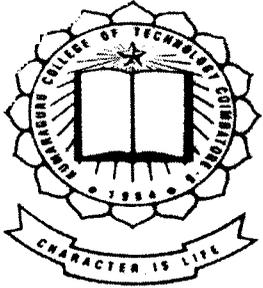


**SKILL SET MANAGER**  
**[SSM]**

**PROJECT REPORT**



P- 806

Submitted By

**K. Saravana Kumar**  
**9937S0090**

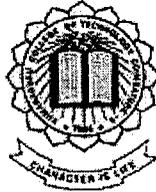
Under the Guidance of

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**Lecturer**

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**Sr Software Engineer**  
**SSi Technologies**  
**Chennai.**

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING  
KUMARAGURU COLLEGE OF TECHNOLOGY

COIMBATORE -641006



**CERTIFICATE**

This is to certify that K. Saravanakumar has submitted the project entitled  
SKILL SET MANAGER

In partial fulfillment of the award of the degree of  
Master of Science in Applied Science – Software Engineering of  
Bharathiyar University, Coimbatore  
During the academic year 2002-2003

*K. Karthikeyan*  
26/9/2002

.....  
Guide

*S. Jeyaraj*  
Head of the Department 26/9/02

Certified that the candidate was examined by us in the Project Work Viva Voce  
Examination held on... 26-09-02... And his University Register number is  
9937S0090

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26/9  
.....  
Internal Examiner

*K. Saravanakumar*  
.....  
External Examiner



## ACKNOWLEDGEMENT

I express our deep sense of gratitude to **Dr. K.K.Padmanaban, B.Sc (Engg), M.Tech, Ph.D**, Principal, Kumaraguru College of Technology, Coimbatore, for giving me the opportunity to carry out this project.

I express my sincere gratitude to **Dr. S. Thangasamy B.E. (Hons),Ph.D** Prof and Head of the Department of Computer Science Engineering, Kumaraguru College of Technology, Bharathiar University , for the immense concern shown during the course of the project.

I express my most profound gratitude to my project guide **Mr. K.Karthikeyan M.Sc.** and **Mrs. S.Devaki B.E., MS**, course coordinator, Software Engineering, Department of Computer Science Engineering, Kumaraguru college of Technology, for their valuable comments and suggestions given to me, right from the beginning of the project.

This project work is a result of 5 months work in SSi Technologies, Chennai, in partial fulfillment of the award for the degree of Master of Science in Applied Science – Software Engineering of Bharathiar University, Coimbatore. It is a matter of privilege and honor for me to place on record **Mr. E.P.Subhash**, Project Manager, and **Mr. J.Ashok kumar**, Senior Software Engineer, SSi Technologies, Chennai for his unstinted co-operation and encouragement at levels to undergo this project work.

I deem it a great pleasure to place on record my deep sense of gratitude and indebtedness to Bharathiar University, for providing me this excellent opportunity to work on this project.

I am also grateful to **Mr. Naresh Vasudhev**, Vice-President, SSi Education, Chennai, **Mr. Rajkumar** Executive Director, Sakthi Textiles and to **Mr. N.Ramkumar** M.D, R KV Enterprises who all had helped us in giving a route to approach the software companies and helping us in getting the project.

I also thank our beloved parents for their moral and financial support without whom the project wouldn't have been completed. We also express our sincere gratitude and thanks to all our intimate friends, well wishers and family members whose good wishes are responsible for crossing an important milestone in my life.

Above all, I thank the Almighty for the completion of this endeavor.

## **Synopsis:**

Skill set manager is an intranet application developed to automate the allocation of software professionals based upon their Skill set and experience. The application is built based on the basis of 3-tier architecture. The skill set manager can be termed as the heart of the Human resource department of Ssi technologies.

The human resource and the resource group of the Ssi technologies handle this application. The application has six modules, which caters information about project experience, Skill sets and training attended. One of the most important advantages of skill set manager is its ability to generate different kinds of reports. Various kinds of reports are generated for skill sets, project and training. Skill sets report generates a list of employees who have experience in the Skill set asked for. Filters like level, project, experience and current status gives a lot of flexibility and advantage to achieve the required list. When given an employee id the user can find all the information pertaining to that particular employee such as the personal information and as well as the project information and skill set information.

The skill set manager also provides information about the human resource and their skill and the project details of the firm. Hence the human resource department can easily find out the information with the help of the various reports that are generated by the skill set manager. The authenticated human resource department persons are the only authorized persons to give the inputs and can access the whole skill set manager, whereas the resource group people can only view the reports. Administrator is the person who will take care of maintaining the Skill set manager such as taking back up and giving authorization to the user. Hence the skill set manager is a highly secured application, which cant be break in.

The skill set manager is a 3-tier architecture with asp as the front end and xml as the middleware and Sql server as the backend which provides an application which is highly secured.

Windows NT based authentication security system with roles is given to the application. The application uses Visual Basic COM components accessed from XML powered ASP and HTML pages which are hosted on IIS 4.0 accessing data from SQL Server 7.0 using ActiveX Data Object. SSIT North America and SSIT Europe will use this application in near future.

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## 1.0. Introduction

This document provides comprehensive details about the client i.e. the Human resource department of SSi technologies, the organization, and the project and about the details of the authority of the project.

### 1.1. Client

About the HR Department of SSi Technologies:

The human resource department of SSi technologies comprises of more than 40 well efficient human resource executives, who takes care of the all the works pertaining to the resource management. The human resource department of SSi technologies, Chennai takes care of more than 900 employees in the chennai branch alone, it has all the details about the employees including their personal details, skill details and project details.

The Department of Human Resource Department of SSi Technologies provides comprehensive human resource management services to agencies with small or no HR staffs and those without sufficient resources to offer full HR programs. The HR staff has specific agency assignments and provide technical guidance and professional HR consultation covering all aspects of human resources. Staff members respond to all inquiries within all HR areas, including but not limited to:

- ✚ Recruitment and selection.
  
- ✚ Classification Actions.
  
- ✚ Wage and salary administration.

- ✦ Employee relations.
- ✦ Equal employment opportunity.
- ✦ Training and organizational development.
- ✦ Benefits.
- ✦ Payroll administration.
- ✦ Performance management.

The Human Resource Department of Ssi Technologies provides consultative generalist services to agencies by working closely with agency heads, program managers, supervisors, and employees to resolve problems and to assist in the accomplishment of strategic goals and objectives. Assistance is provided in policy development and administration to ensure compliance with state and federal laws, regulations, and guidelines.

All the needs of the offshore project is taken by the Human resource Department, and also the needs of the consultants. The Human resource Department is one of the Key Departments of Ssi technologies.

## 1.2 About the Organization

### About SSI Technologies

SSi Technologies is a global software development and consulting service provider, delivering technology and business solutions in the domains of Financial Services (Banking, Insurance & Securities), E-Business, Telecom, Healthcare, Retail, Automotive, Manufacturing, Transportation and Food & Beverage, as well as Enterprise Applications Solutions - CRM (Customer Relationship Management), SCM (Supply Chain Management), ERP (Enterprise Resource Planning), Data Warehousing, Procurement and Project Management. We integrate business and technology through domain focused, cost effective solutions delivered on platforms of your choice.

SSi Technologies is a division of SSI Limited (FY 2001 at US\$ 95 million), a leading end-to-end IT solutions architect which, through its divisions, offers an integrated range of IT services and solutions - software education, development and consulting.

Its key differentiator is their commitment in combining domain and technology expertise in our business operations. Experienced domain professionals occupy critical management, business development and research positions across our Practices. Skilled technical experts who ensure successful state-of-the-art productisation of future-centric concepts in equal measure, aid them

- ◆ Key Strategies
- ◆ Domain expertise
- ◆ Technology skill sets
- ◆ Wide customer base

- ◆ Global reach
- ◆ Quality Focus
- ◆ "C-2-C" - Close to Customer, a unique customer delivery program

### **Domain Expertise**

SSi Technologies apply experienced consultants to business problems that match their expertise. The result? More than 100 Fortune 1000 clients who are willing to place their trust in us - repeatedly.

Its current domains and applications:

- ◆ Domains

Applications

- ◆ Financial services (Securities/ Banking/ Insurance)

Customer Relationship Management

- ◆ Telecom

Enterprise systems

- ◆ Healthcare

Procurement

- ◆ E-Business

  - Supply Chain Management

- ◆ Diversified services

  - Project Management

- ◆ Retail

  - Data Warehousing

- ◆ Automotive / Manufacturing

  - Content Management

- ◆ CPG/ Food & Beverage

- ◆ Transportation

- ◆ Technology skills

SSi Technologies deliver's solutions on a variety of platforms and technologies. In short, our solutions can be adapted to technologies that work for you. Our current technology skill sets include

- ◆ Microsoft
- ◆ Oracle
- ◆ i2
- ◆ IBM
- ◆ Mainframes
- ◆ Internet technologies

### **Wide customer base**

Over the years, Ssi Technologies have delivered solutions to over 100 Fortune 1000 clients across the world and across a wide spectrum of industries, technologies, geographies and sizes. Whether the solution involved building a trading platform for NASDAQ or a e-Business solution for American Express, we are honored that our customers vouch for our capabilities.

### **Global reach**

SSi Technologies operates as an independent software development and consulting companies in North America, Europe and Asia-Pacific, supported by an Offshore Development Center (ODC) in India.

SSIT North America is an amalgamation of the following erstwhile independent companies - Orion Consulting, Albion International, Client Matrix and the US operations of SSI Ltd.

Orion Consulting began in 1983 as a one-employee operation headquartered in Minneapolis and built its reputation through high quality work with regional companies, such as 3M, Best Buy and Value Vision International, Inc., before growing to become one of the fastest-growing IT consultancies in the Upper Midwest, with

revenues of \$25 million and nearly 200 employees and a roster of clients that includes some of the most recognized companies in the world.

Albion International began operations in 1994 with a focus on building high-end distributed information systems. The Atlanta-based company soon expanded to open offices in Boston, Dallas, and Washington. Albion's clients include The Massachusetts Department of Transitional Assistance, Sprint, Colorado Department of State, New York Division of Criminal Justice Systems, Security First Network Bank, and BellSouth Telecommunications.

In September 2000, Albion and Orion were acquired by SSI Limited.

SSIT Europe Ltd Incorporated in 1999, SSIT Europe Ltd is based in London and Luxemburg and has collected an impressive list of clientele in the last two years.

SSI Technologies Pte Ltd, Singapore is the registered office in the Asia Pacific region having other offices in Singapore (SSI Technologies Pte Ltd), Tokyo, Sydney (SSI Technologies Australasia Pty Ltd), Mumbai and Chennai.

SSI Technologies Offshore Development Center, India - Located at Chennai, India, the Offshore Development division of SSI Technologies is equipped with a versatile and comprehensive resource pool of domain and technology experts, infrastructure and equipment.

## **Quality Focus**

SSI Technologies is an ISO 9001:2000 certified, SEI CMM Level 5 and P-CMM Level 3 assessed company.

The following are the highlights of our quality milestones:

- ◆ Creation of "Knowledge Master" for the organization
- ◆ Metrics collection and analysis for base line
- ◆ Quantitative quality goals aimed at increasing product quality,

- ◆ Productivity and defect reduction measures
- ◆ Life Cycle Models for all types of projects
- ◆ Quality Awareness organization wide
- ◆ Institutionalization of SSIT - QMS processes and procedures
- ◆ Training and online facilitation
- ◆ Evolution of SSIT - Feature Point for estimation and its implementation
- ◆ Process and product audits for all project activities
- ◆ Introduction of role based training programs
- ◆ Certification for ISO 9001:1994 - April 2001
- ◆ First business partner of SWIFT to be certified for ISO 9001:1994 for  
SWIFT scope
- ◆ Assessed for SEI CMM Level 4 - October 2000
- ◆ Certification for ISO 9001:2000 - January 2001
- ◆ Assessed for SEI CMM Level 5 - August 2001
- ◆ Assessed for PCMM Level 3 - February 2002



Its SPI (Software Process Improvement) Consulting & Testing Consultancy Division offers a diverse range of solutions for development of quality standards and testing procedures.

