

**WEB APPLICATION FOR CONTROLLING FINANCE SEGEMENT OF
AN INDUSTRY**

S.KALAIVANI

12PCA006

**A Project Report Submitted to
Avinashilingam Institute for Home Science and Higher Education for Women,
Coimbatore-641043**

**In Partial fulfillment of the Requirements for the
Master's Degree in Computer Applications**

March, 2015

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Signature of the Supervisor

Signature of the Head of the Department

Signature of the External Examiner

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SYNOPSIS

The project entitled as “**WEB APPLICATION FOR CONTROLLING FINANCE SEGMENT OF AN INDUSTRY**” uses ERP approach for controlling the financial transactions of an organization. ERP systems provide an integrated suite of information technology applications that support the operations of an enterprise. The main aim of the project is to develop finance controlling system for the manufacturing industry. This module helps in managing the company's purchase and sales details. The Finance and Controlling system is a part of the ERP software which also includes Material Management, Production and Planning, Sales and Distribution.

The main aim of this application is to develop a web application to resolve the problems in the area of finance and accounting. Development of this application can help to the people in both IT and Accounting department to reduce their manual work. It preserves the options of the previous system and includes unique salient features for the processing of financial documents and transactions much better and secure. This project ensures the reliability and ease of maintenance compared to the existing system.

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1. INTRODUCTION

Enterprise Resource Planning (ERP) programs are core software used by companies to coordinate information in every area of the business. ERP programs help to manage company-wide business processes, using a common database and shared management reporting tools.

ERP provides an integrated real-time view of core business processes, using common databases maintained by a database management system. ERP systems track business resources—cash, raw materials, production capacity—and the status of business commitments: orders, purchase orders, and payroll. The applications that make up the system share data across the various departments (human resource, manufacturing, purchasing, sales, accounting, etc.) that entered the data. ERP facilitates information flow between all business functions, and manages connections to outside stakeholders.

Enterprise system software is a multi-billion dollar industry that produces components that support a variety of business functions. IT investments have become the largest category of capital expenditure in United States-based businesses over the past decade. Though early ERP systems focused on large enterprises, smaller enterprises increasingly use ERP systems.

Organizations consider the ERP system a vital organizational tool because it integrates varied organizational systems and facilitates error-free transactions and production. However, ERP system development is different from traditional systems development. ERP systems run on a variety of computer hardware and network configurations, typically using a database as an information repository. ERP serves many industries and numerous functional areas in an integrated fashion, attempting to automate operations from supply chain management, inventory control, manufacturing scheduling and production, sales support, customer relationship management, financial and cost accounting, human resources management and almost any other data oriented management process.

ERP systems are designed to enhance organization's competitiveness by upgrading an organization's ability to generate timely and accurate information throughout the enterprise and its supply chain.

A successful ERP system implementation can shorten production cycles, increases accuracy of demand for materials management and sourcing, and leads to inventory reduction because of material management, etc.

1.1 Problem Definition

Good financial management is a key to an organizational sustainability. It will impact on decision making across the organization and as such should be integrated into all aspects of an organization's operations, from managing project budgets to gathering information for strategic decision-making. Whatever the size of the organization, sound financial strategy is a prerequisite to sustainability, rather than being seen as a separate function (merely doing book keeping), the finance should be integrated within, and add value to, the overall planning and management of an organization. It is essential that organization successfully manage their funding and financing sources to ensure the best and most efficient use of their financial resources.

The Web Application for Controlling finance segment of an Industry helps to keep the good financial management for the organizational sustainability and to make decision easier for the authorities through the ERP systems.

1.2 Overview of the Project

Web Application for Controlling Finance Segment of an Industry is work as finance controlling system for an organization. It reduces the arithmetic errors usually made in the accounting area. It consumes less manual input and accurately produces the correct output and discriminates the errors. It probably works faster than the previous manual entry system. The project is mainly used for preparing and presenting the business transactions. This project starts with recording of transactions by authenticated users by providing secured login for all the users. It delivers calculation accuracy of the business transactions and helps to keep control of all transactions. It can generate report of all transactions by providing the dates.

In an organization, business transactions play an important role to run the business efficiently. Every transaction needs to be handled carefully and to be maintained undyingly. This could be achieved through this application using the computerized entries and maintenance.

Benefits of this system

- » Capable of maintaining the regular summaries of an organization's financial activities.
- » Easy maintenance of supplier, purchase details and schedule purchase orders for production.
- » Increased end-user productivity because of flexible data access.
- » Improved access to information about orders and stock level.
- » Facilitates maintenance of application and data with minimal knowledge level.

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2. SYSTEM CONFIGURATION

This section describes the hardware and software specification needed for both development and implementation phases of this project.

2.1 Software Requirements

Operating System	:	Windows 7
User Interface	:	HTML, CSS
Client-side Scripting	:	JavaScript
Programming Language	:	PHP 5
Database	:	MySQL
Speed	:	2.8 MHz

2.2 Hardware Requirements

Processor	:	Intel CORE™ i3
Hard Disk	:	40GB
RAM	:	512MB

2.3 About the Software

Front End: PHP

The PHP Hypertext Preprocessor (PHP) is a programming language that allows web developers to create dynamic content that interacts with databases. PHP is basically used for developing web based software applications.

- » PHP is a recursive acronym for "PHP: Hypertext Preprocessor".
- » PHP is a server side scripting language that is embedded in HTML. It is used to manage dynamic content, databases, session tracking, even build entire e-commerce sites.

- » It is integrated with a number of popular databases, including MySQL, PostgreSQL, Oracle, Sybase, Informix, and Microsoft SQL Server.
- » PHP is pleasingly zippy in its execution, especially when compiled as an Apache module on the UNIX side. The MySQL server, once started, executes even very complex queries with huge result sets in record-setting time.
- » PHP is forgiving: PHP language tries to be as forgiving as possible.
- » PHP Syntax is C-Like.

Benefits of PHP

- PHP performs system functions, i.e. from files on a system it can create, open, read, write, and close them.
- PHP can handle forms, i.e. gather data from files, save data to a file, through email you can send data, return data to the user.
- Add, delete and modify elements within the database through PHP.
- Access cookies variables and set cookies.
- Using PHP, we can restrict users to access some pages of our website.
- It can encrypt data.

Characteristics of PHP

- Simplicity
- Efficiency
- Security
- Flexibility
- Familiarity

Advantages of PHP

- » **Open source-** PHP is Open Source. This means it is readily available and absolutely free. It is developed and maintained by a large group of PHP developers, this will help in creating a support community, abundant extension library.

- » **Speed** - It is relative fast since it uses much system resource.
- » **Easy to use**- It uses C like syntax, so for those who are familiar with C, it's very easy for them to pick up and it is very easy to create website scripts.
- » **Cross-Platform** - PHP is cross-platform and therefore enables operation across various operating systems. It works excellently on LINUX, UNIX and Windows platforms.
- » **Built-in database connection modules** - One can connect to database easily using PHP, since many websites are data/content driven, so we will use database frequently, this will largely reduce the development time of web apps.
- » **High Returns** - PHP often enables people to create dynamic websites. This ensures more visitor participation and thereby better returns.

Back End: MySQL

Overview of the MySQL

MySQL, the most popular Open Source SQL database management system, is developed, distributed, and supported by MySQL AB. MySQL AB is a commercial company, founded by the MySQL developers, the builds its business by providing services around the MySQL database management system. The MySQL website (<http://www.mysql.com>) provides the latest information about MySQL software and MySQL AB. MySQL is a database management system.

A database is a structured collection of data. It may be anything from a simple shopping list to a picture gallery or the vast amounts of information in a corporate network. To add, access, and process data stored in a computer database, needs a database management system such as MySQL Server. MySQL is a relational database management system. A relational database stores data in separate tables rather than putting all the data in one big store room. This adds speed and flexibility. The SQL part of "MySQL" stands for "Structured Query Language". SQL is the most common standardized language used to access databases and is defined by the ANSI/ISO SQL Standard. The SQL standard has been evolving since 1986 and several versions exist.

