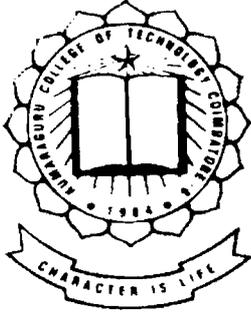


P-679



**SERVICE  
MANAGEMENT SYSTEM**  
KALNI TECHNOLOGIES PRIVATE LIMITED  
COIMBATORE.  
**PROJECT REPORT**

SUBMITTED IN PARTIAL FULFILLMENT OF THE  
REQUIREMENTS FOR THE AWARD OF THE DEGREE OF  
**BACHELOR OF ENGINEERING - INFORMATION TECHNOLOGY**  
OF BHARATHIAR UNIIVERSITY,  
COIMBATORE.

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**MARCH 2002**

## CERTIFICATE

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This is to certify that the project work entitled  
**" Service Management System "**  
has been submitted by

Ms.BHAVANI MANOSHINLS

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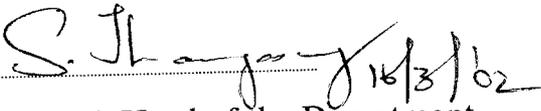
Mr.A.M.MANJUNATH

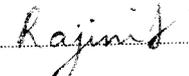
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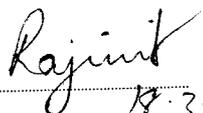
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in partial fulfillment of the award of the  
degree of Bachelor of Engineering – Information Technology of Bharathiar  
University , Coimbatore during the academic year 2001 – 2002.

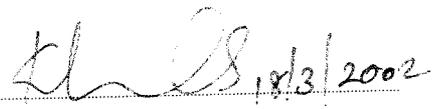
  
Professor & Head of the Department

  
Guide

Certified that the candidate was examined by us in the Project Work  
Viva Voce Examination held on 18-3-2002 and the University  
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18.3.02

Internal Examiner

  
18/3/2002

External Examiner

679





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**TO WHOMSOEVER IT MAY CONCERN**

This is to certify that S. Bhavani Manoshini has been associated with us as a Project Trainee from 26-11-2001 to 28-02-2002. The Project she has worked on was "SERVICE MANAGEMENT SYSTEM". She has completed the project successfully. She has been very good at his work and has the ability to solve any complex problem.

We wish her all success in his future endeavours.

Thanking you,

Yours Faithfully,  
For **KALNI TECHNOLOGY PVT LTD.**

**C.R.SIVACUMAAR.**  
**GENERAL MANAGER.**



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This is to certify that N. Shanmugavalli has been associated with us as a Project Trainee from 26-11-2001 to 28-02-2002. The Project she has worked on was "SERVICE MANAGEMENT SYSTEM". She has completed the project successfully. She has been very good at his work and has the ability to solve any complex problem.

We wish her all success in his future endeavours.

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This is to certify that Mr.A.M. Manjunath has been associated with us as a Project Trainee from 26-11-2001 to 28-02-2002. The Project he has worked on was "SERVICE MANAGEMENT SYSTEM". He has completed the project successfully. He has been very good at his work and has the ability to solve any complex problem.

We wish him all success in his future endeavours.

Thanking you,

Yours Faithfully,  
For **KALNI TECHNOLOGY PVT LTD.**



**C.R.SIVACUMAAR.**  
**GENERAL MANAGER.**

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# ACKNOWLEDGEMENT

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## ACKNOWLEDGEMENT

We would like to offer our sincere and heart felt thanks to our Principal **Dr.K.K. Padmanabhan B.Sc. (Engg), M.Tech, Ph.D,** Kumaraguru College of Technology,Coimbatore for the overall support that he provided during the project work.

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We would like to thank our class coordinator **Mrs.A.UAmutha** and our internal project guide **Ms. Rajini.S, Senior Lecturer, BE, MISTE, MCSI** for guiding us to complete our project successfully.

We express our profound gratitude to our external guide **Mr.Ganesh Murali MSc,** for providing excellent guidance for the timely completion of the project.

We are greatly indebted to Kalni Technologies Limited, Coimbatore for providing us the golden opportunity to do this project at their organization. We take an immense pleasure in thanking **Mr.Kalyana Sundaram , Managing Director of Kalni Technology Private Limited,** Coimbatore.

Our sincere word of thanks to all the staff members of Kumaraguru College of Technology, Coimbatore and Kalni Technologies Private Limited, Coimbatore for the help rendered in the successful completion of this task.

Our acknowledgement would be incomplete without thanking our parents and friends for their support, love and understanding throughout the endeavor.

Above all, we owe our gratitude to God Almighty, for showering abundant blessings on us.

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# SYNOPSIS

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## Synopsis

The title of the project is “**Service Management System**”. This project has been done for Kalni Technologies Private Limited, Coimbatore. The project deals with the management of records about transactions with the company. This package has been developed using Active Server Pages, VBScript, HTML as the front end and MS-ACCESS as the back end. This package acts as a friendly interface between the customer and the company. The package actually performs the processes to record the transaction information to the database. The transactions are purchase from the suppliers, sales to the dealers, service of the products and providing training to the students. The transactions within the branches of the company is made easy through web communication like chat. The project also deals with the Online Service Entry for the customers to inform the company online about the services they need. The project also provides reports on daily and monthly basis. Above all, this project has been developed in a user- friendly manner for easier access of the users.

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# SERVICE MANAGEMENT SYSTEM

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# INTRODUCTION

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# 1. INTRODUCTION

## 1.1 Company Profile

### Vision

**Kalni Technology (P) Ltd** specializes in sales and servicing of computer products, consumables and other computer peripherals. Based in Coimbatore, **KTPL** has and always will have a commitment to professional quality sales and services throughout TamilNadu. **KTPL** always continued to expand its business as the computer industry continues to grow. They believe that using their services and expertise customers can position their company to be more competitive in today's market place. Their added support provides the highest quality of service for customer satisfaction and network reliability.

### KTPL History

#### *"16 Years in the Business"*

**KTPL** was founded in 1985, to handle the growing range of business and computer products. The company was created as a computer hardware sales and service maintenance firm. Over the years the company has expanded and grown with the computer industry, to include on-site Time & Materials repair and depot repair, maintenance contracts, preventive maintenance, installation, customized and canned software sales and consulting, and hardware sales of all major manufacturers. Whether depot repair or contract, software or hardware, **KTPL** was meeting their needs.

#### *"Sovereign Success"*

They are certified as the Genuine Intel dealer and associate with the Ingram **Micro** of USA the largest distributor's chain for **IBM, HP, COMPAQ** and more than 200 Networking products in IT Industries. They have installed base of above 20,000 PC's so far with Networking and Stand alone along with peripherals in various kind of environments. Their client database encompasses a varied spectrum of users, such as State and Federal Government bureau, manufacturers, wholesalers, exporters, importers and distribution outlets ranging from multi-nationals, to small commercial concerns.

## ***"Bonding to the Binding"***

During its 16 years, KTPL's success is a testament to staying focused on doing what they do best - selling and servicing computer products, printers, consumables and computer peripherals throughout Tamil Nadu.

### **Services**

Today KTPL provides service to companies including federal, state, corporate sectors and Local Government bureau and commercial operations of all sizes.

#### ***KTPL Service offers:***

- Annual Maintenance Contract
- Full on-site repair services
- Depot and In-house repair services
- Network design, installation & maintenance
- Internet Access and Design services
- Sprint RPG mail service
- Software installation, client training and support for a range  
Of accounting and stock control systems

Their approach to servicing their client's requirements depends on their individual needs, but certain principles underpin their relationships with them. Understanding our client's requirements will help us achieve their business objectives by determining the most effective solution.

#### **Networks Services**

KTPL network division supports most major operating systems and performs complete installs from the cabling upward. Recently their product range has extended into providing advanced communications such as Internet connections and services plus wide area network services.

## ***Training and development***

Their training division offers in-depth training in software as well as in Hardware. They conduct courses in-house for Hardware. Courses can be tailored to meet specific client requirements. They also design and host Web pages for personal and commercial use.

## **Staff People**

KTPL prides itself on employing the most knowledgeable personnel to serve their customers. Their staff includes hardware engineers, system integrators, software developers, Novell Certified Engineers (CNEs & ECNEs), communication specialists, field technicians, component-level hardware technicians, and Web Sites designers. Whatever your computer-related problem is, KTPL has an expert to solve it.

## **1.2 Existing System and Its Limitations**

The existing system is a paper - based one. It has got its own limitations. Time is one of the major factors to be considered in this business world. Maintaining of records consumes more time and energy. The existing system is also more prone to errors. Handling errors is a tedious process. This even involves a lot of manual work. Searching for informations of a particular transaction is difficult as it has to be done manually. Thus the need for an improved system arises to overcome these limitations.

## **1.3 Proposed System and Its Advantages**

To overcome the problem associated with the existing system, this package is developed. The proposed system is a computer-based one. Maintaining of records becomes easy. Time consumption is less when compared to the existing system. Locating errors and handling them is an easy task. Searching for informations of a particular transaction is made easy with the help of a primary key. The ultimate aim of customer satisfaction is achieved which is the dream of any company. The proposed system is named as

“Service Management System “.

---

# SYSTEM REQUIREMENTS

---

## 2.SYSTEM REQUIREMENTS

### 2.1 Product Definition

#### 2.1.1 Problem Statement

This package is used to maintain the records of transactions with the company. The requirements of the customer is got and analyzed. The transaction between the customer and the company is made easy by computerizing it. This leads to a faster response to the requirements of the customer. The package also involves communication between the branches of the company by chat. This also helps in entering the service online and viewing the tender branch-wise. Thus the product is named as “**Service Management System**” which manages the transactions with the company within a short period.

