

SYNOPSIS

This project work entitled “**SUPER MARKET MANAGEMENT SYSTEM**” has been developed for **Sakthi Departmental Stores**, Tirupur. The objective of the system is to assist in recording the purchase details. This system also includes various reports for analysis and purchase returns.

The purchase maintenance provides an easy solution to enter the details. They are filling the transaction in an entry sheet. The system records their entire thing efficiently and accurately.

The details of purchase will be stored in a separate database table. This project deals with the details about recording the purchase of goods, processing of orders and their transactions. The system also prepares report for each purchase.

Proper output forms and reports are generated to make the user to view easily the details and lists that are maintained in the database.

This project is developed in Front end **Visual Basic 6.0** and **MS-Access**.

INTRODUCTION TO THE PROJECT

This system was developed in Visual Basic 6.0 as front end, the Microsoft Access as the back end and Windows98 as platform. This project is used to have the different maintenance of the company. They are categorized to various details like

- ◆ Item details
- ◆ Supplier details
- ◆ Stock details
- ◆ Employee details
- ◆ Purchase details

ITEM DETAILS

This module maintains the entire item sold in the past along with their discounts rates, number of items, the total price etc. The new items can be added to the stock and also updation can be done. Here the sales of the items are listed according to the date of the sales and the customer code. The new sales order can also be added to the system.

EMPLOYEE DETAILS

This module maintains the detailed profile of the customer and their purchase along with the details. The customer will be given with a customer code. And the last transaction made by the customer will be listed. Some discounts are given to the customer according to the number of purchase he made with the concern.

PURCHASE DETAILS

The purchase made by the customer is maintained here. The details such as the order number, order date, quantity, and the quality is specified here.

STOCK DETAILS

This module maintains the stock level in hand. Here the purchase quantity, the sold quantity, and the quantity in stock will be listed. Here the management can add or update the stock.

SUPPLIER DETAILS

This module maintains all the details of the supplier and the products provided by them. This module maintains the records according to the purchase made, the product quality, quantity, and the amount paid for the purchase. The system keeps track of all the automation and maintained in the stores and reports are produced for future use.

2. SYSTEM CONFIGURATION

2.1 HARDWARE CONFIGURATION

PROCESSOR	–	PENTIUM 4
HARD DISC	–	40 GB
FLOPPY DISC	–	1.44 MB
RAM	–	128 MB
VISUAL DISPLAY	–	SVGA CARD
KEYBOARD	–	MULTI MEDIA
MOUSE	–	LOGETECH

2.2 SOFTWARE CONFIGURATION

Front end	:	Visual Basic 6.0
Back end	:	MS Access
Platform	:	Windows xp

2.3 SOFTWARE FEATURES

2.3.1 INTRODUCTION TO FRONT END

Visual Basic is a tool that allows you to develop Windows (Graphic User Interface - **GUI**) applications. The applications have a familiar appearance to the user.

Visual Basic is **event-driven**, meaning code remains idle until called upon to respond to some event (button pressing, menu selection,). Visual Basic is governed by an event processor. Nothing happens until an event is detected. Once an event is detected, the code corresponding to that event (event procedure) is executed. Program control is then returned to the event processor.

Some Features of Visual Basic

- Full set of objects - you 'draw' the application

- Lots of icons and pictures for your use

- Response to mouse and keyboard actions

- Clipboard and printer access

- Full array of mathematical, string handling and graphics functions

- Can handle fixed and dynamic variable and control arrays

- Sequential and random access files support

- Useful debugger and error-handling facilities

- Powerful database access tools

- ActiveX support

Package & Deployment Wizard makes distributing your applications simple

Visual Basic 6.0 versus Other Versions of Visual Basic

The original Visual Basic for DOS and Visual Basic for Windows were introduced in 1991. Visual Basic 3.0 (a vast improvement over previous versions) was released in 1993. Visual Basic 4.0 released in late 1995 (added 32 bit application support). Visual Basic 5.0 released in late 1996. New environment, supported creation of ActiveX controls, deleted 16 bit application support. And, now Visual Basic 6.0 - some identified new features of Visual Basic 6.0:

Faster compiler

New ActiveX data control object

Allows database integration with wide variety of applications

New data report designer

New Package & Deployment Wizard

Additional internet capabilities

16 Bits versus 32 Bits

Applications built using the Visual Basic 3.0 and the 16 bit version of Visual Basic 4.0 will run under Windows 3.1, Windows for Workgroups, Windows NT, or Windows 95.

