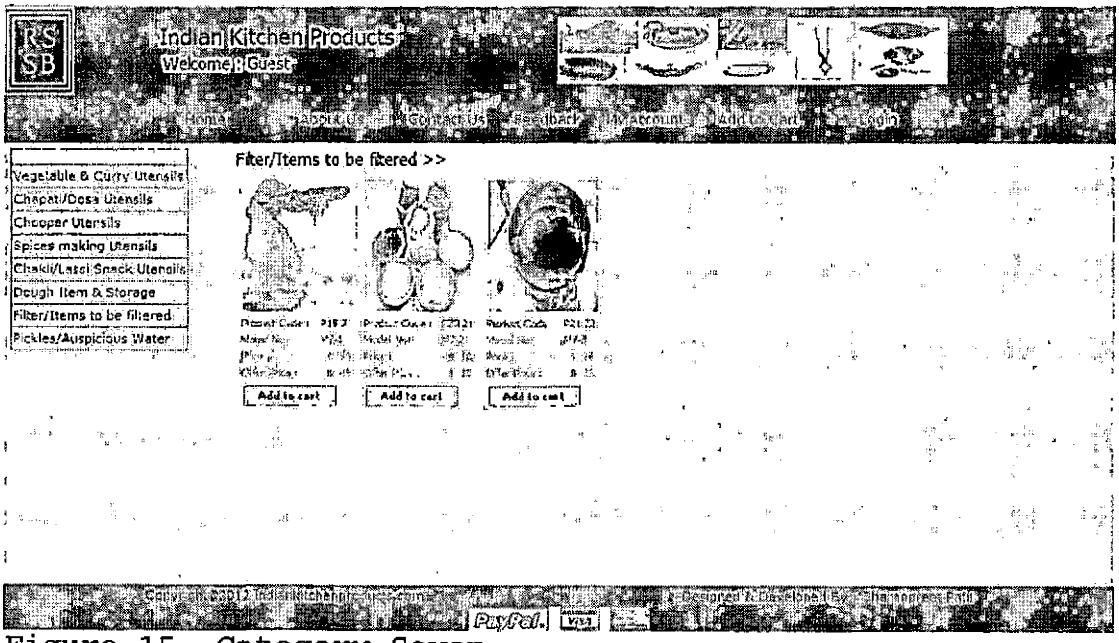


Figure 15. Category Seven

Category 8: Pickles/Auspicious Water Storage Utensils. This page shows utensils used for making Pickles/Auspicious Water Storage Utensils. Customers select Pickles/Auspicious Water Storage Utensils in this category.

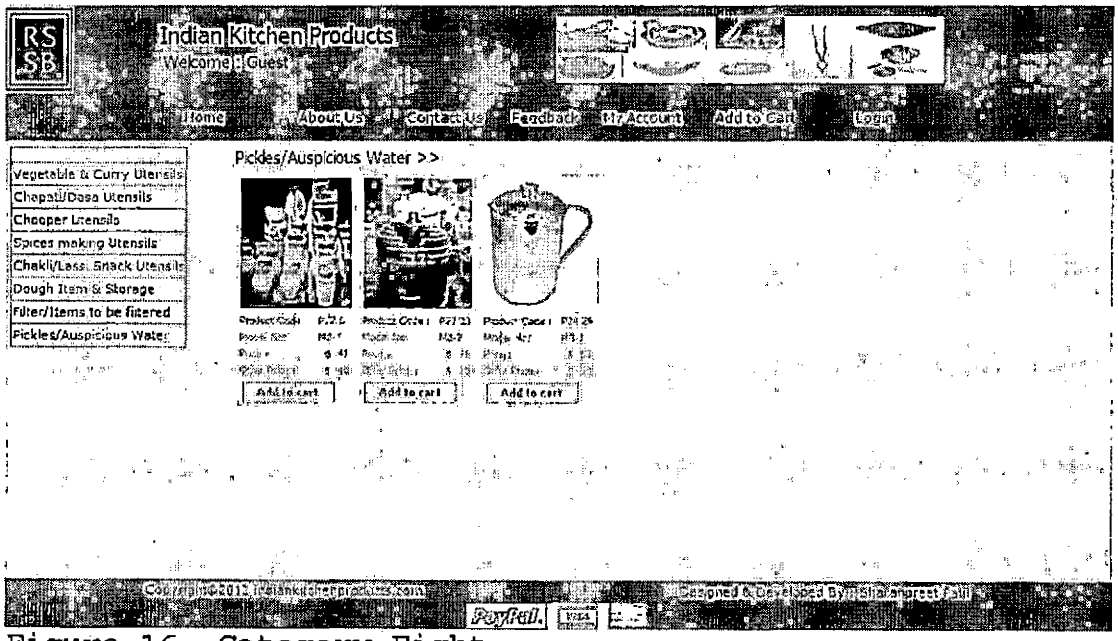


Figure 16. Category Eight

4.1.2 Product Details Description

Customer selects an item. The product detailed description along with big image of the item is shown. Customer selects pressure cooker then he sees bigger image of pressure cooker. The description includes all the cooked items, technical dimension of the appliance, along with the Product code and product price.

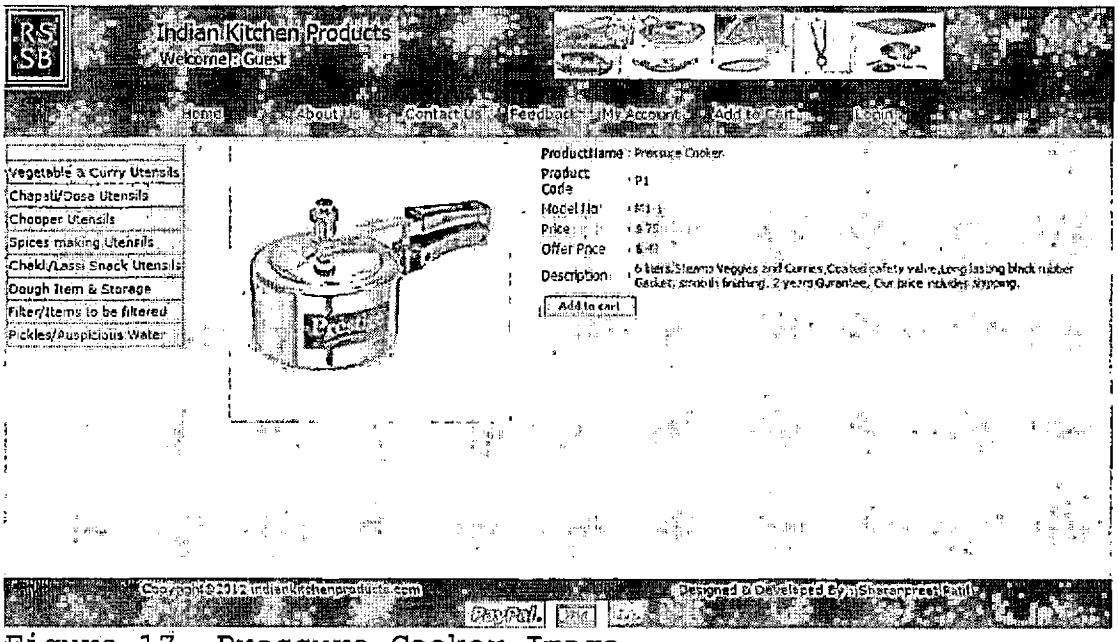


Figure 17. Pressure Cooker Image

There are 24 bigger images of all utensils. Each utensil's detailed description, technical description, price, and code number is shown.

4.1.3 Registration Page for Customer

Company's registered customer has login and password account. The guest customer has to register. This page displays registration and sign in for the customers.

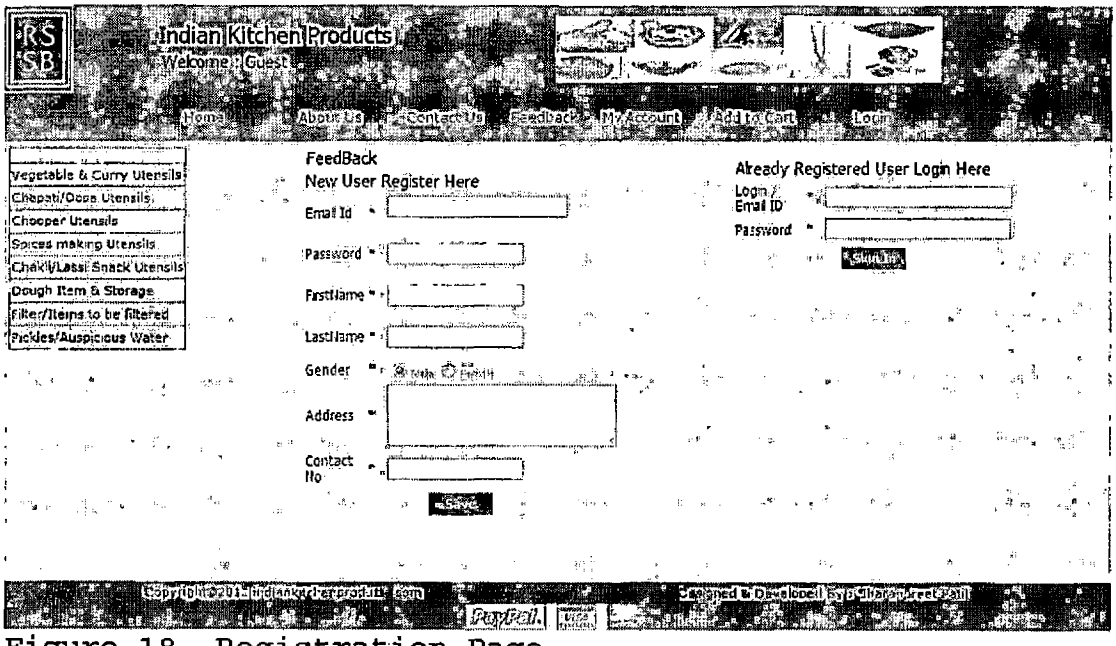


Figure 18. Registration Page

4.1.4 Add to Cart

After selecting the products, customer proceeds towards add to cart page. This page displays all the purchased products; quantities of products along with the products prices are shown. Customer wants to delete any product from the cart can easily delete it. This helps customer to view all the purchased items in the cart.

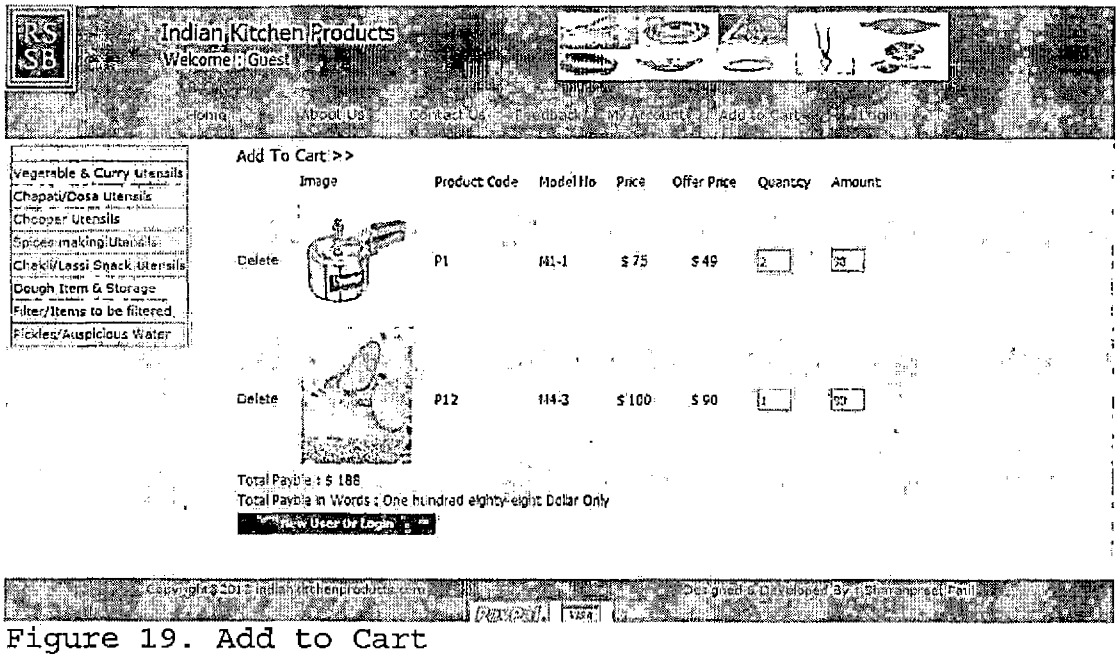


Figure 19. Add to Cart

4.1.5 Payment Mode

Customer selects the Payment mode in this page. There are different types of payment modes such as check, demand draft, credit/debit card, or cash on delivery. Customer selects its payment mode as per his convenience.

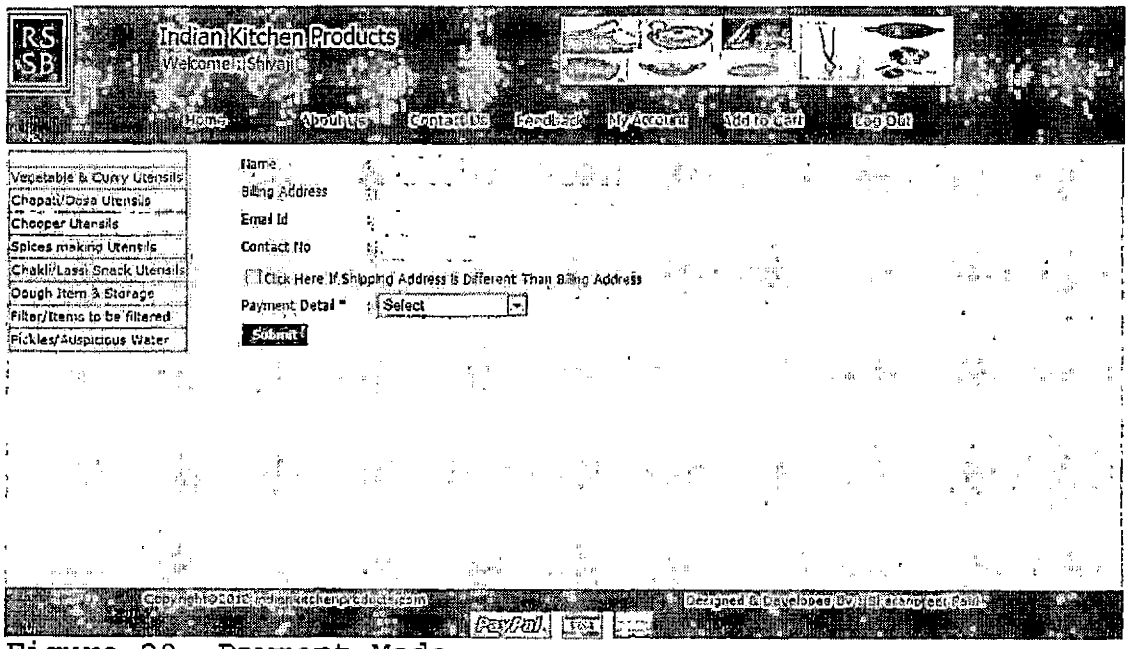


Figure 20. Payment Mode

4.1.6 Cash on Delivery

Customer selects Cash on delivery as a payment mode, this web page is displayed. The page contains customer details as Name, Address, email ID, and contact number.

