

# QUALITY TRACKER

PROJECT WORK DONE AT  
DEXTERITY BUSINESS ANALYSIS PVT.LTD., CHENNAI.

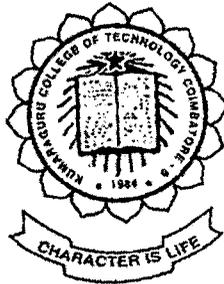
## PROJECT REPORT

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

SUBMITTED BY  
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**KUMARAGURU COLLEGE OF TECHNOLOGY**

Coimbatore – 641 006

May 2002

**Department of Computer Science & Engineering**

**Kumaraguru College of Technology**

(Affiliated to Bharathiar University)

Coimbatore – 641 006

**CERTIFICATE**

This is to certify that the project work entitled

**QUALITY TRACKER**

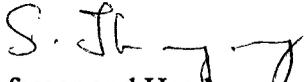
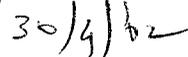
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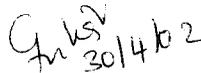
**C. DHANASEKARAN**

**Reg.No: 9938MO604**

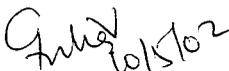
Submitted in partial fulfillment of the requirements for the award of the degree of

Master of Computer Applications of Bharathiar University.

S. Jh   
Professor and Head 

  
Internal Guide

Submitted for the university examination held on -----

  
Internal Examiner

  
External Examiner



# Dexterity Business Analysts (P) Ltd.

Redefining Software  
Solutions Worldwide

April 16, 2002

## TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Mr. Dhanasekaran**, student of Kumaraguru College of Technology has successfully executed a project titled "**Quality Tracker**" from December 2001 to April 2002.

Mr. Jambulingam (Project Leader) was the technical guide on behalf of Dexterity Business Analysts Pvt. Ltd.

During this period, we found him to be technically sound, hardworking and committed. The project has been efficiently completed to our satisfaction.

**For Dexterity Business Analysts (P) Ltd.**

**Pravin Shekar**  
**Director - Projects**

## DECLARATION

I here by declare that the project entitled QUALITY TRACKER, submitted to Bharathiar University as the project work of Master of Computer Application Degree, is a record of original work done by me under the supervision and guidance of **Mr. C. Jambulingum**, Project Leader, Dexterity Business Analysts Pvt. Ltd, Chennai and **Mrs.V.Geetha M.C.A**, Senior Lecturer, Department of Computer Science, Kumaraguru College of Technology and this project work as not found the basis for the award of any Degree/Diploma/Associate-ship/Fellow-ship or similar title to any candidate of any University.

Place: *Coimbatore.*

Date: *30/04/2021*

*e. Dharm*

Signature of the Student

## **ACKNOWLEDGEMENT**

I express my profound respect and sincere gratitude to **Dr. K.K. Padmanaban, Ph.D.**, Principal, **Kumaraguru College of Technology**, Coimbatore, for his kind co-operation in allowing me to take up this project work.

I record my sincere thanks to **Dr. S.Thangasamy, Ph.D.**, Head of the Department, Computer Sciences and Engineering, **Kumaraguru College of Technology** to take up the project at **Dexterity Business Ananlysts Pvt. Ltd**, Chennai.

I wish to extend my gratitude to **Mr. K. Palanivel**, CEO, **Dexterity Business Analysts Pvt. Ltd.**, Chennai for allowing me to carry out the project work at **Dexterity Business Analysts Pvt. Ltd.**, and guiding me in completing the project successfully.

I am greatly privileged to express my deep sense of gratitude to my guide **Mrs.V.Geetha M.C.A.**, Senior Lecturer, Dept. of Computer Science and Engineering, **Kumaraguru College of Technology**, for her valuable advice and encouragement.

## **SYNOPSIS**

The project entitled '**QUALITY TRACKER**' is an intranet reporting & data maintenance system for the Dexterity Business Analysts (P) Ltd., Chennai. '**Qtrack**' analyses the CVS (Concurrent Version System, a third party tool for maintaining the documents of SDLC (Software Development Life Cycle phase) repository and create the report based on this analysis, maintain the metrics of projects which includes the phase wise slippage and defects, maintain the audit information of various projects and maintain the various skill rates of resources.

The reports created by the '**Qtrack**', is used by the company top level people for the following purpose

- Finding status of various projects without any manual intervenes.
- Allotting the people for various projects.
- Finding the number of defects (phase wise) in a project.
- Create the '**Metrics across the SDLC**' document with single version.

The Excel sheet preparation feature of '**Qtrack**' is very useful for the people who are responsible for '**Metrics across the SDLC**' document. Because of '**Privilege allot**' facility and the ORACLE database security, the reports and data maintained by the '**Qtrack**' is served to the exact people only.

'**Qtrack**' uses the ITS (Intranet Time Sheet system, a DBA product for maintain the time sheet of the employees) user detail table so database memory is effectively used by the system.

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# 1. INTRODUCTION

## 1.1 PROJECT OVERVIEW

The Quality Tracker is an intranet System for providing effective project status reports by interacting with CVS (Concurrent Version System is an third party tool for maintain the document repository), maintaining the project repository by getting information from the appropriate persons (Project Manager-PM, Project Leader-PL, Marketing, CVS folders, etc.), maintain the audit information, maintain the resource skill database and assist for prepare the "Metrics Across the SDLC" document.

### Description About the System

The modules of the system are as follows,

#### I. Project repository Maintenance:

This module maintains the project repository. The project repository will have the followings

1. Project Id
2. Project name
3. Platform
4. Category
5. PM
6. Start & End Date
7. PL
8. Programmer
9. Current phase
10. Document status
11. Slippage and defects.
12. Audit Information (phase wise).

The first five information are entered by the marketing people when a new project comes. The 7, 8 information will be entered by PM. For finding the phase of the project the application look up the document version. The document lists that are to be prepared and their version for phase completion are stored in the database phase wise. By comparing this stored information with the current information the system report the current status of the project and the versions of various documents.

Phase wise slippage and defects are taken from the "metrics across the SDLC" entries. The audit information's will be entered by the audit team members.

## **II. Metrics Across SDLC Entries Maintenance & Document Preparation:**

In this module entries for "Metrics Across SDLC" document are got from the concerned person using HTML page (The HTML page will display all the previous entries related to this project and changes can be made if he want) and stored in the database .If the user wants Excel sheet of "Metrics Across SDLC" and if he don't have Excel in local system then the document is created in the server and download it to the client system, if the client system has excel then entries in the database are downloaded to the client system and the excel sheet is created in local system.

## **III. Resource skill:**

In this module, skill rate of all the employees are entered by their higher officials (more than one person can enter this entry for a particular person) are stored in the database and the required reports are generated based on the selection criteria. The skill rates will be in the following format

Employee Id, Employee name, Language/(s/w), Rank.

#### **IV. Interpretation with CVS:**

In this module, the CVS repository path will be got from the admin through the HTML screen and stored in the database. Whenever the project repository module needs data from CVS repository, this module will analyse the version of all the documents in the CVS folders and send the result to the project repository module. The document name, document's completion version and document's CVS folder name are get from the "management representative" in the following format

Document name - folder name-version

E.g.:

RSD – Requirement-1.00

So it is flexible for future changes.

#### **V. User privilege maintenance:**

In this module the privilege of users on various functionality are controlled by Grant/revoke the function privilege to a particular user.

## **1.2 THE ORGANIZATION PROFILE**

**Dexterity Business Analysts (P) Ltd (DBA)** was incorporated in 1999 with corporate headquarters located in Chennai, India. DBA has earned recognition as a leading high-tech company providing a wide range of services to Market Research, Logistics, Retail, Manufacturing and commercial business. DBA provides timely, cost effective and comprehensive information technology solutions by integrating the latest in techniques and tools. The company services set standards in customer satisfaction, service-level commitments, time to market and end-to-end solutions. DBA has successfully delivered fast, focused, high-quality yet cost effective business and technical solutions. The company professional heritage bridges the largest 'old world' legacy systems and the new economy's leading edge web applications. The company's range of experience, the scope of expertise, and the delivery model make DBA a special breed in the Information Technology services field. The company employees put those attributes to work in order to guarantee their clients short-cycle project completion and ingenious resource deployment with real-world budgets. The result: innovative, problem solving technology services that improve efficiency, reduce costs, and increase revenues. They help industry leaders in the public and private sectors a broad range of business and technology challenges.

### **DBA Quality Policy**

The quality policy of the DBA is "We commit to meet the customers' requirement by complying with the specified standard and practices. We shall strive to exceed the customers' expectations through continuous process improvement."

### **DBA Quality Objectives**

- To put in place a flexible framework to cover all the technical/operational areas of DBA
- To imbibe the process by training

In this ever changing and highly competitive world, the choice of the right competent partner makes a big difference to establish oneself as a world leader in their business.

They at DBA, provide this leverage to their clients by providing a wide range of services:

- Customized software development
- Software enhancement and maintenance
- Re-engineering
- Production Support
- Consulting Services

### **Information Technology Project Management**

With an impeccable track record in handling projects of varying proportions, an in-depth business and industry knowledge and a team of highly qualified technical professionals at its disposal, DBA has a proven methodology to handle projects with unique demands.

### **Production Support**

- Round the clock support service to their clients coupled with adaptability to world times.
- Onsite / Offshore support system.

### **Technology Consulting**

The option of Outsourcing, Staffing and Consulting requirements is a strategic move that enables executives to concentrate on running their business, not on running IS functions. Whether the requirement is to staff clients entire mission-critical projects with the best of technical expertise or to supplement client's internal resources with an optimum mix of external Consulting resources, to free up internal resources to focus on the core business or to implement a recruitment policy of ensuring the hiring of the best talent after evaluating their on-the-job performance, DBA has the staffing solution to meet client's needs.

## **Onsite Consulting**

The working methodology covers Offshore, Onsite and a combination of the two methods. When required by the client, the DBA resources can also work independently from the client's site along with the technical leads/architects from the client's side. This is categorized as Onsite consulting.

They also provide Foreign language and communication skills training to facilitate greater interaction at their customer site. German and Japanese language training is imparted to their analysts.

## **Software enhancement and maintenance**

At DBA, they approach IT challenges in a structured, creative way that fits their client's environment. They provide appropriate solutions to their client with their cross platform expertise, their ability to convert requirements into robust designs and implementation with optimized development practices.

The shorter development cycle at DBA is a direct result of the diligent choice of the latest methodologies and processes. They strictly adhere to the rules of these methodologies at every phases of the software development life cycle. DBA can boast of its mature project management and software development processes, which has enabled it to effectively manage huge projects involving greater degree of technical complexity.

## **Offshore Software Development From India**

The client can take a step in reducing their software development costs by outsourcing software development project to DBA, which shall be executed offsite, from India, in their state-of-the-art software development center.

## **2. SYSTEM STUDY & ANALYSIS**

### **2.1 EXISTING SYSTEM**

The current system is more of a manual process in which the higher authorities who want to know the details of any project has two options. One is to personally contact the PL (Project Leader), the next method is get the document from CVS repository and analyze its version and they conclude the project status. Since no report generation facility is available, it is difficult to measure the status of the project at any given time. In the case of “Metrics Across SDLC” document for each task, they have to check out the existing document from the CVS and update the current task entries in the document and then check in the updated document.

For maintaining the skill rate information and audit information they use the traditional book keeping method is used.

#### **LIMITATIONS OF EXISTING SYSTEM**

The following are the some limitations of existing system

- For the purpose of “Metrics across SDLC” document preparation the user need MS excel in client machine.
- Tedious maintenance of documents
- Because of check in and check out process the user time is wasted and the network traffic is also increased.
- Occurrence of error is possible
- There is no level of tracing in the existing system.
- Any system that has been in operation for a period of time gradually loses its effectiveness and It has to adapt to changing environment
- There was no scope for future expansion in the present system

## **2.2 PROPOSED SYSTEM**

The proposed system is designed to overcome the limitations of the existing system. It is a computerized one, which is capable of solving many problems occurring in the manual system. The proposed system is going to be developed with ORACLE as the backend, HTML as the front-end and server side programming is ASP (Active Server Page).

