# e- Audit

## **Project Report**

Submitted in partial fulfilment of the requirements for award of Degree M.Sc., (Applied Science) Software Engineering

P-1064

Submitted by

Aruna Baskar 0037S0081

#### Under the Guidance of

External Guide

Mr. S.Mahendra Kumar Asst. General Manager (Systems) Sakthi Sugars Limited Internal Guide

Mrs. S.Devaki Assistant Professor CSE Department



Department of Computer Science and Engineering

Kumaraguru College of Technology

(Affiliated to Bharathiar University)
Coimbatore-641 006

#### **CERTIFICATE**



Department of Computer Science and Engineering

#### Kumaraguru College of Technology

Coimbatore – 641 006

This is to certify that the project work entitled

"e-Audit"

has been submitted by

Miss. Aruna Baskar

In partial fulfilment of the award of the degree of

Master of Science in Applied Science – Software Engineering of

Bharathiar University, Coimbatore

During the academic year 2003-2004

Swide 29/9/2003

Head of the Department

Certified that the candidate was examined by us in the Project Work Viva Voce Examination held on  $29 \cdot 09 \cdot 2003$  and the University Register Number was 0037S0081.

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# Sakthi Sugars Limited

180, Race Course Road, Post Box No. 3775. Colmbatore - 641 018. Phone: 2221551 - 4
Grams: "SUGARKING" Fax: 2220574, 2220329 E-mail: info@sakthisugars.com

GA-26/3946 /2003

September 23, 2003

#### CERTIFICATE

This is to certify that Ms.ARUNA BASKAR, Fourth Year M.Sc., (Applied Science) Software Engineering student of Kumaraguru College of Technology, Coimbatore has done Project Work on the topic 'e Audit' in EDP Department of our organisation during the period from 15.05.2003 to 23.05.2003 and 07.07.2003 to 23.09.2003.

During the above period, her performance, conduct and character were found to be GOOD.

We wish all success in her career.

For SAKTHI SUGARS LIMITED

P.MUTHUVELAPPAN DY.GENERAL MANAGER-HRD

#### **ACKNOWLEDGEMENT**

Collective effort knows no limitation in achieving any set target. This project is made possible on account of the opportunities given, efforts taken and guidance given to me. I am very much obliged to **Dr.K.K.Padmanaban**, **B.Sc.(Engg.)**, **M.Tech.,Ph.D.**, **Principal**, Kumaraguru College of Technology for giving me the opportunity to undertake the project work.

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I thank all my faculties whose diligent efforts have led me to complete the project successfully.

I am duty bound to place on record my sincere thanks to Mr.S.Mahendra Kumar, Assistant General Manager (Systems) and his team members Mr.R.Varadharajan and Mr. G.Manimozhi, Sakthi Sugars Limited for the opportunity given to me to do the Project and for their valuable guidance and technical support.

**DECLARATION** 

I hereby declare that the project entitled "e Audit" submitted to Sakthi

Sugars Limited, Coimbatore in partial fulfilment of the requirements for the

award of the degree of Master of Science (Applied Science) Software

Engineering, is a record of original work done by me, under the supervision and

guidance of Mr. S.Mahendra Kumar, Assistant General Manager (Systems),

Sakthi Sugars Limited, Coimbatore.

Date: 25-09-2003

Akuna Baskas Signature

Aruna Baskar 0037S0081

#### **SYNOPSIS**

Audit is a process by which the accuracy of the books of accounts maintained by a company is ensured. This process is time consuming and involving a lot of paper work. This is more so for Sakthi Sugars Limited, which has multiple units in various locations in the State of Tamil Nadu and Orissa.

"e-Audit" system is developed to have a paperless environment and to obviate the delay in the process of audit. This helps the internal audit team to carry out screen based audit on daily basis the transactions done during the previous working day.

All the transactions of the day are transmitted by all the Units to the Head Office of the Company through leased line or internet during night. The Audit Team audits the data that are received by the Head Office the very next day.

If the transaction data are found in order, the Audit Team approves the same. If any clarification is required, the Audit Team will raise queries to the concerned Unit. After necessary rectifications are made, the transactions will be approved. The approved transactions will be integrated with the Financial Accounting Management System.

Thus the transactions integrated with the Financial Accounting Management System are free from any accounting errors.