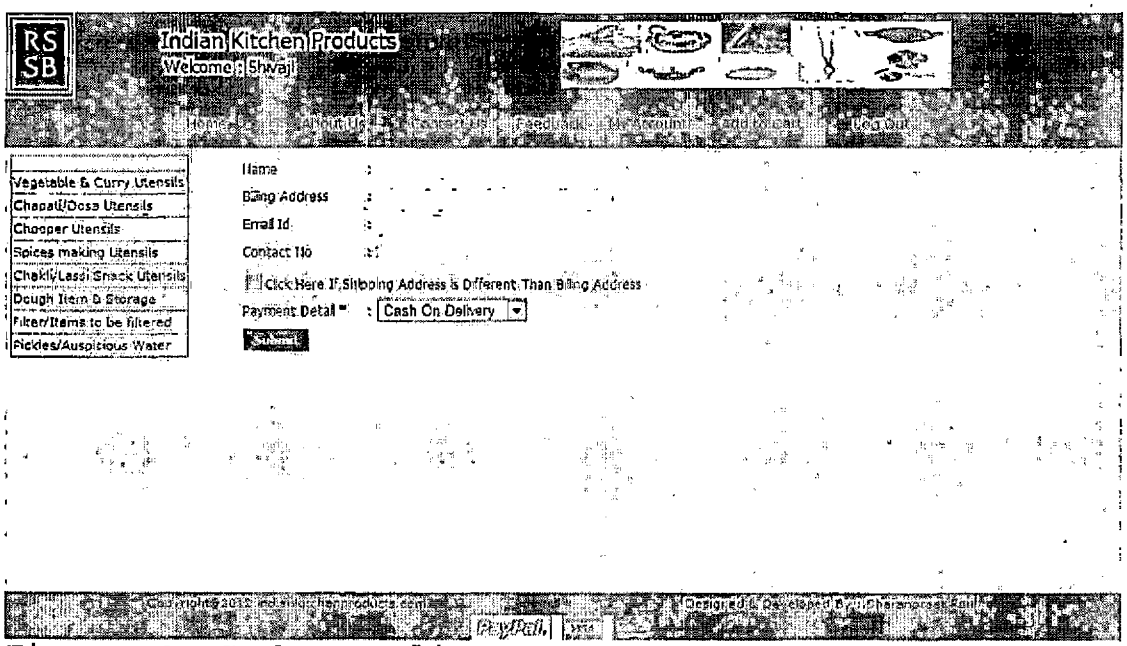


Figure 21. Cash on Delivery

4.1.7 Check/Demand Draft

Customer selects Check/Demand Draft as a payment mode, this web page is displayed.

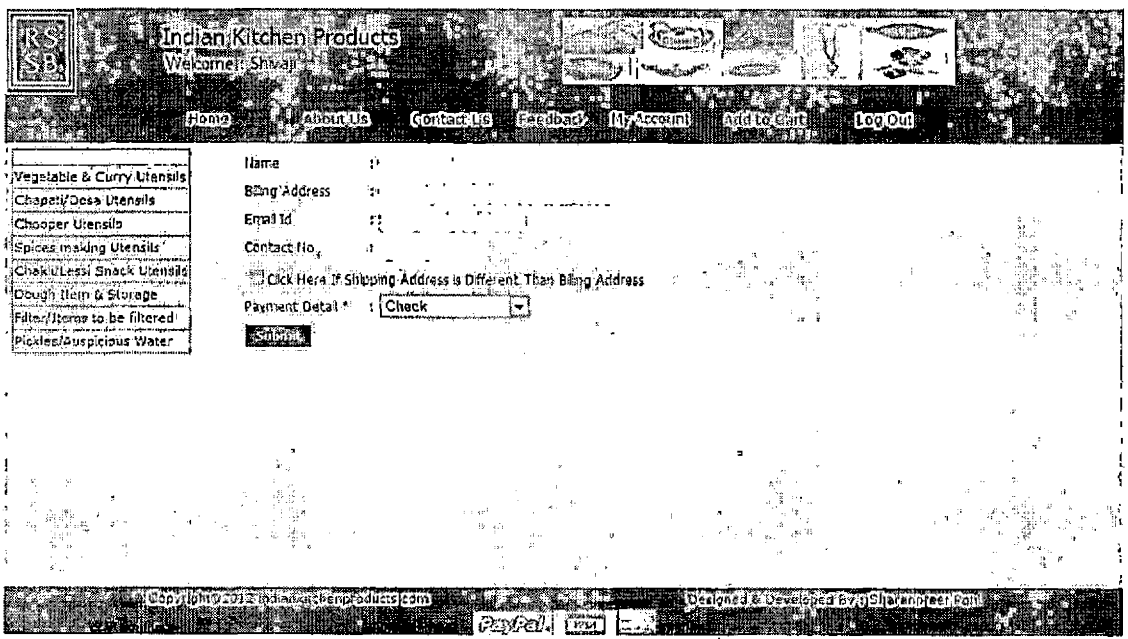


Figure 22. Check Payment

4.1.8 Check/Demand Draft Process Mode

Customer selects his Bank for processing check/Demand Draft payment mode. This page displays Name of the Bank, Check number/Demand Draft Number, date, and total amount to be paid.

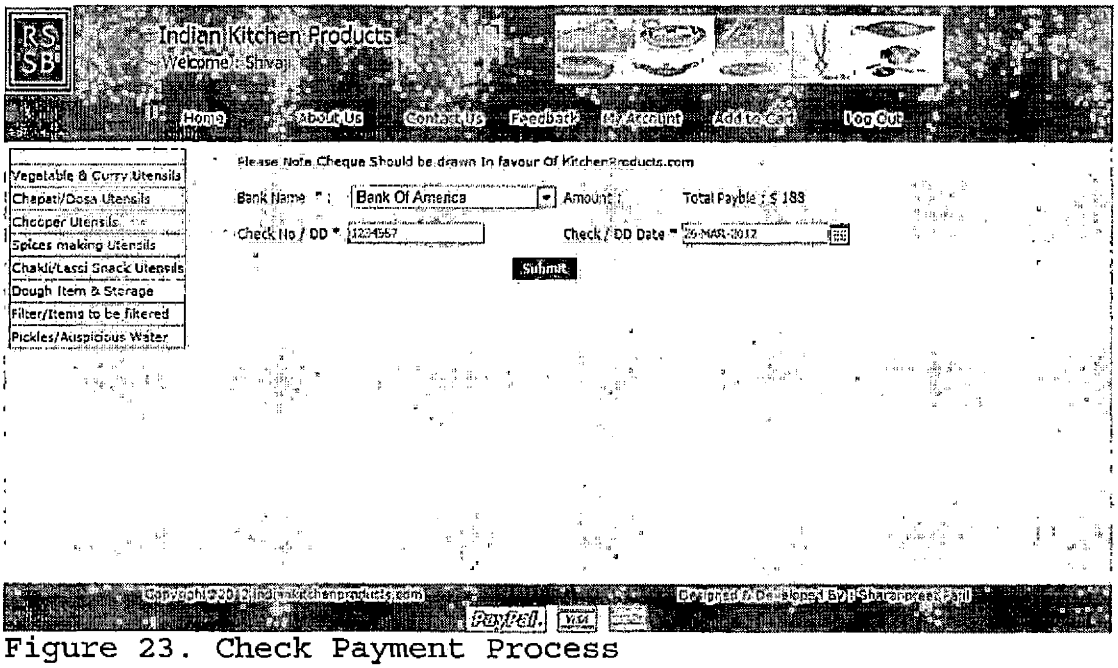


Figure 23. Check Payment Process

4.1.9 Credit/Debit Card

Customer selects Credit Card/Debit Card as payment mode, this web page is displayed.

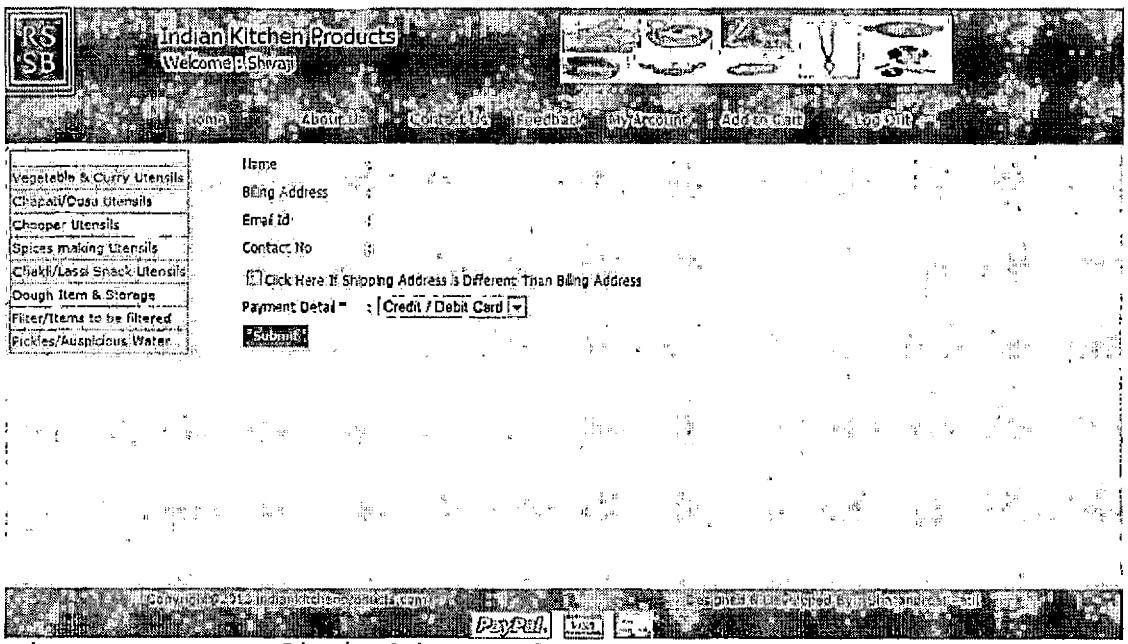


Figure 24. Credit/Debit Card Payment

4.1.10 Credit/Debit Card Process Mode

Customer selects his Bank for processing Credit Card/Debit Card payment mode. This page displays Name of the Bank, card Number, card security number, expiry date, and total amount to be paid.

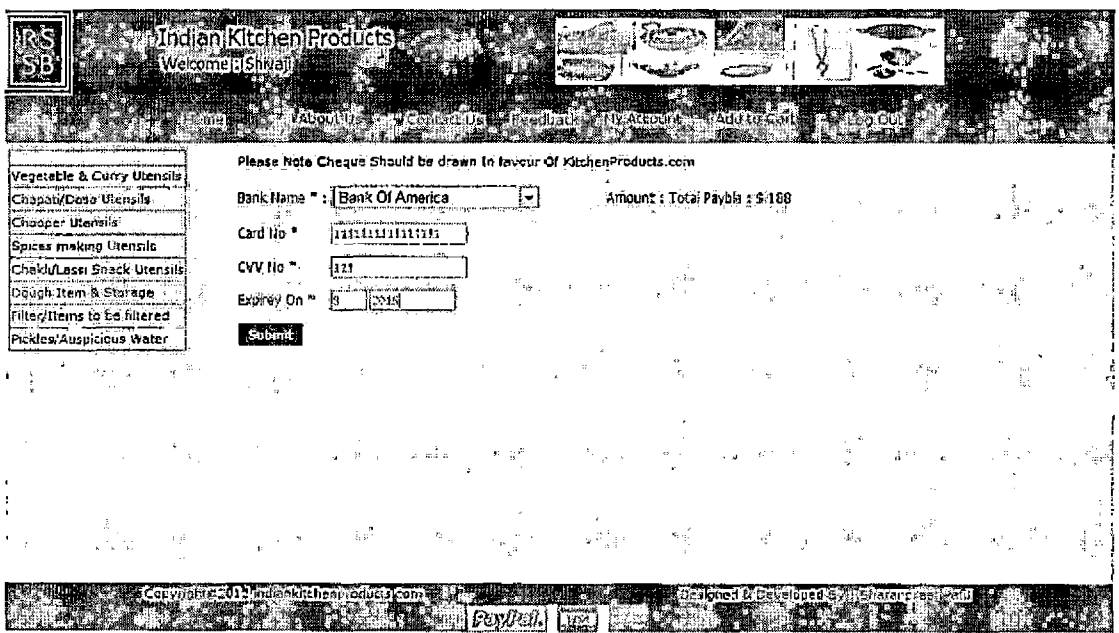


Figure 25. Credit/Debit Payment Process

4.1.11 Shipping Address

Customer's shipping address is available in his account provided customer wants the same address his product to be delivered. Customer's billing address is same as shipping address, this page is displayed.

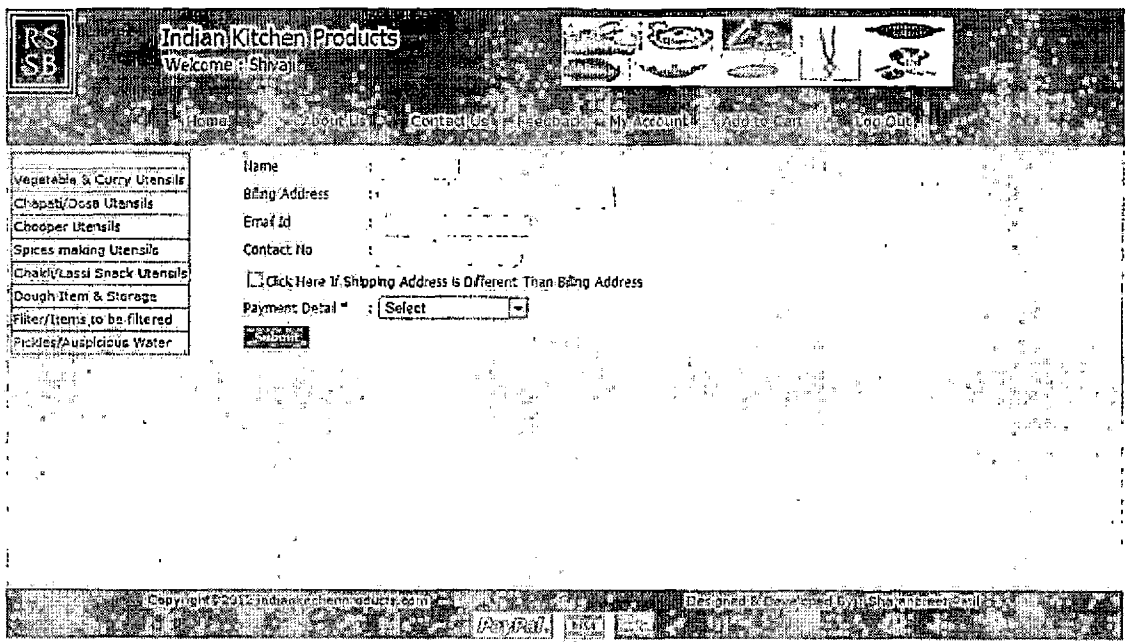


Figure 26. Same Shipping Address

4.1.12 Shipping/Billing Address

Customer billing address is different than shipping address, this page is displayed. Customer can add different address as per his choice.