Open Source means that it possible for anyone to use and modify the software. Anybody can download the MySQL software form the internet and use it without paying anything. If the wish, may study the source code and change it to suit the needs.

Use of MySQL Database Server

The MySQL database software is a client/server system that consists of that consists of a multi-threaded SQL server that supports different backend, several different Client programs and libraries, administrative tools, and a wide range of application programming interface (APIs).

MySQL Server was originally developed to handle large databases much faster than existing solutions and has been successfully used in highly demanding production environments for several years. Though under constant development, MySQL Server today offers a rich and useful set of functions. Its connectivity, speed, and security make MySQL Server highly suited for accessing databases on the internet.

The technical features of MySQL Server

The MySQL Database Software is a Client/Server system that consists of a multi-threaded SQL server that supports different backend, several different client programs and libraries, administrative tools, and a wide range of application programming interfaces (APIs).

MySQL Server provides a multi-threaded library which can link into the application to get a smaller, faster, easier-to-manage product. There is a large amount of contributed MySQL software available. The following list describes some of the important characteristics of the MySQL Database Software.

Scalability and Limits – Handles large databases. The use MySQL server with databases that contain 50 million records. We also know of users that use MySQL Server with 60,000 tables and about 5,000,000,000 rows.

Up to 32 indexes per table are allowed. Each index may consist of 1 to 16 columns or parts of columns. The maximum index width is 500 bytes (this may be changed when compiling MySQL Server). An index may use a prefix of a CHAR and VARCHAR.

Connectivity - Clients may connect to the MySQL server using TCP/IP sockets on any platform. On windows systems in the NT family (NT, 2000, or XP), clients may connect using named pipes. The Connector/ODBC interface provides MySQL supports for client programs that use ODBC connections. For example, can use MS Access to connect to the MySQL server. Clients may be run on windows or UNIX, Connector/ODBC source is available. All ODBC 2.5 functions are supported, as are many other.

Localizations

- ❖ The server can provide error message to clients in many languages.
- ❖ Full support for several different character sets.
- ❖ All data is saved in the chosen character set.
- ❖ Sorting is done

WAMP Server

WAMP Server is a local server package for Windows, allowing us to install and host web applications that use Apache, PHP and MySQL.

WAMP stands for "Windows, Apache, MySQL, and PHP." WAMP is a variation of LAMP for Windows systems and is often installed as a software bundle (Apache, MySQL, and PHP). It is often used for web development and internal testing, but may also be used to serve live websites.

The most important part of the WAMP package is Apache (or "Apache HTTP Server") which is used run the web server within Windows. By running a local Apache web server on a Windows machine, a web developer can test webpages in a web browser without publishing them live on the Internet.

WAMP also includes MySQL and PHP, which are two of the most common technologies used for creating dynamic websites. MySQL is a high-speed database, while PHP is a scripting language that can be used to access data from the database.

3. SYSTEM STUDY AND ANALYSIS

System Analysis is a process of gathering and interpreting facts, diagnosing problems and the information to recommend improvements on the system. It is a problem solving activity that requires intensive communication between the system users and system developers. System analysis or study is an important phase of any system development process. They is studied to the minutest detail and analyzed. The system analyst plays the role of the interrogator and dwells deep into the working of the present system. The system is viewed as a whole and the input to the system are identified. The outputs from the organizations are traced to the various processes. System analysis is concerned with becoming aware of the problem, identifying the relevant and decisional variable, analyzing and synthesizing the various factors and determining an optimal or at least a satisfactory solution or program of action.

A detailed study of the process must be made by various techniques like interviews, questionnaires etc. The data collected by these sources must be scrutinized to arrive to a conclusion. The conclusion is an understanding of how the system functions. This system is called the existing system. Now the existing system is subjected to close study and problem areas are identified. The designer now functions as a problem solver and tries to sort out the difficulties that the enterprise faces. The solutions are given as proposals. The proposal is presented to the user for an endorsement by the user. The proposal is presented to the user for an endorsement by the user. The proposal is reviewed on user request and suitable changes are made. This is loop that ends as soon as the user is satisfied with proposal.

Preliminary study is the process of gathering and interpreting facts, using the information for further studies on the system. Preliminary study is problem solving activity that requires intensive communication between the system users and system developers. It does various feasibility studies. In these studies a rough figure of the system activities can be obtained, from which the decision about the strategies to be followed for effective system study and analysis can be taken.

3.1 Existing System

In the existing system the transactions are done only manually. The management of large amounts of money, especially transactions like purchase and sales are done with some difficulty. As some of the organizational operations are tracked using files and some other manually this process is associated with many limitations.

Disadvantages of existing system

- » Lack of ability to rescue information about the transactions.
- » More time consuming.
- » Needs manual calculations.
- » Constraints couldn't be applied through the system directly.
- » No direct role for the higher officials.
- » Existing system was less user friendly with limited features.
- » Information was redundant and in-consistent.
- » Assessment of stock was challenging.

As an employee enters the transaction, it enters into various systems in different departments from finance to distribution to sales and then to marketing. If all these are done manually, it is time consuming and also it creates the opportunity for arithmetical errors and undefined errors.

To avoid all these limitations and make the working more accurately the system needs to be computerized.

3.2 Proposed System

The aim of proposed is to develop a system of improved facilities. The proposed system can overcome all the limitations of the existing system. The system provides proper security and reduces the manual work.

It objects to study about the purchase of goods to help an organization to achieve the production goal target. To have a strong finance function, it keeps the track of all details about transaction information normally required by management for day to day reporting.

The proposed system can be utilized for easy documenting and accessing various data carriers such as form, reports, records etc. Automation makes the system to be user friendly. Accuracy and security of data will be more comfortable for the organization. The proposed system must be menu oriented and should provide user friendly environment.

The system requires very low system resources and the system will work in almost all configurations.

Advantages of the Proposed System

- » Delivers an isolated entrance for every business transaction based on money.
- » Controls the system with secured login.
- » Minimize manual data entry.
- » Faster access of data retrieval in every transaction i.e. minimum time needed for the various processing.
- » Greater efficiency and Bette Service.
- » Handling the application is much simpler when compared to existing system.
- » Proper control of the higher officials.
- » Minimum time required.
- » User friendliness and interactive.
- » Helps the employees and also administrator by providing secure login to provide protection for the transaction records and entries and saves lot of time and also given that the user with the updated information.
- » Reports produced by this application helps take decision easily.

3.3 Feasibility Study

Feasibility study is made to see if the project on completion will serve the purpose of the organization for the amount of work, effort and the time that spend on it.

Feasibility study lets the developer foresee the future of the project and the usefulness. A feasibility study of a system proposal is according to its workability, which is the impact on the organization, ability to meet their user needs and effective use of resources. Thus when a new application is proposed it normally goes through a feasibility study before it is approved for development.

The feasibility of the project that is being designed and lists various areas that were considered very carefully during the feasibility study of this project such as Technical, Economic and Operational feasibilities.

3.3.1 Technical Feasibility

The system must be evaluated from the technical point of view first. The assessment of this feasibility must be based on an outline design of the system requirement in the terms of input, output, programs and procedures.

The project should be developed such that the necessary functions and performance are achieved within the constraints. The project is developed within latest technology. Through the technology may become obsolete after some period of time, due to the fact that never version of same software supports older versions, the system may still be used. So there are minimal constraints involved with this project. The system has been developed using PHP the project is technically feasible for development.

3.3.2 Economic Feasibility

The developing system must be justified by cost and benefit. Criteria to ensure that effort is concentrated on project, which will give best, return at the earliest. One of the factors, which affect the new system, is the cost it would require. The following are some of the important financial questions raised during preliminary level:

- » The costs conduct a full system investigation.
- » The cost of the hardware and software
- » The benefits in the form of reduced costs or fewer costly errors.