### **BENEFITS OF THE PROPOSED SYSTEM**

- There is no need for “Microsoft office” in the client machine for preparing the “Metrics Across SDLC” document.
- If the user has “MS Office” in his local system he can prepare the “Metrics Across SDLC” document in the local system itself by downloading only the data instead of entire sheet. So the network traffic is reduced.
- There is no need for manual intervention for finding the status of projects.
- Unauthorized access can be avoided by providing an effective level of tracing.
- Data duplication in the reports is avoided by effective coding.
- The system keeps systematic records and gives sophisticated reports.

The proposed system has the following:

- Computerized documents
- Database security
- Low time consumption for accessing the forms and Database is occurred by the ASP’s record set technology and session handling methods.
- Data redundancy eliminated, Integrity maintained
- Validation checks are done in all necessary places
- Provides user-friendly entry screens to the end users as GUI based.

Thus the proposed system provides good reasons to incorporate needed changes in the existing system and satisfies both the needs of end user interfacing and data consistency.

## **2.3 USER CHARACTERISTICS**

The end users of this intranet system are the employees of Dexterity Business Analysts. In general, the user manual/ help-file would be sufficient for training/ orientation purposes. The users are well versed with the intranet/ Internet and they already use the following intranet systems in their day to day activity

- **ITS - Intranet Time Sheet** system for maintaining their daily time sheet.
- **IRS – Intranet Reporting System** for reporting their problems and queries to their department head

So need for external training is not perceived.

## **3. PROGRAMMING ENVIRONMENT**

### **3.1 HARDWARE SPECIFICATION**

CPU	:	Intel Pentium III 850 GHz
Main Memory	:	128 MB RAM
Hard Disk Capacity	:	40GB
Cache Memory	:	512KB
Display Monitor	:	Standard VGA 640 X 480
Key Board	:	Standard low profile 104 Keys
Other Drives	:	Floppy Disk Drive 1.44 MB
Mouse	:	Logitech Serial Mouse

## 3.2 SOFTWARE SPECIFICATION

The software used for development is given in the table below:

Name	Mnemonic	Version	Source/ Manufacturer
Oracle 8i	Oracle 8i	8.1.5	Oracle Corporation.
Microsoft Personal Web Server (or) Internet Information Server	PWS/IIS	98/4.0	Microsoft Corporation
Internet Explorer	IE	4.0 or higher	Microsoft Corporation
Frontpage Editor	Frontpage	98 (3.02.926)	Microsoft Corporation

### Browser Settings:

For good performance while accessing **Qtrack** in browser, the browser must have the following settings:

#### Security

Down load Unsigned Activex Controls – Enabled

Initialize and Script Activex Controls not marked as safe – Enabled

Run Activex Controls and Plug-ins – Enabled

### 3.3 DESCRIPTION OF SOFTWARE USED

#### HTML:

**HTML** stands for Hypertext Markup Language. Hypertext is ordinary text that has been dressed with extra features, such as formatting, images, multimedia, and links to other documents.

Markup is the process of taking ordinary text and adding extra symbols. Each of the symbols used for markup in HTML is a command that tells a browser how to display the text. Markup can be very simple, or it can be very complicated. Either way, the underlying text being marked up is always present and viewable.

#### Advantages of HTML :

There are plenty of advantages to knowing **HTML**:

- **Flexibility:-** We can always work on a Web site when we are away from the computer we usually work on because no matter which computer we end up using, it will always have a text editor we can use to edit the raw HTML.
- **Trouble Shooting:-** Since we wrote the HTML, we would be able to troubleshoot if efficiently and have a better idea of what techniques to try if something is not working.
- **Independence:-** We are not stuck to anyone vendor or anyone programs. We don't have to worry about bugs in a particular editing program or any companies going out of business and leaving us stranded.
- **Price:-** There are no expensive licenses to buy and no annoying upgrades to purchase.

## **Active Server Pages:**

- ASP stands for Active Server Pages
- ASP is a program that runs inside IIS
- IIS stands for Internet Information Services
- IIS comes as a free component with Windows 2000
- IIS is also a part of the Windows NT 4.0 Option Pack
- PWS is a smaller - but fully functional - version of IIS

## **Advantages of ASP**

- ASP is a Microsoft Technology
- ChiliASP is a technology that runs ASP without Windows OS
- InstantASP is another technology that runs ASP without Windows

## **JAVA SCRIPT**

Java Script is an easy-to-use object scripting language designed for creating live online applications that link objects and resources on both clients and servers.

While Java is used by programmers to create new objects and applets, JavaScript is designed for use by HTML page authors and enterprise application developers to dynamically script the behavior of objects running on either the client or the server.

## **Advantages of JavaScript:**

- Designed for creating network-centric applications.
- Complementary to and integrated with Java.
- Complementary to and integrated with HTML.
- Open and cross-platform.

## **ORACLE 8.0**

It is an RDBMS tool for maintains a large volume of data. The current version of ORACLE is 11i. Every business enterprise maintains large volumes of data for its operations. With more and more people accessing this data for their work the need to maintain its integrity, relevance etc. increases. Normally, with the traditional methods of storing data and information in files, the chances that the data loses its integrity and validity are very high. Through the ORACLE this fear is reduced.

### **Advantages of ORACLE:**

- The security very high in the ORACLE when compare with other RDBMS tools.
- The ORACLE uses dynamic file structure for store the table values so the password break in the ORACLE is highly impossible.
- Because of the sessions in the ORACLE the Internet database accessing is very simple.
- Oracle's user defined objects like type, object are made easy the system for further enhancement without disturbing the front-end code.
- Oracle's Partition technology increases the recovery possibility and increases the data access efficiency.

## **4. SYSTEM STUDY AND DEVELOPMENT**

### **4.1 INPUT DESIGN**

Input design is the link that the entities with the mini world of databases to the real world of users. The following guidelines are followed while designing the input:

- Format of same data in different screens are the same.
- Only required data is collected and similar data are grouped.
- Error or exceptions information handling is properly provided.
- Consistent terminologies are to be used throughout the system.
- Screens should be clear and sufficiently informative so as enable the user to enter the correct data.
- Inputs through the keyboard should be minimal so as to reduce the Typographical and transcription errors.

In the “Quality tracker“ The entire input design is divided into two parts namely:

- User screen
- Admin screen

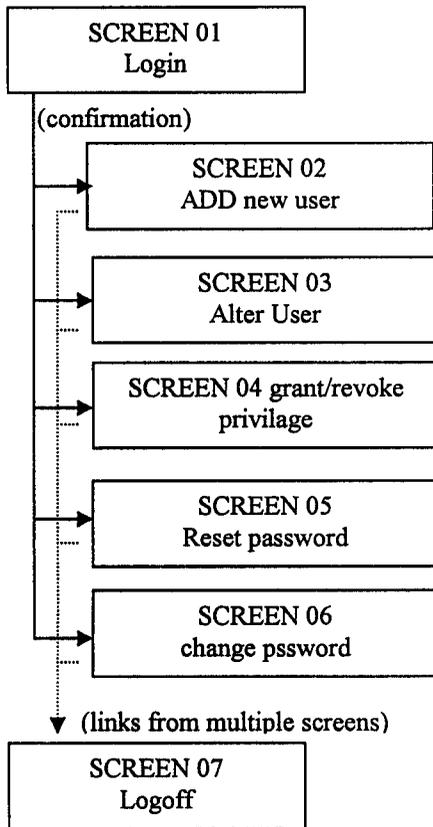
In the case of “user screen” there are two links and one combo box in the screen. By using this combo box the system can dynamically add or remove the functionalities of the user.

In the case of “Admin screen” there are six links. For the Admin user there are fixed functionalities only so there is no need for dynamic links in the “admin screen”

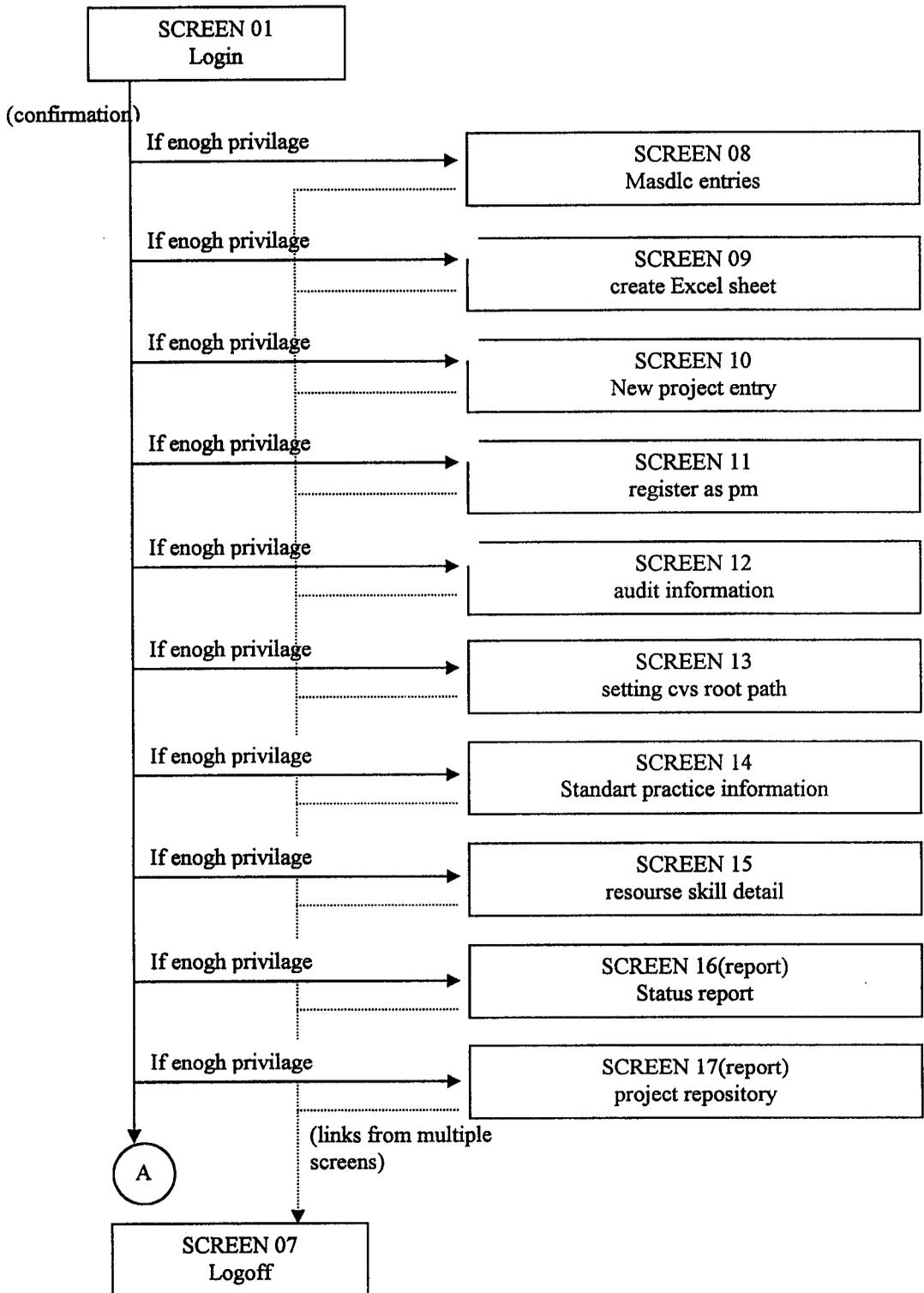
#### **Screen Hierarchy and Navigation**