Applications built using the 32 bit version of Visual Basic 4.0, Visual Basic 5.0 and Visual Basic 6.0 will only run with Windows 95 or Windows NT (Version 3.5.1 or higher).

In this class, we will use Visual Basic 6.0 under Windows 95, recognizing such applications will not operate in 16 bit environments.

Application (Project) is made up of:

Forms - Windows that you create for user interface

Controls - Graphical features drawn on forms to allow user interaction (text boxes, labels, scroll bars, command buttons, etc.)
(Forms and Controls are **objects**.)

Properties - Every characteristic of a form or control is specified by a property. Example properties include names, captions, size, color, position, and contents. Visual Basic applies default properties. You can change properties at design time or run time.

Methods - Built-in procedure that can be invoked to impart some action to a particular object.

Event Procedures - Code related to some object. This is the code that is executed when a certain event occurs.

General Procedures - Code not related to objects. This code must be invoked by the application.

Modules - Collection of general procedures, variable declarations, and constant definitions used by application.

Visual Basic Functions

Visual Basic offers a rich assortment of built-in **functions**. The on-line help utility will give you information on any or all of these functions and their use. Some examples are:

Function	Value Returned
Abs	Absolute value of a number
Asc	ASCII or ANSI code of a character
Chr	Character corresponding to a given ASCII or ANSI code
Cos	Cosine of an angle
Date	Current date as a text string
Format	Date or number converted to a text string
Left	Selected left side of a text string
Len	Number of characters in a text string
Mid	Selected portion of a text string
Now	Current time and date
Right	Selected right end of a text string
Rnd	Random number
Sin	Sine of an angle
Sqr	Square root of a number
Str	Number converted to a text string
Time	Current time as a text string
Timer	Number of seconds elapsed since midnight
Val	Numeric value of a given text string

2.3.2 INTRODUCTION TO BACK END

Microsoft Access is a relational database used on desktop computers to manage information on different levels for different purposes. Microsoft Access can be used for personal information management, in a small business to organize and manage all data, or in an enterprise to communicate with servers.

Database Management System:

A database is an organized collection of data. Organization means method, it assumes discipline, it also anticipates efficient manner in using that information. Unless you are creating small applications for your personal use, you will usually need to share your data either with other people (users, database developers, etc) or other machines. To make your job easier, Microsoft Access provides in one package the database information and the tools you need to use your database. To be organized, you will divide your database in different related parts.

When you create a database in Microsoft Access, you create a file that will include different parts of your database. These are referred to as tables queries, forms, reports, etc.

Microsoft Access as a Software Product

Microsoft Access is a classic computer application and it gets launched like the usual products you have probably been using. As such, to start this program, you could click Start -> Program -> Microsoft Access. As a regular member of the Microsoft Office suite of applications, if your installation created a sub-menu on the Start menu,

you could click Start -> New Office Application and proceed from the new dialog box.

Although Microsoft Office 97 and Microsoft Office 2000 get installed in the C:\Program Files\Microsoft Office folder, they treat the shortcuts that launch them differently. The applications that are part of Microsoft Office 97 designate their shortcuts with full names and these are installed in the Microsoft Office folder. Microsoft Office 2000 (Premium) uses shortcut names to designate its shortcuts and they are installed in the Microsoft Office\Office folder. This means you could launch an application from Windows Explorer or My Computer. Therefore, in order to launch Microsoft Access, locate its shortcut in Windows Explorer or My Computer and double-click it.

If you have a Microsoft Access database such as an E-Mail attachment, a file on a floppy disk, on the network, or in any other means, once you see its icon, you can double-click it. Not only will this action launch Microsoft Access, but also it will open the file.

You can also launch Microsoft Access from a shortcut. If you happen to use the software on a regular basis, you can create a shortcut on your desktop or on the Quick Launch area. Many users also take advantage of the Microsoft Office Shortcut Bar. Sometimes, the icon you need will not be there; in that case you should insert it manually.