Since the system developed as part of project work, there is no manual cost to spend for the proposed system. Also all the resources are already available, it give an indication of the system is economically possible for development.

3.3.3 Operational Feasibility:

Proposed project are beneficial only if they can be turned into information system that will meet the organizations operating requirements. Operational feasibility is a consideration about the working of the system after installation in the company. Simply stated, this system of feasibility asks if the system will work when it is developed and installed. It is to ensure that the developed system is to provide sufficient support for the users.

Issues that appear to be relatively minor in the beginning have ways of growing in to major problems after implementation. Therefore all operational aspects and behavioural aspects must be considered carefully and conclude that the project is operationally feasible.

4. SYSTEM DESIGN

Design is the first step into the development phase for any engineered product or system. Design is a creative process. A good design is the key to effective system. The term “Design” is defined as “the process of applying various techniques and principles for the purpose of defining a process or a system in sufficient detail to permit its physical realization”. It may be defined as a process of applying various techniques and principles for the purpose of defining a device, a process or a system in sufficient detail to permit its physical realization. Software design sits at the technical kernel of the software engineering process and is applied regardless of the development paradigm that is used. The system design develops the architectural detail required to build a system or product.

As in the case of any systematic approach, this software has undergone the best possible design phase fine tuning all efficiency, performance and accuracy levels. The design phase is a transition from a user oriented document to a document to the programmers or database personnel. System design goes through two phases of development: Logical and Physical Design.

Logical Design

The following of a system and define the boundaries of a system. It includes the following steps:

- » Reviews the current physical system – its data flows, file content, volumes, frequencies etc.
- » Prepares output specifications – that is, determines the format, content and frequency of reports.
- » Prepares input specifications – formats, content and most of the input functions.
- » Prepares edit, security and control specifications.
- » Specifies the implementation plan.
- » Prepares a logical design walk through of the information flow, output, input, controls and implementation plan.
- » Reviews benefits, costs, target dates and system constraints

Physical Design

Physical system produces the working systems by define the design specifications that tell the programmers exactly what the candidate system must do. It includes the following steps:

- » Design the physical system.
- » Specify input and output media.
- » Design the database and specify backup procedures.
- » Design physical information flow through the system and a physical design walk through.
- » Plan system implementation.
- » Prepare a conversion schedule and target date.
- » Determine training procedures, courses and timetable.
- » Devise a test and implementation plan and specify any new hardware/software.
- » Update benefits, costs, and conversion date and system constraints.

4.1 Input Design

The design of input focuses on controlling the amount of input required, controlling the errors, avoiding delay, avoiding extra steps and keeping the process simple. The input is designed in such a way so that it provides security and ease of use with retaining the privacy. Input design considered the following things:

- » Input data
- » Arrangement of data
- » The dialog to guide the operating personnel in providing output.
- » Methods for preparing input validations and steps to follow when error occur.

Input design is the process of converting a user-oriented description of the input into a computer-based system. This design is important to avoid errors in the data input process and show the correct direction to the management for getting correct information from the computerized system. It is achieved by creating user-friendly screens for the data entry to handle large volume of data.

The goal of designing input is to make data entry easier and to be free from errors. The data entry screen is designed in such a way that all the data manipulated can be performed. It also provides record viewing facilities.

When the data is entered it will check for its validity. Data can be entered with the help of screens. Appropriate messages are provided as when needed so that the user will not be in a maze of instant.

Input design is used to feed the inputs required to generate the general ledger, bank master, transaction entries (Cash payment, Bank payment, Bank Receipt, Journal entry, Purchase journal voucher(PJV), Debit note) and reports.

Admin Login

Admin logs in to the system with the username and password. This is essential for the controlling overall process of the financial management.

Employee Login

Employee login with the user name and password allocated for the employee in the home page. Every employee has unique username (emp_id) and password which is provided by the administrator.

General Ledger Master

It is used to keep the details contains all the accounts whether personal, real or nominal which are entered in journal or special purpose subsidiary books that will be processed in the company.

Bank Master

It is used to keep the various banks details collaborated with in the company, customer, and suppliers by taking input as bank name, account name; account code, IFSC code, Swift code, MICR code, and amount used for the transaction succeed.

Transaction entries

It is used to describe the transaction placed by every employee by taking input as account name, account code, bank code etc.

4.2 Output Design

A quality output is one, which meets the requirements of the end user and presents the information clearly. It is the most important and direct source information to the user.

Efficient and intelligent output design improves the system's relationship to help user decision-making. Designing computer output should proceed in an organized, well thought out manner; the right output must be developed while ensuring that each output element is designed so that people will find the system can use easily and effectively. When analysis designs computer output, they should:

- » Identify the specific output that is needed to meet the requirements
- » Select methods for presenting information
- » Create document, report, or other formats that contain information produced by the system

The output design defines the output required and the format in which it is to be produced. Care must be taken to present the right information so that right decisions are made. The output generated can be classified into three main categories

- » Screen output,
- » Output to be stored as files in storage media,
- » Hard copy of the output

The Screen output essentially displays the generated output on the screen. The results of the most of the queries are usually displayed on the screen to online information. The provision of generated output to be stored in the file is further reference and to take hard copies of the same is to provide information to management and whatever the situation demands.

Output design makes use of this project in order to view the supplier details, bank details, master details and debit note, credit note generated which can be taken as hard copy, later used to print those reports.

Admin Login

After the admin login successfully, the home page for the admin could be displayed. The administrator can view reports, add user, and work with their control panel.

Employee Login

After the employee logs in to the system successfully, employee's home page will be displayed. Employee work with their environment, which includes the finance controlling system involved with various transactions.

General Ledger

General ledger will be saved in database successfully and it is used for further usage in future. Existing General ledger can be edited, or deleted by an employee.

Bank Master

Bank master is generally used for the transaction through bank either for payment for supplier or amount received from customer. After getting information from the user the details are directly saved into the database system. It can be edited or deleted by an employee.

Transaction Entries

Transactions like cash payment, purchase, purchase return, bank payment can be added to the finance controlling system. An existing record of transaction can be edited or deleted by an employee.

5. SYSTEM DEVELOPMENT

5.1 Modules

The finance and controlling system involves the following modules.

- Masters
 - General Master
 - Bank Master
- Transactions
 - Cash Payment
 - Bank Payment
 - Bank Receipt
 - Purchase Journal Entry(PJV)
 - Debit Note
- Reports
 - Cash Payment Register
 - Bank Payment Register
 - Purchase Register
 - Debit Note Details

5.2 Module Description

1) Masters

Master data is the centre repository of data that links together all other modules.

1.1 General Ledger Master

General Ledger master contains the details about the various accounts which are ready for transaction usually done in the company. It is also called Ledger master. It contains the fields like account code, account name, short name, group, category.

Refer the screen C5-General Ledger Master in Appendix C.

1.2 Bank Master

Bank master contains the details about the bank in which suppliers or customers having their accounts for transaction.

This should be maintained by the employee and it includes the details like bank name, bank code, short name, address, email, web, MICR code, IFSC, RTGS/NEFT, Cable, AD code, Swift code and supplier details. Each supplier and customer has different unique account code for the transactions.

Refer the screen C5- Bank Master in Appendix C.

2) Transactions

2.1 Cash Payment

It is generally links with the general ledger, creditor and debtor. General ledger should present on the credit side of the payment list and suppliers should present on the debit side. After the transactions entry the subtotals are displayed automatically. Refer Screen C9-Cash Payment Transaction Entry in Appendix C.

2.2 Bank Payment

It similar to that cash payment but the only difference is the cash not involved here, only the bank should place here for the transaction amount payment. Refer Screen C10-Bank Payment Transaction Entry in Appendix C.