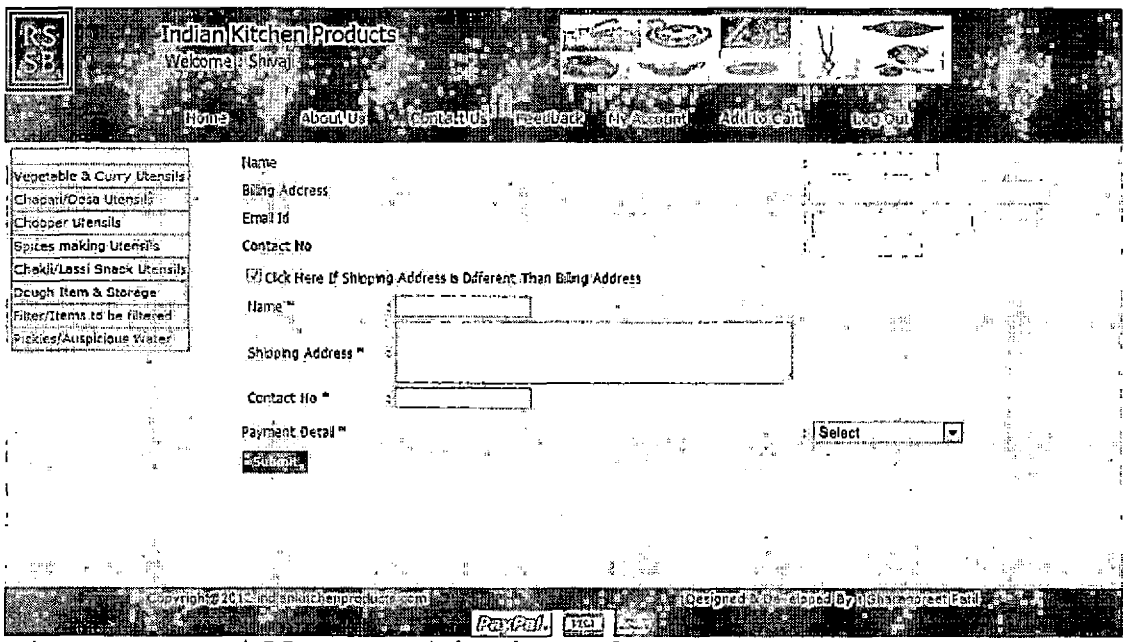


Figure 27. Different Shipping Address

4.1.13 Payment and Print

Customer checks his invoice number, total amount, and further proceeds to print his invoice. Customer can print his invoice in between payment process.

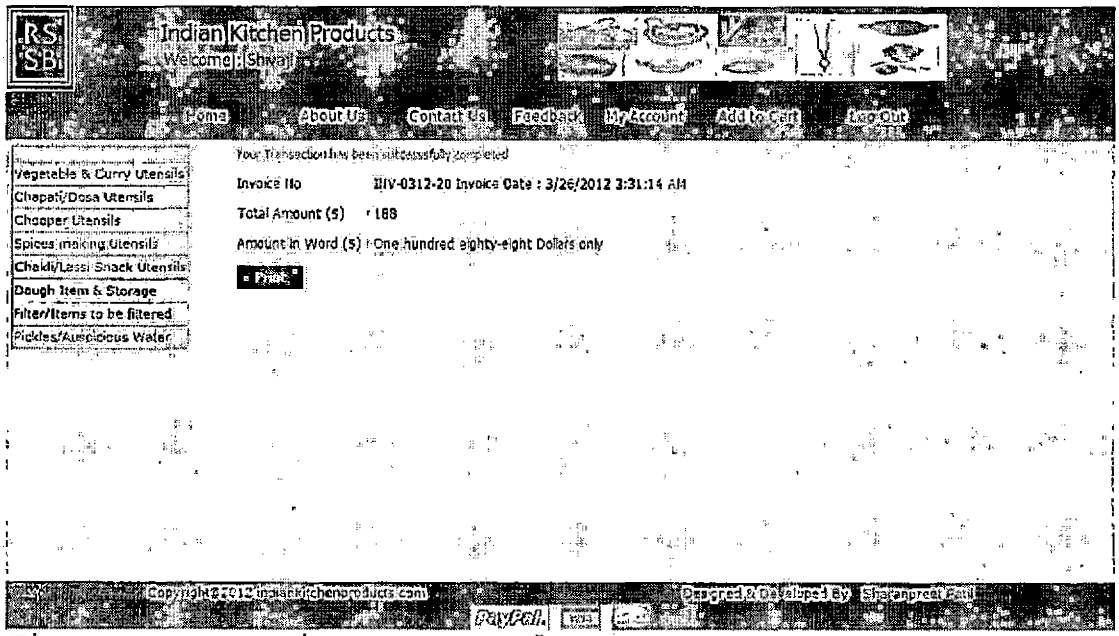
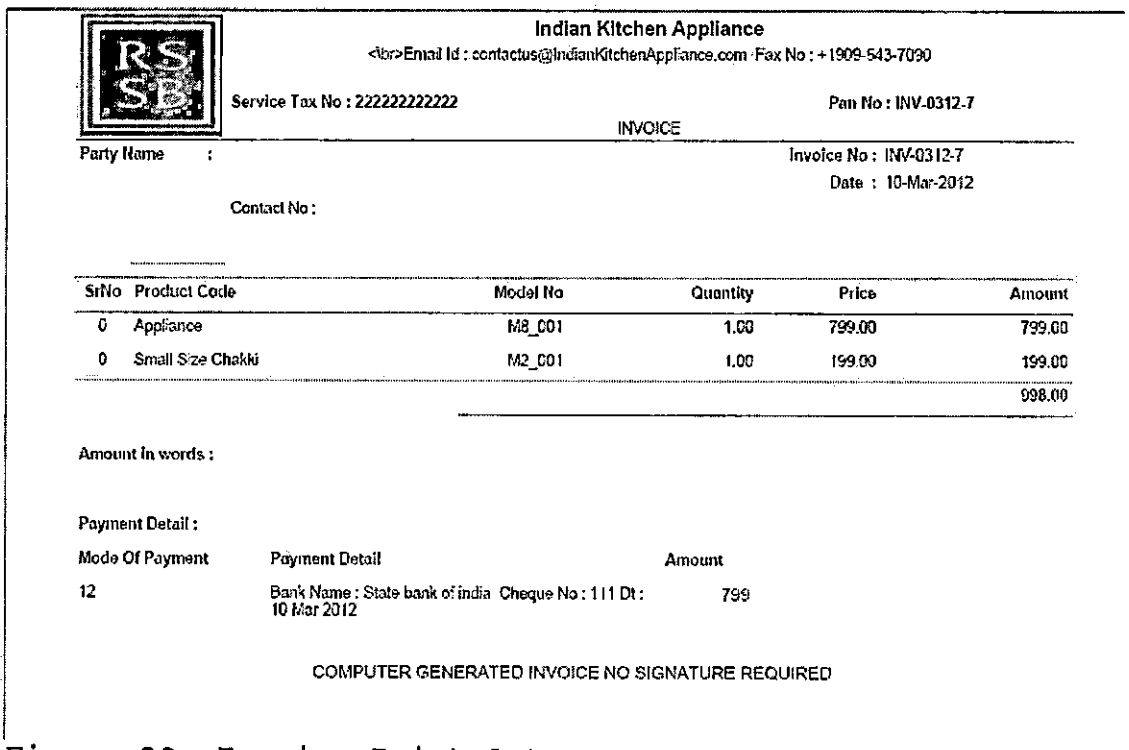


Figure 28. Invoice Generated

4.1.14 Final Invoice Print Out

Customer gets his printed invoice form. Invoice shows Customer details, product quantity, product price, total amount, payment details, and payment mode. This page shows electronically generated invoice for the customer.



Indian Kitchen Appliance

Email Id : contactus@IndianKitchenAppliance.com Fax No : +1909-543-7090

Service Tax No : 222222222222 Pan No : INV-0312-7

INVOICE

Party Name :

Invoice No : INV-0312-7

Date : 10-Mar-2012

Contact No :

SrNo	Product Code	Model No	Quantity	Price	Amount
0	Appliance	M8_C01	1.00	799.00	799.00
0	Small Size Chakki	M2_C01	1.00	199.00	199.00
					998.00

Amount in words :

Payment Detail :

Mode Of Payment	Payment Detail	Amount
12	Bank Name : State bank of india Cheque No : 111 Dt : 10 Mar 2012	799

COMPUTER GENERATED INVOICE NO SIGNATURE REQUIRED

Figure 29. Invoice Print Out

4.1.15 Feedback

Customer interacts with Company owner via feedback form. This page displays Customer name, email, suggestions or requests to be made, and detailed description.

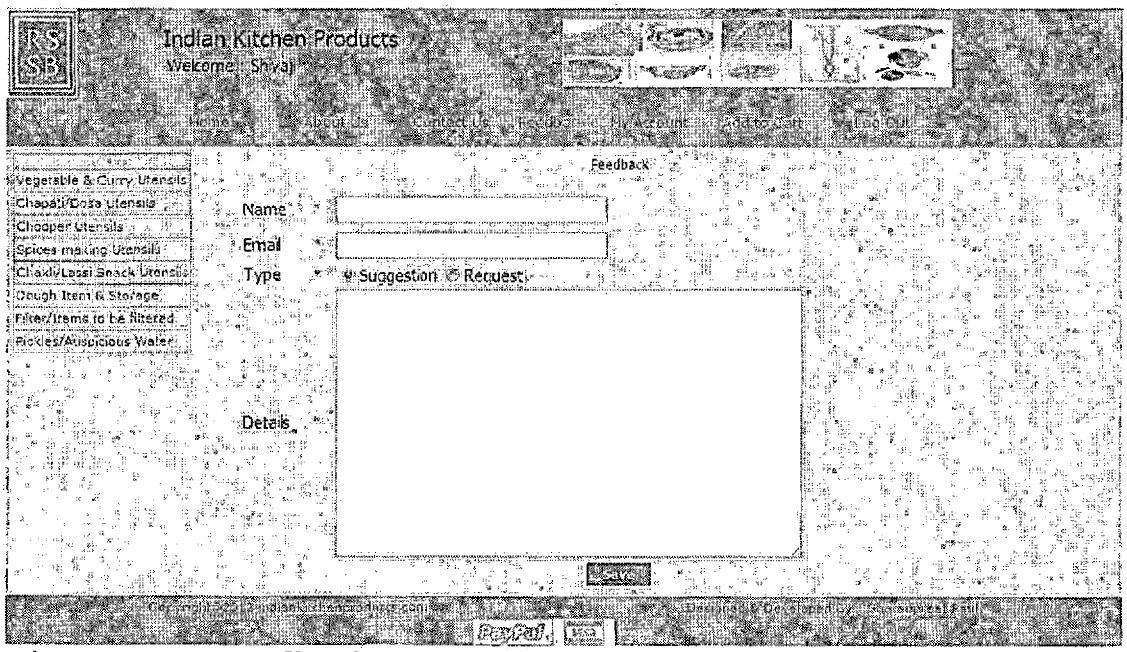


Figure 30. Feedback Form

4.1.16 Contact Us

This page displays Company name, Company's address, company's contact number, and email ID. Customer can contact Company via referring above details.

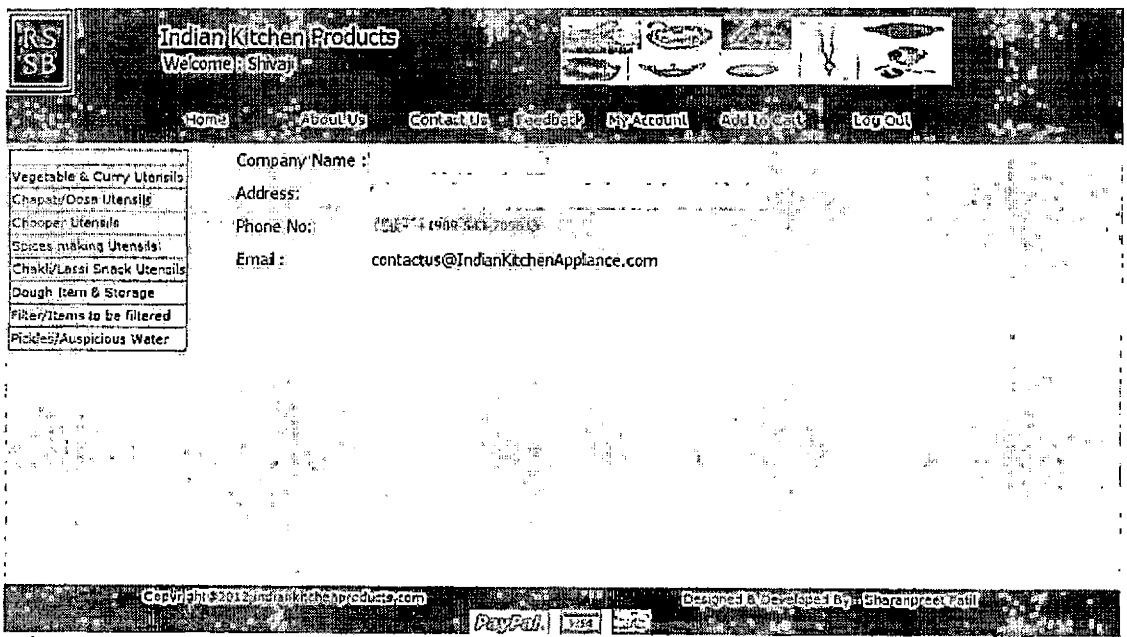


Figure 31. Contact Us

4.1.17 About Us

This page gives Company's introduction and description to guest customers. This helps Company to attract more customers.