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#### **CHAPTER 1**

### **INTRODUCTION**

#### 1. INTRODUCTION

#### 1.1. ORGANISATION PROFILE

Sakthi Group is a conglomerate of various entities having interest in various spheres like Sugar, Industrial Alcohol, Textiles, Foundry, Bus Transport, Parcel Service, Finance, Soft Drinks, Soya products, Synthetic Gems manufacture and information system, with a turnover of Rs.2000 Crores by the turn of the century. Sakthi Sugars Limited (hereinafter referred to as SSL) is the flag ship company of the Group.

SSL aims to become World class in serving its customers by continuous improvements, up gradation of human resources. It also maintains a clean and safe environment throughout the organization.

SSL is one of the largest producers of Sugar in India with a crushing capacity of 12,750 tonnes of cane crush per day having two sugar mills in Tamil Nadu and two mills in Orissa State, India.

SSL is the largest exporter of refined crystal sugar in the country and has attained the status of Export House.

Two Distilleries, one each in the States of Tamil Nadu and Orissa, with a total capacity of 37500 kilo litres are owned by SSL.

A division of SSL, Sakthi Soya has one of the best plants in Asia, combining the World's best technology from Switzerland and Germany. It uses the innovative flash desolventising technology to

manufacture high-protein soya flour. The plant has a capacity to process 300 tonnes of soya per day.

The Company's High Protein Soya Meal, Soya Flour and Soya Chunks are exported to Srilanka, Thailand, Singapore and Malaysia.

SSL's expansion plan includes setting up of the following facilities:

- ➤ A co-generation unit for generation of 32 MW electric power at Sakthinagar, which is expected to commence operation from end September 2003.
- ➤ An ethanol plant with a capacity to produce 1250 lakh litres of anhydrous alcohol for mixing with petrol as per latest policy of the Central Government.
- > A soft drink bottling plant with 600 bottles per minute capacity in Sivaganga.

Sakthi Auto Component Limited, the wholly owned subsidiary of SSL, has specialized in critical components for passenger cars like steering knuckles, brake drums, etc. The quantum of exports per month ranges between 250 MT to 500 MT. It is likely to grow up to 1000 MT in near future.

The latest technology is leveraged to the hilt people whose inherent strengths lie in the winning attitude and the willingness to thrive on challenges. This forms the foundation of an organization that races into the future with the surging confidence that it would continue to contribute and touch the lives of many more people.

Thus, the group excels in the following sectors: Sugar Unit, Finance, Bus Transport, Parcel Service. Maruthi Sales and Service, Wind mill, Bus Body building, Retreading, Beverages, Diary Division, Textiles, Tea and Coffee Estates.

For Sakthi, Industry is not the be-all and end-all. It has a deep rooted concern for the development of its area in the economic and social spheres. As a keen participant in social commitments, Sakthi Sugars has set up educational institutions and hospitals. It has also made significant contributions to rural development with a variety of social welfare activities and by creating employment opportunities.

The Company's entire accounting, material handling, and reporting systems, and most of the manufacturing facilities are computerized and are supported by an in-house team of computer professionals.

#### 1.2. CURRENT STATUS OF THE PROBLEM TAKEN UP

The word 'audit' is defined by the Institute Of Chartered Accountants of India as the systematic verification of books of accounts so as to reflect the true and fair status of the business and of the results of the Company. Generally, there would be two forms of audit namely

- > Internal audit
- > Statutory audit

While internal audit assures accuracy in accounting system as well as in the reports generated for the management to help in their decision making, statutory audit is done to comply with the requirements of statute and for presenting the financial statements of the company to the share holders. The internal audit is done on shorter intervals, even on daily basis, whereas the statutory audit is done annually. The word audit in this programme refers to internal audit.

At present Sakthi Sugars have computerized the entire process of accounting. But the basic records are maintained in paper form for the purpose of audit. The audit practice now followed by the company involves considerable amount of time and handling of papers. The "e Audit" system is developed to quicken the audit process. Under "e Audit " system, the internal auditor will approve on daily basis the accounting entries in electronic mode by seeing the transactions in computer screen.

#### 1.3 RELEVANCE AND IMPORTANCE

Sakthi Sugars Limited has four sugar units, two distillery units and a soya processing unit. Among these units two sugar units and one distillery unit are located in the State of Orissa. The accounting transactions are generated under computerized environment based on While the Financial Accounting Management vouchers/journals. System (FAM) is updated immediately, the accuracy of the same is being verified at a later point of time by the Audit Team in the Head Transfer of vouchers/ Office by checking the vouchers/journals. journals from various units to Head Office take more time as the factories are located in remote places, especially in the case of units at Orissa. Considering the postal / courier charges involved, vouchers are sent to the Head Office on weekly basis for audit purpose. This adds to the delay caused in completing the audit. Until the Audit Team verifies the vouchers, the accuracy of the data in FAM is not fool proof.

