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**KUMARAGURU COLLEGE OF TECHNOLOGY**  
**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING**  
**COIMBATORE - 641 006**

**HUMAN WORKFLOW MANAGEMENT**  
**AND**  
**SALARY COMPUTATION OVER INTRANET**

**PROJECT WORK DONE AT**

**Lastech Systems Pvt. Ltd.**

**PROJECT REPORT**

Submitted By

**T.PRATHEEBA**  
**Reg.No:0038M1051**

Under the Supervision and Guidance of  
**Dr. S. Thangasamy Ph.D.,**

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS  
FOR THE AWARD OF THE DEGREE OF  
**MASTER OF COMPUTER APPLICATIONS**  
OF BHARATHIAR UNIVERSITY, COIMBATORE.

April - 2003

# Lastech Systems Pvt Ltd.

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• Software Development  
TO WHOMSOEVER IT MAY CONCERN

This is to Certify that Miss. **Pratheeba**. T. final year M.C.A (Master of Computer Application) student of **Kumaraguru College of Technology., Coimbatore** has successfully completed the Project entitled as "Human Workflow Management and sairy Computation Over Intranet" in

**Design Tool** : HTML 4.0  
**Scripting Tool** : VBScript 4.0  
**Server Tool** : Active Server Page 4.0  
**RDBMS** : SQLServer 2000

At **Lastech Systems Pvt., Ltd., Chennai**. During the academic year 2002-2003. The Software has been testes, evaluated and implemented successfully.

During this period her conduct and Performance are good.

For **Lastech Systems Pvt., Ltd.**,

  
Project Manager.

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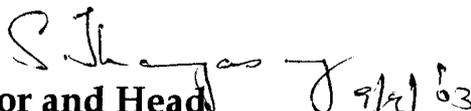
## CERTIFICATE

This is to certify that the project work entitled  
**HUMAN WORKFLOW MANAGEMENT**  
**AND**  
**SALARY COMPUTATION OVER INTRANET**  
Done By

**T.PRATHEEBA**

**Reg.No:0038M1051**

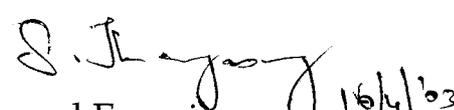
Submitted in partial fulfillment of the requirements for the award of the degree of  
**Master of Computer Applications of Bharathiar University.**

  
**Professor and Head**  
Department of Computer Science & Engineering

  
**Internal Guide**

Submitted for the University Examination

Held On ..16..04..2003.....

  
**Internal Examiner**

  
**External Examiner**

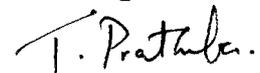
# DECLARATION

I hereby declare that the project entitled "HUMAN WORKFLOW MANAGEMENT AND SALARY COMPUTATION OVER INTRANET" submitted to Bharathiar University as the project work of Master of Computer Applications Degree, is a record of original work done by me under the supervision and guidance of Mr. C. Kannan, Project Engineer, Lastech Systems Pvt. Ltd., Chennai and Dr. S. Thangasamy Ph.D., Head of the Department of Computer Science & Engineering, Kumaraguru College of Technology, Coimbatore.

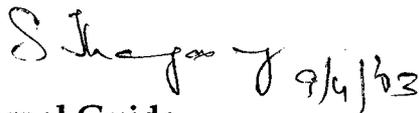
Place: COIMBATORE

Date: 09-04-2003

Signature



(T.PRATHEEBA)



Internal Guide



External Guide

## ACKNOWLEDGEMENT

I would like to take this opportunity to express my deep gratitude to all the people who have helped and guided me in the various stages of this project.

I express my deep sense of gratitude to our principal **Dr. K. K. Padmanabhan B.Sc (Engg,) M.Tech, Ph.D.**, for having provided necessary facilities for the successful completion of my project.

I also extend my sincere thanks to **Dr. S. Thangasamy Ph.D., Head of the Department**, for the help rendered by him to complete our project successfully.

I give my immense pleasure to express heartfelt thanks to my guide **Dr. S. Thangasamy Ph.D., Head of the Department**, for his encouragement and valuable suggestions to make this project a successful one.

I express my sincere thanks to **Mr. A. Sivakumar**, Director, Lastech Systems Pvt. Ltd, Chennai for permitting me to do the project work and providing all the facilities to make the project a success.

I am extremely thankful to my external guide **Mr. C. Kannan**, Project Engineer, Lastech Systems Pvt. Ltd., Chennai, for his kind support, encouragement and valuable suggestions for completing the project.

Last but not least I extend my heartfelt thanks to all the faculty, friends and well wishers who helped me in completing this project work.

## SYNOPSIS

Human Resource Manager is playing an important role in an industry, which is based on human work. In an industry Human Resource Department have the employee's information database, their efficiency, leave information database etc.

The above-mentioned problem is computerized in this project. This project entitled as **"HUMAN WORKFLOW MANAGEMENT AND SALARY COMPUTATION OVER INTRANET"**. This package has been developed to work under intranet technologies; with the help of this package human resource department manager can maintain the database and other department manager also enter information about their employees. The information is such as working performance, duty hour information. This package produced chart as an output. With the help of the chart, the manager, administrator, general manager can find out the individual employee's performance.

The above-mentioned package has been implemented with the help of HTML, VBScript, ASP, and SQL Server 2000.

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# 1. INTRODUCTION

## 1.1 PROJECT OVERVIEW

An Organization must measure what it expects to manage and accomplish. Without measurement it has no reference with which to work. Those organizations that do not have a benchmark tend to operate in the dark. A manner of establishing references and managing the financial affairs of an organization is to use ratios. Ratios are simply the relationship between two financial balances or financial calculation

Attracting the most qualified employees and matching them to the jobs for which they are best suited is important for the success of any organization. However, many enterprises are too large to permit close contact between top management and employees.

In a large corporation, the top human resources executive usually develops and coordinates personnel programs and policies.

The developing package is used to reduce work and time flow for HR Manager. This package can work in intranet. Then in the network any department manager can enter the information about their employee's. All the data have been stored in server. The package also maintains the information about their employees, their duty information, work Assign to them, problems and remedies etc,

With the help of this package based on the work performance of the worker we can determine the salary of an employee.

Employees leave form and leave sanction are available in this package. This package produces chart as a report to the manager. With the help of chart one can determine the performance of the workers.

This package is developing with the help of Active Server Page. ASP 4.0 is server side programming, which is used to communicate with the user and server where the database is stored. This also contains chart object as an external object. With the help of this chart object we can produce the chart. Here we used SQL server as backend to store the data.

## 1.2 ORGANIZATION PROFILE

Lastech Systems Pvt. Limited is one of the leading software development companies in Chennai. Its expertise lies in designing and hosting of web pages, which may be for a company or product profile advertisement. It has developed **“Indoword Indian language interface software for Internet”**. This software is to design the pages in any Indian languages and host through out.

It has also recently launched First Website in the world to send the mail in Tamil language itself. In this the user doesn't need to download the Tamil fonts in their system.

Started in 1989, the business of the company is to develop regional language software in DTP, presentation of graphical and image processing software. Recently the company has introduced CARD software for printing of ID card for the citizens of India.

Lastech Systems has a strategic tie-up with KAY SOFTWARE, California, U.S.A and PUSAT COMPUTER KHAN, Piang, Malaysia.

Tamilnadu Online (TNOL) – India's first Indian language Website provides lively information on India in general and Tamilnadu in particular.

### **Lastech System Vision:**

**“Excellence through team work”**. The philosophy of total quality management is included in every Lastech employee through intensive training which aids in establishing Lastech as a truly quality conscious company, continually striving to deliver the finest solution to discerning customers.

## **2. SYSTEM STUDY AND ANALYSIS**

### **2.1 EXISTING SYSTEM**

Human Resource Department is a one of the important department among others. The duty of Human Resource department has to maintain the database like employee's information, employee's duty and employee's performance. The above-told information is maintained manually in the existing system. The Human Resource manager maintains their employee's information day by day. If the employee needs leave, then they apply for the leave manually. The account manager computes the salary, other allowances and bonus manually. The duty performance and working performance are also maintained and retained by paper works done manually by the department manager.

#### **Limitations**

The limitations spotted in the existing system are

- ✓ Lack of security of data.
- ✓ Time consumption.
- ✓ More storage area.
- ✓ Consumes more volume of paper work.
- ✓ More manual calculations are required.

Effective decision-making using the existing system is very tedious and also the maintenance of records is too cumbersome. The security and privacy of the existing system is not adequate. It consumes much time taken for the calculations.

## 2.2 PROPOSED SYSTEM

The main objective of the proposed system is to monitoring the various options from a local network. This system is meant exclusively for the workflow analysis.

Attracting the most qualified employees and matching them to the jobs for which they are best suited is important for the success of any organization. However, many enterprises are too large to permit close contact between top management and employees.

In the past, these workers have been associated by the administrative function of an organization, such as handling employee benefits, recruiting, interviewing, and hiring new personnel in accordance with policies and requirements.

In a large corporation, the top human resources executive usually develops and coordinates personnel programs and policies.

The developed package is expected to be used to reduce work and time flow for HR Manager. This package can work in intranet. Then in the network, any department manager can enter the information about their employees. All the data have been stored in server. The package also maintains the information about their employees, their duty information, work assign to them, problems and remedies etc., With the Help of this package based on the work performance of the worker we can determine the salary of an employee.

Employees leave form and leave Sanction are avail in this package. This package produces chart as a report to the manager. With the help of chart one can determine the performance of the workers.

### **CHARACTERISTICS OF THE PROPOSED SYSTEM**

- Easily accessible
- Accuracy.
- User friendly.
- Secure.
- Increased speed.

### **ADVANTAGES OF PROPOSED SYSTEM**

- It helps to support efficient operation.
- Timely maintenance.
- Improvement in reliability of the system.
- Decreased response time.
- Paper work is avoided.

### 3. PROGRAMMING ENVIRONMENT

#### 3.1 HARDWARE CONFIGURATION

The following are the hardware requirements of the new system.

Processor	:	Pentium IV -1.3 GHz
Hard Disk	:	40 GB
RAM	:	128 MB
Monitor	:	15" SVGA Digital Color Monitor
Floppy Disk Drive	:	1.44 MB
CD ROM Drive	:	52 X
Key Board	:	110 Keys

## 3.2 SOFTWARE CONFIGURATION

GUI	: VBScript, HTML
Server Side Technology	: Active Server Pages
Server Side Tool	: PWS / IIS
Back End	: SQL Server 2000
Platform	: Windows NT
Middle Ware	: ODBC

## 4. SYSTEM DEVELOPMENT TOOLS

### 4.1 HTML

**HYPER TEXT MARKUP LANGUAGE** is a scripting language used for writing data in the web pages. It specifies the layout and the linking command present in the hypertext document themselves. The word hypertext refers to the non-linear information in the document, which help to navigate through the pages.

HTML was invented by Tim Berners Lee at CERN, the European laboratory for particle physics in Geneva.

All **HTML** document is a plain ASCII text file created using the text editor with codes inserted in the text to define elements in the documents. The World markup language to the different marking in the pages used for navigation called **Links**. **HTML** publishing tool are used for making web pages in the Net.Html documents are structured into Head and Body.

➤ **Block elements:**

Headings, paragraph, title, ordered list, unordered list and definition list.

➤ **Forms:**

User input forms: Text field, buttons, checkbox, radiobutton, etc.,

➤ **Frames:**

Multiview presentation of the documents.

➤ **Links:**

Hypertext and media independent links.

## 4.2 ACTIVE SERVER PAGES

**ACTIVE SERVER PAGES** is a standard HTML file that can contain normal HTML tags to enable the browser to interpret and display the file the way its author intended. It can contain client-side scripting, client side ActiveX controls, applet and anything the HTML file can contain. But it is superior to an ordinary HTML file.

It can contain certain additional features:

### ❖ **Server side scripts:**

It is this feature that makes the web pages dynamic. ASP.dll executes the scripts and develops the html file accordingly.

Scripts, for instance it can enable the web server to show different version of the same file to the different users depending up on the personal preferences.

### ❖ **Built-in objects:**

These objects can be used to enhanced scripts and what they can do. They are commonly used to exchange the information between the client browse and the ASP.

The objects that are used in ASP are:

- Response
- Request
- Session
- Server
- Application
- ActiveX Data objects

❖ **Server side components:**

ASP also included standard server side ActiveX components. They can be used to test the Web browsers or add hit counter to Web pages.

❖ **Database connectivity:**

ASP used to connect to and exchange with the database such as the Microsoft SQL server through a special set of objects known as the ActiveX data objects. This eliminates the need of updating the web pages as data changes. The web page always reflects the current information.