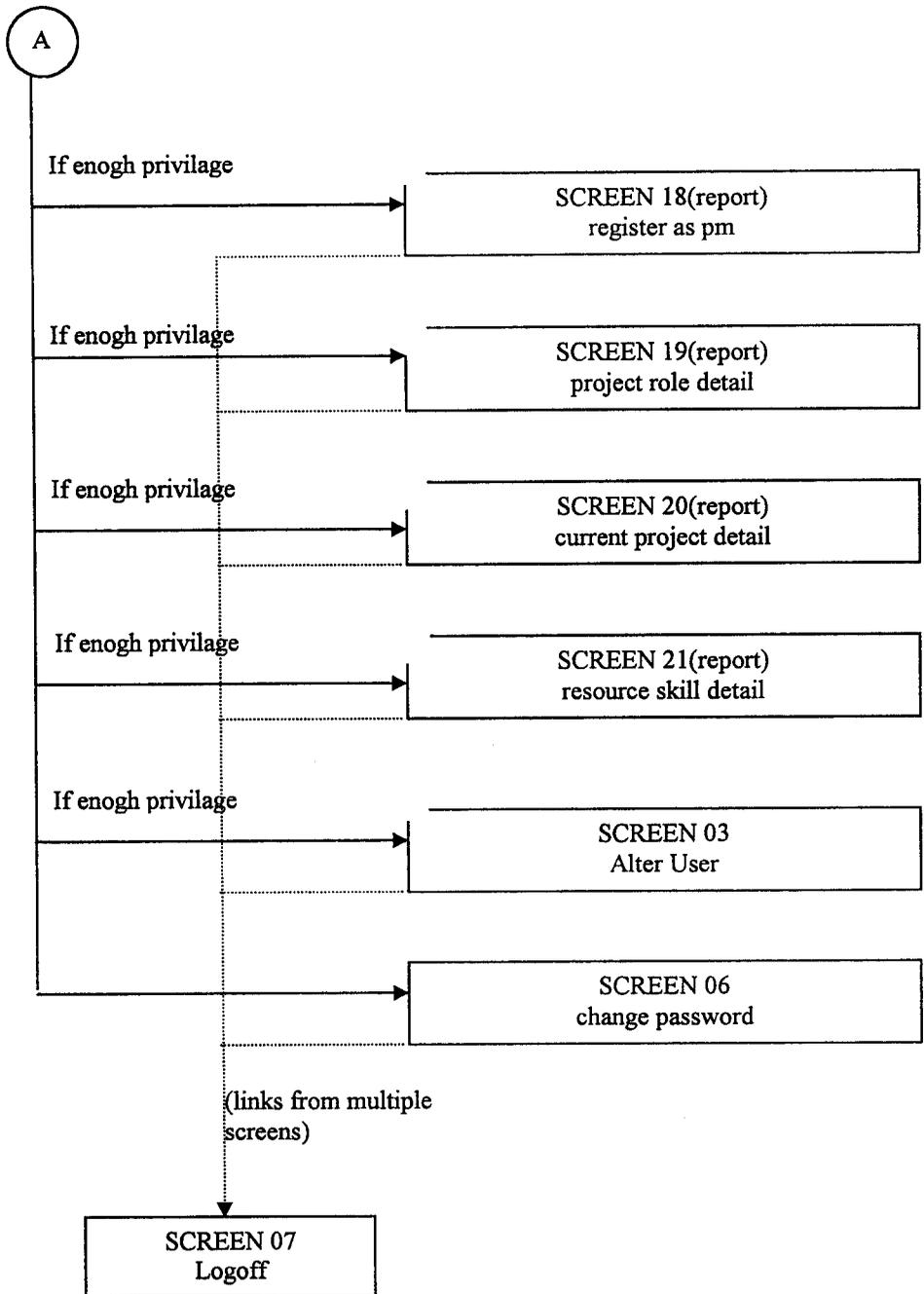
The hierarchical organization of screens is described below based on the user of the system (Admin or user).

**administrator**



Users





### Input received from External Systems

- Document name and it's version are taken from CVS
- The user table of ITS is shared.

## **4.2 OUTPUT DESIGN**

It is the output design that makes a system a useful information generator. Without timely and quality reports a system cannot be considered as an efficient one. This section discussed about the output design of the system taking into consideration at the level of reporting. The layout design is an arrangement of items on the printed output on the visual display. The purpose of the layout design is to show the location and position of every detail of the intended output clearly.

The following criteria are considered while designing the output:

- All reports should be in a prescribed format as suggested by a user and the management.
- There should be a provision to view reports before taking final hard copy of the report is taken. This is to eliminate the wastage of stationery.
- The reports should be printed in the ascending or descending order based on the important fields.
- The fields in reports should be listed in such a way that location of a particular record should be easily identifiable.
- Not all the users are allowed to take or view the reports. Proper rights should be checked before printing the report.

The following some of the reports that were generated.

- Project Repository Report
- Current status report
- Project Role report
- Slippage report
- Resource skill rate report
- Audit report

## 4.3 DATA BASE DESIGN

A database is a collection of inter-related data with the minimal redundancy to serve multiple users of the system quickly and effectively. The following are the major steps to be considered while designing a database for a system:

- A. Identifying data for each entity and their relationship.
- B. Identifying the table and their relationships.
- C. Normalize the data.
- D. Resolve the relationships.
- E. Verify the design.
- F. Implement the design.

The database Design is totally based on the user requirements, which holds the normalized tables one in the system analysis. Every possible measure has been taken to avoid duplication of data. Special care was taken

- a) To avoid redundancy
- b) To increase integrity and accuracy
- c) For data independence

The data from database is retrieved only through SQL queries. Similarly, the INSERT or UPDATE operation is performed only through an SQL query. The DELETE operation is also performed only through an SQL query.

The following are the tables in the proposed system.

<b>USER MASTER</b>		
<b>Field Name</b>	<b>Type&amp; Width</b>	<b>Description</b>
Employee_id	Text (6)	Employee id (PK)
Employee name	Text (30)	Name of the employee
its1	Text (1)	Field for Its
its2	Text (1)	Field for Its
email id	text (50)	Mail id of the employee
Password	text (30)	password of the user

<b>PRIVILEGE MASTER</b>		
<b>Field Name</b>	<b>Type&amp; Width</b>	<b>Description</b>
privilege id	Text (6)	privilege ID (PK)
Filename_for_a ction	Text (50)	File name (HTML or ASP) for action
Description	Text (50)	discription about the privilege
Category	text (1)	“i” (or) “e” (or) “v” (or) “p”

<b>OTHER ROLES</b>		
<b>Field Name</b>	<b>Type&amp; Width</b>	<b>Description</b>
project_id	Text (30)	project id
Employee_id	TEXT (6)	Employee id of the ROLE
Role	TEXT (20)	Role name

<b>PROJECT MASTER</b>		
<b>Field Name</b>	<b>Type&amp; Width</b>	<b>Description</b>
project_id	Text (30)	project id (PK)
project name	Text (50)	Project Name
Platform	TEXT (50)	Platform of the project
Category	TEXT (15)	Category of the project
PL	TEXT (6)	Employee id of the PL
PM	TEXT (6)	Employee id of the PL
Start date	DATE	Planned start date
End date	DATE	Planned end date
Completed	TEXT(1)	The project is completed or not

<b>MASDLC_ENTRIES</b>		
<b>Field Name</b>	<b>Type&amp; Width</b>	<b>Description</b>
S.no	Number	Serial number (cp)
Project ID	Text (30)	project id (cp)
Phase	Text (20)	Phase of the project
Task	text (50)	Task under a phase
Process Cycle Time	PcT	This type contains the date entries related to start & end of phase
No. of Iteration	NUMBER (3)	It contains the number iteration for a process
No. of defects	NUMBER (3)	No of defects
Type of defects	Deftype	This contains the defects in type wise (Critical, Major, Minor)
Remarks	TEXT (50)	Remarks about the task

**RESOURCE SKILL INFORMATION**

<b>Field Name</b>	<b>Type&amp; Width</b>	<b>Description</b>
Employee_id	Text (6)	Employee id
Rate	NUMBER (2)	Rank of the employee on a particular skill
Language/software	TEXT (50)	Skill name
Updated by	Text (6)	Employee id of the person who put the rate

**AUDIT INFORMATION**

<b>Field Name</b>	<b>Type&amp; Width</b>	<b>Description</b>
Project ID	Text (30)	project id
Phase	Text (20)	Employee id of the ROLE
Date	Date	Role name
No. of NCs	Number(3)	Number of non conformance
Major Observation	Text (50)	Major Observation on the audit
Auditor	text (6)	the auditors employee id

**EMPLOYEE PRIVILEGES**

<b>Field Name</b>	<b>Type&amp; Width</b>	<b>Description</b>
Employee_id	Text (6)	Employee id (CPK)
Privilege id	Text (6)	Privilege id (CPK)
id (Project_ID, Privilege_ID, etc...)	TEXT (6)	“Null” for Id independent privileges(CPK)
Grant_by	Text (6)	Employee id of the granter

<b>CVS FOLDER DETAIL</b>		
<b>Field Name</b>	<b>Type&amp; Width</b>	<b>Description</b>
s.no	Number	serial number
Phase	Text (20)	Phase of the project
Document	Text (40)	document name
folder name	Text (40)	folder name
version	Number	completion version number

Types in the above tables

<b>PCT</b>		
<b>Field Name</b>	<b>Type&amp; Width</b>	<b>Description</b>
Estimated start date	Date	estimated start date of task/phase
Estimated end date	Date	estimated end date of task/phase
actual start date	Date	actual start date of task/phase
actual end date	Date	actual end date of task/phase
Slippage	Number (3)	no. of slippage days
cumulative slippage	Number (3)	no. of cumulative slippage days

<b>DEFTYPE</b>		
<b>Field Name</b>	<b>Type&amp; Width</b>	<b>Description</b>
major	Number (3)	number of major defects in the task
minor	Number (3)	number of minor defects in the task
critical	Number (3)	number of critical defects in the task

## 4.4 PROCESS DESIGN

Once the input, output and storage have been designed the next step is to design the process that acts upon the data storage to give the required output. The process for “Quality Tracker” was chosen based on the following factors, they are

Response time

Data volume

Network traffic

Security factors

The process design can be able to handle huge volume of data and it also designed suitable for client/server architecture so that it will have higher degree of performance and speed. For achieve the security factor the “Qtrack ” check the user’s privilege for each functionality. The process design of some important transactions is as follows

### 1. SCREEN 01: Login

#### a. Function

This screen is used for logging in to the application

#### b. Triggers

None. The contents of this screen would appear on the home page.

#### c. Precondition

None.

**d. Fields on the Screen**

<b>Field Name</b>	<b>I/O (R or R/W)</b>	<b>Data Type</b>	<b>Mandatory</b>	<b>Default</b>	<b>Validation</b>	<b>Source</b>	<b>Remarks</b>
User Id	R/W	Text	Y	Current windows /NT User Id	--	OCX control	Display as radio button
Password	R/W	Text	Y	--	Not empty. Length: min: 6, max: 15	USER MASTER	--

**e. Process**

It is verified that the supplied username-password combination is valid.

**f. Output**

If the username-password is not valid, an error message appears with a prompt to re-login.

In case the login is successful, the screen displayed is as follows:

- For the ADMIN SCREEN 02 (ADD new user) is displayed.
- For the other SCREEN 06 (change password) is displayed.

**2 SCREEN 02: Add User**

**a. Function**

This screen is used by admin user of the application for add new user to the system.

**b. Triggers**

A. Successful login by Admin (SCREEN 01).

B. Click "add user" link on any screen.

**c. Precondition**

Successful login by the Admin user or User with “Add new user Privilege”

**d. Fields on the Screen**

Field Name	I/O (R or R/W)	Data Type	Mandatory	Default	Validation	Source	Remarks
User Id	R/W	Text	Y	Any	Not empty. Alphanumeric. Length: 6	User Master	--
User Name	R/W	Text	Y	Any	Alphanumeric.	User Master	--
Mail Id	R/W	Text	N	Any	--	User Master	--
Administration	R/W	Text	Y	Any	--	User Master	Represented by Check box
Active	R/W	Text	Y	Any	--	User Master	Represented by Check box

**e. Process**

The user information is stored in the database. The Upper case of user id is stored as a password.

**f. Output**

- A new user is added with user ID (Upper case) as his password in the user list.
- If the process successfully completed then a confirmation message will be displayed.
- Clicking the other links will lead to their respective screens.

### 3. SCREEN 04: Grant/Revoke privilege

#### a. Function

This screen is used by the user for Grant/revoke the privileges to/from the other users

#### b. Triggers

Clicking 'Grant/revoke' link in any screen.