#### 2.1.2 Functions to be Provided

The functions offered by this package are sales of products to the customers, service of customer products, purchase of products from the suppliers and transactions within branches of the company through web communication, entering the complaints online for service and viewing the tenders. It also involves in providing training to the employees of the company and students .

#### 2.1.3 Processing Environment

##### **Hardware Requirements**

Processor	- Celeron
Clock Speed	- 500 MHZ and above
Hard Disk	- 20 GB
Operating System	-Windows 98
Cache	- 256 cache
Monitor	- HP 14 inch
KeyBoard	-Windows Keyboard with 104 keys
Mouse	- HP

## **Software Specification**

- Front-End ASP, HTML, VBSCRIPT
- Back-End MS-ACCESS

### **2.1.4 User Characteristics**

This package is used by both the Management and the Staff. This package is user friendly and interactive which ultimately leads to customer satisfaction. This package acts as a friendly interface between the customer and the company. The company records are maintained safely and securely as authentication is checked for each and every user. Authentication is checked by verifying name and password of the user. This ensures security to the records of the company.

### **2.1.5 Solution strategy**

This package approaches the problem in a step by step fashion. First, information of the company is gathered. The problem is analyzed and proper rough draft is prepared on analysis. Finally, the problem is approached by dividing it into modules. The main screen acts as a friendly interface between the customer and the company. Options are selected to call the particular module and similarly options are selected to return to the main form. Thus the solution strategy is obtained.

### **2.1.6 Product Features**

The product is mainly developed for **Kalni Technologies, Coimbatore**. The main feature of this package is authentication. The administrator or the staff alone can have access of the informations. It is checked by verifying the name and password of any user who accesses the company. The security cannot be broken unless the user know the password. Another important feature to be mentioned is user interactiveness. The requirements of the customer are studied and are met which ultimately leads to customer satisfaction. The response time is less and it is user friendly too.

### 2.1.7 Acceptance Criteria

The input given by the user who accesses the company are his name and password, which is verified with the database to check for authentication. Then the requirement of the customer is got and response is in such a way that the customer need is satisfied.

## 2.2 Project Plan

### 2.2.1 Life Cycle Model : Terminology/Milestones/Work Products

The Prototype Model is proposed to be the life cycle mode followed while developing this product. It provides the potential for the rapid development of incremental versions of this software.

#### **Prototype Model:**

The goal of a prototyping based development process is to counter the first two limitations of the waterfall model. The basic idea here is that instead of freezing the requirements before any design or coding can proceed, a throwaway prototype is built to help understand the requirements. The prototype is developed based on the currently known requirements. Development of the prototype undergoes design, coding and testing, but each of these phases is not done very formally. By using this prototype, the client can get an actual feel of the system, because the interactions with the prototype can enable the client to better understand the requirement that change less frequently.

#### **Development Process**

- The development of the prototype typically starts when the preliminary version of the requirement specification document has been developed. At this stage there is a reasonable understanding of the system and it needs and which needs are unclear or likely to change.
- After the prototype has been developed, the need users and clients are given an opportunity to use the prototype and play with it.

#### Task Region 4:

Terminology : Engineering

Milestones : Jan 11<sup>th</sup> – Jan 20<sup>th</sup>

Work Products:Based on the needs of the project leader the software requirement specification is prepared.Then theDesign Document is prepared and so coding be started.

#### Task Region 5:

Terminology : Construction and Release

Milestones : Jan 21<sup>st</sup> – Feb 28<sup>th</sup>

Work Products:Database Creation,Front End Design,Coding, Preparing Test Plan .

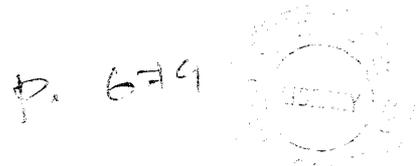
### 2.2.2 Development Schedule

In order to complete the project in the given time, the development schedule is framed and based on the time slots, the product is developed.The development schedule consists of milestones and reviews which have been stated above.

### 2.2.4 Programming Languages and Development Tools

#### Programming Language

- Active Server Pages
- VBScript
- HTML



#### Features of Active Server Pages:

**Microsoft Active Server Pages(ASP)** is a server side scripting environment that can be used to create and run dynamic, interactive web server applications. ASP can be combined with HTML pages, Script commands and ActiveX components to create interactive web pages or

powerful web based applications. ASP lets you use the power of a web server to process user request and provide dynamic, individualized, content based on logic, file and database data, and also process the users individualized data. ASP lets multiple users simultaneously run a program on a web server. ASP provides

- A way to save individualized data for each user.
- Access to the file system.
- Access to databases.
- A means to launch and control any Component Object Model component.

## **Objects and Components**

ASP is fully based on the following Objects and Components. They are

### **Objects**

- Request Object
- Response Object
- Application Object
- Server Object
- Object Context Object
- Session Object

### **Request Object**

Internet application is similar to Client/Server application as they completely depend upon the transfer of data between the Client and the Server. Data from the web server is sent to the client using a web page and data from the client is sent to the server using the process called form submission and the client requests to the server through this Request Object.

### **Response Object**

The Response Object manages the content returned to a browser by active server pages. Each active server page is indeed a Response Object. The client receives the Response from the server through this Response Object.

## **Application Object**

Application Object helps in sharing of information among all users. The two methods that are carried out in Application Object are lock and unlock.

## **Server Object**

The Server Object provides access to properties and methods on the server. These methods provide mainly utility functions.

## **Object Context Object**

We use Object Context Object with Microsoft transaction server for aborting a transaction.

## **Session Object**

The Session Object is very similar to the Application Object. The primary difference is that the Session Object maintains or manages the information on individual user sessions. A Session Object is created when a user who does not have a session accesses a page in the application. The Object persists until it times out or is explicitly abandoned.

## **Components**

- Database access Component
- File access Component
- Browser Capability Component
- Content Linking Component
- Ad Rotator Component
- Content Rotator Component
- Counter Component

## **About Microsoft Internet Information Server**

**Internet Information Services (IIS)** for Microsoft Windows 2000 brings the power of web computing to Windows. With IIS, you can easily share files and printers and create applications to securely publish information to improve the working of your Organization. IIS is a secure platform for building and deploying e-commerce solutions.

IIS also makes it easy to bring mission-critical business applications to the web. Windows 2000 with IIS scales to meet your needs. You can :

- Setup a personal Web server
- Share information within your Team.
- Access Databases
- Create an enterprise Intranet

Windows 2000 with Internet information services is the easiest way to share information and run powerful applications on the web.

### **Features Of Internet Information Server 5.0**

Internet information services 5.0 has many new features to help Web administrators to create scalable, flexible Web applications.

- Security
- Administration
- Programmability
- Internet Standards

### **Browsing Software**

Microsoft Internet Explorer 5.5 is the browsing software used in “**Service Management System**”. Sample testing is done using this browsing software. All the operations that are taking place in the web are done through the browsing software.

### **Features of Hyper Text Markup Language (HTML):**

HTML is an application of **Standard Generalized Markup Language (SGML)**. It is a simple language which is used to define and describe the layout of a web page. HTML also supports Multimedia and document links. HTML consists of special codes, which when embedded in text, adds formatting. The special characters, which separate HTML from ordinary text, are the left and right brackets (< >). These brackets contain instructions known as **Tags** that are not case sensitive.

## **Standard Generalized Markup Language (SGML)**

SGML is a general purpose tool for developing documents of any kind. It was developed to overcome problems while moving documents across Hardware platforms and Operating Systems. Thus, SGML is an international standard used for formal definition of system and platform independent text. SGML is used for defining and creating descriptive markup languages and hence it is known as data language. This forms the base for HTML.

## **Document Type Definition (DTD)**

This is a formal SGML specification that describes the elements and markup definitions which is used to create documents. This defines the syntax of the markup language by specifying formal specification for all markup conventions. At present, there are three HTML DTD's. They are

- IETF Level 2 HTML DTD
- IETF Level 3 HTML DTD
- Netscape's Mozilla DTD

IETF Level 2 HTML DTD defines a standard HTML document type. It includes tags to interact with users.

IETF Level 3 HTML DTD is an extension of Level 2 and is still in the experimental stage. It supports tables and other complex mathematical notations. It was developed by Netscape Communications Corporation. It includes tags for better page presentation. The tags are <TT>, <B>, <I>, etc., Internet Engineering Task Force (IETF) currently supports Level 2 and Web authors develop their Web pages using this Level of HTML.

## **Uniform Resource Locator (URL)**

It is the primary naming scheme which is used to identify Web resources that can either be HTML documents or other services present in the web. These web resources are identified with special names called **Uniform Resource Identifiers (URI)**. The URL is the standard method used to identify any resource on the Internet. It's components are **Service: // hostname: port / directory – path**

The directory path specifies the name of the HTML file.

### **Features of VBScript:**

VBScript is a member of Microsoft's Visual Basic family of development products. VBScript is a scripting language for HTML pages on the web and corporate Intranets. It is used to control contents and objects in a HTML page designed for the web.

VBScript can be embedded directly into the HTML pages. This extends HTML into something more than a page-formatting language. Pages with VBScript can change every time they are loaded into the browser.

VBScript acts as both server-side programming language and client side programming language. Client side programming language is a language that can be interpreted and executed by a browser. JAVA and JAVA Script are examples of client side programming languages. The browser automatically executes these programs. The only browser that understands client side VBScript is Internet Explorer.

A server side programming language is a language that executes on the server that is serving the website's files rather than the browser that receives those files. This language performs all the work on the website computer and all the job should be performed by the user. A major advantage of using VBScript is that the Scripts are processed even before the pages are sent to the browser. VBScript works with any of the browsers. When we learn to create ASP, we will be using VBScript as server side program.