C-2-C (Close to Customer) - a unique customer delivery Program

A three-pronged strategy of ensuring customer delight, this aims to service clients' requirements through our On-site, Proximity Development and Offshore Development Centers.

A client gets a close working rapport, control and cost benefits through "C-2-C".

For more information: <http://www.ssi-technologies.com/>

### **1.3 About the project**

Skill set manager is an intranet application developed to automate the allocation of software professionals based upon their Skill set and experience. The application is built based on the basis of 3-tier architecture. This application is built over a period of 4 months.

The human resource and the resource group of the Ssi technologies handle this application. The application has six modules, which contains information about project experience, Skill sets and training attended. The skill set manager generates its output in the form of reports. Various kinds of reports are generated for skill sets, project and training. Skill sets report generates a list of employees who have experience in the Skill set asked for. Filters like level, project, experience and current status gives a lot of flexibility and advantage to achieve the required list.

The skill set manager also provides information about the human resource and their skill and the project details of the employee. This helps the human resource department to easily find out the information with the help of the various reports that are generated by the skill set manager. The authenticated human resource department persons are the only authorized persons to give the inputs and can access the whole skill set manager, the Human resource people can only view the reports. Administrator is the person who will take care of maintaining the Skill set manager. The Skill set manager is highly secured one with the help of Windows NT based authentication security system.

The skill set manager is a 3-tier architecture with asp as the front end and XML as the middleware and SQL Server as the backend, which provides an application, which is highly secured.

## 2.0 Background

### 2.1. Source of data

All the data's, which are used in Skill set manager, is a primary data.

All the data's that is used in the Skill Set Manager is provided by the Human Resource department of Ssi Technologies. **The primary data provided by the company is highly confidential that it can't be exposed to unauthorized people, Hence We are restricted to publish the data in this document.**

### 2.2. System Requirement

#### 2.2.1 Software profile

##### Server Side Script Language

##### Active Server Pages (ASP):

An Active Server Pages is Microsoft's solution to building advanced web sites. Many of the largest, most technologically demanding and most successful commercial web sites running on the internet today –such as dell, HotBot, barnes and noble. comm. and Microsoft where built using Active Server Pages.

Using Active Server Pages, one can:

- Generate dynamic web pages. An active server page can display different content to different users or display different content at different times of the day.
- Process the contents of html forms. you can use a active server page to retrieve and respond to the data entered into an html form.
- Create database driven web pages. An active server pages can insert new data or retrieve the existing data from a database such as Microsoft SQL server.
- Track user sessions. An asp can be used to store information's about the users from the moment they arrive at your web site until the moment they leave.
- Detect the capabilities of different browsers. An asp can detect the features that a browser supports and display content that is appropriate to different browsers.

- ◆ Send and retrieve mail. An asp can automatically send e-mail to users and retrieve e-mail sent to your website.
- ◆ Integrate custom components into your web sites. An Asp can be extended with custom server side components created with Microsoft script components, VB, VC++.

An ASP is an HTML page that includes one or more scripts (small embedded programs) that are processed on a server before the page is sent to the user. An ASP is somewhat similar to a server-side include or a common gateway interface (CGI) application in that all involve programs that run on the server, usually tailoring a page for the user. ASP is a feature of the Microsoft IIS or PWS, but, since the server-side script is just building a regular HTML page, it can be delivered to almost any browser. Since, ASP is developed for PWS or IIS it is considered for this system. ASP supports scripting languages like VBScript, PerlScript and Jscript. VBScript is native to ASP and hence VBScript is used for server side scripting purposes.

## **Client Side Script Language**

### **VB Script**

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

### **Java Script**

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

### **XML**

XML stands for the extensible Markup Language. It is a new markup language, developed by the W3C, mainly to overcome limitations in Html. The W3c is the organization in charge of the development and maintenance of most web standards, most notably Html.

Some of the areas where XML is notably used:

- ◆ Send and retrieve mail. An asp can automatically send e-mail to users and retrieve e-mail sent to your website.
- ◆ Integrate custom components into your web sites. An Asp can be extended with custom server side components created with Microsoft script components, VB, VC++.

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Some of the areas where XML is notably used:

- ◆ Large web site maintenance by creating simplified Html documents.
- ◆ Exchange of information between organizations.
- ◆ Offloading and reloading of databases.
- ◆ E-commerce applications where different organizations collaborate to serve a Customer.
- ◆ Handheld devices and smart phones with new markup languages optimized for these “alternative” devices.

## **2.2.2 Hardware profile**

### **Windows NT**

NT refers to the computer's operating system. An operating system dictates how all the parts of your computer work together and how specific tasks are to be performed.

Windows NT 4.0 is similar in appearance and style to Windows 95.

Windows 3.11 and NT 4.0 share few of the same characteristics. If one is familiar with the Windows 3.11 environment, he may need to spend some extra time adapting to the new look of the NT 4.0 main screen.

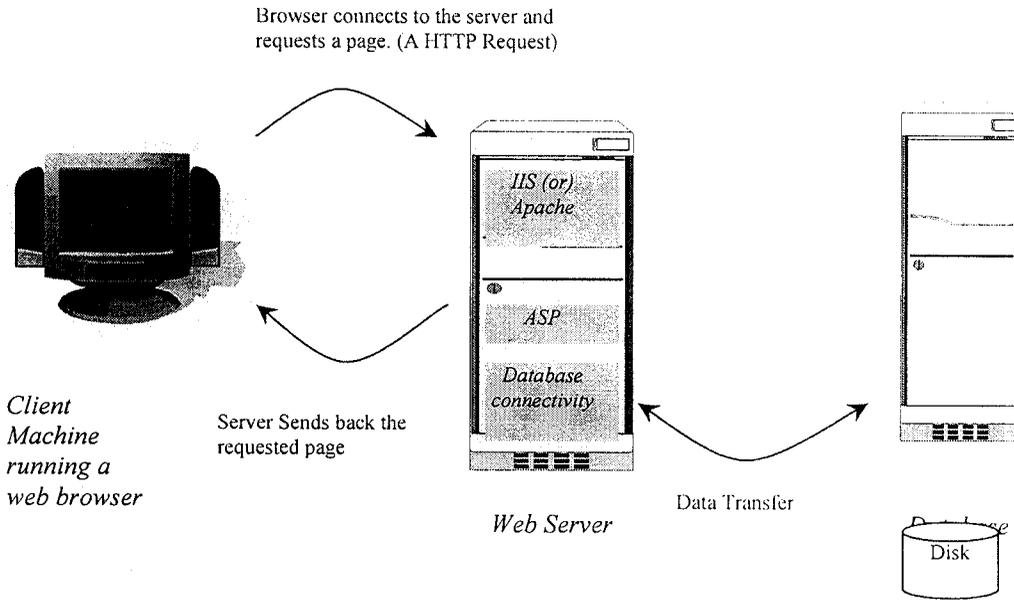
Windows 3.11 is a 16-bit operating system and Windows NT is a 32-bit operating system. One big difference between the two systems is that Windows NT processes information twice as fast as the older Windows 3.11 system. This gives Windows NT the power to process higher-end applications, such as Word 7.0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

### **IIS (Internet Information Server)**

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

web-based tool like Skill set manager this is the ideal web server if the server side scripting language is ASP.

## General Architecture



## HOW THE WEB SERVER WORKS

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

---

## *SYSTEM DESCRIPTION*

---

### 3.0. System Description

#### 3.1. System study & analysis

##### 3.1.1 Purpose

The purpose of this document is to understand the modules in Skill Set Manager. The modules included in the product have been listed along with a detailed description of functions involved in each module.

##### 3.1.2 Scope

The scope of this project is to provide a solution to maintain and manage a centralized Skill Set Information-base about all the technical human resources in SSI Technologies.

#### Skill Set Manager features

- ✓ Provides comprehensive information about Skill Sets of Human Resources.
- ✓ Intuitive Graphical User Interface
- ✓ Intranet enabled
- ✓ Handy reports
- ✓ Windows NT Integrated Security. Uses IE 5.0 and above.
- ✓ The System uses 3-Tier Architecture.

#### 4.0 Skill Set Manager Modules

- ✓ Administration-General
- ✓ Administration-Technical

- ✓ Employee
- ✓ Project & Training
- ✓ Reports
- ✓ Help

✓ Administration-General

The Administration-General module details the functions that are required for configuration and management of the Skill Set Manager master data. Master data pertaining to General aspects like Country details, State details, Blood Group Details are managed in this Group.

✓ Administration-Technical

The Administration-Technical module details the functions that are required for configuration and management of the Skill Set Manager master data. Master data pertaining to Technical aspects is managed using this module.

✓ Employee

The Employee module details the functions that are required for configuration and management of the Skill Set Manager master data. Master data pertaining to Employee details is managed in this module.

✓ Project Training

The Project Training module details the functions that required for the Project, Project Skill set and Training. This function is used to manage the reference data for

collecting the project information, Allotment information, Training information and Attendees information.

✓ Reports

The Reports module details the functions that give various kinds of reports from the data available on the database. The reports can give details about Project, Training, and Skill set of the employee's.

✓ Survey

The Survey module details the functions that give various kinds of reports on the basis of competency from the data available on the database. The Survey can give details about Project, Training, and Skill set of the employee's.

#### 4.1 Definitions, Acronyms & Abbreviations

SSM	Skill Set Manager
HRMS	Human Resource Management System.
SSi	Software Solutions Integration.

#### 4.2 Reference

- ◆ **Human Resource Management System: A practical approach**

By Rampton, Glenn M, Turm Bull, Ian J and Doran J Allen.

## ◆ People Soft HRMS

By Adam T.Bromwich.

### 4.3 Overview

#### ✓ Administration-Technical

The Skill Set Manager Application requires reference data for its operation. The reference data is part of various modules of the system and is used by multiple modules. The administration module manages this reference data pertaining to Technical aspects.

#### ✓ Project Training

The Skill Set Manager Application requires reference data for its operation. The reference data is part of various modules of the system and is used by multiple modules. The Project Training module manages this reference data pertaining to project info, allotment, training info and attendees.

#### ✓ Reports

The Skill Set Manager Application can generate various reports based on the data that are fed thru different modules of the application. Various kind of report like Project, Training, Skill-based, Employee-based (Resume) and Skill Matrix report are available.

### 4.4 General Description

---

#### Product Perspective

- ✓ At any point of time system provides the Skill Set information for a given Human Resource
- ✓ Automates Skill Set Resource management

- ✓ Easy-to-use system with an intuitive Graphical User Interface (GUI)
- ✓ Helps generate a variety of summaries and reports
- ✓ Maintains comprehensive and integrated information about Employee Technical Skills
- ✓ Maintains comprehensive and integrated information about Employee expertise in a given skill
- ✓ Maintains comprehensive and integrated information about Employee expertise in a given domain

## **Product Functions**

This product functions have been defined for each module individually.

- ✓ Administration-Technical
  - Domain
  - Practice
  - Qualification Master
  - Major Subject
  - Qualification
  - Grade
  - Designation
  - Skill Type
  - Skill List
  - Certifying Authority

- Certification
- ✓ Reports
  - Training
  - Project
  - Skill Report
  - Skill Wise
  - Practice Wise
  - Level Wise
  - Master Skill DB
  - Employee skill DB
  - Resume
  - Training Cost
  - Employee Skill Matrix
- ✓ Survey
  - Practice wise competency Report
  - Skill wise competency Report
  - Domain wise competency Report
  - Total competency Report
- ✓ Help
  - Help

## **User Characteristics**

The user should be able to operate a computer under the Windows operating system.

## **General Constraints**

Some of the constraints when using the application can be listed below

- The Application can be used with browsers of type IE 5.0 and above version at the client end
- The Application uses SQL server as database with IIS 4.0 and MTS.
- The Application uses Window NT security.

## **Assumptions and Dependencies**

The System uses the Window NT security by this the Application is capable of running only on the Intranet environment. The Application is not compatible for version below IE 5.0 and Netscape.

## 4.5 Overview of modules:

Module	4.5.1 Administration-Technical
--------	--------------------------------

### Module Functions

---

#### Functions List

The following are the functions provided by this module –

- ✓ Domain
- ✓ Practice
- ✓ Qualification Master
- ✓ Major Subject
- ✓ Qualification
- ✓ Grade
- ✓ Designation
- ✓ Skill Type
- ✓ Skill List
- ✓ Certifying Authority
- ✓ Certification

---

## Domain

---

### Functional Requirements

This function is used to manage the reference data used to collect Domain information.