**ASP** is the product of Microsoft Corporation and its main usage is the dynamic programming. The current version of ASP is 4.0. To run Asp **programs** we need software such as

- Personal Web Server (PWS)  
---- For single user operating system
- Internet Information Server (IIS)  
---- For multi-user operating system

The parallel technologies of ASP are:

- CGI (Common Gateway Interface)
- JSP (Java server pages)
- SERVLET
- PHP (Preprocessor hypertext)

To download the latest version of Active server pages, visit at <http://www.microsoft.com/iis>.

## **ADVANTAGES OF ACTIVE SERVER PAGES:**

- Exchange the information between HTML forms and the database.
- Add hit counts to web sites.
- Create dynamic web page.
- Modify the content of web page.
- Link multiple web pages together.
- Track and collect the information about the user visiting a site.
- Store and retrieve information to and from various databases located on the web server.
- To read and write to files located on a client system.
- Add advertisement to the web pages.

### 4.3 VBScript

VBScript is a compact; object based scripting language designed for developing client and server Internet applications. The VBScript is a product of Microsoft .The VBScript enabled browser interprets VBScript statement embedded directly into an HTML page. The impetus for VBScript was the need to beyond the static HTML page of the web into full interactivity.

VBScript is mainly used for:

- **Input validation**

The most efficient use of VBScript is to handle both client and server side validation.

- **Handling events**

VBScript is most events driven. It can able to trigger a function at specific situation.

- **Object manipulation**

VBScript has many Built-in functions and predefined objects. It is possible to create online time by using time function. VBScript can able to manipulate the document of an HTML page etc.,

- **Graphic manipulation**

We can create VBScript animation using graphic files and it provides additional functionality for the graphics and windows.

## **4.4 SQL SERVER 2000**

SQL Server is typically one of the fastest DBMS for any given database size or hardware platforms. That performance is derived in part from the efficiency of a multithreaded DBMS relative to other multiprocessing computers. A Single executable running multiple internal threads consume far fewer system resources, and it uses those it consumes much more efficiently than in other architectures.

A major benefit from this enhanced efficiency is the reduction in RAM requirements for the server, saving precious megabytes for data and procedure caching. Cache is a critical element for any serious database application, and maximizing both the quantity and usage of the cache is an important performance factor.

Scalability with multithreads DBMS can be an issue, if only because the degree to which a multithread database is scaleable is a function of the database vendor's ability to take a single operation and break it down so that multiple threads can work on that single operation.

### **Architecture:**

With Windows NT, Microsoft finally had a 32-bit operating system with preemptive scheduling, protected memory, and a kernel-based architecture that supported symmetric multiprocessing. It would be

difficult for any application developer to pass up access to those kinds of resources - which has long been the Sybase approach?

### **Thread Services for Microsoft SQL Server:**

The biggest change came in SQL Server's use of threads. Instead of simulating threads in the database kernel, as Sybase had done, SQL server used native win32 operating system threads meaning that those threads ran in protected memory spaces, preemptively scheduled by the Window NT OS kernel.

In the Sybase architecture, a user connection is given a distinct thread in the database kernel. That is true for Microsoft SQL server as well, except that, with Microsoft SQL server on Windows NT that thread is a Win 32 operating system thread. It' bound by the restrictions, also has all the features of a Win 32 thread-out of the box support for multithreading, access to striped hardware devices, and memory protection for individual threads. With this architecture, a single corrupt thread no longer crashes the entire executable; instead, can trap the offending thread and continue execution.

SQL Server 6.5 has different pools of threads for different purposes, including parallel table scanning, backup striping, disk-device management, and user connections.

## SQL is an API:

Transact SQL (T-SQL) is the second of the two APIs for SQL server. Why define T-SQL as an API? API is an access point to the resources of an operating system or application that provides a specific set of service.

Transact-SQL, through its enhancements to the SQL standard in the form of functions, data types, logical operators, and branching logic is the access point to SQL server's data processing resources and services.

It's the second of two API's for SQL server because DB-library and ODBC are also access points to a different but still necessary set of resources and services.

SQL server needs both in orders to function. A standard SELECT statement is useless unless it can be passed to SQL server. A SQLLOGIN % C-language function is used to open a connection to SQL server, but that connection is equally useless unless T-SQL statements can be passed over that connection, prompting SQL server to pass results back to the client.

SQL Server uses DB-library and Transact-SQL to provide the two necessary means to access SQL Server's powerful features.

SQL Server 2000 can able to have

- Stored procedure
- Trigger

SQL Server 2000 includes Query optimizer. SQL Server 2000 uses Structured Query Language (SQL) for manipulation.

## **Advantages of SQL Server 2000:**

- ♦ Easy to use.
- ♦ It is a Graphical User Interface database.
- ♦ It can able to execute more than one query at a time.
- ♦ It can able to use cursor.
- ♦ Backup operation can be done.
- ♦ It can able to server Nativity Interface.
- ♦ Commands are simple to use.

## **Structured Query Language (SQL):**

SQL is a highly Abstract language. It is the combination of basically four languages such as,

- ❖ Data Definition language
- ❖ Data Manipulation language
- ❖ Data Control language
- ❖ Transaction Control language

## **Data Definition Language:**

It includes four commands.

- i. Create:  
To create a new table.
- ii. Alter:  
To modify or add the data size or data type.
- iii. Drop:  
To delete the whole table.

Truncate:

To delete all the rows in the table.

## Data Manipulation Language:

It includes basically four commands such as

i. Select:

Used to retrieve data from the database.

ii. Update:

To modify values within the table.

iii. Delete:

To remove rows from the table.

iv. Insert:

To add rows to a table.

## Transaction Control Language:

It includes three basic transaction control commands.

i. Commit:

To save the changes permanently.

ii. Savepoint:

To save the changes temporarily.

iii. Rollback:

To undoing the changes since last commit.

## Data Control Language:

This is used to give the access permission to other user.

This include two commands such as,

i. Grant:

To grant the access read/write permission of the database to other user.

ii. Revoke:

To cancel the access /read/write permission already gave to another user.

Thus SQL is a flexible, efficient language, with features designed to manipulate and examine the relational database.

## 5. SYSTEM DESIGN AND DEVELOPMENT

### 5.1 OVERVIEW OF THE SYSTEM

This project entitled as “Human Workflow Management and Salary Computation over Intranet” is mainly deals with the functional duties of Human Resource Department. This project converts the manual script into computerization. This package has been developed under intranet. Each and every department manager can enter the information .Then the whole database can be maintained in the server.

This project consists of following modules.

- Administrator Entry.
- User creation by the administrator.
- User Entry Module.
- Employee’s Information.
- Employee’s Actual Duty Information.
- Employee’s Duty Performance.
- Employee’s Work Information.
- Employee’s Work Performance.
- Salary Bill.

#### **Administrator**

In this project have two working area. One is the client working area another one is administrator or server area. The administrator had maintained server-working area. There is one user entry screen for the administrator, with the help of this module administrator can entered into this package, and then he/she can creating the user details for operating the packages.

The administrator has the only privileges to modify the details of an existing user, delete a user.

### **User Creation:**

Administrator can create the user for entering information. The username must be created for managers. This module containing the general information's like user designation, department, their passwords, E-mail Id etc.

### **User Entry Screen:**

With the help of this module the user (i.e.) managers, administrator can entered into the package. Here username and password had been authenticated over here. If the user name and password is valid, then only they can navigate into other modules.

### **Forgot Password:**

In this module the managers and administrator can get the password if they forgot. By giving the username and date-of-birth, it can check it in the database. Our package has been sending their password to corresponding e-mail.

### **Change Password:**

The manager and administrator can change their password, which is to be desired for them. From this module the managers and

administrator can change their password. Then they can enter with changed password.

### **Employee's Information**

In this module the manager enters the information about employees. This module receives employee's information such as their qualification, designation, date-of-birth, appointment details, salary information etc. We can process the following modules with the help of this module information only. The manager has the privileges to modify, delete the employee's information.

### **Employee's Actual Duty Time Information:**

This module helps the manager to enter the actual duty time of their employee's. By clicking the employee's code then it displays the employee name, designation, department name etc. Here the manager assigns their duty status whether he/she is working in general/shift basis. Actually the working time has been changed month by month. So the manager should enter the from-date and to-date in their duty time information module.

### **Employee's Attendance Duty Information:**

Using the OMR machine as interface the employee's daily in-time and out-time be stored in the database. With the help of this database, we can find out his/her late time, over time etc. This information was stored separately in separate database. With the help of this database we can view the duty performance of the employee in the form of table or chart

## **Employee's work Information**

With the help of this module manager can enter the work details of the particular employee. By clicking the employee's code then it displays the employee name, designation, department name etc. Then the manager enters the nature of work of the employee.

## **Employee's Training Information:**

Company has been given training in various aspects such as, in production, sales etc. If an employee attends the training then his/her performance is improved. Company will give the training once in a month for each department. These data particulars were entered in this module. The above mentioned information is stored in the database.

## **Employee's Work Assignment Calculation:**

Manager was given more assignments to their employees. Based on the assignment completed by the employee their working performance will be calculated. In this module managers enter work assigns information, time taken to complete the work and others. Based on the time calculation his performance has been decided.

## **Output Reports:**

Finally chart has been given as an output to the administrator and managers. Employee's duty factor, work assignment performances were taken as the legend for producing chart. The salary bill has been provided for each and every employee's. This chart has been implemented with the help of chart object which is an external object in ASP.

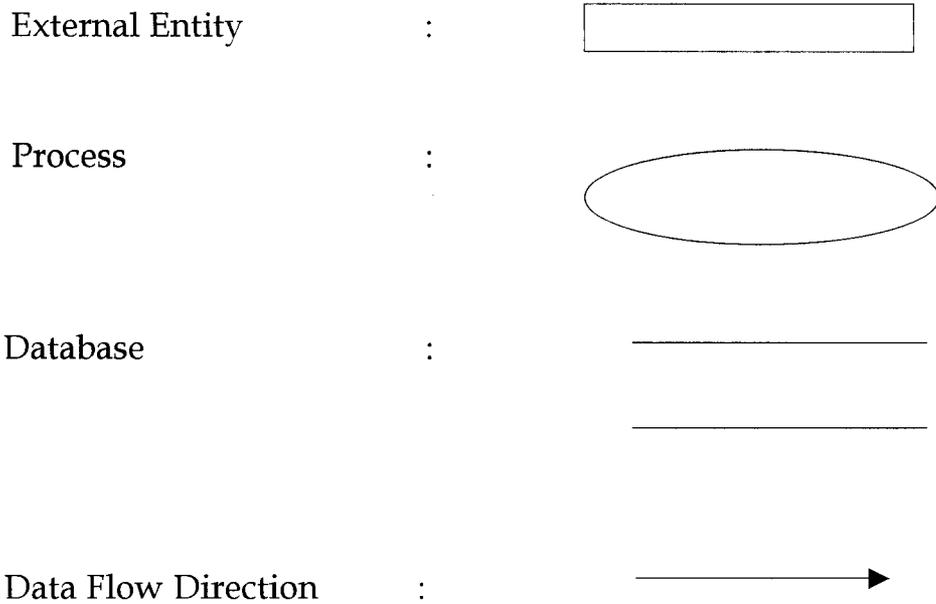
## 5.2 DATA FLOW DIAGRAM

The term **design** describes a final system and the process by which it is developed. It refers to the technical specifications that will be applied in implementing the candidate system. It also includes the construction of programs testing. System designing transforms a logical representation of what a given system is required to do into physical reality during development. The designing phase proceeds according to an orderly sequence of steps beginning with review and assignment of task and ending with package design. The system design also describes the data to be input, calculated and stored.