2.3 Bank Receipt

This sub module deals with the payment through the bank account company to the bank of the supplier or the customer by the bank which is created earlier in the master modules bank master.

2.4 Purchase Journal Entry (PJV)

Entry into the Purchase journal voucher is related to the purchase orders of the raw materials. Different type of purchase journal are there for the convenience of company like imported, C-form, CST full tax, VAT, Service tax, Export for the international business transactions.

2.5 Debit Note

It is to keep the purchase return or return outward transaction entries. It helps to identify those supplier who are really good and supply best material. And it also link with the supplier account for the business transaction.

3) Reports

3.1 Cash Payment Register – Cash payment register includes all the details of the company and supplier for the period of time of the specified transaction

3.2 Bank Payment Register – Bank payment register list all the bank payment held in that particular time of duration.

3.3 Bank Receipt Register – Bank receipt transactions are listed under this bank receipt register to know the bank payment either to the supplier or customer involved in the transaction for the particular selected period of time.

3.4 Debit note – Debit note describes the purchase return items of the selected period of time. A debit note detail is used to display the particularly made purchase return transaction in a brief manner of explanation with the entire information about the system of entry.

6. SYTEM TESTING AND IMPLEMENTATION

6.1 System Testing

Software testing is the process of executing software in a controlled manner, in order to achieve the software behavior as specified earlier. Software testing is often used in association with the terms verification and validation. Validation is the checking or testing of items, includes software, for conformance and consistency with an associated specification. Software testing is just one kind of verification, which also uses techniques such as reviews, analysis, inspections, and walkthroughs. Validation is the process of checking that what has been specified is what the user actually wanted.

Testing is a set of activity that can be planned in advanced and conducted systematically. Testing begins at the module level and work towards the integration of entire computers based system. Testing is a process of executing a program with the intend of finding an error. A good test case is one that has high possibility of finding an undiscovered error. A successful test is one that uncovers an undiscovered error.

If a testing is conducted successfully according to the objectives as stated above, it would uncovered errors in the software also testing demonstrate that the software function appear to be working according to the specification, that performance requirement appear to have been met. Test for correctness are supposed to verify that a program does exactly what it was designed to do.

TEST PLAN

A test plan implies a series of desired course of action to be followed in accomplishing various testing methods. The test plan acts as a blue print for the action that is to be followed. The software engineers create a computer program, its documentation and related data structures. The specific objectives of testing should be stated in measurable terms. So that the mean time to failure, the cost to find and fix the defects, remaining defect density or frequency of occurrence and test work-hours per regression test all should be stated within the test plan.

The levels of testing include:

- » Unit testing
- » Integration testing
- » Data validation testing
- » Output testing

6.1.1 Unit Testing

Unit testing focuses verification effort on the smallest unit of software design – the software component or module. Using the component level design description as a guide, important control paths are tested to uncovered scope established for unit testing. The unit testing is white-box oriented, and step can be conducted in parallel for multiple components. The modular interface is tested to ensure that information properly flows into and out of the program unit under test. The local data structure is examined to ensure that data stored temporarily maintains its integrity during all steps in an algorithm's execution. Boundary conditions are tested to ensure that all statements in a module have been executed at least once. Finally, all error handling paths are tested. Tests of data flow across a module interface are required before any other test is initiated. If data do not enter and exit properly, all other tests are moot.

Selective testing of execution paths is an essential task during the unit test. Good design dictates that error conditions be anticipated and error handling paths set up to reroute or cleanly terminate processing when an error does occur. Boundary testing is the last task of unit testing steps. Unit testing was done in the system by treating each module as separate entity and testing each one of them with a wide spectrum of test inputs. Some flaws in the internal logic of the modules were found and were rectified.

1) General Ledger Master

Test Case Id: TC_001, **GUI Interface:** genledger.php

Test Cases	Input	Expected Outcomes	Passed/Failed
Null Entries for adding new general ledger form	No Entries in user controls	Error message displaying required field validation	Passed
Edit existing records of general ledger	Account name, account code, short name, group	Update or modify the general ledger	Passed
Delete existing general ledger records	Select delete option for specified record	Delete corresponding record	Passed

2) Bank Master

Test Case Id: TC_002, **GUI Interface:** bankmaster.php

Test Cases	Input	Expected Outcomes	Passed/Failed
Null Entries for adding new bank master form	No Entries in user controls	Error message displaying required field validation	Passed
Edit existing records of Bank master details	Account name, account code, Bank name, bank code, short name, group	Update or modify the bank master	Passed
Delete existing Bank master records	Select delete option for specified record	Delete corresponding record	Passed

3) Cash Payment

Test Case Id: TC_003, **GUI Interface:** paymentlist.php

Test Cases	Input	Expected Outcomes	Passed/Failed
Null Entries for adding new cash transaction form	No Entries in user controls	Error message displaying required field validation	Passed
Edit existing records of cash payment register	Account name, account code, amount, particular, payment type, date	Update or modify the cash payment record	Passed
Delete existing cash payment transaction records	Select delete option for specified record	Delete corresponding record	Passed

4) Bank Payment

Test Case Id: TC_004, **GUI Interface:** bankpaymentlist.php

Test Cases	Input	Expected Outcomes	Passed/Failed
Null Entries for adding new bank transaction form	No Entries in user controls	Error message displaying required field validation	Passed
Edit existing records of bank payment register	Account name, account code, bank name, bank code, amount, particular, payment type, date	Update or modify the bank payment record	Passed
Delete existing bank payment transaction records	Select delete option for specified record	Delete corresponding record	Passed

5) Purchase Journal Voucher (PJV)

Test Case ID: TC_005, **GUI interface:** purchase.php

Test Cases	Input	Expected Outcomes	Passed/Failed
Null Entries for adding new purchase transaction form	No Entries in user controls	Error message displaying required field validation	Passed
Edit existing records of purchase register	Account name, account code, amount, particular, payment type, date	Update or modify the purchase transaction record	Passed
Delete existing purchase transaction records	Select delete option for specified record	Delete corresponding record	Passed

6) Debit note

Test case ID: TC_006, **GUI interface:** debitnote.php

Test Cases	Input	Expected Outcomes	Passed/Failed
Null Entries for adding new purchase transaction form	No Entries in user controls	Error message displaying required field validation	Passed
Edit existing records of debit note register	Account name, account code, amount, particular, payment type, date	Update or modify the debit note details	Passed
Delete existing debit note register records	Select delete option for specified record	Delete corresponding record	Passed

6.1.2 Integration Testing

Integration testing is systematic technique for constructing the program structure while at the same time conducting tests to uncover errors associated with interfacing. The objective is to take unit tested components and build a program structure that has been dictated by design. The entire program is tested as whole. Moreover differences in program structures were removed and a unique program structure was evolved.

6.1.3 Validation Testing

The end-user rather than the system developer conduct this test most software developers as a process called “Alpha and Beta test” to uncover that only the end user seems able to find. This is the final step in testing. In this the entire system was tested as a whole with all forms, code, modules, and class modules.

6.1.4 Acceptance Testing

The acceptance testing is carried out to verify the system fulfils all the user requirements or not. The system requirements and their implementation details are verified in the acceptance test. The problems and their solutions are also analysed in the acceptance test. The system is passed into the implementation phase after the getting the acceptance from the users.

6.2 System Implementation

Implementation is the stage of the project where the theoretical design is turned into a working system. It can be considered to be the most crucial stage in achieving a successful new system gaining the users confidence that the new system will work and will be effective and accurate. It is primarily concerned with user training and documentation. Conversion usually takes place about the same time the user is being trained or later. Implementation simply means convening a new system design into operation, which is the process of converting a new system design into operation, which is the process of converting a new revised system design into an operational one. Implementation includes proper training to end-users.

