ORICA

p-824

PROJECT WORK DONE AT
SATYAM COMPUTER SERVICES
TIDEL PARK
CHENNAI.

PROJECT REPORT

SUBMITTED IN PARTIAL FULFILLMENT OF THE
REQUIREMENTS FOR THE AWARD OF THE DEGREE OF
M.Sc [APPLIED SCIENCE] SOFTWARE ENGINEERING
OF BHARATHIAR UNIVERSITY, COIMBATORE.

SUBMITTED BY

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
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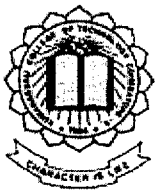
MAY 2002 – AUG 2002

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

KUMARAGURU COLLEGE OF TECHNOLOGY

COIMBATORE -641006



CERTIFICATE

This is to certify that the project entitled has been submitted by Vijay Chandran.S

In partial fulfillment of the award of the degree of
Master of Science in Applied Science – Software Engineering of
Bharathiar University, Coimbatore
During the academic year 2001-2002

P. Gopalakrishnan
Guide

S. JL
Head of the Department 26/9/02

Certified that the candidate was examined by us in the Project Work Viva Voce Examination held on 26-9-2002 And the University Register number was 9937S0070

S. Dhanalakshmi 26/9
Internal Examinar

External Examinar

September 20, 2002

CERTIFICATE

This is to certify that the project work title "***ORICA***" was done by ***Mr.S.Vijay Chandran*** in partial fulfillment of the M.Sc (Software Engineering) curriculum from the ***Bharathiyar University.*** He was part of our "***Enterprise Business Solutions***" team from July 1,2002 to September 15, 2002.

The Project "***ORICA***" was developed for ***Cabot's Premium Woodcare Products*** using ASP as front-end and Oracle 8i as back-end.

During his period as Project Trainee at ***Satyam Computer Services Ltd***, he has been a proactive member of the team and his work was found to be excellent.

We wish him all the best for his future endeavors.

Sincerely,

(Gauri Dhongde)
Project Leader
Satyam Computer Services Ltd.
Enterprise Business Solutions

ACKNOWLEDGEMENT

ACKNOWLEDGEMENT

To add meaning to the perception, it is my indebtedness to honor a few who had helped me in this endeavor, by placing them on record.

With profound gratitude, I am extremely thankful to **Dr.K.K.Padmanaban B.Sc. (Eng), M.tech, Ph.D.**, Principal, Kumaraguru Collage of Technology, coimbatore for providing me an opportunity to undergo the MSc [APPLIED SCIENCE SOFTWARE ENGINEERING] course and thereby this project work also.

I extend my heartfelt thanks to my CSE department head **Prof.Dr.S.Thangasamy B.E (Hons), Ph.D.**, for his kind advice and encouragement to complete this project successfully.

It's my privilege to express my deep sense of gratitude and profound thanks to **Ms. Gauri Dhongde, Project Manager** and **Mr. Venkatesan, Satyam Associate** SATYAM Computer Services, Tidel Park, Chennai for having allowed me to do my project work and for helping me in all means in successful completion of this project work.

Gratitude will find least meaning without thanking my course coordinator **Mrs. S.Devaki B.E, M.S.** and guide **Mr. P.Gopalakrishnan MCA** for the valuable guidance and support throughout my project.

Words are boundless for me to express my deep sense of gratitude and profound thanks to **Mr.Prabhath**, Director **and Mr. Prasanth**, Senior Consultant**, Satyam Computer Services,** Tidel Park, Chennai and all my associates at Polaris, for all their kind guidance and encouragement towards my project work.

My gratitude is due to all staff members of CSE department, my parents and all my friends for their moral support and encouragement for successful completion of my project.

SYNOPSIS

Synopsis

The application done is a part of the main project ORICA, which is done for an Australian company ORICA. The application mainly concentrates on the Woodcare products of the firm Cabot's Woodcare Products a division of ORICA limited, Australia. This project is completed over a period of 5 months.

ORICA contains of two main modules, which comprises of CDA (Content Delivery Application) and CMA (Content Management Application). The CDA is module which is developed for the website called **www.cabots com.au**. It is mainly comprises of the complete details of the products developed by the Cabot's Woodcare company. The website provides the complete details of a product such as the manual to use it, the precautions to be carried out if any abnormal thing happens, the previously done projects by cabots company in Australia and the currently introduced project.

The CMA module is a management module for the CDA. The management here refers to the maintenance of the website. This module is developed for the use of the staffs in the company Cabot's Woodcare products only. This application is given to the client in order to make changes in the future. This makes the client to easily alter the website contents without any codings. So the person who uses this application need not be a computer professional.

Since the application is a web based the html is used as the front end, VBScript is used as the client side validation and ASP is used as the server scripting. The application is developed using the concept of client/server technology so Oracle 8i is used as a database, which is based on the same client/server concept and also an ORDBMS (Object Relational Database Management System).

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INTRODUCTION

1.Introduction

1.1.About the Client

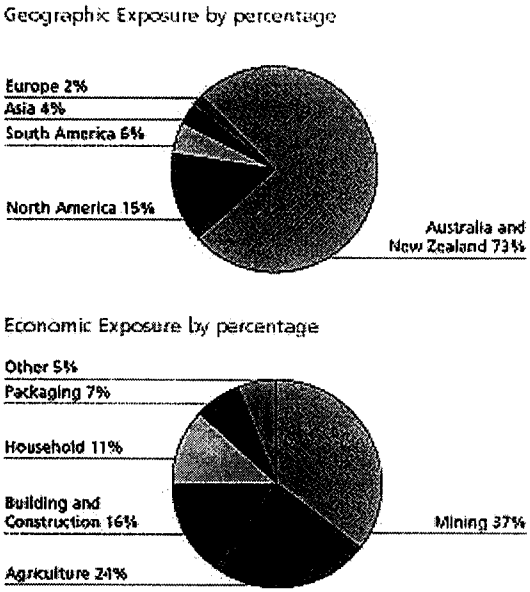
Orica is a publicly owned Australian chemical company employing around 8,000 staff across approximately 35 countries and with revenue of $AUD4 billion annually. Orica's operations are divided into four main business areas - Mining Services, Chemicals, Consumer Products and Agricultural Chemicals. Orica is also involved in two significant plastics joint ventures.

They manufacture and supply industrial and specialty chemicals, agricultural chemicals and fertilizers, commercial explosives and mining chemicals, paints and other consumer products sold under well-known brands such as Dulux, Selleys and Cabot's. They are the largest chemical company in the region and the world's leading supplier of commercial explosives.

Orica places great emphasis on safety and care for the environment. Orica manages all of its activities with concern for people and the environment and endeavours to communicate openly about its operations.

The same commitment extends to quality in our products, systems and services. All Orica employees and facilities are committed to the pursuit of excellence, and operate at the highest standards in the markets in which we operate.

Orica has controlled entities in Argentina, Australia, Brazil, Canada, Chile, China, Dominican Republic, Estonia, Fiji, France, Germany, Guyana, Hong Kong, Indonesia, Ireland, Kazakhstan, Malaysia, Mexico, New Zealand, Peru, the Philippines, Papua New Guinea, Puerto Rico, Singapore, Spain, Thailand, Turkey, the United Kingdom, the USA and Venezuela. Orica also has a presence in India and the United Arab Emirates through investments in associates.



1.2.About the Organization

Satyam Computer Services Ltd.

..our people make the difference..

Satyam Computer Services Ltd. (NYSE: "SAY") is a multifaceted end-to-end IT solutions provider. Satyam has a presence in 36 countries across five continents and a customer base of over 250 global companies, including around 40 Fortune 500 corporations.

Satyam's range of expertise includes:

- Software Development Services
- Engineering Services
- Systems Integration
- ERP Solutions

- Customer Relationship Management
- Supply Chain Management
- Product Development
- Electronic Commerce
- Consulting
- IT Outsourcing

The Company, through its subsidiary Satyam Infoway, also provides Internet access & hosting services and network & network-enabled services. Satyam's range of consulting and IT skills have helped businesses re-engineer and reinvent their products, services and processes to compete successfully in an ever-changing marketplace.

The highly skilled, dedicated IT professionals at Satyam, its subsidiaries and joint ventures provide customized IT solutions for industries in Telecom, Manufacturing, Insurance, Banking & Financial Services, Healthcare, Bioinformatics, Retail, Energy, Logistics & Transportation, Travel & Hospitality, and Airline Sectors.

Satyam's software development centers in India, the United States, UK, Middle East, Singapore, Japan and Australia work with a variety of business and technology partners to design and implement projects onsite, offshore and offsite. The company's emphasis is on acquiring an in-depth knowledge of customers' context and needs, and designing solutions that are fine-tuned to these needs. Satyam's ideas and products have resulted in technology-intensive transformations that have met the most stringent of international quality standards.

At the same time, Satyam teams proactively work on turning new ideas into products that answer global market needs. One such product is VisionCompass, a Web-enabled collaborative enterprise management software that allows managers across locations to collaborate in a real-time environment. VisionCompass has been successfully deployed in several companies, and is serving a variety of functions ranging from tactical management of individual departments to implementation of corporate strategic initiatives.

Satyam has developed strategic alliances with leaders in several technical areas. Through a web of more than 60 technology and business partnerships, Satyam is able to offer its clients comprehensive cutting edge solutions.

Satyam's SEI-CMM Level 5 assessment reflects its commitment to quality processes and products. The company's core values emphasize a strong belief in people, the pursuit of excellence, entrepreneurship, and a customer orientation.

These values have led to the creation of a unique organizational structure, with every functional unit designated as an independent business enterprise, responsible for its own resource management and its profits and losses.

Satyam therefore is a closely connected "network of circles," each circle representing a profit center built around a specific set of business offerings based on its competency profile. This has resulted in the creation of an internal culture where new ideas are constantly nurtured and acted upon, and new competencies developed, enabling Satyam to provide services right across the IT value chain.

1.3.About the Project

The application done is a part of the main project Orica, which is done for an Australian company ORICA. The application mainly concentrates on the one division of the ORICA group of companies i.e. Cabot's Woodcare Products. The Cabot's being a part of the ORICA group of companies, mainly deals with the chemicals, which are used for the wood items like furniture, door, etc. The project mainly deals with the various products produced in the company and the maintenance of the website developed.

The ORICA is a project is done in order to provide information to the users around the world through an Internet by developing a website. The project doesn't end in the development of the website for the company, it also includes the development of a tool in order to maintain that website. So the project is divided into two main modules as CDA (Content Delivery Application) and CMA (Content Management Application).

The CDA module only deals with the development of the website for the company called www.cabots.com.au. As it is a website it mainly acts as a information provider for the users around the world. The CDA delivers some valuable details of the company to the user. It also delivers the useful information for the user such as the complete details of the product, the projects done by the Cabot's Company in the Australia, some FAQ's (Frequently Asked Questions), the precaution measure to be carried down if any unusual or some accident happens while using the products and the newly introduced product of the company in the market.

The CMA module is the one, which is developed for maintaining the contents of the website developed. Only the valid staffs of the company such as administrator or the user with the administrator privilege can use this tool for altering the contents of the website of the company. This module actually deals with the alterations of the data in the database. The tools allows the user to make changes in the website in the future without involving him in doing any coding. This is developed in order to allow the user to modify the contents of the website easily, so that the user need not be a computer professional or a skilled programmer.

BACKGROUND

2.0.Background

2.1.Source Of Data

The data that is used in the ORICA is a secondary data. The data are provided by the ORICA group of companies, Australia. All the data included both in the CDA and CMA modules are provided by the ORICA to the Human Resource Department of Satyam Computers, Chennai. Some of the data used in this application is highly confidential and it is subjected to both Satyam Computers, Chennai and ORICA, and the developer has to follow some of the norms of the firm.

2.2.System Requirements

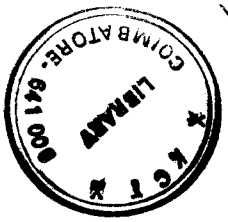
2.2.1.Software Profile

ASP:

The purpose of this document is to introduce Active Server Pages (ASP) 2.0/3.0 to someone who is already familiar with programming. ASP is a server-side technology which allows you to create HTML pages on the fly. ASP is COM-aware, so it can fully use any COM object, even Microsoft Word. ASP is a good "glue" language for sticking together the capabilities of different COM objects.

In order to run an ASP page, create a text file and type in some ASP code (there are examples later in this document). This file must be in a folder accessible to the web server. In order to run the file, navigate to the location of the file using a URL (i.e. http://localhost/myfolder/mypage.asp) and not the physical location of the file (i.e. C:\inetpub\wwwroot\myfolder\mypage.asp).

ASP is most often run using Microsoft Personal Web Server or Internet Information Server on Windows 95/98/2000/NT. ASP can also run under UNIX using ChiliSoft ASP, however I have no experience with that so I'll leave discussion of that.



The seven built-in objects are:

- Application
- ASPError
- ObjectContext
- Request
- Response
- Server
- Session

In the good old days (a few years ago!), most Web sites were created with HTML and simply displayed static pages. A few of the more adventurous programmers would use C or Perl to design a dynamic Web site utilizing the CGI technology. However, these techniques were plagued with security concerns and did not scale well to large sites. So, in general, dynamic sites remained relatively few in number and were time consuming and expensive to create. The introduction of the scripting languages, which could be embedded inside HTML code, opened new doors for dynamic site development. Active Server Pages (ASP), which managed to arrive just in time for the explosive growth of the World Wide Web, was a next logical step for Web-based application development. Introduced in 1996 by Microsoft, Active Server Pages proved to be an exciting, new technology that extended standard HTML by adding built-in objects, server-side scripts, access to databases, and ActiveX components. Another important development by Microsoft was to make the ASP scripting environment compliant with the Component Object Model (COM). COM created a standard communication mechanism between components. This step allowed non-vendor components, to share their properties, methods and events with other components in a process called OLE automation. Non-vendor components greatly extend the functionality of ASP applications.

The true power of ASP is the ease and rapidity with which developers can create and implement dynamic Web sites. Indeed, for today's modern Web commerce, a dynamic, database-driven, server-side application that interacts with the client is the

norm.