### DATA FLOW DIAGRAMS

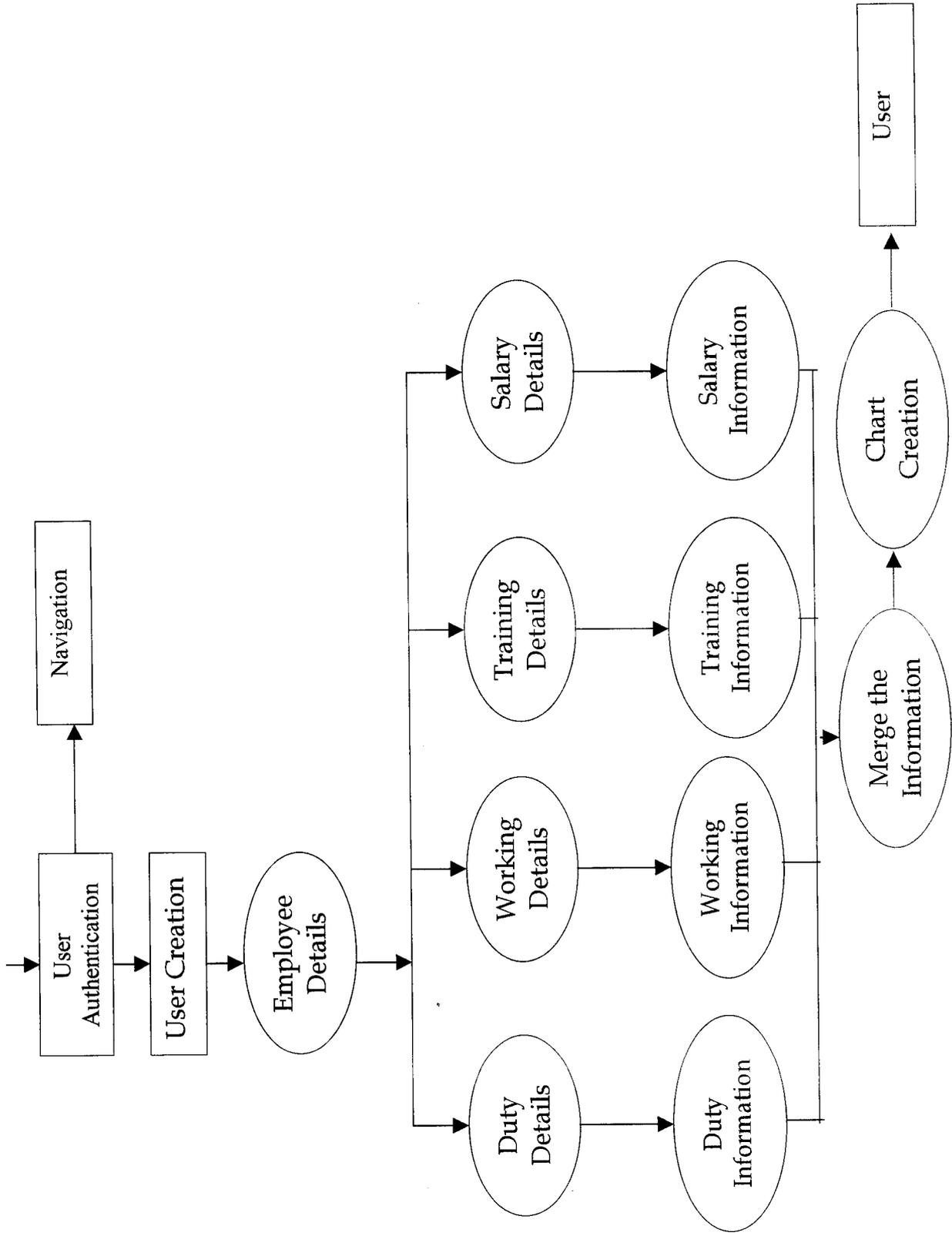
A DATA Flow Diagram is a structured analysis and design tool that depicts information flow and the process that change or transforms data through out the system. DFD may be used to represent a system at any level of abstraction. It has the purpose of clarifying system requirements and identifying major transformations. It is the starting point of the design phase that functionally decomposes the requirement specification down to the lowest level of detail. DFD's may be partitioned into levels that represent increasing information flow and functional details. DFD serves two purposes - to provide an indication of how data are transformed as they move through the system and to depict the functions that transform the data flow. It depicts information flow without explicit representation of procedural logic.

The following conventions are used in DFD's:

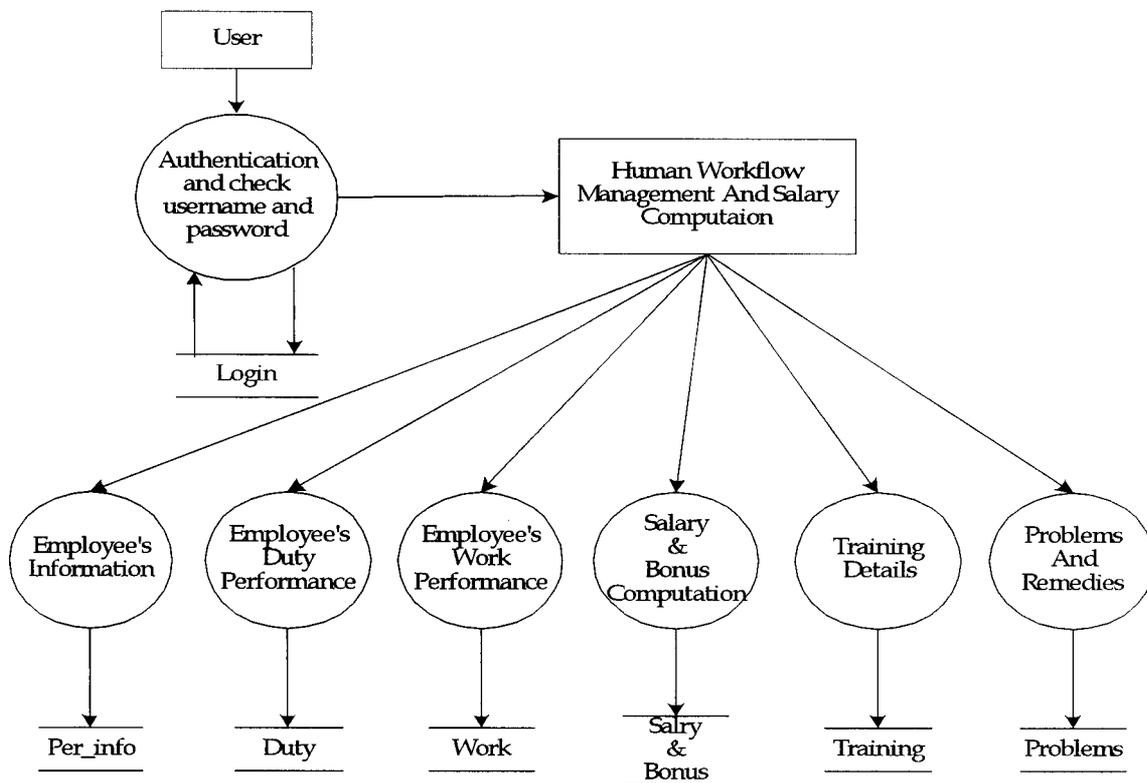


**In "Human Workflow Management and Salary Computation"**

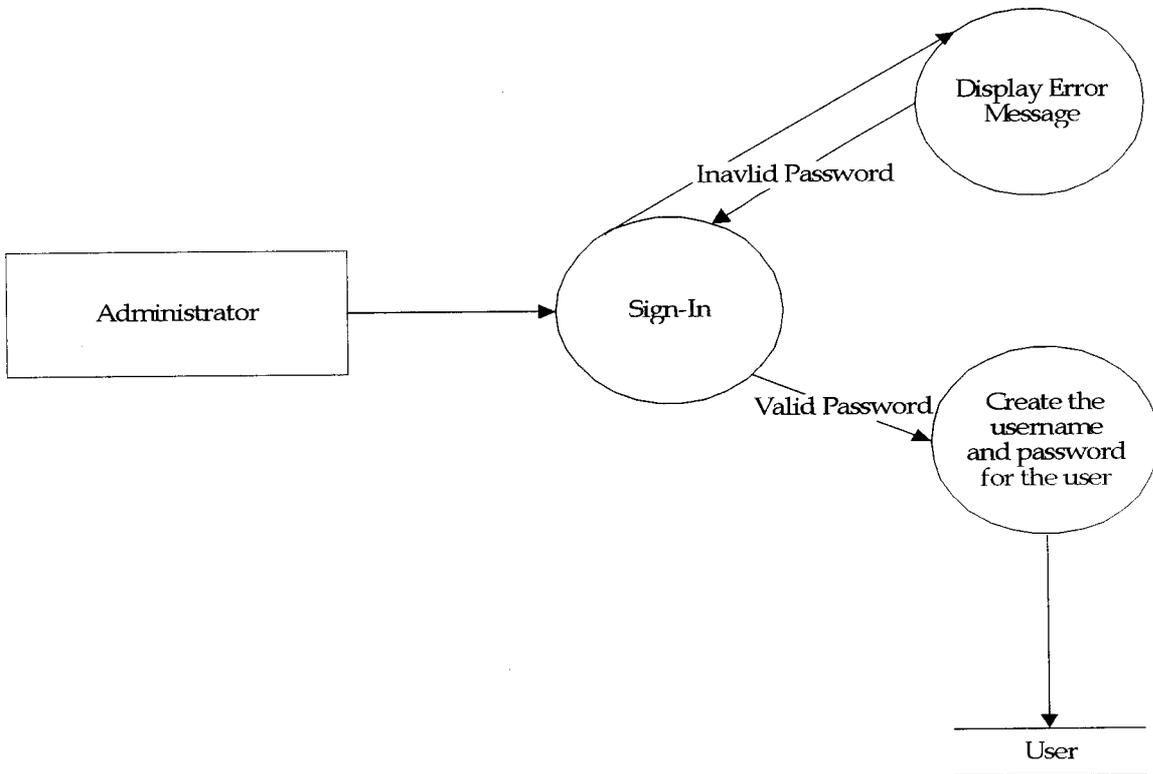
DFD's are drawn which describes the overall process of workflow analysis. Then each process in the system is also described in details by drawing separate DFD's.



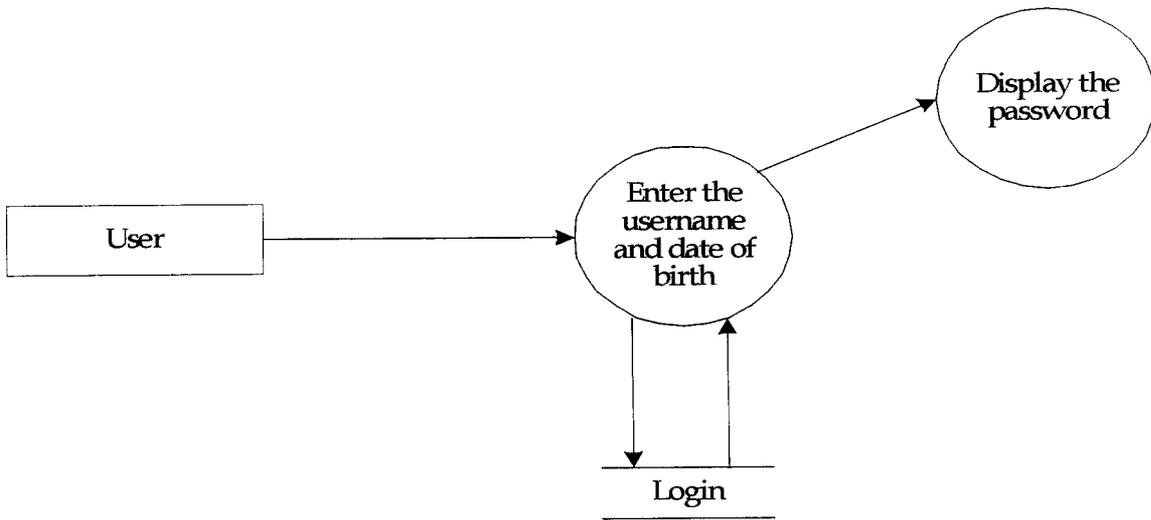
**Overall Process of Human Workflow Management and Salary Computation:**