When Microsoft Access starts, you are presented with a special dialog box that inquires about your intentions. From this dialog, you can do one of four things: create a database using one of the sample files, create a database from scratch, open an existing database, or open a "raw" program.

3. SYSTEM STUDY

3.1 EXISTING SYSTEM

The system phase studies the problem, identifies alternate solution, and finally Recommends the best solution, The system study gives structure and function of the system, The system study can be performed only on existing system .The system study is essential for developing efficient system. In existing, the construction Company was using the software which is developed in Java language. Which is not being a graphical environment and it consist of fewer features. To handling the software is very difficult and this software can be operated by only who is having the knowledge in Java language. The output report is not in clear format and we must DOTMATRIX printer for printing the report. The cost of the DOT MATRIX printer is too heavy same time the letter will not be shown in clear format.

The Existing system is analyzed by using the following techniques.

- (a). Observation
- (b). Interview
- (c). Discussion

Observation:

Observation of the functionality of the existing system gives the idea for the new System. This will be used to figure out the pitfalls of the Current system. It is helpful to understand and study the entire current system. Be observation we can point out the existing system it also validates the data Gathered by other means. It also gives a better understanding of the workload and pressures faced.

Interview:

The main objective interview is to gather information regarding the system from the concerned authorities to find the system requirement and thereby improving the existing system. A thorough understanding of the system can be made by interviewing the managerial staff and user and this will be very useful to improve the efficiency of the existing system.

Discussion:

Discussion goes a long way in satisfying the needs of the management. The main objective of the discussion is to transfer the ideas between the department and the system developer. Through discussion, useful suggestion made by the user can be incorporated into the application. Also the problems faced by the user during data entry retrieval report generation etc...can be understood.

Limitation

- Time delay for executing order.
- In Existing software Java is character based language so which is not being graphical environment. So the operation of the software is very difficult.
- The report format is not cleared.
- Absence of multitasking.
- This is not being user friendly.
- Maintaining records are very difficult.

- Errors occur frequently.

3.2 PROPOSED SYSTEM

The proposed system is an effective menu driven package. This package is more powerful than the existing system. The package also aims to provide faster service to the management proposed system thus aim at removing all the complexities in the existing system. The proposed system is developed by using Visual basic as front end and MS-Access as back end. The visual basic software is a graphical tool which provides the graphical environment for using the software.

MERITS OF THE PROPOSED SYSTEM

Data stored should avoid redundancy and minimum amount of rekeying is required. Entry of data should be at one point only.

Faster Data Retrieval

The system should facilitate data retrieval with minimum wait time.

Built in security features

The new system should provide all the securities needed and should also be temper proof.

Minimize paper work

On time queries should be provided in order to reduce paper work.

Exception Reporting

The system should provide adhoc queries and reports to the management.

SCOPE OF THE PROPOSED SYSTEM

- Provides a highly secure environment for carrying out all sales and purchase activities.
- Monitoring the overall order details.
- Keep track of the order information for each customer.

FEATURES OF THE PROPOSED SYSTEM

- User friendly
- Ease of access.
- Fast retrieval.
- Reduce manpower and stationary charges.