### Description

When the details of the Employee experience and Project information are captured, this function is used to manage the reference data for collecting the Domain information.

### Inputs

The following are the inputs of this function –

- ✓ Domain ID (Auto –Generated)
- ✓ Domain Description (Mandatory)

### Outputs

The Domain Information gets added or modified.

### Process Validations

Domain description should be unique.

### Processing Logic

The Domain Description is given and the Domain id is Auto-generated and the information gets added. On Updating the data are retrieved based on the unique Domain Id and modification are done.

---

## Practice

---

### Functional Requirements

This function is used to manage the reference data used to collect Practice information.

### **Description**

When the details of the Employee and Project information are captured, this function is used to manage the reference data for collecting the Practice information.

### **Inputs**

The following are the inputs of this function –

- ✓ Practice ID (Auto-Generated)
- ✓ Practice Description (Mandatory)
- ✓ Status (Mandatory)

### **Outputs**

Practice Information gets added or modified.

### **Process Validations**

Practice description should be unique.

### **Processing Logic**

The Practice Description is given and the Practice id is Auto-generated and the information gets added. On Updating the data are retrieved based on the unique Practice Id and modification are done

---

## **Qualification Master**

---

### **Functional Requirements**

This function is used to manage the reference data used to collect Basic Qualification information.

### **Description**

When the details of the Employee qualification information are captured, this function is used to manage the reference data for collecting the Basic Qualification information.

### **Inputs**

The following are the inputs of this function –

- ✓ Qualification ID (Auto –Generated)
- ✓ Basic Qualification Description (Mandatory)

### **Outputs**

Qualification gets added or modified

### **Process Validations**

Qualification description should be unique.

### **Processing Logic**

The Qualification Description is given and the Qualification id is Auto-generated and the information gets added. On Updating the data are retrieved based on the unique Qualification Id and modification are done

---

## **Major Subject**

---

### **Functional Requirements**

This function is used to manage the reference data used to collect Major Subject information.

### **Description**

When the details of the Employee Qualification information are captured, this function is used to manage the reference data for collecting the Major Subject information.

## **Inputs**

The following are the inputs of this function –

- ✓ Major Subject ID (Auto-Generated)
- ✓ Major Subject Description (Mandatory)

## **Outputs**

Major Subject Information gets added or modified.

## **Process Validations**

Major subject description should be unique.

## **Processing Logic**

The Major subject Description is given and the Major subject id is Auto-generated and the information gets added. On Updating the data are retrieved based on the unique Major subject Id and modification are done

---

## **Qualification**

---

### **Functional Requirements**

This function is used to manage the reference data used to collect Qualification information.

### **Description**

When the details of the Employee Qualification information are captured, this function is used to manage the reference data for collecting the Qualification details.

### **Inputs**

The following are the inputs of this function –

- ✓ Qualification ID (Auto-Generated)
- ✓ Basic Qualification ID (Mandatory - Reference key for the Qualification Master)

- ✓ Major Subject ID (Mandatory - Reference key for the Major Subject Master)

## Outputs

The Qualification Information gets added or modified.

## Processing Logic

Qualification is an entity which has Basic Qualification description (eg: B.Sc, M.Sc, B.E. etc) and the Major Subject (eg: Computer Science, ECE. etc) in it. The Combination of the two gives the qualification. On addition of a new qualification, a new combination of Basic Qualification and Major subject is made.

---

## Grade

---

### Functional Requirements

This function is used to manage the reference data used to collect Grade information.

### Description

When the details of the Designation are captured, this function is used to manage the reference data for collecting the Grade information.

### Inputs

The following are the inputs of this function –

- ✓ Grade ID (Auto –Generated)
- ✓ Grade Description (Mandatory)
- ✓ Status (Mandatory)

### Outputs

Grade Information gets added or modified.

### Process Validations

Grade description should be unique.

## **Processing Logic**

The Grade Description is given and the Grade id is Auto-generated and the information gets added. On Updating the data are retrieved based on the unique Grade Id and modification are done.

---

## **Designation**

---

### **Functional Requirements**

This function is used to manage the reference data used to collect Designation information.

### **Description**

When the details of the Employee Designation information are captured, this function is used to manage the reference data for collecting the Designation information.

### **Inputs**

The following are the inputs of this function –

- ✓ Designation ID (Auto-Generated)
- ✓ Designation Description (Mandatory)
- ✓ Status (Mandatory)

### **Outputs**

Designation Information gets added or modified.

### **Process Validations**

Designation description should be unique.

## **Processing Logic**

The Designation Description is given and the Designation id is Auto-generated and the information gets added. On Updating the data are retrieved based on the unique Designation Id and modification are done.

---

## **Skill Type**

---

### **Functional Requirements**

This function is used to manage the reference data used to collect Skill Type information.

### **Description**

When the details of the Skill List information are captured, this function is used to manage the reference data for collecting the Skill Type information. Several skills are categorized under different skill types to organize them easily.

### **Inputs**

The following are the inputs of this function –

- ✓ Skill Type ID (Auto- generated)
- ✓ Skill Type Description (Mandatory)

### **Outputs**

Skill type Information's gets added or modified

### **Process Validations**

Skill type description should be unique.

### **Processing Logic**

The Skill Type Description is given and the Skill Type Id is Auto-generated and the information gets added. On Updating the data are retrieved based on the unique Skill Type Id and modification are done.

---

## Skill List

---

### Functional Requirements

This function is used to manage the reference data used to collect Skills information.

### Description

When the details of the Employee experience, Employee certification, Project information, Resource allocation to project and Training information are captured, this function is used to manage the reference data for collecting the Skills information.

### Inputs

The following are the inputs of this function –

- ✓ Skill ID (Auto-Generated)
- ✓ Skill Description (Mandatory)
- ✓ Skill type ID (Reference Key to specify which skill type it belongs.)

### Outputs

Skills gets added or modified.

### Process Validations

Skill description should be unique.

### Processing Logic

The Skill Description and the reference data Skill type Id are given, Skill Id is Auto-generated and the information gets added. On Updating the data are retrieved based on the unique Skill Type Id and modification are done.

---

## Certifying Authority

---

### Functional Requirements

This function is used to manage the reference data Certifying authority information.

### **Description**

When the details of the Training and Certification information are captured, this function is used to manage the reference data for collecting the Certification Authority information.

### **Inputs**

The following are the inputs of this function –

- ✓ Certification Authority ID (Auto-Generated)
- ✓ Certification Authority Description (Mandatory)
- ✓ Certifier (Mandatory)
- ✓ Trainer (Mandatory)

### **Outputs**

Certifying Authority Information gets added or modified.

### **Processing Logic**

The Certification Authority Description, IsCertifier, IsTrainer, are given Certification Authority ID is Auto-generated and the information gets added. On Updating the data are retrieved based on the unique Certification Authority ID and modification are done.

---

### **Certification**

---

### **Functional Requirements**

This function is used to manage the reference data Certification information.

### **Description**

When the details of the Employee information are captured, this function is used to manage the reference data for collecting the Certification Authority information.

### Inputs

The following are the inputs of this function –

- ✓ Certification ID (Auto-Generated)
- ✓ Certification Description (Mandatory)
- ✓ Certification Authority ID (Reference Data for the Certifying Authority for the particular Certification)
- ✓ Status

### Outputs

Certification Details get added or modified.

### Processing Logic

The Certification Description, Status and Reference data Certification Authority ID are given and certification ID is Auto-generated and the information gets added. On Updating the data are retrieved based on the unique Certification ID and modification are done.

<b>Module</b>	<b>4.5.2 Project &amp; Training</b>
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---

### Module Functions

#### Functions List

The following are the functions provided by this module –

- ✓ Project Info
- ✓ Allotment

✓ Training Info

✓ Attendees

---

## **Project Info**

---

### **Functional Requirements**

This function is used to manage the reference data used to collect Project information.

### **Description**

When the details of the project and Project Skill set are captured, this function is used to manage the reference data for collecting the project information.

### **Inputs**

The following are the inputs of this function –

✓ Project Name (Mandatory)

✓ From Date (Mandatory)

✓ To Date

✓ Domain (Mandatory)

✓ Skill List (Mandatory)

✓ Practice (Mandatory)

### **Outputs**

The Information of the project gets added or modified.

### **Process Validations**

The date validation is taken care off. At least one Skill should be added for a project.

### **Processing Logic**

A Project can be added with the Project Name, From date and the Skill set for the project and the Domain make the new project to be added. Updation is also possible

---

## **Allotment**

---

### **Functional Requirements**

This function is used to manage the reference data used to collect Employee allotment information.

### **Description**

This function is used to assign a employee to a particular project and there by the employee is made part of the project. By this function perform the allotment of an employee to a project

### **Inputs**

The following are the inputs of this function–

- ✓ Project Name (Mandatory)
- ✓ From Date (Mandatory)
- ✓ To Date (Mandatory)
- ✓ Skill set (Mandatory)

### **Outputs**

Employees are allotted on to a project.

### **Process Validations**

Date validations are performed; such as from date should be lesser than to date.

### **Processing Logic**

On selection of the project, you should get the list of unalloted employee list, when u select the employee from the unalloted employee the employee id and employee name should be displayed.

---

### **Training Info**

---

### **Functional Requirements**

This function is used to manage the reference data used to collect Employee Training information.

### **Description**

When the details of the training are captured, this function is used to manage the reference data for collecting the Training information.

### **Inputs**

The following are the inputs of this function-

- ✓ Training Id (Auto Generated)
- ✓ Training Name (Mandatory)
- ✓ From Date (Mandatory)
- ✓ To Date (Mandatory)
- ✓ Skill set (Mandatory)
- ✓ Premises
- ✓ Trainer (Mandatory)

## **Outputs**

The Training Information gets added.

## **Process Validations**

Date validations are performed; such as from date should be lesser than to date.

## **Processing Logic**

When the Details like training name, from date, to date, premises and the trainer are given the Training Id is

Auto generated and the details get added. For updating the training details the data are fetched using training Id and the data are updated.

---

## **Attendees**

---

### **Functional Requirements**

This function is used to collect the information of the people who had attended the training program.

### **Description**

On fetching the Training program we can just select the employee who had attended the training and there by making them attendee's of the particular training program.

### **Inputs**

Attendee's - From the Employee's List

### **Outputs**

Data pertaining to the attendee's for the Particular training programme are fed on to the system.

### **Processing Logic**

On selection of the Training the list of employee's who had attended the training and the total Employee list are all available, and a facility is given to move an

employee from the list to attendee's list is there which makes the attendee's list to get reflected on the application.

<b>Module</b>	<b>4.5.3 Reports</b>
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---

## Module Functions

### Functions List

The following are the functions provided by this module –

- Training
- Project
- Skill Report
- Skill Wise
- Practice Wise
- Level Wise
- Master Skill DB
- Employee skill DB
- Resume
- Training Cost
- Employee Skill Matrix

---

## Training

---

### Functional Requirements

This function is used to fetch the details about the training that were conducted for the organization.

### Description

Given the Training Name as the Input the report generate the details of the training, which specifies the start date, End date, premises, Trainer, Skills imparted on training and the list of Attendees.

### Inputs

The following are the inputs of this function –

- ✓ Training Name

### Outputs

Report, which gives the Details of the Training chosen. Some of the details are Date' s the training held, Trainer, Premises, Skills imparted, and the Participants.

### Processing Logic

When given the training name the details of the training such as the from date, to date, premises, Trainer, and the skills imparted on the training are given. Moreover it also fetches the list of all employee who had attended the training are also given.

---

## Project

---

### Functional Requirements

This function is used to fetch the details about the projects that were done or continuing in the organization

## **Description**

Given the Project Name as the Input the report generate the details of the Project which specifies the start date, End date, Skill set used on the Project, which practice it belongs, and the list of Team members of the Project.

## **Inputs**

The following are the inputs of this function –

- ✓ Project Name

## **Outputs**

Report, which gives the Details of the Project chosen. Some of the details are start and end date of the Project, Skill sets used for the project, and the Practice which the project belong and the team members of the Project.