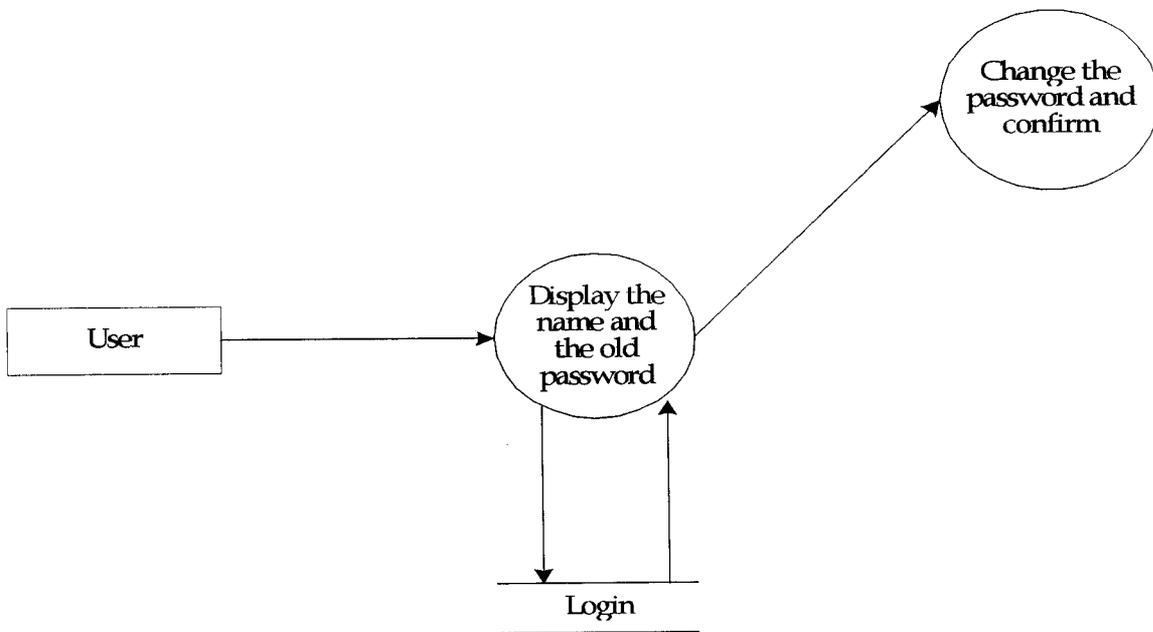
**Authentication:**



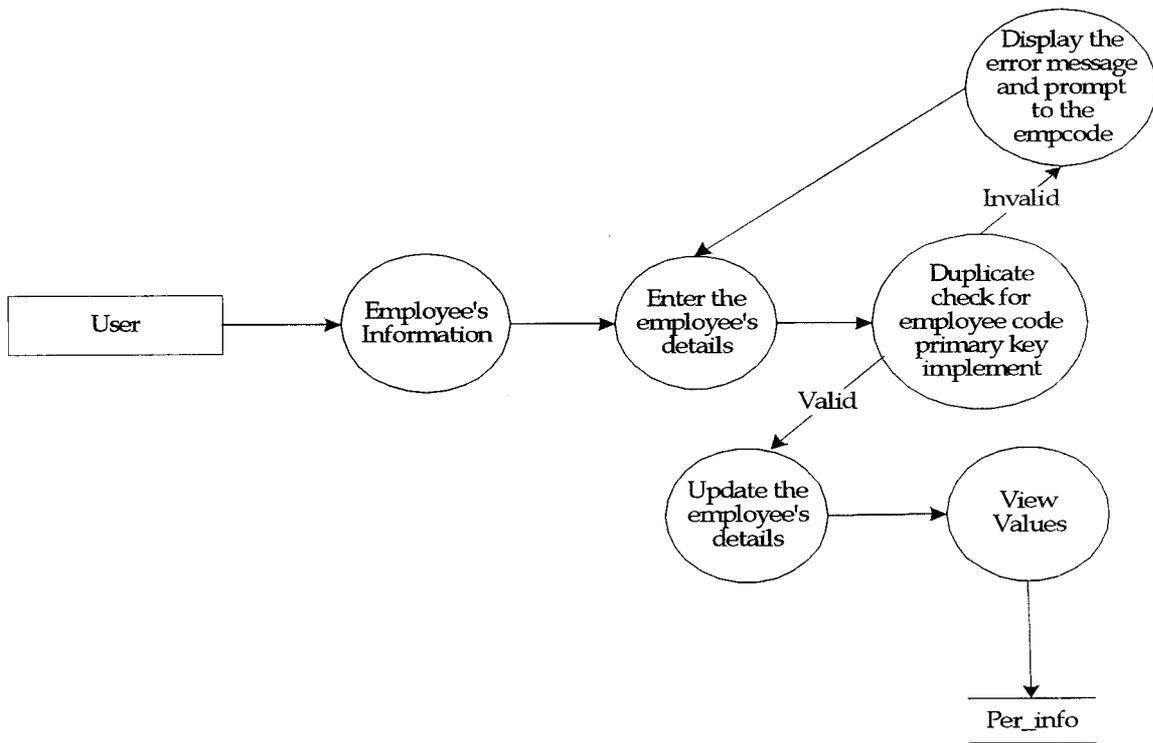
**Forget Password:**



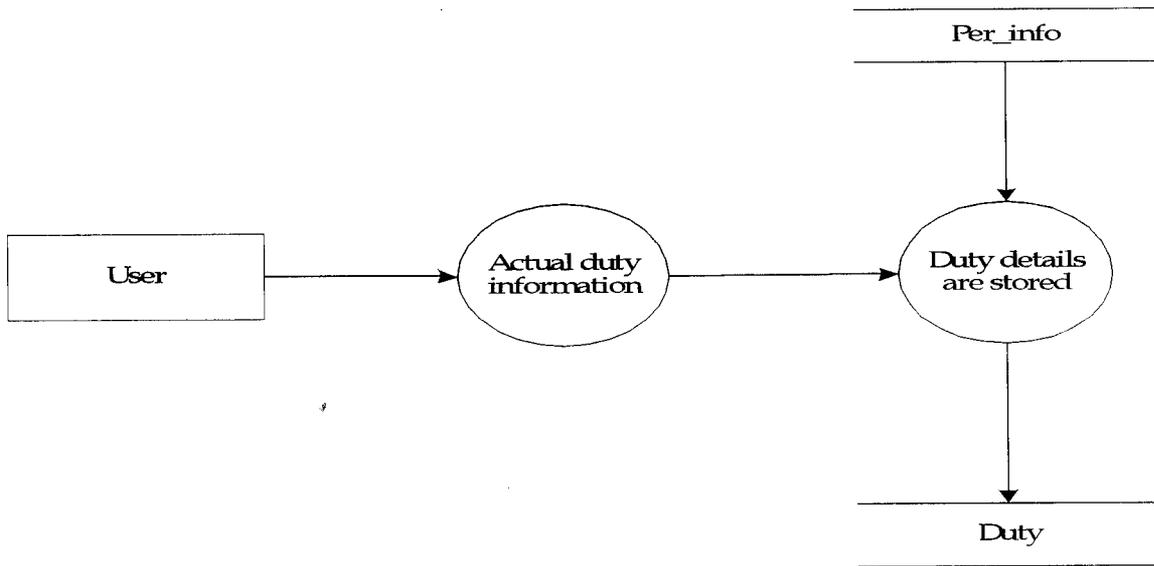
**Change Password:**



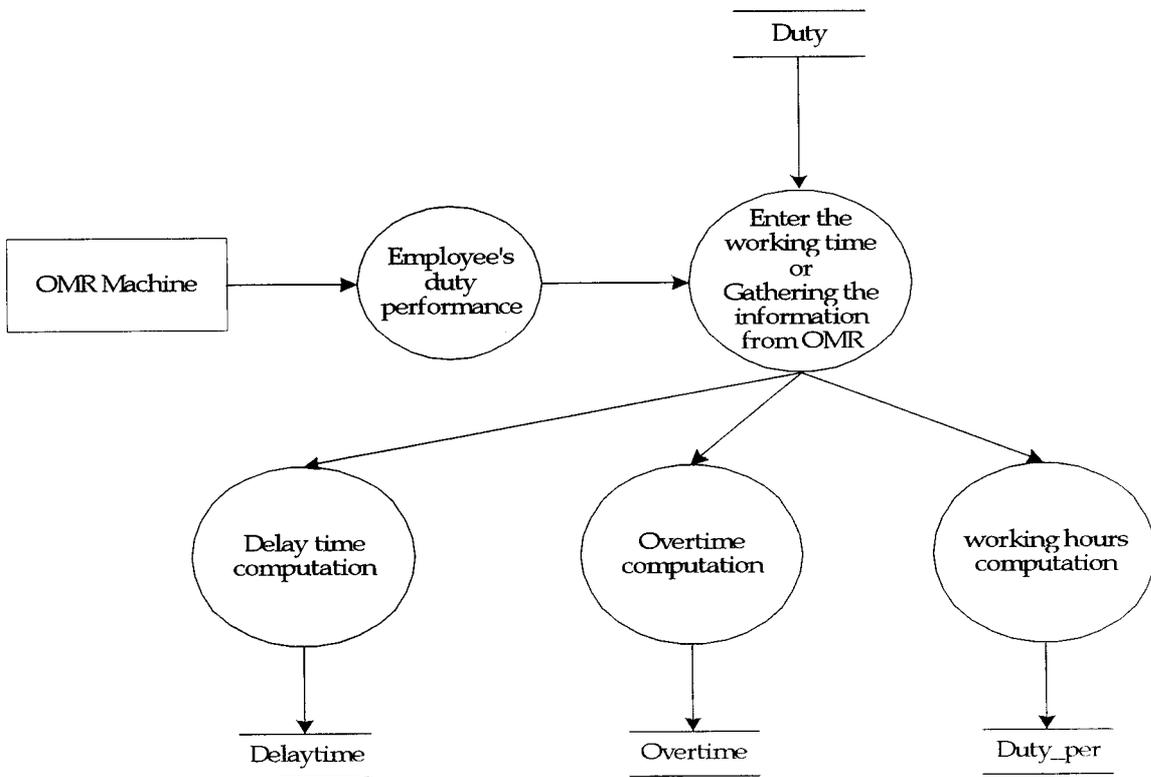
**Employee's Information:**



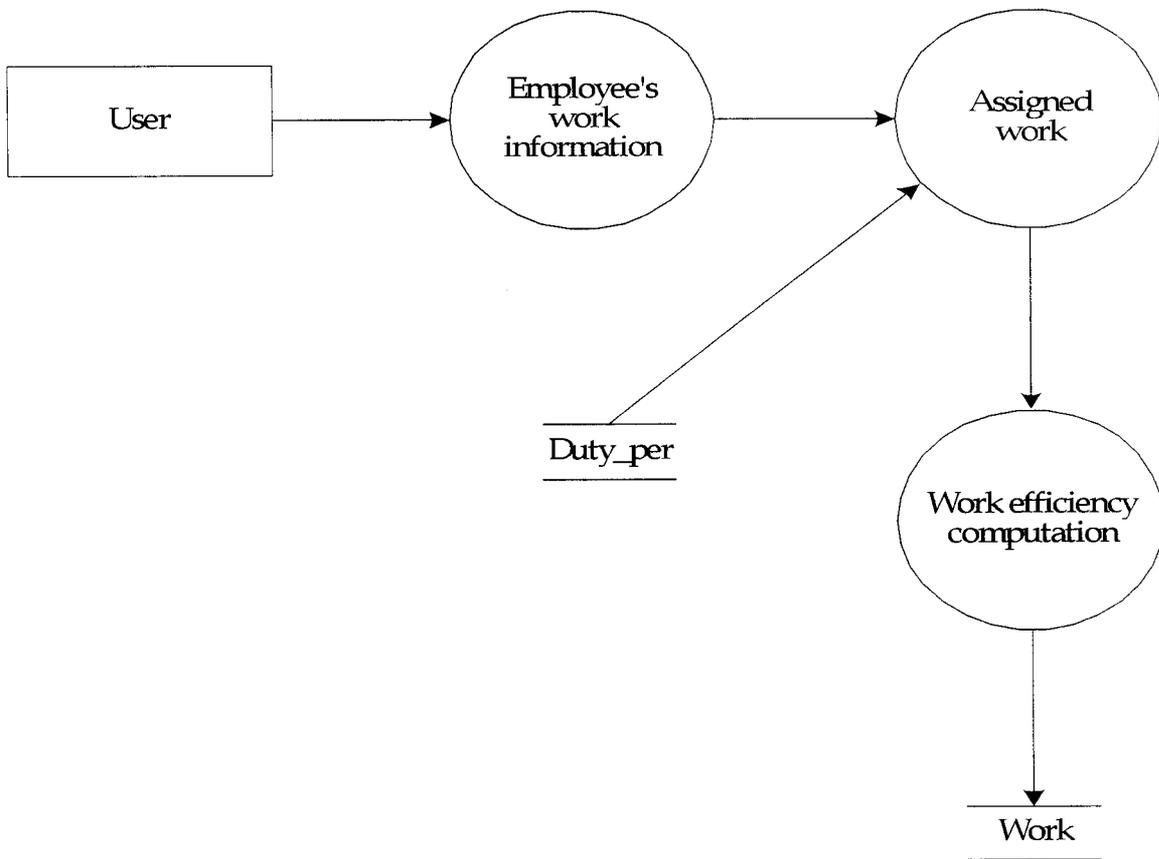
**Employee's Actual Duty Details:**



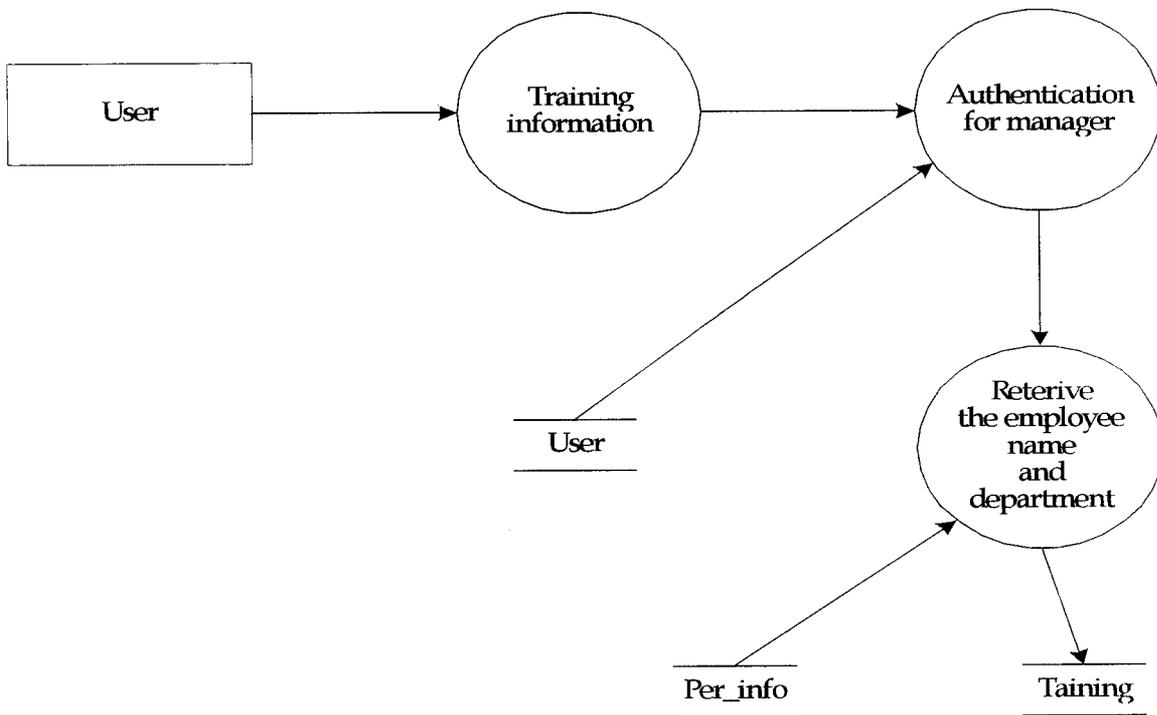
**Duty Performance:**



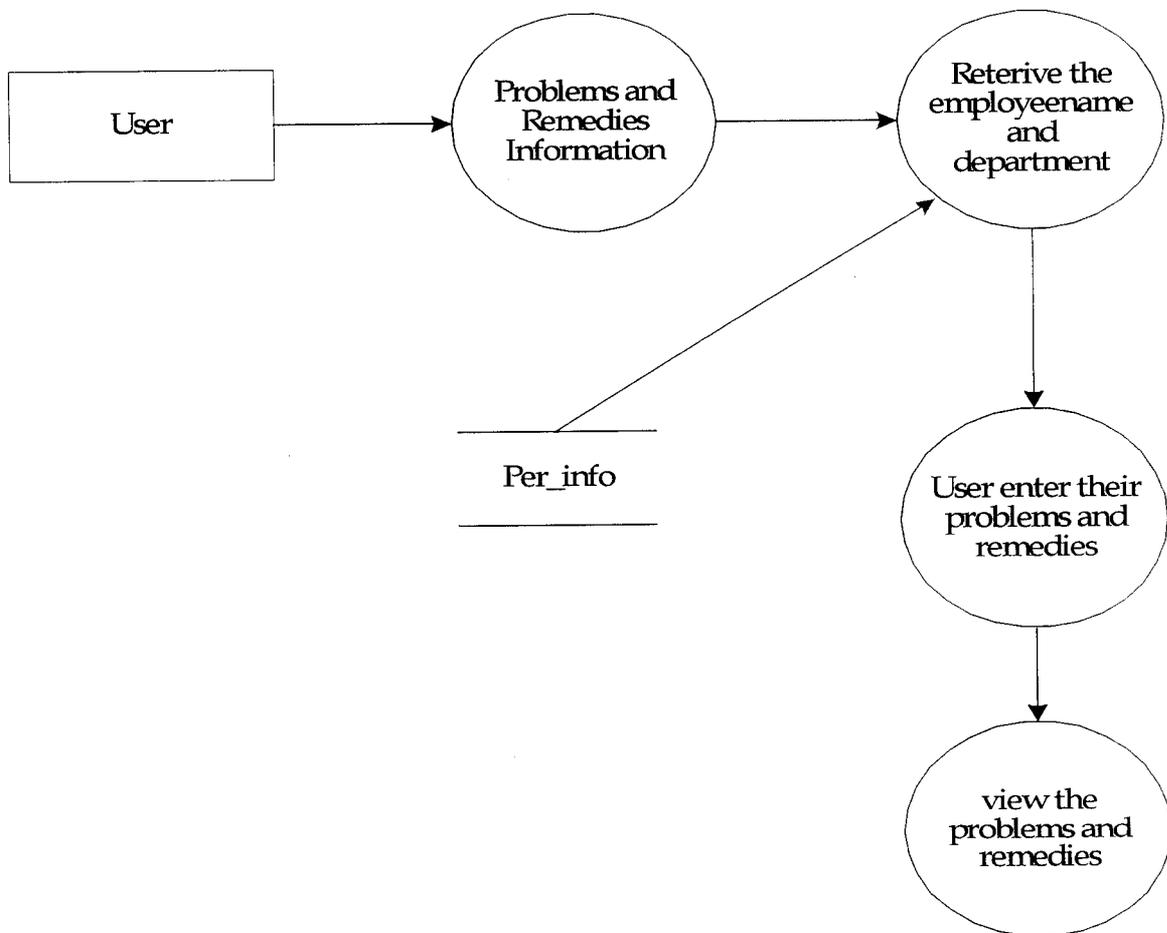
**Employee's Work Efficiency:**



**Training Details:**



**Problems and Remedies:**



## 5.3 INPUT DESIGN

Input design is the process of converting user-originated inputs to a computer-based format. It is the part of overall system design, which requires very careful attention. Input design consists of developing specification and procedures for data preparation. Often the collection of input data is most expensive part of the system. Many errors may occur during this phase of the design, so to make the system study, the inputs given by the user is strictly validated before making a manipulation with it. Thus by validation it is possible to produce a cost effective method of input, achieve highest possible level of accuracy and ensure that input is acceptable to and understood by the user staff.

The goal of designing input data is to make data entry easy, logical and free from errors. When we approach input data design, we design the source documents that capture the data and then select the media used to enter them into the computer. It is concentrated on estimating what the inputs are and how often they are to be arranged on the input screen, how frequently the data are to be collected etc.

### **Objectives:**

- To produce a cost-effective method of input
- To achieve the highest possible level of accuracy
- To ensure that the input is acceptable and understandable.

In this “**HUMAN WORKFLOW MANAGEMENT AND SALARY COMPUTATION OVER INTRANET**” the user can enter into the system through signup option. This option is provided in the homepage of the system.

The administrator has the authority to add new user into the system. He has to enter the details of the new user, like his name, age, address, qualification etc.

Once the administrator has created the username and password, then the user has the rights to enter into the package.

Every user is allowed to change his or her password through the change password form. The user is prompted for the old password and is asked to enter the new password. A confirmation is done by prompting the user to retype the password.

