

HUMAN RESOURCE INFORMATION SYSTEM

FOR

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IES TECHNOLOGIES (INDIA) P LTD, 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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KUMARAGURU COLLEGE OF TECHNOLOGY

COIMBATORE – 641 006

SEPTEMBER - 2004

KUMARAGURU COLLEGE OF TECHNOLOGY

(Affiliated to Bharathiar University)

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CERTIFICATE

This is to certify that the project work entitled

HUMAN RESOURCE INFORMATION SYSTEM

Done By

NISHITH. R.

Reg. No. 0137S0041

Submitted in partial fulfillment of the requirements for the award of the degree M.Sc Applied Science -Software Engineering of Bharathiar University.

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Professor and Head

Handwritten signature of Internal Guide.

Internal Guide

Submitted for the University examination held on 30.09.2004.....

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Certificate

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PROJECT WORK CERTIFICATE

This is to certify that **Mr. Nishith.R.** IV year M.Sc., Applied Science - Software Engineering student of Kumaraguru College of Technology, Coimbatore has completed the project entitled "**HUMAN RESOURCE INFORMATION SYSTEM**" in our organization during the period June 2004 to September 2004.



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DECLARATION

I hereby declare that the project entitled "HUMAN RESOURCE INFORMATION SYSTEM", for IES Technologies (India) P Ltd, Chennai submitted to Kumaraguru College of Technology, Coimbatore, affiliated to Bharathiar University as the project work of M.Sc Applied Science-Software Engineering, is a record of original work done by me under the supervision and guidance of Ms. S. Shanti M.C.A and Mr.K.R.Baskaran B.E, M.S., and this project work has not found the basis for the award of any Degree/Diploma/Associate ship/Fellowship or similar title to any candidate of any university.

Place: Coimbatore

Date: 27.09.2004

Nishitha R.
Signature of the Student

Acknowledgement

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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.

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I extend my heartfelt thanks to my Computer Science & Engineering Department head, Prof.Dr.S.THANGASAMY B.E (Hons), Ph.D., for his kind advice and encouragement to complete this project successfully.

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NISHITH. R.

Synopsis

SYNOPSIS

The Human Resource Information System (HRIS) project is one of the most important internal systems for the company. Information on PCS's employees and candidates is vital to supporting our client's needs. PCS's personnel are the most critical asset of the firm.

Managing this important asset involves the use of automation in order to capture, store and retrieve candidate and employee information in a timely manner. This will need greater demands on Human Resources (HR) and Operations personnel to handle the volumes of records associated with personnel.

The data collected must be "*complete, accurate and up-to-date*". This requirement for data management is necessary in order to deliver the correct people to the client in a timely manner. Therefore, processes must be well planned, designed and implemented. Utilization of state-of-the-art technology is necessary to automate the processes in a cost-effective and efficient manner.

The HRIS involves major HR functions including recruiting and matching of job orders to PCS resources any where, any time. Also, basic employee information will need to be automated. It encompasses all the stages starting from the job orders, recruiting personnel, managing human resource and lead till completion of project. Input of data can be stage wise as each stage completes and reports generated for each stage.

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Introduction

1. INTRODUCTION

1.1 OVERVIEW

The Human Resource Information System (HRIS) project is one of the most important internal systems for the company. Information on PCS's employees and candidates is vital to supporting our client's needs. PCS's personnel are the most critical asset of the firm.

Managing this important asset involves the use of automation in order to capture, store and retrieve candidate and employee information in a timely manner. This will need greater demands on Human Resources (HR) and Operations personnel to handle the volumes of records associated with personnel.

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1.2 ORGANIZATION PROFILE

IES TECHNOLOGIES

IES TECHNOLOGIES is the convergence of technologies in Software, Embedded, hardware and networking under one fold.

STRENGTH

IES TECHNOLOGIES are striving to indulge and implementing knowledge in Software development, Embedded Control design & VLSI as an R & D cum design house providing cost effective and time bound solutions to the customers in the field of engineering and technology.

COMPANY PROFILE

IES TECHNOLOGIES was established in the year 2001 in the Chennai city and is raising ahead in the field of Software development, Embedded Control design & VLSI, with its team of dedicated, intelligent & optimistic young engineers.

They have the experience & technical competence in web designing, Client-Server technology, Intranet file transferring, and file uploading in the field of software. Prototyping, engineering and transferring technology in the field of analog, digital, power & communication electronics for industrial, telecommunication, process controlling, automotive, consumer electronics, security systems, agricultural, medical engineering. They also develop customized projects to suit the client's requirements.

Subsequently as a result of their development activities, a demand was generated to impart the knowledge of Software development, Embedded Solutions & VLSI, by the and for the student community. Hence, they are now conducting training programs on above mentioned technologies.

They are aiming to reach out to more potential territories in South India, to impart the knowledge of Software development, Embedded Solutions, VLSI, and Hardware Network providing cost-effective solutions.

System Study and Analysis

2. SYSTEM STUDY AND ANALYSIS

2.1 SOFTWARE REQUIREMENT SPECIFICATION

Human Resource Information System (HRIS)

❖ Purpose

The Human Resource Information System project is one of the most important internal systems for the company. Information on *PHOENIX CONSULTANCY SERVICES* (PCS) employees and candidates is vital to supporting our client's global staffing needs. PCS's personnel are the most critical asset of the firm.

This plan is the basis for planning, execution and tracking of all the project activities. It shall be used throughout the project life cycle and shall be base lined to reflect the current status of project.

❖ Scope

The proposed system computerizes the information processing of that portion of the Human Resource Management process that is done within PCS. It encompasses all the stages starting from the job orders, recruiting personnel, managing human resource and lead till completion of project. Input of data can be stage wise as each stage completes and reports generated for each stage.

The HRIS involves major HR functions including: recruiting and matching of job orders to PCS resources - any where, any time. Also, basic employee information will need to be automated.

❖ **Definitions, acronyms, abbreviations**

- HRIS -Human Resource Information System
- PCS-*PHOENIX CONSULTANCY SERVICES*
- HR -Human Resource

❖ **Product Perspective**

Proposed system is purely based on Web-based concept. The use of the system's features is relevant on the LAN, WAN or Internet environments. This system is also supportive of the following services:

- Browser performance issues
- Server performance issues
- Web page performance issues Web

❖ **Product functions**

The Human Resource Information System project is one of the most important internal systems for the company. Information on *PHOENIX CONSULTANCY SERVICES* (PCS) employees and candidates is vital to supporting our client's global staffing needs. PCS's personnel are the most critical asset of the firm.

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❖ **User characteristics**

This system is mainly designed for users who will be employees, administrators and the corporate managing authorities. These users are authorized and their functionality depends on their type of authorization.

All users can be assumed to have the following characteristics:

- Ability to read and understand English.
- Familiarity with the operation of the basic Graphical User Interface (GUI) components of the operating system.
- Familiarity with the use of the Internet and web browsers.
- Beyond the above, no further facility with computer technology can be assumed.

❖ **Software Specification**

SERVER SIDE

- Microsoft Windows NT Server 4.0
- Microsoft Internet Information Server (IIS) 4.0

CLIENT SIDE

- Microsoft Windows 95/98/2000/NT-Workstation Operating System
- Recent version of Microsoft Internet Explorer/Netscape Navigator web browser

The system proposes to use the following software technologies:

Platform	Windows 2000 Professional
Database	MS Access
Front End	HTML, JAVA SCRIPT
Language	VB SCRIPT, ASP
Web Server	IIS 4.0

❖ **Design constraints**

- The proposed languages for developing this system are HTML and Active Server Page.
- A database is also required to store all the necessary information for future reference.

2.2 EXISTING SYSTEM

Existing system is done manually. All the records of the company and the details of the employees working in the company have also to be maintained manually. The administrator has to maintain a copy in a manual register for job orders, client details, project details, employee details, timesheet etc. This involves bulk of papers to be maintained by the administrator. So this process consumes much of time. Hence this system centralizes all the HR related data's and also automates the process.

. Drawbacks of the Existing System:

- Time consuming and tedious process
- Lot of papers has to be maintained by the administrator
- Time delay
- Communication Gap

2.3 PROPOSED SYSTEM

The proposed system provides a way to synchronize the human resources information for the client, and involves the use of automation in order to capture, store and retrieve candidate and employee information in a timely manner. It also ensures reliable reports based on the captured data.

The intention of the development is to provide a user friendly and efficient way to capture and retrieve data. Apart from reduction of the paper work involved it is also meant to provide consistency and maintainability of data. Automation of the manually performed tasks such as staffing and recruiting is the task undertaken. User-friendly forms are to be designed for easy entry and retrieval of data. The users are provided different access privileges based on the user rights. Facilitating the storage and retrieval according to the user types could ensure security of data.

Manageability of all the operations within the company is to be ensured through the provision for reports of the required data. Reports provide a manipulated retrieval of various records and efficiency provided for data management. A comprehensive search procedure is adopted in the project for easy retrieval of required information through the reports.

HRIS Project intends to provide a well-managed human resource system that provides sufficient security of data by restricting the access of data as per the user groups and privileges. Atomization ensures more manageability and consistency.

The system will

- Provide high security
- Control data redundancy
- Control data inconsistency
- Allow consistency constraints
- Support flexibility and user friendliness

Programming Environment

3. PROGRAMMING ENVIRONMENT

3.1 HARDWARE REQUIREMENT

Processor	Intel Pentium Series
Primary Memory	64 MB RAM
Secondary Memory	500 MB Free Space
Modem	56 kbps internal/external
Networking	LAN Card

3.2 DESCRIPTION OF SW & TOOLS

➤ ACTIVE SERVER PAGES

Active server pages 3.0, as included with windows 2000. However, ASP is now a core part of so many Web-Oriented features within Windows.