### **Scripting**

Scripting allows us to control the content in a HTML page by using the <script> tag, which uses attributes. The objects in a HTML page could be an ActiveX control or a JAVA applet to OLE server application.

When the browser encounters the <script> tag in a HTML document, the coding is sent to the interpreter. This coding is then compiled and executed by VBScript.

## **Objects**

Objects are small programs that we can add to the HTML document. An object could be a JAVA applet, an ActiveX control or an OLE server program. Any type of object can be placed on the HTML document. As long as it is on the client machine or can be downloaded from the net, it can run on the client. The VBScript language enables us to take an object in the document and control it using the subset of Visual Basic language.

## **Features of MS-ACCESS 97**

The Microsoft's Access 97 is used as the back end. All the transactions like storing and retrieval of data are done using this. This database provides easy access to the data stored in the form of tables.

### **2.2.5 Documents to be Prepared**

It is suggested that the following documents can be prepared during the time of the project.

- A System definition consisting of a product definition and a project plan.
- A Software requirements specification.
- A Design document consisting of external design, architectural design and detailed design specification.
- A Test plan.
- A User's manual.
- A Properly documented, debugged and tested program.

### **2.2.5 Manner of Demonstration**

#### **Reviews**

Every weekend the finished modules are explained to the company, reviewed and inputs are taken.

#### **Product**

Demo of each module is given to the company as soon as the module is completed. If any changes are required, they are incorporated in the module after the review.

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# SOFTWARE REQUIREMENT SPECIFICATION

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## **3 . Software Requirement Specifications**

### **3.1 Product Overview**

#### **Aim of The Project:**

The project aims at building a product for Kalni Technologies Private Limited to perform their transactions in a computerized way.

#### **Current System:**

- Under this system the company records their transactions with paper and pen.
- Searching of any informations involves a lot of manual work.
- This system is Time Consuming and Error Prone.

#### **Proposed system:**

- Under this system the company records their Transactions with the computer.
- Searching of any informations is done quickly compared to the existing system.
- This system speeds up the process,works efficiently and least prone to errors.

#### **Database Section:**

Here the staff and administrator takes care of all the details like:

- Sales Details
- Service Details
- Purchase Details
- Training Details
- Front office Details
- Web Communication
- Reports

**Sales Details:**

This form is provided for the staff to add the details regarding Sales to dealers , Dealer information, Billing. The staff has the access to this form by clicking appropriate button and can go to other forms through the links provided on the side of the same form.

**Service Details:**

This form is provided for the staff to add the details regarding Service of the products , Material Requisition and Billing. The staff has the access to this form by clicking appropriate button and can go to other forms through the links provided on the side of the same form.

**Purchase Details:**

This form is provided for the staff to add the details regarding Purchase from suppliers , Warranty information and Billing. The staff has the access to this form by clicking appropriate button and can go to other forms through the links provided on the side of the same form.

**Training Details:**

This form is provided for the staff to add the details regarding Training provided to the employees as well as students. The staff has the access to this form by clicking appropriate button and can go to other forms through the links provided on the side of the same form.

**Web Communication Details:**

This form is provided for the staff to add the details regarding communication between the branches of the company. The staff has the access to this form by clicking appropriate button and can go to other forms through the links provided on the side of the same form.

**Reports Details:**

This form actually allows the staff to view all the informations on daily basis and monthly basis. The staff has the access to this form by clicking appropriate button and can go to other forms through the links provided on the side of the same form.

## Data Flow Diagrams

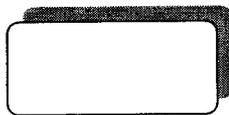
**Data Flow Diagram (DFD)** is a graphical technique that depicts information flow and the transforms that are applied as data move from input to output. DFD may be used to represent a system or software at any level of abstraction. In fact DFD's may be portioned into levels that represent increasing information flow and functional details.

### Graphical Notations used in DFD

The various symbols used in the data Flow Diagrams are as follows:



Source or Destination of data



A Process : Process Transfers flow of data



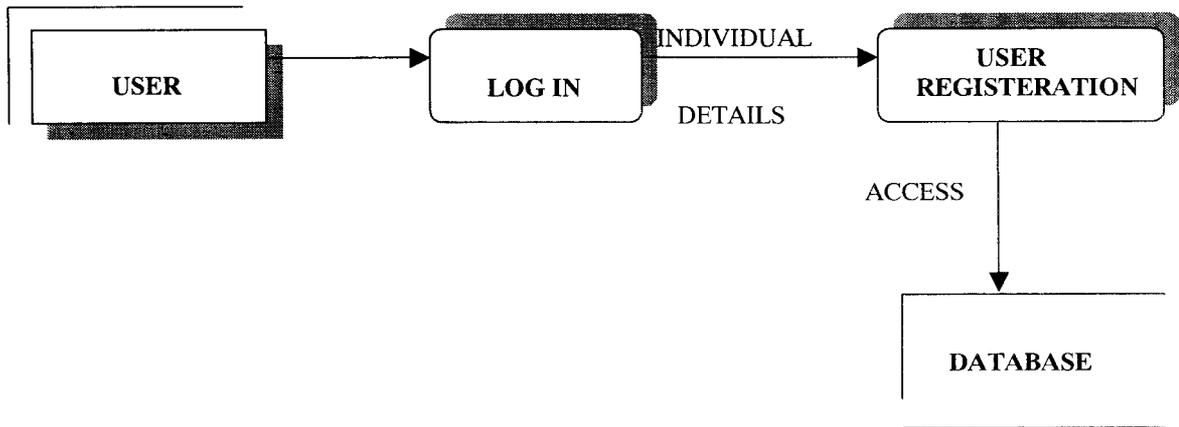
A Data Flow



A Data Store or a Database

The DFD's of the individual modules are discussed below.

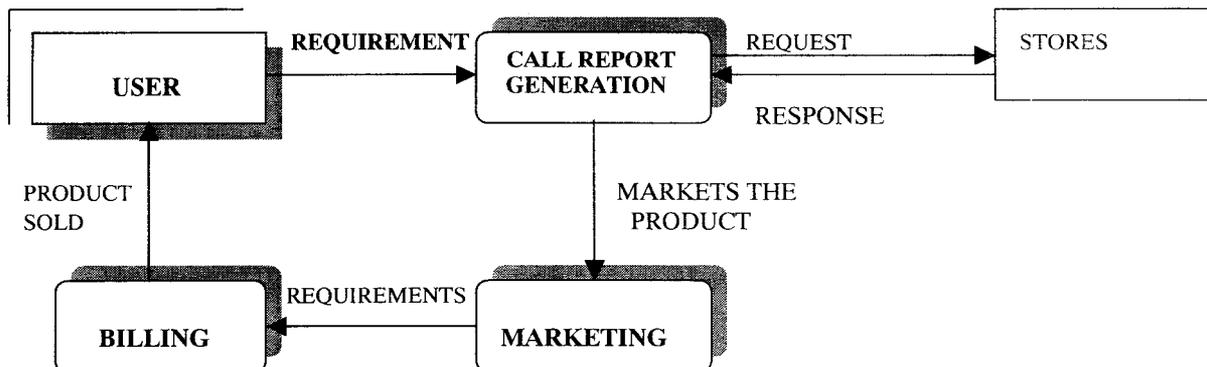
## AUTHENTICATION



## Description

Here the user logs in by giving his individual details along with the user name and password. His authentication is checked by checking the user name and password with the database and if he is a valid user he can access the database of the company.

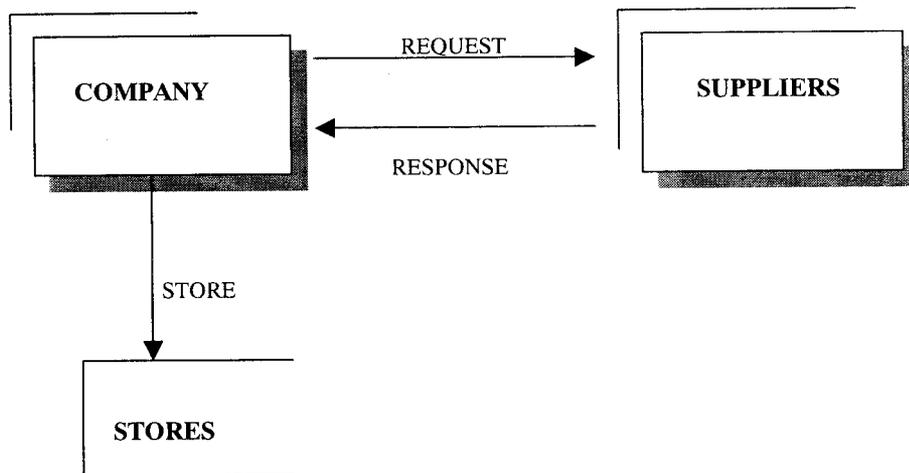
## SALES



## Description

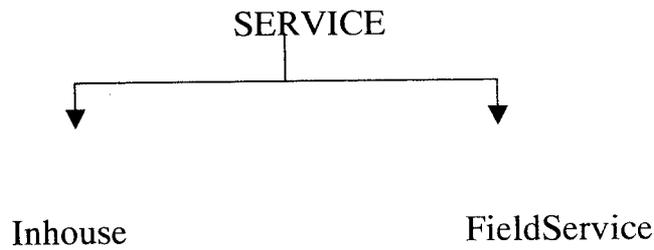
Here the user places his product requirements and its availability is checked in the stores. Then the product is marketed and if the customer is satisfied, it is billed and the product is sold to the user.