ASP employs a scripting environment and VBScript is the default scripting language of choice. However, you can use other languages (such as JScript and Perl) as long as they have a scripting engine that is compatible with the ActiveX scripting standard.

Fortunately, you are not limited to just using Active Server Pages with Microsoft's Internet Information Server (IIS) and this has enhanced the popularity of ASP. For example, Chili!Soft is a proven industry leader in providing ASP engines for use with Web servers from FastTrack, Lotus, Netscape, O'Reilly, and many others. And Halcyon Software offers a brilliant Java-based implementation of the Microsoft ASP framework, allowing developers to deploy ASP applications on any platform.

Meanwhile, ASP continues to evolve. With the arrival of the millennium came the arrival of ASP version 3.0. Version 3.0 was released along with Internet Information Server (IIS) version 5.0 as part of the highly anticipated Microsoft Windows 2000. By far, the most important new feature of version 3.0 is the addition of a seventh, intrinsic object called ASPError which should greatly simplify error handling. Other new features include the addition of three new methods to the Server object, and two new methods to both the Application object and the Session object.

Active Server Pages has ultimately proven to be of significant value to developers and fueled a revolution in the development of Web-based applications.

Client Side Script Language:

VBScript:

VBScript is not considered for Client-side scripting because forcompatibility reasons. Netscape does not support VBScript. So using VBScript with Netscape may produce undesirable errors. So the option of using VBScript as the client side scripting language is not considered.

JavaScript:

Both IE and Netscape support JavaScript as their client side scriptinglanguages. IE has it's own Jscript form of JavaScript. So JavaScript is considered as the client-side scripting language so that compatibility issues can be addressed.

2.2.2.Hardware Profile

Windows NT

NT refers to the computer's operating system. An operating system dictates how all the parts of your computer work together and how specific tasks are to be performed. Windows NT 4.0 is similar in appearance and style to Windows 95. Windows 3.11 and NT 4.0 share few of the same characteristics. If one is familiar with the Windows 3.11 environment, he may need to spend some extra time adapting to the new look of the NT 4.0 main screen.

Windows 3.11 is a 16-bit operating system and Windows NT is a 32-bit operating system. One big difference between the two systems is that Windows NT processes information twice as fast as the older Windows 3.11 system.This gives Windows NT the power to process higher-end applications, such as Word 7.0 and Access 7.0.

IIS (Internet Information Server):

IIS, an abbreviation for Internet Information Server, is Microsoft's version of a Web server program which on Windows NT Platform. It is more robust than PWS, which is web server for the windows based PC's. IIS can be used with a full-time Internet connection to serve Web pages for a Web site. IIS have the capability of hosting more than one website at a time. Since IIS is a product from Microsoft, it natively supports server side ASP scripting which is a web tool from Microsoft. For a web-based tool like Skill set manager this is the ideal web server if the server side scripting language is ASP.

General Architecture

HOW THE WEB SERVER WORKS

When the user tells the browser to go fetch a web page, the browser parcels up this instruction using a protocol called the TCP. TCP ensures that theentire message is correctly packaged up for transmission. Before the packets are sent, the HTTP protocol labels the packets with address so that they can reach wherever they are destined to reach. The message passed from the browser to the web server is known as an HTTP request. When the web server receives the request, it checks its stores to find the appropriate page. If the page is found, it parcels up the data using TCP and sends it back to the server. Otherwise an error message is generated. The Response that is generated by the Web server is called HTTP Response. This response contains the html content, which will be understood by the browser, and it will be displayed on the client's machine.

SYSTEM DESCRIPTION

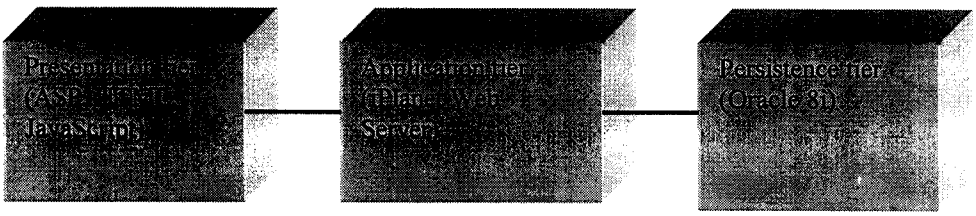
3.0.System Description

3.1.System Design

Architectural Design

Technical Architecture

Service site has multiple tier architecture, which provides a logical (software) separation of the functionality required to implement a solution. The tiers that make up the web site application are considered to be the Presentation Tier, Application Tier, and Persistence Tier. See Diagram below.



This multi-tier system simplifies the development and maintenance of complex applications by partitioning centralized systems into components that can be more easily designed and maintained.

The development of the Presentation Tier, Application Tier and Persistence Tier will be the responsibility of Satyam-EBS. The role of each tier is described below:

Presentation Tier

The Presentation Tier has been developed using a combination of HTML, JavaScript, Vignette template commands and SQL Procedures. The Presentation tier communicates with the Application Tier using ASP commands. The Presentation Tier communicates with Oracle using Vignette commands and stored Procedures. The Presentation tier stores most of the presentation logic.

Application Tier

This Application Tier contains the majority of the business and application logic. The Application tier predominantly represents the functionality provided by the application engine, in this case iPlanet Web Server. The Application Tier is not physically separated from the Presentation Tier as the ASP code runs on the same server.

Persistence Tier

The Persistence Tier has been developed primarily as Stored Procedures of Oracle 8i.

The figure below depicts an overview of the logical architecture. Figure 1 follows:

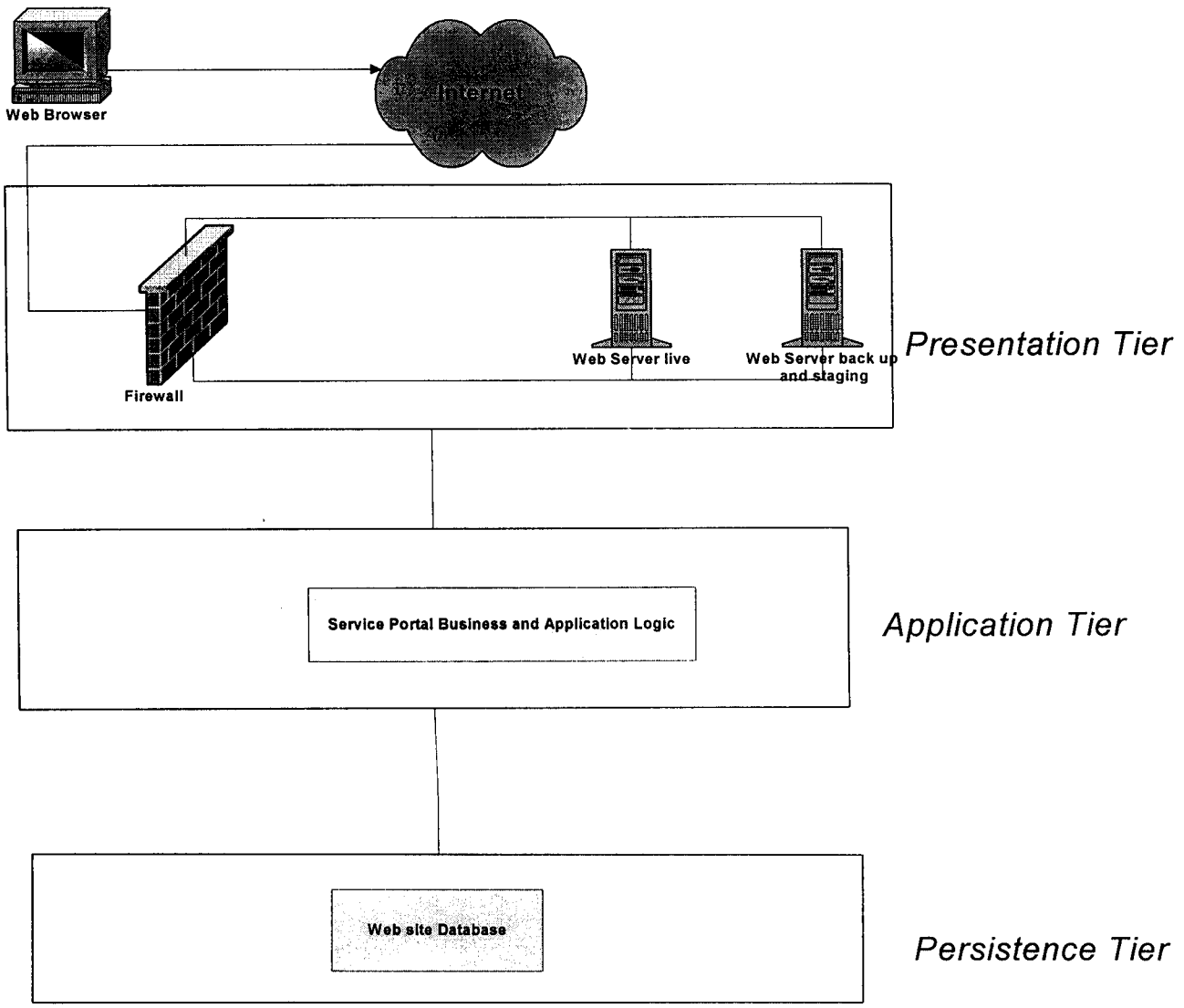


Figure 1

The solution has been deployed on an architecture that is scalable and has different environments for content management and content display and can support multiple users

concurrently. The physical deployment architecture for the proposed solution is outlined in figure 2 in the next page:

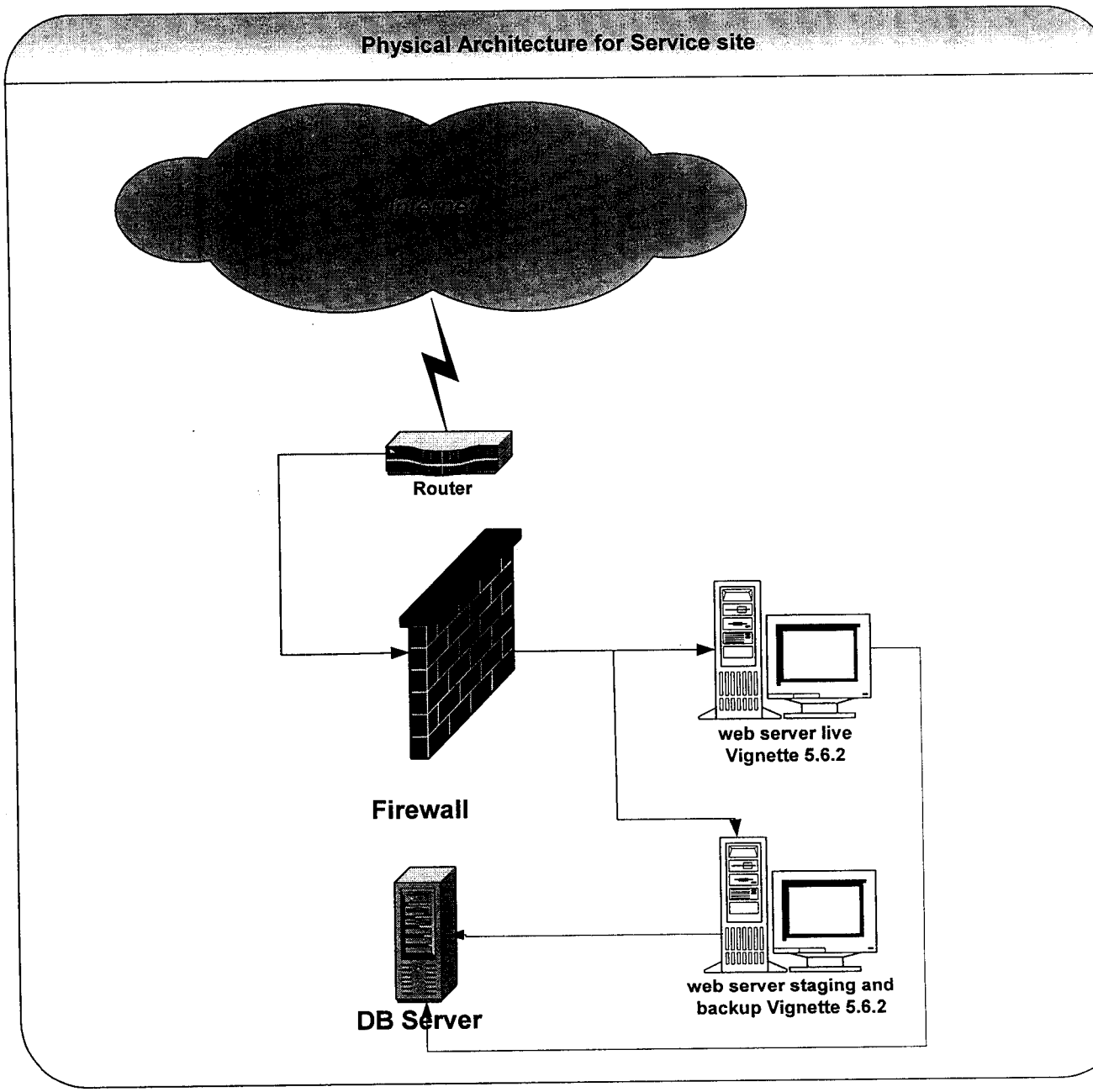


Figure 2

The proposed architecture is based on open industry standards. The architecture is scalable and can be easily integrated with other Orica applications

The significant facets of the architectural solution in figure 2 are as follows:

- The hardware infrastructure includes the live and the staging server or environment. The live server is the front end displaying content to the visitors of the portal. The staging server hosts the content management system constituted to manage the front-end content display. All changes to the front end are made to the staging environment, confirmed and validated and then pushed to the live environment according to defined business rules.
- The staging environment replicates the presentation layer or the content delivery application. The staging environment also serves as the backup or fail over server in case the live server fails or if the load on the live server exceeds a specified traffic density.
- The database server has a database schema specific to the functionality of Service site.
- A single Vignette CMA instance drives the two CDA (content delivery instances) for the staging and lives environments. The CDA instance for the staging environment is additionally responsible for the display of the content management application.
- The staging and live environments uses the IBM Web sphere application server as the application engine to run the solution. The same is hosted on both the hardware platforms of staging and live environments.
- The database server serves both the staging and lives environments. The same database schema serves as the content repository and interacts with both the CDA(for content display) and CMA (for content management).
- All requests for the CMA are routed to the staging server after requisite user authentication.
- The separation of the presentation layer (CDA) and the application layer separates content from display. The templates contain presentation logic, content identification and the ASP environment processes application logic.