ASP the open, compile-free application environment in which you can combine HTML pages, scripts, and ActiveX server component to create powerful Web-based business solutions.

Active server pages (ASP) is Microsoft's most recent web server Applications development technology, designed to make it easier for web application Developers to create sophisticated web applications.

DEVELOPMENT TOOLS:

Probably the most obvious development Tool for working with ASP is Microsoft's own visual studio packages of just visual Interdev (one of the component of visual studio). Visual Interdev, especially in the latest version, provides a whole range of editing, debugging and code building tools.

ASP FUNDAMENTALS:

Microsoft's Active Server Pages technology has now reached version 3.0. To many people, it has now become the natural and even the quintessential way to build dynamic web pages, entire sites and web-based applications on a windows server platform.

What Is an ASP File?

Files created with Active Server Pages have the extension .ASP. With ASP files, you can activate your Web site using any combination of HTML, scripting—such as JavaScript or Visual Basic® Scripting Edition (VBScript)—and components written in any language. This means your ASP file is simply a file that can contain any combination of HTML, scripting, and calls to components. When you make a change on the ASP file on the server, you need only save the changes to the file—the next time the Web page is loaded, the script will automatically be compiled. How does this happen? It works because ASP technology is built directly into Microsoft Web servers, and is thus supported on all Microsoft Web servers: Windows NT Internet Information Server (IIS) 3.0, Windows NT Workstation, and Windows 95 Personal Web Server.

BUILT-IN OBJECTS

ASP includes five standard objects for global use:

- Request—to get information from the user
- Response—to send information to the user
- Server—to control the Internet Information Server

- Session—to store information about and change settings for the user's current Web-server session
- Application—to share application-level information and control settings for the lifetime of the application

The Request and Response objects contain collections (bits of information that are accessed in the same way). Objects use methods to do some type of procedure (if you know any object-oriented programming language, you know already what a method is) and properties to store any of the object's attributes (such as color, font, or size).

THE REQUEST OBJECT

The Request object is used to get information from the user that is passed along in an HTTP request. As I mentioned earlier, the Request and Response objects support collections:

- CLIENTCERTIFICATE—to get the certification fields from the request issued by the Web browser. The fields that you can request are specified in the X.509 standard
- QUERYSTRING—to get text such as a name, such as my favorite TV sitcom above
- FORM—to get data from an HTML form
- COOKIES—to get the value of application-defined cookie
- SERVERVARIABLES—to get HTTP information such as the server name

THE RESPONSE OBJECT

The Response object is used to send information to the user. The Response object supports only Cookies as a collection (to set cookie values). The Response object also supports a number of properties and methods. Properties currently supported are:

- **Buffer**—set to buffer page output at the server. When this is set to true, the server will not send a response until all of the server scripts on the current page have been processed, or until the Flush or End method has been called.
- **ContentType**—to set the type of content (i.e: text/HTML, Excel, etc.)
- **Expires**—sets the expiration (when the data in the user's cache for this Web page is considered invalid) based on minutes (i.e.: expires in 10 minutes).
- **ExpiresAbsolute**—allows you to set the expiration date to an absolute date and time.
- **Status**—returns the status line.

The following methods are supported by the Response object:

- **AddHeader**—Adds an HTML header with a specified value
- **AppendToLog**—Appends a string to the end of the Web server log file
- **BinaryWrite**—writes binary data (i.e, Excel spreadsheet data)
- **Clear**—clears any buffered HTML output.
- **End**—stops processing of the script.
- **Flush**--sends all of the information in the buffer.
- **Redirect**—to redirect the user to a different URL

THE SERVER OBJECT

The Server object supports one property, `ScriptTimeout`, which allows you to set the value for when the script processing will time out, and the following methods:

- **CreateObject**—to create an instance of a server component. This component can be any component that you have installed on your server (such as an ActiveX).
- **HTMLEncode**—to encode the specified string in HTML.
- **MapPath**—to map the current virtual path to a physical directory structure. You can then pass that path to a component that creates the specified directory or file on the server.
- **URLEncode**—applies URL encoding to a specified string.

THE SESSION OBJECT

The Session object is used to store information about the current user's Web-server session. Variables stored with this object exist as long as the user's session is active, even if more than one application is used. This object supports one method, Abandon, which (believe it or not!) abandons the current Web-server session, destroying any objects, and supports two properties, SessionID, containing the identifier for the current session, and Timeout, specifying a time-out value for the session. One thing to bear in mind about the session identifier: It's not a GUID. It's only good as long as the current Web-server session is running. If you shut down the Web-server service, the identifiers will start all over again. So don't use it to create logon IDs, or you'll have a bunch of duplicates and one heck of a headache.

THE APPLICATION OBJECT

The Application object can store information that persists for the entire lifetime of an application (a group of pages with a common root). Generally, this is the whole time that the IIS server is running.

ASP FEATURES:

- ASP is open, compile-free applications environment.
- Combines HTML, Scripts & Reusable active X Components to create powerful Web-based solutions.
- ASP enables server side scripting for iis with native support both VB script & JavaScript.
- Browser independence ASP can run complex page building logic on the server & send only the results to the client.
- Database constructed pages that allow viewing, updating additions to server database

- Easy to use components running on the server (no the client). Built in third party components that require no browser scripting ability. Yet accomplish complex task that are difficult with browser scripting.
- Easy to build your own components that require no browser scripting ability, yet accomplish complex tasks that are difficult with browser scripting.
- Microsoft active server pages are a server-side scripting environment that you can use to create & run dynamic, interactive, high performance web server performance.
- Use Windows NT server to deploy you ASP application on the Internet, which offers superior scalability & security.

ASP APPLICATIONS:

ASP Applications are associated with two main topics:

- The provision of global scope, through a globally accessible variable storage area
- The integration with IIS through com+, which allows us to better manage components.

ADVANTAGES OF USING ASP

- Works with any standard web browser.
- Quicker development cycle.
- Easier code maintainability.

- Lighter load on the browser.
- Increased security.
- It is a server side programming used to create dynamic web pages.

It interacts with dbase and incorporate VB Script coding with ASP.

ASP CONNECTION WITH IIS:

Internet information server (IIS) is the core Windows NT service. That provides Internet services. Microsoft has a wide variety of products designed for Internet Connectivity. Internet information server provides information-publishing capabilities on the Internet. ASP itself consists of purely of a single DLL named ASP.dll; DLL is responsible of taking an ASP page and parsing it for any server-side script content.

PERSONAL WEB SERVER

Personal Web Server (PWS) 4.0 is the answer to our personal information sharing and Web development needs. PWS is a desktop Web server that makes Web site setup quick and simple, from creating a personalized home page automatically, to drag and drop publishing of documents. PWS. Supports Active Server Pages; it can be used as a development and testing. Platforms for websites. Create your site in the office or at home and it by using personal Web. Server, before hosting it on the corporate server or an Internet

➤ **Microsoft ACCESS**

MS access is a relational database management system for windows. RDBMS stores and retrieves information based on relationships that have been simplified. Relationship exists almost everywhere in life. With MS access we can build relationship database that stores related data in one place.

The system is developed using MS Access as backend. MS Access is a product of Microsoft. This is very much suited for database operations. This is very simple and supports all databases functionally. MS Access is built in tools that are innovative and helps to create and maintain large database quickly and easily.

Access database consists of tables that hold the data and all the related objects such as queries, forms and reports that are used to manage the data in the tables. Access supports almost all the data types that are supported by most of the databases. The field property can be provided for all the fields in the panel provided by the access. It also provides some common properties which helps in giving input mask, caption, default value, validation rule, primary key, etc. MS Access for windows is a DBMS which helps us to manage data stored in the computerized database.

The user need not be a windows expert to use the access. Programming skills is definitely not required when it comes to using MS Access. Access hides all the complex tasks of managing a database and gives a user friendly way of using database. MS Access is considered as an easy- to-work database in the industry. It stands as an example for Relational DBMS.

- MS access provides a very easy access to graphical user interface.
- MS access uses the full potential of windows giving a visual outlook of outlook of data and information.
- MS access provides a wizard for almost everything
- MS access hides the nuances of storage format location and etches information quickly.

MS Access is a relational database manager. It is a software package designed to make it easy for a person to store, maintain, and retrieve a related set of data. MS Access Components:

A Microsoft Access database can contain six types of database objects:

- Tables store data.
- Queries gather data you request from one or more tables. You can view or edit the data in a form, or print it in a report.
- Forms display data from the tables or queries so you can view, edit, or enter data.
- Reports summarize and present data from tables and queries so you can print or analyse it.
- Macros automate your database by performing actions you specify, without the need of programming.

JAVA SCRIPT

Using java script language hyper text markup language (html) pages can now incorporate enough to total orders, react to user input, allow the user to change the pages appearance on the fly, generate documents, and the like gone are the days of just reading and viewing pages. Java script is an object that is built in to java script Netscape navigator 3.0. java script is a compact, object based scripting language for developing client and server internet applications or higher interprets java script statements embedded directly in an html page, and live wire enables you to create and customize server based internet and internet applications similar to common gate way interface (CGI) programs. (See "Netscape authoring and application development tool).

The common basic java script concepts those are common to both the client and the server

- Data types
- Objects
- Arrays
- Methods
- Functions
- Function variables
- Undocumented object creator
- Object and reference
- Comparing objects
- Objects and complexity

JAVA SCRIPT ENHANCEMENTS

- Change GIF and JPEG images on the, either automatically at some predetermined interval or by designating a button or icon on a page for users to click.
- Enjoy increased overall performance
- Reduce memory usage
- Detect the presence of plug ins on a page and tailor the pages

VB SCRIPT

Unlike most other languages VB script allows only one data type: variant .A variant is a variable type that can hold any type of fundamental data type, including integers, floating points, characters, strings and data item values, variant data types may also represent instance of objects.