### PURCHASE

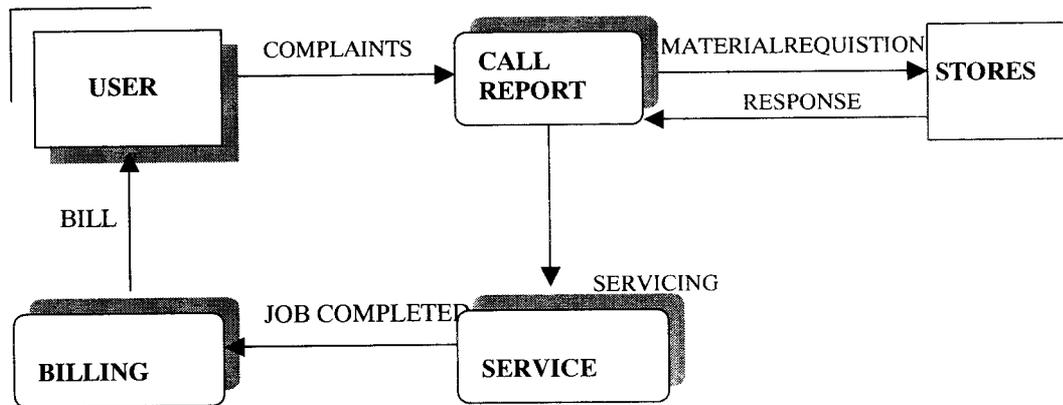


### Description:

Here the company requests for the products from the suppliers and if both the company and suppliers gets agreed with the price of the products Then the suppliers sales the product to the company.The company keeps the products in the stores of the company.These are the transactions undergone in the purchase module.



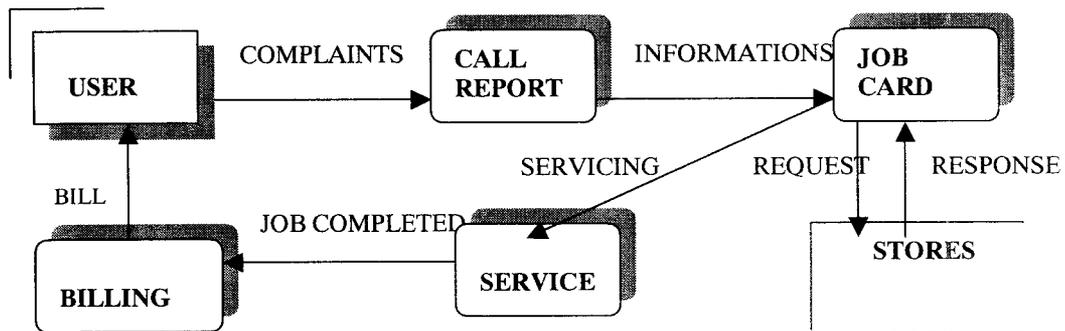
### INHOUSE



#### DESCRIPTION:

Here the user gives their complaints to the company and the company generates call report based on the informations given by the user. The service engineer having the call report may in need of some materials to service and hence they requested to the stores, after getting the response from the stores the user complaints are serviced and once the job is completed to customer satisfaction user is billed. The service is done in the company.

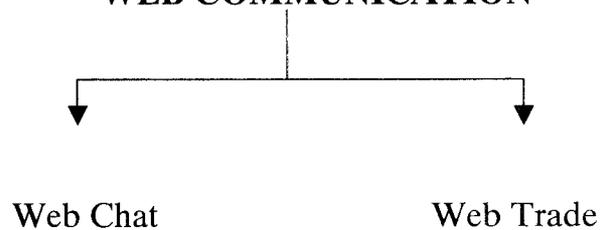
## FIELD SERVICE



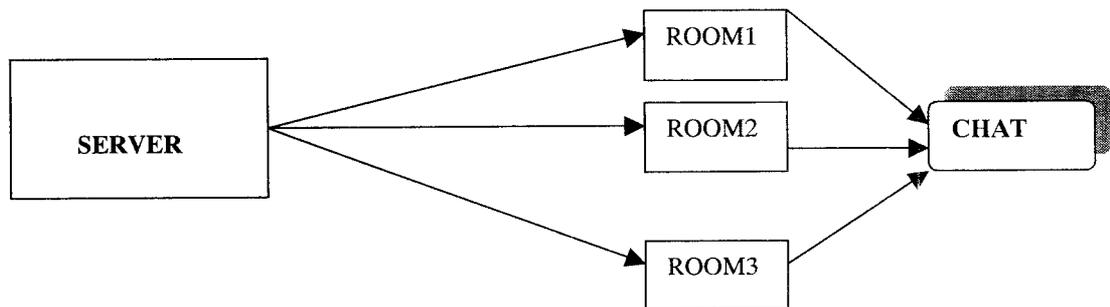
### DESCRIPTION:

Here the user gives their complaints to the company and the company generates call report based on the informations given by the user. The service engineer having the call report may in need of some materials to service and hence they requested to the stores, after getting the response from the stores the user complaints are serviced and once the job is completed to customer satisfaction user is billed. The service is done outside the company.

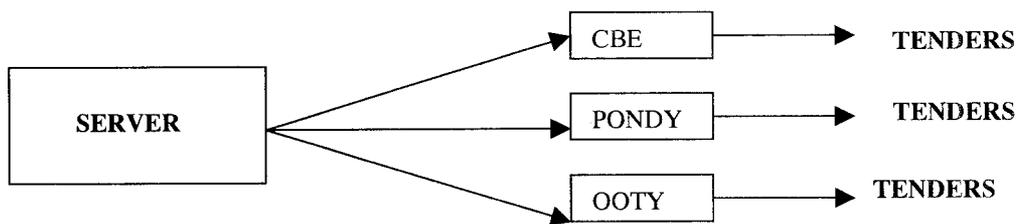
## WEB COMMUNICATION



## WEB CHAT



## WEB TRADING



### DESCRIPTION:

Here the branches of the company is communicated through web chat and the tenders of each branch can also be viewed through web trading.

## **3.2 Exception Conditions/ Exception Handling**

While programming there is a chance to come across some exception condition. These exception conditions should be handled with care, otherwise the whole software will crash. Exception conditions can occur anywhere, but most frequently occurring exception condition is discussed.

### **Exception Condition**

If the user unknowingly leaves some text boxes blank, there is a chance for the occurrence of errors.

### **Exception Handling**

This exception can be handled by setting the value of these fields as not null in the database. A new form will be displayed if any text box is left blank, which will tell the user to retry by going back to the same form.