#### c. Precondition

A. Successful login by Admin user (SCREEN 01) or user with "Grant revoke Privilege".

#### d. Fields on the Screen

Field Name	I/O (R or R/W)	Data Type	Mandatory	Default	Validation	Source	Remarks
Category	R	Text	--	--	--	Privilege Master	Display as Text
Privilege description	R/W	Text	--	--	--	Privilege Master	Display as a Label of check box that represent the Grant / revoke status
Grant / Revoke	R/W	Text	--	--	--	employee privileges	Display as check box
User Id	R	Text	--	--	--	User master	Display as combo box
Id	R/W	Text	Y*	--	--	employee privileges	Display as list box

#### f. Process

The user selects the User\_id for grant the privileges from the combo box

### **General:**

- All the General privileges that are not granted and the privileges that are granted by the current user are display as a label of check box.
- The check boxes shown the current status (i.e. if the user has that particular privilege the check box is marked)
- If the User want to grant a privilege, he made mark on corresponding check box and if he want to revoke a granted privilege he remove the mark from the check box.

### **ID Specific:**

- All the Id specific privileges are displayed as a label of check box.
- The ids that are granted by the current user (highlighted) and the ids that are not granted are displayed in the list box.
- The list boxes are initially disabled .If the user wants to made change he first mark the check box, now the list box will be enabled ,he can made his changes.

After submit the form the all the values related to that user are deleted and the new information is stored

#### **f. Output**

- The new privilege for that particular user is stored.
- Clicking links will displays respective screens.

#### **4. SCREEN 06: Change Password**

##### **a. Function**

This screen is used by all users for change their password.

##### **b. Triggers**

Click the “change password” link on any screen.

##### **c. Precondition**

After successful login of any user.

**d. Fields on the Screen**

Field Name	I/O (R or R/W)	Data Type	Mandatory	Default	Validation	Source	Remarks
Old password	R/W	Text	Y	--	--	User master	--
New password	R/W	Text	Y	--	--	----	Field for getting input from user.
Confirm password	R/W	Text	Y	--	--	----	Field for getting input from user.

**e. Process**

The screen get the old password and new password and confirm password from the user. If the confirm password is equal to new password the system sent the confirm password, old password to the server. If the old password and the password in database are equal the password is changed as new password.

**f. Output**

- Clicking 'Submit' will change the password (If necessary conditions are satisfied).
- Clicking 'Reset' resets all values in the screen to their original values.
- Clicking other links will display the corresponding screens.

**5. SCREEN 07: logout**

**a. Function**

This screen is used for logging out of the application.

**b. Triggers**

Clicking the 'Logoff' link available in any screens

**c. Precondition**

None. Any user can log out of the application.

**d. Fields on the Screen**

<b>Field Name</b>	<b>I/O (R or R/W)</b>	<b>Data Type</b>	<b>Mandator y</b>	<b>Defa ult</b>	<b>Validation</b>	<b>Source</b>	<b>Remarks</b>
Userna me	R/W	Text	Y	--	Not empty. Alphanumeric . Length: 6	USER MASTER	--
Passwor d	R/W	Text	Y	--	Not empty. Length: min:6, max:15	USER MASTER	--

**e. Process**

In case a user wants to re-login, the functionality is similar to SCREEN 01(Login).

**f. Output**

In case of a re-login, the description is similar to SCREEN 01(Login).

**6. SCREEN 08: Resource skill detail**

**a. Function**

This screen is used by the user for enter the information of an employee.

**b. Triggers**

Selecting the resource skill detail from the combo box.

**c. Precondition**

The User must have “resource skill detail “privilege.

**d. Fields on the Screen**

Field Name	I/O (R or R/W)	Data Type	Mandatory	Default	Validation	Source	Remarks
Emp_id	R/W	Text	Y	--	--	Resource skill info	Display as a combo box
Language / Software	R/W	Text	Y	--	--	Resource skill info	--
Rate	R/W	Number	Y	--	--	Resource skill info	--
Avg/over write	R/W	Boolean	Y	--	--	--	Radio button

**e. Process**

The resource information is get from the user and stored in the database.

**f. Output**

- Clicking submit will store the information in the database.
- Clicking reset will reset the screen.
- Clicking other links will lead to their corresponding screen.

**7. SCREEN 09: Metrics across SDCL entries**

**a. Function**

This screen is used by the user for enter the metrics across SDLC entries for a particular project.

**b. Triggers**

A. Select the MASDLC entries from the combo box.

**c. Precondition**

The user must have "Metrics entries" privilege.

**d. Fields on the Screen**

Field Name	I/O (R or R/W)	Data Type	Man datory	Default	Validatio n	Source	Remarks
S.no	R(or)R/W ** (select)	Number	Y*	Last S.No of the project +1	--	Masdlc _entries	--
Project ID	R(select)	Text	Y*		--	Masdlc _entries	Represented by combo box
Phase	R/W (select)	Text	Y*	Any	--	Masdlc _entries	--
TASK	R/W (select)	Text	Y*	Any	--	Masdlc _entries	--
Estimated Start date	R/W (select)	date	Y*	Any	Valid date.	Masdlc _entries	Represented by Date Time Picker
Estimated end date	R/W (select)	date	Y*	Today date	Valid date.	Masdlc _entries	Represented by Date Time Picker
Actual start date	R/W (select)	date	Y*	Any	Valid date.	Masdlc _entries	Represented by Date Time Picker
Actual end date	R/W (select)	date	Y*	Today date	Valid date.	Masdlc _entries	Represented by Date Time Picker

Task slippage	R/W (select)	Number	Y*	--	Not greater than Project slippage	Masdlc_entries	--
project slippage	R/W (select)	Number	Y*	--	--	Masdlc_entries	--
No. of Iteration	R/W (select)	Number	Y*	--	--	Masdlc_entries	--
critical defects	R/W (select)	Number	Y*	--	--	Masdlc_entries	--
Major defects	R/W (select)	Number	Y*	--	--	Masdlc_entries	--
Minor defects	R/W (select)	Number	Y*	--	--	Masdlc_entries	--
REMARK S	R/W (select)	Text	Y*	--	--	Masdlc_entries	--

#### e. Process

The user selects the project Id the entries already in the database and three blank entries are displayed with a check box. If the user want to made change in the existing entry he can do it and made mark on the corresponding check box, if he want to enter new entries he can enter in the blank rows. After submit the form the rows which are having checked mark are sent to the server, in server if it is a new row insert in to the database or if it is an existing one it will updated. If the user wants to insert a row IN BETWEEN the existing row he can do it by giving serial number in floating point.

#### f. Output

- clicking 'Submit' will SEND all the checked rows to server and in the server all the rows are stored in the database.
- Clicking reset will reset the screen.
- Clicking other links will lead to their corresponding screen.

## 8. SCREEN 10: Create Excel sheet

### a. Function

This screen is used by the user to get the excel sheet of MASDLC document.

### b. Triggers

Selecting the 'Create excel sheet' on the menu.

### c. Precondition

The user must have the "create excel sheet" privilege.

### d. Fields on the Screen

Field Name	I/O (R or R/W)	Data Type	Man dato ry	Defaul t	Validation	Source	Remarks
Proje ct_Id	R	Text	Y	--	--	Employee privileges	Represented by combo boxes

### e. Process

The user selects the project id .He then submits his request by clicking the 'Submit' button.

### f. Output

- if the user click submit then the MASDLC document is display in the browser in excel sheet format .The user can store it in the local machine by using the browser's save as menu.
- Clicking other links will lead to their corresponding screen.

## 9. SCREEN 12: Register as PM

### a. Function

This screen is used by the user for register himself as a project Manager for a particular project.

### b. Triggers

Selecting the “Register as PM” on the menu.

### c. Precondition

The user must have “Register as PM” role.

### d. Fields on the Screen

Field Name	I/O (R or R/W)	Data Type	Mandatory	Default	Validation	Source	Remarks
Project Id	R/W	Text	Y	--	--	Project master	Represented by combo box
PL	R/W	Text	Y	--	--	Project master	Represented by combo box
System Analyst	R/W	Text	Y	--	--	Other roles	Represented by combo box
Programmer	R/W	Text	Y	--	--	Other roles	Represented by list box

### e. Process

The user\_id for the roles like pl and sa and programmer are get from the user and for the Pm role the current user\_id is taken by the system and stored in the database.

### f. Output

- Clicking Register will store all the information in the database.
- Clicking reset will reset the form fields.
- Clicking other links will lead to their corresponding screen.

## 10. SCREEN 13: Audit Information

### a. Function

This screen is used by the user for enter the audit information for a phase.

### b. Triggers

Selecting the “Auditor information” on the menu

### c. Precondition

The user must have “Audit information privilege”.

### d. Fields on the Screen

Field Name	I/O (R or R/W)	Data Type	Mandatory	Default	Validation	Source	Remarks
Project Id	R/W	Text	Y	--	--	Project master	Represented by combo box
Phase	R/W	Text	Y	--	--	Project master	
Date	R/W	Text	Y	Current Date	--	Other roles	Represented by Date Time picker OCX
No. Of NCs	R/W	Text	Y	--	--	Other roles	Represented by list box
Major observation	R/W	Text	Y	--	--		

### e. Process

The project\_id, date are selected by the user from the list and the other informations are entered by the user and the auditor id is the current user's\_id.

### f. Output

- Clicking submit will store all the information in the database.
- Clicking reset will reset the form fields.
- Clicking other links will lead to their corresponding screen.

## 11. SCREEN 14: Setting CVS root

### a. Function

The user uses this screen for enter the CVS root path for a project or change the current path.

### b. Triggers

Selecting the “Setting CVS Root” on the menu

### c. Precondition

The user must have “Setting CVS Root” privilege.

### d. Fields on the Screen

Field Name	I/O (R or R/W)	Data Type	Mandatory	Default	Validation	Source	Remarks
Project_Id	R	Text	Y	--	--	Employee privileges	Represented by combo box
Path	R/W	Text	Y	--	--	CVS path Detail	

### e. Process

The user enters the project id and the path. The system will display the validity of the path. After that the path is stored in Database.

### f. Output

- Clicking submit will store all the information in the database.

Clicking other links will lead to their corresponding screen.

**12. SCREEN 15: CVS folder information.**

**a. Function**

This screen is used by the user for enter the folder information of CVS.

**b. Triggers**

Selecting the “CVS Folder info” on the menu.

**c. Precondition**

The user must have “CVS Folder info” privilege.

**d. Fields on the Screen**

Field Name	I/O (R or R/W)	Data Type	Mand atory	Default	Validation	Source	Remar ks
s.no	R/W	Num ber	Y	--	It must be number	CVS folder detail	--
Phase	R/W	Text	Y	--	--	CVS folder detail	--
Document	R/W	Text	Y	--	--	CVS folder detail	--
Folder name	R/W	Text	Y	--	--	CVS folder detail	--
Version	R/W	Num ber	Y	--	It must be number	CVS folder detail	--

**e. Process**

The existing folder information will be display with 3 blank rows .The user can ente new rows or he can modify existing rows .After click the submit button the new set of folde information is stored in the database.

**f. Output**

- Clicking submit will store all the information in the database.
- Clicking reset will reset the form fields.
- Clicking other links will lead to their corresponding screen.

### 13. SCREEN 16: – Status Report

#### a. Function

This screen displays the Project status report of a particular project.

#### b. Triggers

Selecting the “Status report” on the menu.

#### c. Precondition

The user must have “Status report” privilege.

#### d. Fields on the Screen

Field Name	I/O (R or R/W)	Data Type	Mandatory	Default	Validation	Source	Remarks
Project_id	R	Text	Y			Employee Privileges	Display as a combo box

#### e. Process

This is only a display screen. No changes to data are made.

#### f. Output

- Clicking back displays the previous screen.
- Clicking other links will display their corresponding screens.

### 14. SCREEN 17: Project Repository

#### a. Function

This screen displays the project repository report.

#### b. Triggers

Selecting the “View project repository” on the menu.

**c. Precondition**

The user must have “View project repository” privilege.

**e. Fields on the Screen**

Field Name	I/O (R or R/W)	Data Type	Mandatory	Default	Validation	Source	Remarks
Employee_id	R	Text	Y			Employee Privileges	Display as a combo box

**e. Process**

This is only a display screen. No changes to data are made.