If the user forget their password means then the user enter into the forget password form. The user must give their date of birth then, the password should be displayed.

On successful sign-in, the user is provided with the list of options for employee’s information, employee’s duty performance, employee’s working performance, employee’s training performance and problems and remedies.

The administrator is provided with the additional options for adding, deleting and modifying user details. The user is allowed to select the option and functioning of the package proceeds accordingly.

## 5.4 OUTPUT DESIGN

Computer output is the most important and direct source of information to the user. Efficient intelligible output design should improve the system's relationship with the user and help in Decision-making. Output design generally refers to the results generated by the system. For many end users on the basis of the output they evaluate the usefulness of the application. Efficient software must be able to produce efficient and effective reports.

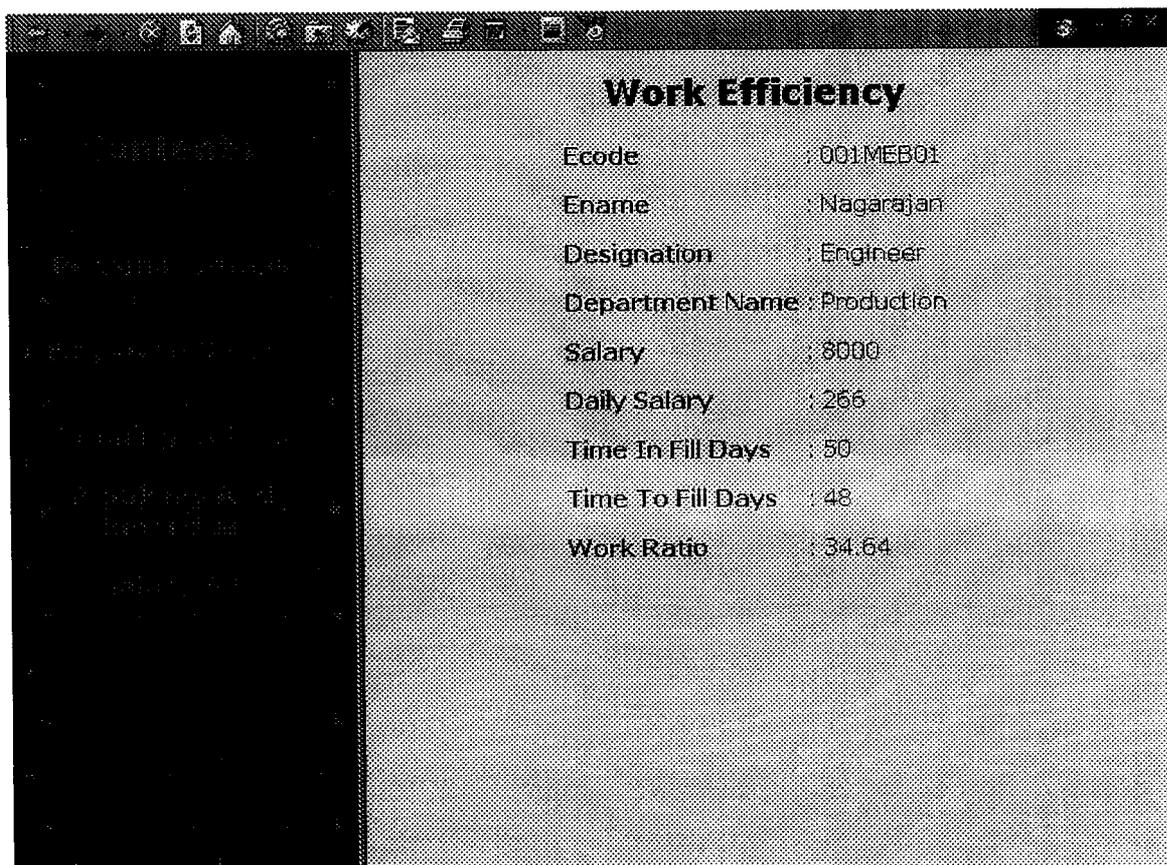
The reports may be of

- Employee's Work Efficiency - Table
- Employee's Salary Bill - Table
- Employee's Performance Result - Chart

An application is successful only when it can provide an efficient and effective report.

## Employee's Work Efficiency

Manager was given more assignments to their employees. Based on the assignment completed by the employee their working performance will be calculated. In this module managers enter work assigns information, time taken to complete the work and others. Based on the time calculation his performance has been decided.

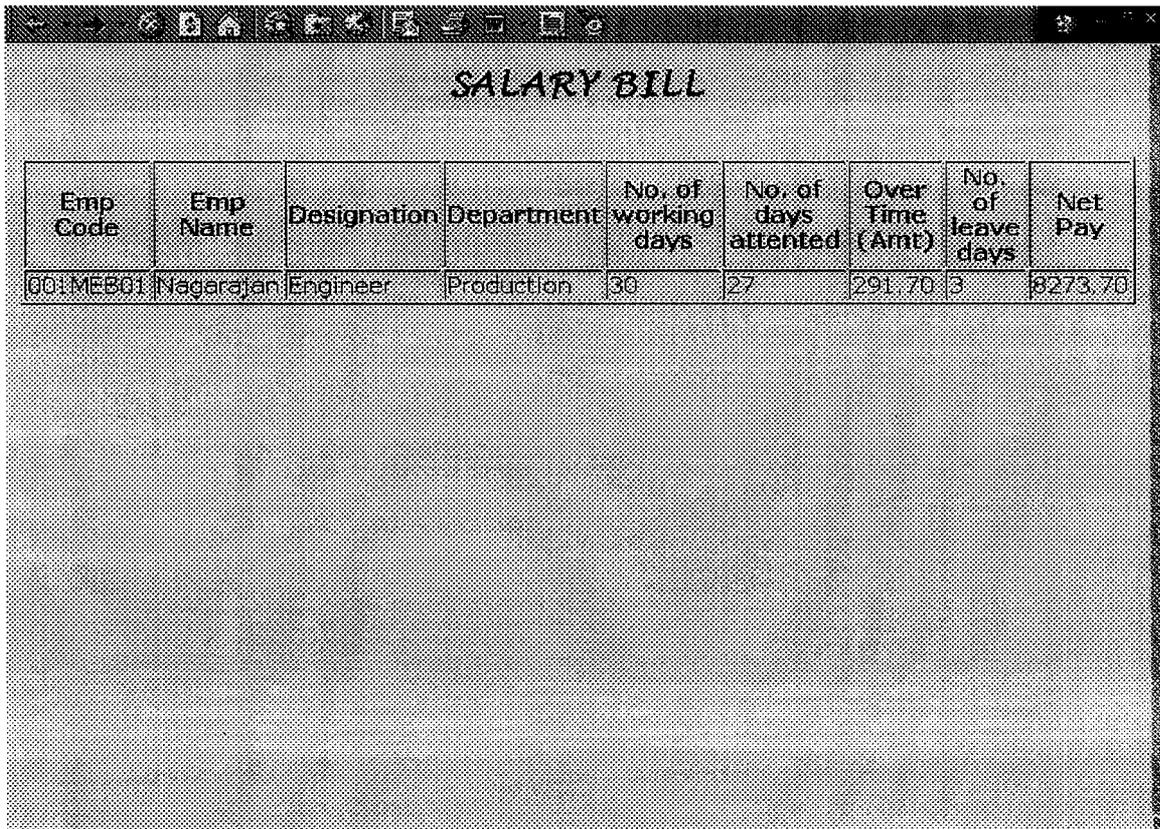


The screenshot shows a software window titled "Work Efficiency". The window has a dark sidebar on the left and a main content area on the right. The main content area displays a list of employee details in a key-value format. The details are as follows:

Work Efficiency	
Ecode	: 001MEB01
Ename	: Nagarajan
Designation	: Engineer
Department Name	: Production
Salary	: 8000
Daily Salary	: 266
Time In Fill Days	: 50
Time To Fill Days	: 48
Work Ratio	: 34.64

## Employee's Salary Bill

In this module the employee's salary, allowances, over time amount and deductions are calculated and the net-pay will be displayed in form of table.