---

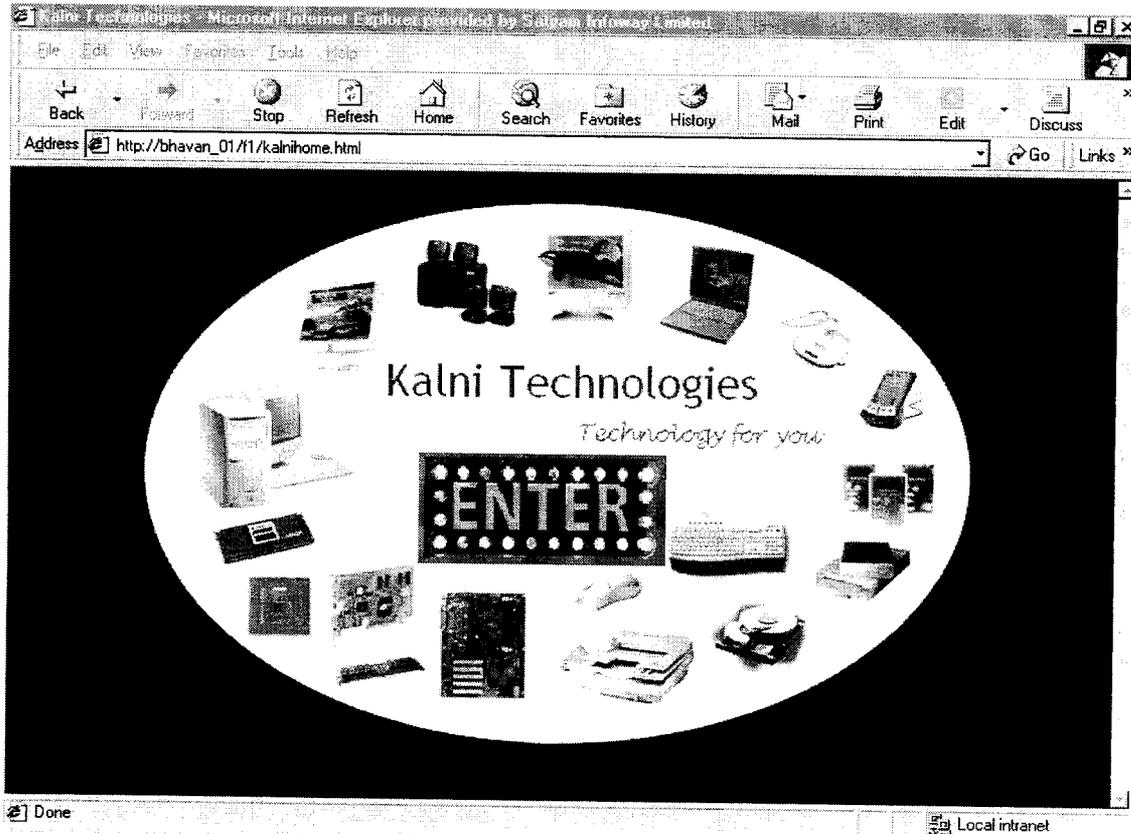
# DESIGN DOCUMENTATION

---

---

# USER DISPLAY AND REPORT FORMATS

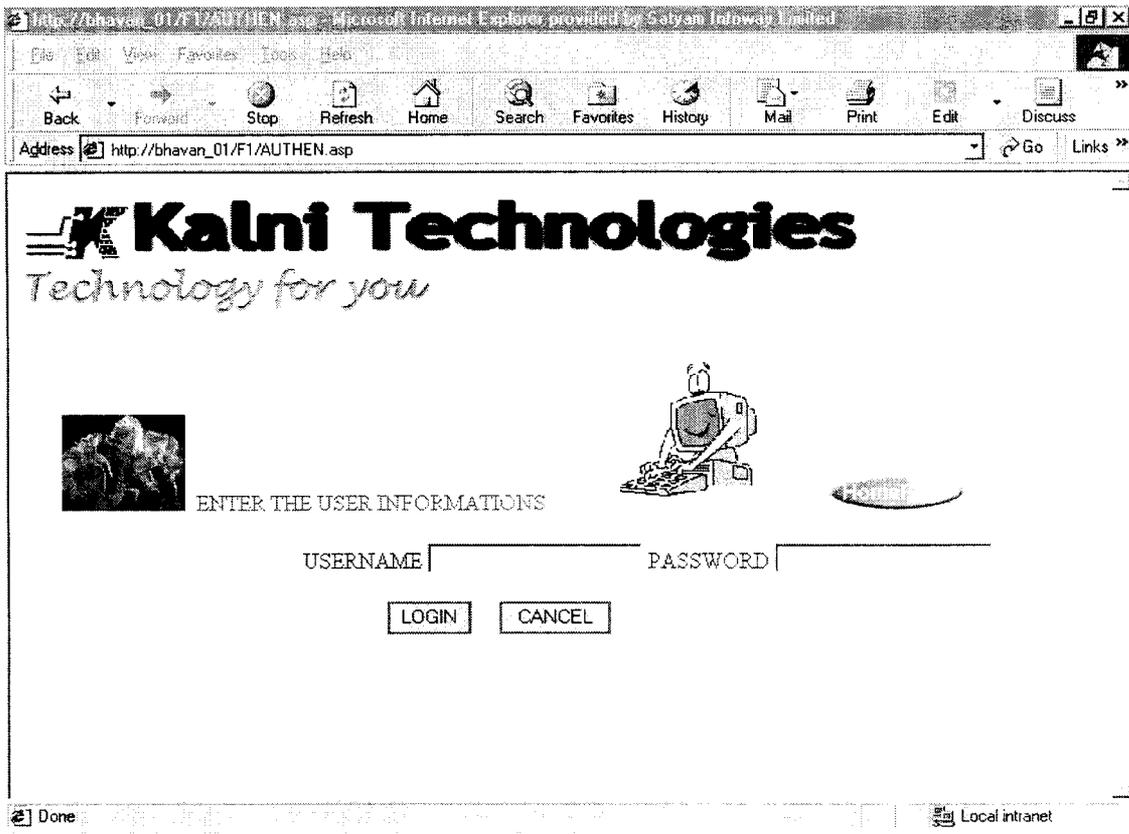
---



## HOME PAGE

### Description:

This form serves as the home page of the whole website and by clicking the enter in the form we can move to profile of the company. The form indicates all the services done by the company.

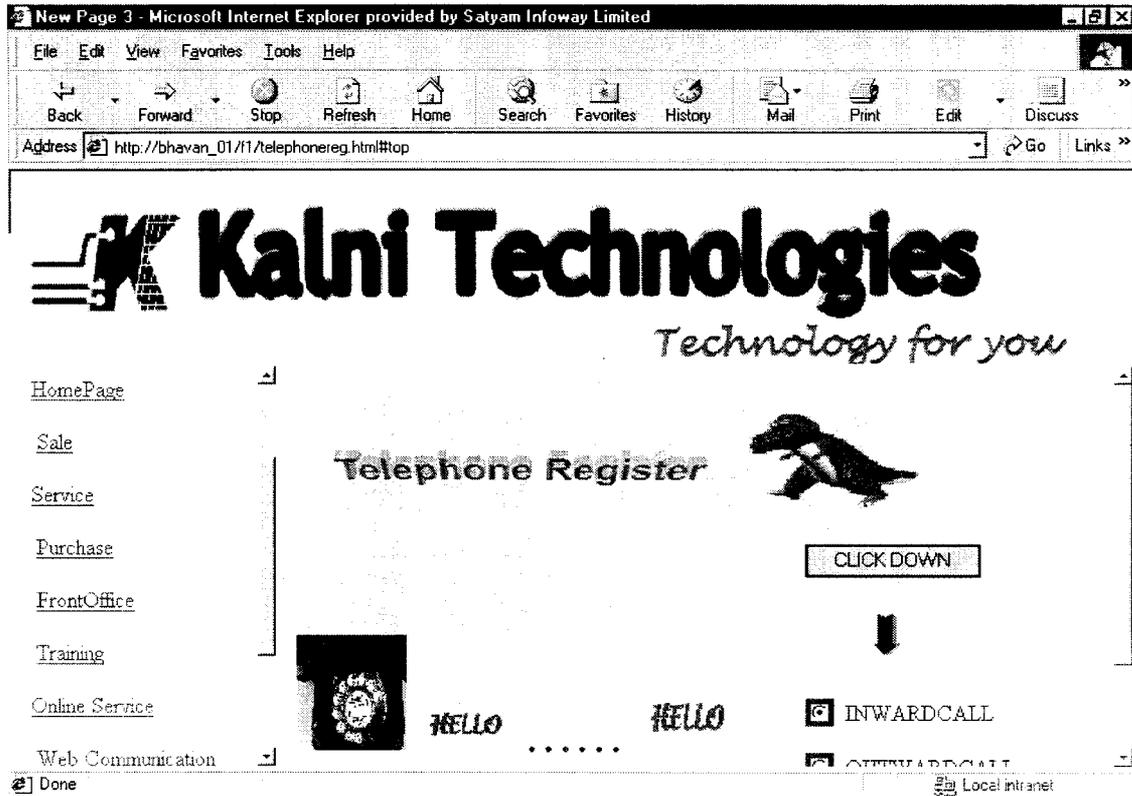


## AUTHENTICATION PAGE

### Description:

This form serves as the authentication page where the user who wants to access has to enter their username and password. Once the username and password is correct the user has the authority to enter the next page.

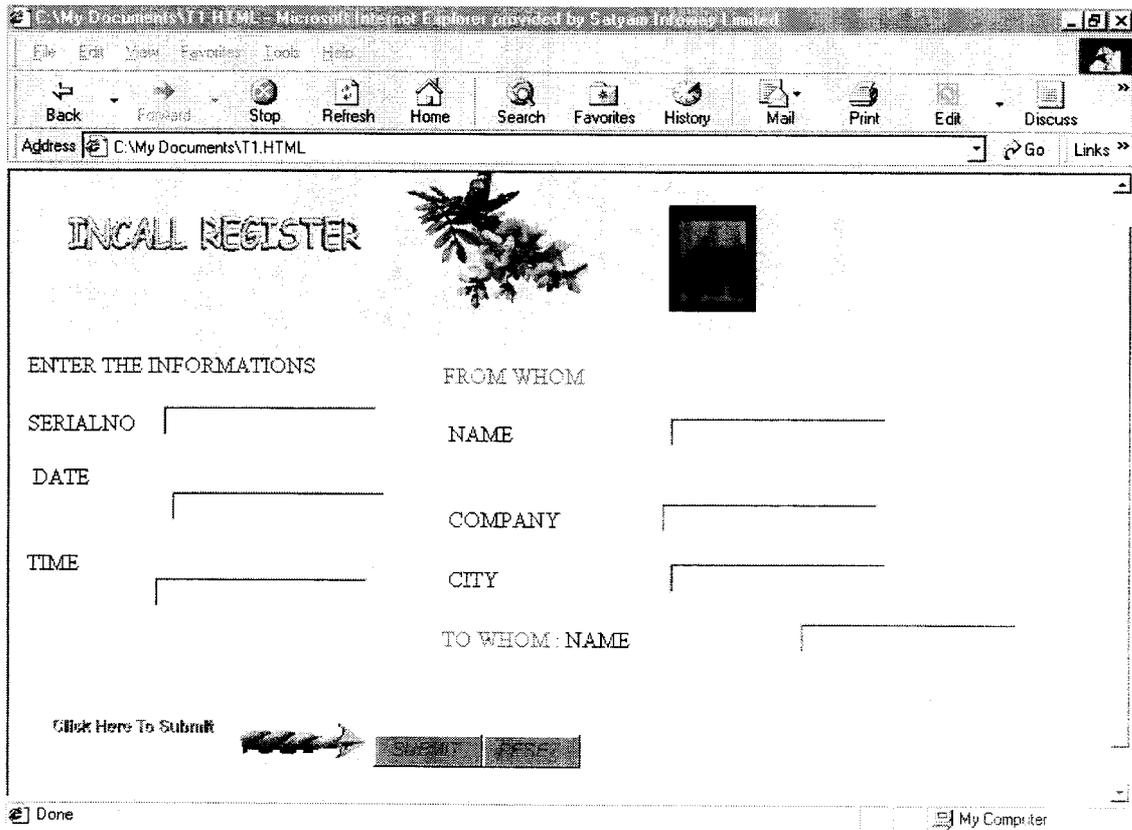
# FRONT OFFICE AUTOMATION



## TELEPHONE REGISTER

### Description:

This form serves as the link to call the form for telephone incall and telephone outcall registers and to enter the information.



## INCALL TELEPHONE REGISTER

### Description:

This form serves to enter the details regarding the phone call that had come to any staff inside the company. The user has to enter the informations in the corresponding textbox and click submit button to submit the entered details in the respective database.