**f. Output**

- Clicking back displays the previous screen.
- Clicking other links will display their corresponding screens.

**15. SCREEN 18: Roles in the Project**

**a. Function**

This screen displays the various employees’ roles in a project.

**b. Triggers**

Selecting the “View project role detail” on the menu.

**c. Precondition**

The user must have “View project role detail” privilege.

**f. Fields on the Screen**

Field Name	I/O (R or R/W)	Data Type	Mandatory	Default	Validation	Source	Remarks
project_id	R	Text	Y			Employee Privileges	Display as a combo box

e. **Process**

This is only a display screen. No changes to data are made.

f. **Output**

- Clicking back displays the previous screen.
- Clicking other links will display their corresponding screens.

16. **SCREEN 19: Current Project Detail:**

a. **Function**

This screen displays the Status of current projects.

b. **Triggers**

Selecting the “View Current Status” on the menu.

c. **Precondition**

The user must have “View Current Status” privilege.

g. **Fields on the Screen**

The screen is a report screen so there is no input field in the screen.

e. **Process**

This is only a display screen. No changes to data are made.

f. **Output**

- Clicking back displays the previous screen.
- Clicking other links will display their corresponding screens.

## **17. SCREEN 20: Resource skill Detail**

### **a. Function**

The user for request “resource skill detail” report uses this screen.

### **b. Triggers**

Clicking submit button on the screen-19.

### **c. Precondition**

The user must have “resource skill detail” privilege.

### **d. Fields on the Screen**

The screen is a display screen, No fields are there.

### **e. Process**

This is only a display screen. No changes to data are made.

### **f. Output**

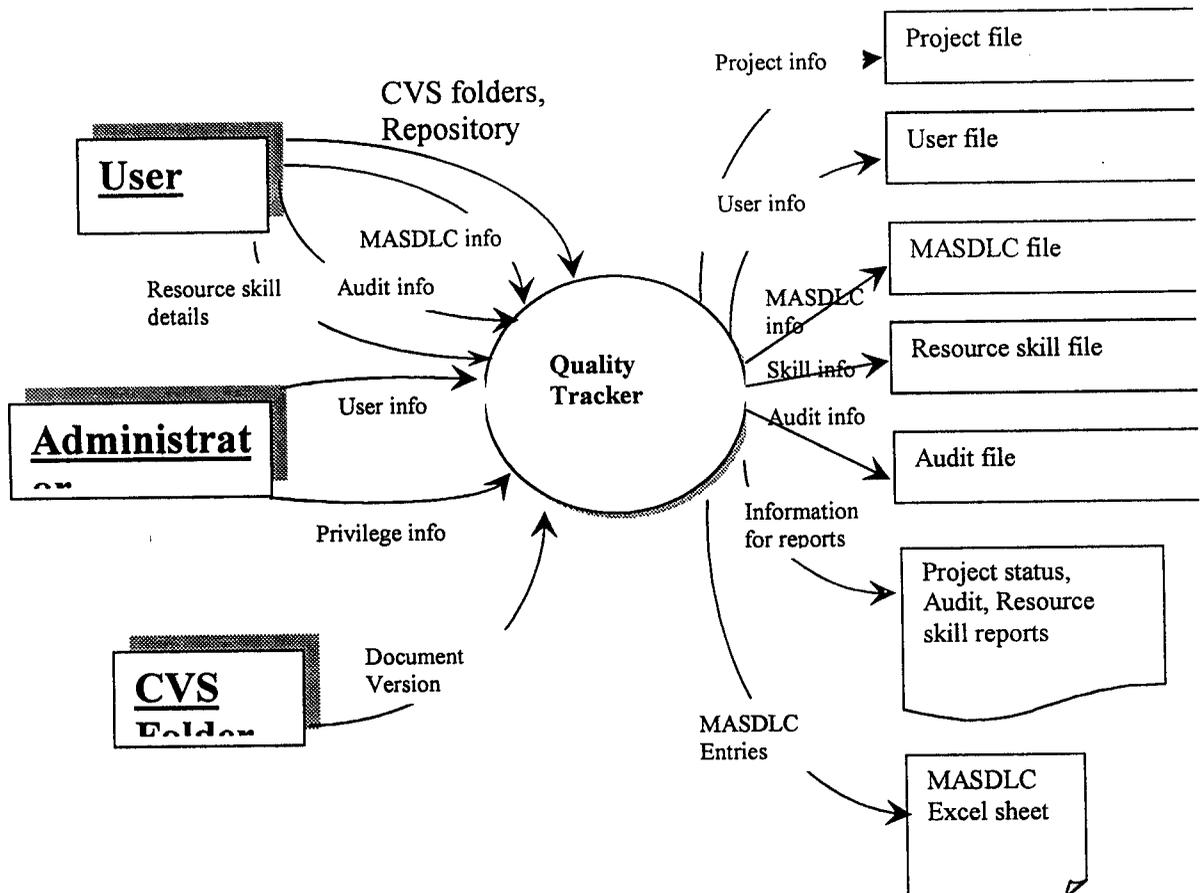
- Clicking back displays the previous screen.
- Clicking other links will display their corresponding screens.

## Process Model Diagram:

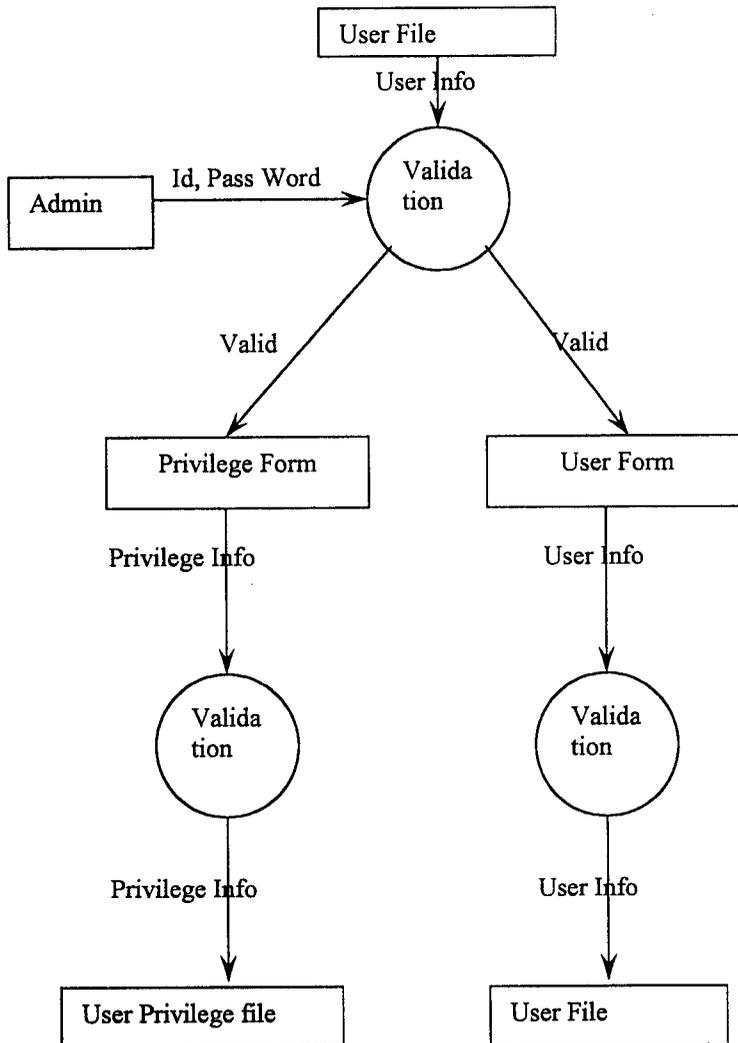
## Data Flow Diagram:

A DFD also known as a “bubble chart” has the purpose of clarifying system requirements and identifying major transformations that will become program in system design. The following are the DFD for the “Quality Tracker”