As per the Stock Exchange requirements, the Company has to furnish the quarterly results to the Stock Exchanges within one month from the date of quarter end. Delayed receipts of vouchers from various units is a cause of concern for completing the accounting process and furnishing of the quarterly financial results to Stock Exchanges.

FAM is the source and destination for "e Audit". FAM has been modified to generate vouchers/journals electronically. Upon implementation of the "e Audit" system, vouchers generated electronically will be transmitted to the Head Office every night.

These screen based vouchers will be audited by the Audit Team the very next day of the transactions. Any error in the accounting process will be rectified within a short span of time and such rectification is ensured by the Audit Team by regular follow up. The "e Audit" system thus ensures accuracy of the data in FAM.

Besides ensuring accuracy of accounting entries on daily basis, immediate flow of financial information will help the Management in taking timely action in case of need. Compliance of the requirements the Stock Exchanges is also made easier.

#### **CHAPTER 2**

# SOFTWARE REQUIREMENTS

#### 2. SOFTWARE REQUIREMENTS

The "e Audit" system is developed for the internal use of Sakthi Sugars Limited. The accounting functions of Sakthi Sugars are fully computerized, using SQL server in Head Office and Sybase server in Units as back-end and Power Builder as front-end.

#### 2.1 SOFTWARE SPECIFICATION

Platform - Windows 2000

Front-end - Power Builder 6.5

Database - MS SQL 2000 Server

Tools - PB Data Window

#### 2.1.1. THE PLATFORM

The Platform under which the system is developed is Windows 2000. Being one of the most popular operating system available today, the applications developed under this platform is more user friendly. The windows helps the users to navigate and explore throughout the system in friendly fashion.

#### 2.1.2. LANGUAGE

Power Builder is a graphical client / server application development environment. Using Power Builder, graphical applications that access database can be easily developed. Power Builder features new capabilities for creating Web applications, key advancements for creating multi-tier applications, and the capability for generation of

industry- standard. Power Builder also supports cross-platform application development and deployment. The design of Power Builder is mainly based on Graphical User Interface (GUI), Client / Server Technology and Object Orientation. Power Builder applications are event-driven rather than being procedural.

SQL server is a client / server Relational Database Management System (RDBMS) that uses Transact-SQL to send request between a client and SQL server. SQL server can work with thousands of client application simultaneously, it is also capable of working as a stand-alone database directly on the client. The scalability and ease-of-use features of SQL server allow it to work efficiently on a client without consuming too many resources.

#### 2.2 HARDWARE SPECIFICATION

The hardware specification listed is on minimum basis for optimum performance.

Processor - Pentium 3

Frequency - 600 Mhz

Main Memory - 32 MB

Secondary Memory - 40 GB

Cache Memory - 512 KB

Floppy Drive - 3 ½ (1.44 MB)

UPS - 3 KVA online with 9 hours backup

#### 2.3. SPECIFIC REQUIREMENTS

#### 2.3.1. Functional Requirements

The e-audit is used to review the complete range of the financial information, including cash and bank flow across the units.

#### List Of Inputs:

Reason for unapproved transaction, flag updating either approved or not.

#### Information Processing System:

The entire financial transaction across the units in Tamil Nadu and Orissa data are stored in the database server at Head Office and are audited on daily basis by the audit team.

#### 2.3.2. Performance Requirement

#### Security:

- > Server is provided with all necessary Virus Scanners and it is protected with firewall.
- ➤ Database Administrator is the only person to have the complete control over the database and the other users have very few privileges like update the data through front end.

#### Availability:

- The server is equipped with UPS and the availability is 24x7 over WAN (across the units).
- ➤ Since the server is co-located in the Internet Data Center it is available in the Internet too.

#### Capacity:

- ➤ Since the server and the bandwidth of leased line are having higher configuration, this software has the capacity to transfer/store huge volume of data.
- More than 20 users can use this system simultaneously across the units.

#### Response Time:

- ➤ Data import and export from units to HO 45 seconds/1 MB data.
- $\triangleright$  User request / inputs 2 seconds.
- $\triangleright$  Queries / Reports 5 to 10 seconds.