## SALES

The screenshot shows a web browser window with the address bar containing "http://bhavan\_01/f1/crep.html". The browser's menu bar includes "File", "Edit", "View", "Favorites", "Tools", and "Help". The toolbar contains icons for "Back", "Forward", "Stop", "Refresh", "Home", "Search", "Favorites", "History", "Mail", "Print", "Edit", and "Discuss". The main content area displays a form titled "ENTER THE INFORMATIONS". The form fields are: "CALL REGISTRATION NO" (text input), "NAME" (text input), "ADDRESS" (text input), "TYPE" (radio buttons for "SALE", "REPAIR", "SERVICE", "OTHER"), "DATE" (text input with a dropdown arrow), "CONFIGURATION" (text input), and "REMARKS" (text input). At the bottom of the form are "SUBMIT" and "CANCEL" buttons. The browser's status bar at the bottom shows "Done" and "Local intranet".

## CALL REPORT

### Description:

This form serves as a call report form where the user enters the information as soon as a sales call is received. After entering the information click submit button to submit the informations entered into the database.

My Documents\BILL.HTML - Microsoft Internet Explorer provided by Satyam Intranet Limited

Address  Go Links

ENTER THE INFORMATIONS

INVOICE NO

CALL REG NO

NAME

ADDRESS

DATE OF BILLING TYPE

AMOUNT

ITEM NAME

ITEM CODE

BILLABLE  BILLABLE  
 NON-  
 AMC  
 WARRANTY

Done My Computer

## BILL

### Description:

This form serves as the billing form where the user enters the billing information of a customer once the job of a particular customer has been completed.

## REPORTS

SALES

[BACK PLEASE](#)

Sales Call Enquiry Registered On The Day

[Marketing Status Over The Call](#)      [Billing For Sales](#)

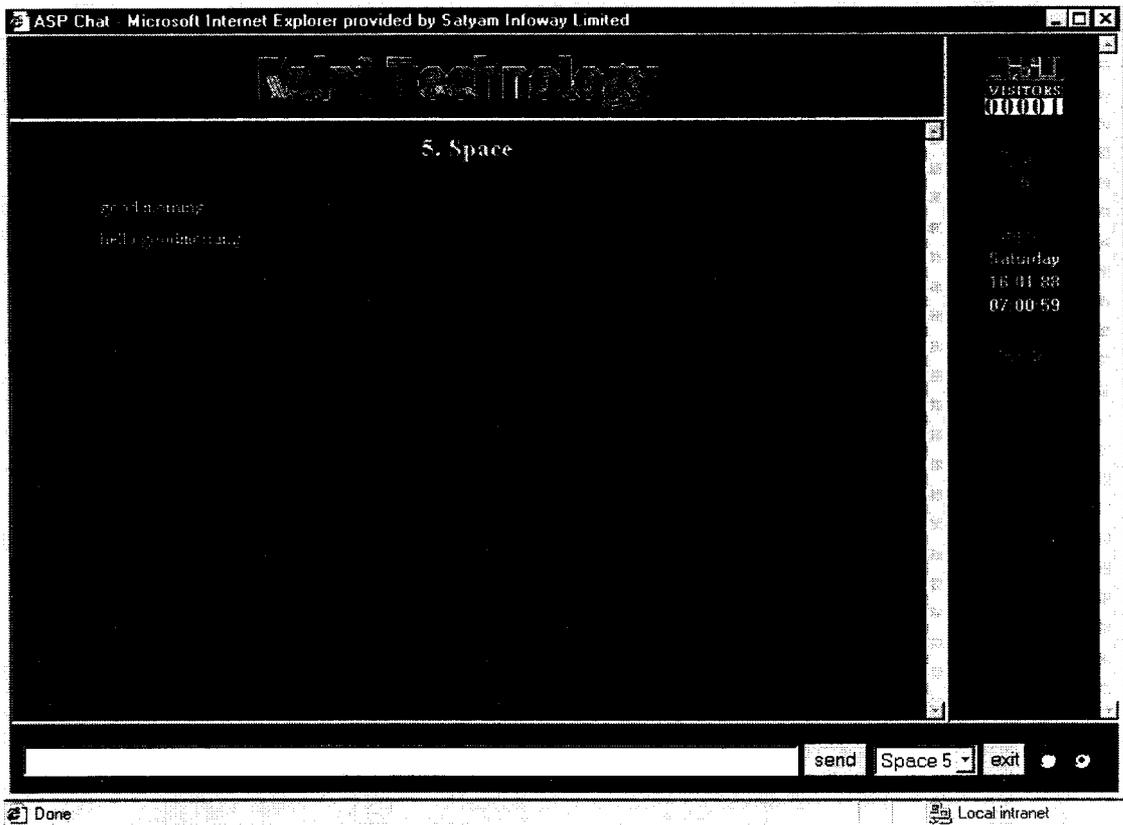
CNO	NAME	ADDRESS	TYPE	CONFIGURATION	REMARK
cno1	vani	address	INDIVIDUAL	config	remarks
cno2	veena	address	enduser	config	remarks
cno3	bhavani	address	industry	config	remarks

## SALE REPORT

### Description:

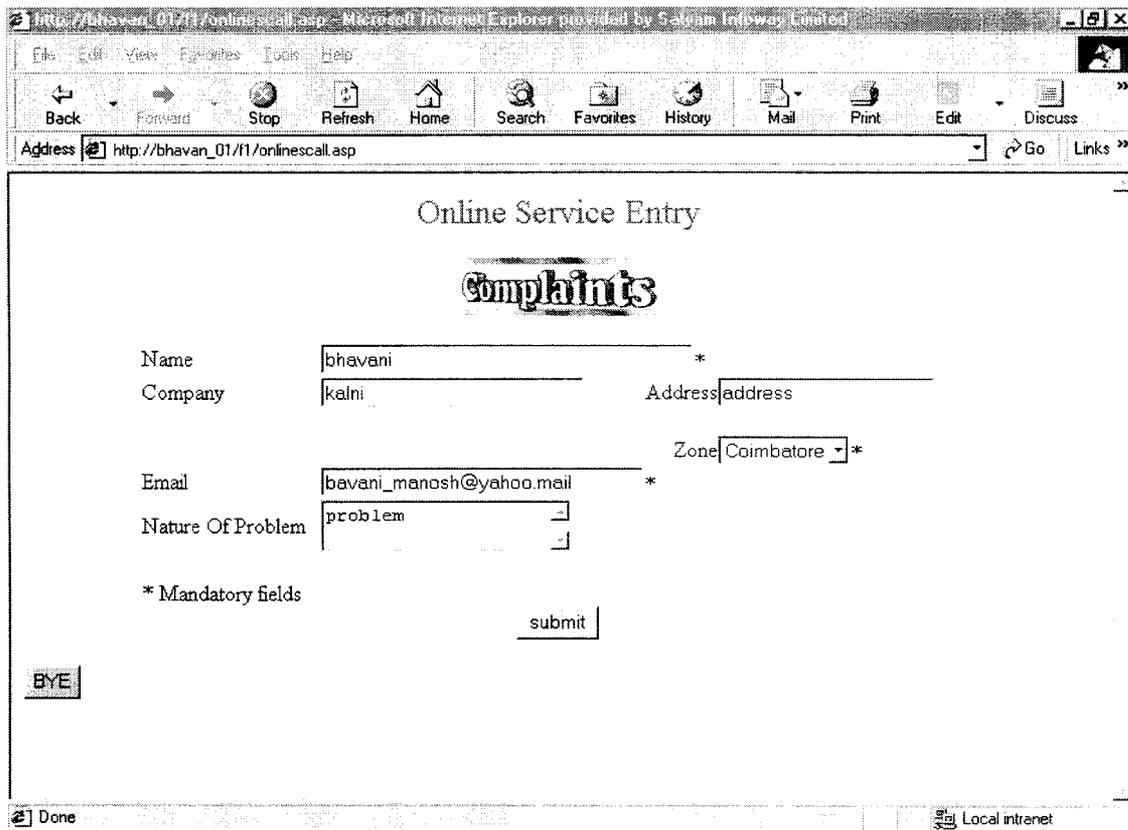
This form serves as the report form where as click the links above you are requested to enter the date information. After you have entered The date details click submit to view the details required.

# CHAT



## Description:

This form serves as the chat form where the staff of different branches of the company can interact for various administration purpose.



## ONLINE SERVICE ENTRY

### Description:

This form serves as the online entry service for the customer to enter their complaints online and click submit. The company then views all the online service entries through the report column.

http://bhavan\_01/11/cbe.asp - Microsoft Internet Explorer (64-bit) - bhavan\_01/11/cbe.asp

File Edit View Favorites Tools Help

Back Forward Stop Refresh Home Search Favorites History Mail Print Edit Discuss

Address http://bhavan\_01/11/cbe.asp Go Links

## Tender Notices - Coimbatore

Central Institute For Cotton Research  
Regional Station (C.I.A.R) - Coimbatore 641 003

Dated :16/03/2002

Sealed tenders are invited from reputed authorized dealers/distributors for the supply of following items to C.I.C.R regional station, Coimbatore - 641 003

S.No	Description	Quantity
1	Laser Jet Printer	3 Nos.
2	Ink Jet Printer	2 Nos.
3	Dot Matrix Printer	2 Nos.
4	CD Writer	5 Nos.
5	Scanner	3 Nos.

Tender documents with detailed specifications can be had from stores section up to 17.00 hours on 10/04/2002 or payment of Rs. 100/- in person (or) Rs. 150/- by means of crossed DD in favour of project Coordinator & Head, Central Institute for Cotton Research, Regional Station, Coimbatore-3 through post. The project Coordinator and Head reserves the right to buy all the above (or) selected items.

**Last Date for issue of Tender Documents : 10-4-2002**  
**Last date for receipt of Completed Tender : 15-4-2002**  
**Project Coordinator and Head**

Done Local intranet

## TENDER

### Description:

This form gives you the tender details of the coimbatore branch .Similarly , we can get tender notices of other branches by clicking the respective options.