With variants, we don't have to worry about ensuring that our variable is adequately prepared to handle unexpected data. However, although the variable itself might be able to contain any type of data occur routines will often be required to check for the type of data that is stored in a variable to ensure proper VB script execution. A variable name must begin with an alphabetic character.

- The length of a variable cannot exceed 255 characters
- Periods may not be embedded in a variable name
- A variable name must be unique within the scope in which it is define

HTML

Html as a publishing tool.html is not a programming language but a markup language. It was first proposed in 1989.It took shape as a subset of SGML (Standard generalized markup language) which is higher-level markup language that has long been a favorite of the department of defense and many other organizations with a truly grounding volume of documents to manage. Like html, it describes formatting and hypertext links and it defines different components of a document.

One of the most basic user for html tags is to tell a browser that you want certain text to be emphasized on the page .the html document standard allows for a couple of different types of emphasis with explicit formatting, you choose to make something italic as opposed to bold. With implicit for matting, the browser decides how to format the emphasized text.

HTML's ROLE ON WEB:

The use for html on the web is as a basis for something called web applications. In essence a web application is a web site designed to do more than simply present pages and hyper media lines to its user's .It actually acts as a front end for data processing.

Using html the basic interface for the sales database can be made available on the web. With the appropriate browser software and an internet connection. The sales person for your company has nearly instant access to the information's she /he needs. Along with the changing demands for the web have come changing demands for html. It is only in the last three (or) two years (or) so that. Professional designers, writers, layout artists have began to take an interest in the web.

System Design

4. SYSTEM DESIGN

4.1 INPUT DESIGN

The input design is a link that ties the information system to the world of its users. Some aspects of the design may vary depending on whether the system is batch oriented or online. But regardless of the system there are general input concerns that all analysis should have. Input design consist of developing specification and procedures for data preparation, those steps necessary to put transaction data into a useful form for processing, and data entry.

The activity of putting the data to the computer for processing as obviously data entry can be achieved by instructing the computer to read data from a written or printed document, or it can occur by having a people key data directly into the system.

The inputs to the system vary from the job order request to the tracking of the project details and from client details to the employee's detail. Employees, HR employees, administrator and clients feed the inputs into the system. The inputs provided by the client are about their project request, hr employees and administrator feed project details, client details and also employee details.

The objectives guiding the design of input focus on

- Controlling the amount of input required
- Avoiding delay
- Controlling errors
- Keeping the steps simple

Input design is the process of converting user oriented inputs to the computer base design since the input have to be planned in such a manner so as to get the relevant information extreme care is taken to obtain the particular information if the data going into the system is incorrect then the processing and outputs will magnify these errors. The arrangements of messages and comments as well as the emplacement of data, headings, and titles on display screens or source documents are also a part of input designs. An improper design that needs the display screens blank will confuse a user about what action to take next.

Input designs are aimed at reducing the chance of mistakes or errors during data entry. The general term given to method aimed at detecting input is input validation. An analyst must always assume that errors will occur. They must be found during input and corrected prior to storing or processing the data.

4.2 OUTPUT DESIGN

Computer output is the most important and direct source of information to the user. Efficient and intelligible output design should improve the system relationship with user and provides him with the required information. The output from the system can be displayed or hard copied. Hard copy is preferred since it is used by the management a document for further reference.

The system provides output in both screen display form and hard copy form(report).the screen display lists the details related to the information provided by the user like giving employee code would enlist all details of that employee , similarly for other database retrieval output forms.

The reports are the most important part of an automated system as these provide the most required hard copy of the manipulated information. These reports may be retrieved based on most of the stored data like timesheet, job order, employee details etc.

4.3 PROCESS DESIGN

The process design gives the insight into the way in which the processing is done in the system. Here the processing is done using the menus and the application is completely event driven. The overall design can be summarized as:

- Opening an application
- Trapping the system errors
- Controlling applications through events and menu
- Closing the application.

In this module we concentrate chiefly on the processes that are taking place in the system. The administrator of the system enters all the details of the employees working in the concern and maintains the database. Moreover, all the activities that have to be done in each department are given to the section supervisors of each department as timesheets. The daily attendance for the employees is also maintained. Based on the attendance of the employees their salary is calculated. All this information is maintained in the database and the reports that are generated are posted on the company web site for review by the company management.

JOB ORDER

The most important portion of the HRIS system begins with the client requirements. The HR Manager for each prospect and/or client works with the hiring manager or coordinator to collect as much information about the needs of client, so that a thorough search of resources can be completed.

PCS APPLICATION

The all important PCS Application collects personal information on each employee. This document collects information regarding their personal details, technical details and experience. This helps to decide which employee can be deployed to work on a client's assignment.

OFFLINE EMAIL

This application provides the basic features of email on an intranet network there by providing communication between the employees within corporate with out an internet connection.

CLIENT & PROJECT DETAILS

This application stores the details about the client and project which are undergoing in the company.

RESUME PROCESSING

This application gets the information about the candidate about his personals details and the job code for which he has applied for job with his 3 area of expertise.

SKILL INVENTORY

This application is designed to give the HR Manager to get all the required list of the employee's who have the required skill for a new client project. Skills inventory is the primary record of capabilities for candidates and employees. The skills needed for search and match to client needs, include experience levels for industry, applications and technical skills.

4.4 Database Design

career

jobcode	text(6)
jobtitle	text(50)
skill	text(100)
expr	text(5)
qual	text(20)

client details

clcode	text(6)
clname	text(20)
comname	text(50)
projname	text(50)
projcode	text(6)
modname	text(20)
modcode	text(6)
stdt	date/time
enddt	date/time
eow	date/time
desc	text(100)
tech	text(100)

project details

clcode	text(6)
projname	text(50)
projcode	text(6)
modname	text(20)
modcode	text(6)
stdt	date/time
edt	date/time
desc	text(100)

timesheet

empid	text(6)
projcode	text(6)
pmname	text(50)
modcode	text(6)
stdt	date/time
enddt	date/time
rem	text(100) *

travel & lodging

empid	text(6)
empname	text(20)
clname	text(20)
pov	text(50)
destin	text(50)
accaddr	text(100)
phno	number(12)
mode	text(20)

leave form

empid	text(6)
type	text(20)
fromdt	date/time
todt	date/time
nod	number(3)
pol	text(50)

login

uid	text(6)
pwd	text(10)*
desig	text(50)

inbox

to	text(6)
from	text(6)
sub	text(20)
body	text(200)
dt	date/time

employee details

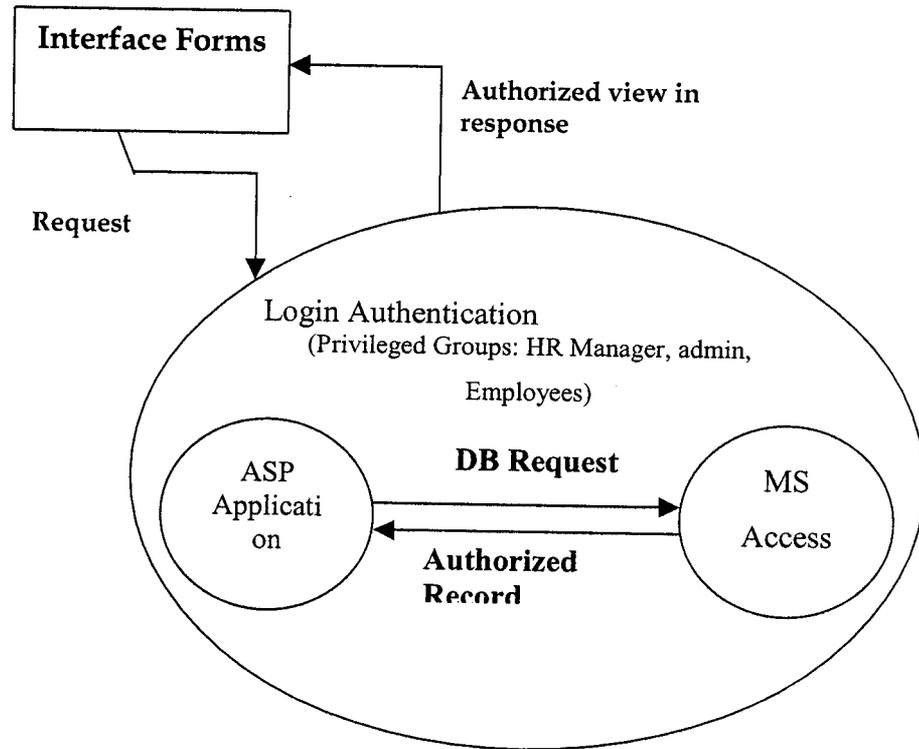
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empname	text(20)
gen	text(6)
dob	date/time
addr	text(100)
phno	date/time
nat	text(12)
lang	text(20)
email	text(25)
qual	text(20)
yop	date/time
expr	number(3)
aoexp	text(20)
tech	text(50)
tools	text(50)
dbos	text(50)

client master

clcode	text(6)
clname	text(20)
cldesig	text(25)
comname	text(50)
addr	text(100)
city	text(20)
state	text(25)
country	text(25)
pin	number(6)
phno	number(12)
email	text(25)