#### 2.3.3. Design Constraints:

#### Standard Compliance:

➤ This system is designed as per the standards and procedures (Database design, GUI, Coding and Report style) followed by Sakthi Sugars Limited.

#### Hardware Limitations:

- ➤ A server with OS windows 2000 and MS SQL with minimum configuration 512 MB RAM and 40 GB HDD.
- ➤ Client Machine with OS Windows 98 and above, the minimum configuration is 128 MB RAM.

#### **External Interface:**

#### > 64 Kbps leased line circuit.

With a view to ensure uninterrupted flow of data between the Head Office and various Units, SSL has taken on lease point to point dedicated telephone lines from the Department of Telecommunication. The transmitting capacity of the leased lines is 64 kbps.

#### > Co-location Server in Internet Data Center.

In addition to the data available in the server at Head Office and at various units, all the data are routed through a server in an Internet Data Center at a remote place. This arrangement is for disaster recovery purpose.

#### **CHAPTER 3**

# PROPOSED APPROACH TO THE PRODUCT

#### 3. PROPOSED APPROACH TO THE PRODUCT

At present, Sakthi Sugars conduct its internal audit based on the records that are sent to the Head Office from various units of the Company. This process takes longer time and on account of this many errors that have occurred in the accounting process remains unrectified for a reasonably longer period.

An alternative system of audit was thought of and the outcome of this process the "e Audit" system. "e Audit" system required transmission of voluminous data to Head Office from units. Which is made possible through leasing of dedicated telephone lines.

Vouchers and journals were designed to suit the electronic environment for the purpose of transmission to the Head Office. After a great deal of discussion with the Head of Accounts Department and Senior Officials, the requirements of data, the formats and other inputs and outputs were determined. While formulating the package, sufficient care was taken to ensure accuracy and reliability of the system.

#### **CHAPTER 4**

# **DETAILS OF THE DESIGN**

#### 4. DETAILS OF THE DESIGN

#### 4.1. MODULE DESCRIPTION

The e Audit system consists of the following major modules as

- Master Module
  - ▶ Reason Master
- Transaction
  - ▶ Audit Transaction
  - ▶ Query Answering Screen
- Reports / Queries
  - Audited Statistics
  - ▶ Clarified Records by units
  - ▶ Data Import Status
  - ▶ Transaction view using amount slab
  - ▶ Detailed expenses list
  - ▶ Fund flow
  - ▶ Expenses List Individual
  - ▶ Group Expenses
  - ▶ Cash & Bank Balance
- Administration
  - **▶** Export Queries
  - User Creation
  - **▶** User Permission
  - Data Integrity

#### Reason Master (Master Module)

It contains various predetermined reasons for errors that can arise in maintenance of books of accounts, e.g., wrong head of account, insufficient narration etc., This master is used at the time of audit approval.

#### ▶ Audit Transaction (Transaction Module)

Using this module, the regular transactions can be audited. The data retrieved based on the selection of unit, date and the transaction type. The transaction type includes cash payment (CP), Cash Receipt (CR), Bank payment & Receipt (BP & BR) etc., The major content display in this screen are

- Document Number, Slno
- GL Code & Description
- Narration of the Document
- SL Code & Description
- AE Code & Description
- Bank Details of Cheque Number, Date etc.

While auditing, if the selected transaction is found to be not in order in all aspects, clarifications are sought for from the respective units. Stamping is updated in each transaction.

#### Query Answering Screen (Transaction Module)

It enables to make queries by the audit team and also provision of explanation by the concerned unit. The query/answering process can be repeated any number of times until the audit team is satisfied.

#### ▶ Audit Statistics (Reports/Query Module)

The statistical information of the total number of transactions received from the units for the given period is been displayed. It also specifies the total number of records that are approved, total number of records that are rejected and the number of pending records.

#### ▶ Clarified Records by units (Reports/Query Module)

The numbers of records that are received from the units after being clarified by the unit personnels are been displayed. It also gives the additional information like date of checking, the name of the authority who clarified it and it's date, etc.

#### Data Import Status (Reports/Query Module)

In data import status option, it checks whether any transaction is been imported for the selected period. If so, it specifies the number of transaction that has been imported.