The implemented software should be maintained for prolonged running of the software. Initially the system was run parallel with manual system. The system has been tested with data and has proved to be error-free and user-friendly. Training was given to end -user about the software and its features.

6.3 System Maintenance

The term “software maintenance” is used to describe the software engineering activities that occur following delivery of a software product to the customer. The maintenance phase of the software life cycle is the time period in which a software product performs useful work. Maintenance activities involve making enhancement to software products, adapting products to new environments and correcting problems. Software product enhancement may involve providing new functional capabilities, improving user display and modes of interaction, and upgrading external documents. Adaptation of software to a new environment may involve moving the software to a different machine. Problem correction involves modification and revalidation of software to correct errors. The enhancement of this project can be accomplished easily. Adaptation of this project to a new environment is also performed easily.

» Corrective Maintenance

Even with the best quality assurance activities, it is likely that their customer will uncover defects in the software. Corrective maintenance changes the software to correct defects.

» Adaptive Maintenance

An activity that modifies the software to the properly interface with a changing environment. The system has been modified so that various changes include to the new system.

7. CONCLUSION

Finance controlling system distributes a wide variety of reports, forms, and analytics to enable manufacturers to run their business in an effective manner and to have a permanent record of transaction. Permanent records are useful for the future decisions and collaborations. Available forms include purchase order acknowledgements, purchase alerts, and invoices.

This system provides the information needed by the manufacturing organizations to communicate effectively with suppliers and customers to make better business decisions regarding production, quality, stock level, maintenance of raw materials.

The main feature of this system is its capability to keep track of all the information, which helps the management to know the current position of the organization.

The application should provide quick access to the records maintained and must reveal the important reviews about the business so that the growth can be easily compared and should provide with the various reports showing the related details so that the important decisions could be taken easily.

It will help the user to ascertain the stock level and to make decision easier for purchasing raw materials for production. It ensures reliability and security of transactions made by the organization and it keeps control of all department purchase transactions and improvise the existing system through online. This project can help the administrators to take better decision and help to have permanent records of all the transactions.

8. SCOPE FOR FUTURE ENHANCEMENT

There is always a need for flexible and enough for further modifications. Considering this important factor, the system is designed in such a way that provisions can be given for further enhancement without affecting the system presently developed.

The finance controlling system can be expanded in future by centralizing all the departments through the administrator control.

This project can be extending to enable the additional option to adopt with any kind of user environment not only the IT and Accounting department. It could help the user with the affordable level of transaction maintenance.

9. BIBLIOGRAPHY

Book Reference

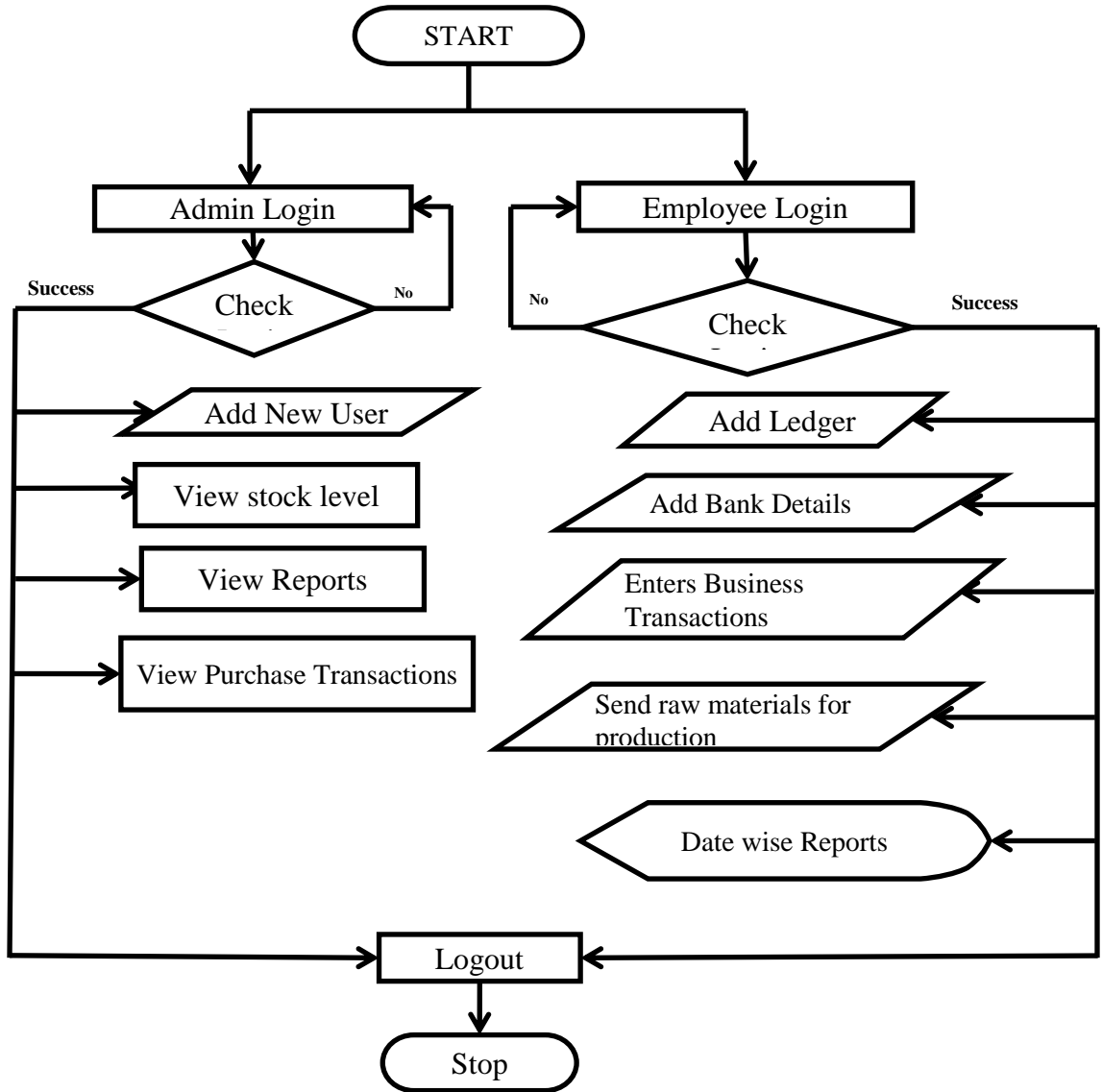
- Elmasri, Ramez, Navathe, Shamkant (1997) Third Edition, Fundamentals of Data Base Management System, Mc GrawHill-International Edition.
- Roger.S, Pressman (1984) Second Edition, Software Engineering, Mc Graw Hill-International Edition. Schlossnagle, “Advanced PHP Programming”, Sams (2003)
- W.J. Gilmore, “A Programmer's Introduction to PHP”, Apress, (2001)
- Luke Welling, Laura Thomson, “PHP and MySQL Web Development”, Sams.(2001)
- Jason Gilmore, “Building Web Applications with PHP”, Apress

Website Reference

- <http://www.w3schools.com/php/>
- <http://www.tutorialspoint.com/php/>
- <http://www.codecademy.com/tracks/php>
- <http://www.vkinfotek.com/erp/erp-software-development.html>
- <http://www.formget.com/login-form-in-php/>
- <http://mrbool.com/how-to-create-a-login-page-with-php-and-mysql/28656>
- <http://www.codeproject.com/Articles/472821/PHPplusMySQLplusLoginplusForm>
- <http://www.phptpoint.com/php/>
- <http://www.techonthenet.com/sql/and.php>