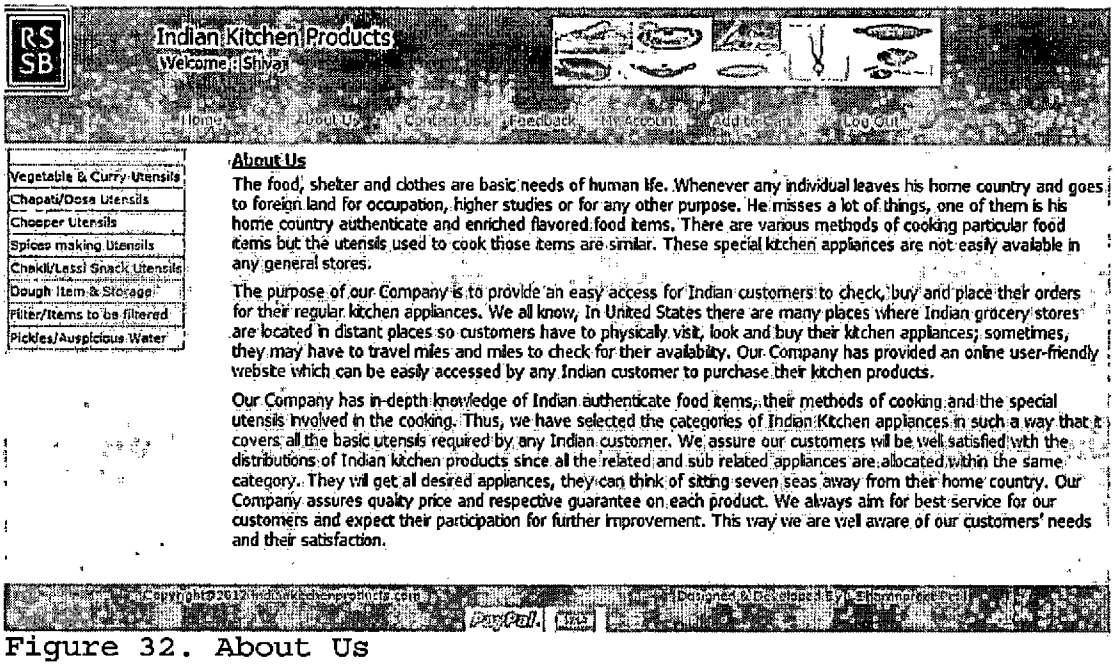


Figure 32. About Us

4.1.18 Admin Login

Admin has login and password to sign up in the system.

Figure 33. Admin Login

4.1.19 Admin Blank Page

This page displays Admin blank page.

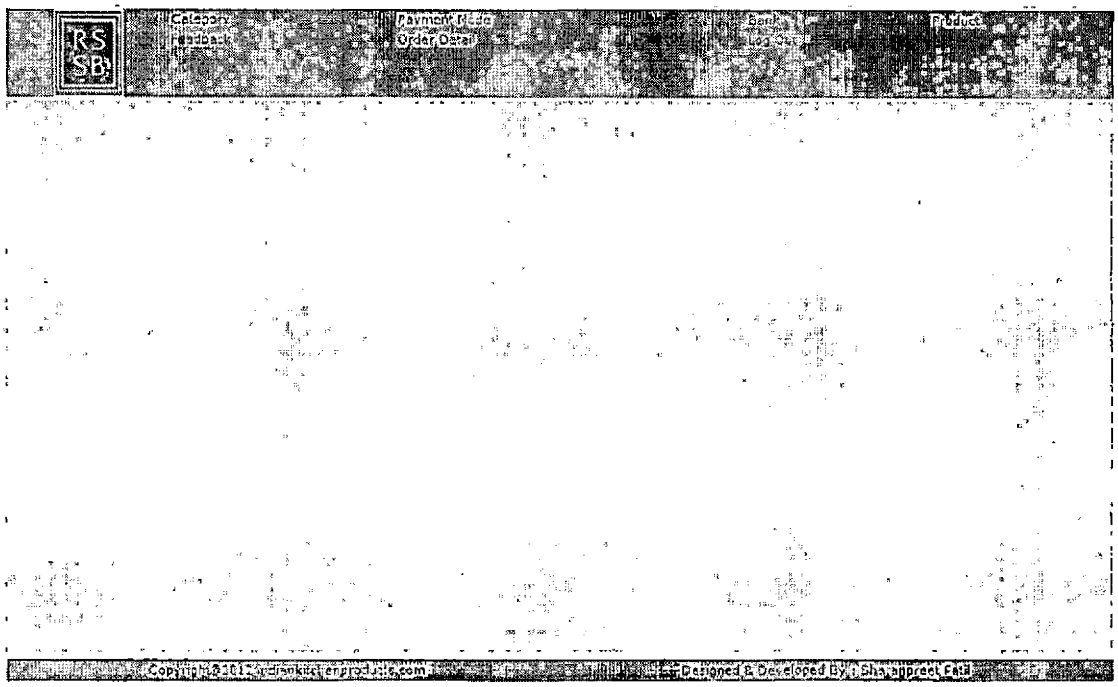


Figure 34. Admin Blank Page

4.1.20 Admin Views/Delete Category List

This page displays different product categories to be viewed by the admin. Admin sees descriptions of kitchen product categories. Admin deletes the kitchen appliances category as required.

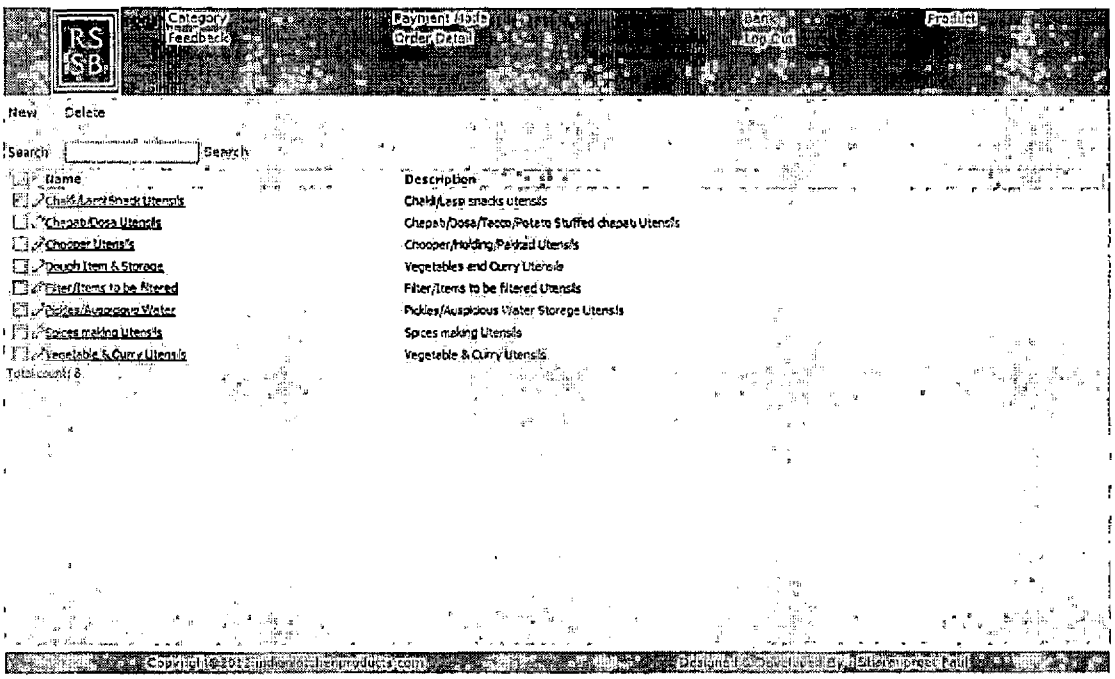


Figure 35. Category List

4.1.21 Admin Modifying Categories List

This page displays Admin modifying product category and its description. Hence, OIKA helps Admin to update Product Category.

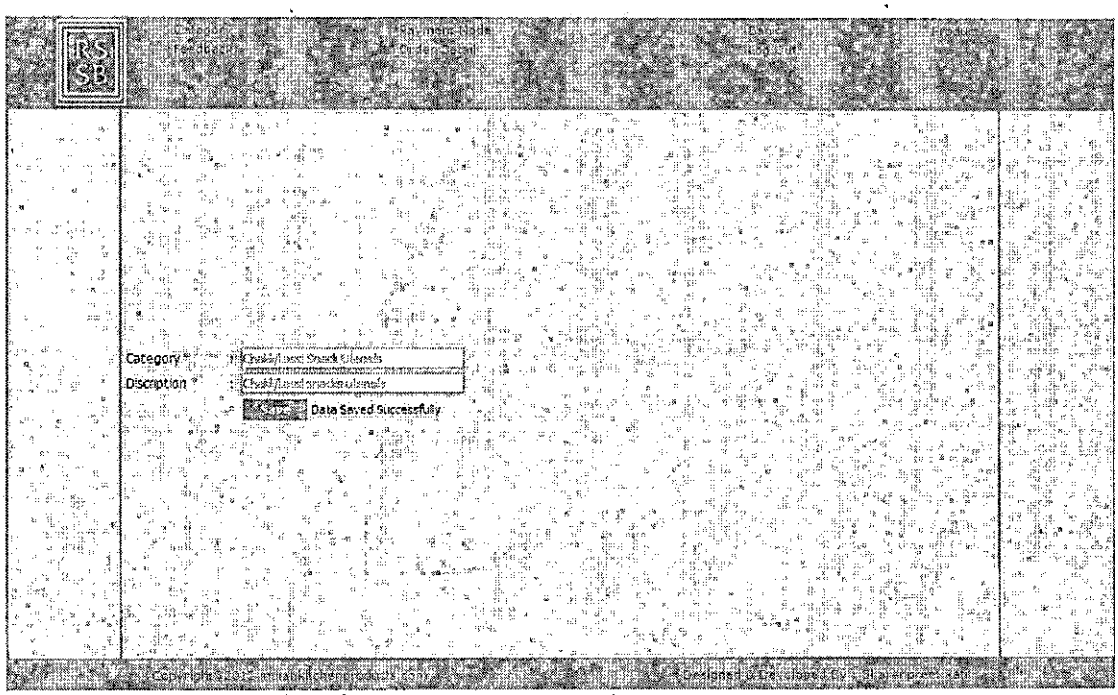


Figure 36. Modifying Category List

4.1.22 Admin New Category

This page displays Admin can add any new product category and its details.

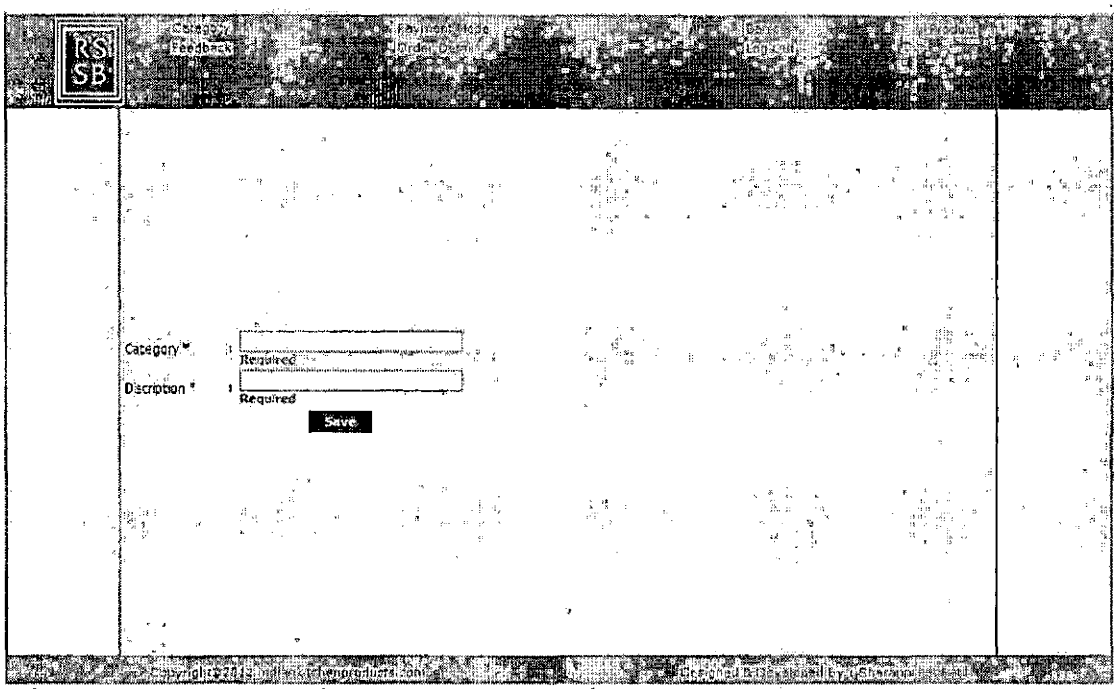


Figure 37. Creating Category List

4.1.23 Admin View/Delete Payment Modes

This page displays different payment modes to be viewed by the admin. Admin sees descriptions of payment modes such as check, demand draft, and credit/debit card and cash on delivery. Admin deletes the payment modes as required.

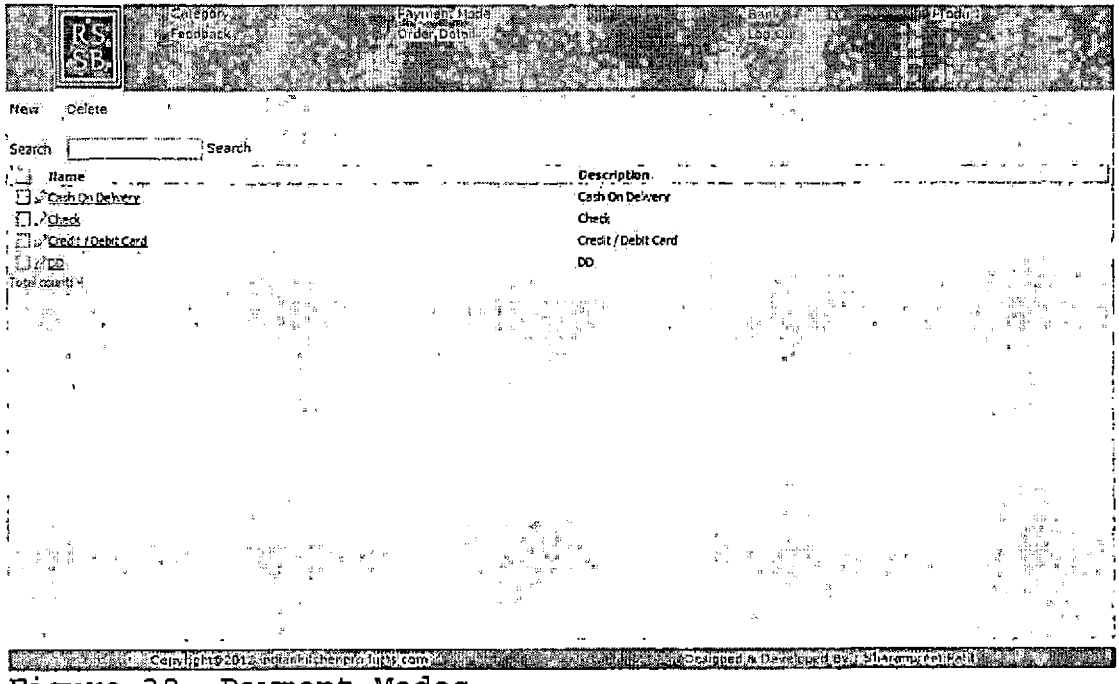


Figure 38. Payment Modes

4.1.24 Admin Modify Payment Mode

This page displays Admin modifying payment modes and its description. Hence, OIKA helps Admin to update payment modes.