#### ▶ Transaction View Using Amount Slab (Reports/Query Module)

Filtering of transactions over and above a particular amount will enable the top management to view high value transactions instead of wasting his time on smaller ones. e.g. General manager may see transcations above Rs. 1,00,000.

#### ▶ <u>Detailed Expenses (Reports/Query Module)</u>

It is the practice of the company to consolidate bills of smaller value in one voucher. This enables the audit team to view the underlying smaller bills while verifying the voucher.

#### ► Fund Flow (Reports/Query Module)

Opening cash balance, total receipts and payments for the day and the closing balance at the end of the day are computed.

#### **Expenses List (individual)** (Reports/Query Module)

Expenses incurred by a particular employee of the company like his traveling expenses, advances taken / repaid by him can be viewed.

#### ► Group Expenses (Reports/Query Module)

Under this overhead expenditures are grouped unit wise for a specified period. e.g. salaries paid in individual factories and head office for the month of July 2003.

#### ► Cash And Bank Balance(Reports/Query Module)

Cash / bank transactions on a particular day are computed unit wise and bank wise.

#### ► Export Queries (Administration Module)

This enables the audit team to pass on it's queries to the respective units if the audit team requires any clarification regarding any transaction.

#### ▶ <u>User Creation (Administration Module)</u>

This enables inclusion of new users to have access to **eAudit system**. Whenever new user entered to the audit team, the user name, Designation and the password is registerd in the user master.

#### ▶ <u>User Permission (Administration Module)</u>

Through this option, the user permission and the level of system access can be determined. The system administrator has the rights to give the permission.

#### ▶ Data Integrity (Administration Module)

The imported data (HO DB) and the Original data (UNIT FA DB) has to be cross verified for a regular interval for data consistency. For checking the data consistency using various parameters like amount change, different head of account, change in narration etc., that has to be noted and the report is generated.

#### 4.2 INTEGRATION OF MODULES

All modules are integrated with one another as well as with Financial Accounting Management System (FAM).

Upon completion of import of data the relevant data import status module will get up-dated with a tick mark.

The Reason Master contains the reasons for the errors. Each of these reasons are codified. The Audit Team verifies the transaction using the Transaction Audit Window. If any error is found in the transaction appearing on the screen, the audit personnel will enter the relevant code in the column "Reason for Non-approval". Upon entry of code number, the system picks the corresponding description from the reason master and flashes the same in the column Reason for Non-approval.

Approved transactions directly go to FAM. Unapproved transaction along with the reasons will go to the respective units. The unit personnel will view the comments of the audit team, rectify the error and send back the transaction to the Head Office along with his comments, if any. The rectified transaction will appear in Transaction Audit Window.

Details of transactions in respect of which queries were raised and replied are linked to Clarified Record Module. This screen provides age-wise analysis of checked date, feed back date and the number of days taken for clarification. This analysis is required by the Management to study the efficiency of the Accounts Department.

The number of transactions generated, checked, queries raised, and clarifications received are linked to Transaction Statistics sub-module. This gives statistical information on each type of transaction for any particular or period.

Export Queries module gives the details of the transactions exported to various units as well as the feedback received from them. This has a direct link with the Audit Transaction Module and Query Answering Module.

User Permission Module is linked to all the Modules. Unless permission is granted under this Module, the actual user will not get access to any Module under "e Audit" system.

Under Data Integrity Processing Module, the data received for audit purpose are checked with the original data available with the concerned unit to prevent falsification of records sent for audit. This exercise is done regularly in a given interval.

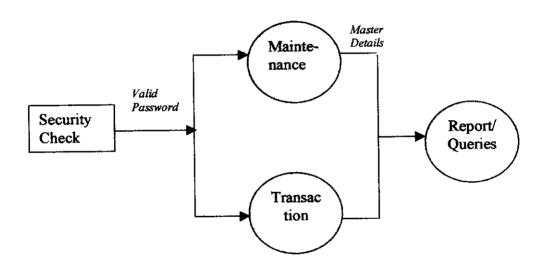
All other modules are directly integrated with FAM.