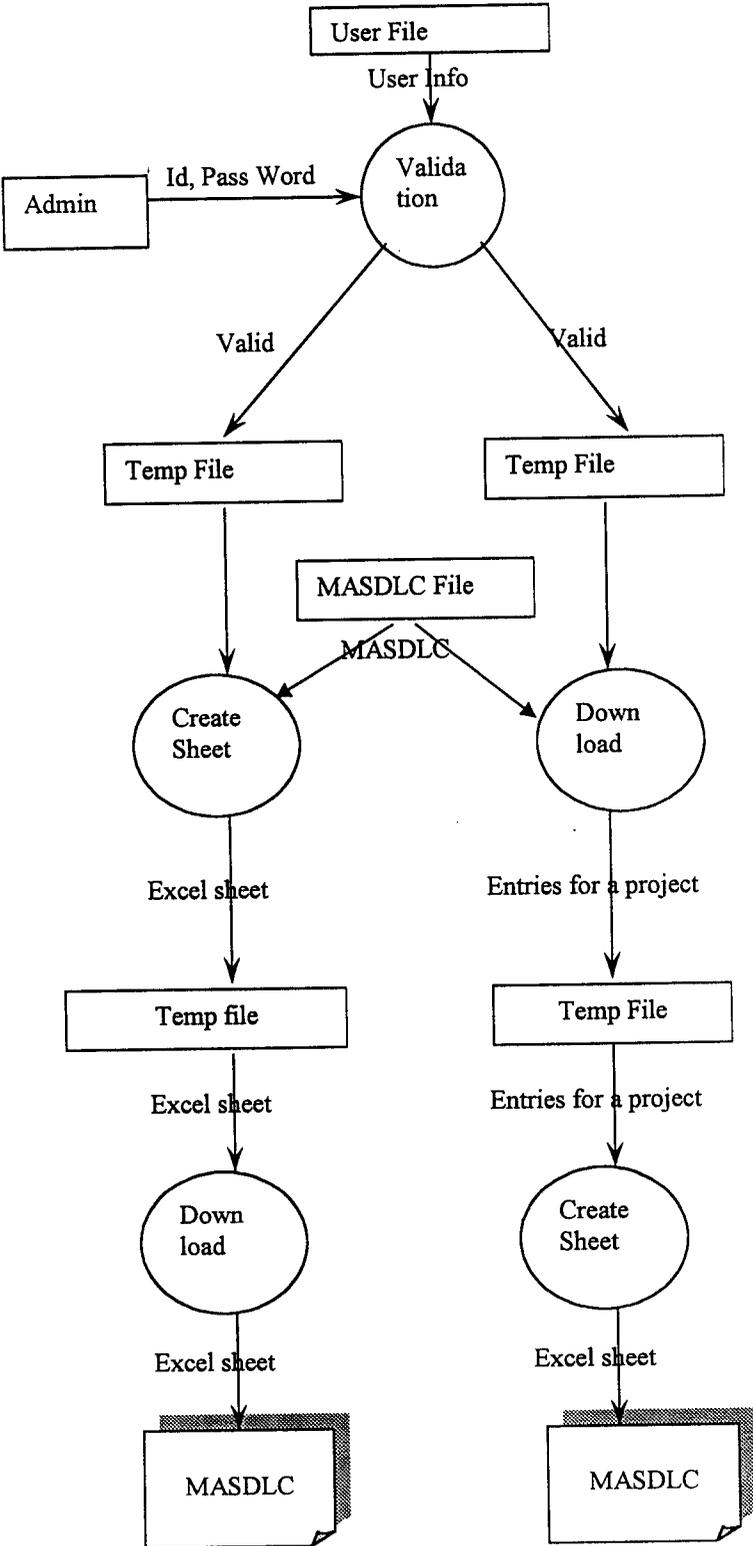
### Context level DFD



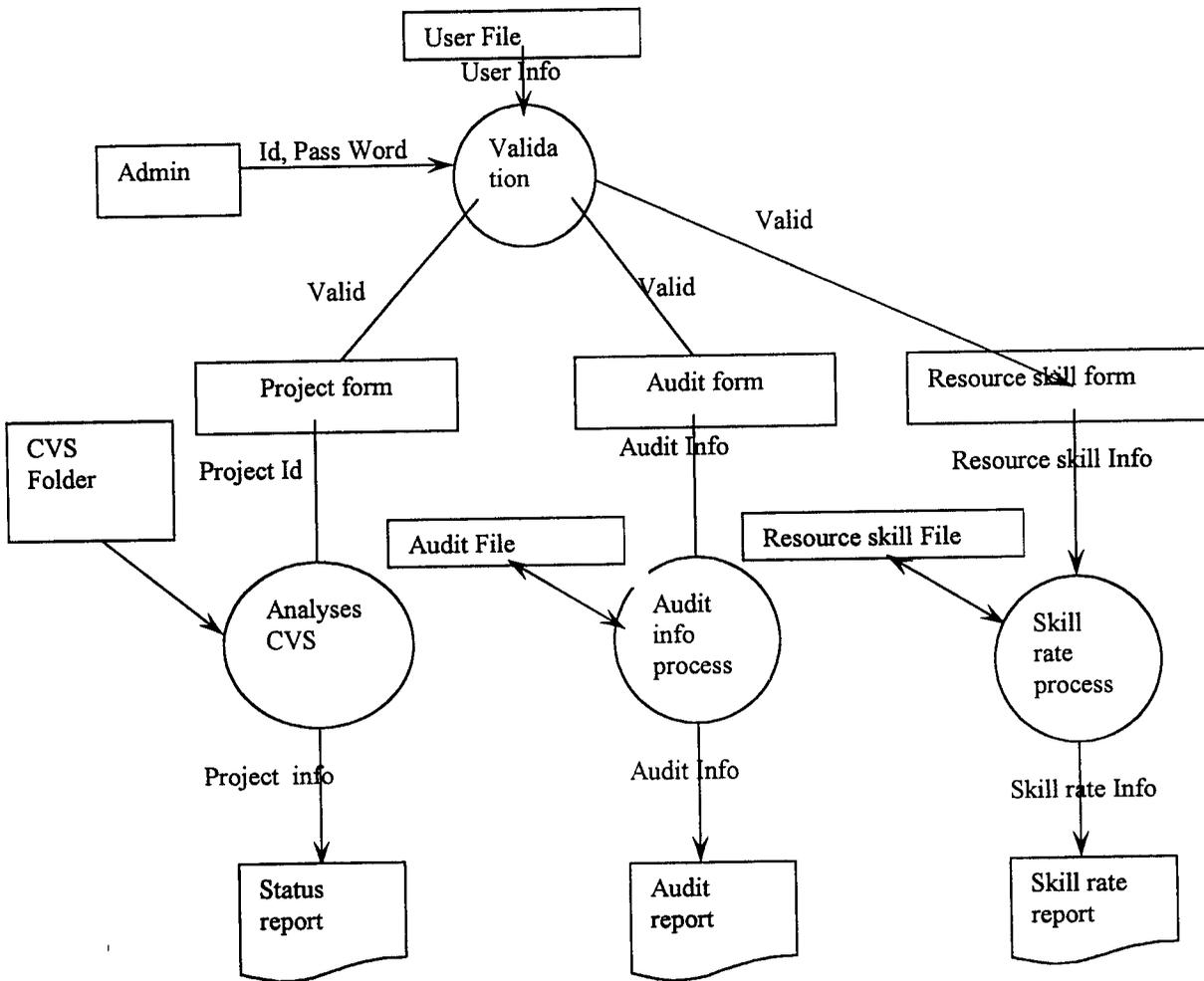
## DFD for User Administration



### DFD for Excel sheet preparation



## DFD for all report creation & data maintenance



## **5. SYSTEM IMPLEMENTATION & TESTING**

### **5.1 SYSTEM IMPLEMENTATION**

Implementation is the stage of the project when the theoretical design is turned into a working system or it is the key stage in achieving a successful new system because usually it involves a lot of upheaval in the user department. Therefore, it must be carefully planned and controlled, giving the user confidence that the new system will work effectively. The system is implemented in DBA office and the system is proven to be working very effectively.

#### **Implementation Procedures**

The implementation procedure starts with the configuration management. The configuration is done according to the stepwise specifications given in the user manual.

The software configuration includes initially preparing the soft wares on which the system is going to run and comes the system configuration. The basic configurations that has to be done are,

#### **User Administration Module:**

- Initially the administrator will be given with an identity and password that is upper case of id.
- In the case of privilege the administrator gives the privileges that are necessarily needed by that particular user.

#### **Interpretation with CVS:**

- Initially the admin gives the relative path of the CVS repository for the projects. The system also informs the validity of the given path.

- The “Management representative” gives the standard practice information like documents completion version, folder of the document in CVS repository.

For other modules there is no need for any configurations. The next step of implementation procedure is environmental settings.

### **Database setting:**

Because of the system’s flexibility the user can easily connect the system with database by just type the database name, user id, password in the “Administrator” file that is in the same directory of the ASP coding.

### **Server setting:**

In the server side (IIS) a virtual directory is created in the name of Qtrack that is a part of URL for uniquely identify the system in the server. The physical path of ASP coding is root in to that virtual path.

### **Client settings:**

Because of the Activex controls the browser will display some security alerts, to prevent the system from this alerts the IE security settings must be in the form stated in software specification

## **5.2 SYSTEM TESTING**

### **Introduction**

No program or system design is perfect: communication between the user and the designer is not always complete or clear, and time is usually short. The result is errors and more errors. Theoretically, a newly designed should have all the pieces in working order, but in reality, each piece works independently.

Now is the time to put all the pieces into one system and test it to determine whether it meets the user's requirements. This is the last chance to detect and correct errors before the system installed for user acceptance testing. The purpose of system testing is to consider all the likely variations to which it will be subjected and then push the system to its limits. There are different strategies in testing. The following are the three testing strategies:

- Unit Testing
- Integration Testing
- System Testing

### **Unit Testing**

In the unit testing strategies the individual program units that combine to makeup the system are tested. The unit testing focuses first on modules, which are independent on one another to locate errors. The unit testing enables detect errors in coding and logic within the module alone.

### **Integration testing**

In the integration testing systematic technique for constructing the program structure is done. The integration test is conducted to uncover the errors associated with interfacing. In the integration testing 'Incremental sandwich integration' is adopted i.e. the program is constructed and tested in small segments. This adoption makes easier to isolate and correct errors.

## **System Testing**

The system testing is a series of different tests performed to uncover the errors. The primary purpose of the system testing is to fully exercise the computer based systems. There are different types of system testing. They are :

- Recovery Testing
- Security Testing
- Stress Testing
- Performance Testing

## **Recovery Test**

The recovery test is the system test that forces the software to fail in a variety of ways. The recovery test verifies that the system recovery from the above stated error is properly done and performed.

## **Security Test**

The security system testing attempts to verify the protection. The security system test is done to verify the authentication in the system. In the system, the protection at system level RDBMS level and application level are done to avoid the improper penetration.

## **Stress Test**

The stress system test is designed to confront the program with abnormal situations. It helps us in tuning the system.

## Performance Test

The performance system test is designed to test the run time performance of software, within the context of an integrated system. The run time performance of the system is tested for all modules and wherever the performance was poor, alternate simple process was adopted.

The test cases used for test the system are as follows.

S_NO	Functionality	Action	Expected Result
<b>General</b>			
1	General	Leave the mandatory fields empty.	An alert to inform the empty field should be displayed. After pressing OK button the cursor should be located in the Empty field.
2	Store text values in database	Give the " ' " in the text.	The " ' " should be converted into " ' " .
3	General	Type the URL(Which is all having the form entries) on the browser's Address field	If the user has privilege for that action the system should be further preceding otherwise the error message should be display.
4	General	Perform actions on the system after 60 minutes gap in same session	Display the session end error message.
5	General	Type numbers and special characters in alphabet fields	It Should not be allowed
6	General	Type Special characters in Alphanumeric Fields	It Should not be allowed

S_NO	Functionality	Action	Expected Result
7	General	Type more characters than the field size.	It should not be allowed
8	General	Type characters other than the number and "." in numeric fields.	It should not be allowed
<b>Login</b>			
1	Login	Open Login screen	The current NT user id and Admin should be displayed as Login options.
2	Login	Submit with wrong password	The error message "Invalid User/Password ...! Please retype again ...!" Should be displayed in the next page.
3	Login	Submit with Correct Password and User_id option	The user screen with his current privilege is displayed
4	Login	Submit with Correct Password and Admin option	The Admin screen is displayed
<b>Admin Screen</b>			
1	Administration	Click the "Add User" link	The add user screen should be display
2	Administration	Click the "Update User" Link	The Update user screen should be display
3	Administration	Click the "Grant/revoke" Link	The user log screen should be display
4	Administration	Click the "Reset Password" Link	The reset password screen should be display

S NO	Functionality	Action	Expected Result
5	Administration	Click the "Change Password" Link	The Change password screen should be display
6	Administration	Click the "Logout" Link	The Relogin Screen should be display
<b>User Screen</b>			
1	User	Submit with Correct Password and User_id option in the Login Screen	The "Goto...!" combo box should have the list of current user's privileges.
2	Goto a functionality	Select a function name from the "GoTo ...!" combo box.	The screen for the selected function should be displayed.
<b>Add User</b>			
1	Add a new user	Change focus from User_id field to another field	Convert the User_id field values into "Capital Letters"
2	Add a new user	Submit with duplicate user_id	The error message should be display
3	Add a new user	Submit with valid values	The next screen should be display the acknowledgement for the new user add
<b>Alter User</b>			
1	"Alter user" Screen open	Choose "Update User" option	<ul style="list-style-type: none"> <li>The "User Name" combo box should have the list of all users.</li> <li>The Fields should have the corresponding values for the user name displayed in the "User Name" combo box.</li> </ul>
2	View a particular user detail	Select the user name in the "User Name" combo box	The fields should display the corresponding values for the user name selected in the "User Name" combo box.

S NO	Functionality	Action	Expected Result
3	Alter the current selected user detail	After done the necessary changes in current detail click the "Update" button	The acknowledgement for the updating is displayed in the next screen
4	Delete the current selected user	Click the "Delete" button	The confirm alert should be displayed with appropriate messages  If the user click "Yes" then the selected user should be delete and display the acknowledgement in the next screen.  If the user clicks "No" then the action should be canceled.
<b>Grant/Revoke Privilege</b>			
1	"Grant/Revoke Privilege" screen open	Choose "Grant/revoke" option	1.The "User Name" combo box should have the list of all users. 2.By default the first user in the list is selected. 3.Under the "General" privileges category, the entries with category as 'i' in the "EMP_PRIVI_MASTER" table will be displayed along with a checkbox. According to the current system functional set, the following will be displayed.  <ul style="list-style-type: none"> <li>Ⓞ Add a new user</li> <li>Ⓞ Alter a existing user</li> <li>Ⓞ Reset the user password</li> <li>Ⓞ Enter New Project Detail</li> <li>Ⓞ Register as Project Manager</li> <li>Ⓞ Audit information</li> </ul>

S NO	Functionality	Action	Expected Result
			<ul style="list-style-type: none"> <li>⊙CVS root for a project</li> <li>⊙Standard Practice Information</li> <li>⊙Current Status of projects</li> </ul> <p>4.The check box should be checked if the selected user has that privilege.</p> <p>5.Under the "Id Specific privileges category, the entries which are not having 'i' a category from the "EMP_PRIVI_MASTER" table should be displayed along with a checkbox, a list box . In the list box the names related with that privilege are displayed.</p> <p>6.According to the current system functional set, the following will be displayed.</p> <ul style="list-style-type: none"> <li>⊙Metrics Across SDL entries</li> <li>⊙Resource skill detail</li> <li>⊙Create Excel sheet</li> <li>⊙Slippage Report</li> <li>⊙Project Role Report</li> <li>⊙Resource skill Report</li> <li>⊙Repository Report</li> <li>⊙Audit Report</li> </ul> <p>7. Inside the list box if the user has privilege on a particular id must be checked.</p> <p>By default all the list box are disabled and the check box are not checked</p>
2	Enable a list box for made change in checked list.	Made check on a check box ,in	The corresponding list box should be enabled.