4.5 Flowchart

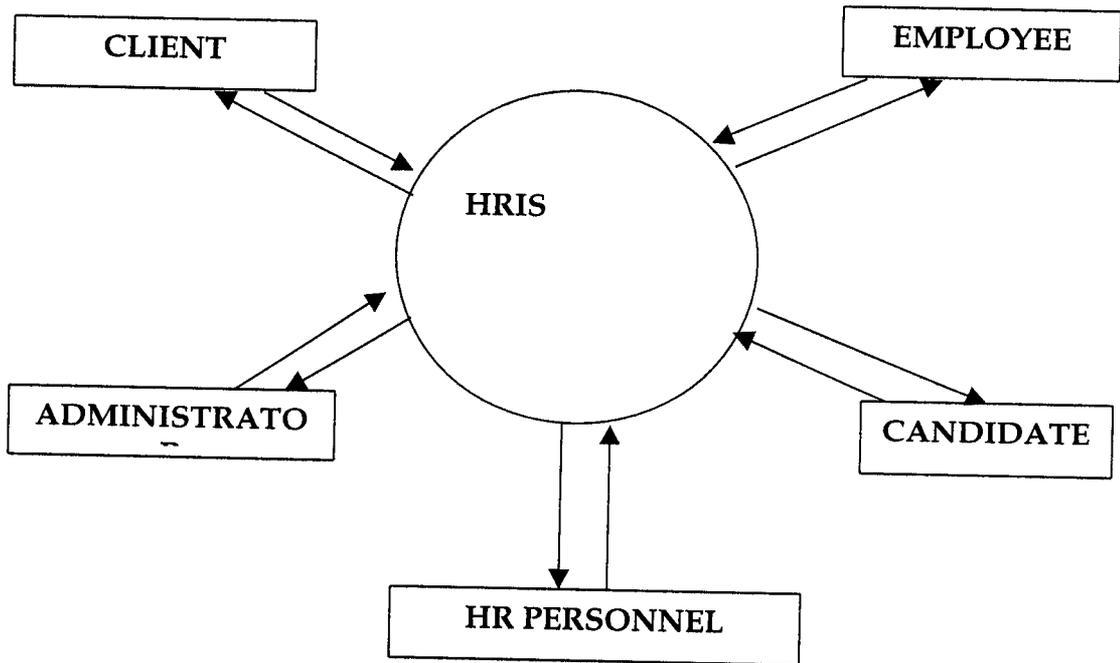
Proposed System Architecture



The interface forms are used to either enter/retrieve information to/from the database via the ASP application. The forms are displayed as per the user access privileges for the logged in User. Authentication is provided for each user as per the grouping specified during the time of creation of the user. Based on the result of the authentication the corresponding forms are displayed. The data is returned to the clients interface from the database.