3.2. System Description

3.2.1. Product Functions

There are two main modules in the ORICA. They are CDA and CMA. Their sub-modules are given as follows:

Modules	Sub-Modules
CDA	Developing the Website.
CMA	HOME Management. FAQ Management. DUSPEC Management. PROJECT Management. IMAGE Management. MSDS Management. PRODUCT Management.

3.2.2 User Characteristics

The users of the project are:

- Client or Prospective Client who browse the website (CDA).
- Internal users are the one who are allowed by the administrator to do updation in CMA file
- Administrators are the one who takes care of the maintenance of the website (CDA) through CMA.

The users of this product should have the basic knowledge in Windows environment and data entry operation.

3.2.3 General Constraints

The users of the System cannot enter all the forms of CMA in the ORICA. Whenever user enters the CMA module they are categorized with their user-id and password. So with the help of it the accessibility is provided to them.

3.2.4. Functional requirements

The identified functions of the system are as follows:

Client or Prospective Client (CDA)

- Allows knowing about the organization.
- Allows knowing about the various products of ORICA.
- Allows producing queries about the products.
- Allows knowing about the new products in the market.

Administrators (CMA)

- Add new Products to the website.
- Modification of the existing products.
- Deletion of the existing products.
- Management of the images in the site.

3.2.5. Performance Requirements

Security

The CMA module should provide a unique user name and password for the users in order to edit the website ORICA. The administrator of the CMA should give the Module level access for the users. The security of the system in completely maintained by the administrator only as he is the person who provides the access for the other users of the organization.

Reliability

The reports and other information delivered in the CDA at any point of time should be consistent for the data that has been entered by the user in the

CMA. The down time of server should be less than 15 minutes during the peak hours.

Availability

The system should be operational the whole year on a 24/7 basis.

Portability

The product works efficiently in Windows NT, Windows 2000.

3.3.Module Description

3.3.1 Content Delivery Application

The Content Delivery Application is the module, which is to be given in the WWW for the international users. So this acts as a front end to the client who browse the website. The website should be designed in such a way that it retrieves all the data from the database and gives as a web page to the client. So the changes, which are made in CMA, must reflect in the CDA module.

3.3.2 Content Management Application (CMA)

The Content Management Application is a module which actually deals with the updation and modification of the website. This actually contains several sub-modules in it. They can be given as follows.

Home Management

This module deals with the home page of the website. This contain some information about the website and some introduction about the organization. This module consists of operations such as adding information and editing information. The image file in the front home page can also be changed through this module.

Image Management

This module completely deals with all the images used in the website. This module deals with the image addition, editing of the image and deletion of the image. While adding the image to the website or deleting from the website it has to be specified under what category it is placed. These images are used in several parts of the website.

DUSPEC Management

This module performs its functions by working in the *.pdf files. For each product a *.pdf file is added in order to provide some useful information about the product. Management of all these *.pdf files are done using this DUSPEC files. This also includes the addition, updation and deletion of the files.

Product Management

All the products of ORICA Wood care are maintained using this module. Each product must come under a group, have a name, description and an image. These activities are maintained using the product management. This also has the function of deleting a product from the main data.

Project Management

This is a place where the companies previously done project details reside. All the information like project name, customer name, project description, images etc. This fully deals with past work done by ORICA so this has to be updated whenever a new project has been completed. This also has the provision of editing the existing project.

MSDS Management

This module deals with the some MSDS (i.e. Material Safety Data Sheet) files. The MSDS is a *.pdf file in which the some important details of the particular product is given. The details may be some methods to store the product, some kind of safety measures for the product, etc. This module has to be updated whenever a new product is to be launched or some new methods for a product has

founded. So this module is to be designed in such a format to easily modify the website.

FAQ Management

FAQ means Frequently Asked Questions. This module deals some question and answer sections in order to solve some of the common doubts, which might come when the client browses the site. So those questions are gathered together and maintained in this module. This module has the same function as the previous modules such as adding, editing and deleting. While entering the questions they have to be grouped under a product to which it is associated with.

All the above-mentioned modules use their respective database to retrieve or store its information. The changes are directly done in the database through the CMA module. So all these CMA modules should be secured highly and should be modified directly under the notification of the Administrator.

3.4.Overview of the Tables

Table Description

Table Name: wood_content.

Used in: Home Management.

Field Name	Data Type	Constraints	Description
Content_id	Number(10)	Not null	Content identifier
Content_text	Long		Content descrition
Fk_content_image_id	Number(10)	Foreign Key	Refers to the id in the image table
Content_update_date	Date		Recently updated date

Table Name: wood_project_gallery

Used in: Project gallery management

Field Name	Data Type	Constraints	Description
Gallery_id	Number(10)	Not null	Project gallery identifier
Project_name	Varchar2(30)		Name of the Project gallery
Project_desc	Long		Description about the project
Project_customer	Varchar2(30)		Name of the customer for whom the project is done.
Project_state	Varchar2(30)		State of the project done
Project_city	Varchar2(30)		City of the project done
Project_weblink			Link where the project is used.
Fk_thumbnail_image	Number(10)	Foreign Key	Refers to the id in the Wood_image table
Fk_before_project_image	Number(10)	Foreign Key	Refers to the id in the Wood_image table
Fk_after_project_image	Number(10)	Foreign Key	Refers to the id in the Wood_image table

Table Name: wood_faq

Used in: FAQ Management

Field name	Data Type	Constraints	Description
Faq_id	Number(25)	Not null	Faq identifier
Fk_faq_group_id	Number(10)	Foreign Key	Faq group identifier
Faq_question	Varchar2(1000)		Question
Faq_answer	Varchar2(1000)		Answer

Table Name: wood_faq_group

Used in: FAQ Management

Field name	Data Type	Constraints	Description
Faq_group_id	Number(10)	Not null	Faq group identifier
Faq_group_name	Varchar2(30)		Faq group name
Fk_faq_maingroup_id	Number(10)		Refers to the id in the wood_faq_maingroup table

Table Name: wood_faq_maingroup

Used in: FAQ Management

Field name	Data Type	Constraints	Description
Faq_maingroup_id	Number(10)	Not null	Faq main group identifier
Faq_maingroup_description	Varchar2(30)		Description of the faq main group.

Table Name: wood_duspec

Used in: DUSPEC Management

Field name	Data Type	Constraints	Description
Duspec_id	Number(10)	Not null	Duspec identifier
Duspec_desc	Varchar2(30)		Description of the duspec
Duspec_pdf	Varchar2(30)		Pdf file for duspec
Fk_duspec_product_id	Number(10)		Refers to wood_product table

Table Name: wood_news

Used in: Whats new Management

Field name	Data Type	Constraints	Description
News_id	Number(10)	Not null	News product identifier
News_header	Varchar2(30)		Header of the news product
News_desc	Varchar2(1000)		Description of the news product

Fk_news_image	Number(10)		Refers to the id in the image table
News_updated_date	date		Last modified date

Table Name: wood_msds

Used in: MSDS Management

Field name	Data Type	Constraints	Description
Msds_id	Number(10)	Not null	Msds identifier
Msds_desc	Varchar2(30)		Description of the msds
Msds_pdf	Varchar2(50)		Pdf file for the msds

Table Name: wood_sheet

Used in: MSDS Management

Field name	Data Type	Constraints	Description
Sheet_id	Number(10)	Not null	Material sheet identifier
Fk_sheet_msds_id	Number(10)	Foreign key	Refers to the id in the msds table
Fk_sheet_product_id	Number(10)	Foreign key	Refers to the id in the product table

Table Name: wood_product

Used in: Product Management

Field name	Data type	Constraints	Description
Product_id	Number(10)	Not null	Product identifier
Product_name	Varchar2(30)		Name of the product
Product_desc	Varchar2(60)		Description of the product
Fk_product_hierarchy_id	Number(10)	Not null	Refers to the id in the product group table.
Fk_product_image_id	Number(10)	Foreign key	Refers to the id in the image table

Table Name: wood_product_group

Used in: Product Management

Field name	Data type	Constraints	Description
Product_hierarchy_id	Number(10)	Not null	Product hierarchy identifier
Product_hierarchy_name	Varchar2(30)		Name of the product hierarchy

Table Name: wood_image

Used in: Image Management

Field name	Data type	Constraints	Description
Image_id	Number(10)	Not null	Image identifier
Image_path	Varchar2(30)		Access of the path of the image
Fk_image_type_id	Number(10)	Foreign key	Refers to the id in the image type table
Image_name	Varchar2(30)		Name of the image

Table Name: wood_image_type

Used in: Image Management

Field name	Data type	Constraints	Description
Image_type_id	Number(10)	Not null	Image type identifier.
Image_desc	Varchar2(60)		Description of the image.

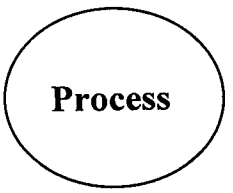
DATA FLOW DIAGRAMS

4.0.Data Flow Diagram

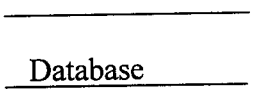
A **Data Flow Diagram** is a graphical technique that depicts information flow and the transforms that are applied as data move from input to output. In other words, data flow diagrams illustrate how data is processed by a system in terms of inputs and outputs. It is also known as a **data flow graph** or **bubble chart.**

DFD Notations used

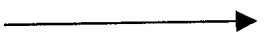
Yourdon & Coad Process Notations has been used here.



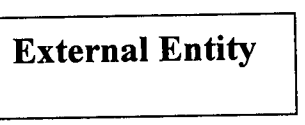
Process Notation: - A process transforms incoming data flow into outgoing



Database Notation: - Datastores are repositories of data in the system. They are sometimes also referred to as files.

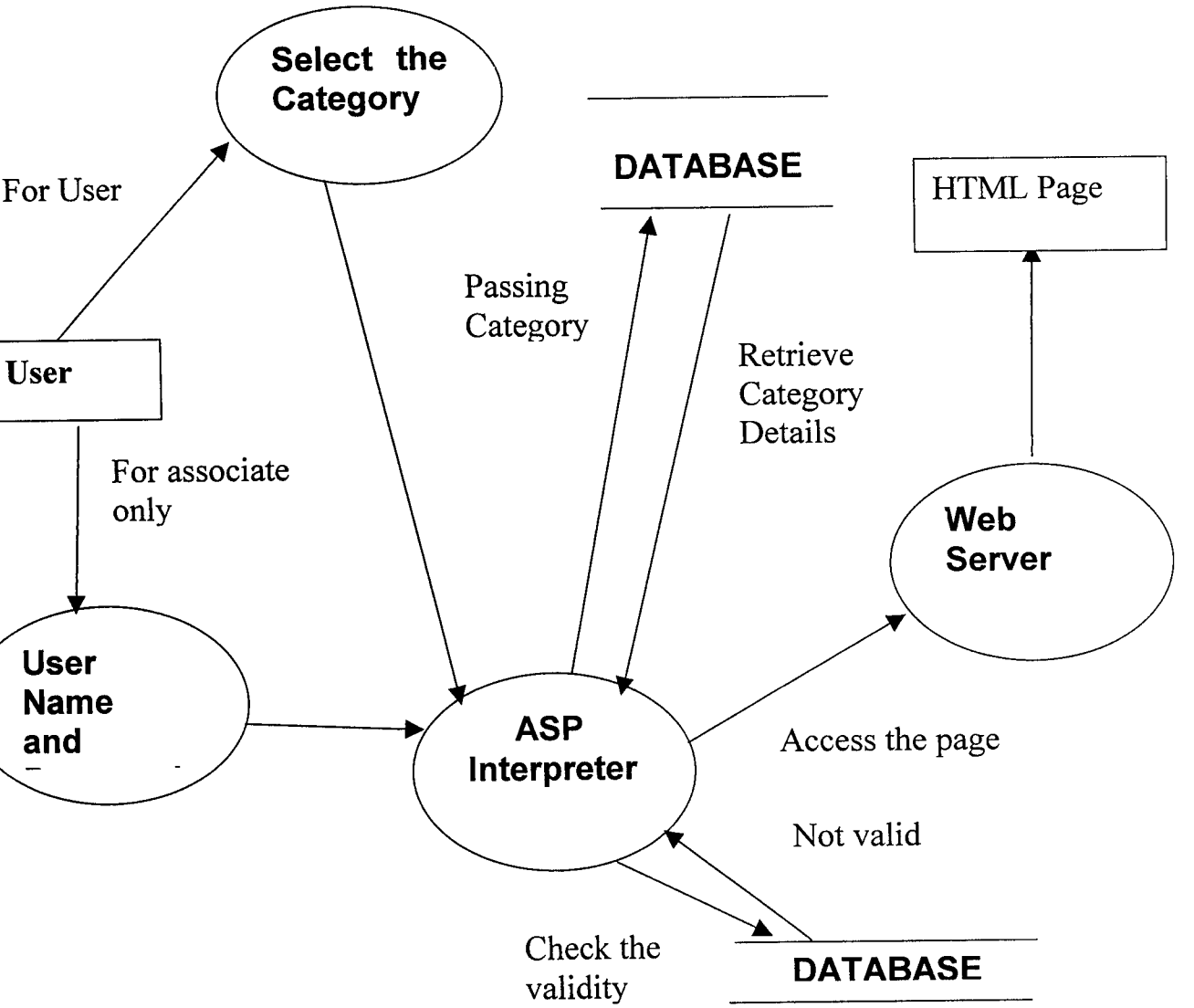


Dataflow Notations: - Dataflows are pipelines through which packets of information flow. Label the arrows with the name of the data that moves through it.



External Entity Notation: - External entities are objects outside the system, with which the system communicates. External entities are sources and destinations of the system's inputs and outputs.

DFD for Content Deliver Application



Description

First the **User** select the desired link or sub-links, after selecting the desired link **ASP Interpreter** passes the desired category to the **Database** and then retrieve the desired category. This page can then be go to the **Web Server** from where the user can see the **HTML Page**.