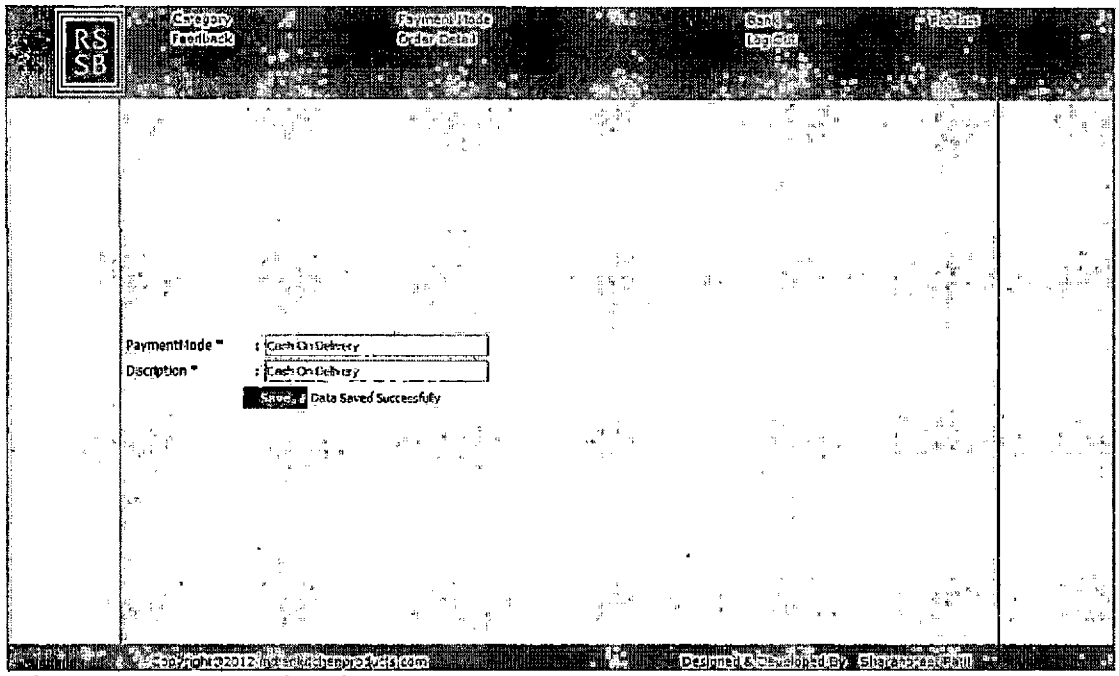


Figure 39. Modifying Payment Mode

4.1.25 Admin New Payment Mode

This page displays Admin can add any payment mode and its details.

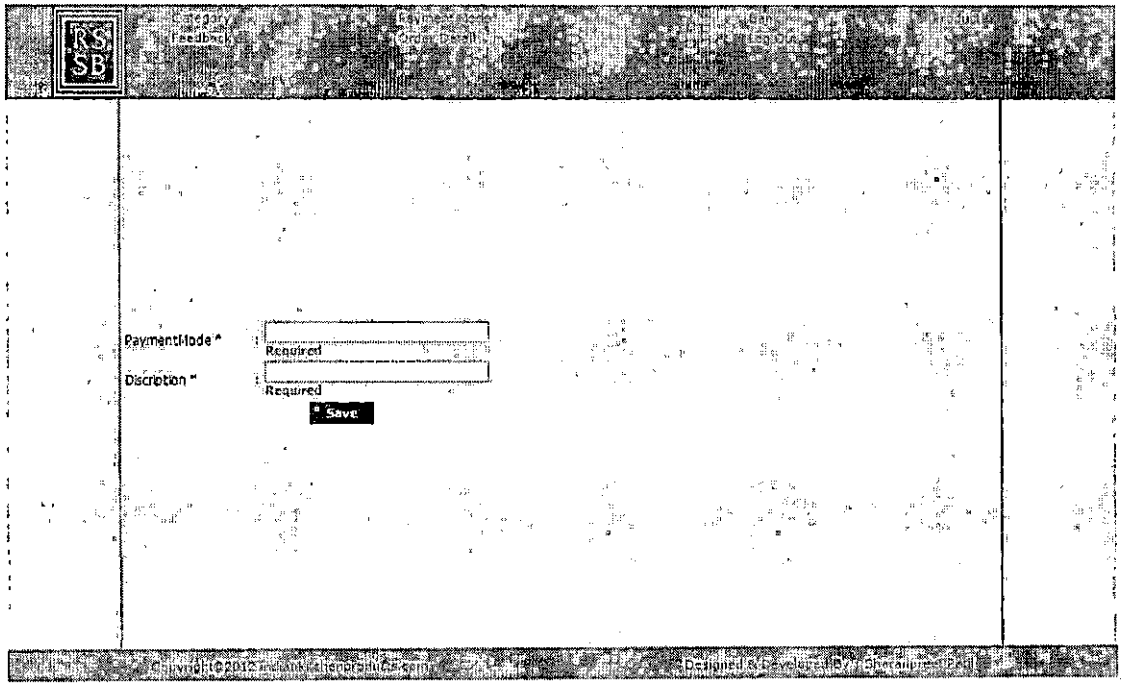


Figure 40. Creating Payment Modes

4.1.26 Admin View/Delete Banks

This page displays different banks to be viewed by the admin. Admin sees descriptions of different banks. Admin deletes the Bank details as required.

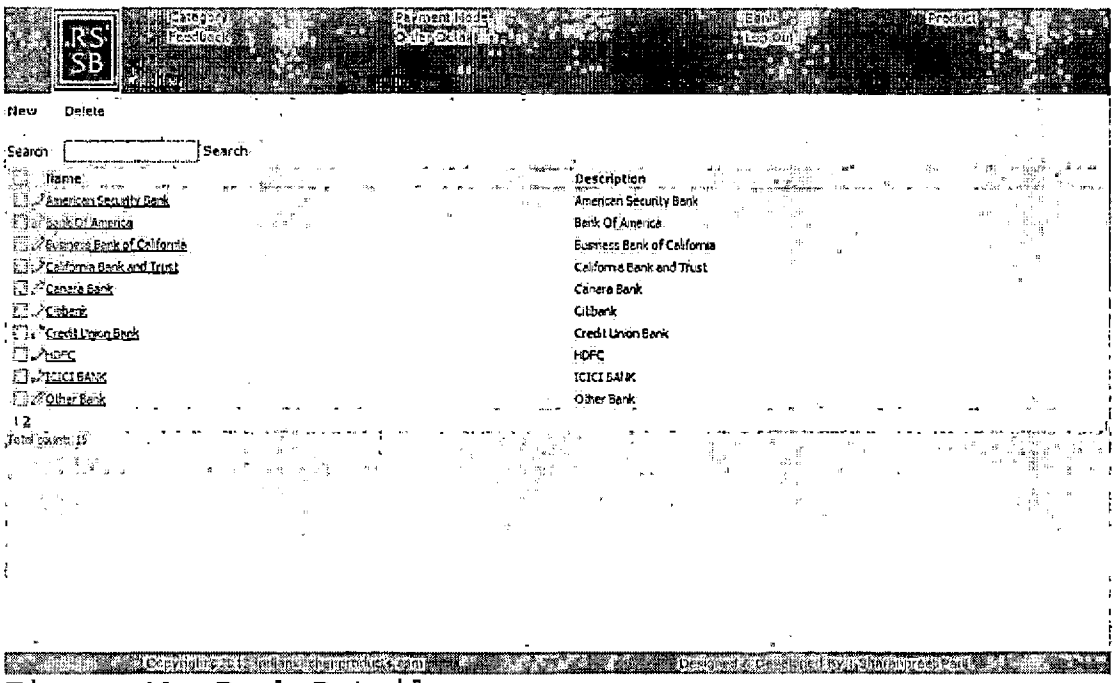


Figure 41. Bank Details

4.1.27 Admin Modifying Bank

This page displays Admin modifying bank name and its description. Hence, OIKA helps Admin to update Bank names.

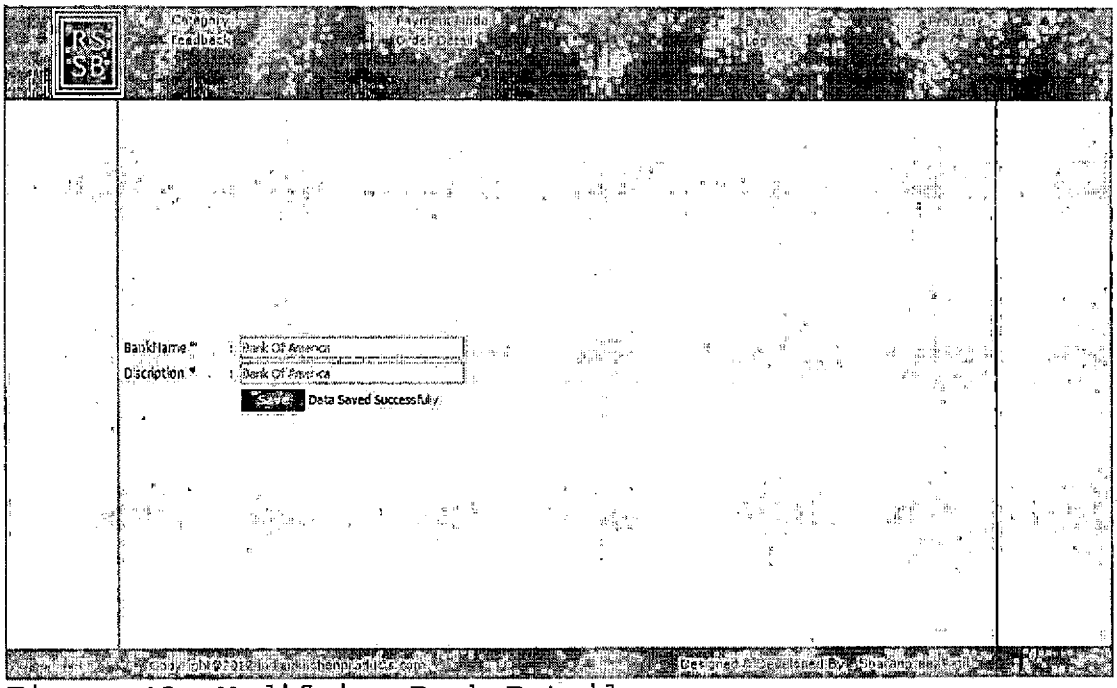


Figure 42. Modifying Bank Details

4.1.28 Admin New Bank

This page displays Admin can add any new Bank name and its details.

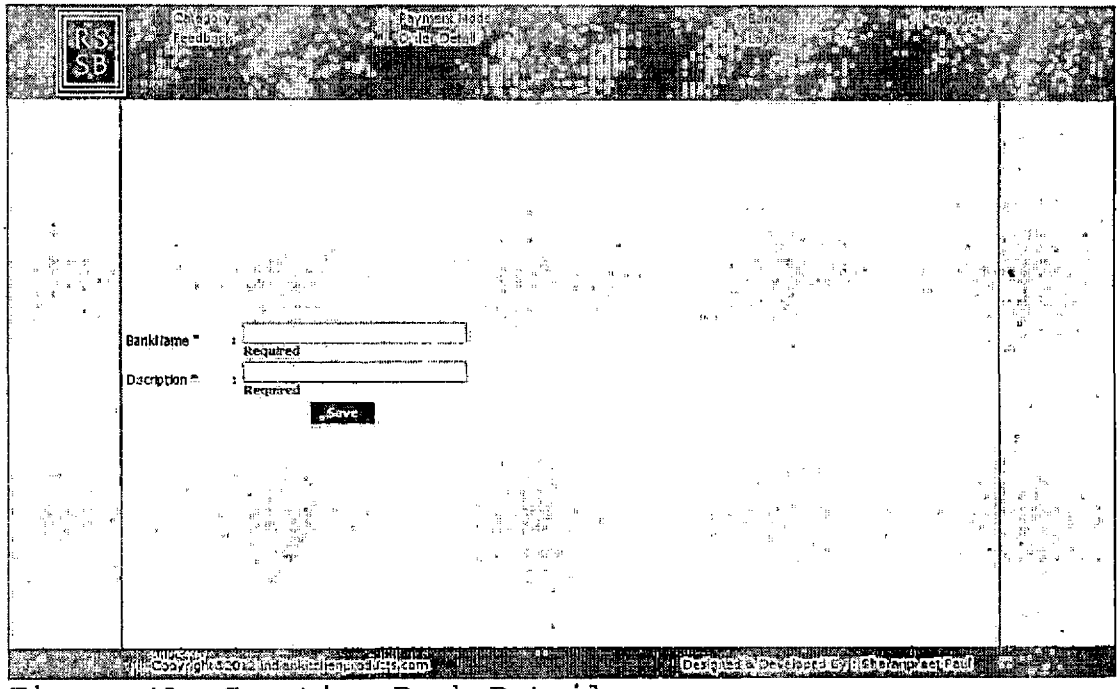


Figure 43. Creating Bank Details

4.1.29 Admin Views/Delete Products

This page displays different products to be viewed by the admin. Admin sees descriptions of products and their model number. Admin deletes the products details as required.

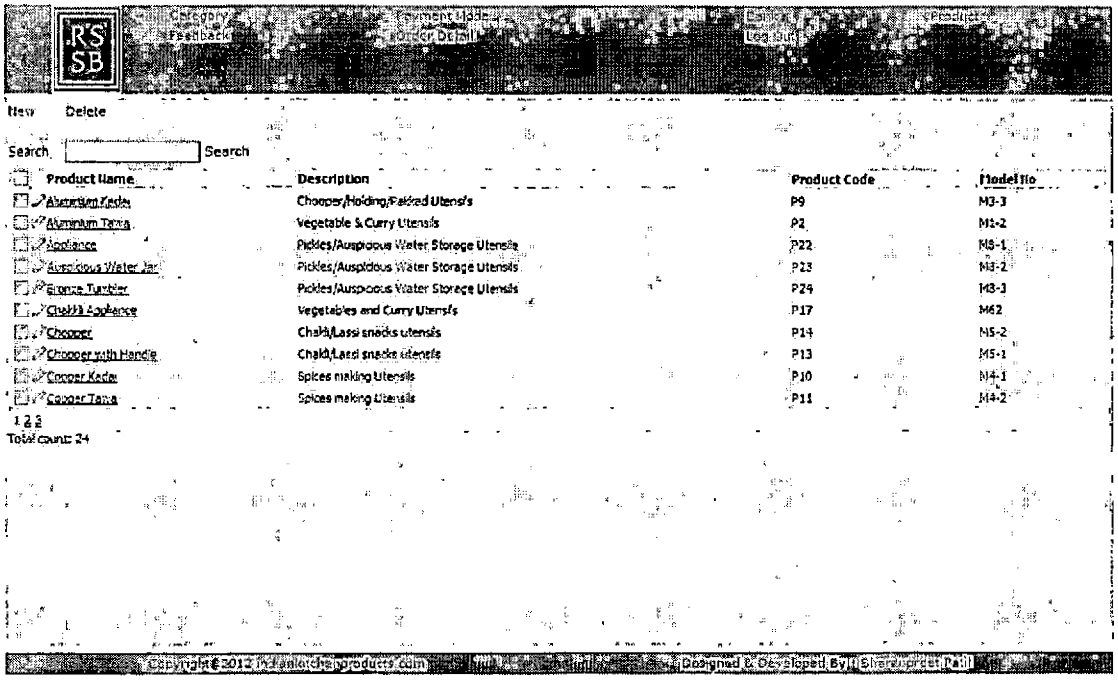


Figure 44. Product Details

4.1.30 Admin Modifying Product

This page displays Admin modifying products and its description. Hence, OIKA helps Admin to update all products in the system.