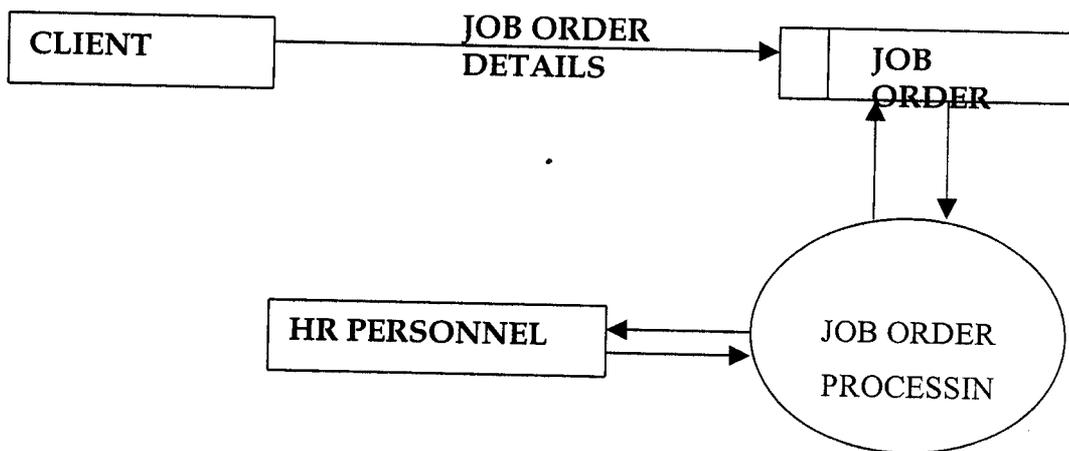
LEVEL 0

CONTEXT FLOW DIAGRAM



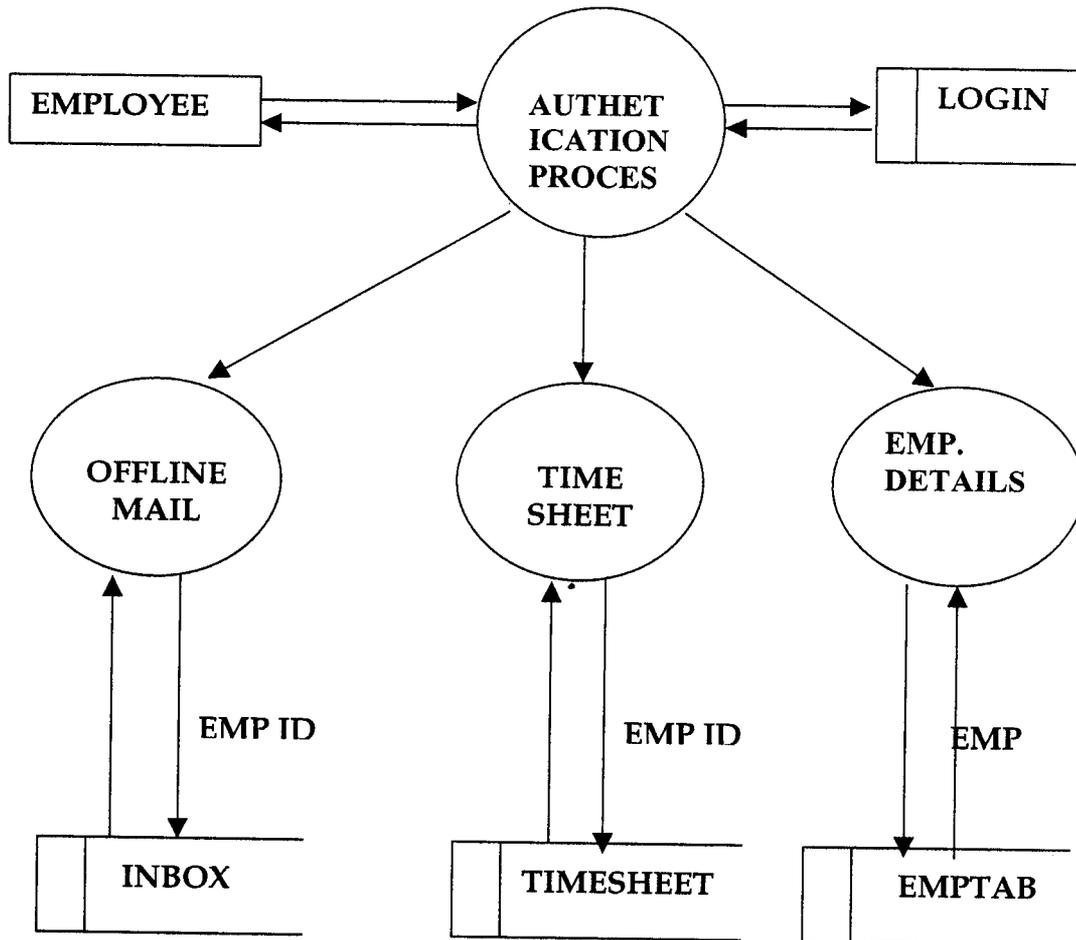
LEVEL 1 DFD

CLIENT MODULE



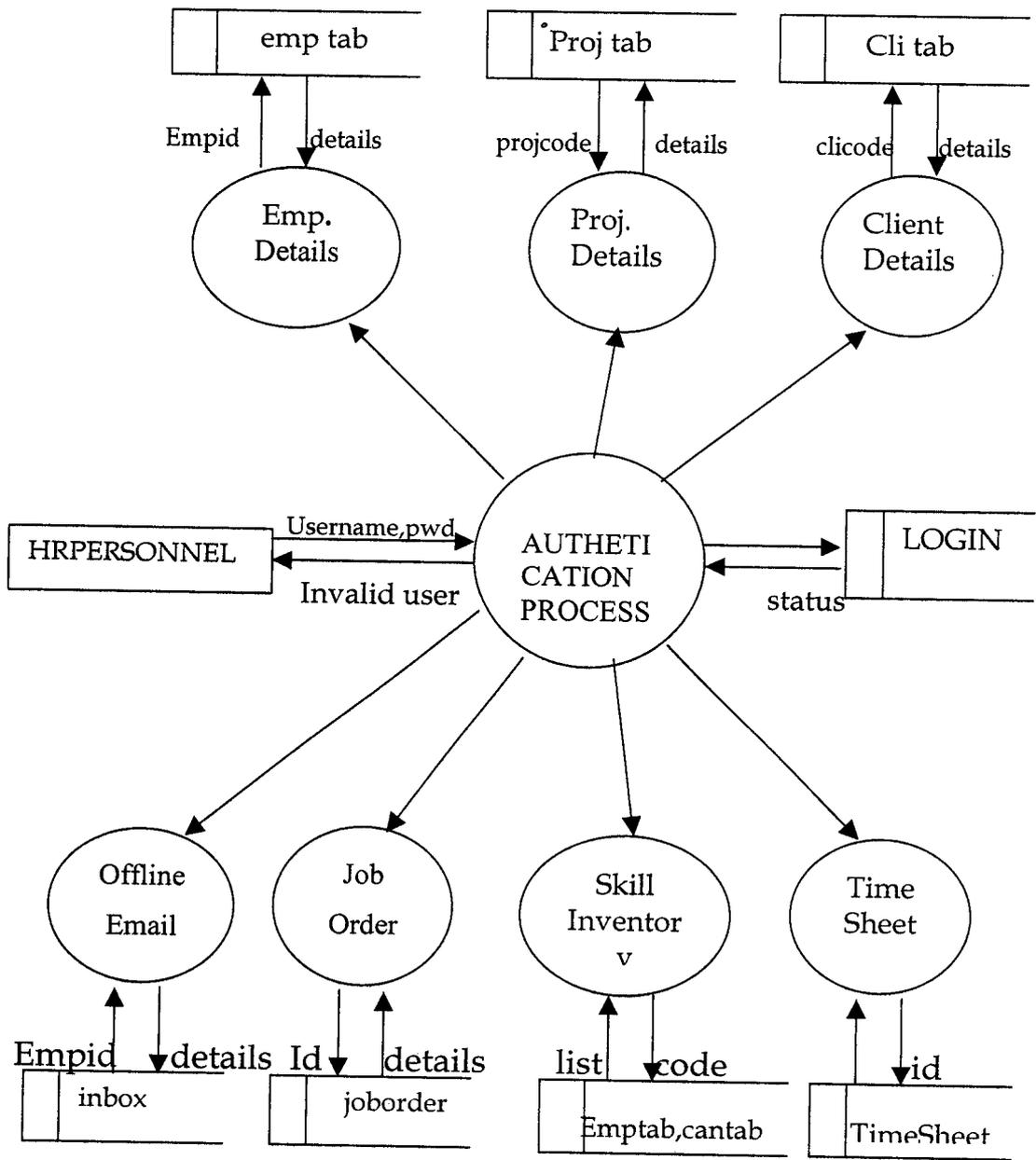
LEVEL 1 DFD

EMPLOYEE MODULE



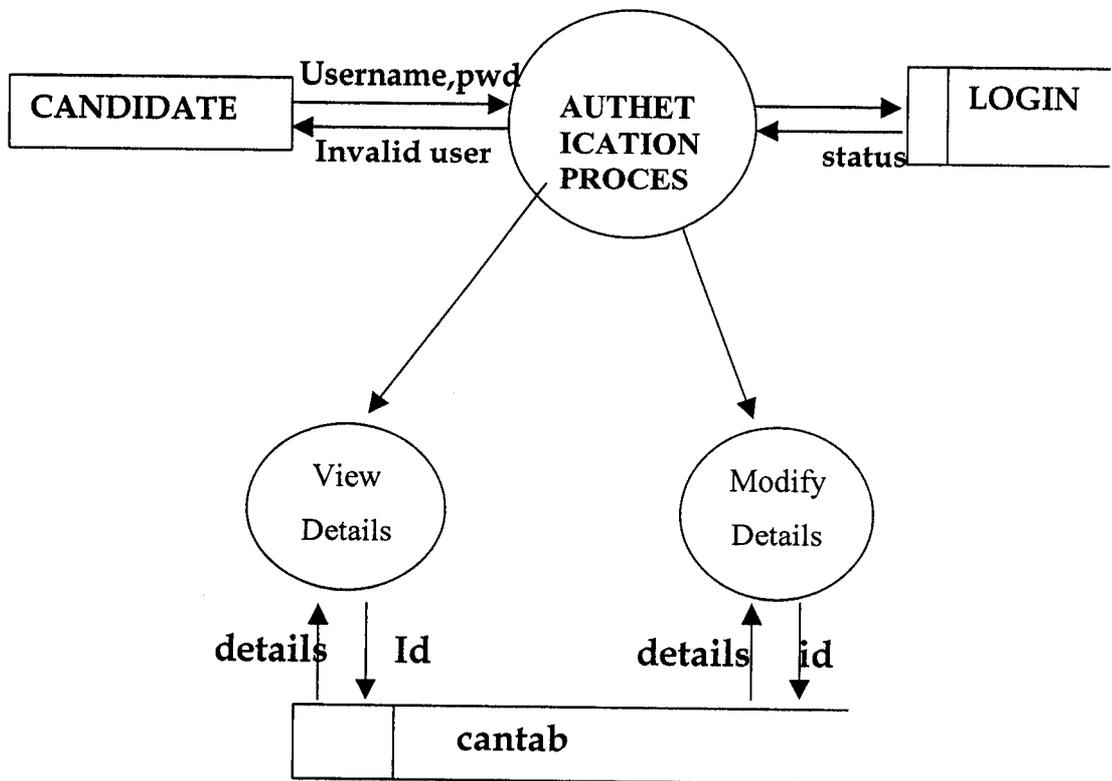
LEVEL 1 DFD

HR MODULE



LEVEL 1 DFD

CADNDIDATE MODULE



System Testing and Implementation

5. SYSTEM TESTING AND IMPLEMENTATION

5.1 IMPLEMENTATION

System implementation is the stage of the project when the theoretical design is tuned into a working system. If the implementation system stage is not carefully controlled and planned, it can cause chaos. Thus, it can be considered to be the most critical stage in achieving a successful new system and in giving the users a confidence that the system will work and be effective.

The implementation stage in a system project has its own rights. It involves:

- Careful planning.
- Verification of the existing system and constraints for implementation.
- Training of staff in the newly developed system
- Documentation

Before implementing the system two important documents should be prepared.

- User's Manual
- System Manual

USER'S MANUAL

It explains the ASPECTS of user's requirements according to Admin and client standpoint of view. The User manual consists of both server side and client side requirement manual.

SYSTEM MANUAL

It explains all the ASPECTS on design, which is useful mainly for the further maintenance of the system.

Demonstration is implemented after the successful completion of acceptance testing, the system is ready to use. In order to put the system into use, the following activities should be taken care of.

General Demonstration is given to the user. The main aim of the training would be to furnish the user with a working knowledge of the newly developed system. The users are trained to newly developed system.

5.2 SYSTEM TESTING

Software testing is a critical element of software quality assurance and represents the ultimate review of specification, design and coding. Testing is process of executing a program with the intent of finding errors. The user tests the developed system and changes are made according to their needs. The testing phase involves the testing of developed system using various kinds of data.

System testing is actually a series of different tests whose primary purpose is to fully exercise the computer-based system. System testing is the state of implementation that is aimed at assuring that the system works accurately and efficiently before live operations commence. Testing is vital to the success of the system. System testing makes the logical assumption that if all the parts of the system are correct, the goal will be successfully achieved. A series of testing is performed for the proposed system before the system is ready for user acceptance test. The system is tested on all types of networks and the problem created by the system is identified and it is removed from the system after testing.

The testing steps involved in system testing are:

- Unit testing.
- Integration testing.
- Validation.
- Output testing.

UNIT TESTING

Unit testing focuses on the smallest unit of the software design module. This is known as module testing. The testing of the project modules were tested out during programming stage itself. In this testing step each module was found to be working satisfactorily with regard to the expected output from the module.

INTEGRATION TESTING

Strategies for integrating software components into a functioning product include the bottom-up strategy, the top-down strategy, and sandwich strategy. Careful planning and scheduling are required to ensure that modules will be available for integration into the evolving software product when needed. The integration strategy dictates the order in which modules must be available, and thus exerts a strong influence on the order in which modules are written, debugged, and unit tested. All the modules are combined and tested as a whole. Thus in the integration testing step, all the errors uncovered are corrected for the next testing steps.

VALIDATION TESTING

Validation testing can be defined in many ways, but a simple definition is that validation succeeds when the software functions in a manner that can be reasonably expected by the client.

After validation test has been conducted, one of the two possible conditions exists. The function or performance characteristics conform to specification and are accepted. A deviation from specification is uncovered and a deficiency list is created.

Proposed system under consideration has been tested by using validation tests and was found to be working satisfactorily.

OUTPUT TESTING

After performing the validation tests, the next step is the output testing of the proposed system. No system is useful, if it does not produce the required output in a specified format. Considering the format required by the users tests the output generated or displayed by the system under consideration. Here, the output format is considered on the monitor only. The output format on the screen is found to be correct as the format was designed in the system design phase according to the user needs. The hardcopy output also comes out as specified requirements by the user. Hence, output testing does not result in any correction in the system. The system is tested in many networks.

Conclusion and Suggestions

6.0 Conclusion

Thus the project for maintaining human resource of a company has been completed efficiently with scope for future enhancement the application is capable of efficiently handling most aspects of the employees, client and projects of a company making HR maintenance easy and efficient.

Thus this system automates all the information processing of HR functions and data is centralised. It provides facilities to maintain and manipulate data, retrieve information and create reports easily, quickly and effectively. This system makes the process very easy, efficient and time saving.

Scope for future work

7.0 Scope for further work

This system has been designed and developed with flexibility according to the current requirement. Based upon additional requirement modules can be added to expand the system functionality. This system could be integrated with the project maintenance system. A chat module can be introduced into the system that will allow the employees to have a better communication among them. Adding modules such as loan, appraisals, etc can enhance payroll management.