## **Processing Logic**

When the Project Name is given as the input the report generate a detailed summary of the project's start date, end date, Domain of the project, and the skill list used in the project and the list of all employee's in the project is also given.

---

## **Skills Report**

---

## **Functional Requirements**

This function is used to fetch the list of People who have experience in skill's chosen and in the practice and level specified by the user

## **Description**

Given the Skills, Practice and Level as the Input the report generate the list of employee who have the skill set and in the particular practice specified and also in the level specified.

## **Inputs**

The following are the inputs of this function --

- ✓ Skill list
- ✓ Practice
- ✓ Level

## **Outputs**

Report, which gives the list of all employee who have the skill set chosen, and in the practice and level specified. Facility to sort by Empid, Name, and Practice is also available.

## **Processing Logic**

Given the inputs skills, Practice, Level the report generate the list of all employee's who comes under the grade and practice specified and having the skills asked for.

---

## **Skill Wise**

---

## **Functional Requirements**

This function is used to fetch the list of People who have experience in skill's chosen and in the practice and level specified by the user.

## **Description**

This Report can be specified as the subset of the Skills Report. Given the Skills, Practice and Level as the Input the report generate the list of employee who have the skill set and in the particular practice specified and also in the level specified. The facility of choosing the employee who have all the skills in not available.

## **Inputs**

The following are the inputs of this function –

- ✓ Skill list

- ✓ Practice
- ✓ Level

### **Outputs**

Report, which gives the list of all employee who have the skill set chosen, and in the practice and level specified. The Result is sorted according to Skill list.

### **Processing Logic**

Given the input of Skill set, Practice and the level the report gives the list of all employee who are in the particular Practice and the level with the skill set chosen, sorted out in the skill list order.

---

### **Practice Wise**

---

### **Functional Requirements**

This function is used to fetch the list of People who have experience in skill's chosen and in the practice and level specified by the user

### **Description**

This Report can be specified as the subset of the Skills Report. Given the Skills, Practice and Level as the Input the report generate the list of employee who have the skill set and in the particular practice specified and also in the level specified .The facility of choosing the employee who have all the skills in not available.

### **Inputs**

The following are the inputs of this function –

- ✓ Skill list
- ✓ Practice
- ✓ Level

### **Outputs**

Report that gives the list of people who have some experience in the skill list chosen.

### **Processing Logic**

Report, which gives the list of all employees who have the skill set chosen, and in the practice and level specified. The Result are sorted according to Practice

---

### **Level Wise**

---

### **Functional Requirements**

This function is used to fetch the list of People who have experience in skill's chosen and in the practice and level specified by the user

### **Description**

This Report can be specified as the subset of the Skills Report. Given the Skills, Practice and Level as the Input the report generate the list of employee who have the skill set and in the particular practice specified and also in the level specified. The facility of choosing the employee who have all the skills in not available.

### **Inputs**

The following are the inputs of this function –

- ✓ Skill list
- ✓ Practice
- ✓ Level

### **Outputs**

Report that gives the list of people who have some experience in the skill list chosen.

## **Processing Logic**

Report, which gives the list of all employees who have the skill set chosen, and in the practice and level specified. The Result is sorted according to Level.

---

## **Master Skill DB**

---

### **Functional Requirements**

This function is used to fetch the list of People who are in the particular practice, with their Skill Details.

### **Description**

This Report gives the detailed history about the member's in the practice, and their skill set.

### **Inputs**

The following are the inputs of this function –

- ✓ Practice

### **Outputs**

Report, which gives the list of all employees who are in the particular practice chosen, with the Skill details for each of them.

---

## **Emp Skill DB**

---

### **Functional Requirements**

This function is used to give a crisp report on the skill details of the employee chosen

### **Description**

This Report gives the detailed summary on the employee their skill set.

### **Inputs**

The following are the inputs of this function –

- ✓ Employee Name

## Outputs

Report, which gives detailed summary of the Skill details for the employee chosen.

---

## Resume

---

### Functional Requirements

This function is used to display the complete Resume of a particular Employee chosen.

### Description

This Report gives the detailed resume of the Employee chosen.

### Inputs

The following are the inputs of this function –

- ✓ Employee Id

## Outputs

Resume gives the contact details, Skill Matrix, Training undergone in the organization, Academic summary, and Employment summary, Project Details for the selected Employee.

---

## Training Cost

---

### Functional Requirements

This report is used to give the summarized details on the training given to the particular Employee chosen.

### Description

This report gives the detailed summary on the Training given, with Program name, Start date, end date, Hours, and cost for the Program. Cost of the entire program are added to get the total cost for training.

### **Inputs**

The following are the inputs of this function –

- ✓ Employee Id

### **Outputs**

Based on the Employee Id chosen, the details of the training attended by the person are fetched and a detailed summary is prepared and displayed. It also includes the total cost incurred for him in Training.

---

## **Skill Matrix**

---

### **Functional Requirements**

This report is used to give the crisp summary on the skill set of the employee for the Employee Id chosen.

### **Description**

This report gives the crisp summary on the skill set of the employee chosen. The report groups the skills set and give the relative experience in months

### **Inputs**

The following are the inputs of this function –

- ✓ Employee Id

### **Outputs**

Report which given a crisp summary about the skill details of the employee chosen.

### **Processing Logic**

Based on the Employee Id chosen, the details of the skills of the person are fetched and grouped and a crisp summary is prepared and displayed. It facilitates the

user to get know about the employee and the relative experience of him in a particular skill.

---

**Module**

**4.5.4 Survey**

---

## **Module Functions**

---

### **Functions List**

The following are the functions provided by this module –

- Practice wise competency Report
  - Skill wise competency Report
  - Domain wise competency Report
  - Total competency Report
- 

### **Practice wise competency Report**

---

#### **Functional Requirements**

This function is used to fetch the list of People who have higher experience in skill's chosen and in the practice and level specified by the user

#### **Description**

This Report can be specified as the subset of the Competency Report. Given the Skills, Practice and Level as the Input the report generate the list of employees who have the skill set and in the particular practice specified and also in the level specified .The facility of choosing the employee who have all the skills in not available.

## Inputs

The following are the inputs of this function --

- ✓ Skill list
- ✓ Practice
- ✓ Level

## Outputs

Report that gives the list of people who have higher experience in the skill list chosen.

## Processing Logic

Report, which gives the list of all employees who have the skill set chosen, and in the practice and level specified. The Result are sorted according to Practice

---

## Skill wise competency Report

---

## Functional Requirements

This function is used to fetch the list of People who have higher experience in skill's chosen and in the practice and level specified by the user.

## Description

This Report can be specified as the subset of the Skills Report. Given the Skills, Practice and Level as the Input the report generate the list of employee who have the skill set and in the particular practice specified and also in the level specified. The facility of choosing the employee who have all the skills in not available.

## Inputs

The following are the inputs of this function --

- ✓ Skill list

- ✓ Practice
- ✓ Level

### **Outputs**

Report, which gives the list of all employee who have the skill set chosen, and in the practice ,level specified and the rating. The Result is sorted according to Skill list.

### **Processing Logic**

Given the input of Skill set, Practice and the level the report gives the list of all employee who are in the particular Practice and the level with the skill set chosen, sorted out in the skill list order.

---

## **Domain wise competency Report**

---

### **Functional Requirements**

This function is used to fetch the list of People who have experience in skill's chosen and in the practice and level specified by the user

### **Description**

Given the Skills, Practice and Level as the Input the report generate the list of employee who have the skill set and in the particular practice specified and also in the level specified.

### **Inputs**

The following are the inputs of this function –

- ✓ Domain

## Outputs

Report, which gives the list of all employees who have the skill set chosen, based on the domain specified. Facility to sort by Empid, Name, and Domain is also available.

## Processing Logic

Given the inputs skills, Practice, Level the report generate the list of all employee's who comes under the grade and practice specified and having the skills asked for.

---

## Total competency Report

---

## Functional Requirements

This function is used to fetch the list of People who have experience in skill's chosen and in the practice and level specified by the user

## Description

Given the Skills, Practice and Level as the Input the report generate the list of employee who have the skill set and in the particular practice specified and also in the level specified.

## Inputs

The following are the inputs of this function –

- ✓ Skill list
- ✓ Practice
- ✓ Level

## Outputs

Report, which gives the list of all employee who have the skill set chosen, and in the practice, level specified and the rating. .

## Processing Logic

Given the inputs skills, Practice, Level the report generate the list of all employee's who comes under the grade and practice specified and having the skills asked for.

<b>Module</b>	<b>4.5.5 Help</b>
---------------	-------------------

**Module Functions**

---

**Functions List**

The following are the functions provided by this module –

- ✓ [Help](#)

---

**Help**

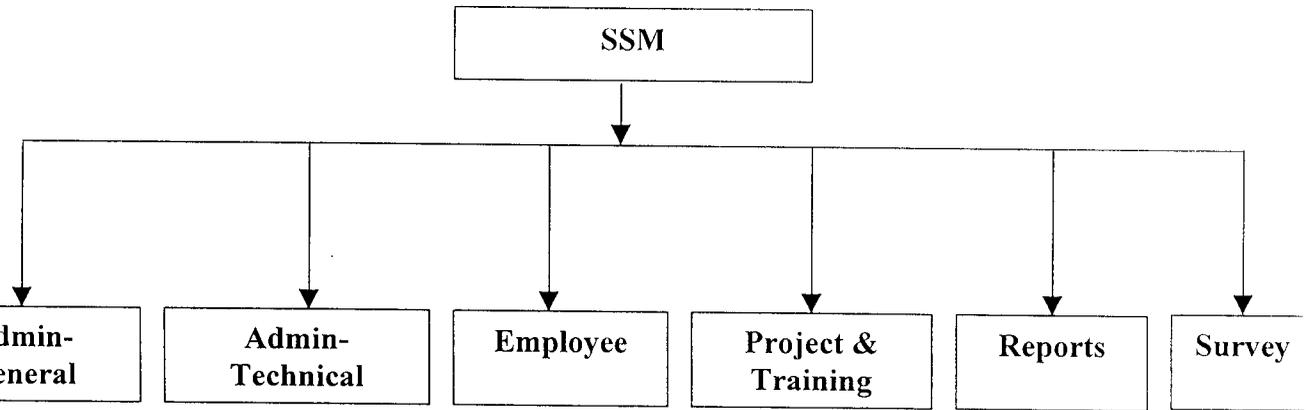
**Functional Requirements**

This Function is used to give the details how to work with the system, and how the processing is done.

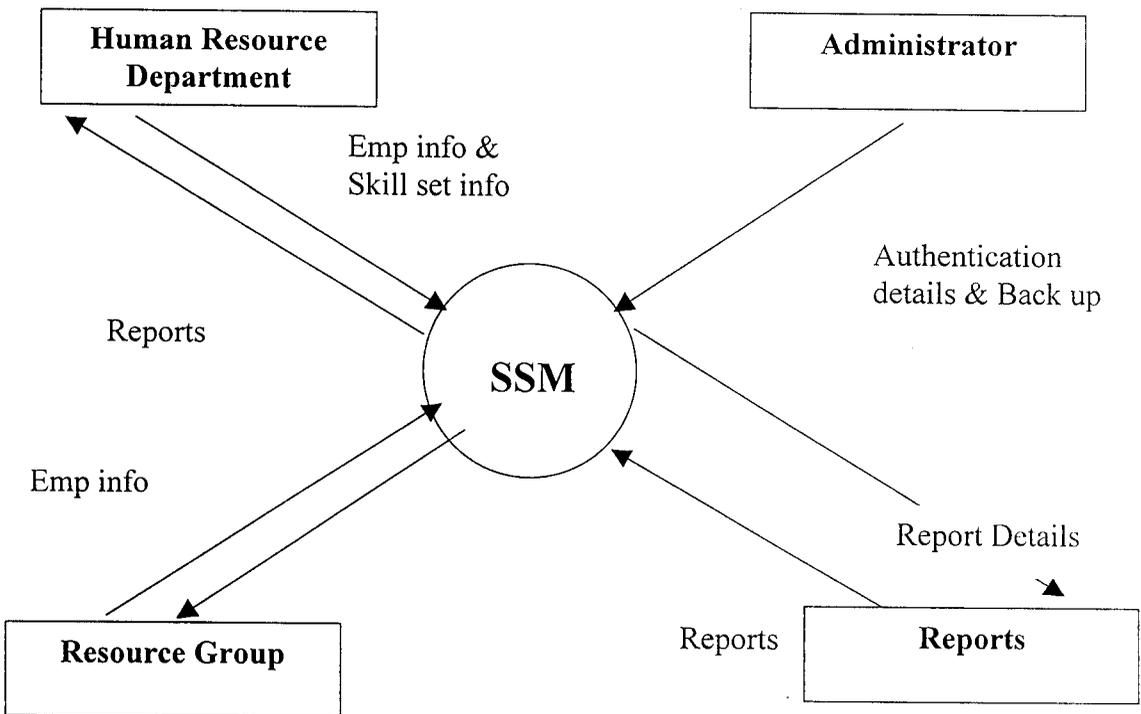
**Description**

This Function help the user in knowing the full detail of the application, and the working principle of each and every functionality and also describes the function's dependencies. All the functionalities are grouped under its own modules.