4. SYSTEM DESIGN AND DEVELOPMENT

4.1 DATA FLOW DIAGRAM

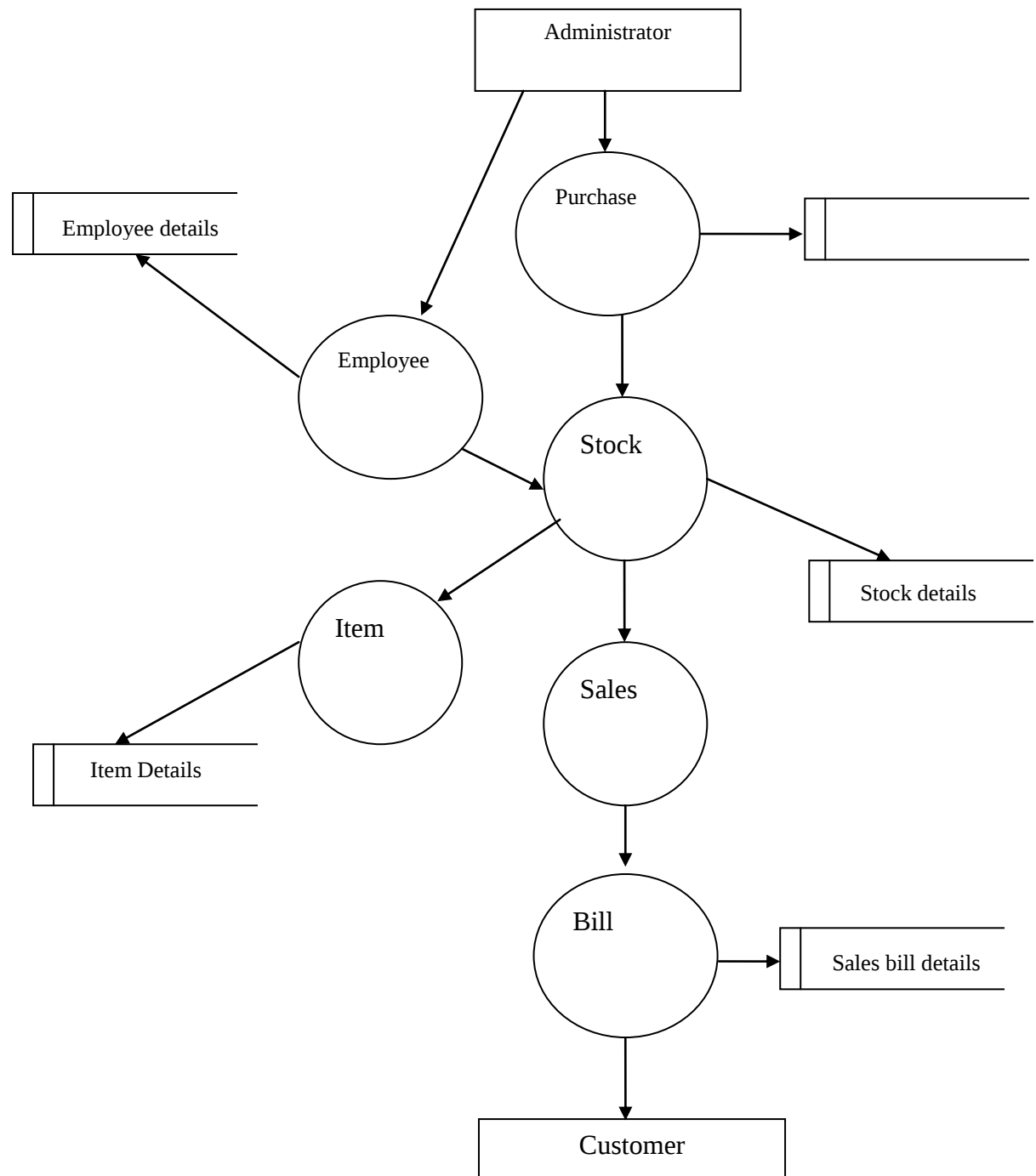
A Data flow diagram is a graphical representation of data movement, processes, and files (data stores) used in support of an information system. Data flow diagram models are used to a system by external entities from which data flows to a process, which go to other processes or external entities or files.

A Data flow diagram consists of series of bubbles joined by lines. The bubbles represent data transformations and the lines represent data flows in the system. A Data flow system model shows the flow of material, energy, and information that hold the system together. There is an orderly flow of logic in modules.

A DFD describes what data flow (logical) rather than how they are processed, so it does not depend on hardware, software, data structure, or file organization. A DFD typically shows the minimum contents of data stores. Each data store should contain all the data elements that flow in and out. The DFD is easy to understand after a brief orientation.

- Data flow is represented by an arrow.
- People, procedures or devices that use or produce will be represented in circle.
- External sources or destinations of data, which may be people, programs, organizations, or other entities that interact with the system but are outside its boundary are represented in rectangle.
- Data are stored or referenced by a process in the system. The data store may be represent with the open rectangle.