Bibliography and References

8.0 Bibliography and Reference

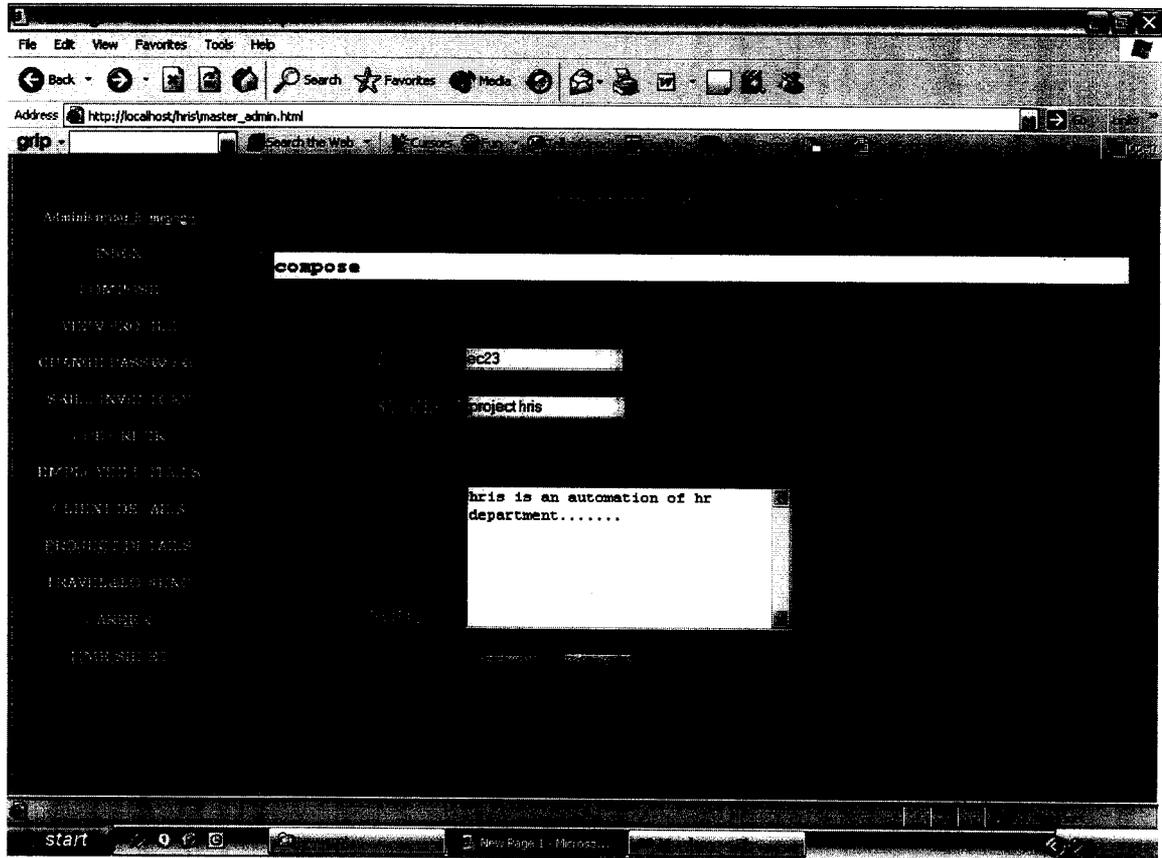
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- [www.devasp.com/store/books_and Software/Books/VBScript](http://www.devasp.com/store/books_and_Software/Books/VBScript)