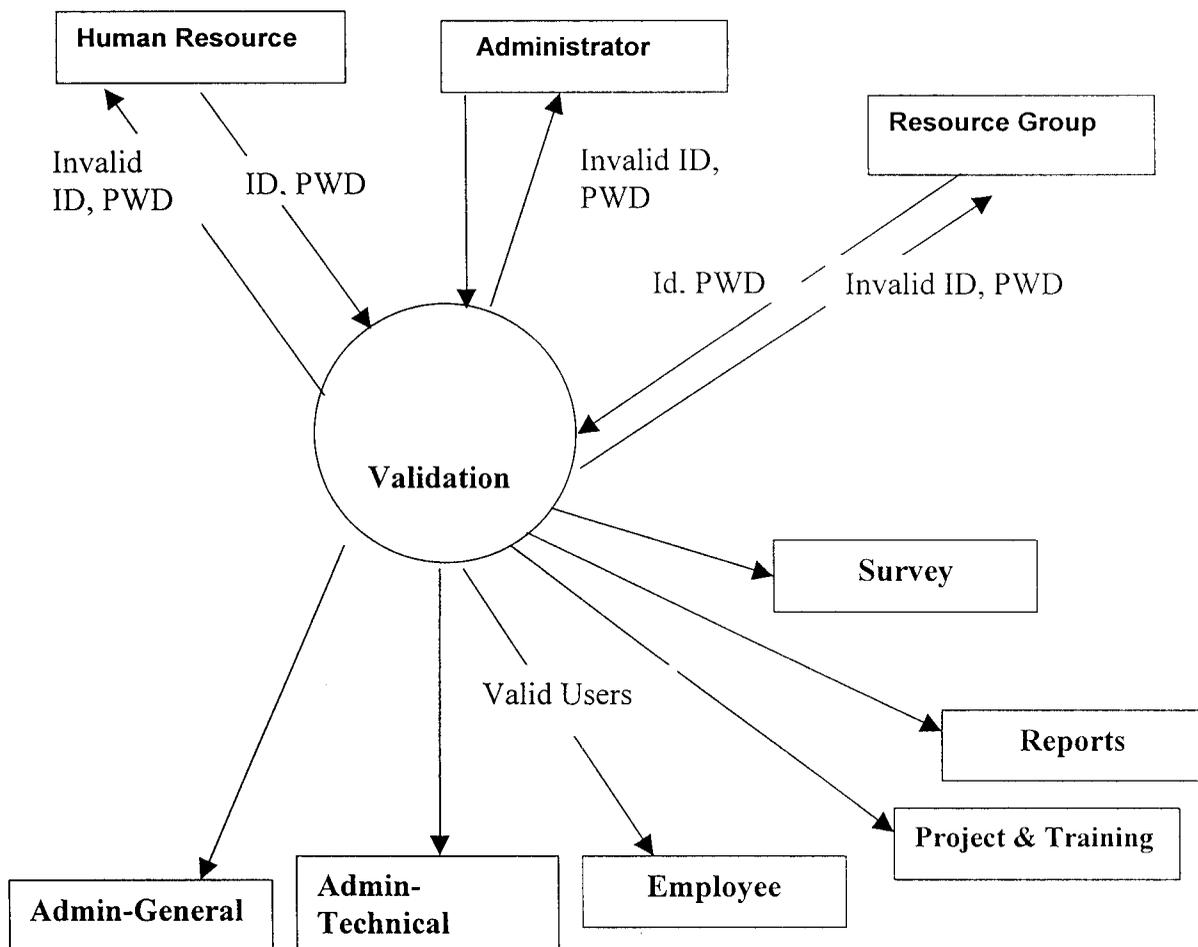
### 5.0 Diagrammatic representation of Modules:



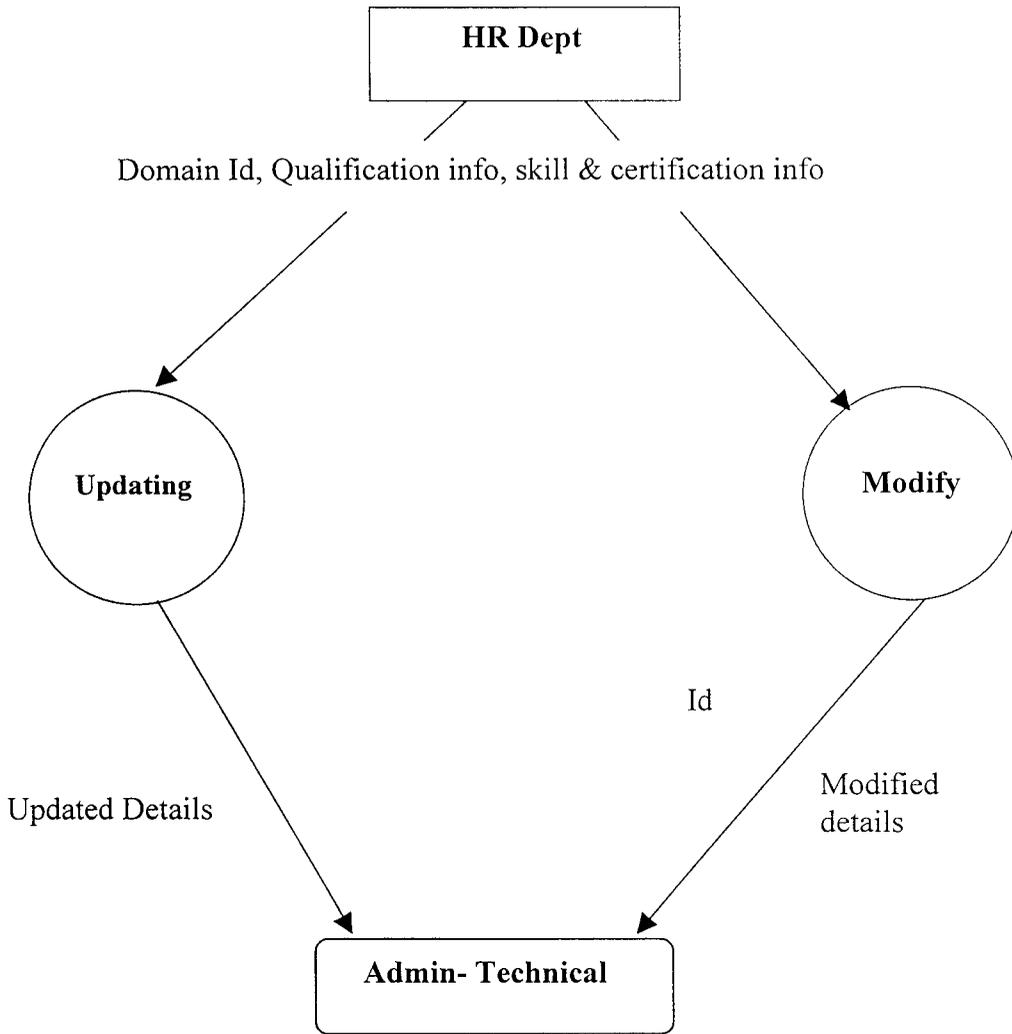
### Context Diagram



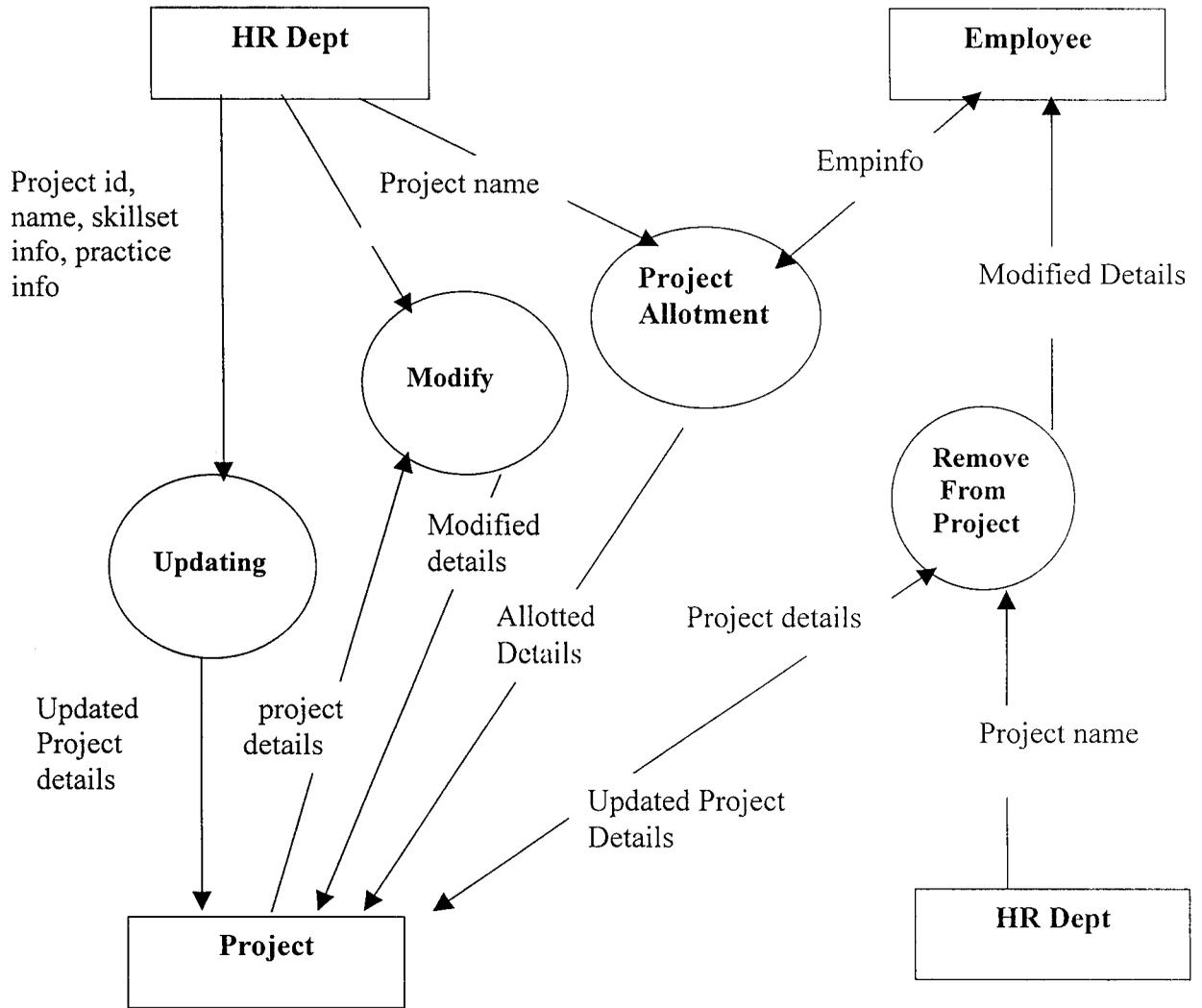
## 5.1 Data Flow Diagram



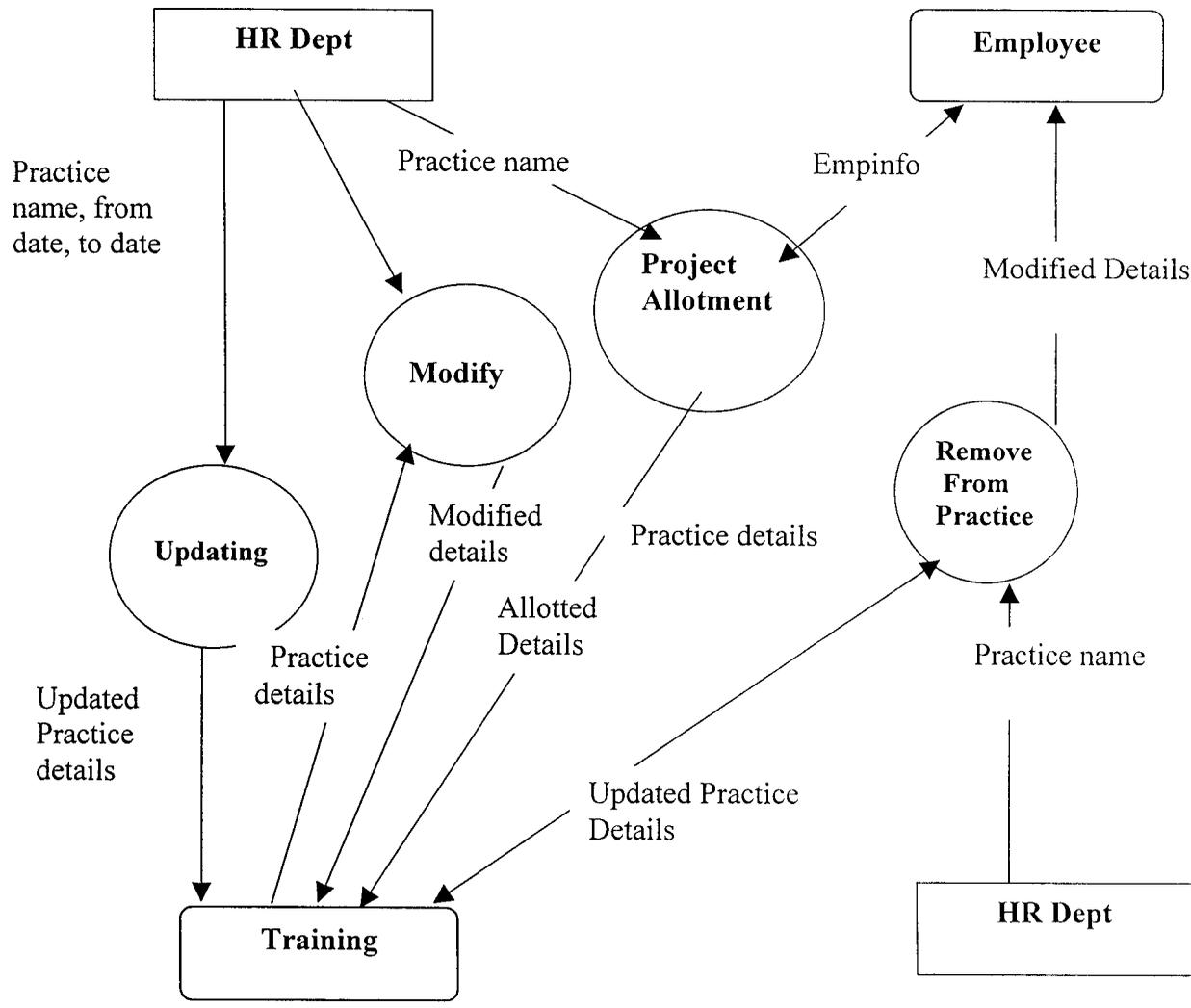
# Admin-Technical



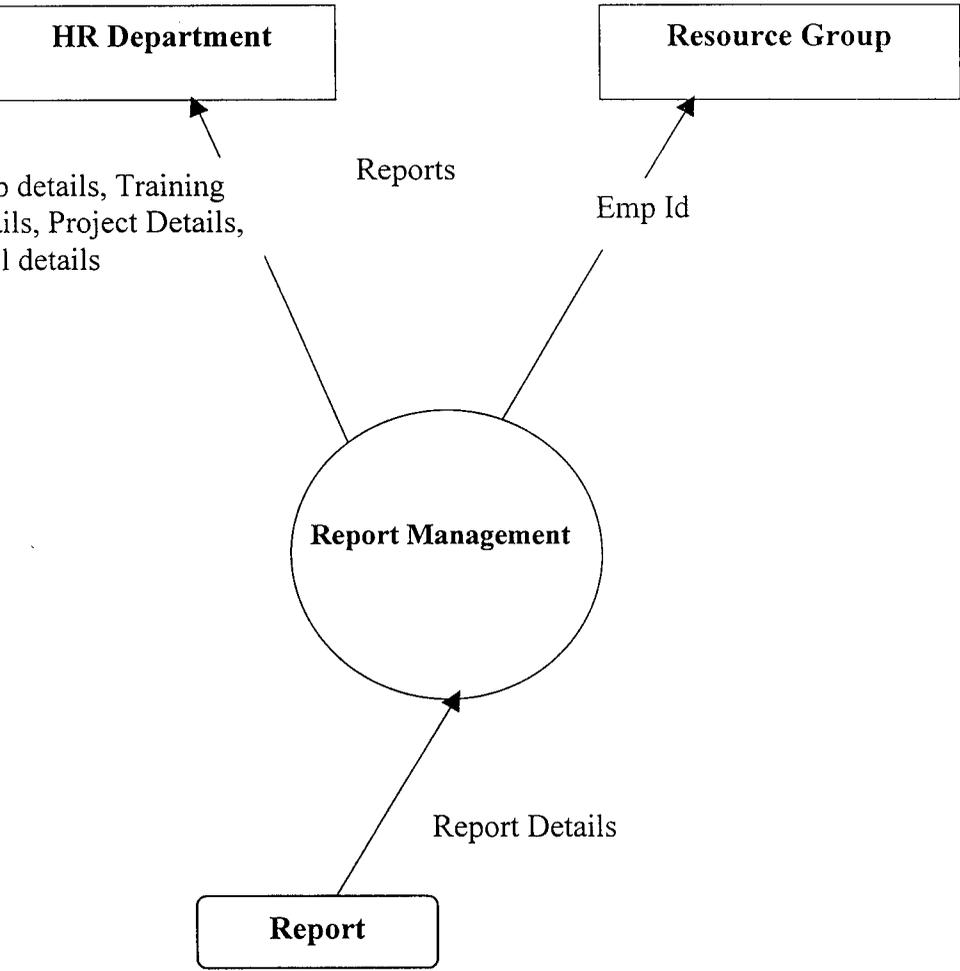
# Project



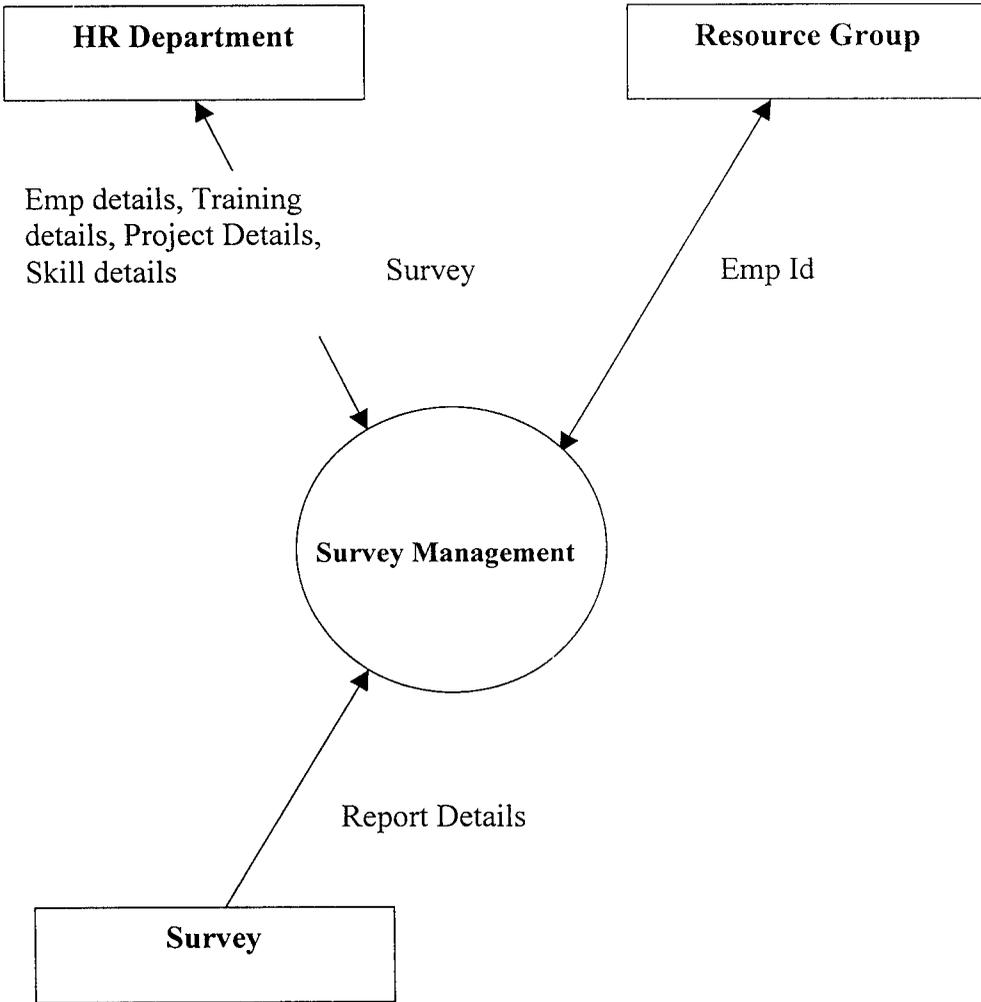
# Training



# Reports



# Survey



## 6.0 Table Structure & Description

Table Name		<b>CERTAUTH</b>				
Description		This table stores the various certification authority details.				
Primary Key		<b>CERTAUTHID</b>				
Referential Integrity						
Comments						
SN	PKey	Column Name	Data Type	Len	Nullabl e	Remarks
1.	*	CERTAUTHID	INTEGER	4	N	ID for a Certifying Authority. Primary Key
2.		CERTDESC	VARCHAR	50	N	Description of the Certifying Authority
3.		CERTTYPE	TINYINT	1	N	0-Not a certifying authority. 1- Is a Certifying Authority
4.		TRATYPE	TINYINT	1	N	0-Not a Training Provider. 1-Is a Training Provider.

Table Name		<b>CERTIFICATION</b>				
Description		This table stores the list of certifications.				
Primary Key		<b>CERTID</b>				
Referential Integrity		CERTAUTH.CERTAUTHID				
Comments						
SN	PKey	Column Name	Data Type	Len	Nullabl e	Remarks
1.	*	CERTID	INTEGER	4	N	ID for the Certification. Primary Key
2.		CERTDESC	VARCHAR	50	N	Description for the certificate
3.		CERTAUTHID	INTEGER	4	N	CERTAUTHID referenced from CERTAUTH table with CERTTYPE=1
4.		STATUS	TINYINT	1	N	1-Active / 0-InActive

Table Name		<b>SKILLTYPE</b>				
Description		This table maintains the type of the skills like whether it is a tool or a language.				
Primary Key		<b>SKILLTYPEID</b>				
Referential Integrity						
Comments						
SN	PKey	Column Name	Data Type	Len	Nullabl e	Remarks
1.	*	SKILLTYPEID	INTEGER	4	N	Id for Skill Type.
2.		SKILLTYPEDESC	VARCHAR	30	N	Description of the skill list type.

Table Name		<b>SKILLTYPE</b>				
Description		This table maintains the type of the skills like whether it is a tool or a language.				
Primary Key		<b>SKILLTYPEID</b>				
Referential Integrity						
Comments						
SN	PKey	Column Name	Data Type	Len	Nullabl e	Remarks
1.	*	SKILLTYPEID	INTEGER	4	N	Id for Skill Type.
2.		SKILLTYPEDESC	VARCHAR	30	N	Description of the skill list type.