#### 4.3 CONTEXT ANALYSIS DIAGRAM

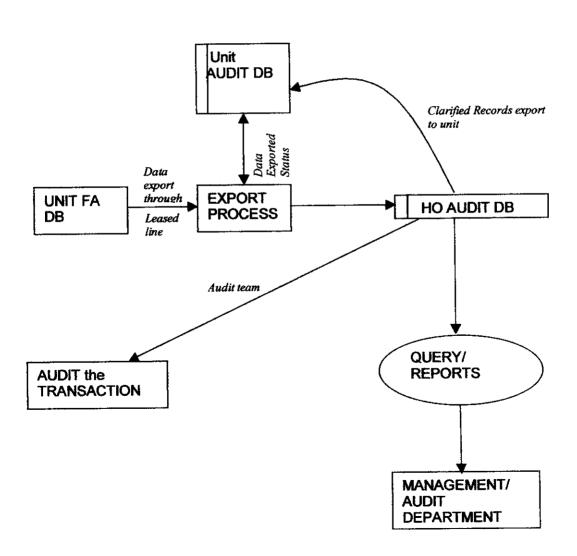
# CONTEXT ANALYSIS DIAGRAM Management & Audit Team Pinancial Accounting & Audit Team Audited Statistics Audit Team

#### 4.4. DATA FLOW DIAGRAM

# LEVEL 0 DFD FOR eAudit



# LEVEL 1 DFD FOR eAudit



#### 4.5. TABLE STRUCTURE

Unit master information [table name : unitmst]

Field name	Туре	Used Leng th	Not Nul l	Description	Primary Key Details
→ Unitc	Numeri c	2	<b>✓</b>	Unit code	pk-1 of 1
Unitdesc	Char	25	✓	Unit name	
Addr1	Char	30	×	Address 1	
Addr2	Char	30	×	Address 2	
Addr3	Char	30	×	Address 3	
City	Char	30	×	City	
State	Char	30	×	State	
Pincd	Numeri c	4	×	Pin code	
Phone	Varcha r	30	×	Phone	
Fax	Varcha r	20	×	Fax number	
Email	Varcha r	20	×	Email	

User master information [table name : usermst]

Field name	Туре	Used Leng th	Not Nul I	Description	Primary Key Details
United	Numeri c	2	<b>✓</b>	Unit _cd	
<sup>8</sup> →User id	Numeri c	3	<b>/</b>	Unit id	pk-1 of 1
User nm	Char	15	<b>V</b>	User name	
User_pw	Varcha r	20	<b>✓</b>	User password	
User_rig hts	Char	5	<b>✓</b>	User rights	

### Bank master information [table name :bnkmst]

Field name	Туре	Used Leng th	Not Nul l	Description	Primary Key Details
unite d	Numeri c	2	✓	Unit_cd	Pk-1of 3
8→ Bacy r	Numeri c	4	<b>✓</b>	Accounting year	Pk-2of 3
8→ Bnkc ode	Numeri c	2	<b>✓</b>	Bank code	Pk-3of 3
Bnknam e	Char	50	×	Bank description	
Actype	Char	3	×	Account type	
Glcode	Char	8	✓	GL code	

### **IMPLEMENTATION**

### 5. IMPLEMENTATION DETAILS

Implementation is the stage of the project when the theoretical design is turned in to a system. This is the crucial phase in the system life cycle. Implementation means putting a new system design into operation. Following steps are considered in the implementation stage:

- > Implementation Planning
- > System Conversion
- > User Training
- > Data Transmission

### 5.1. Implementation Planning:

This planning is a logical starting point to manage different activities that must be covered. A pre-implementation meeting with the personals from all departments is arranged.

### 5.2. System Conversion:

Conversion is a process of changing from old system to the new one.

The system implementation is done using the following conversion methods

- ➤ Direct Conversion
- > Parallel Conversion

### 5.3. User Training:

Hands-on training to user is essential to make them comfortable with the system. Accordingly, two or three day demonstration and practical training with the past data are to be given to the users of the system.

### 5.4. Data Transmission:

Implementation of this system depends upon successful transmission of transaction data from various units to the Head Office. Necessary permissions have been obtained for leasing dedicated lines for transfer of data. The data can also be sent through internet in case of failure of the dedicated lines.

The implementation of the software is planned by end of September'2003.

### **TESTING**

### 6. TESTING

Testing is a vital process to the success of any system. At first, the system is tested to see whether it produces correct outputs. Then, the system is tested for volume of transactions, stress and recovery from failure and usability.

### 6.1. Functional testing

Functional testing is performed to specify the operating conditions, input values and expected results. All the functions in the system are tested with required parameters.

### 6.2. Stress testing:

The purpose of stress testing is to determine the limitation of the system. In this system, stress testing is performed to identify whether the package is able to handle all the abnormal situation.