LEVEL 1:



4.2 DATA BASE DESIGN

A database is a collection of stored data organized in such a way that all the data requirements are satisfied. In order to design the database and the tables used in the system, MS Access provides extra optional facilities which aid and control each user's access to use the database for adding, modifying and retrieving data and facilitate data independence, integrity and security.

Data Co-ordination

In a database, information from several files are coordinated, accessed and operated upon as though it is in a single file. Logically the information is centralized. Physically the data may be located on different devices and in widely scattered geographically locations, connected through data communication facilities.

Data Integrity

This ensures the correctness and completeness of the data in the database. When the contents of the database are modified the integrity of the database is lost. To maintain the consistency of data integrity of constraints is required.

Some of the integrity constraints are

- Domain constraints specify NULL or NOT NULL.
- Validity integrity - checks for data type and range.
- Entity integrity - uniqueness and primary key.
- Reference integrity - foreign key relation

Data Independence

Data independence is the insulation of application programs from changing aspects of physical data organization. This objective seeks to allow changes in the content and organization of physical data without reprogramming of applications and to allow modifications to application programs without reorganizing the physical data.

Table name: Customer

Field Name	Data type	Size
cust_code	text	10
cust_name	Text	15
cust_addr	Text	50
phone_no	text	10

Table name: Item_det

Field Name	Data type	Size
Item_code	Text	10
Item_name	Text	20
Quantity	Number	10
Unitprice	Number	10
Max_level	Number	10
Re_level	Number	10

Table name:Inv

Field Name	Data type	Size
Invno	Number	10
invdate	date	10
Item_code	Text	10
Item_name	Text	20
Quantity	Number	10
Unitprice	Number	10
Amount	number	10

Table name: tblPurchase

Field Name	Data type	Size
supplcode	Number	10
invdate	date	10
invno	Text	10
Item_code	Text	10
Quantity	Number	10
Unitprice	Number	10
Amount	number	10

Table name: Bill

Field Name	Data type	Size
billno	Number	10
invcode	Number	10
s/date	date	10
Item_name	Text	20
Quantity	Number	10
Unitprice	Number	10
Amount	number	10

Table name: Supplier

Field Name	Data type	Size
suppli_code	Text	10
suppli_code	Text	10
suppli_addr	Text	50
Phone_no	number	10

4.3 INPUT DESIGN

Input design is the method by which valid data are accepted from the user. This valid data turn is stored as operational data in the database. The goal of input design is to make input data entry as easy and error free. Input screen takes care to filter the invalid data from becoming an operational data at data entry phase.

Input design is the part of the overall system design that requires very careful attention and is the most expensive phase. It is the point of most contact for the users with the computer system and so itself it is prone to error. If data going into the system is incorrect then processing and output will magnify these errors. Objective during the input design is as follows

- Produce cost effective method input
- High-level accuracy
- Free of ambiguity

Several stages of input design are,

- Data recording.
- Data verification.
- Transmitting data to the system.
- Data correction.

The input design involves converting originated inputs into a system-based format. The aim of input design is to make the data entry

easier, logical error free. The different types of input data handled by the system are:

External

They are the prime inputs to the system. The external input is what the user supplies to the system. There are two types of external inputs in the OOS. User gives one input and the other are by admin.

Internal

They are input format required for the system to understand. When the external input is obtained from the user, these inputs are transferred as messages through windowing system. These messages are then captured and handled as input for further processing.

4.4 OUTPUT DESIGN

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 is essentially displays the generated output on the screen. The results of most of the queries are usually displayed on the screen to on line 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 the management and whatever situation demands.

The objectives of the output design are as follows:

- Design output to serve the indented purpose.
- Design output to fit user.
- Deliver the appropriate quantity of output.
- Assure that output is where it is needed.
- Provide output on time.
- Choose the right output method.

An inevitable activity in the system is the proper design of input and output in form acceptable to the user. Outputs from the system are required primarily to communicate the result of processing to users. Outputs also provide a permanent copy of the results for later consultations. An intelligible output design will improve system relationships with the user and help in the decision-making process.

5. SYSTEM TESTING AND IMPLEMENTATION

System testing is the process of exercising software with the intent of finding and ultimately correcting errors. This fundamental philosophy does not change for web applications, because Web-based systems and application reside on a network and interoperate with many different operating system, browsers, hardware platforms, and communication protocols; the search for errors represents a significant challenge for web application.