10. APPENDIX

A) System Flow Chart

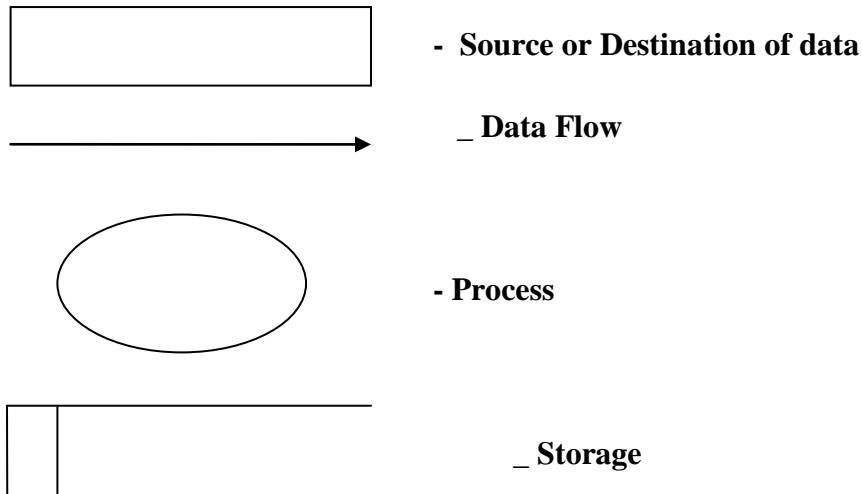


B) Data Flow Diagram

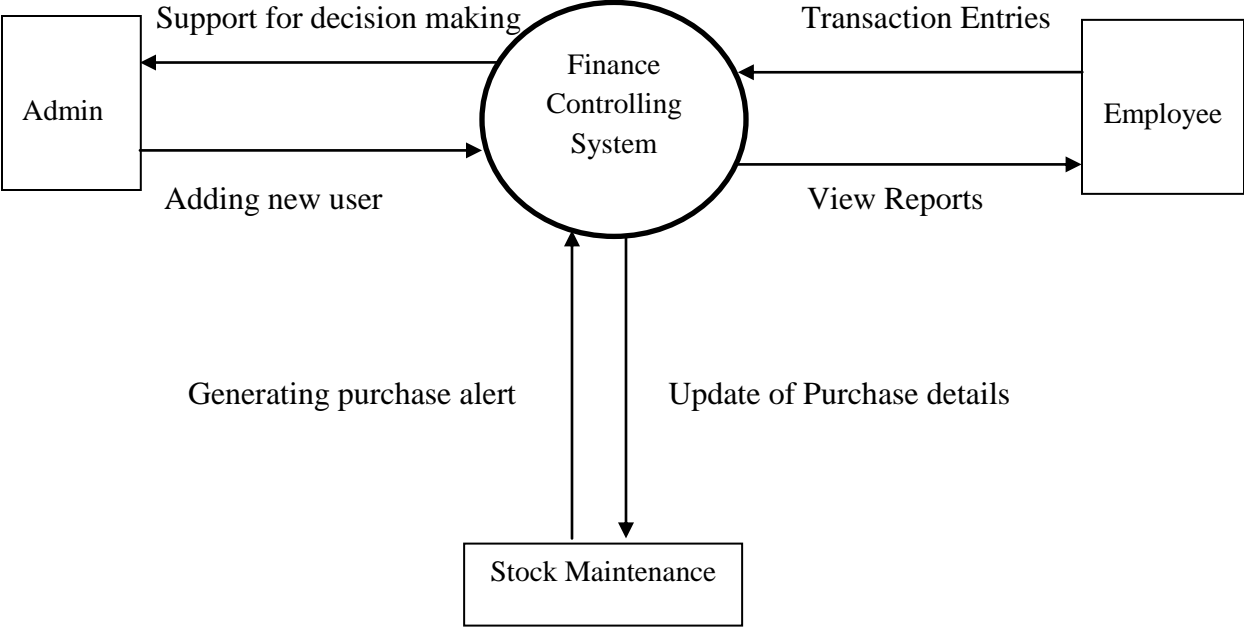
A Data Flow Diagram (DFD) is a diagram that describes the flow of data and the processes that change or transform data throughout a system. It's a structured analysis and design tool that can be used for flowcharting in place of, or in association with, information oriented and process oriented system flowcharts. When analysts prepare the Data Flow Diagram, they specify the user needs at a level of detail that virtually determines the information flow into and out of the system and the required data resources. This network is constructed by using a set of symbols that do not imply a physical implementation. The Data Flow Diagram reviews the current physical system, prepares input and output specification, specifies the implementation plan etc.

Four basic symbols are used to construct data flow diagrams. They are symbols that represent data source, data flows, and data transformations and data storage. The points at which data are transformed are represented by enclosed figures, usually circles, which are called nodes.