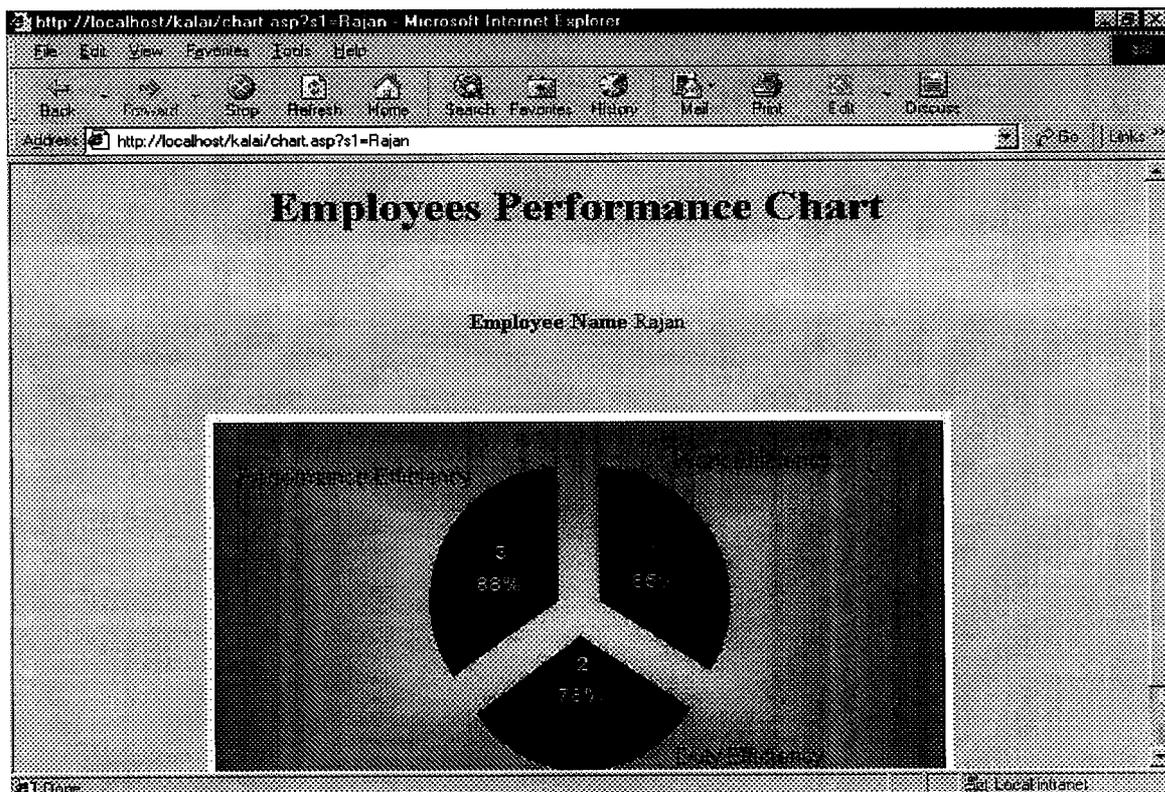


The screenshot shows a window titled "SALARY BILL" with a table containing the following data:

Emp Code	Emp Name	Designation	Department	No. of working days	No. of days attended	Over Time (Amt)	No. of leave days	Net Pay
001MEB01	Nagarajan	Engineer	Production	30	27	291.70	3	8273.70

## Employee's Performance Result

Our System gives the chart as an output. For each and every employee, the overall progress can be given as chart. With the help of this chart, the manager can find out the efficiency of an employee.



## 5.5 DATABASE DESIGN

Data design is the most crucial point in the development of a software project. The impact of data structures on program structures and procedural complexity causes data design to have profound influence on the software quality. Data structure is representation of logical relationship among individual elements of data. Thus the primary activity during data design is to select logical representation of data objects, identified during requirement definition and specification phase.

The database includes the following tables:

### User Information:

Name	Type	Description
UNAME	VARCHAR2 (20)	User Name
UPASS	VARCHAR2 (20)	Password
RPASS	VARCHAR2 (20)	Retype-Password
E-M	VARCHAR2 (20)	E-mail ID
DOB	DATE/TIME	Date Of Birth
DESIG	VARCHAR2 (20)	Designation
ADDR	MEMO	Address
P-NO	NUMBER (15)	Phone Number
MOB	NUMBER (10)	Mobile Number

### Employee's Information:

Name	Type	Description
ECODE	VARCHAR2 (20)	Employee Code
ENAME	VARCHAR2 (20)	Employee Name
QUALI	VARCHAR2 (20)	Qualification
DESIGN	VARCHAR2 (20)	Designation
ADDR	MEMO	Address
P-NO	NUMBER (15)	Phone-Number
DOA	DATE/TIME	Date-of-Appointment
DEPT	VARCHAR2 (20)	Department Name
BP	Number (7,5)	Basic-Pay

Employee's Actual Duty Details:

<b>Name</b>	<b>Type</b>	<b>Description</b>
ECODE	VARCHAR2 (20)	Employee Code
ENAME	VARCHAR2 (20)	Employee Name
DESIGN	VARCHAR2 (20)	Designation
DEPT	VARCHAR2 (20)	Department Name
TOD	VARCHAR2 (20)	Type-of-Duty
SHT	VARCHAR2 (20)	Shift
DA-FR	DATE/TIME	Date-from
DA-TO	DATE/TIME	Date-to

Employee's Duty performance:

<b>Name</b>	<b>Type</b>	<b>Description</b>
ECODE	VARCHAR2 (20)	Employee Code
ENMAE	VARCHAR2 (20)	Employee Name
DESIGN	VARCHAR2 (20)	Designation
TOD	VARCHAR2 (20)	Type-of-Duty
SHT	VARCHAR2 (20)	Shift
DAT	DATE/TIME	Current-Date
A-IN	DATE/TIME	Actual-In time
A-OUT	DATE/TIME	Actual-Out time
D-IN	DATE/TIME	Duty-In time
D-OUT	DATE/TIME	Duty-Out time
THR	NUMBER(2,2)	Total Hour Working

Late time Table:

<b>Name</b>	<b>Type</b>	<b>Description</b>
ECODE	VARCHAR2 (20)	Employee Code
ENAME	VARCHAR2 (20)	Employee Name
DESIGN	VARCHAR2 (20)	Designation
DEPT	VARCHAR2 (20)	Department Name
DAT	DATE/TIME	Current-Date
LT	DATE/TIME	Late Time

Over time Table:

Name	Type	Description
ECODE	VARCHAR2 (20)	Employee Code
ENAME	VARCHAR2 (20)	Employee Name
DESIGN	VARCHAR2 (20)	Designation
DEPT	VARCHAR2 (20)	Department Name
DAT	DATE/TIME	Current-Date
OT	DATE/TIME	Over Time

Employee's Work Performance:

Name	Type	Description
ECODE	VARCHAR2 (20)	Employee Code
ENAME	VARCHAR2 (20)	Employee Name
DESIGN	VARCHAR2 (20)	Designation
DEPT	VARCHAR2 (20)	Department Name
SAL	NUMBER (7,2)	Salary
TTF	NUMBER (3)	Time To Fill Days
ATF	NUMBER (3)	Average Time To Fill Days
WR	Number(3,2)	Work Ratio

Training Details:

Name	Type	Description
DOT	VARCHAR2 (12)	Date-of-Training
T-N	VARCHAR2 (20)	Trainer Name
T-NO	NUMBER (3)	No of Trainee's Attended
TOPIC	MEMO	Training Topic
T-NA	VARCHAR2 (20)	Trainee's Name

Problems and Remedies:

Name	Type	Description
DAT	DATE/TIME	Date-of -attended
PRO	VARCHAR2 (20)	Brief the Problem
REM	VARCHAR2 (20)	Remedies for that Problem
NAM	VARCHAR2 (20)	Employee Name
DEPT	VARCHAR2 (20)	Department Name
TTR	NUMBER (3,2)	Time take to rectify

Salary Table:

<b>Name</b>	<b>Type</b>	<b>Description</b>
ECODE	VARCHAR2 (20)	Employee Code
ENAME	VARCHAR2 (20)	Employee Name
DESIGN	VARCHAR2 (20)	Designation
DEPT	VARCHAR2 (20)	Department Name
NWD	NUMBER(3)	No. of Working Days
NDA	NUMBER(3)	NO. of Days Attended
OTM	NUMBER(3,2)	Over Time Amount
LD	NUMBER(3)	Leave Days
SAL	NUMBER(7,2)	Salary
HRA	NUMBER(3,2)	House Rent Allowance
MA	NUMBER(3,2)	Medical Allowance
DA	NUMBER(3,2)	Dearness Allowance
PF	NUMBER(3,2)	Provident Fund
LIC	NUMBER(3,2)	Life Insurance Corporation
LOAN	NUMBER(3,2)	Loan
NP	NUMBER(7,2)	Net Pay

Bonus Table:

<b>Name</b>	<b>Type</b>	<b>Description</b>
ECODE	VARCHAR2 (20)	Employee Code
ENAME	VARCHAR2 (20)	Employee Name
DESIGN	VARCHAR2 (20)	Designation
DEPT	VARCHAR2 (20)	Department Name
SAL	NUMBER (3,2)	Salary
WR	NUMBER (3,2)	Work Ratio
BON	NUMBER (5,2)	Bonus

## 5.6. SYSTEM SECURITY

System security has grown in importance in the last few years largely because of increased scale of computerization and development of the system in sensitive areas. The System Analyst must design systems which detect, locate and correct errors, whether they occur at the input, in processing files or at the output, which provide measures for the reconstruction of files, which include prior arrangements for backups in case of failure, which control access to confidential data and which all these things can be done economically.

I have used ASP for Server-side programming. It provides lot of security to the user. In the project other external users cannot enter the administrator site. This is achieved by providing login to the administrator.

Security is the science of keeping sensitive information in the hands of authorized users. On the web, this boils down to three important issues:

- Authentication-being able to verify the identities of the parties involved.
- Confidentiality-ensuring that only the parties involved can understand the communication.
- Integrity-being able to verify that the content of the communication is not changed during transmission.

Authentication, confidentiality, integrity are all linked by digital certificate technology.

## 6. SYSTEM IMPLEMENTATION AND TESTING

### 6.1 IMPLEMENTATION

#### **Introduction:**

Implementation is the stage, which is crucial in the life cycle of the new system designed. The main stage in the implementation is planning, training, system testing. Implementation means converting a new or revised system into an operational one. Conversion is the main aspect of implementation. It is the process of changing from the old system to the new one. After system is implemented, user conducts a review of the system. It is used to gather information for the maintenance of the system. The basic review methods is a data collection method of questionnaire, interview etc.

#### **Post Implementation Review:**

The post implementation review is sometimes called system audit. The review is intended to accomplish two goals:

- Evaluate the operational information system that users developed.
- Evaluate the system development procedures to determine how the project could have been improved.

## **Maintenance:**

Maintenance is one important phase in implementation. Maintenance by describing four activities that are undertaken after a program is released for use.

The first maintenance activity occurs because it is unreasonable to assume that software testing will uncover all latent errors in a large software system. The process that includes the diagnosis and corrections of one or more errors is called **corrective maintenance**.