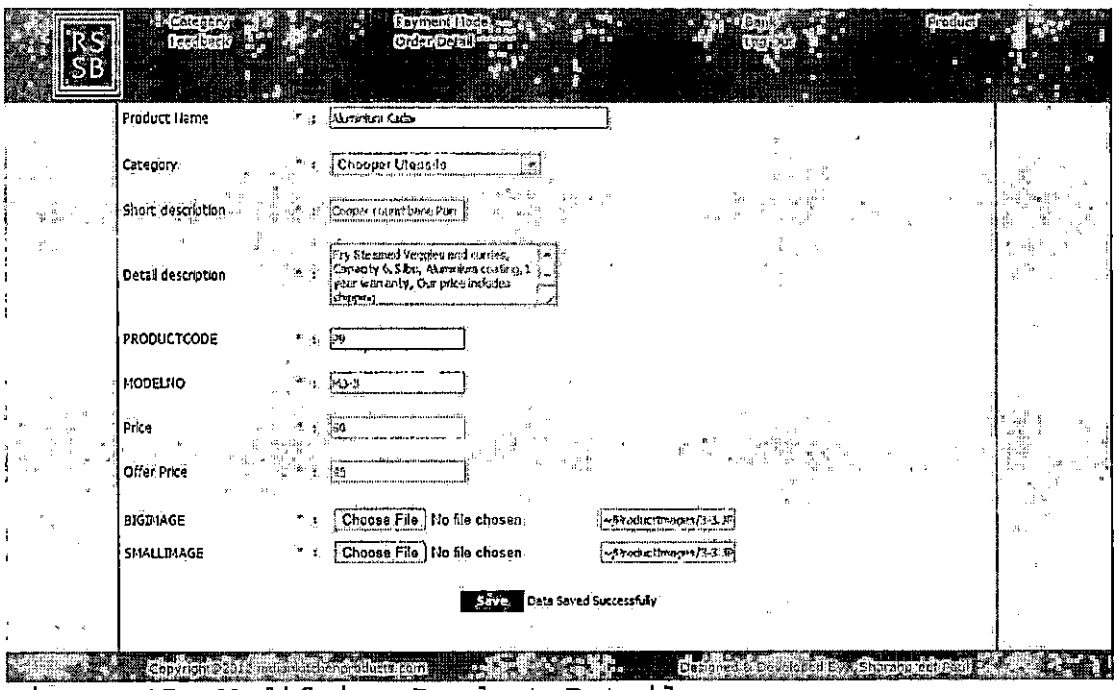


Figure 45. Modifying Product Details

4.1.31 Admin New Product

This page displays Admin can add any new product and its details.

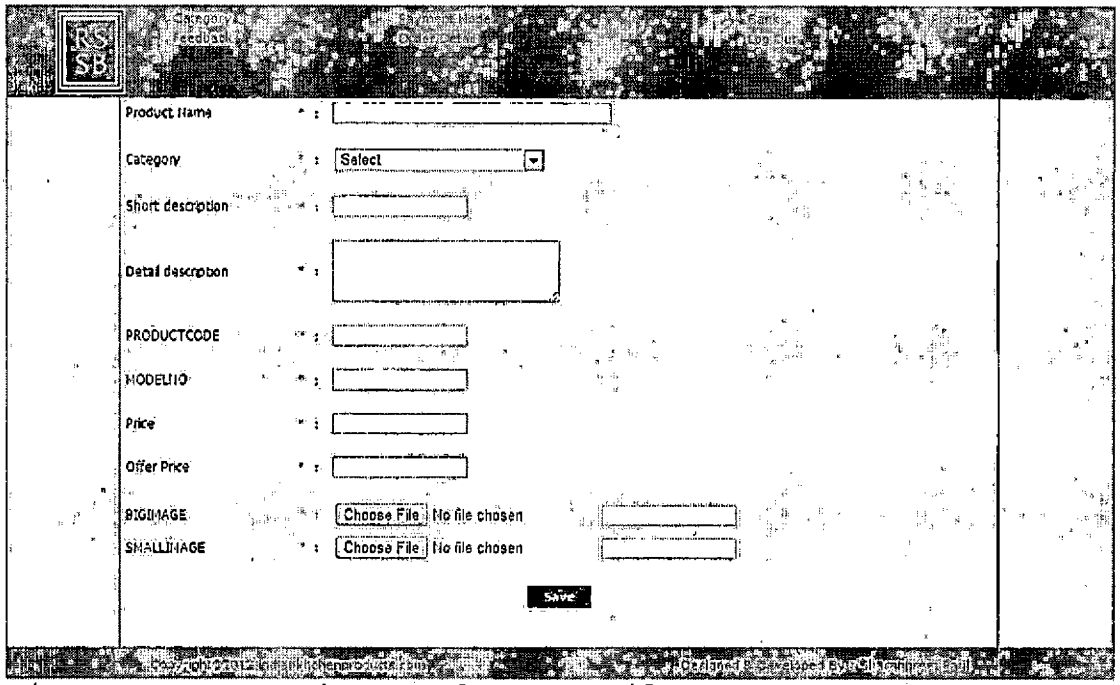


Figure 46. Creating Product Details

4.1.32 Admin Views Feedback

Admin views the feedback form submitted by the customers. This page displays various customers name, email ID and feedback types as suggestions/requests.

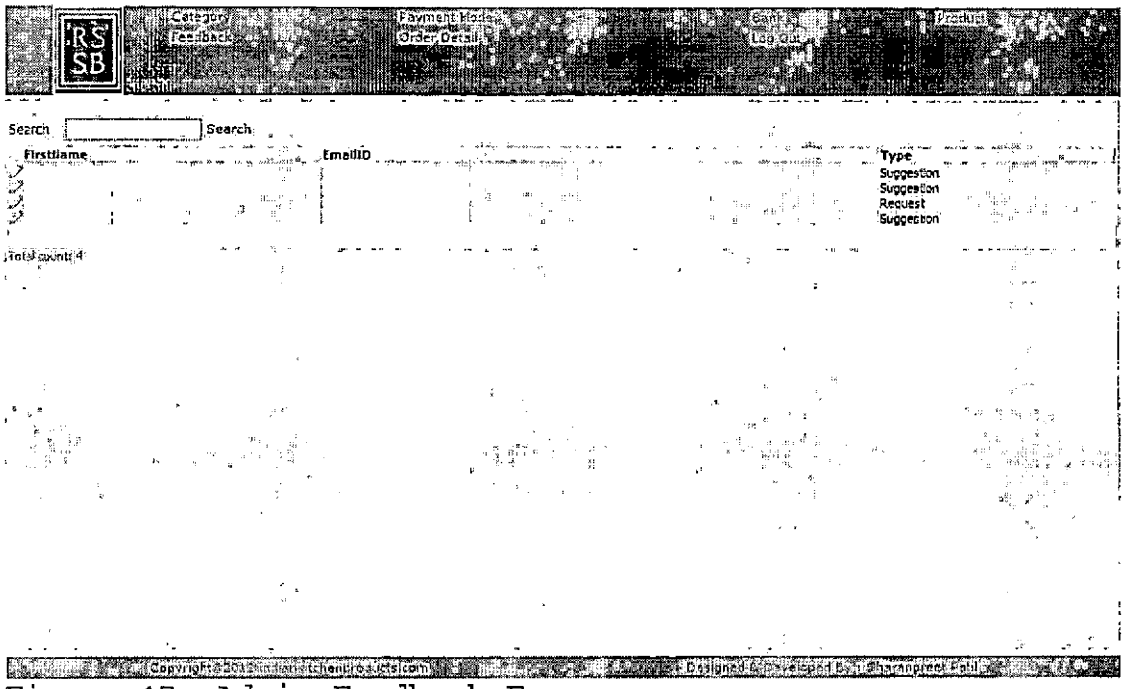


Figure 47. Admin Feedback Form

4.1.33 Admin Searches Feedback

Admin searches feedback in the data. This page displays the search option for the feedback.

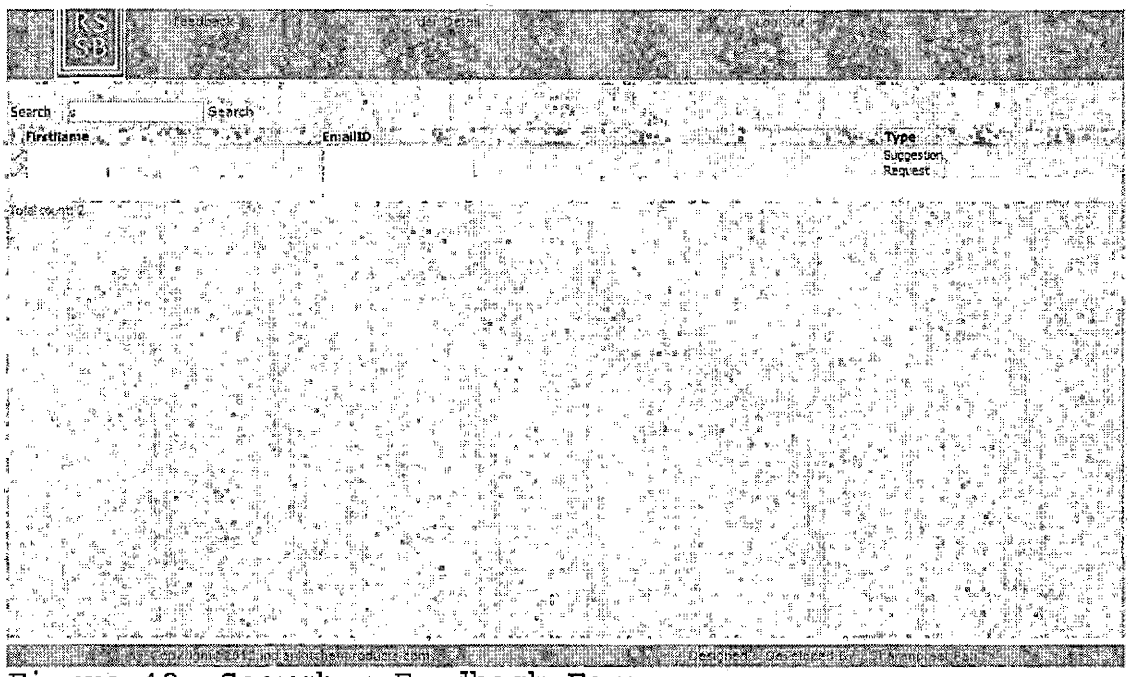


Figure 48. Searches Feedback Form

4.1.34 Admin Views Order List

Admin views customers invoice and its description. Hence, OIKA helps Admin to view all customers' invoice details in the system.

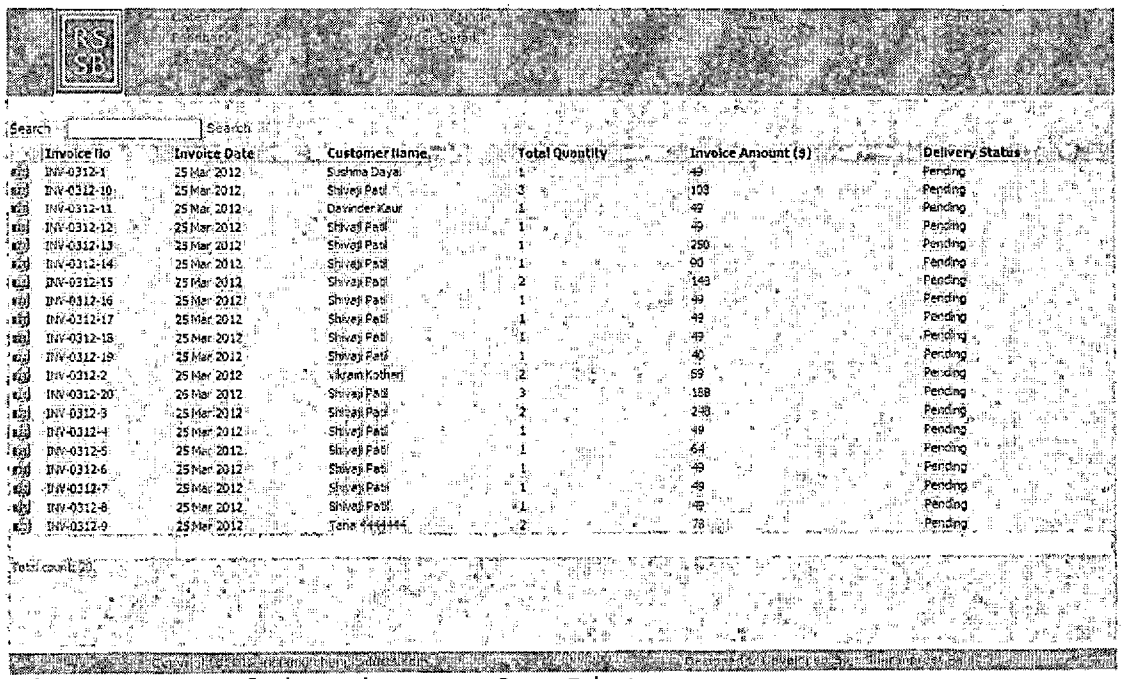


Figure 49. Admin Views Order List

4.1.35 Admin Searches Order List

Admin searches customers invoice and its description. Hence, OIKA helps Admin to search all customers' invoice details in the system.

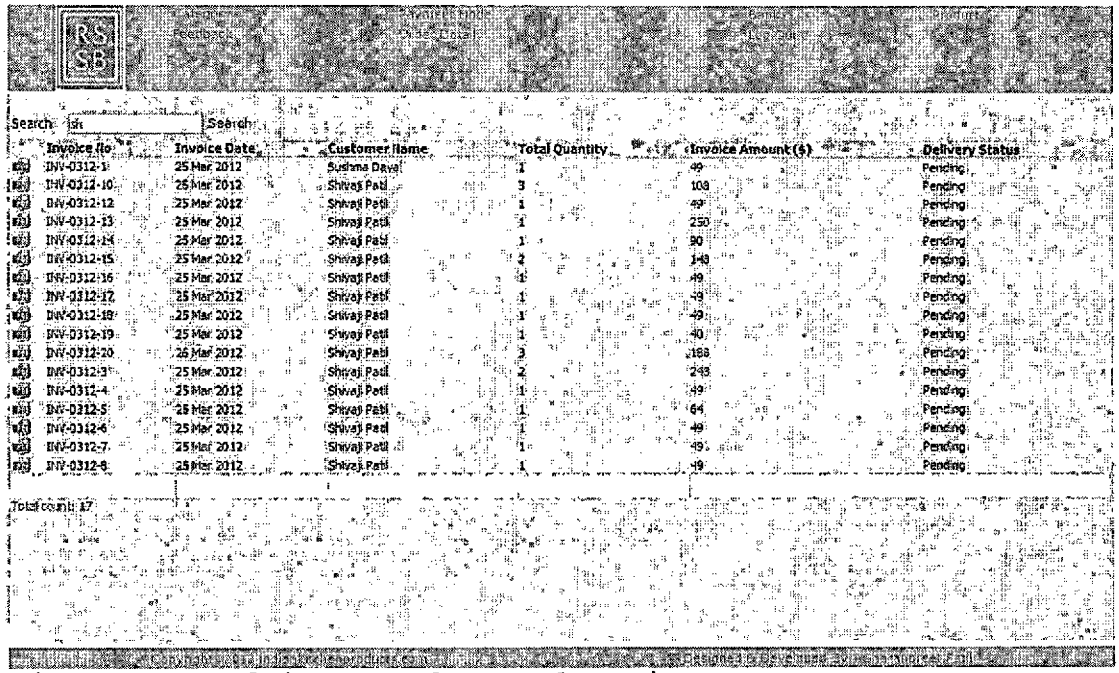


Figure 50. Admin Searches Order List

CHAPTER FIVE

SYSTEM VALIDATION

OIKA performance is described in this section. The software system validation purpose is obtained as OIKA attributes gives the desired result. The different levels of testing is performed and discussed in the following sub sections.