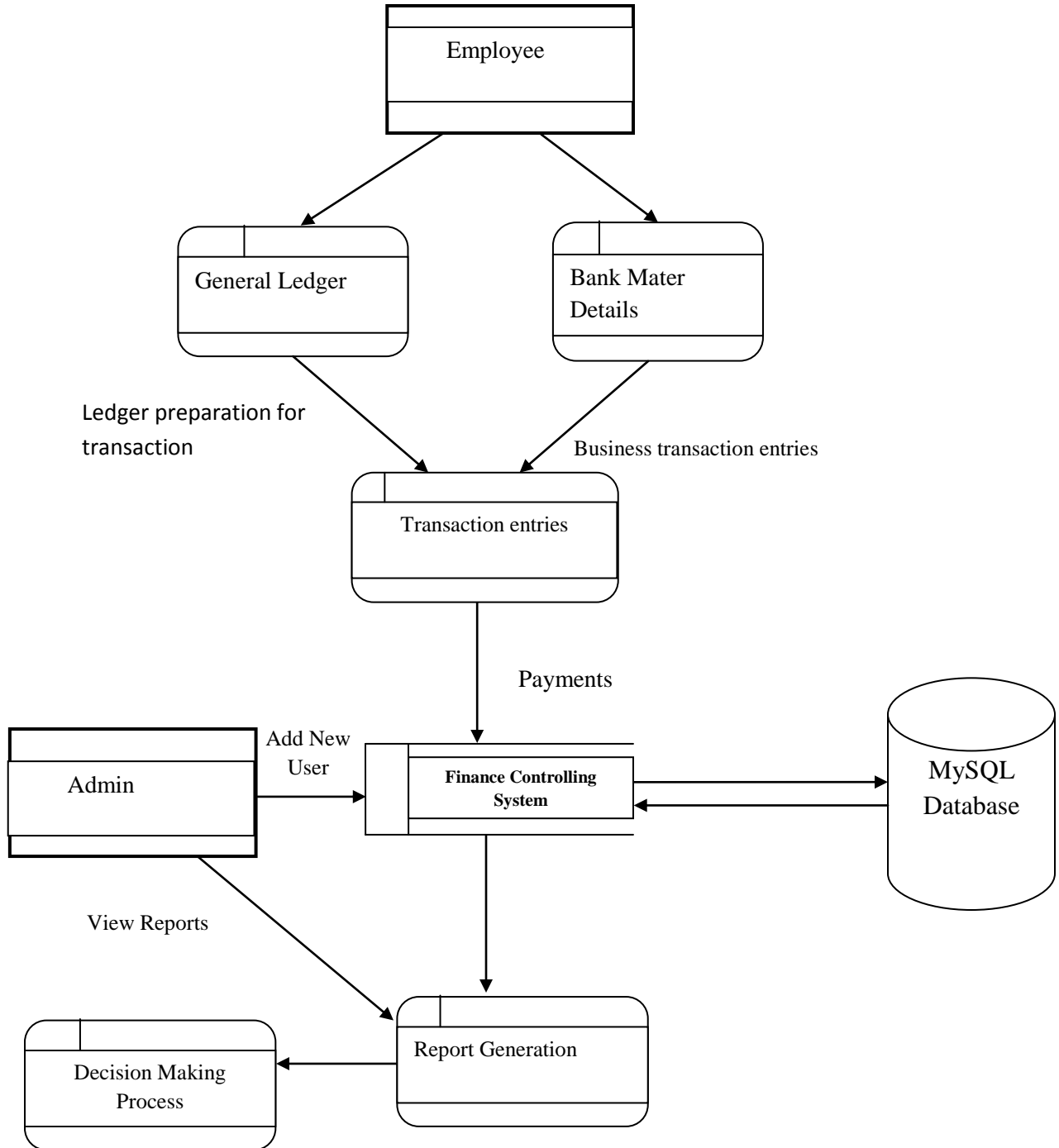
Data Flow Diagram Symbols:-



Context Level Data Flow Diagram

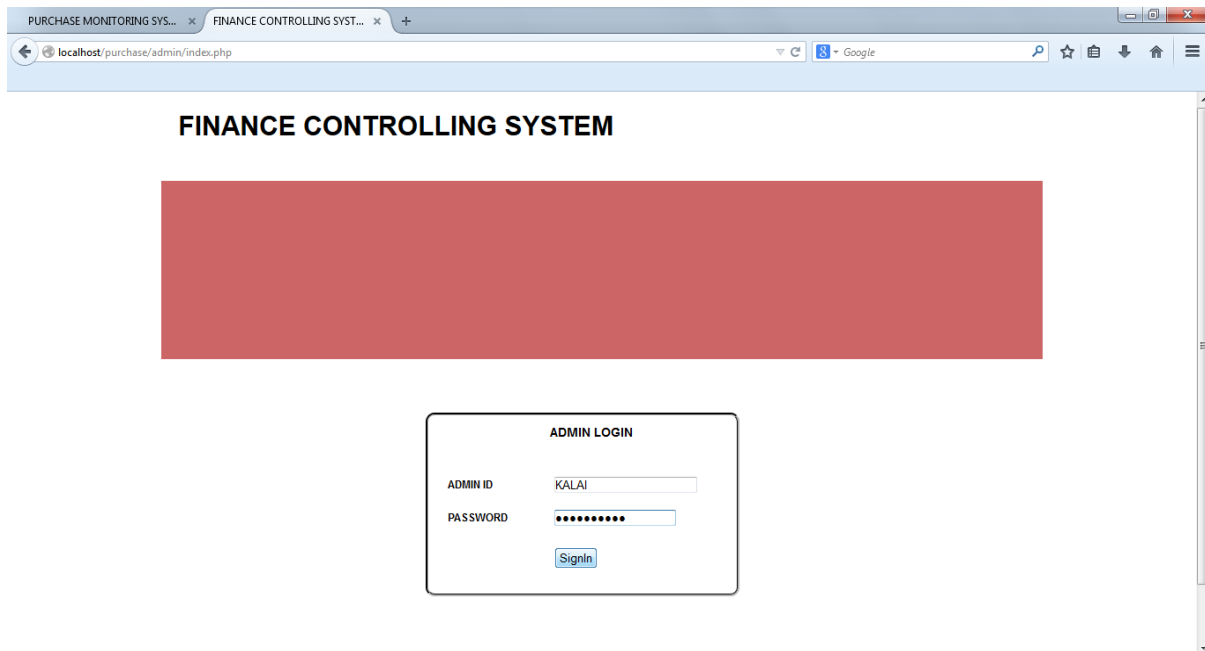


Level 0 Data Flow Diagram

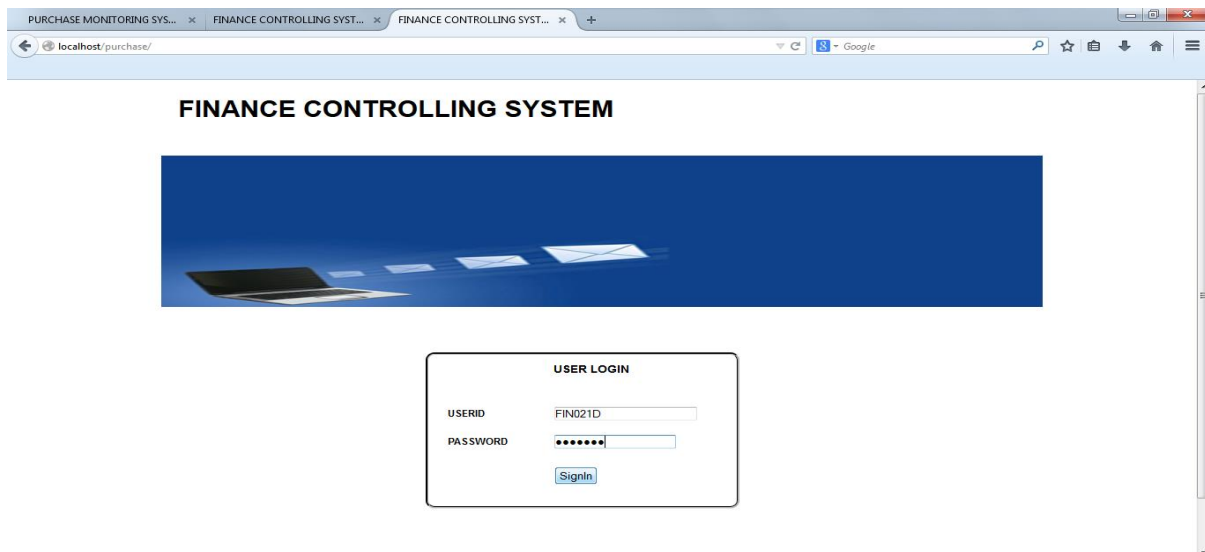


C) Screen Shots

Screen C1: Admin Login



Screen C2: Employee Login



Screen C3: Admin Control Panel

PURCHASE MONITORING SYS... x FINANCE CONTROLLING SYST... x +

localhost/purchase/admin/userlist.php

FINANCE CONTROLLING SYSTEM

WELCOME TO ADMIN

Home User Account Reports Tools

USER ACCOUNT LIST								Add
Sno.	Employee Code	Employee Name	Address	Contact no	Email id	Designation	Password	Action
1	Fin01D	Eshwar Kumar	Radha home, Sringeri, Srivilliputhur, 4/8, Ranganathar street, Koolpalayam, Coimbatore.	9890987867	sringl_eshwar21@gmail.com	Accountant	acc_01D	Edit / Delete
2	Acc02D	Sri hari	4/8, Sri nagar, Chellammal puram, Coimbatore-04	9098767656	Sri_hari2002@rootsindia.com	Accountant	acd%	Edit / Delete
3	Acc01D	Velmurugan	4/8, Sri nagar, Chellammal puram, Coimbatore-04	9876543212	ve_2001vmc@yahoo.co.in	Project Engineer	A1D	Edit / Delete
4	fin02D	Akshaya	ghgh	8989899999	selvaa09@hotmail.com	manager	890	Edit / Delete
5	FIN02D	KATHIRVELAN	4/8, VIJAYANAGAR, NALLAMPALAYAM, GANAPATHY, (POST)	8778765645	KATHIRKATHIR@HOTMAIL.COM	GM	kathirgm	Edit / Delete

www.roots.com

Screen C4: Admin Tools

FINANCE CONTROLLING SYST... x FINANCE CONTROLLING SYST... x +

localhost/purchase/ADMIN/changepass.php

FINANCE CONTROLLING SYSTEM

Welcome to Admin

Home User Account Reports Tools

CHANGE PASSWORD

OLD PASSWORD

NEW PASSWORD

CONFIRM PASSWORD

Submit

www.roots.com

Screen C5: Employee adds General Ledger

The screenshot shows a web browser window with the URL `localhost/purchase/genledger.php`. The page title is "FINANCE CONTROLLING SYSTEM". Below the title is a navigation menu with buttons for "Home", "Master", "Transaction", and "Tools". The main content area is titled "GENERAL LEDGER" and contains a form with the following fields:

Account Code	42143
Account Name	supplier_Selvaraj
Short Name	Sup_Selvaraj
Group	Assets
Stop Payment	<input checked="" type="radio"/> Yes <input type="radio"/> No
Reason	N11

At the bottom of the form are buttons for "SAVE", "EDIT", "DELETE", and "SEARCH". A footer bar at the bottom of the page contains the text `www.roots.com`.