## 4.1 Database Design

### Addr table :

This table contains the address details of all the customers who have transactions with the company.

NAME	CONSTRAINTS	TYPE	REMARK
SNO	NOT NULL	NUMBER(10)	SERIAL NUMBER
NAME	NOT NULL	VARCHAR2(25)	NAME OF CUSTOMER
ADDR	NOT NULL	VARCHAR2(25)	ADDRESS OF CUSTOMER
PHNO	NOT NULL	NUMBER(10)	PHONE NUMBER

### Intel table:

This table contains the details of the calls to the staff of the company.

NAME	CONSTRAINTS	TYPE	REMARK
SNO	NOT NULL	NUMBER(3)	SERIAL NUMBER
RDATE	NOT NULL	DATE/TIME	RECEIVING DATE
RTIME	NOT NULL	DATE/TIME	RECEIVING TIME
RNAME	NOT NULL	VARCHAR2(25)	RECEIVER NAME
RCOMP	NOT NULL	VARCHAR2(25)	RECEIVED COMPANY
RCITY	NOT NULL	VARCHAR2(25)	RECEIVING CITY
SNAME	NOT NULL	VARCHAR2(25)	SENDER NAME
SCOMP	NOT NULL	VARCHAR2(25)	SENDERCOMPANY
SCITY	NOT NULL	VARCHAR2(25)	SENDER CITY

**outel table:**

This table contains the details of the calls going out from the staff of the company.

<b>NAME</b>	<b>CONSTRAINTS</b>	<b>TYPE</b>	<b>REMARK</b>
SNO	NOT NULL	NUMBER(3)	SERIAL NUMBER
RDATE	NOT NULL	DATE/TIME	RECEIVING DATE
RTIME	NOT NULL	DATE/TIME	RECEIVING TIME
RNAME	NOT NULL	VARCHAR2(25)	RECEIVER NAME
RCOMP	NOT NULL	VARCHAR2(25)	RECEIVING COMPANY
RCITY	NOT NULL	VARCHAR2(25)	RECEIVING CITY
SNAME	NOT NULL	VARCHAR2(25)	SENDER NAME
SCOMP	NOT NULL	VARCHAR2(25)	SENDERCOMPANY
SCITY	NOT NULL	VARCHAR2(25)	SENDER CITY

**Inpost table:**

This table contains details about the posts send to the company.

<b>NAME</b>	<b>CONSTRAINTS</b>	<b>TYPE</b>	<b>REMARK</b>
SNO	NOT NULL	NUMBER(3)	SERIAL NUMBER
NAME	NOT NULL	VARCHAR2(25)	RECEIVER NAME
RDATE	NOT NULL	DATE/TIME	RECEIVING TIME

**outpost table:**

This table contains details about the posts send from the company.

NAME	CONSTRAINTS	TYPE	REMARK
SNO	NOT NULL	NUMBER(3)	SERIAL NUMBER
NAME	NOT NULL	VARCHAR2(25)	RECEIVER NAME
RDATE	NOT NULL	DATE/TIME	RECEIVING TIME

**Incour table:**

This table contains the details of the courier coming to the staff of the company.

NAME	CONSTRAINTS	TYPE	REMARK
SNO	NOT NULL	NUMBER(3)	SERIAL NUMBER
RDATE	NOT NULL	DATE/TIME	RECEIVING DATE
RTIME	NOT NULL	DATE/TIME	RECEIVING TIME
RNAME	NOT NULL	VARCHAR2(25)	RECEIVER NAME
RCOMP	NOT NULL	VARCHAR2(25)	RECEIVING COMPANY
RCITY	NOT NULL	VARCHAR2(25)	RECEIVING CITY
SNAME	NOT NULL	VARCHAR2(25)	SENDER NAME
SCOMP	NOT NULL	VARCHAR2(25)	SENDERCOMPANY
SCITY	NOT NULL	VARCHAR2(25)	SENDER CITY
RCONTENT	NOT NULL	VARCHAR2(25)	CONTENT
QUANTITY	NOT NULL	NUMBER(5)	QUANTITY

**outcour table:**

This table contains the details of the courier going out from the staff of the company.

NAME	CONSTRAINTS	TYPE	REMARK
SNO	NOT NULL	NUMBER(3)	SERIAL NUMBER
RDATE	NOT NULL	DATE/TIME	RECEIVING DATE
RTIME	NOT NULL	DATE/TIME	RECEIVING TIME
RNAME	NOT NULL	VARCHAR2(25)	RECEIVER NAME
RCOMP	NOT NULL	VARCHAR2(25)	RECEIVING COMPANY
RCITY	NOT NULL	VARCHAR2(25)	RECEIVING CITY
SNAME	NOT NULL	VARCHAR2(25)	SENDER NAME
SCOMP	NOT NULL	VARCHAR2(25)	SENDERCOMPANY
SCITY	NOT NULL	VARCHAR2(25)	SENDER CITY
RCONTENT	NOT NULL	VARCHAR2(25)	CONTENT
QUANTITY	NOT NULL	NUMBER(5)	QUANTITY

**Visitr table:** This table contains visitors information.

NAME	CONSTRAINTS	TYPE	REMARK
SNO	NOT NULL	NUMBER(3)	SERIAL NUMBER
NAME	NOT NULL	VARCHAR2(25)	VISITOR NAME
ADDR	NOT NULL	VARCHAR2(25)	ADDRESSOF VISITOR
PHNO	NOT NULL	NUMBER(10)	PHONE NUMBER
WHOM	NOT NULL	VARCHAR2(25)	WHOM TO MEET
DATE	NOT NULL	DATE/TIME	VISITING DATE
INTIME	NOT NULL	DATE/TIME	VISITING TIME
OUTTIME	NOT NULL	DATE/TIME	VISITING TIME

**Salescallreg table:** This table contains information about the sales call details.

NAME	CONSTRAINTS	TYPE	REMARK
SNO	NOT NULL	NUMBER(3)	SERIAL NUMBER
NAME	NOT NULL	VARCHAR2(25)	VISITOR NAME
ADDR	NOT NULL	VARCHAR2(25)	ADDRESSOF VISITOR
PHNO	NOT NULL	NUMBER(10)	PHONE NUMBER
DATE	NOT NULL	DATE/TIME	VISITING DATE
PROBNOTED	NOT NULL	VARCHAR2(25)	PROBLEM NOTED

**Servicecall reg table:** This table contains information about the service call (inhouse/fieldservice) details.

NAME	CONSTRAINTS	TYPE	REMARK
SNO	NOT NULL	NUMBER(3)	SERIAL NUMBER
NAME	NOT NULL	VARCHAR2(25)	VISITOR NAME
ADDR	NOT NULL	VARCHAR2(25)	ADDRESSOF CUSTOMER
PHNO	NOT NULL	NUMBER(10)	PHONE NUMBER
DATE	NOT NULL	DATE/TIME	VISITING DATE
PROBNOTED	NOT NULL	VARCHAR2(25)	PROBLEM NOTED

**Magazinereg table:** This table contains information about the magazines received by the company.

NAME	CONSTRAINTS	TYPE	REMARK
SNO	NOT NULL	NUMBER(3)	SERIAL NUMBER
MAG NAME	NOT NULL	VARCHAR2(25)	VISITOR NAME
NOC	NOT NULL	NUMBER(3)	NO OF COPIES
DATE	NOT NULL	DATE/TIME	VISITING DATE
PRICE	NOT NULL	NUMBER(5)	PRICE

**Crep table:** This table contain information about the sales call report.

NAME	CONSTRAINTS	TYPE	REMARK
CNO	PRIMARY KEY	VARCHAR2(10)	CALL REGISTRATION NUMBER
NAME	NOT NULL	VARCHAR2(25)	VISITOR NAME
ADDR	NOT NULL	VARCHAR2(25)	ADDRESSOF CUSTOMER
TYPE	NOT NULL	VARCHAR2(25)	CUSTOMER TYPE
DDATE	NOT NULL	DATE/TIME	DAY
MDATE	NOT NULL	DATE/TIME	MONTH
YDATE	NOT NULL	DATE/TIME	YEAR
CONFIG	NOT NULL	VARCHAR2(25)	CONFIGURATION
REMARK	NOT NULL	VARCHAR2(25)	REMARK

**Sabill table:** This table contain information about the sales billing.

NAME	CONSTRAINTS	TYPE	REMARK
INO	PRIMARY KEY	VARCHAR2(10)	INVOICE NUMBER
CNO	NOT NULL	VARCHAR2(10)	CALL REGISTRATION NUMBER
NAME	NOT NULL	VARCHAR2(25)	VISITOR NAME
ADDR	NOT NULL	VARCHAR2(25)	ADDRESSOF CUSTOMER
DDATE	NOT NULL	DATE/TIME	DAY
MDATE	NOT NULL	DATE/TIME	MONTH
YDATE	NOT NULL	DATE/TIME	YEAR
AMOUNT	NOT NULL	NUMBER(6)	AMOUNT
INAME	NOT NULL	VARCHAR2(25)	ITEM NAME
ICODE	NOT NULL	VARCHAR2(25)	ITEM CODE

**Sercrep table:** This table contain information about the service call report.

NAME	CONSTRAINTS	TYPE	REMARK
CNO	PRIMARY KEY	VARCHAR2(10)	CALL REGISTRATION NUMBER
NAME	NOT NULL	VARCHAR2(25)	VISITOR NAME
ADDR	NOT NULL	VARCHAR2(25)	ADDRESSOF CUSTOMER
TYPE	NOT NULL	VARCHAR2(25)	CUSTOMER TYPE
DDATE	NOT NULL	DATE/TIME	DAY
MDATE	NOT NULL	DATE/TIME	MONTH
YDATE	NOT NULL	DATE/TIME	YEAR
CONFIG	NOT NULL	VARCHAR2(25)	CONFIGURATION
REMARK	NOT NULL	VARCHAR2(25)	REMARK