**Adaptive maintenance** is an activity that modifies software to properly interface with the changing environment is both necessary and common.

The third activity is **perfective maintenance**, this activity accounts for the majority of all efforts expended on software maintenance.

The fourth maintenance activity occurs when software is changed to improve future maintainability or reliability or to provide a better basis for future enhancement often called **preventive maintenance** this activity characterized by reverse engineering and re-engineering.

Task association with software maintenance begins long before a request for maintenance is made. Initially a maintenance organization must be established, reporting and evaluation procedures must be described and a standardized sequence of event must be defined for each maintenance request.

In addition record-keeping procedures for maintenance activities should be established and review and evaluation criteria defined.

## 6.3 SYSTEM TESTING

System testing is the stage of implementation which is aimed at ensuring that the system works accurately and efficiently before the live operation begins. During the development of a software project, errors of various types can occur at any stage. At each phase, different techniques are used to detect the errors. The first major hurdle in the process of implementation is the period of testing the system. The debugging process is the most unpredictable part of testing procedure.

To make the system developed here to be reliable and accepted, various testing methods were used; the most basic of them begin the 3 mentioned below.

1. Running the program to identify any errors (whether syntactic or semantic) that might have occurred while feeding the programs into the system.
2. Applying the screen formats to regular users to gauge the extent to which screen was comprehensible to the user.
3. Presenting the format to the administration for the purpose of obtaining approval and checking if any modifications have to done or whether the proposed system serves their purpose accurately.

Further testing methods were implemented to make the software developed here completely error free and reliable. The types of test conducted are described below followed by the testing strategies adopted.

## **Black box Testing**

Knowing the specified function that a product has been designed to perform, test can be conducted that each function is fully operational. Black box test are carried out to test that input to a function is properly accepted, and output is correctly produced. A black box test examines some aspects of a system with little regard for the internal logic structure of the software.

Errors in following categories were found through black box testing:

- Incorrect or missing functions.
- Interface errors
- Errors in database structure or External database access
- Performance error
- Initialization and termination errors

Each of modules were exhaustively tested for code correctness and found to work in perfect way.

## **White-box testing**

White box testing of software is predicted on a close examination of procedural detail. The status of the program may be tested at various point to determine whether the expected or asserted status corresponds to the actual status. Using these following test cases can be derived.

- Exercise all logical conditions on their true and false sides.
- Execute all loops within their boundaries and the operational bounds.
- Exercise internal data structure to ensure their validity.

The overall functionality of the system was tested and found to meet the user requirements in a considerable manner.

The other testing methods used for testing the system are:

### **Unit Testing**

This test focuses verification effort on the smallest unit of software design - the module. It is the set of tests performed by an individual programmer prior to the integration of the unit into a larger system. The unit testing is normally white-box oriented and the step can be conducted in parallel for multiple modules. The tested modules must be assembled to form the complete software package. According to the test plan for this system, each and every module that comprises has been unit tested and the errors were eradicated.

Individual modules of the system were tested for functionality and each of the modules was found to perform the desired function.

### **Integration Testing**

Integration testing is a systematic technique for constructing the program structure at the same time conducting tests to uncover errors associated with interfacing. Unit tested modules were taken and a single program structure was built that has been dictated by design. Incremental integration was adopted here. The entire system was developed and tested in small segments, where errors were easy to locate and rectify.

Program builds (group of module) were constructed corresponding to the successful testing of user interaction, data manipulation and analysis.

After connecting all the sub-modules into the whole module, the connections between the modules are correctly established. The back-end and front-end are working as a whole module and the data entered in the front-end, once submitted were entered successfully into the database. On request the data was retrieved successfully.

The overall system was tested after the integration of the independently developed modules and they were found to complement each other in an efficient way. The functionality expected of the whole system was found to be met.

## 7. CONCLUSION

The project work titled "Human workflow management and Salary Computation over Intranet" has been done successfully and this software is satisfying all the requirements specified. This Project compute the Actual performance of the employees those who are working in the Industry. By the Help of this Project the Management can determine the Human efficiency. For finding the efficiency they can determine the Production rate, No of Employees then they can find out the Employees Pay scale etc. In comparison with the manual system, the benefits of this computerized system were considerable in saving of manpower, working hours, effort, accuracy and the capability to obtain live data.

Our System gives the Chart as an Output. For each and every Employees and Overall progress can be given as Chart. With the help of this Chart, the Manager can find out the efficiency of an Employee. For example we have a module called Problem and Findings, Work Information etc., if the employee's efficiency is low in this data. Then the management can give the Training to them. If they given training then the efficiency of the Employee is increased so company get more production.

Then the package calculate the factor such as, Average Daily Base Salary (ADS), Time in fill days, Average fill in days, work force management efficiency (WTE).

The system is portable and flexible for further enhancement. Another advantage is that the system is accurate and fast compared to the existing system. Adequate security has been provided to prevent unauthorized use of the system. The system is also provided with user-friendly screens.

## **8. SCOPE FOR FUTURE DEVELOPMENT**

The scope for any future development refers to the modification or improvement of the currently developed system. The enhancements may be required if there is any change in the requirements, user environment or priorities. To carry out these changes the system may have to be re-evaluated, programs may have to be changed or modified and then tested for user acceptance. This process may have to be repeated until the system fully confirms to the requirements. This system is designed in such a way that addition of new modules can be done without much difficulty.

Then we can try it to implement the system in Internet Technologies to manage the unit, if it is far from somewhere or in the same place. We want to implement dial-up network in our system.

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By Scott Mitchell

# HUMAN WORKFLOW MANAGEMENT AND SALARY COMPUTATION OVER INTRANET

This Project is entitled as "HUMAN WORKFLOW MANAGEMENT AND SALARY COMPUTATION OVER INTRANET"

*Dr. V. S. Ramesh Babu, Assistant Professor*

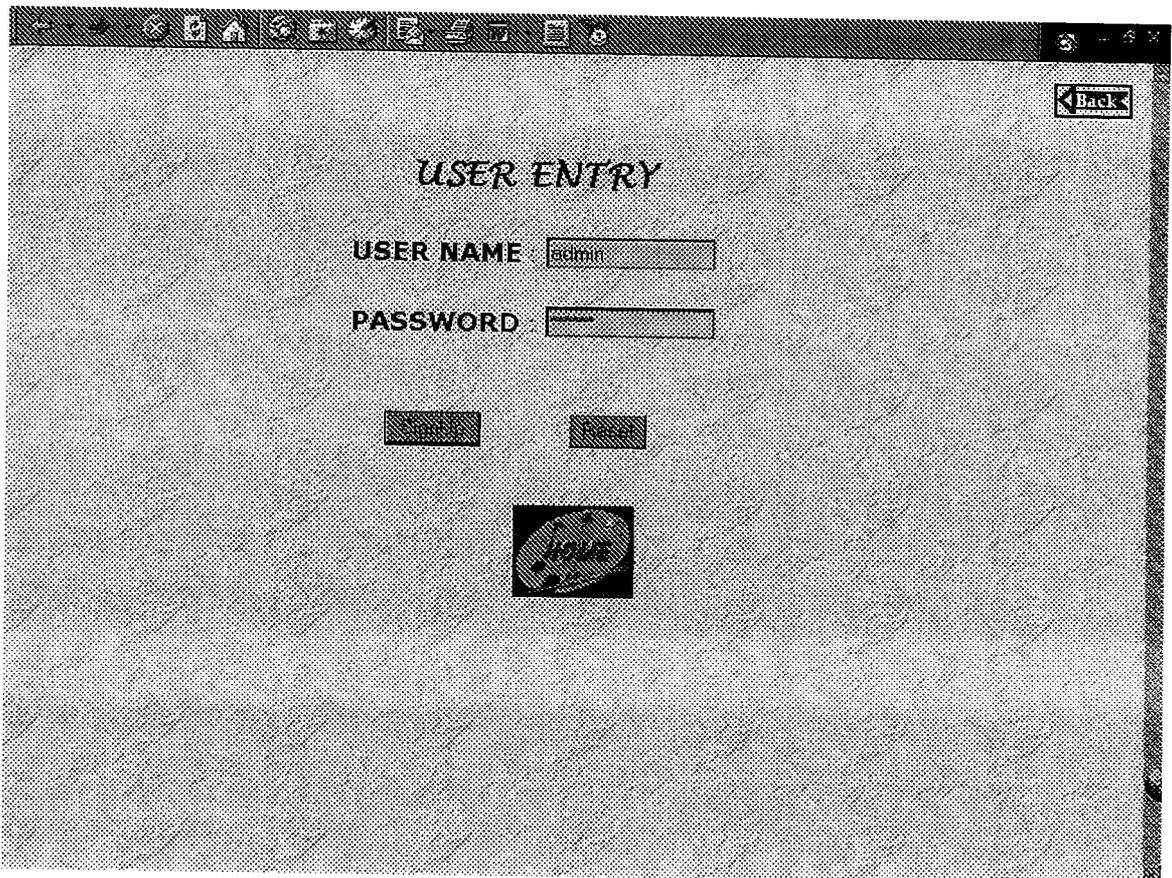
*Attracting the most qualified employees and maintaining them is the most important activity a firm can do important for the success of any organization. However, many enterprises are largely unaware of the relationship between top management and employees. Human resources, training, and labor law and change, and control are all part of this link. In the past, these workers have been associated with performing the routine clerical work of an organization such as handling employee benefits questions or recruiting, but now they are also responsible for working with the policies and requirements that have been established in order to meet the needs of the organization.*

*Today's human resources workers play a more active role in the organization, including strategic planning. They have moved from behind-the-scenes work to the front line, managing the organization's reputation and changing policies. Senior management is recognizing the importance of the human resources department in the organization. In an effort to improve morale and productivity, management is now working closely with human resources to improve employee skills, provide training opportunities to enhance job performance, and improve working conditions.*

*The Human Resource Manager should maintain the following information: Employee's Personal Information, Employee's Work Information, Employee's Training Information, Employee's Performance Information.*

New User

Guest User



## USER ENTRY

USER NAME :

PASSWORD :





**USER CREATION** [Back](#)

**USER NAME** :

**PASSWORD** :

**RE-TYPE PASSWORD** :

**E-MAIL ID** :

**DATE OF BIRTH** :

**DESIGNATION** :

**ADDRESS :**

**STREET NAME** :

**CITY** :

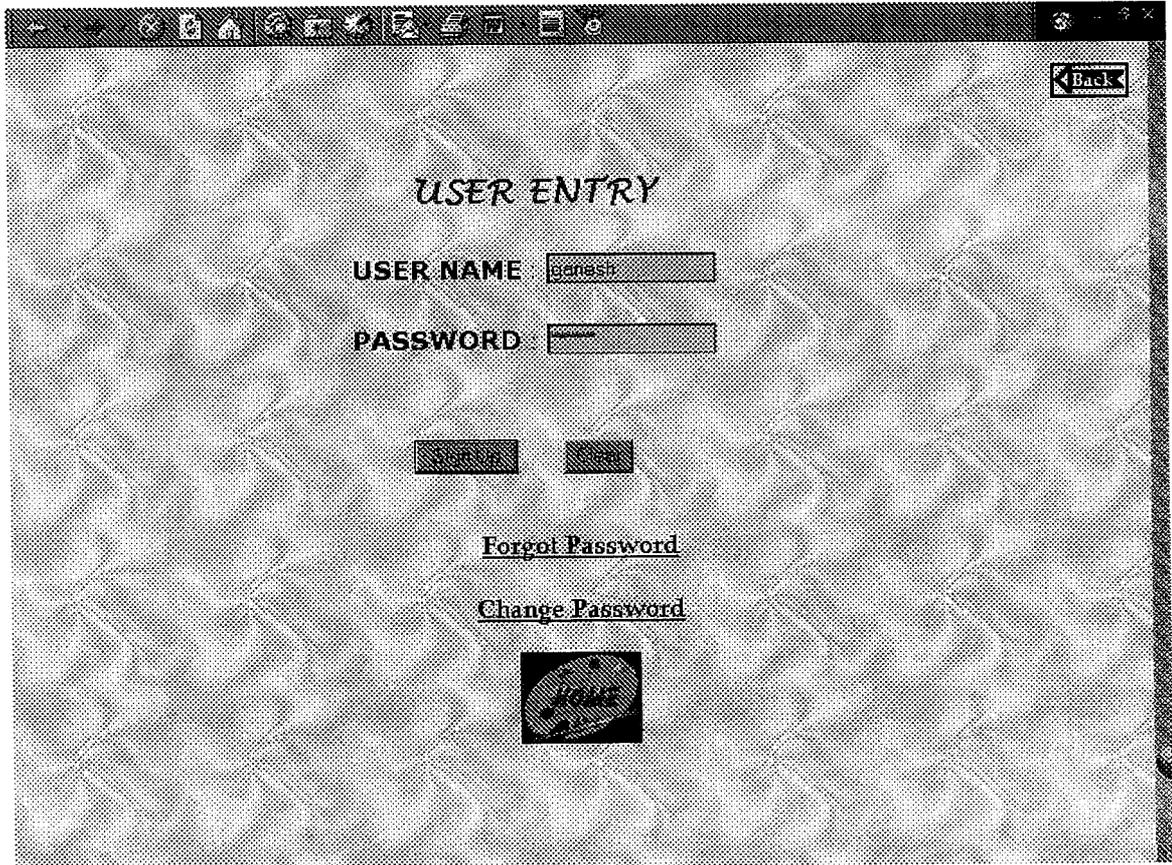
**PIN** :