Screen C6: User Adds Bank Master List

The screenshot shows a web browser window with the URL `localhost/purchase/bankmaster.php`. The page title is "PURCHASE MONITORING SYSTEM". Below the title is a navigation menu with buttons for "Home", "Master", "Transaction", and "Tools". The main content area is titled "BANK MASTER" and contains a form with the following fields:

Bank Code	543243
Account Code	831
Bank Name	PUNJAB NATIONAL BANK
Short Name	PNB
Designation	GM
Address	GANDHILEKURAM
City	Coimbatore
State	Tamil Nadu
Country	India
Pincode	4738312
Phone	857457784
Fax	0432-9889765
Email	dhipurambranchoffice@pnb.com
Website	www.pnb.co.in
MICR Code	885472888
IFSC Code	PNBQ8425798
RTGS/NEFT	RTGS

At the bottom of the form are buttons for "SAVE", "EDIT", "DELETE", and "SEARCH". A footer bar at the bottom of the page contains the text `www.roots.com`.

Screen C7: Searching the Existing Ledger

FINANCE CONTROLLING SYST... x localhost / localhost / purc... x +

localhost/purchase/genledger.php

Home Master Transaction Tools

GENERAL LEDGER

Account Code	948
Account Name	
Short Name	
Group	
Stop Payment	<input type="radio"/> Yes <input type="radio"/> No
Reason	

SAVE EDIT DELETE SEARCH

www.roots.com

Screen C8: Editing an Existing Ledger

FINANCE CONTROLLING SYST... x localhost / localhost / purc... x +

localhost/purchase/genledger.php

Home Master Transaction Tools

GENERAL LEDGER

Account Code	948
Account Name	Murugan
Short Name	Supplier murugan a/c
Group	Assets
Stop Payment	<input type="radio"/> Yes <input checked="" type="radio"/> No
Reason	No

SAVE EDIT DELETE SEARCH

www.roots.com

Screen C9: Employee Enters Cash Transaction

The screenshot shows a web browser window with the URL `localhost/purchase/paymentlist.php`. The page title is "FINANCE CONTROLLING SYSTEM". Below the title is a blue banner with a laptop and papers. A "WELCOME TO ADMIN" message is displayed above a navigation menu with buttons for "Home", "Master", "Transaction", and "Tools". The main content area features a "PAYMENT LIST" table with the following data:

Sno.	Payment no	Account Name	Particular	Amount	Payment Type	Bank Name	Cheque no	Cheque date	Payment Date	Action
1	1	credit	Narayanan's account	5000	CREDIT payment	state bank of india	5633	03/18/2015	03/05/2015	Edit / Delete
2	2	cash	rent payment	6000	Cash	state bank of india			03/24/2015	Edit / Delete
3	3	cash	rent payment	10000	Cheque	state bank of india	22122	03/10/2015	03/05/2015	Edit / Delete
4	4	Sudharson a/c	Guru	2400	Cheque	state bank of india	90976	03/19/2015	03/25/2015	Edit / Delete

At the bottom of the page, there is a blue banner with the text `www.roots.com`.

Screen C10: Employee Enters Bank Payment Transaction

The screenshot shows a web browser window with the URL `localhost/purchase/bankdeposit.php`. The page title is "FINANCE CONTROLLING SYSTEM". Below the title is a blue banner with a laptop and papers. A navigation menu with buttons for "Home", "Master", "Transaction", and "Tools" is visible. The main content area features a "BANK PAYMENT" form with the following fields:

Transaction No	4
Account Name	Ayyanar
Account No	23412
Particulars	STATE BANK OF HYDERABAD STATE BANK OF HYDERABAD
Amount	25000
Payment date*	03/04/2015
Narration	Paid

At the bottom of the form, there is a "SUBMIT" button and a label "Account no".

Screen C11: Bank Receipts Entry

PURCHASE MONITORING SYS... x localhost / localhost / purc... x +

localhost/purchase/bankreceipt.php

Home Master Transaction Tools

BANK RECEIPTS

Withdraw No	1
Account Name	SRIKALAI
Account No	2345
Particulars	PUNJAB NATIONAL BANK PUNJAB NATIONAL BANK
Amount	45000
Withdraw date*	03/18/2015
Narration	RETURNS TO SUPPLIER MUTRU SWAMY

SUBMIT Accountno

Screen C12: Cash Receipts

FINANCE CONTROLLING SYST... x localhost / localhost / purc... x +

localhost/purchase/bankdeposit.php

Home Master Transaction Tools

CASH RECEIPTS

Transaction No	5
Account Name	NARAYANAN
Account No	23411
Particulars	Federal bank Federal bank
Amount	43900
Payment date*	03/17/2015
Narration	PAID

SUBMIT Accountno

Screen C13: Editing Cash Transaction

PURCHASE MONITORING SYS... x localhost / localhost / purc... x +

localhost/purchase/paymentedit.php?eid=1

Home Master Transaction Tools

Payment No: 1
Account Name: credit
Particulars: Narayanan's account
Amount: 5000
Payment Type: Cash Cheque

Bank Details:
Bank Name*: state bank of india
Cheque no*: 5633
Cheque date*: 03/18/2015
Payment date*: 03/05/2015

Narration: only credit purchase

SUBMIT

Screen C14: Cash Payment Register

FINANCE CONTROLLING SYST... x +

localhost/purchase/viewvacancy.php

ROOTS INDUSTRIES PVT LIMITED

Home Master Transaction Tools

CASH PAYMENT REGISTER

SELECT FROM DATE: 03/10/2015
SELECT TO DATE: 04/10/2015
ENTER YOUR SEARCH TEXT: SUP_
SEARCH

D) Table Design

Table D1: GENERAL LEDGER

COLUMN NAME	DATA TYPE
Account Code	Varchar(15)
Account Name	Varchar(14)
Short Name	Varchar(22)
Group	Varchar(11)
Cost Centre	Varchar(21)
Category	Varchar(22)
Stop payment	Varchar(21)
Stop payment/ Reason	Char(3)

Table D2: BANK MASTER

COLUMN NAME	DATA TYPE
Bank Code	Varchar(21)
Bank Name	Varchar(22)
Short Name	Varchar(10)
Designation	Varchar(23)
Address	Varchar(30)
City	Varchar(11)
State	Varchar(11)
Country	Varchar(11)
Pincode	Int(6)
Phone	Int(10)
Fax	Int(10)
Email	Varchar(30)
Web Address	Varchar(32)
MICR code	Int(09)
IFSC code	Varchar (11)
RTGS/NEFT	Varchar(7)
Cable	Int (15)
Account Code	Int(15)
Swift Code	Int(10)

Table D3: ALL_TRANSACTION

COLUMN NAME	DATA TYPE
AT_TC	INT(3)
AT_DOC_NO	Varchar(20)
AT_DOC_NAME	Varchar(30)
AT_ACODE	Varchar(11)
AT_BANKNO	Varchar(11)
AT_CHEQUENO	INT(17)
AT_CHEQUEDATE	DATE
AT_REFNO	Varchar(11)
AT_REFDATE	DATE
AT_DESCRIPTION	Varchar(35)
AT_debitamt	Int(8)
AT_Creditamt	Int(12)
AT_REF	Varchar(20)
AT_Subject	Varchar(30)
AT_For_the_month	Varchar(10)
AT_for_the_year	Year
AT_for_the_date	Date
AT_Prepared_user	Varchar(20)
AT__Prepared_Date	DATE
AT_Prepared_Time	Time
AT_bank	Varchar(30)
AT_currency	Varchar(25)