If the **User** (for associates only) wants to modify or update the desired link, associates enters the desired **username and password**, it will goes to the **ASP Interpreter** from where it will check the validity from the **Database**, after checking desired username and password the desired page will go to **Web Server** from where the associates can see the **HTML Page**.

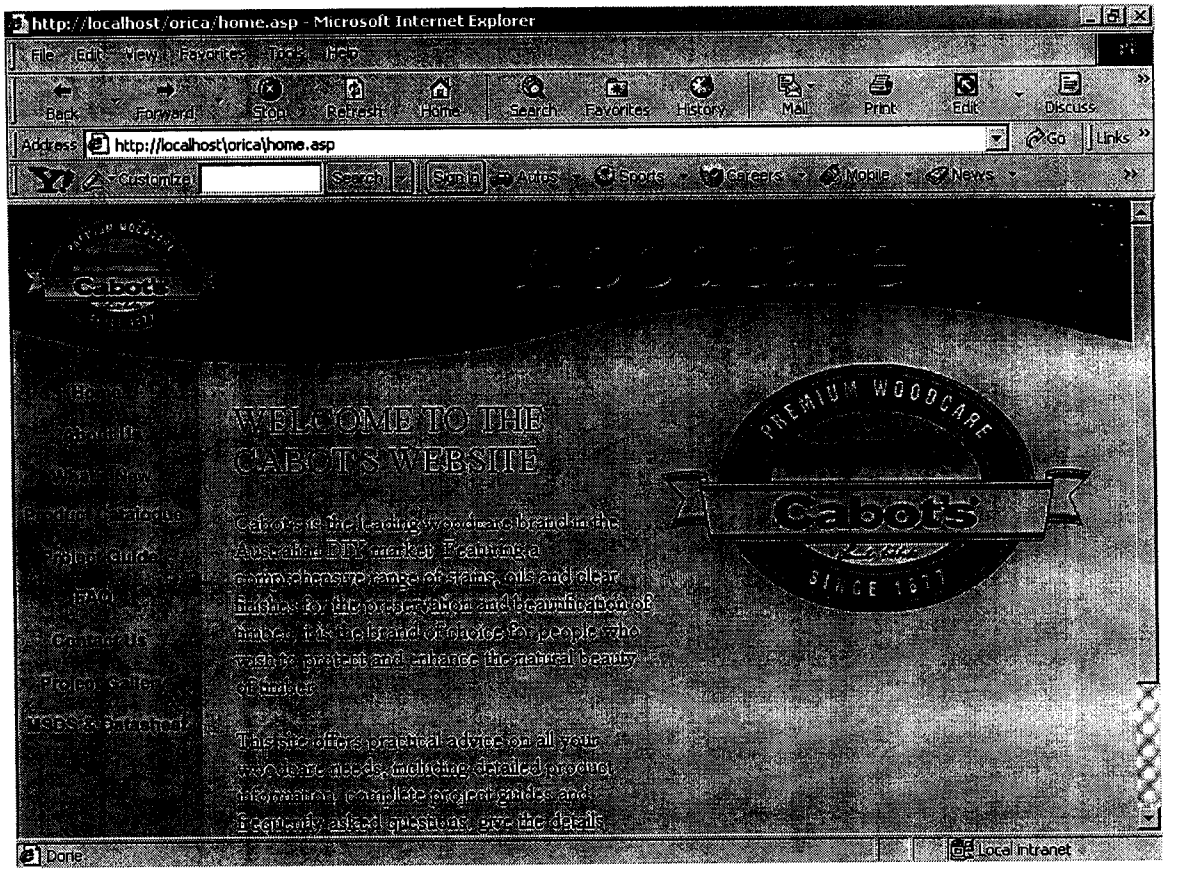
For example: - User clicks the **Our Team** navigation link, on click of **Our Team** navigation link it will take the user to the **Our Team** page.
Moreover, if any associates want to modify or update the **Our Team** page, by giving the desired username and password, it will take the associates to **Privileges section**, under that there is a navigation link name **Personal Details**.

In **Personal Details** navigation link associates can modify or update their data. This modified or updated data stored into the database, which can view, by the user on the **Our Team** page.

SAMPLE FORMS

5.0.Sample Forms

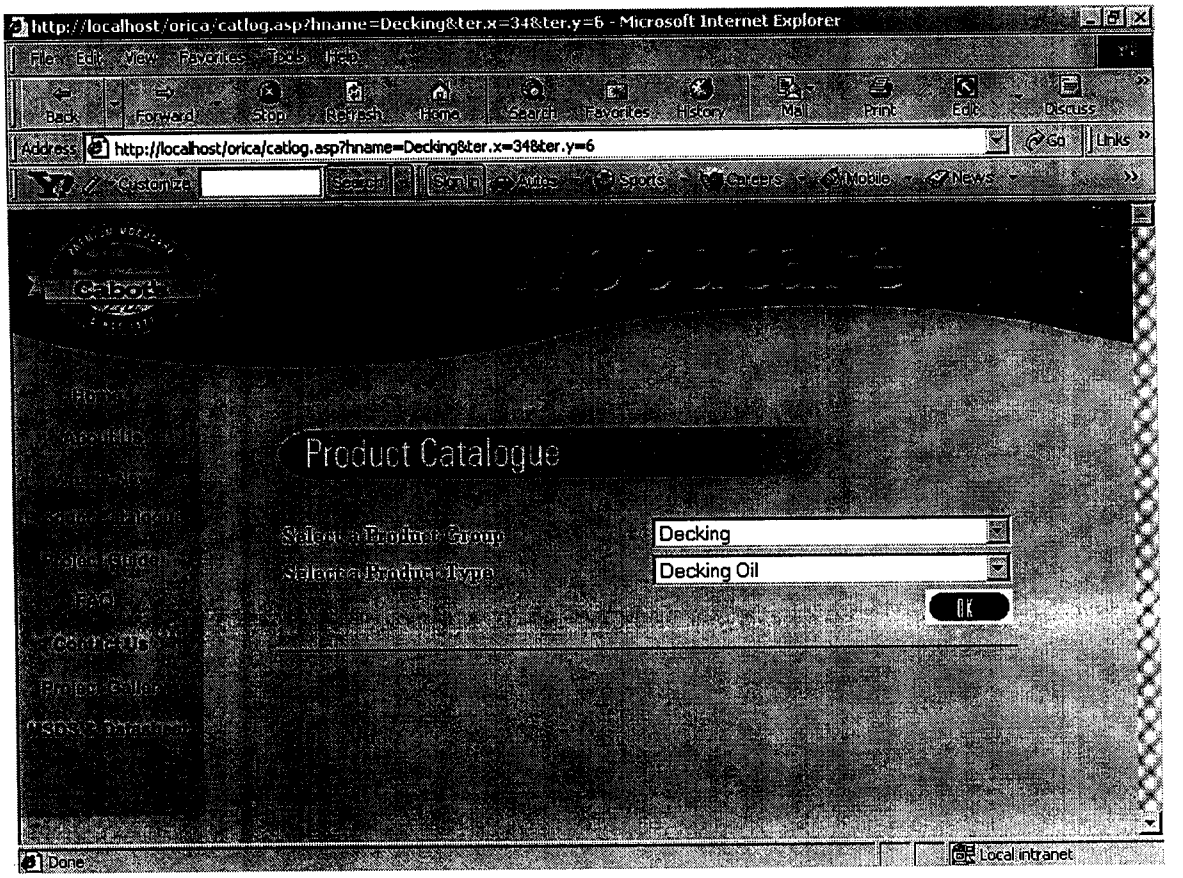
Content Delivery Application:
HomePage:



Description:-

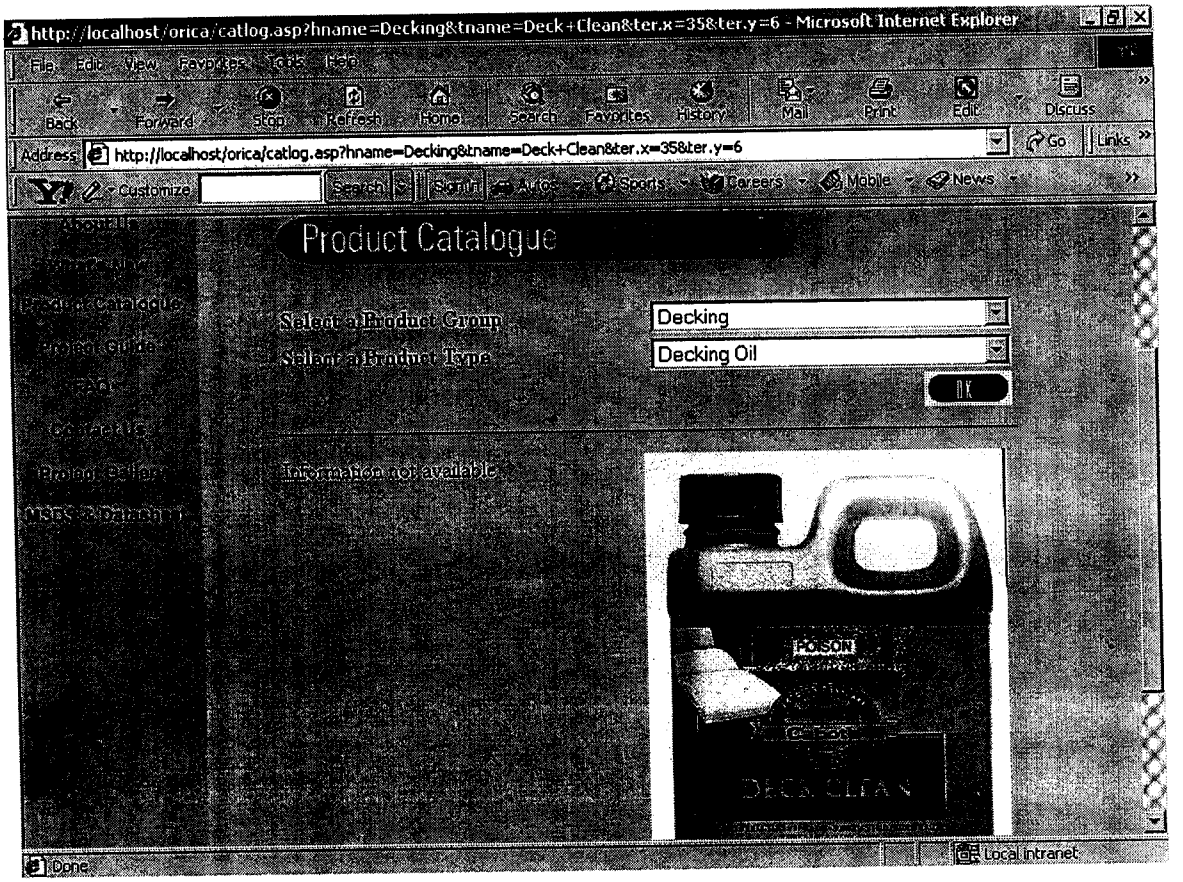
This is the home page for the website created i.e. CDA module. The contents of the application are retrieved from the database as all the forms.All the other pages can be navigated using the left navigation bar. The information supplied here in this page is about the wesite how it is useful for the users who browse.

Product Catalogue:



Description:

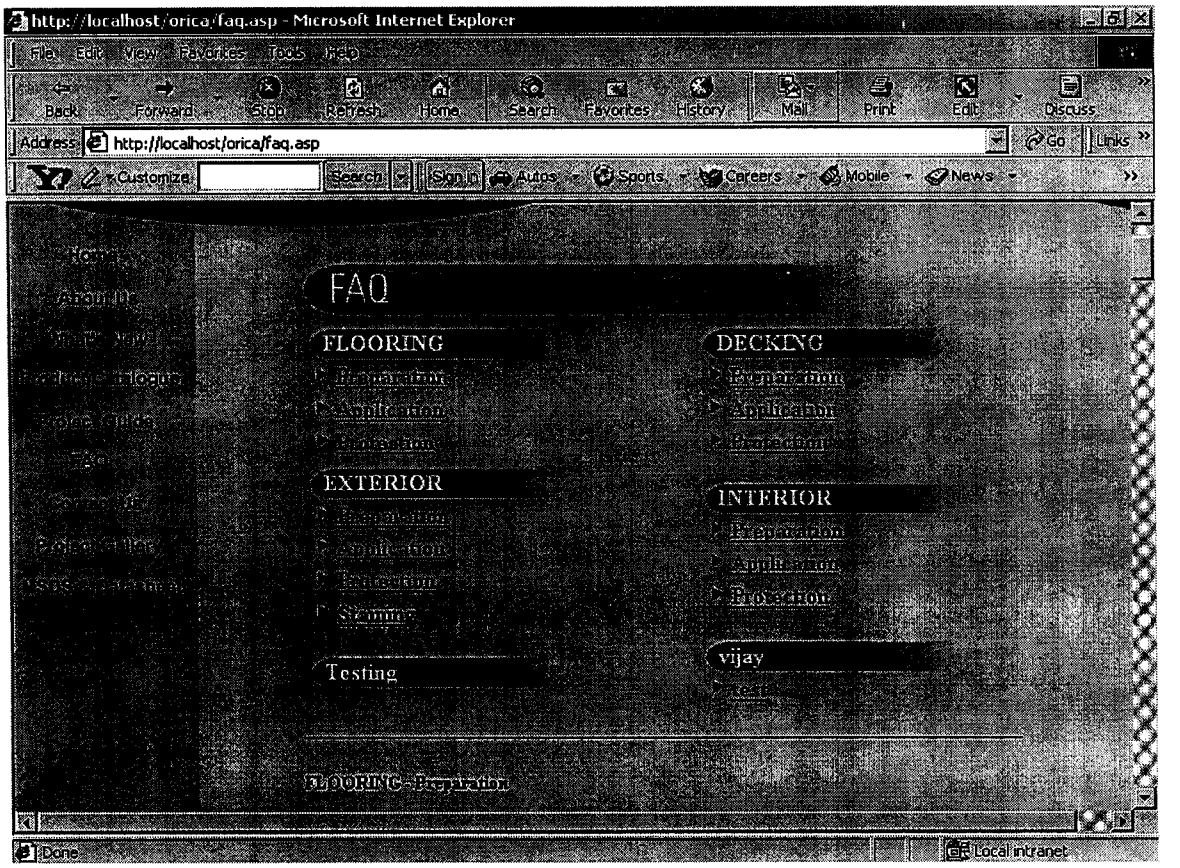
This part of the website provides the information about the various products wich are manufactured in the Cabot's Premium Woodcare .The product's are listed in the first dropdown menu and their corresponding sub-products are listed in the second dropdown. When the user selects the products mentioned the corresponding product's information, picture and the MSDS for that product is displayed for the users reference.