S NO	Functionality	Action	Expected Result
		Id Specific area	
3	Submit the changed privilege list .	Click the 'Submit' button.	The changed privilege list should be saved in the database and acknowledge message should be display in the next screen
<b>Change Password</b>			
1	'Change Password' Screen open	Click the 'Change Password' Link in the menu	The cursor Should point the first field of the form
2	Submit the changes	Different 'New Password' and 'Confirm Password'	The alert message should be display for indicate the variation.
3	Submit the changes	Equal 'New Password' and 'Confirm Password' with wrong Old password	The error message should be display in the next screen.
4	Submit the changes	Equal 'New Password' and 'Confirm Password' with correct Old password	The Pass word Should be changed in database and the acknowledgement message should be displayed in next HTML page
<b>Reset password</b>			
1	'Reset Password' Screen open	Choose "Reset password" option	The "User Name" combo box should have the list of all users.
2	Reset the password	Click the submit button after select the user name in the combo box	The user Password should be reset as user_id and display acknowledge message on next html page
<b>Audit Information</b>			
1	'Audit Information' Screen open	Choose "Audit Information" option	The "Project Name" combo box should have the list of project names for which the user has Audit information privilege. The "Phase" combo box should

S NO	Functionality	Action	Expected Result
			have the list of phase names The "Audit Date" Combo box should have the current date.
2	Save the entries	Click the submit button after filling the mandatory fields	The Audit entries should be updated in database and acknowledge message should be displayed in the next screen.
<b>Audit Report</b>			
1	'Audit Report' Screen open	Choose "Audit Report" option	The "Project Name" combo box should have the list of project names for which the user has Audit Report privilege. The Audit information of project which is first in the combo list should be displayed.
2	View various project's audit report	Select a project name from the combo list	The Audit information of selected project should be displayed.
<b>CVS path Information</b>			
1	'CVS path Information' screen open	Select 'CVS root for project' option	The "Project Name" combo box should have the list of project names for which the user has 'CVS root for project' privilege. The CVS root of the project which is first in the combo list should be displayed.
2	View various project's CVS root	Select a project name from the combo list	The CVS root directory of the project is displayed
3	Change CVS root of a project	Click submit button after fill the path field	If the typed path is valid path the entered information is displayed in the next screen with " " Message If the typed path is invalid path then the entered information is displayed in the next screen with " " Message
<b>Create Excel Sheet</b>			
1	'Create Excel Sheet' screen	Select 'Create	The "Project Name" combo box

S NO	Functionality	Action	Expected Result
	open	Excel Sheet option from the menu.	should have the list of project names for which the user has 'Create Excel Sheet' privilege.
2	Create Excel sheet form of MASDLC document for selected project	Select the project name from the list and click submit button.	The Excel sheet format of the MASDLC document is created and asks for download.

### Current Status of projects

1	'Current Status of projects' report screen open	Select 'Current Status of projects' option from the menu.	<p>The status of projects is displayed in the html page. For find the status of project the system follow the following conditions.</p> <ol style="list-style-type: none"> <li>1.If the CVS root path not exist then the following message should be display            "The project path --&gt;(path in Database) does not exist"</li> <li>2.If a folder not exist in the CVS root then the following message should be display            "(Folder name in Database)-&gt; not exist            So the result can not find for (Phase name)"</li> <li>3.If the Project completion Document exist with its required version then the system should display the following message            "Completed"</li> <li>4.If a document exists with improper version the display the Phase name.</li> <li>5.If there is no mandatory document in the CVS folder then display the following message.            "CVS is empty"</li> </ol>
---	---	---	---

S_NO	Functionality	Action	Expected Result
			<p>6.If all the mandatory docs for all phases are reach their version and project completion doc not exist then following message should be display.  <i>“Up to (Last completed phase name) phase completed”</i></p> <p>7.If any one of a mandatory doc for a phase is not exists or not reach its proper version then the following message should be display.  <i>“(List of phase names separated by ' &amp; ' that are on going) on going”</i></p>

**New Project Entry**

1	Save the new project entries	Click the submit button.	<p>If there is any duplication in the Project_Id the error message will be displayed in the next screen otherwise the entries are stored in the database and display an acknowledgement in the next screen.</p>
---	------------------------------	--------------------------	---

S NO	Functionality	Action	Expected Result
<b>Metrics Across The SDLC Entries</b>			
1	'Metrics Across SDLC screen open.	'Select the 'Metrics across the SDLC entries' option from the menu.	1.The "Project Name" combo box should have the list of project names for which the user has 'Metrics across the SDLC entries' privilege. The metrics entry for the first project in the combo box list is displayed in disabled fields and 3 empty rows with enabled fields are displayed.
2	Update the Metrics Entries.	Made check on the check box of existing list.	The fields in the checked row are enabled.
3	Update the Metrics Entries.	Remove check from the check box.	The fields in the corresponding row are disabled.
4	Update the Metrics Entries.	Click the submit button after required modification	If any enabled row's field is empty display the following message and locate that field. " The focused field is enabled but the corresponding check box is not checked ...! " 1.If all the entries are correct then the new set of MASDLC is stored in the database and display acknowledgement message is displayed in the next screen with updated list and a button for create excel sheet.
5	Update the Metrics Entries. (Create Excel sheet)	Click the create excel sheet	If the client system has the MASDLC excel the MASDLC doc is opened in the excel format. Otherwise the following message will be displayed. "The client System does not

S NO	Functionality	Action	Expected Result
			support this feature. Please use 'Create Excel Sheet Option' from menu"
6	Update the Metrics Entries.(Insert a row in between existing row)	Insert a fractional number(In between number) in the s no field.	The new row should be inserted in to the database inbetween the existing row and the s_no is rounded
<b>Project Role Report</b>			
1	'Project Role Report' screen open.	Select the 'Project Role Report' option from the menu.	The "Project Name" combo box should have the list of project names for which the user has 'Project Role Report' privilege. The Project Role Report of the project which is first in the combo list should be displayed.
2	View the roles of various projects.	Select the project name from the list.	The Project Role Report of the project which is selected in the combo list should be displayed.
<b>Register As Project Manager</b>			
1	'Register As Project Manager' screen open.	Select the 'Register As Project Manager' option from the menu.	The "Project Name" combo box should have the list of project names that are not have the PM. The "Project Leader"," Project Manager"," Programmers" list should contain the list of all employees.
2	Select the employees for other roles like (programmer, System Analyst, Project Leader).	Click the "Register" button.	In the next screen the selected options are displayed for user verification. If Programmers List not has any selected item then it is displayed as 'Nil'.
3	Change the selected list.	Click the "Back" button in the 'Register As Project Manager' screen-2.	The 'Register As Project Manager' screen-1 is displayed with its old entries.

# Audit Report

Go to:

Change Password

Logout



## Audit Report

**Project Name** :  **Project Id** : AAL  
**Planned Start Date** : 07-dec-2001 **Planned end Date** : 31-jan-2002  
**Category** : **Platform** :

Phase	Audit Date	Number of NCs	Major Observation	Auditor
Requirement/Analysis	05/03/0002	12	test	Guest
Design	05/03/0002	11	qwerty	Guest
Coding	05/03/0002	12	test	Guest
Admin	11/04/2002	235	wwcf234'	Guest

# Current Status Report

Go to:

Change Password

Logout



## Current Status of projects

Date :4/26/02 12:35:23 PM

Project Id	Project Name	Project Leader	Current Phase
AAL	AAL	Jambulingam.S	Completed
AB0001	ABIS	Jambulingam.S	Design Phase ongoing
AC0002	AIM	Jambulingam.S	Requirement/Analysys phase ongoing
AEC	Audit Euro Conv.	Jambulingam.S	Design&Requirement/Analysys phase ongoing
BT	Biz Track	Jambulingam.S	Upto Design phase completed
C19MIS	C19 Misc	Jambulingam.S	CVS is Empty
CEPS	CEPS Miscellaneous	Jambulingam.S	The project path -->\\Ntsrver\id\PT\lrf\lrf does not exist
CLDB	CLDB	Jambulingam.S	The project path -->\\Ntsrver\id\PT\lrf\lrf does not exist



**Dexterity Business Analyst**

**Metrics across the SDLC**

SF/PPC/ME  
Format  
W.e.f.:

Project ID	AAL
Project Name	AAL
Project Leader	Jambulingam.S

Sl. No	Task Description	Process cycle time						Slippage (in days)	No. of Iterations in the process	Total No. of Defects	Type of Defects			Remarks
		Estimated Start Dt	Estimated End Dt	Actual Start Dt	Actual End Dt	Task					Critical	Major	Minor	
						Project	Project							
1	LAKRRHALW	05\04\2002	10\04\2002	15\04\2002	25\04\2002	2	2	1	0	0	0	0	0	Nothing
2	DFHDF	09\04\2002	08\04\2002	16\04\2002	30\04\2002	6	6	6	18	6	6	6	6	Test6
3	GFHJGF89	04\04\2002	04\04\2002	04\04\2002	04\04\2002	4	4	4	92	44	4	44	44	Test7
4	CGFHDFRU78	05\04\2002	05\04\2002	05\04\2002	05\04\2002	3	3	3	39	3	33	3	3	Test8
5		05\04\2002	05\04\2002	05\04\2002	05\04\2002	0	0	0	0	0	0	0	0	Test9
6	gjfg	15\04\2002	15\04\2002	15\04\2002	15\04\2002	23	23	23	278	232	23	23	23	Test10

For type of Defects refer Category of Defects (SF/QSA/COD/01)

Signature		
Name	Jambulingam.S	Siva.N
Designation	Project Leader	Project Manager
Date		
		Praveen Shekar Chief Technology Officer

S NO	Functionality	Action	Expected Result
			support this feature. Please use 'Create Excel Sheet Option' from menu"
6	Update the Metrics Entries.(Insert a row in between existing row)	Insert a fractional number(In between number) in the s_no field.	The new row should be inserted in to the database inbetween the existing row and the s_no is rounded
<b>Project Role Report</b>			
1	'Project Role Report' screen open.	Select the 'Project Role Report' option from the menu.	The "Project Name" combo box should have the list of project names for which the user has 'Project Role Report' privilege. The Project Role Report of the project which is first in the combo list should be displayed.
2	View the roles of various projects.	Select the project name from the list.	The Project Role Report of the project which is selected in the combo list should be displayed.
<b>Register As Project Manager</b>			
1	'Register As Project Manager' screen open.	Select the 'Register As Project Manager' option from the menu.	The "Project Name" combo box should have the list of project names that are not have the PM. The "Project Leader", "Project Manager", "Programmers" list should contain the list of all employees.
2	Select the employees for other roles like (programmer, System Analyst, Project Leader).	Click the "Register" button.	In the next screen the selected options are displayed for user verification. If Programmers List not has any selected item then it is displayed as 'Nil'.
3	Change the selected list.	Click the "Back" button in the 'Register As Project Manager' screen-2.	The 'Register As Project Manager' screen-1 is displayed with its old entries.

S NO	Functionality	Action	Expected Result
4	User registers himself as a project Manager.	Click the "Register" button in the 'Register Project Manager' screen-2.	The User is registered as a project Manager for selected project and the employee ids for other roles are also updated to the database and the acknowledge message is displayed in the next HTML page.
<b>Project Repository</b>			
1	'Project Repository' report screen open	Select 'Repository Report' option from the menu.	<p>The "Project Name" combo box should have the list of project names for which the user has 'Repository Report' privilege.</p> <p>The Repository Report of the project which is first in the combo list should be displayed.</p> <p>In the Repository Report for find the current status of project the system use the following conditions.</p> <ol style="list-style-type: none"> <li>1.If the CVS root path not exist then the following message should be display  "The project path --&gt;(path in Database)  does not exist"</li> <li>2.If a folder not exist in the CVS root then the following message should be display  "(Folder name in Database)-&gt; not exist  So the result can not find for (Phase name)"</li> <li>3.If no document is in the repository for a phase then the tick mark will be in 'Not Started' column.</li> <li>4.If documents are exist with improper version then the tick mark will be in 'On</li> </ol>

S NO	Functionality	Action	Expected Result
			Going' column. 5.If all the documents for a phase reach their version then the tick mark will be in 'Completed' column.
2	View the Repository of various projects.	Select the project name from the list.	The Repository Report of the project which is selected in the combo list should be displayed.
<b>Resource skill report</b>			
1	'Resource skill report' screen open.	Select the 'Resource Skill Report' option from the menu.	The "Employee Name" combo box should have the list of employee names for which the user has 'Resource Skill Report' privilege. The "Skill Name" combo box contains list of distinct Skill names in the database. By default all the Employee names and all the skill names are selected.
2	View resource skill report.	Click the "Submit" button.	The report for selected group will be displayed in the selected order on the next page.
<b>Resource skill detail</b>			
1	'Resource skill Detail' screen open.	Select the 'Resource Skill Detail' option from the menu.	The "Employee Name" combo box should have the list of employee names for which the user has 'Resource Skill Detail' privilege.
2	Update Resource Skill detail.	Click the "submit" button.	If the selected resource doesn't have entry for the skill then the entry will be stored in the database. If the selected resource have entry for the skill then 1.If the option is "Inform" then in the next screen the existing entries in the database is displayed in the next screen and ask the option.