### 6.3. Performance testing:

Performance testing is done with this system to verify the response time, execution time, throughput, primary and secondary memory utilization and traffic rate on data channel and communication links.

### 6.4. Structural testing:

Structural testing s performed to examine the internal processing logic of the system in each and every phase.

### 6.5. White Box testing:

White box testing is done with the sysem, which derives test cases that do the following:

- ➤ Guarantee that all the independent paths within a module have been exercised at least once in the package.
- > Exercise all logical decisions on their true and false sides.
- > Execute all loops at their boundaries and within their operation bounds.
- > Exercise internal data structures to ensure their validity.

One of the test case tools of white box testing is control structure testing.

Control Structure testing:

This test case design exercises the logical conditions contained in a programme module of the package.

### 6.6. Data Flow testing:

The data flow testing method selects test paths of programme according to the locations of definitions and uses of variables in the package.

### 6.7. Loop testing:

Loops are cornerstones for the vast majority of all algorithms implemented in software. Loop testing is done with the system that focuses exclusively on the validity of loop constructions.

### 6.8. Black box testing:

Black box testing method focuses on the functional requirements of the software. Using the black box testing method, the following errors are identified and rectified in the package.

- > Incorrect or missing functions
- > Interface errors
- > Errors in data structures or external databases access
- > Performance errors
- > Initialization and termination errors.

Using the above testing procedures, the "e Audit" has been validated and the outcome of the test was in accordance with the requirements of the Management.

### CONCLUSION AND FUTURE OUTLOOK

### 7. CONCLUSION AND FUTURE OUTLOOK

A good amount of user-friendly features have been incorporated in the system and it is possible for any user to exploit these features to get the maximum benefit.

Taking full advantage of the developments in the areas of Information Technology, the entire corporate world is now shifting itself to the Internet and intranet era for making available information any time and anywhere in the world for furtherance of its business.

Although the immediate aim of the project is to do screen based audit of the accounting transaction of Sakthi Sugars Limited, it has the capability of being developed into a full fledged Management Information System covering not only the financial transactions but also the entire operations of the company. Computerisation has great potentiality in itself and helps development of areas in which it is applied.

### REFERENCES

### 8. REFERENCES

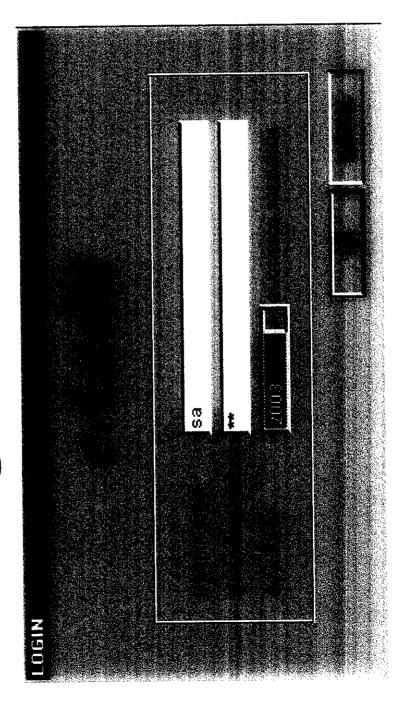
- Roger Presseman, Software Engineering, BBP Publishing, Second Edition, 1996.
- M.Awad, System Analysis and Design, Galgotia Publisher P. Ltd., Second Edition, 1997.
- 3. Chetney Hieber, Basic Power Builder 6.0 Programming, by Envision Software Systems, 1998.
- 4. William B. Hayes, Charles A. Wood, Power Builder 6, by Gale Group, 1997.
- 5. William Pearson, Introduction to MS SQL Server 2000 Analysis, 2003.
- Steven Feuerstein, Oracle PL/SQL Programming, Shroff Publishers and Distributors P. Ltd., Second Edition, 1997.
- 7. Power Builder Hand Book, First Edition 1998, published by Software Solutions Integrated Limited.

### Websites

- 1. www.powersoft.com
- 2. www.sybase.com
- 3. www.ianbenchmarking.com

### **APPENDICES**

### Login Screen



### Menu

### Reason Master

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1 wrong description	
2 insufficient narration	
3 Wrong head of account	
4 Duplication	
5 Ambiguity	
6 Want of Authority	
7 To check 15H	

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## QUERY ANSWERING

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## Group Expenses

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Travelling Expenses

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## Export Queries

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## User Creation

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### USER PERMISSION



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