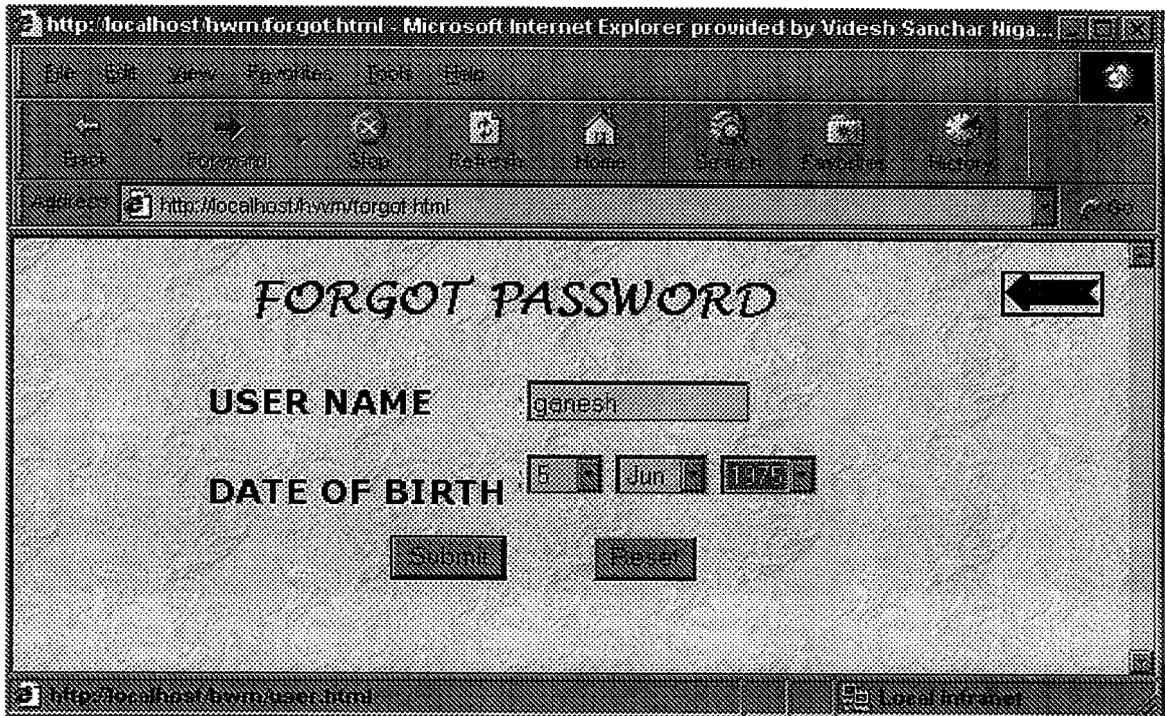
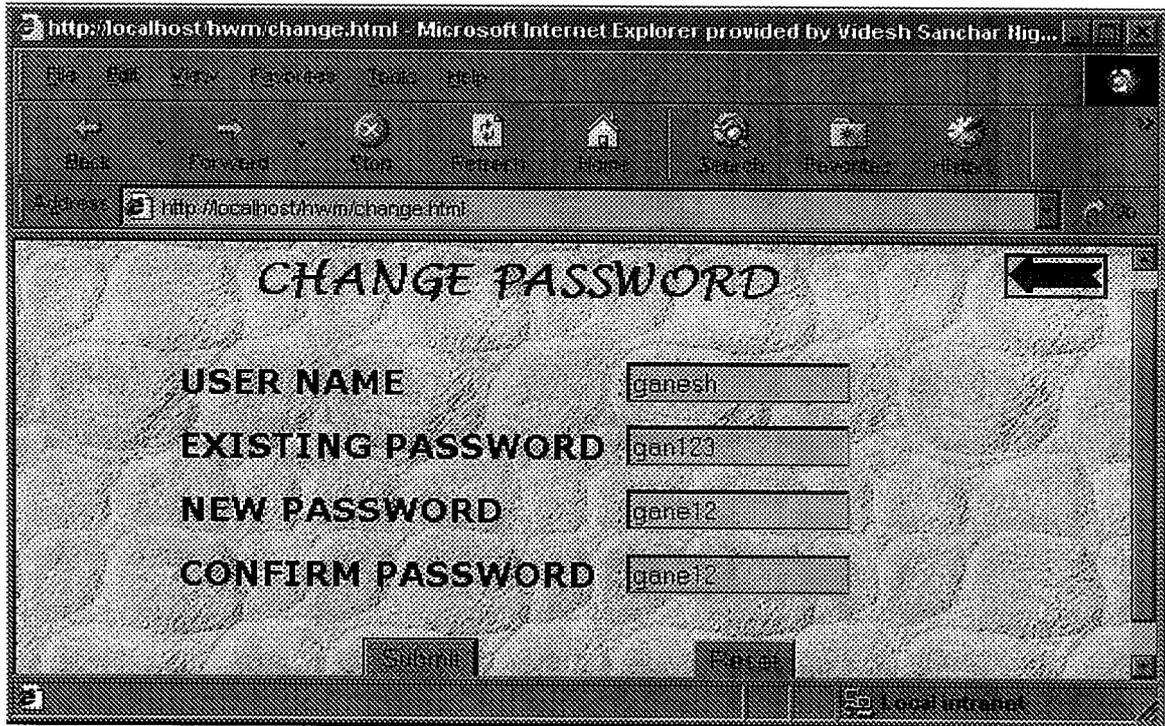
**PHONE** : **CODE :**  **NO :**

**MOBILE** :

USER CREATION [Back](#)

<b>USER NAME</b>	: Ganesh
<b>PASSWORD</b>	: *****
<b>RE-TYPE PASSWORD</b>	: *****
<b>E-MAIL ID</b>	: gan_123@hotmail.com
<b>DATE OF BIRTH</b>	: 05-Jun-1975
<b>DESIGNATION</b>	: Manager
<b>ADDRESS :</b>	
<b>STREET NAME</b>	: Ganesh Nager
<b>CITY</b>	: Tirchy
<b>PIN</b>	: 600001
<b>PHONE</b>	: 0431-1234567
<b>MOBILE</b>	: 94432-56123





EMPLOYEE'S INFORMATION	
EmpCode	001ME901
EmpName	Segejian
Gender	<input checked="" type="radio"/> Male <input type="radio"/> Female
Age	None
Qualification	<input checked="" type="checkbox"/> Under Graduate <input type="checkbox"/> Post Graduate <input type="checkbox"/> Other
Designation	None
Address :	
StreetName	Gandhi street
City	Madura
Pincode	630001
Phone	Code : 0421 No: 456123
Date_of_appointment	12-16-03
DepartmentName	Production
Salary	5000

Contents

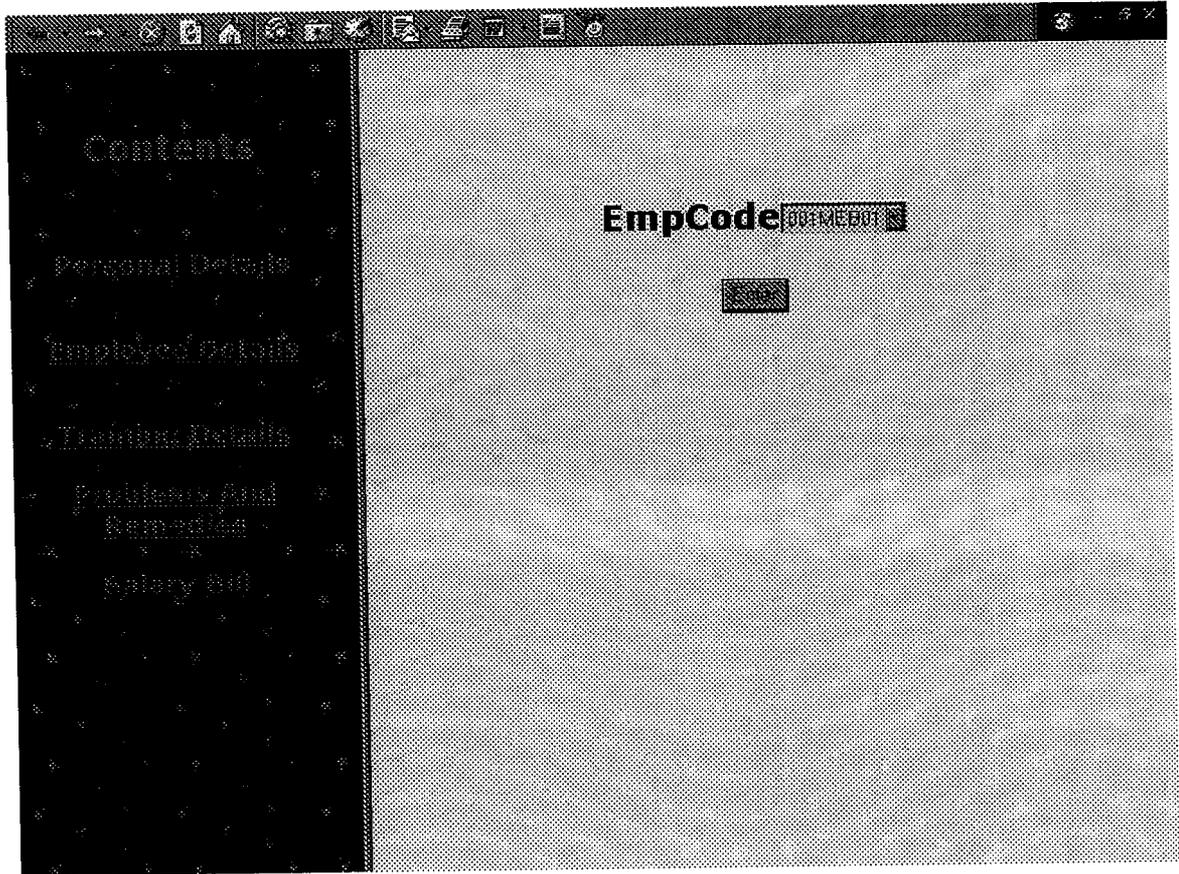
Personal Details

Employee Details

Training Details

Disband And  
Reinstatement

Salary Bill



Contents

Personal Details

Employed Details

Training Details

Problems And Remedies

Salary Bill

EmpCode

0011111111111111

EMPLOYEE'S DUTY HOUR INFORMATION

EmpCode	:	00148800
EmpName	:	Nagerajan
Designation	:	Engineer
DepartmentName	:	Production
Type of Duty	:	Regular
Shift	:	General
Date	:	From: 01-02-03 To: 28
Actual DutyTime:		
In	:	07:00
Out	:	19:00
	:	00:00
	:	00:00

EMPLOYEE'S WORK INFORMATION	
EmpCode	001ME001
EmpName	Nagarajan
Designation	Engineer
DepartmentName	Production
Time To Fill Days	60
Average Time To Fill Days	48
<input type="button" value="Submit"/>	<input type="button" value="Reset"/>

Contents

Personal Details

Employee Details

Training Details

Problems And Remedies

Salary Roll

The image shows a screenshot of a software application window. The window has a title bar with standard OS controls (minimize, maximize, close) and a toolbar with various icons. The main content area is divided into two sections: a dark sidebar on the left and a light main area on the right.

**Sidebar Menu:**

- Contents
- Regional Details
- Employee Details
- Training Details
- Problems And Remedies
- Salary Bill

**Main Content Area: Work Efficiency**

Ecode	: 001MEB01
Ename	: Nagarajan
Designation	: Engineer
Department Name	: Production
Salary	: 8000
Daily Salary	: 266
Time In-Fill Days	: 50
Time To Fill Days	: 48
Work Ratio	: 34.64

## SALARY BILL

Emp Code	: 001MEB01
Emp Name	: Nagarajan
Designation	: Engineer
Department	: Production
No. of working days	: 30
No. of days attended	: 27
Over Time (Amt)	: 291.70
No. of leave days	: 3
Basic Salary	: 7182
Allowance	
HRA	: 800
DA	: 800
MA	: 640
Deduction	
PF	: 640
L.I.C	: 400
Loan	: 400
NetPay	: 8273.70