S NO	Functionality	Action	Expected Result
			<p>2.If the option is "find average" then the average of new and existing rate is stored in the Database</p> <p>3.If the option is "Over write" then the new rate is overwrite in the Database</p>
<b>Project Slippage Report</b>			
1	'Project Slippage Report' screen open.	Select the 'Slippage Report' option from the menu.	<p>The "Project Name" combo box should have the list of project names for which the user has 'Slippage Report' privilege.</p> <p>The 'Slippage Report' of the project which is first in the combo list should be displayed.</p>
2	View the Slippage Report of various projects.	Select the project name from the list.	The Slippage Report of the project which is selected in the combo list should be displayed.
<b>Standard Practice Information</b>			
1	'Standard Practice Information' screen open.	Select the 'Standard Practice Information' option from the menu.	The current standard practice information is displayed in the screen on their respective field with three empty rows.
2	Standard Practice Information entries update	Click "Submit" button after made the required changes and updates in the fields.	If any one field other than the s_no and the phase field are filled then the system should not allow empty field in that row.
3	Standard Practice Information entries update	Click "Submit" button in the screen 2.	If the s_no field has duplication then the appropriate message will be displayed in the next page otherwise the entries are updated edge message is displayed in the next screen.

## 6.CONCLUSION

### Quality Tracker

Thus the new system developed will meet all the requirements of the user. The interface of the user of the system is very friendly and it very much satisfies the user in entering, changing or retrieving information. At any time or when needed the current status of projects can be viewed within seconds. Since the manual system is complex and tedious, the need for a computerized system is very much welcomed.

This system consumes less processing time. All the day-day deposit works can be done with much more ease and efficiency. The reports can generate instantly. This module is designed to be highly flexible( By using DLLs and OCXs) so that any future requirements can be easily added to the module without facing any design complication and hence it is portable. All the drawbacks in the existing system(manual) namely;

- Processing of file versions
- Wastage of time
- Errors in calculation
- Problem of security
- Wastage of Labor hours

Has been overcome in this project.

The additional goals that have been achieved by the developed system include :

- It reduce the software purchase cost(By MS office)
- It reduces waste of time
- User friendly screens to enter the data
- Error checking at some important field data entry
- Provide Security to the data in the database by giving privilege to access data by the correct user.
- Since the backend is connected using ADODB connection strings, in future the system can be shifted to some other backend.

## **7.SCOPE OF THE FUTURE DEVELOPMENT**

The system may be further analyzed because of ever growing needs and also for extra features. Some possible features are

- Creating Excel document in the Local machine without excel in local machine. (By using the distributed components)
- Calculating the slippage programmatically by adding a method in ORACLE "PCT" type instead of member.

And also system has more reusable components so for further enhancement the developers can uses these components, some of the components are as follows.

- Qtrack.dll- It has the set of functions that are most commonly used in all the pages like user validation, find replace function.
- User.ocx- It is an activex control for get the current NT user id by calling an API.
- Dtpicker.ocx-It is an customized version of MSDTpicker activex control which is flexible for HTML pages.

Is developed

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<http://www.computeruser.com/resources/dictionary/dictionary.html>, High Tech Dictionary.

<http://www.programmer'sresources.com/>, The Source for ASP Technology

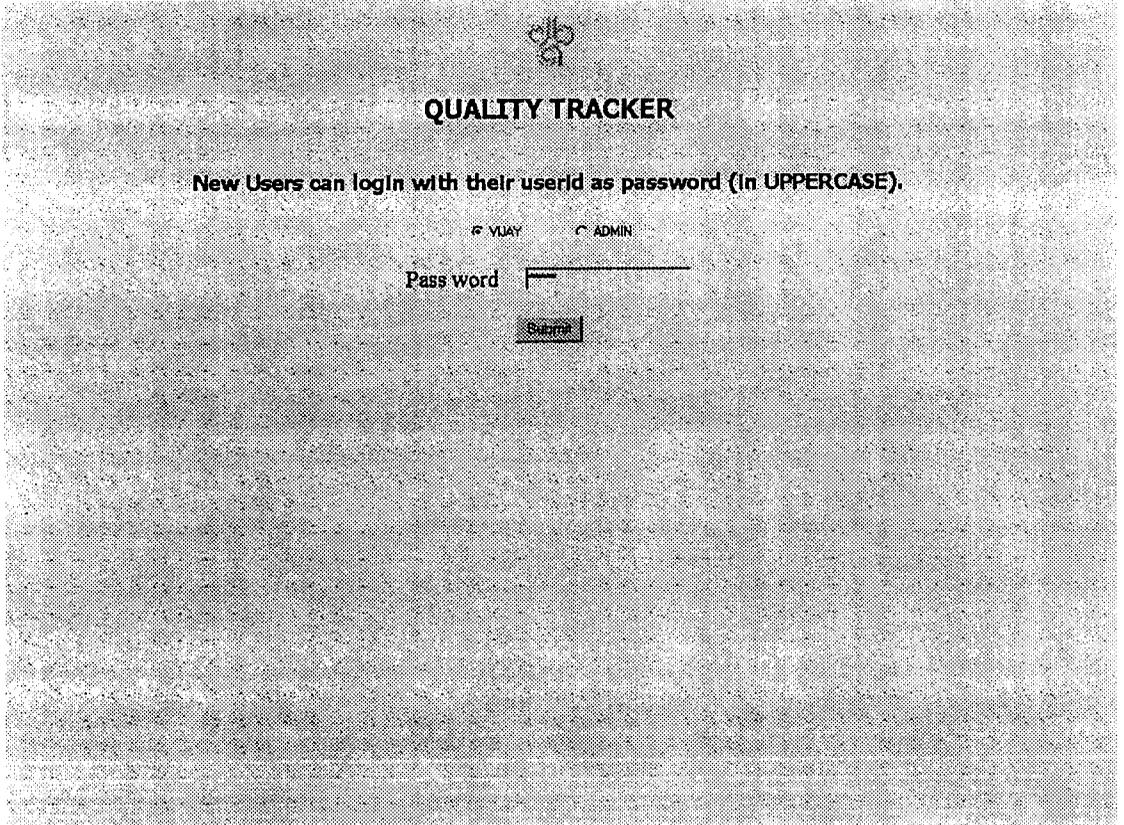
<http://www.ASPWIRE.com/>, ASP Links and for Subscription

<http://www.W3schools.com/>, ASP information.

[www.aspdeveloper.net](http://www.aspdeveloper.net)

# APPENDIX

## Login



# Alt User

[Add User](#)[Update User](#)[Grant/Revoke](#)[Reset Password](#)[Change Password](#)[Logout](#)

## Alter User

(SELECT THE USER NAME TO BE MODIFIED)

User Name

User id	ADMIN
User name	Administrator
Email Id	TEST
<input checked="" type="checkbox"/> Administrator	<input checked="" type="checkbox"/> Active

# Add user

<a href="#">Add User</a>	<a href="#">Delete User</a>	<a href="#">Grant/Revoke</a>	<a href="#">Reset Password</a>	<a href="#">Change Password</a>	<a href="#">Logout</a>
--------------------------	-----------------------------	------------------------------	--------------------------------	---------------------------------	------------------------

---

## Add User

User id	<input type="text"/>
User name	<input type="text"/>
Email Id	<input type="text"/>
Administrator	<input checked="" type="checkbox"/>
Active	<input checked="" type="checkbox"/>

# Audit Information

Goto: 1

Change Password

Logout



## Audit Information

Project name	AAL
Phase	Admin
Audit Date	4/ 3/02
No of NCs	4
Major Observation	56

Submit

# Change Password

[Add User](#)   [Update User](#)   [Grant/revokes](#)   [Reset Password](#)   [Change Password](#)   [Logout](#)



## Change Password

Old Password	<input type="password"/>
New Password	<input type="password"/>
Confirm Password	<input type="password"/>

# Create Excel Sheet

Global Change Password Logout

---

  
**Create Excel Sheet**  
(SELECT THE PROJECT NAME)  
Project Name | AAL

# CVS Path

Goto:

---



**CVS Path information**

(SELECT THE PROJECT ID FOR CVS ROOT)

Project Name	<input type="text" value="BizTrack"/>
Path	<input type="text" value="/Nts/ver/AdPJT/vr/jr"/>



# Metrics Across Sdlc



## Project Metrics

(SELECT THE PROJECT NAME TO BE MONITORED)

Project Name | AAL |

Change	Sno	Phase	Task Description	Estimated Start Date	Estimated End Date	Actual Start Date	Actual End Date	Task Shipped	Pro
<input type="checkbox"/>	1	Requirement/Analysis	ANALYSIS	4/26/02	4/26/02	4/26/02	4/26/02	2	2
<input type="checkbox"/>	2	Requirement/Analysis	OFFICE	4/26/02	4/26/02	4/26/02	4/26/02	5	5
<input type="checkbox"/>	3	Requirement/Analysis	OFFICE	4/26/02	4/26/02	4/26/02	4/26/02	4	4
<input checked="" type="checkbox"/>	4	Requirement/Analysis	OFFICE	4/26/02	4/26/02	4/26/02	4/26/02	3	3
<input checked="" type="checkbox"/>	5	Requirement/Analysis	OFFICE	4/26/02	4/26/02	4/26/02	4/26/02	3	3
<input checked="" type="checkbox"/>	6	Requirement/Analysis	OFFICE	4/26/02	4/26/02	4/26/02	4/26/02	23	23



(SELECT THE PROJECT NAME TO BE MONITORED)

Estimated Start Date	Estimated End Date	Actual Start Date	Actual End Date	Task Shipped	Project Shipped	process Iterations	Critical Defects	Major Defects	Minor Defects	Remarks
4/26/02	4/26/02	4/26/02	4/26/02	2	2	1	0	0	0	NO DEFECTS
4/26/02	4/26/02	4/26/02	4/26/02	5	5	5	0	0	0	
4/26/02	4/26/02	4/26/02	4/26/02	4	4	4	4	4	4	
4/26/02	4/26/02	4/26/02	4/26/02	3	3	3	3	3	3	
4/26/02	4/26/02	4/26/02	4/26/02	3	3	3	3	3	3	
4/26/02	4/26/02	4/26/02	4/26/02	23	23	23	23	23	23	23



# Register As Project Manager

Navigation icons: Home, Back, Forward, Stop, Refresh, Print, Search, etc.

  
**Register As Project Manager**

Project Name	Test Project
Project Leader	Anitha.P
System Analyst	Anitha.P
Programmers	Anitha.P
	Dhanasekar
	Dilip.K.M
	Elangethir

Taskbar: Start | Final Screens | h | newscorp (Preview) - ML... | 2:22 AM  
Taskbar: WinZip - Final Screens.zip | C:\Reports\Dhans\Final S... | C:\Reports\Dhans\FI...

# Audit Information

Go to:

[Change Password](#)

[Logout](#)



## Audit Information

Project name	AAL
Phase	Admin
Audit Date	4/26/02
No of NCs	23
Major Observation	Test observation

# Role Report

Goto..

[Change Password](#)

[Logout](#)

## Project Role Report

**Project Name** : Audit Euro Conv. **Project Id** : AEC  
**Planned Start Date** : 01-jan-2001 **Planned end Date** : 01-jan-2002  
**Category** : **Platform** :

Role	Employee Id	Employee Name
Project Manager	PK1001	Palanivel K.
Project Leader	JS1008	Jambulingam S.