5.1 Unit Testing

Unit testing is the initial testing phase. Each unit of the project is tested and checked to give the desired results. The results are noted in the following table.

Table 10. Unit Testing Result

Page	Test Performed	Results
Home / Default Page	1. Logo is visible. 2. Product Image is visible. 3. Font is visible & readable. 4. Background/Foreground is suitable. 5. All Hyperlinks & Buttons work appropriately. 6. Sample Products small image's alignment & appearance are suitable. 7. Static kitchen Product categories are loaded and visible. 8. Spellings are checked.	Pass

Page	Test Performed	Results
Kitchen Product Categories	1. Each product category is loaded. 2. Each product name is shown. 3. Each product code and price is visible along with add to cart option. 4. Each product category's small images are loaded properly. 5. Each product's unique code, small images and model number are readable and aligned. 6. Static Kitchen Product categories are loaded and visible.	PASS
Kitchen Product Description	1. Each kitchen product detailed description and technical details are properly loaded. 2. Each Product's big image is loaded properly for customer view. 3. Each product's offer price is visible. 4. Each kitchen product's detailed description along with add to cart option is visible. 5. Static Kitchen Product categories are loaded and visible.	Pass
Add to cart	1. Kitchen products to be purchased are shown in the cart. 2. Quantity of each product is visible. 3. Each kitchen product's model number, product number, along with the price is shown. 4. Total payable amount is shown. 5. Total payable amount written in words is shown. 6. Customer's Payment mode is loaded. 7. Generated customer's invoice is loaded accurately. 8. Customer's shipping address is visible. 9. Static Kitchen Product categories are loaded and visible. 10. Each product in the cart is shown with the delete option.	Pass

Page	Test Performed	Results
About Us	1. Spellings are checked. 2. Sentences are readable. 3. Paragraphs alignment & appearance are suitable. 4. Static Kitchen Product categories are loaded and visible.	Pass
Contact Us	1. Spellings are checked. 2. Sentences are readable. 3. Each paragraph Alignment & Appearance is suitable. 4. Company Contact details are properly loaded. 5. Static Kitchen Product categories are loaded and visible.	Pass
Feedback	1. Guest Customer registers and gives feedback to the company. 2. Registered Customers log in and give their feedbacks. 3. After registration, feedback form is loaded 4. Each textbox are aligned and labels are readable. 5. Static Kitchen Product categories are loaded and visible.	Pass
My Account	1. New Customer registers with the company is loaded. 2. Registered Customers login is shown. 3. Each textbox are aligned and labels are readable. 4. Static Kitchen Product categories are loaded and visible.	Pass
Login	1. Before purchasing product, new customer account is shown. 2. Before purchasing product, old customer login in account is shown. 3. Each textbox and labels are aligned properly. 4. Static Kitchen Product categories are loaded and visible.	Pass

Page	Test Performed	Results
Admin Page	1. Admin login page is loaded accurately. 2. Each label and textbox is aligned and visible. 3. Company's Logo is visible.	Pass
Admin Blank Page	1. As soon as Admin logs in, the admin blank page is loaded. 2. All Hyperlinks & Buttons work appropriately.	Pass
Admin Category Page	1. Check the links. 2. Each Kitchen product category is loaded. 3. Admin views the Category Page accurately. 4. Check the NEW link works to create the new category & its description. 5. Check the Delete link works to delete the new category & its description. 6. Check the Edit link works to edit the new category & its description. 7. Check search option is applicable for each category & its description.	Pass
Admin Feedback Page	1. Check the links. 2. Each customer's name, email ID and suggestion type is loaded. 3. Admin views the Feedback page accurately. 4. Check the NEW link works to create the new Feedback information. 5. Check the DELETE link works to delete the new Feedback information. 6. Check the Edit link works to edit the new Feedback information. 7. Check search option is applicable for each feedback description available.	Pass

Page	Test Performed	Results
Admin Payment Mode	1. Check the links. 2. Each payment modes options are loaded. 3. Admin views the Payment modes accurately. 4. Check the NEW link works to create the new Payment modes. 5. Check the DELETE link works to delete the new Payment modes. 6. Check the Edit link works to edit the new Payment modes. 7. Check search option is applicable for each Payment modes description.	Pass
Admin Bank	1. Check the links. 2. Each Bank names are loaded. 3. Admin views the Bank details accurately. 4. Check the NEW link works to create the new Bank details. 5. Check the Delete link works to delete the new Bank details. 6. Check the Edit link works to edit the new Bank details. 7. Check search option is applicable for each Bank details.	Pass
Admin Product	1. Check the links. 2. Each product items, detailed description are loaded. 3. Admin views the Product details accurately. 4. Check the NEW link works to create the new product items and its description. 5. Check the DELETE link works to delete the new product items and its description. 6. Check the EDIT link works to edit the new product items and its description. 7. Check search option is applicable for each product item.	Pass
Admin Logout	1. As Admin Logs out, Admin log in page is uploaded.	Pass

5.2 System Integration Testing

System Integration testing is the second phase after unit testing. OIKA has two modules one for customer and the other for Admin. Each OIKA module is tested and results are evaluated on the performance of the modules. This part of testing helps in obtaining better performance. The table below describes integration testing.

Table 11. System Integration Testing

System/Module	Tests Performed	Results
Customer Login	1. Verify only Registered customer's logs in. 2. Verify unregistered customer has to register and then logs in. 3. Verify error message is displayed if all the required fields are not filled.	Pass
Customer	1. Verify Kitchen products to be purchased by customer are shown in the cart. 2. Verify Quantity of each product is visible. 3. Verify each kitchen product's model number, product number, along with the price is shown. 4. Verify Total payable amount is shown. 5. Verify Total payable amount written in words is shown. 6. Verify Customer's Payment mode is loaded. 7. Verify Generated customer's invoice is loaded accurately. 8. Verify Customer's shipping address is visible.	Pass

System/Module	Tests Performed	Results
	9. Verify each product in the cart is shown with the delete option. 10. Verify customer adds and deletes items in the cart easily. 11. Verify any required fields are not filled error message is displayed.	
Admin Login	1. Verify Admin fills the required log in and signs in. 2. Verify Admin fails to fill all required fields then error message is displayed.	Pass
Admin	1. Verify Admin adds/modify/delete kitchen products categories and description. 2. Verify Admin adds/modify/delete customer's feedback forms. 3. Verify Admin adds/modify/delete Payment modes. 4. Verify Admin adds/modify/delete Bank information. 5. Verify Admin adds/modify/delete product items and information. 6. Verify duplication validation is intended.	Pass

5.3 System Testing

OIKA is purely client/server model. The server is updated and taken care by taking backups at regular intervals of time. The backups can be scheduled weekly, monthly or any time decided by the company. The Client system is tested and results are noted in the table given below.

Table 12. System Testing

System Test	Results
IIS installation process for OIKA	Pass
OIKA running on Microsoft Internet browser	Pass
OIKA running on Google chrome browser	Pass
OIKA running on Mozilla Firefox browser	Pass
OIKA running on Opera browser	Pass
OIKA data records are shown accurately to customers.	Pass
OIKA data records are shown accurately to Admin.	Pass

CHAPTER SIX

MAINTENANCE MANUAL

Any software application needs maintenance for better performance in the long time. OIKA admin has to perform certain installation steps before running OIKA in their systems. This chapter had detailed instruction for installation and its software configurations.

6.1 Installation

6.1.1 Internet Information Server Installation Process for Online Indian Kitchen Appliances

The IIS installation requires some supporting software. Make sure before installing OIKA, these supporting software are already installed.

1. The system should have Windows installer, 3.5 .Net framework, Adobe reader, and flash player as supporting software already installed in the system.
2. Open IIS from start up programs in Windows. Type this URL and download FileZilla software for Windows into the system.

http://filezilla-project.org/download.php

3. Download the exe file and save in one of the drive. This is open source download. Install

FileZilla FTP to upload files and database server in the machine.