Table Name		<b>PRACTICE</b>				
Description		This table stores the various practices maintained in the company.				
Primary Key		<b>PRACTICEID</b>				
Referential Integrity						
Comments						
SN	PKey	Column Name	Data Type	Len	Nullabl e	Remarks
1	*	PRACTICEID	INTEGER	4	N	Id for the practices. Primary Key
2		PRACTICEDESC	VARCHAR	30	N	Description of the practice
3		STATUS	TINYINT	1	N	1-Active / 0-InActive

Table Name		<b>EMPLOYEE</b>				
Description		This table contains the personal details of the technical employees in the company.				
Primary Key		<b>EMPID</b>				
Referential Integrity		PREFIX.PREFIXID				
Comments						
SN	PKey	Column Name	Data Type	Len	Nullabl e	Remarks
1	*	EMPID	INTEGER	4	N	Id for the Employee. Primary Key
2		PREFIXID	INTEGER	4	N	PREFIXID referenced from PREFIX table
3		FNAME	VARCHAR	30	N	First name of the employee
4		MNAME	VARCHAR	30	Y	Middle Name of the employee
5		LNAME	VARCHAR	30	N	Last Name of the employee
6		DOB	DATE	8	N	Date of Birth
7		SEX	TINYINT	1	N	Sex of the employee

8		DOJ	DATE	8	Y	Date of joining this company
9		DOL	DATE	8	Y	Date of Leaving this company
10		RFLEAVING	VARCHAR	300	Y	Reason for leaving
11		ALLOCATED	TINYINT	1	N	0-Not Allocated / 1- Allocated for a project
12		MARITALSTATUS	CHAR	2	N	Marital status
13		STATUS	TINYINT	1	N	0-Left the Company / 1-With the Company
14		PPNO	VARCHAR	30	Y	Passport Number
15		PPEXPDATE	DATE	8	Y	Expiry Date of the passport
16		PPISSUEPLACE	VARCHAR	30	Y	Passport issue place

Table Name		<b>EMPPRACTICELINK</b>				
Description		The table links the employee with the practice.				
Primary Key		EMPID+PRACTICEID+FROMDATE				
Referential Integrity		EMPLOYEE.EMPID, PRACTICE.PRACTICEID				
Comments						
SN	PKey	Column Name	Data Type	Len	Nullabl e	Remarks
1	*	TRANSID	INTEGER	4	N	PRIMARY KEY
2		EMPID	INTEGER	4	N	EMPID referenced from EMPLOYEE table
3		PRACTICEID	INTEGER	4	N	PRACTICEID referenced from PRACTICE table
4.		STATUS	TINYINT	1	N	0-Not currently with this Practice / 1-Currently associated with this practice
5.		FROMDATE	DATE	8	N	From date
6.		TODATE	DATE	8	Y	To date

Table Name		<b>EMPPREVEXP</b>				
Description		This table stores the previous experiences of the employee.				
Primary Key		<b>EMPID + SLNO</b>				
Referential Integrity		EMPLOYEE.EMPID, DOMAIN.DOMAINID				
Comments						
SN	PKey	Column Name	Data Type	Len	Nullabl e	Remarks
1	*	TRANSID	INTEGER	4	N	PRIMARY KEY

2.		EMPID	INTEGER	4	N	EMPID referenced from EMPLOYEE table
3		SLNO	INTEGER		N	Sl. No. of the company for a employee
4		COMPANY	VARCHAR	100	Y	Name of the company
5		PROJNAME	VARCHAR	100	Y	Project name
6		PROJDESC	VARCHAR	1000	Y	Project description
7		DURATION	INTEGER	4	Y	Duration of the project in months
8		DOMAINID	INTEGER	4	Y	DOMAINID referenced from DOMAIN table
9		ROLE	VARCHAR	30	Y	Role played in the project
10		COMPANYID	INTEGER	4	N	COMPANY ID to identify the company

Table Name		<b>EMPCERT</b>				
Description		This table maintains the details of the certifications owned by the employees.				
Primary Key		<b>EMPID + SLNO</b>				
Referential Integrity		EMPLOYEE.EMPID, CERTIFICATION.CERTID				
Comments						
SN	PKey	Column Name	Data Type	Len	Nullabl e	Remarks
1	*	TRANSID	INTEGER	4	N	PRIMARY KEY
2		EMPID	INTEGER	4	N	EMPID referenced from EMPLOYEE table
3		CERTID	INTEGER	4	N	CERTID referenced from CERTIFICATION table
4		ISSUEDATE	DATE	8	N	Certification issue date
5		EXPDATE	DATE	8	Y	Certification expiry date
6		LASTUPDATE	DATE	8	N	LAST UPDATED date

Table Name		<b>EMPDESIGLINK</b>				
Description		This table stores the employees designation details.				
Primary Key		<b>EMPID + DESIGID</b>				
Referential Integrity		EMPLOYEE.EMPID, DESIGNATION.DESIGID				
Comments						
SN	PKey	Column Name	Data Type	Le n	Nullable	Remarks
1	*	TRANSID	INTEGER	4	N	PRIAMARY KEY
2		EMPID	INTEGER		N	EMPID referenced from EMPLOYEE table
3		DESIGID	INTEGER		N	DESIGID referenced from DESIGNATION table

4		FROMDATE	DATE		N	From date
5		TODATE	DATE		Y	To date
6		STATUS	TINYINT		N	STATUS

Table Name		<b>DESIGNATION</b>				
Description		This table stores the various designations maintained in the company.				
Primary Key		<b>DESIGID</b>				
Referential Integrity		GRADE.GRADEID				
Comments						
SN	PKey	Column Name	Data Type	Len	Nullabl e	Remarks
1.	*	DESIGID	INTEGER	4	N	Id for a designation. Primary Key
2.		DESIGDESC	VARCHAR	30	N	Description of the grade.
3.		GRADEID	INTEGER	4	N	GRADEID referenced from GRADE table
4.		STATUS	TINYINT	1	N	1-Active / 0-InActive

Table Name		GRADE				
Description		Stores the GRADE details.				
Primary Key		GRADEID				
Referential Integrity						
Comments						
SN	PKey	Column Name	Data Type	Len	Nullabl e	Remarks
1	*	<b>GRADEID</b>	INTEGER	4	N	GRADE ID
2		GRADEDESC	VARCHAR	30	N	GRADE Description
3		STATUS	TINYINT	1	N	1-Active / 0-InActive

Table Name		<b>EMPCONTDETAIL</b>				
Description		This table stores the employee's contact details.				
Primary Key		EMPID + SLNO				
Referential Integrity		EMPLOYEE.EMPID, CITY.CITYID, STATE.STATEID, COUNTRY.COUNTRYID				
Comments						
SN	PKey	Column Name	Data Type	Len	Nullable	Remarks
1	*	TRANSID	INTEGER	4	N	PRIMARY KEY
2.		EMPID	INTEGER		N	EMPID referenced from

						EMPLOYEE table
3.		SLNO	INTEGER		N	Serial number for the contact information
4.		ADD1	VARCHAR	40	Y	Address detail
5.		ADD2	VARCHAR	40	Y	Address detail
6.		CITYID	INTEGER		N	CITYID referenced from CITY table
7.		STATEID	INTEGER		N	STATEID referenced from STATE table
8.		COUNTRYID	INTEGER		N	COUNTRYID referenced from the COUNTRY table
9.		EMAIL	VARCHAR	50	Y	Email information
10		TELEPHONE	VARCHAR	30	Y	Telephone details

<b>Table Name</b>		PROJECT				
<b>Description</b>		This table maintains the project details and the domain in which the project is being done.				
<b>Primary Key</b>		PROJECTID				
<b>Referential Integrity</b>		DOMAIN.DOMAINID				
<b>Comments</b>						
SN	PKey	Column Name	Data Type	Length	Nullable	Remarks
1	*	<b>PROJECTID</b>	INTEGER	4	N	ID for the project. Primary Key
2		PROJECTDESC	VARCHAR	50	N	Description of the project
3		FROMDATE	DATE	8	N	Project Start date
4		TODATE	DATE	8	Y	Project End date
5		DOMAINID	INTEGER	4	N	DOMAINID referenced from DOMAIN table

<b>Table Name</b>		EMPPROJLINK				
<b>Description</b>		This table keeps track of the present project details of the employee.				
<b>Primary Key</b>		EMPID + SKILLLISTID + PROJECTID + FROMDATE				
<b>Referential Integrity</b>		EMPLOYEE.EMPID, SKILLLIST.SKILLLISTID, PROJECT.PROJECTID				
<b>Comments</b>						
SN	PKey	Column Name	Data Type	Length	Nullable	Remarks
1.	*	TRANSID	INTEGER	4	N	PRIMARYKEY
2.		EMPID	INTEGER		N	EMPID referenced from EMPLOYEE table
3.		SKILLLISTID	INTEGER		N	SKILLLISTID referenced from the SKILLLIST table

4.		PROJECTID	INTEGER		N	PROJECTID referenced from the PROJECT table
5.		FROMDATE	DATE		N	From date
6.		TODATE	DATE		Y	To date
7.		LASTUPDATE	DATE	8	N	LAST updated date
8.		STATUS	TINYINT	1	N	STATUS

Table Name		<b>SKILLLIST</b>				
Description		This table stores the skill details.				
Primary Key		<b>SKILLLISTID</b>				
Referential Integrity		SKILLTYPE.SKILLTYPEID				
Comments						
SN	PKey	Column Name	Data Type	Len	Nullable	Remarks
1.	*	SKILLLISTID	INTEGER	4	N	Id for a skill. Primary Key
2.		SKILLLISTDESC	VARCHAR	30	N	Description of the Skill
3.		SKILLTYPEID	INTEGER	4	N	SKILLTYPEID referenced from SKILLTYPE table

Table Name		<b>EMPTRAINING</b>				
Description		This table stores the training details of the employees imparted at ssit.				
Primary Key		EMPID + TRAININGID				
Referential Integrity		EMPLOYEE.EMPID, TRAINING.TRAININGID				
Comments						
SN	PKey	Column Name	Data Type	Len	Nullable	Remarks
1	*	TRANSID	INTEGER	4	N	PRIMARY KEY
2		EMPID	INTEGER		N	EMPID referenced from EMPLOYEE table
3		TRAININGID	INTEGER		N	TRAININGID referenced from TRAINING table

Table Name		<b>TRAINING</b>				
Description		This table stores the details of the training provided to the ssit employees.				
Primary Key		<b>TRAININGID</b>				

<b>Referential Integrity</b>		CERTAUTH.CERTAUTHID				
<b>Comments</b>						
SN	PKey	Column Name	Data Type	Len	Nullabl e	Remarks
1.	*	TRAININGID	INTEGER	4	N	Id for the training conducted. Primary Key
2.		TRAININGDESC	VARCHAR	50	N	Description about the training
3.		FROMDATE	DATE	8	N	Training begin date
4.		TODATE	DATE	8	Y	Training end date
5.		PREMISES	VARCHAR	50	N	Training conducted place
6.		CERTAUTHID	INTEGER	4	N	CERTAUTHID referenced from CERTAUTH table with TRRAINTYPE = 1

<b>Table Name</b>		<b>Security</b>				
<b>Description</b>		This table maintains the userid and the password.				
<b>Primary Key</b>		userid				
<b>Referential Integrity</b>						
<b>Comments</b>						
SN	PKey	Column Name	Data Type	Len	Nullabl e	Remarks
1.	*	USERID	Varchar	20	N	Id for the User.
2.		PWD	VARCHAR	20	N	Password.