Description:

This is the resultant page after selecting the products in the dropdown menus. The page displays the product information, picture of the product and the MSDS Sheet.

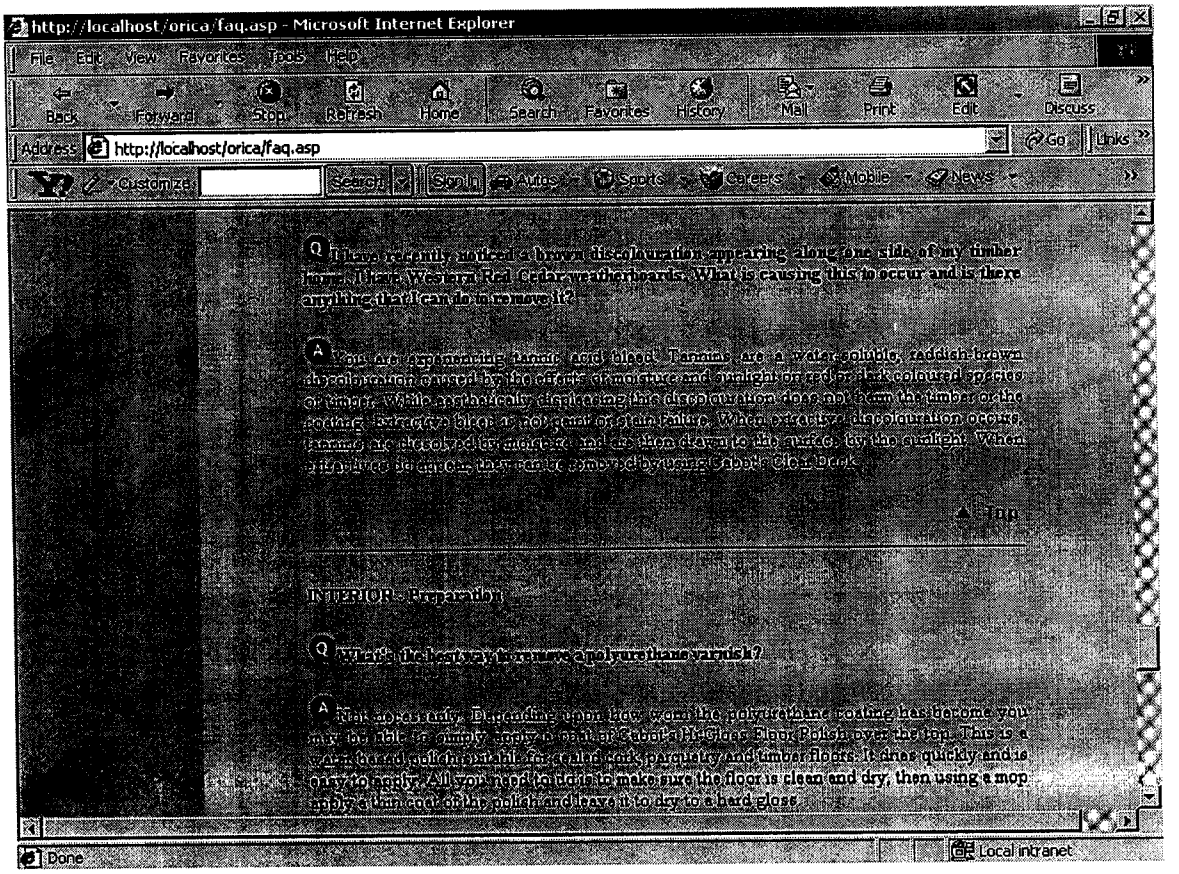
FAQ :



Description:

The FAQ form is used to deliver the Faq's (frequently asked questions) about the various products of the company. All the products prepared are divided into four main groups and the mentioned above. The products corresponding questions and answers are displayed below the topics. Those questions can be reached by clicking on the topics.

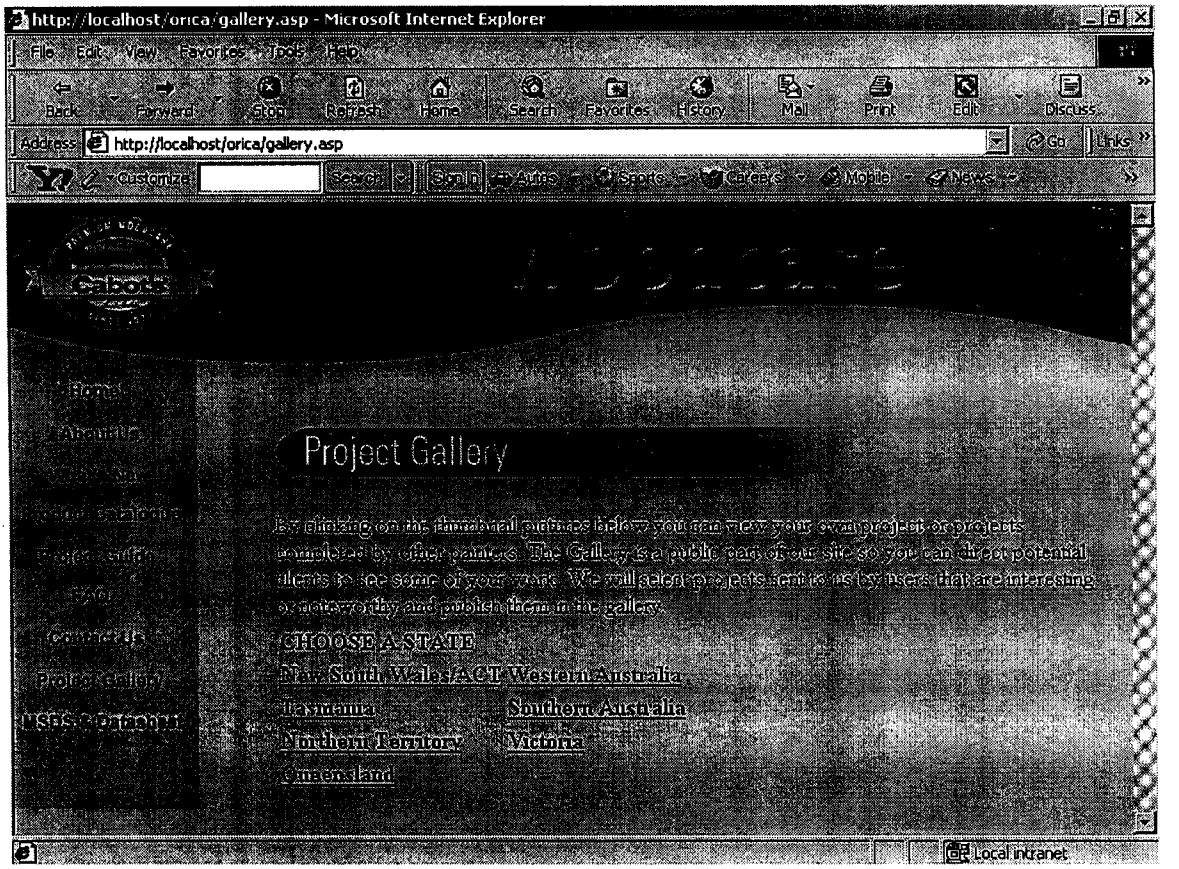
FAQ Q&A:



Description:

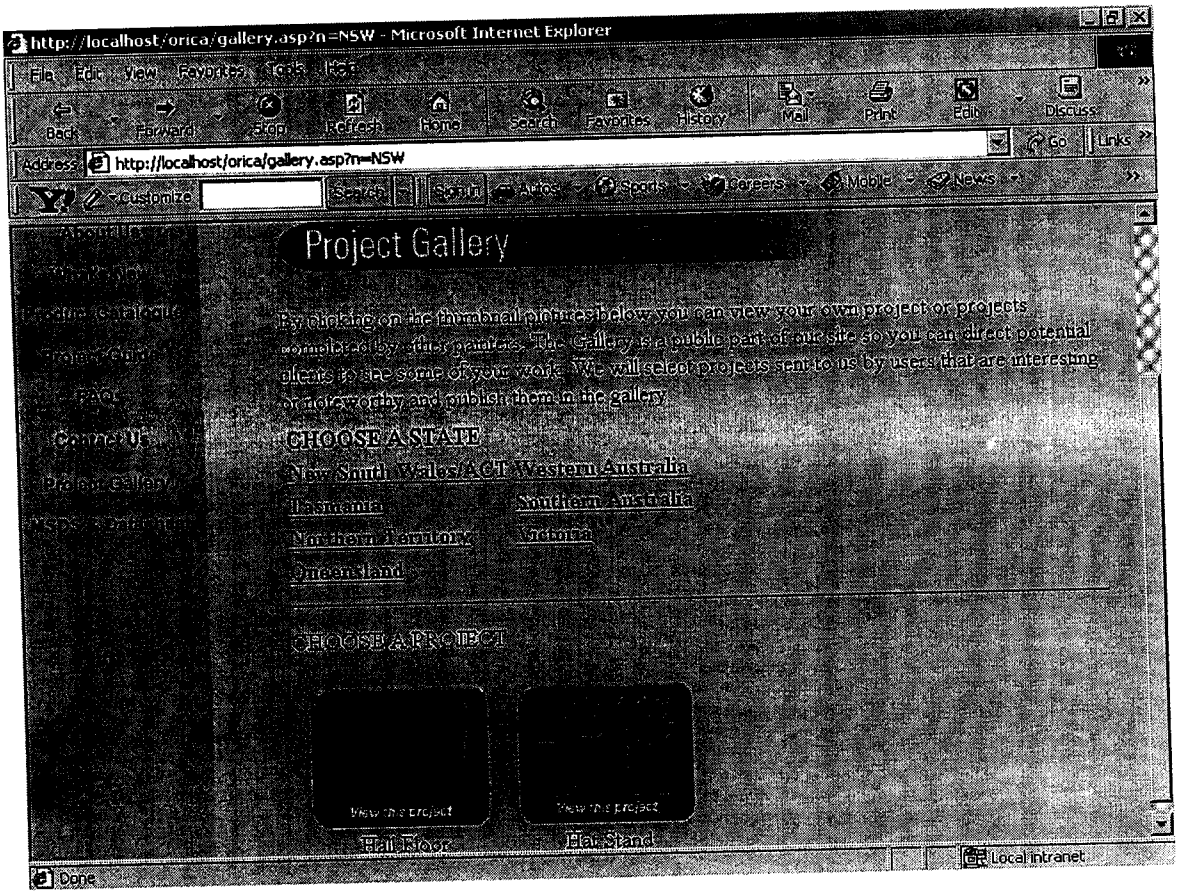
By clicking on the products on the previous page results in this format. The top of the page is reached by clicking the top button on the right end of the page.

Project Gallery:



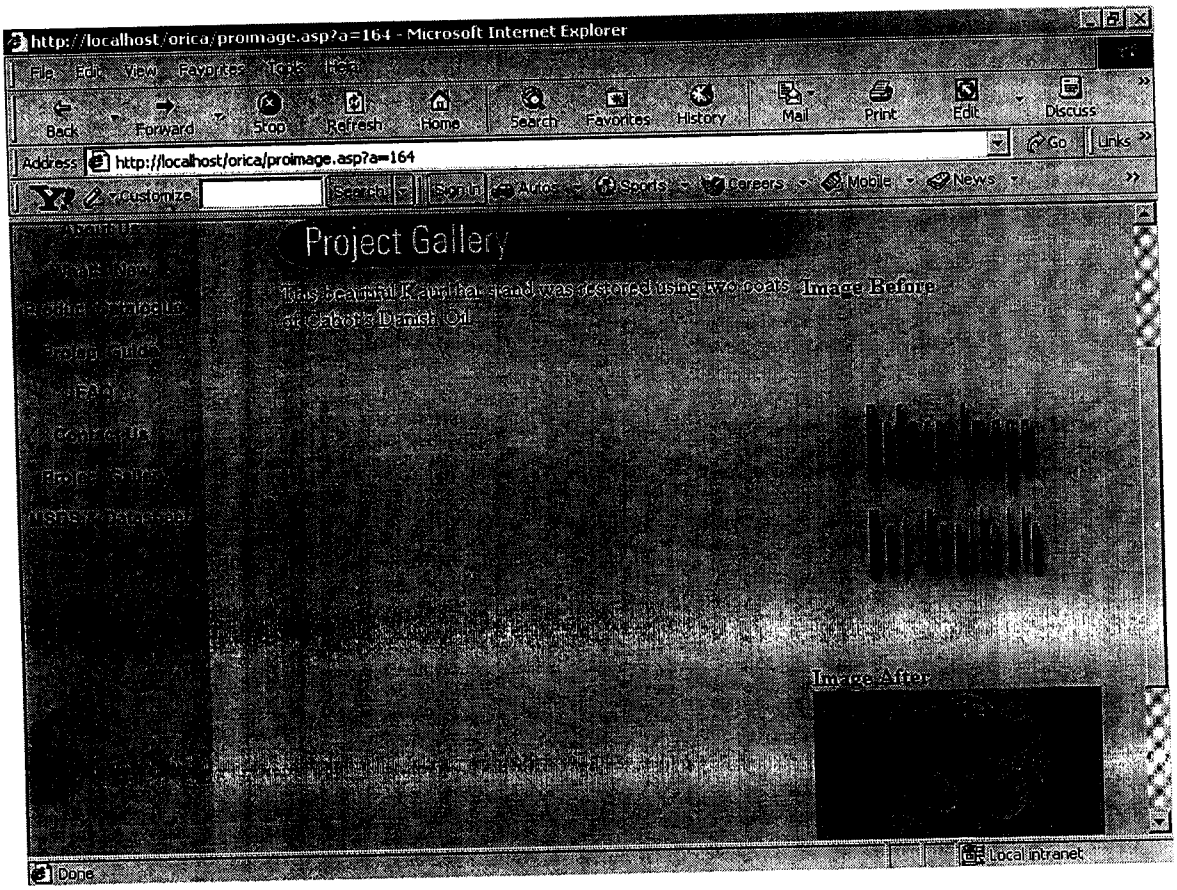
Description:

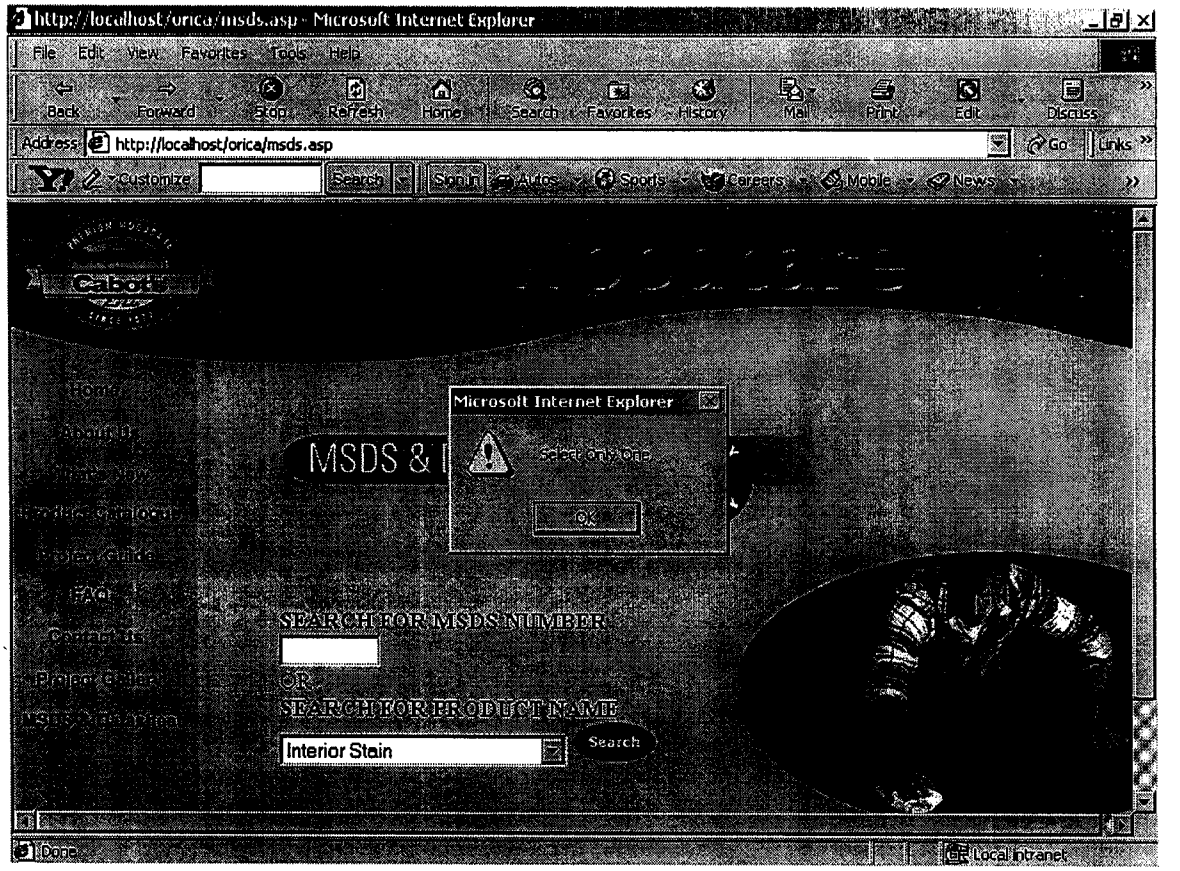
This module delivers all the project details that are carried down by the Cabot's company in the Australia. It is seen that all the seven states of Australia are mentioned here. It is used for dividing the projects done accoriding to the states, so whenever a state is selected the projects done in that state will appear in the bottom part of the page and the pictures of the project are displayed in the thumbnail form. The result of this is shown in the next page.



Description:

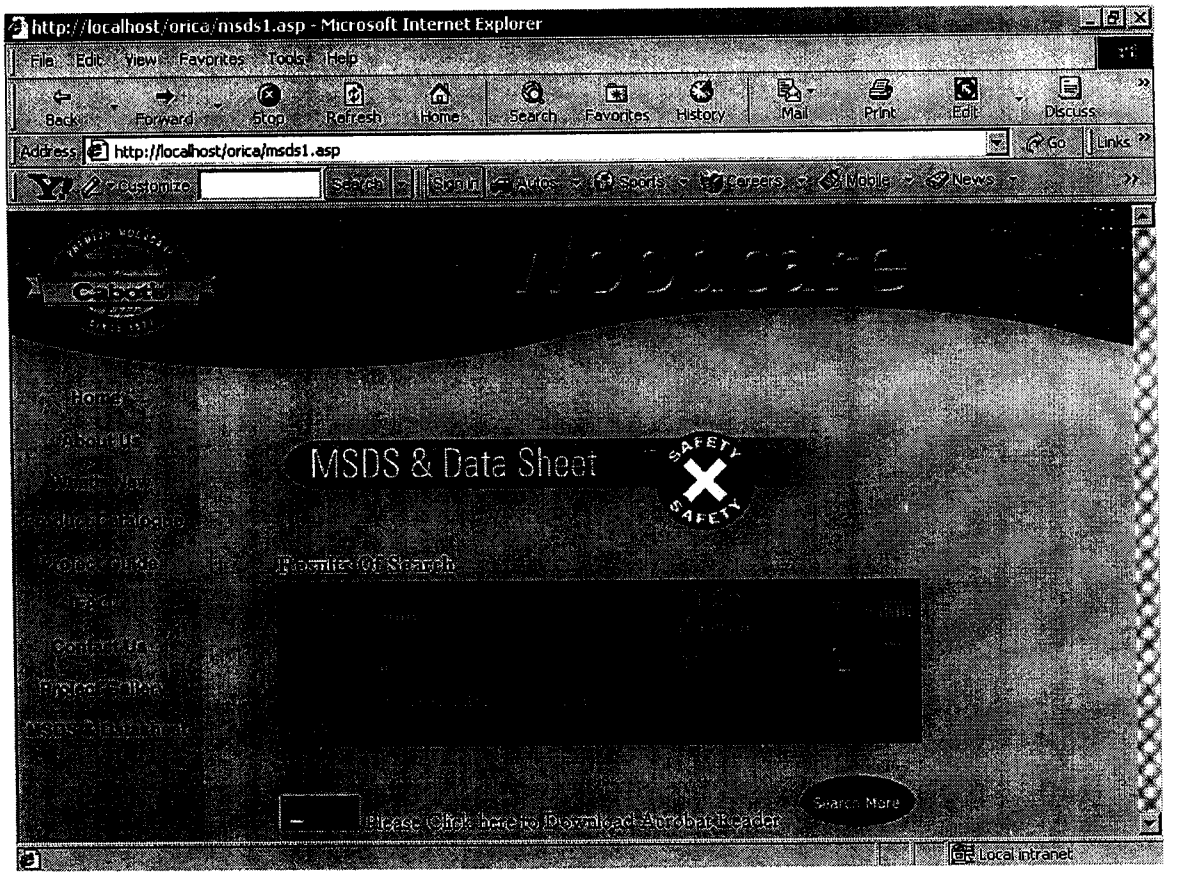
The thumbnail pictures delivered in this page represent the project done. On clicking on the thumbnails, the user can get the complete detail of the corresponding project such as the information about how the project is carried down, the project's image before the project is done and the project's image after the project is completed. This is represented in the next page.


http://localhost/orica/proimage.asp?a=164 - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Forward Stop Refresh Home Search Favorites History Mail Print Edit Discuss
Address http://localhost/orica/proimage.asp?a=164
Go Links
Customize Search Sign In Autos Sports Careers Mobile News
Project Gallery
This beautiful Kauri hat stand was restored using two coats of Cabot's Danish Oil
Image Before
Image After
Done
Local intranet



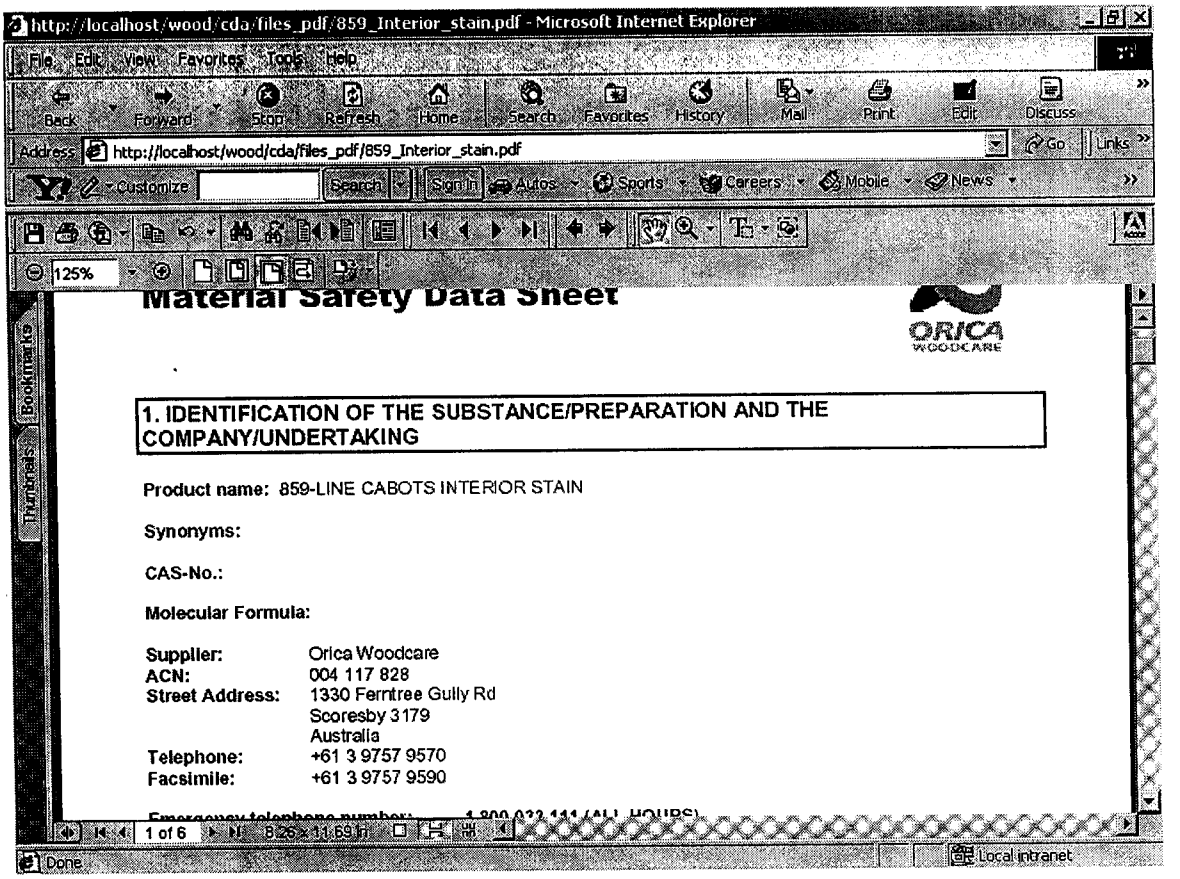
Description:

The MSDS(Material Safety DataSheet) is the sheet which helps the user how to handle the products while using them. This also provides some information about how to react when something unusual things happen while using the products. This MSDS module provides the safety sheet to the user. This sheets can be searched with the help of the products mentioned in the dropdown menu as well as by giving the MSDS number of that particular product. The search results and the corresponding MSDS sheet is provided in the next two pages.



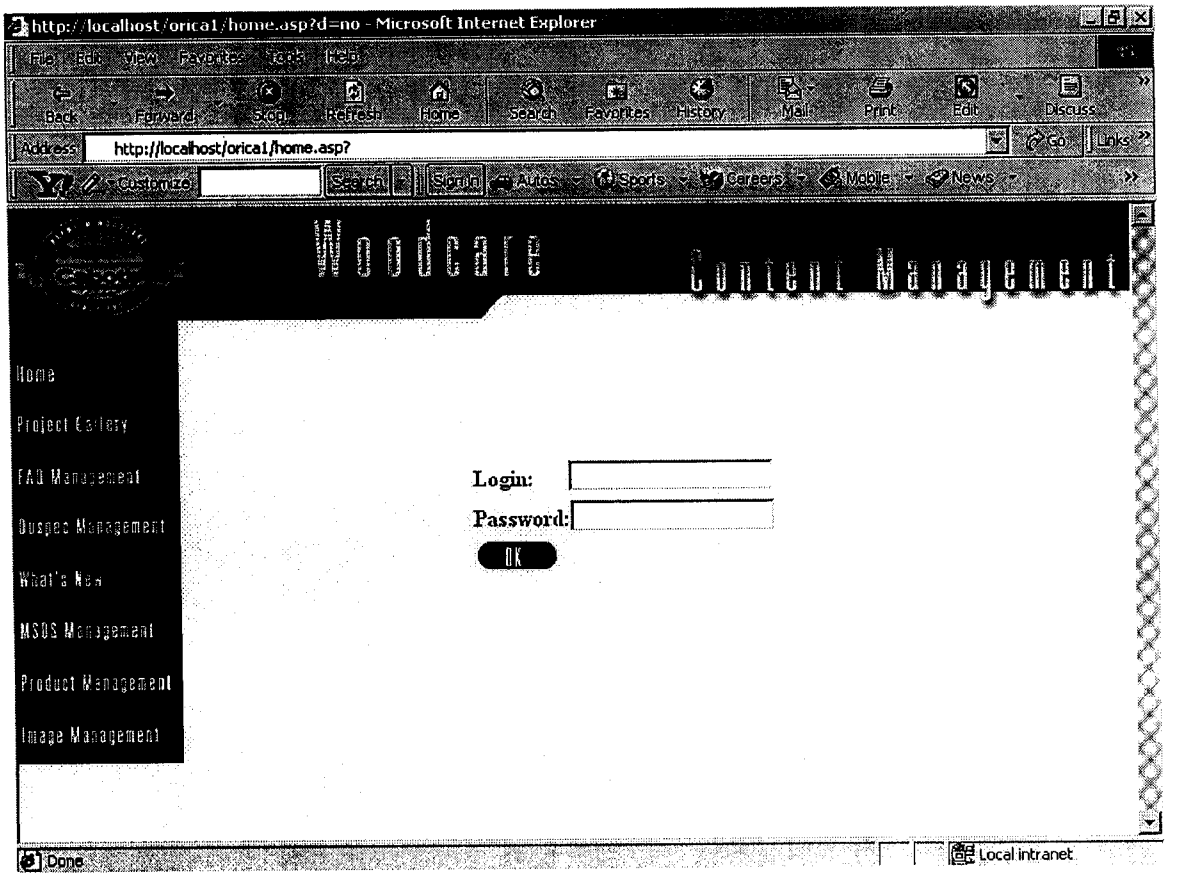
Process:

1. The result of the search made is produced in the above form.
2. The Product name and the MSDS number for the corresponding datasheet is mentioned and the sheet can be viewed by clicking on the pdf file in the screen.
3. If there is no acrobat reader is available for the user then he can download using the link provided in the bottom of the page.


http://localhost/wood/cda/files_pdf/859_Interior_stain.pdf - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Forward Stop Refresh Home Search Favorites History Mail Print Edit Discuss
Address http://localhost/wood/cda/files_pdf/859_Interior_stain.pdf
Go Links
Customize Search Sign In Autos Sports Careers Mobile News
125%
Material Safety Data Sheet
ORICA WOODCARE
1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING
Product name: 859-LINE CABOTS INTERIOR STAIN
Synonyms:
CAS-No.:
Molecular Formula:
Supplier: Orica Woodcare
ACN: 004 117 828
Street Address: 1330 Ferntree Gully Rd
Scoresby 3179
Australia
Telephone: +61 3 9757 9570
Facsimile: +61 3 9757 9590
1 of 6
8.26 x 11.69 in
Done
Local intranet

Content Management Application:

Log On Screen:



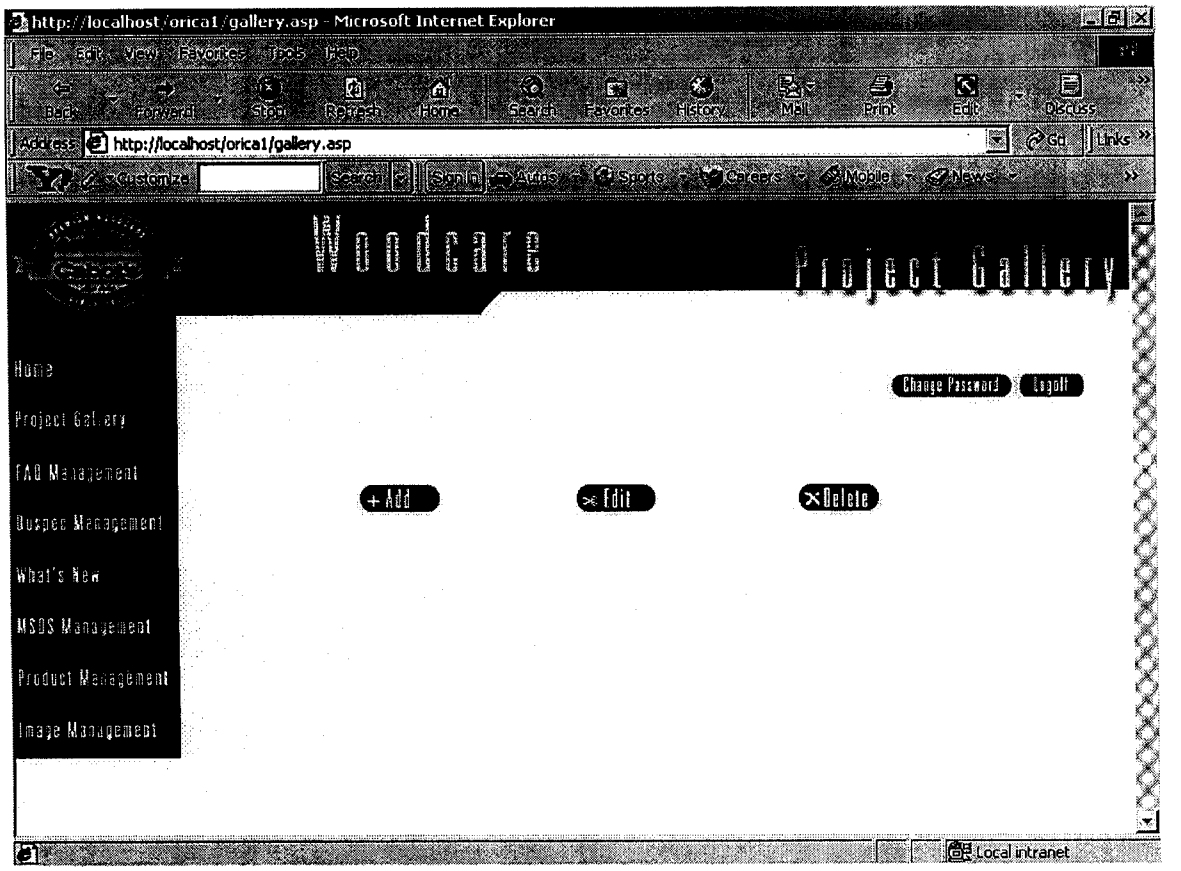
Process:

1. Enter the Username with the password.
2. Click the ok button for confirmation.
3. This will take the user to the home screen from where he can browse all the pages.

Validation:

1. Only a valid Orican can enter the application.
2. The user is allowed to enter only after filling up the details of the username and password.

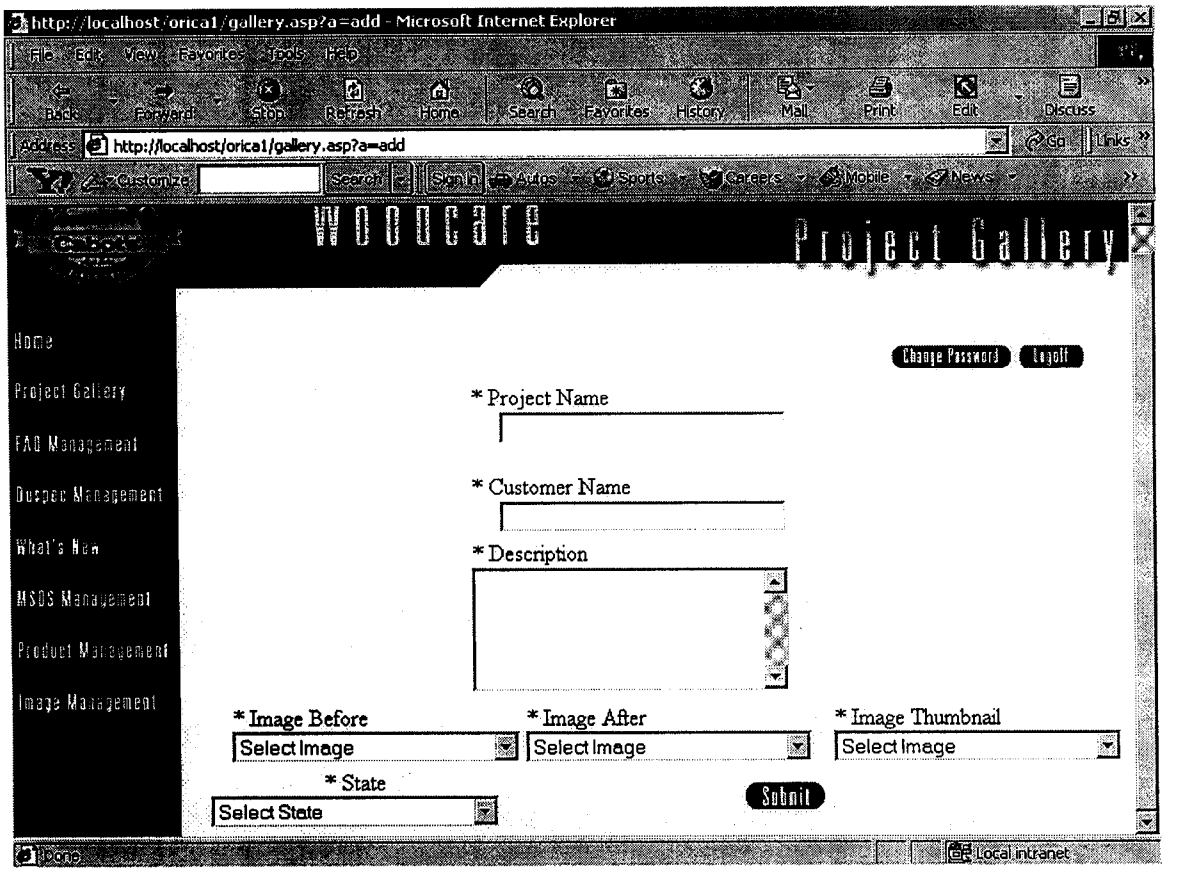
Project Gallery Management:



Process:

1. This section is for managing the projects done by Orica and the project images are also displayed.
2. This helps the user the add a new project, edit the existing project and delete a project from the database.
3. The password can be changed from here using the changepassword button and can be logged off from here using the logoff button. These two features are available in all the screens of this management application.

Project Gallery Add form:



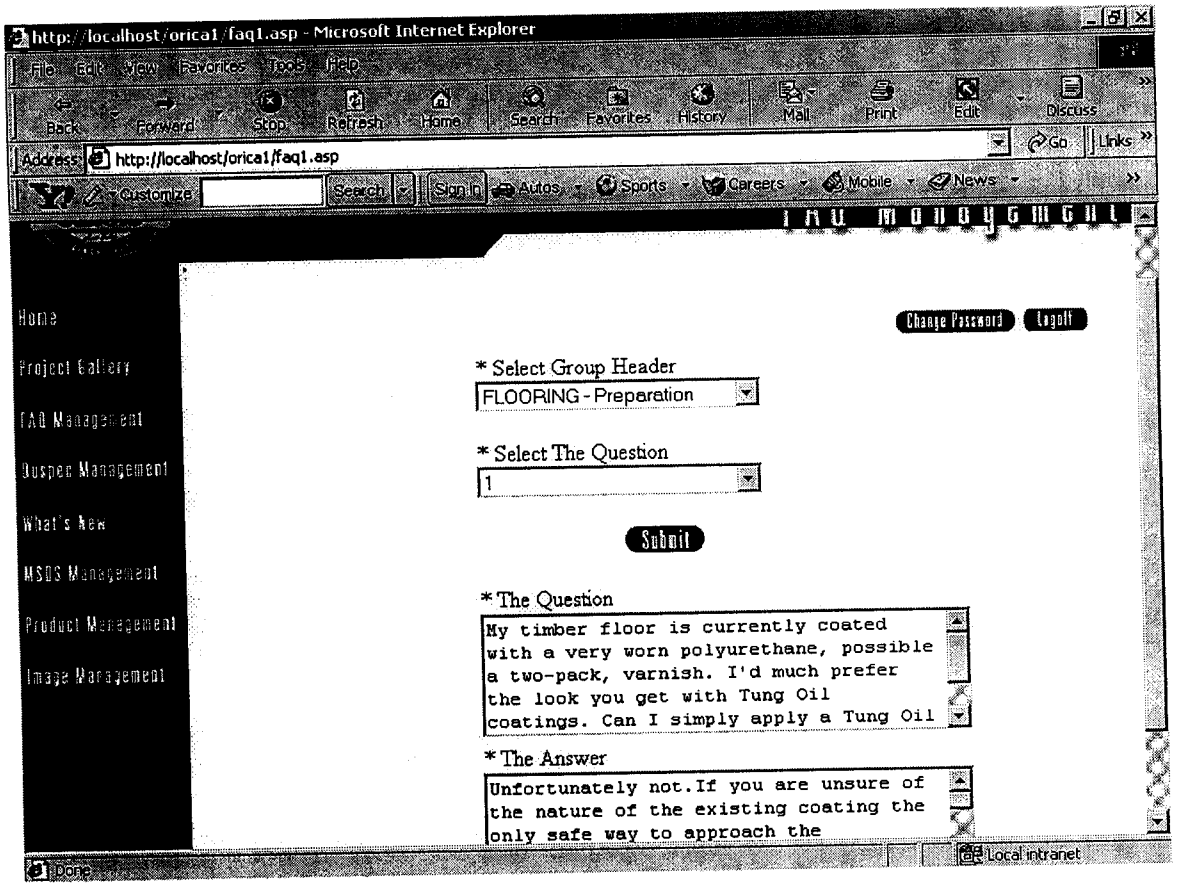
Process:

1. Enter the Project name, customer name for whom the project is carried down and the description about the project.
2. The image of the item before project ,after project and the thumbnail images are also given and submitted to the database.

Validation:

The fields marked with the * must be entered before submitting the form if not then an alert is produced to the user informing him the fields are left blank.