Appendix

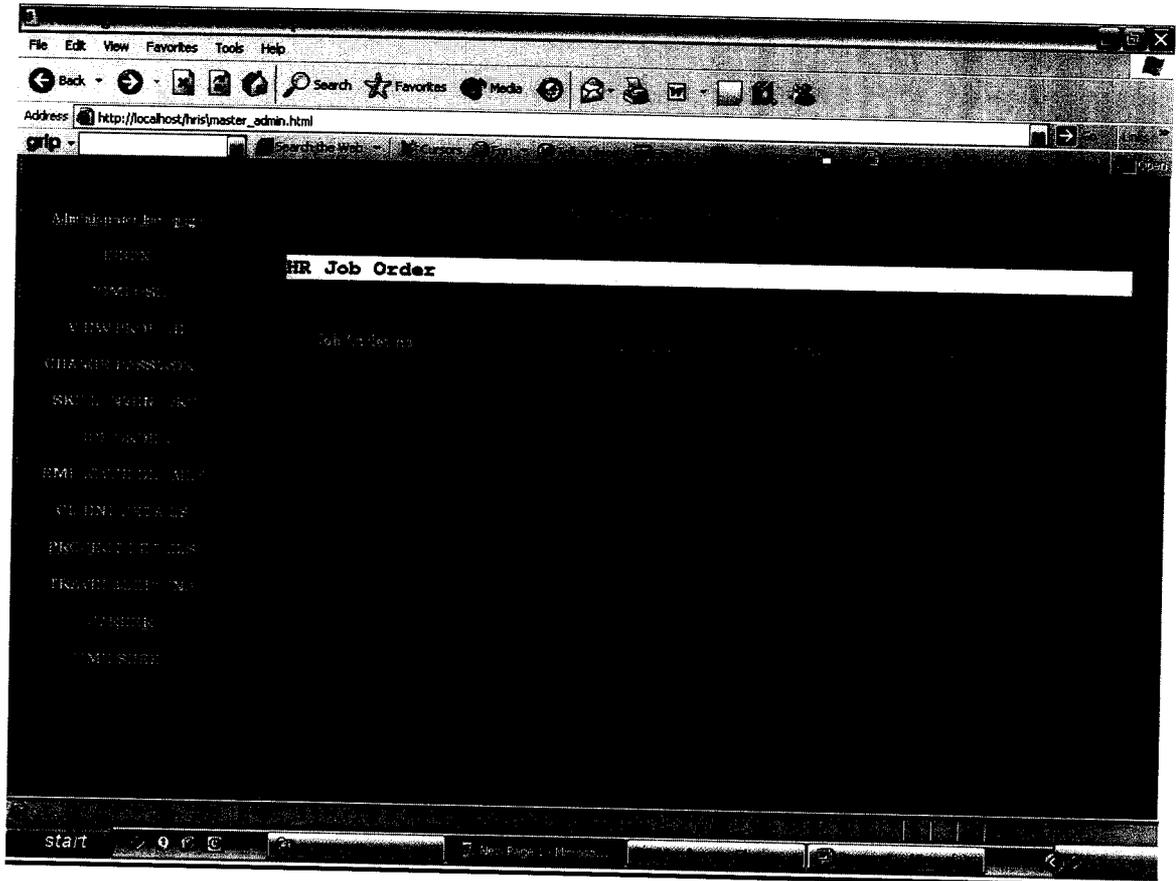
9.0 Appendix

9.1 Sample Screens

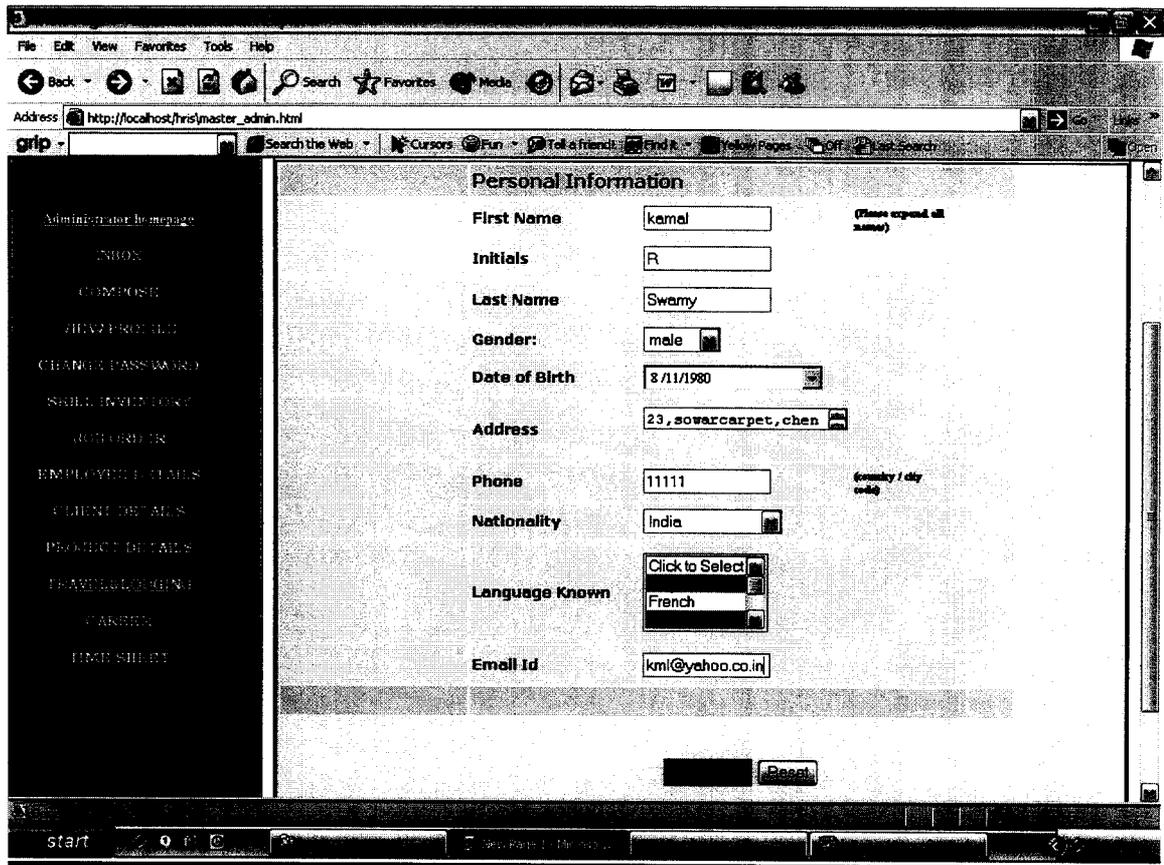
Email



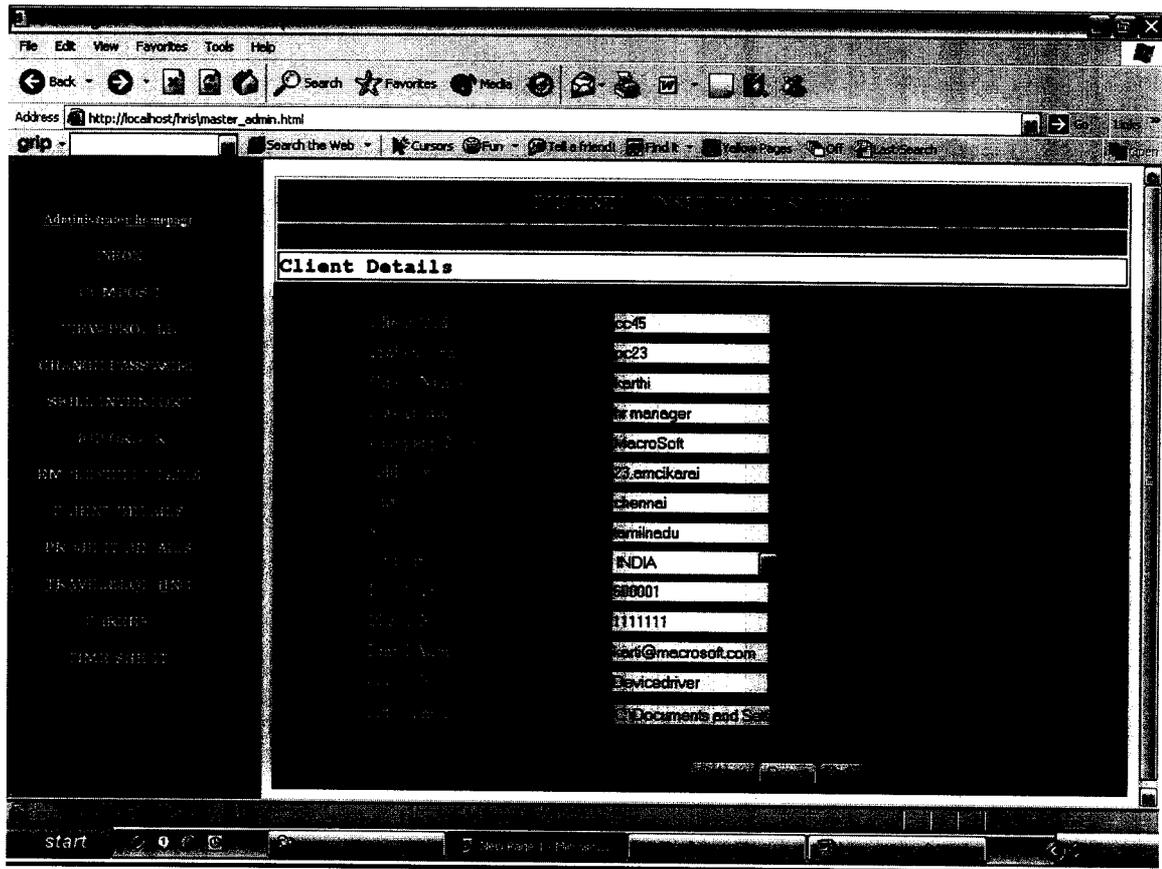
HR Joborder



PCS Application



Client Details



Project Details

The screenshot shows a web browser window with the address bar containing `http://localhost/hris/master_admin.html`. The page title is "PHOENIX CONSULTANCY SERVICE" and the main heading is "ADMIN Project Details". A left-hand navigation menu lists various administrative functions. The main content area displays a list of project details with the following data:

Project Name	Project ID
Microsoft	sc12
Eleccadriver	sc12
sc12	sc12
Analysis	sc12
2004/2004	sc12
12/07/2004	sc12
sc12	sc12
sc12	sc12

Traveling & Lodging

The screenshot shows a web browser window with the address bar containing `http://localhost/tris/master_admin.html`. The browser's menu bar includes File, Edit, View, Favorites, Tools, and Help. The address bar also shows search, favorites, and home icons. The main content area displays the 'PHOENIX CONSULTANCY SERVICE' logo at the top, followed by a 'Travel & Lodging' section. On the left, a vertical navigation menu lists various administrative functions. The main form contains several input fields for employee and trip details.

PHOENIX CONSULTANCY SERVICE

Travel & Lodging

Admin User: bangalore

NEW

CHANGE PASSWORD

SEARCH

NEW PROFILE

CHANGE PASSWORD

SEARCH

EMPLOYEE PROFILE

SEARCH

PRINT PROFILE

PRINT PROFILE

TRAVEL & LODGING

EMPLOYEE

TRIP STATUS

Employee ID:

Employee Name:

Chair code:

Purpose of Visit:

Destination:

Accommodation Address:

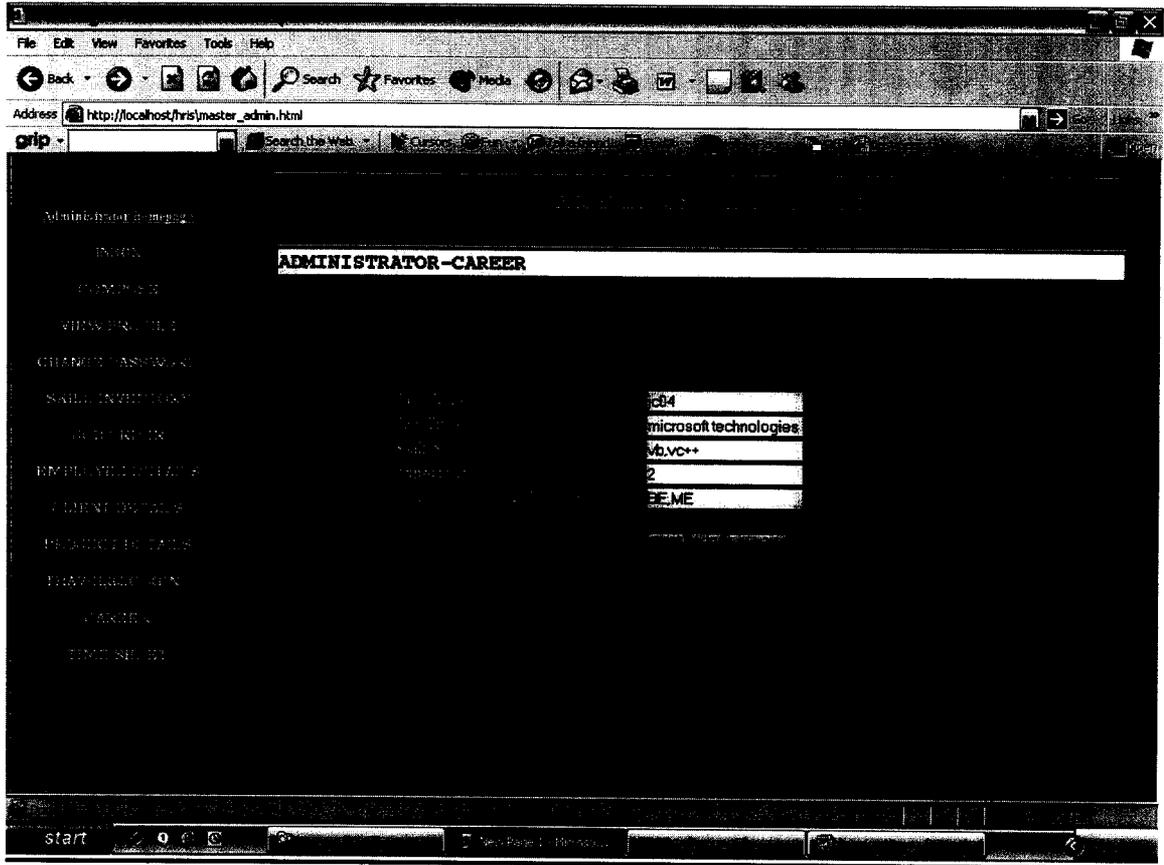
Phone No:

Mode of travel:

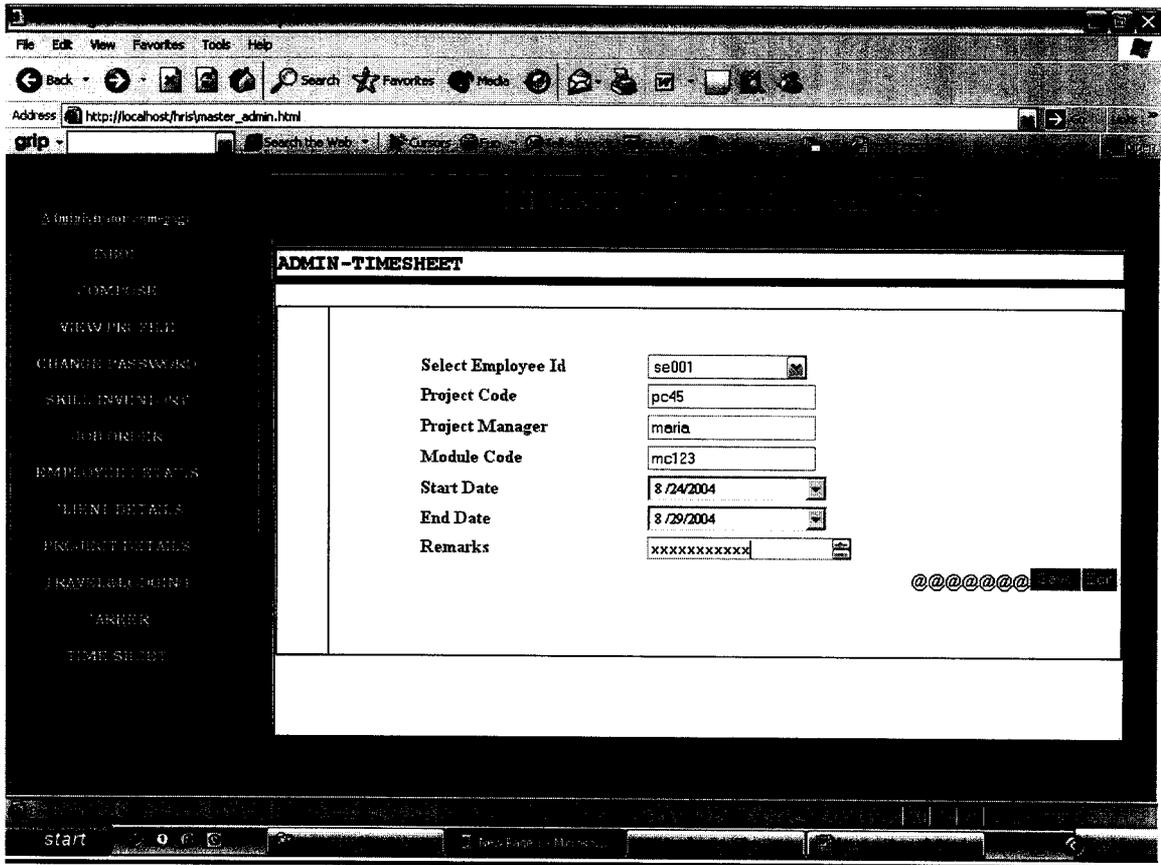
start

Page 1 of 1

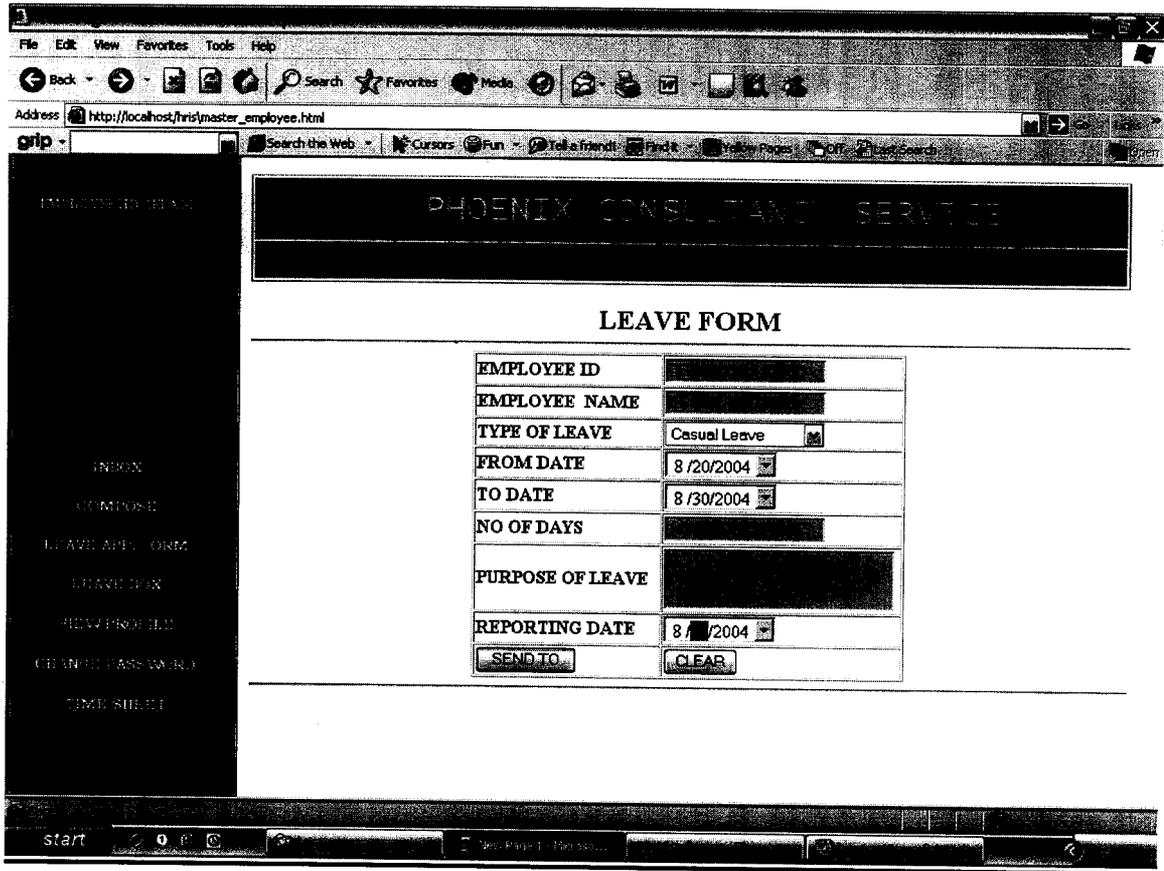
JobOrder Details



Admin-Timesheet



Leave Form

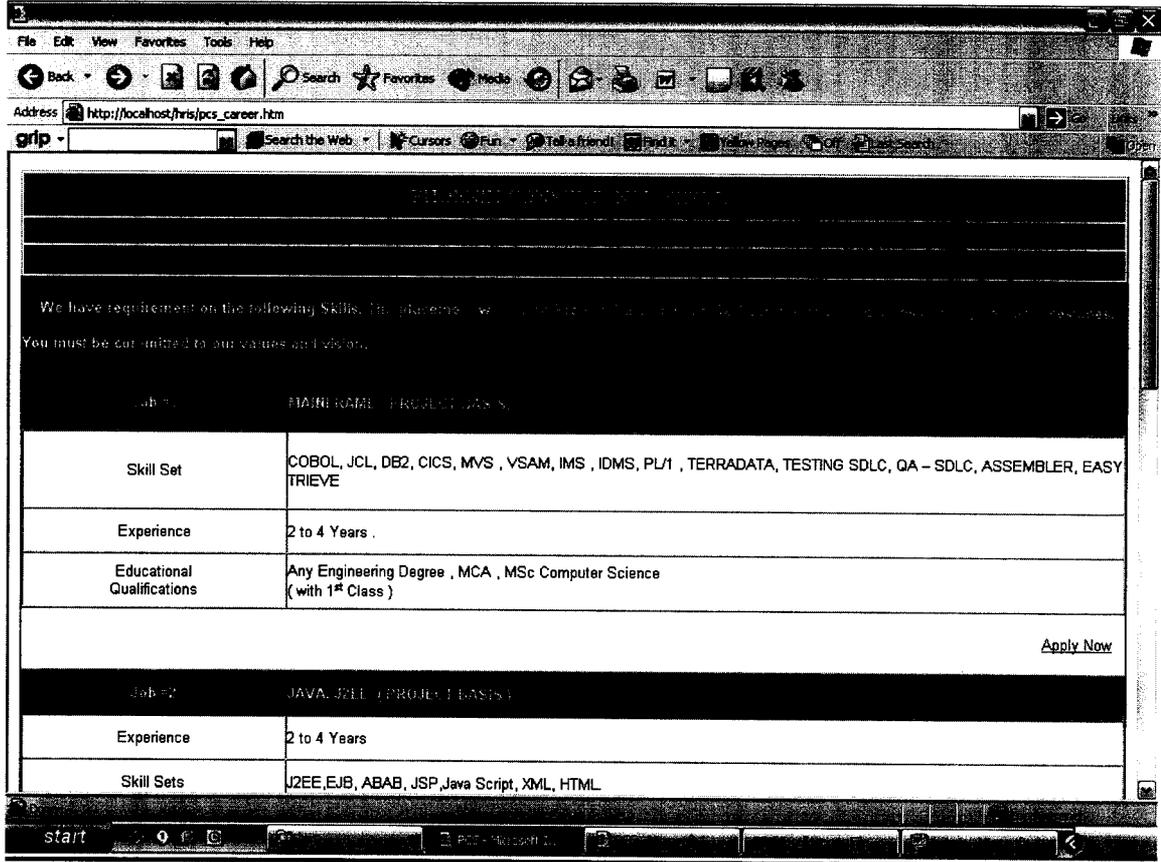


HR-Timesheet

The screenshot shows a web browser window with the following elements:

- Browser Menu:** File, Edit, View, Favorites, Tools, Help.
- Address Bar:** http://localhost/hr/master_hr.html
- Page Header:** PHOENIX CONSULTANCY SERVICE
- Navigation Menu (Left):**
 - [HR homePage](#)
 - [INBOX](#)
 - [COMPOSE](#)
 - [VIEW PROFILE](#)
 - [CHANGE PASSWORD](#)
 - [SKILL INVENTORY](#)
 - [JOB ORDER](#)
 - [CLIENT DETAILS](#)
 - [TIME SHEET](#)
- Main Content Area:**
 - HR-TIMESHEET** (Section Header)
 - Select Employee:** [Dropdown menu]
 - Project Code:** [Text input]
 - Project Manager:** [Text input]
 - Job Description:** [Text input]
 - Start Date:** [Text input]
 - End Date:** [Text input]
 - Work Hours:** [Text input]

PCS Career



The screenshot shows a web browser window with the address bar displaying `http://localhost/hris/pcs_career.htm`. The browser interface includes a menu bar (File, Edit, View, Favorites, Tools, Help), a toolbar with navigation icons, and a search bar. The main content area contains the following text:

We have requirement on the following SKILLS. The experience will be 2 to 4 years. The education will be Any Engineering Degree, MCA, MSc Computer Science (with 1st Class). You must be committed to our values and vision.

Job #1: MAINFRAME (PROJECT JAX S)

Skill Set	COBOL, JCL, DB2, CICS, MVS, VSAM, IMS, IDMS, PL/I, TERRADATA, TESTING SDLC, QA - SDLC, ASSEMBLER, EASY TRIEVE
Experience	2 to 4 Years .
Educational Qualifications	Any Engineering Degree, MCA, MSc Computer Science (with 1 st Class)

[Apply Now](#)

Job #2: JAVA J2EE (PROJECT BASIS)

Experience	2 to 4 Years
Skill Sets	J2EE,EJB, ABAB, JSP,Java Script, XML, HTML

The browser's taskbar at the bottom shows the 'start' button and several open application windows.

PCS JobOrder