<b>Table Name</b>		Tbl employee				
<b>Description</b>		This table keeps track of the present project details of the employee.				
<b>Primary Key</b>		Iempid				
<b>Referential Integrity</b>						
<b>Comments</b>						
SN	PKey	Column Name	Data Type	Len	Nullable	Remarks
1.		Sno	INTEGER	4	N	Sno
2.	*	IEMPID	INTEGER	4	N	EMPLOYEE ID
3.		Empname	VARCHAR	30	N	Employee name
4.		Location	VARCHAR	30	N	Location
5.		SLevel	VARCHAR	10	N	Skill level
6.		SSI Exp	DECIMAL	5	N	Experience
7.		Dprevexp	DECIMAL	9	N	Previous experience
8.		TotalExp	DECIMAL	5	N	Total Experience

<b>Table Name</b>		Tbcompskill				
<b>Description</b>		This table maintains the Compskill				
<b>Primary Key</b>						
<b>Referential Integrity</b>						
<b>Comments</b>						
<b>SN</b>	<b>PKey</b>	<b>Column Name</b>	<b>Data Type</b>	<b>Length</b>	<b>Nullable</b>	<b>Remarks</b>
1		Iempid	INTEGER	4	Y	ID for the employee. Primary Key
2		SSkillset	VARCHAR	50	Y	Skillset
3		Iskillistid	INTEGER	4	Y	Skill list id
4		Crating	VARCHAR	50	Y	Rating
5		Test id	INTEGER	4	Y	Testid

## 6.0 Sample Forms & Reports

# Skill Set Manager

[Home](#) | [Admin-General](#) | [Admin-Tech.](#) | [Employee](#) | [Project & Training](#) | [Survey](#) | [Reports](#) | [Help](#)

[Add User](#)      [Change Password](#)

---

### *Change Password*

- ▶ Total Report (Skills)
- ▶ Practice Wise Report(Skills)
- ▶ Competency Report (Skills)
- ▶ Competency Report (Domain)
- ▶ Competency Skills/Emp
- ▶ Competency Domain/Emp
- ▶ Certification Employees

---

▶ User Security

<b>User</b>	<input type="text"/>
<b>Old Password</b>	<input type="text"/>
<b>New Password</b>	<input type="text"/>
<b>Re-enter Password</b>	<input type="text"/>
	<input type="button" value="Submit"/>

▶Country

▶State

▶City

▶Nationality

▶Prefix

▶Blood Group

▶Training Skills

# Admin - General

# Skill Set Manager

Home | Admin-General | Admin-Tech | Employee | Project & Training | Survey | Reports | Help

Cert'n ID	Certification Description	Issued By	Status
<u>5</u>	Software Technology and System Management	NIFT	Active
<u>29</u>	SQL Server 7.0	Microsoft	Active
<u>120</u>	Sun Certified Programmer	Sun	Active
<u>135</u>	Sun certified System administrator	Sun Microsystem	Active

MODE : Update Certification

Certification ID:   
 Description:   
 Certified By:   
 Status:

- ▶ Domain
- ▶ Practice
- ▶ Qual'n Master
- ▶ Major Subject
- ▶ Qualification
- ▶ Grade
- ▶ Designation
- ▶ Skill Type
- ▶ Skill List
- ▶ Certifying Authority
- ▶ Certification

## SSI Technologies

### Competency Skill Matrix Report

Emp ID	Name	Practice	Grade	Skill	Rating
56	RadhaVK	Banking	M6	.Net	Academic
99	RaviKumarN	E-Business	M6	.Net	Project Exp
143	SangeethaKR	Banking	M8	.Net	Academic
144	Venkata Reddi	E-Business	M6	.Net	Academic
147	RajaShekharS	Banking	M7	.Net	Academic
156	Duraiswamy K	Banking	M7	.Net	Academic
172	Tobby Abraham	Banking	M7	.Net	Project Exp
174	GananandMK	Banking	M7	.Net	Expert
181	Stanly Cyriac	Banking	M7	.Net	Academic
207	SatheeshKumarP	Banking	M6	.Net	Academic
300	Lakshmi Gayathri	Diversified Services	M7	.Net	Project Exp
339	SureshNarayananD	Banking	M6	.Net	Academic
354	SelvamuthukkumaranJB	Banking	M7	.Net	Academic
379	Raghunandan S	Banking	M7	.Net	Academic
384	Kalyanaraman V	Banking	M4 (B)	.Net	Academic
396	DineshaVS	Securities	M6	.Net	Project Exp
401	Aby Tonio	Banking	M6	.Net	Academic
419	Jerald Dominic	Banking	M7	.Net	Academic
627	Srikanth Pasham	Telecom	M5	.Net	Academic
686	Jayakamala V	Tech and Tools	M7	.Net	Project Exp

Total : 20

# Skill Set Manager

| Home | Admin-General | Admin-Tech | Employee | Project & Training | Survey | Reports | Help

Skills		Selected Skills
386 Unix	>>	Net
3D Animator		
486 Unix	<<	
Acrobat Writer		
Active X		
Active X DLL		

Practice	Level
— All —	— All —
Administration	M1
Banking	M2 (A)
CEOs OFFICE	M2 (B)

Must Have All Selected Skills

— All —

Generate

- ▶ Total Report (Skills)
- ▶ Practice Wise Report (Skills)
- ▶ Competency Report (Skills)
- ▶ Competency Report (Domain)
- ▶ Competency Skills/Emp
- ▶ Competency Domain/Emp
- ▶ Certification Employees

▶ User Security

Employee ID

## Personal Detail

Employee Info.

Emp ID

Prefix

First Name

Middle Name

Last Name

Date Of Birth

Sex

Marital Status

Date of Joining

Allocated

PassPort No.

PP. Exp. Date

PP Issue Place

Status

Date Of Leaving

Reason for Leaving

Designation

Make Available

Remove From Bench

Practice

Exit of Resource

## Contact Details

# Home

---

User Name

Password

LOGINSM

Grade : M8  
Name : Sujatha KR

SI.No	Database	Duration(In Month-days)
1	MS SQL Server	12m - 0d

SI.No	Design Tool	Duration(In Month-days)
1	Rational Rose	2m - 0d

SI.No	Front End	Duration(In Month-days)
1	VB	12m - 0d

SI.No	Hardware Platforms	Duration(In Month-days)
1	PC	13m - 0d

SI.No	Middleware	Duration(In Month-days)
1	COM	12m - 0d
2	MTS	12m - 0d

SI.No	O/S	Duration(In Month-days)
1	Windows NT	13m - 0d

SI.No	Web Tool	Duration(In Month-days)
1	HTML	12m - 0d
2	ASP	12m - 0d
3	IIS	12m - 0d

- ▶ Training
- ▶ Project
- ▶ Skills Report
- ▶ Skill Total Report
- ▶ Skill Practicewise Report
- ▶ Master Skill DB
- ▶ Emp. Skill DB
- ▶ Resume
- ▶ Training cost
- ▶ Employee Skill Matrix

# Skill Set Manager

Home | Admin-General | Admin-Tech | Employee | Project & Training | Survey | Reports | Help

Project: **COM Bank**

Aby Tonio  
Alamelu R  
Amarnath G  
Amarnath Reddy C  
Amita Bejaj  
Anand C G



Raja Shekhar S  
**Duraiswamy K**  
Shyam Prakash  
Lakshmi Gayathri  
Girinath G

**Empid** 156 **Name** Duraiswamy K

SkillDesc	FromDate	ToDate	StatusCode
MS SQL Server	22 May 2001	22 Jun 2001	NoChange
JavaScript	22 May 2001	22 Jun 2001	NoChange
ASP	22 May 2001	22 Jun 2001	Deleted
Active X DLL	22 May 2001	22 Jun 2001	NoChange
Rational Rose	22 May 2001	22 Jun 2001	NoChange
VBScript	22 May 2001	22 Jun 2001	NoChange

**Skill Set**

ASP  
Assembly Language  
AST Server

**From Date** 22 May 2001

**To Date** 22 Jun 2001

Add-Grid

Update-Grid

Delete-Grid

Update

Project Info

Allotment

Make ProjectEmp Available

Make

PracticeEmp Available

Training Info

Attendees

- Admin-General
  - Country Details
  - State Details
  - City Details
  - Nationality Details
  - Prefix Details
  - Blood Group Details
- Admin-Technical
  - Practice details
  - Qualification-Master details
  - Major subject details
  - Qualification details**
  - Grade details
  - Designation details
  - Skill-Type details
  - Skill-List details
  - Certifying-Authority details
  - Certification details
- Reports
  - Training details
  - Project details
  - Skill-Report details
  - Skill-Wise details
  - Practice-wise details
  - Level-Wise details
  - Master-Skill DB details
  - Emp-Skill DB details
  - Resume details
  - Skill-Matrix details



## Skill Set Manager

### Qualification Details

This function is used to manage the reference data used to collect Qualification information.

#### Description

When the details of the Employee Qualification information are captured, this function is used to manage the reference data for collecting the Qualification details.

#### Inputs

The following are the inputs of this function -

- Qualification Id
- Basic Qualification Name
- Major Subject Name

#### Hide Methods

Add	It Adds the master data Qualification for getting that reflected in the Employee Addition. The basic reference data like Basic Qualification and Major Subject information are already available.
-----	---

#### Process

Nil

[Return to Top](#)

Employee: 

## TRAINING COST REPORT

EMPID: 238

EMP NAME: Amita Bajaj

Date: 9/11/02

PROGRAM	FROM DATE	TO DATE	HOURS	COST
JavaApplets	16 Dec 1999	18 Dec 1999	24	1,500
JavaScript	27 Dec 1999	28 Dec 1999	16	1,000
ASP	21 Dec 1999	21 Dec 1999	8	1,000
TANDEM	12 Jan 2000	01 Feb 2000	130	150,000
PCMM Orientation	19 Dec 2000	20 Dec 2000	8	0
Japanese Lang. Course	20 Nov 2000	23 Jan 2001	100	3,214
RBT - Design	25 May 2000	25 May 2000	4	0
SQA CMM	09 Dec 2000	09 Dec 2000	8	0
PMS Orientation Training	29 May 2001	29 May 2001	2	0

**Total****Hrs :300 Rs: 156,714****Total Training Days: 37**

---End of Report---

- ▶ Training
- ▶ Project
- ▶ Skills Report
- ▶ Skill Total Report
- ▶ Skill Practicewise Report
- ▶ Master Skill DB
- ▶ Emp Skill DB
- ▶ Resume
- ▶ Training cost
- ▶ Employee Skill Matrix

## **7.0 System Testing And Implementation**

### **7.1 Testing**

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

They are

Unit Testing

Validation Testing

Integration Testing

Output Testing

Acceptance Testing

User Acceptance Testing

#### **Unit Testing**

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

#### **Validation Testing**

Software testing and validation is achieved through a series of black box tests that demonstrate conformity with the requirement. A test plan outlines the classes to test to be conducted and a test procedure defines specific test cases that will be used to demonstrate conformity with the requirements. Both, the planned the procedures are designed to ensure that all functional requirements are achieved, documentation is

correct and other requirements are met. After each validation test case has been conducted, one of the two possible conditions exists. They are the function or performance characteristics conform to the specification and are accepted.

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

### **Integration Testing:**

Bottom-up integration is the traditional strategy to integrate the components of the software system into the functional unit. Bottom-up integration consists of unit testing of the entire system.

Modules are tested in isolation from one another in an artificial environment, known as a "test harness", which consist of the driver programs and data necessary to exercise the modules.

Moreover Integration testing addresses the issues associated with the dual problem of verification and program construction. After the application has been integrated a set of high-order tests were conducted.

### **Output Testing**

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

### **Acceptance Testing**

Acceptance testing involves planning and execution of functional tests, performance tests, and stress tests in order to demonstrate that the implemented system satisfies its requirements.

In addition to the functional performance tests, stress tests are performed to determine the limitations of the system. Tools of special importance during acceptance testing include a test coverage analyzer, a timing analyzer and a coding standard checker. Testing is the process of executing test cases with the intention of exposing the errors.

## **7.2 System Implementation**

Implementation is the stage where the theoretical design is converted into working system. It consists of

Testing and Debugging

Error Correction

Training the user

Change over

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

The change over is another important aspect of the implementation process and had to be handled carefully. The existing system is changed to the new system and the system is found to meet its objectives. Data from the previous system,

static content, is ported to the new system and the result produced are compared with that of the previous system. The new system is found to satisfy the user needs.

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

### **Maintenance of the System**

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

## **Conclusion**

All the modules in Skill Set Manager works perfectly and is all set for implementation. This project has been very useful and educative. It has helped in understanding practical problems in real life situation. The study conducted has been very useful to the organization and to us.

The application doesn't includes salary details of the employee and can be enhanced as per the user's requirements.