**Jobcard table:** This table contain information about the service job card.

NAME	CONSTRAINTS	TYPE	REMARK
JC	PRIMARY KEY	VARCHAR2(10)	JOB CARD NO
CNO	NOT NULL	VARCHAR2(10)	CALL REGISTRATION NUMBER
NAME	NOT NULL	VARCHAR2(25)	CUSTOMER NAME
ADDR	NOT NULL	VARCHAR2(25)	ADDRESSOF CUSTOMER
TYPE	NOT NULL	VARCHAR2(25)	CUSTOMER TYPE
DDATE	NOT NULL	DATE/TIME	DAY
MDATE	NOT NULL	DATE/TIME	MONTH
PROBLEM	NOT NULL	VARCHAR2(25)	PROBLEM
YDATE	NOT NULL	DATE/TIME	YEAR
CONFIG	NOT NULL	VARCHAR2(25)	CONFIGURATION
ACT	NOT NULL	VARCHAR2(25)	ACTION
SPARE1	NOT NULL	VARCHAR2(25)	PRODUCT
SPARE2	NOT NULL	VARCHAR2(25)	PRODUCT
SPARE3	NOT NULL	VARCHAR2(25)	PRODUCT
QUAN1	NOT NULL	NUMBER(5)	QUANTITY
QUAN2	NOT NULL	NUMBER(5)	QUANTITY
QUAN3	NOT NULL	NUMBER(5)	QUANTITY
STATUS	NOT NULL	VARCHAR2(25)	STATUS OF JOB
SERENGNAME	NOT NULL	VARCHAR2(25)	SERVICE ENGNAME
SERENGCODE	NOT NULL	VARCHAR2(25)	SERVICE ENGCODE

**Matreq table:** This table contain information about the material requisition.

NAME	CONSTRAINTS	TYPE	REMARKS
DATE	NOT NULL	DATE/TIME	DATE
PNAME	NOT NULL	VARCHAR2(25)	PRODUCT NAME
MODEL	NOT NULL	VARCHAR2(25)	PRODUCT MODEL
JOB CARDNO	NOT NULL	VARCHAR2(25)	JOB CARD NO
SENAME	NOT NULL	VARCHAR2(25)	SERVICE ENGNAME
SECODE	NOT NULL	VARCHAR2(25)	SERVICE ENGCODE

## 4. Test Plan

### 4.1 Objectives of Testing

The objectives of testing are as follows :

- Testing is a process of executing a program with the intent of finding an error.
- A good test is one that has a high probability of finding an undiscovered error.
- A successful test is one that uncovers an as-yet undiscovered error.

### 4.2 Testability :

Software testability determines how easily a program can be tested.

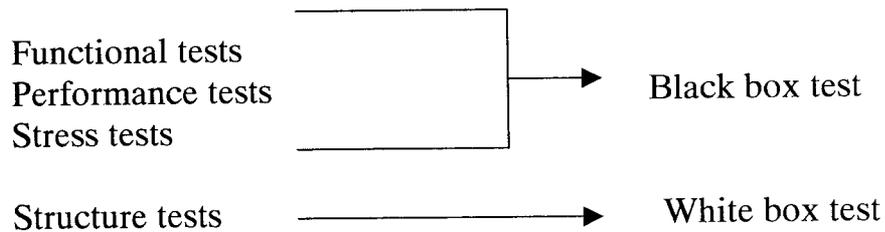
- Operability – The better it works the more efficiently it can be tested.
- Observability – What you see is what you Test. Incorrect output is easily identified.
- Controllability – The better the control over the software the greater is the optimization of testing.
- Understandability – The more the information the smarter ids the test.

### Unit testing :

Unit testing comprises the set of tests performed by an individual programmer prior to integration of the unit into a larger system. The situation is illustrated as follows:

Coding and Debugging → Unit testing → Integration testing

There are four categories of tests that a programmer will typically perform on a program unit:



**Black box testing :**

This testing focuses on the functional requirements of the software. Black box testing finds errors in the following functions : Incorrect or missing functions , interface errors, errors in database access, performance errors or initialization or termination error.

**White box testing :**

Using the White box testing all the logical decisions on the true and false side of the product are tested. All the loops within the operational bounds are tested. Logical errors and incorrect assumptions are identified and rectified.

The unit testing for this product is done and shown on the input and output screens. The sample testing for one module is shown here.

**Sample test in this package**

SNO	Test cases I/P	Expected results O/P	Actual results	Remark
1	month	Set of monthly Magazines got	Set of monthly Magazines got	correct
2	date	Service engineer movement for that day	Service engineer movement for the day	correct

Thus test cases for each module is done for the entire product.

## **6. Future Enhancements**

This package works offline and online. Priority is one of the major factors to be considered in online processing. This package can be enhanced and developed further to provide services to the customers based on priority which will avoid further confusions. One more alternative way can be found if the user forgets the primary key for viewing the callreport. These enhancements can be made and implemented for better working of this package.

## 7. Conclusion

With the development of the proposed system, the limitations of the existing system are smashed. This package works both offline and online. This package is user interactive and acts as a friendly interface between the customer and the company. It is also flexible and ready to accept any valuable changes. This software is under implementation and it has received positive feedback from the end users. The goals achieved through this project are

- User friendly and interactive.
- Faster response.
- Faster and efficient searching.
- Features such as chat and e-mail facility increases interactivity.
- Portable and flexible for further development.

Thus this package would help **Kalni Technologies Private Limited** to manage its records efficiently.

## 8. REFERENCES

- Lee Anne Phillips, “*HTML 4.0*”. NewDelhi : Prentice Hall of India Private Limited, 1999.
- Alex Homer, Brian Francis, Dave Sussman, “*Professional ASP 3.0*”. Mumbai: Shroff Publishers, 1999.
- Websites :  
[http : // www.aspScript.com](http://www.aspScript.com)

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# **APPENDIX**

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## INPUT SCREEN

The screenshot shows a Microsoft Internet Explorer browser window. The address bar contains the URL `http://bhavan_01/F1/WEEKREPINP.ASP#top`. The browser's menu bar includes File, Edit, View, Favorites, Tools, and Help. The toolbar contains icons for Back, Forward, Stop, Refresh, Home, Search, Favorites, History, Mail, Print, Edit, and Discuss. The main content area displays the following form:

**Material Purchase Weekly Report**

From:

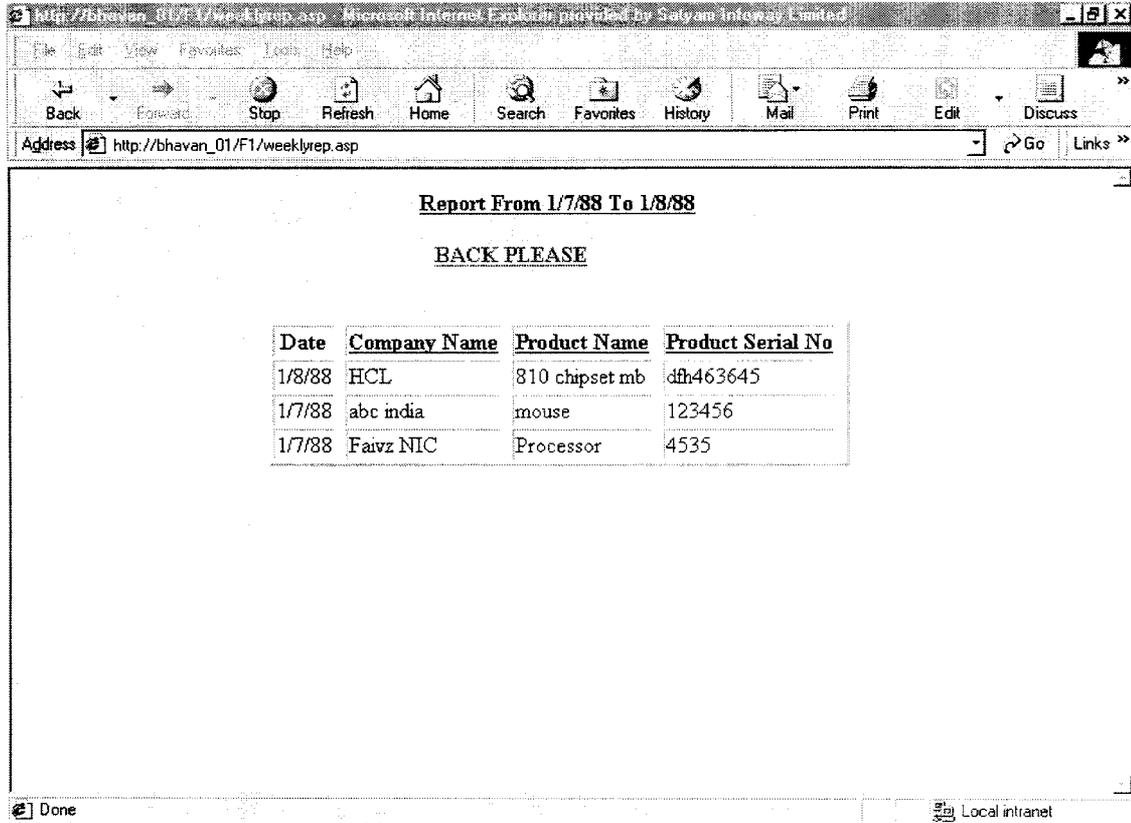
To :

The status bar at the bottom shows "Done" and "Local intranet".

### Description :

This form serves as an input screen for purchase. The user enters the date as the input for viewing the report regarding the details of purchase with respect to the date.

## OUTPUT SCREEN



### Description :

This serves as the output screen which helps to view the report for the input screen above.