FAQ Edit Form:



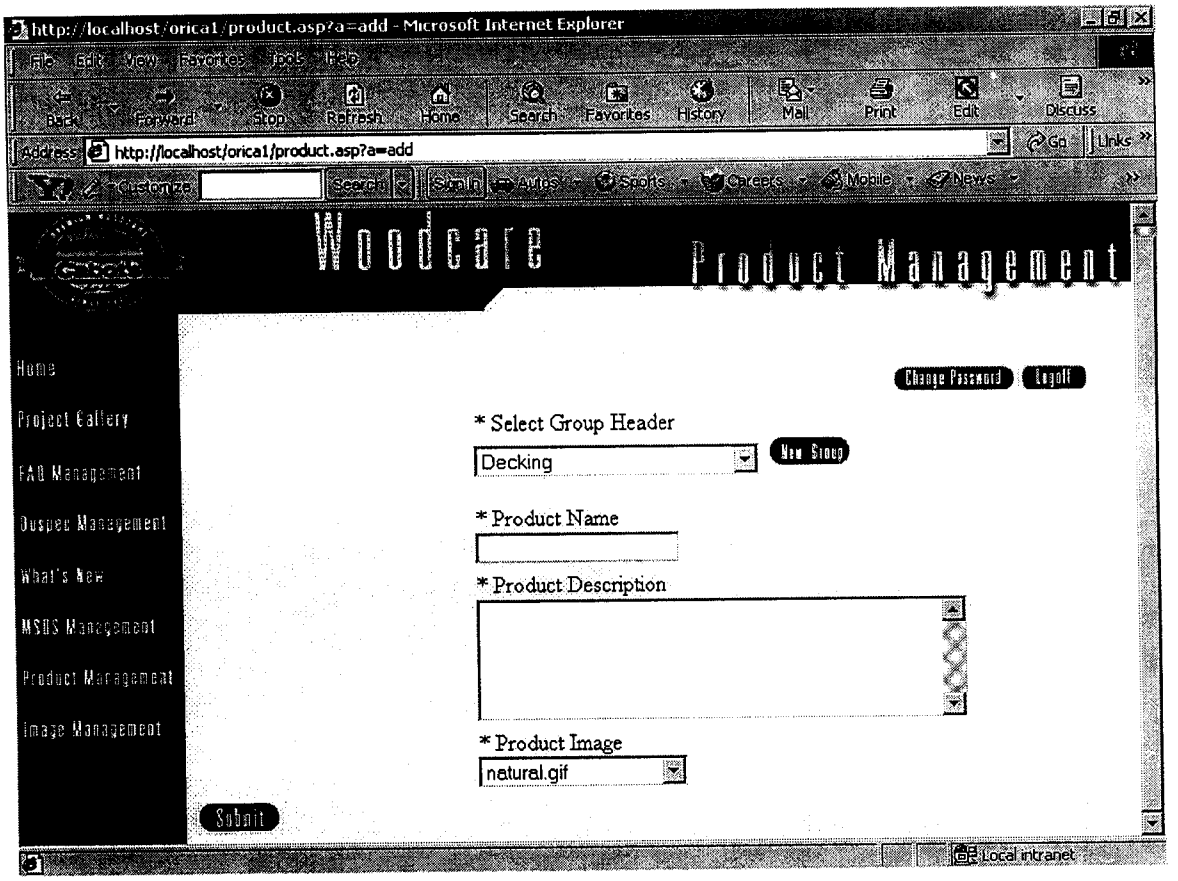
Process:

1. Select the group header and the question.
2. The corresponding selected header's all the questions will be displayed and the user has to select any one.
3. The select question and answer will be displayed in the text areas provided.
4. After updation is performed the form is submitted asking the server to modify the existing record in the database.

Validation:

1. Only the existing records can be retrieved for editing.
2. The question and answer fields cannot be left blank.
3. The database is only updated when all the fields of the form are valid.

Product Add Form:



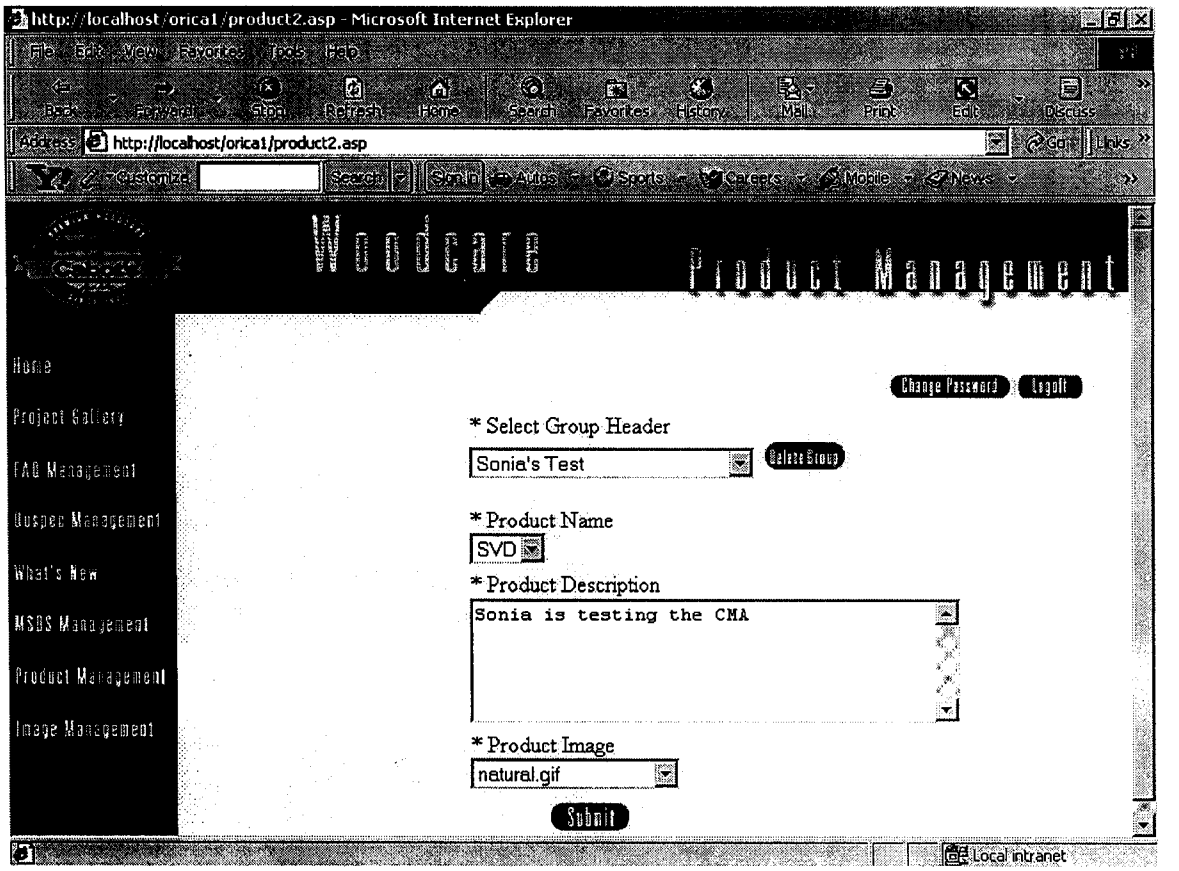
Process:

1. The group header is selected and the new products name and its description is also entered.
2. The image for the product is also selected from the dropdown menu provided.
3. Then the full form is submitted for the addition in the database.
4. All the above mentioned steps are performed for adding a product to a group which is already existing. Even the new group can also be selected by clicking the new group button provided in the form.

Validations:

1. Every Product should fall under a group.
2. All the fields in the form should be filled with valid details before submitting the form.

Product Delete Form:



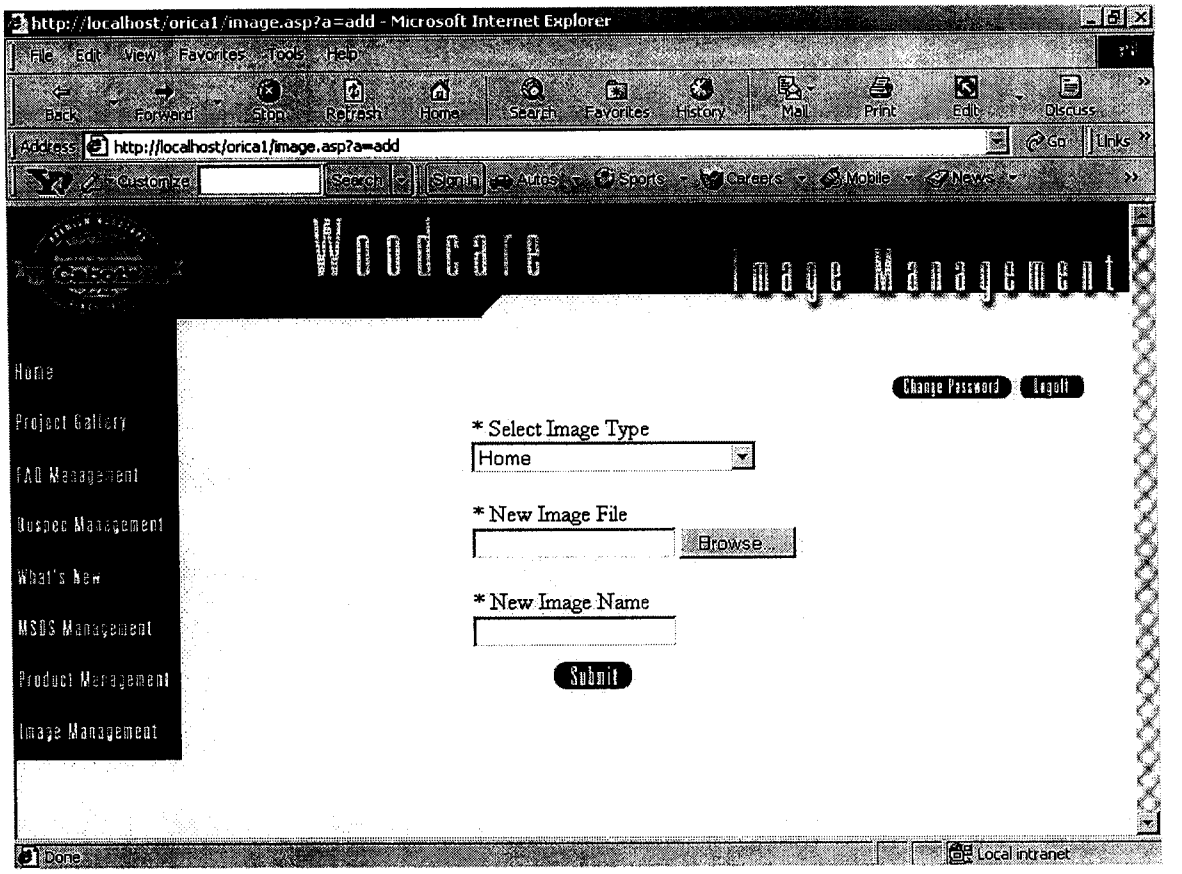
Process:

1. Select the group name and the product to be deleted from the database.
2. The corresponding image file and the description of the product selected will be displayed in the screen.
3. After submitting the form for deleting the user is provided an alert for getting the confirmation.

Validation:

1. Only existing product records can be deleted.
2. The details are displayed before deletion.
3. The database is altered after receiving the confirmation from the user only.

Image Add form:



Process:

1. Select the image type in which the new image has to be added.
2. Browse for the new image file using the file field.
3. enter the name of the image select to add and submit the form to add the image to the database.

Validation:

Only a valid image file can be selected from the system and added in the database.

TESTING

6.0.Testing

Testing:

Testing is an important phase in development in software development and application development in the world wide web. Testing will lead the error free application to the client. For this Automating Resources Time Scheduling there is a need of six types of testing.

They are

Unit Testing

Validation Testing

Integration Testing

Output Testing

Acceptance Testing

User Acceptance Testing

Unit Testing:

Unit testing comprises the set of tests performed by an individual programmer prior to the integration of the unit into the large system. A program unit is usually small enough that the programmer who developed the unit can test it. Then the unit is integrated into the large part of the system. Unit testing is always white-box oriented and the step can be conducted in parallel for modules.

Validation Testing:

Software testing and validation is achieved through a series of black box tests that demonstrate conformity with the requirement. A test plan outlines the classes to test to be conducted and a test procedure defines specific test cases that will be used to demonstrate conformity with the requirements. Both, the planned the procedures are designed to ensure that all functional requirements are achieved, documentation is correct and other requirements are met. After each validation test case has been conducted, one of the two possible conditions exists.They are the function or performance characteristics conform to the specification and are accepted.

A deviation from specification is uncovered and a deficiency list is created. This project is validated under different test conditions. The requirements as per the specification are met. The performance is tested at full capacity of users, accessing, saving and modifying the alumni details.

Integration Testing:

Bottom-up integration is the traditional strategy to integrate the components of the software system into the functional unit. Bottom-up integration consists of unit testing of the entire system. Modules are tested in isolation from one another in an artificial environment, known as a "test hareness", which consist of the driver programs and data necessary to exercise the modules. Moreover Integration testing addresses the issues associated with the dual problem of verification and program construction. After the application has been integrated a set of high-order tests were conducted.

Output Testing:

The outputs are thoroughly tested by giving sample data, for which results are known.The outputs from the system are matched with that of the known values and the results are found to be accurate. Test data of about 50n username are validated on the registration form. The results were found to be accurate.

Acceptance Testing:

Acceptance testing involves planning and execution of functional tests, performance tests, and stress tests in order to demonstrate that the implemented system satisfies its requirements. In addition to the functional performance tests, stress tests are performed to determine the limitations of the system. Tools of special importance during acceptance testing include a test coversge analyzer, a timing analyzer and a coding standard checker.Testing is the process of executing test cases with the intension of exposing the errors.

System Implementation:

Implementation is the stage where the thoeratical design is converted working system. It consist of

- Testing and Debugging
- Error Correction
- Training the user
- Change over

Implementation includes equipments installation and user training. For the system to begin operation, a sufficient number of users have been trained to the system. Several hours were sheduled for a number of users so that they were able to fully understand the new system and had an opportunity to familarize themselves with the various input screens and the generation of output.

The change over is another important aspect of the implementation process and had to be handled carefully.The existing system is changed to the new system and the system is found to meet its objectives. Data from the previous system, static contend, is ported to the new system and the result produced are compared with that of the previous system. The new system is found to satisfy the user needs.

It alloes the result to the new system to be compared with the old system before acceptance by the user, there by promoting the user confidence.

Maintenance of the System:

It is very essential to maintain any system. The categories in maintenance namely perfect,adaptive and corrective maintenance are used in maintaining the system.The web server performance is monitored at equal intervals of time. The database records are backed up at regular time.

CONCLUSION

Conclusion

The project Orica was successfully designed and developed for the client for their advertising activities.

This tool is very user friendly and after successful testing and implementation the feedback was taken forms the client users in such a way that the efficiency of the tool was fruitful. .

The updation of the website in future will add colors to the existing application.

Thus I conclude that this software tool has been developed satisfying the requirements put forth.

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