4. Again, open IIS type the following URL and click on Manage Webhosting as shown in the following diagram.

http://www.bigrock.in/

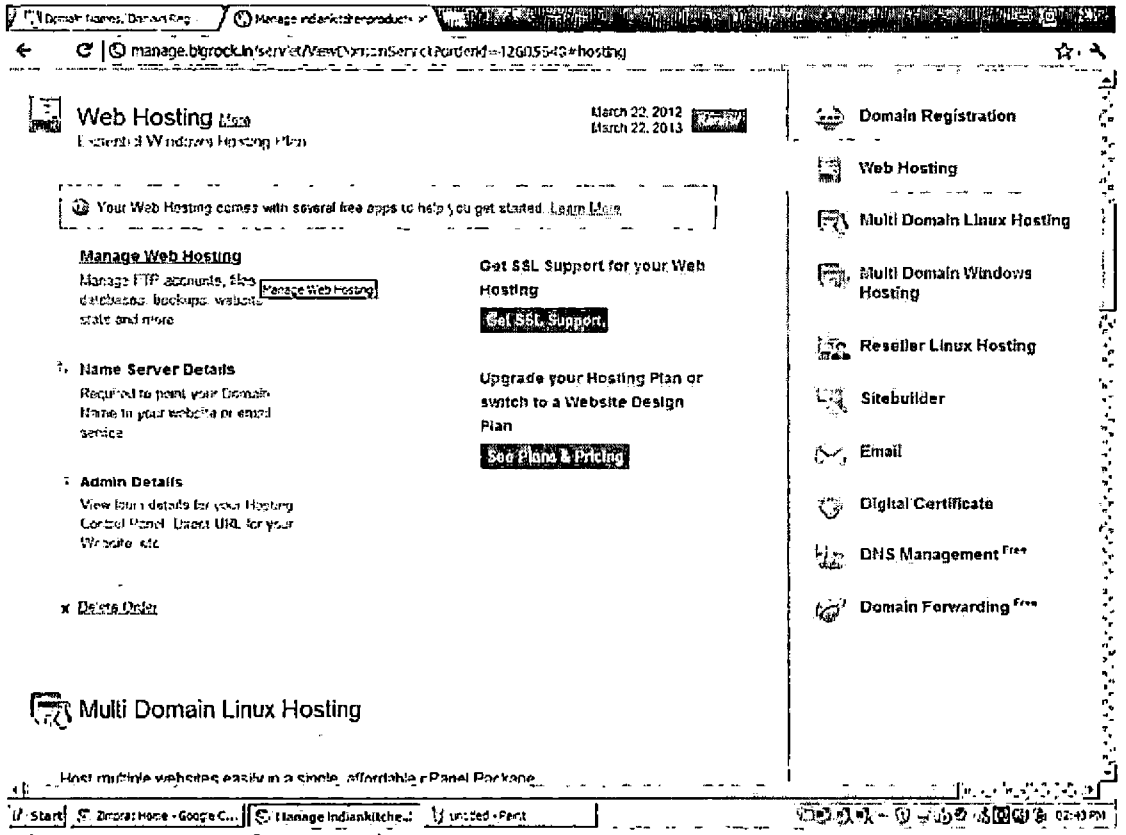


Figure 51. Web Hosting

5. The Manage Webhosting will have the following files as shown in the diagram.

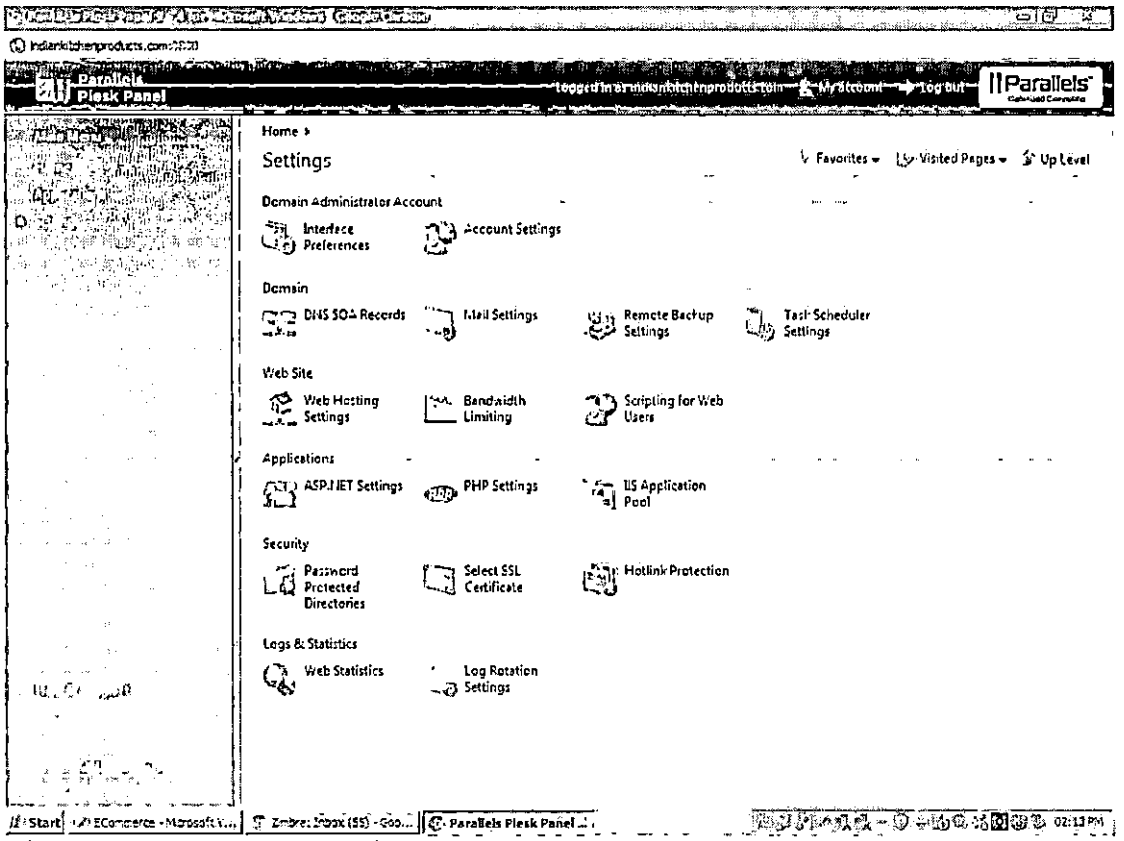


Figure 52. Web Hosting Files

6. Create two folders in the systems as Create Virtual Directory and Create Directory folder as shown in the diagram.

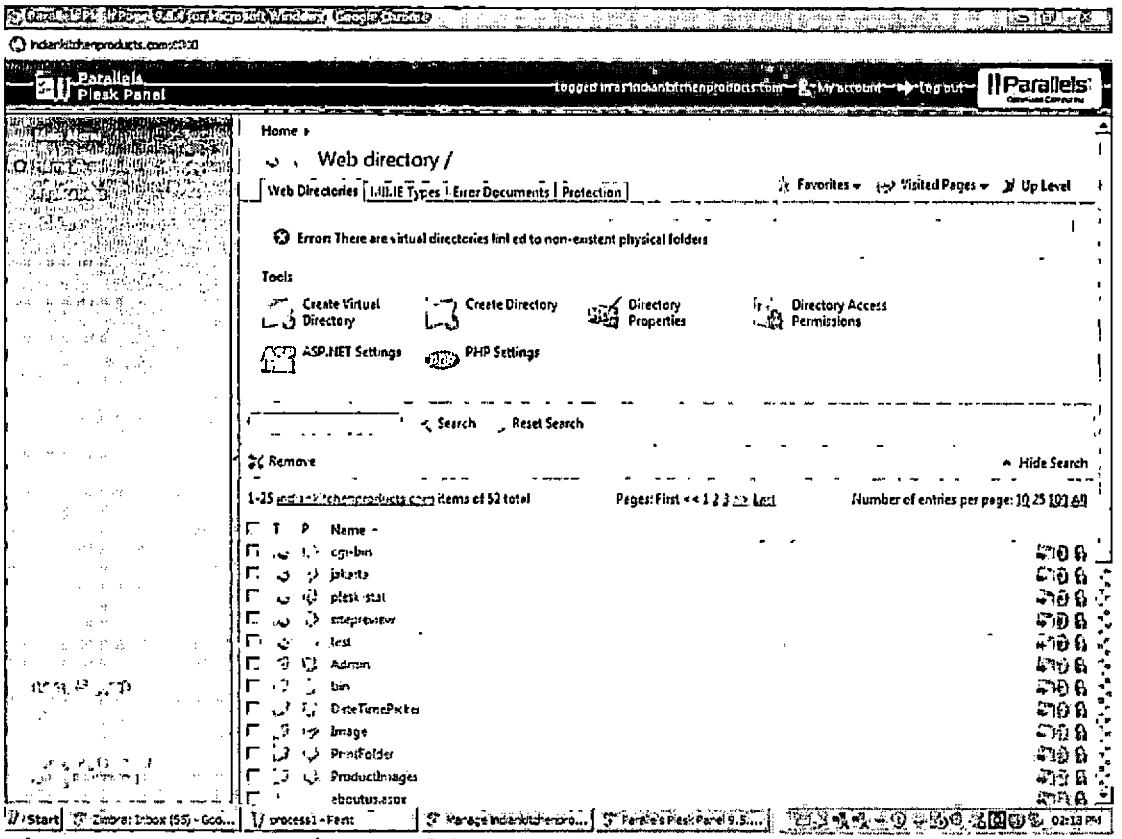


Figure 53. Creating Folders

7. The Virtual Directory will have the following option and settings as shown in the diagram. The Directory properties have to set up for permission to access permission. To do this we have to make default Page on the top of Default Documents Search Order. Then click on Ok.

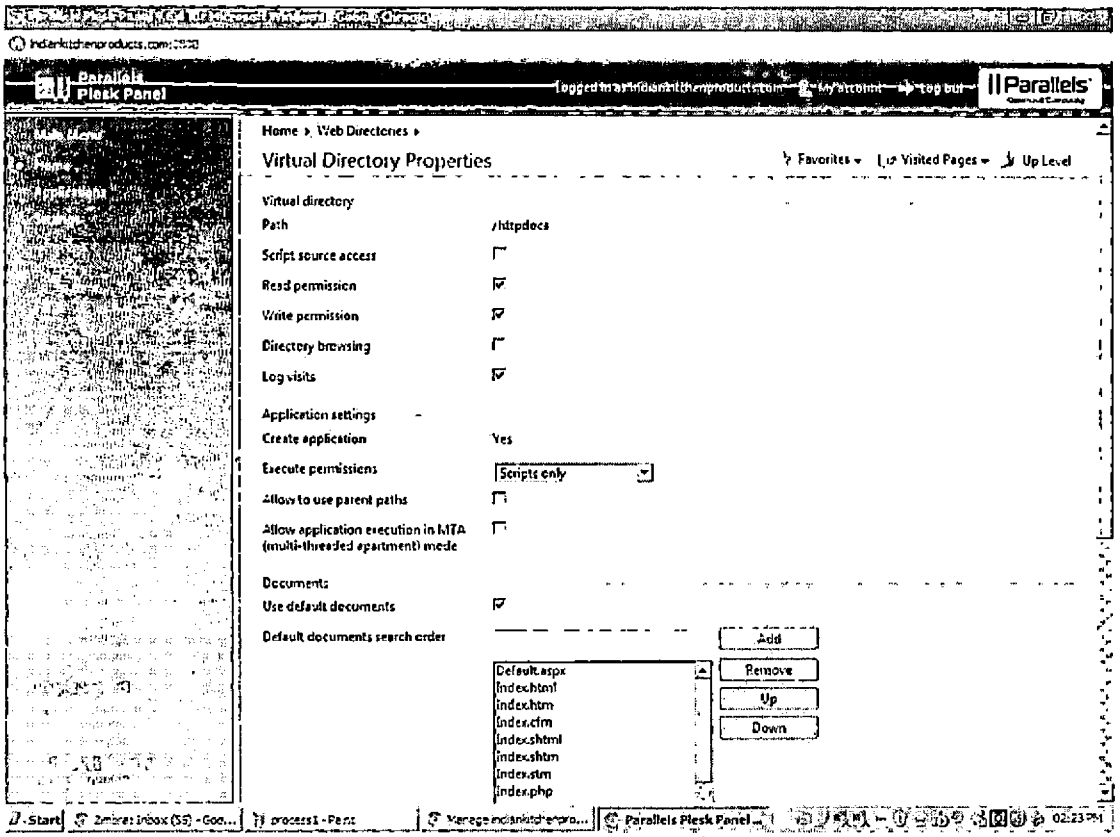


Figure 54. Virtual Directory Properties

8. All rights accesses are achieved and the settings are shown in the following diagram.

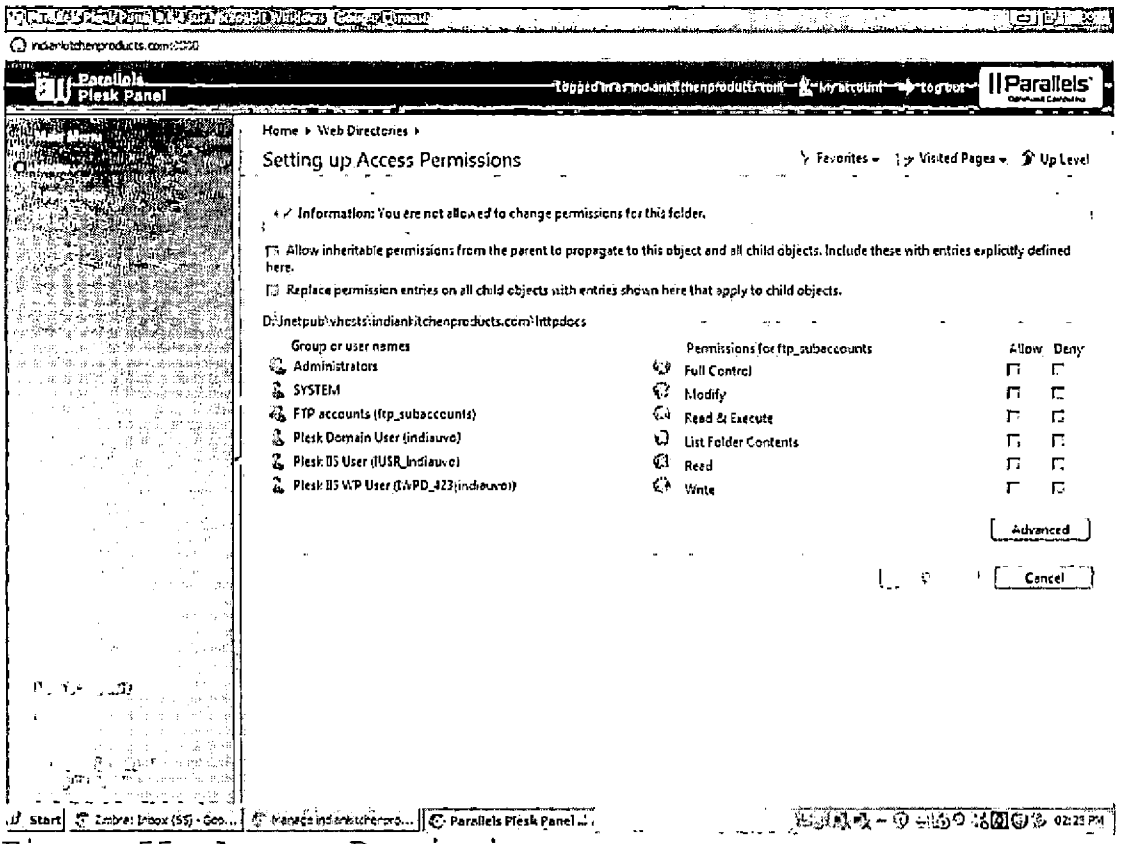


Figure 55. Access Permission

9. The Backup Manager has Database Backup Repository. Admin can upload Database Backup Files i.e. uploads all asp.net WebPages in the system. All Application Services adds all application files and Databases adds existing database for the system. OIKA has Eshopping as database name which is added to the software. The following settings are shown in the following diagram.

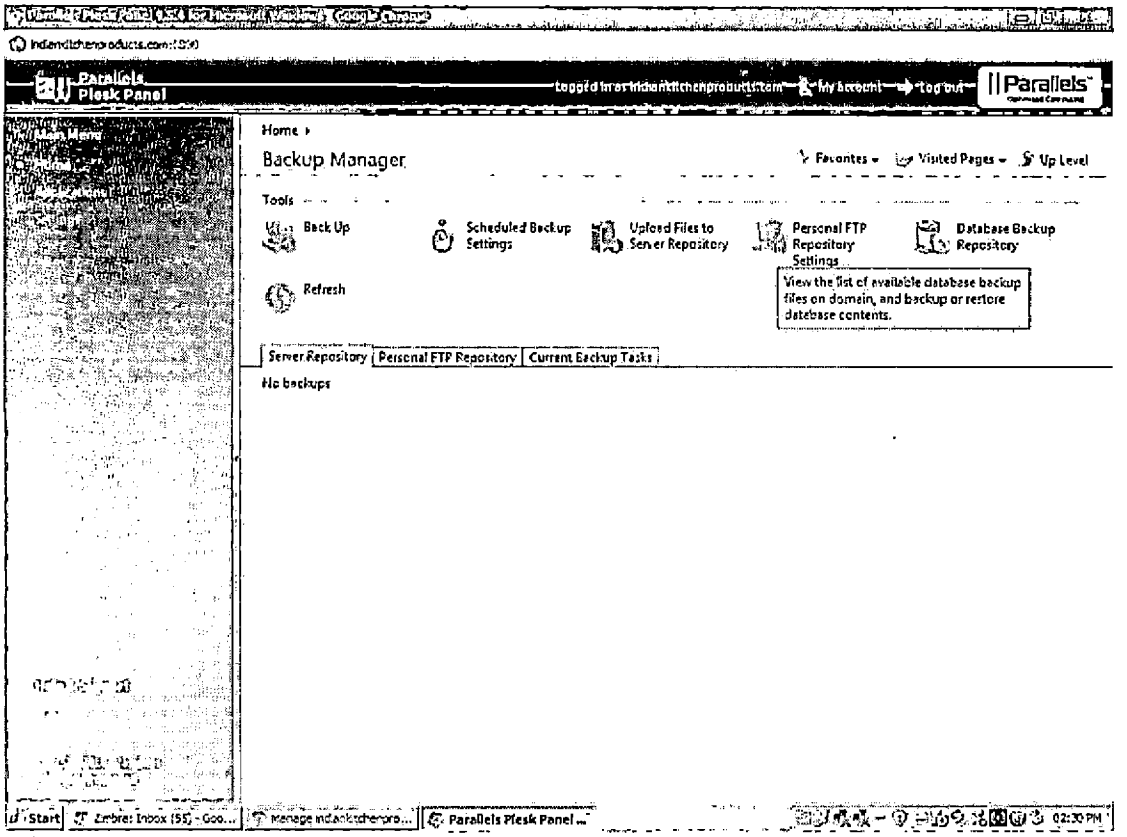


Figure 56. Back Up Manager

10. Hence, this is how OIKA web application and database are running over the domain in the network.

6.2 Database Backup

The database backups are taken care in the installation process. The Company server is not installed in the local machine. Server is running on a domain over the network. The Backups are scheduled by the company as per its regular intervals of time.

6.3 System Backup

All system files such as web application files .aspx files, web.config files, .xsd files, and .dll files of the system should be saved on external drive. So that if any failure occurs in the system, all system files can be easily restored by the admin.

CHAPTER SEVEN

CONCLUSION AND FUTURE DIRECTIONS

7.1 Conclusion

OIKA is a user-friendly client/Server model for customer as well as Admin. Customer has various Indian kitchen appliances to view. Customer can find all the important and related utensils in one category. This helps the user in their search for appliances. OIKA can be termed as easy shopping because registered/unregistered customers add appliances to their cart as they go for shopping in any general grocery stores. OIKA provides various payment modes such as check, DD, credit/Debit card, cash on delivery for the customers. They can select payment modes as per their convenience. Customers can print their invoices and store them for themselves. OIKA helps in business and strengths the customer and company's bond. Customer and Company can communicate with each other via feedback form. OIKA also helps Admin in his work. Admin adds/updates/delete product categories and details; payment modes; Bank information; Customer's invoices; Customers feedback forms and various product item details easily. Hence OIKA is easy to access and is beneficial to

both customers and Admin. OIKA is designed in such a way that it meets the needs of all customers.

7.2 Future Directions

OIKA can add various other products for online shopping as old kitchen utensils. If someone is moving to other place and he had many utensils, they can give their products to the company. This way, customers can get more appliances in cheaper rates. One more feature can be added, as while registering if some user forgets its password, he can request the system to reset his password. OIKA can add more products in his category section. OIKA can be made available in mobile application in the future for the customers.

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