The distributed nature of client\server environments, the performance issues associated with transaction processing, the potential presence of a number of different hardware platforms, the complexities of network communication, the need to serve multiple clients from a centralized database and the requirements imposed on the server all combine to make testing of client\server architectures.

5.1 TESTING ISSUES

- Client GUI considerations
- Target environment and platform diversity considerations
- Distributed database considerations
- Distributed processing considerations

5.1.1 TESTING METHODOLOGIES

System testing is the state of implementation, which is aimed at ensuring that the system works accurately and efficiently as expected before live operation commences. It certifies that the whole set of programs hang together. System testing requires a test plan that consists of several key activities and steps for run program, string, system and user acceptance testing. The implementation of newly designed package is important in adopting a successful new system.

Testing is an important stage in software development. The system test in implementation stage in software development. The system test in implementation should be confirmation that all is correct and an opportunity to show the users that the system works as expected. It accounts the largest percentage of technical effort in the software development process.

5.1.2 Unit Testing

Unit testing is testing changes made in an existing or new program. This test is carried out during the programming and each module is found to be working satisfactory.

5.1.3 Integration Testing

A comprehensive integration testing is carried out using integrated test plans in the design phase of the development as guide to ensure the behavior of functions with live data.

5.1.4 Validation Testing

Software validation is achieved through a series of tests that demonstrates conformity with requirements. Thus the proposed system

under consideration has been tested by validation and found to be working satisfactorily.

5.1.5 Output Testing

Asking the users about the format required by them tests the outputs generated by system under consideration. It can be considered in two ways. One on the screen and the other is printed format. The output format on the screen is found to be correct as the format designed in the system design.

5.1.6 System Testing

This is to verify that all the system elements have been properly integrated and perform allocated functions. Testing is executing a program to test the logic changes made in it and with intention of finding errors. Tests are also conducted to find discrepancies between system and its original objective, current specification and documents.

5.2 SYSTEM IMPLEMENTATION

Implementation is the stage of the project. When the theoretical design is turned into a working system. At this stage the main workload, the greatest upheaval and the major. Impact on existing practices shift to user department. If the implementation stage is not carefully, planned and controlled it can cause chaos. Thus, it can't be considered to be the more crucial stage in achieving a successful new stage and in giving the user confidence that the system will work and be effective.

The implementation stage is a system project in its own right. It involves careful planning, investigation of the current system and its constraints on implementation, design of methods to achieve the change over procedures, and evaluation of change over methods.

The Implementation plan consists of the following steps,

Testing the developed system with sample data.

- Detection and correction of errors.
- Making necessary changes in the system.
- Checking the reports with that of the existing system.
- Training and involvement of user personnel.

IMPLEMENTATION PROCEDURES

The implementation phase is less creative than system design. A system project may be dropped at any time prior to implementation, although it becomes more difficult when it goes to the design phase.

The final report to the implementation phase includes procedural flowcharts, record layouts, report layouts, and a workable plan for implementing the candidate system design into an operational one. Conversion is one aspect of implementation.

Several procedures of documents are unique to the conversion phase.

They include the following,

The conversion portion of the implementation plan is finalized and approved.

- Files are converted.
- Parallel processing between the existing and the new system are logged on a special form.
- Assuming no problems, parallel processing is discontinued. Implementation results are documented for reference.
- Conversion is completed. Plans for the post-implementation review are prepared. Following the review, the new system is officially operational.

6. SYSTEM MAINTENANCE

Maintenance is actually the implementation of the review plan. As important as it is, many programmers and analysts are to perform or identify themselves with the maintenance effort. There are psychological, personality and professional reasons for this. Analysts and programmers spend far more time maintaining programs than they do writing them. Maintenance accounts for 50-80 percent of total system development. Maintenance is expensive. One way to reduce the maintenance costs are through maintenance management and software modification audits.

- Maintenance is not as rewarding as exciting as developing systems. It is perceived as requiring neither skill nor experience.
- Users are not fully cognizant of the maintenance problem or its high cost.
- Few tools and techniques are available for maintenance.
- A good test plan is lacking. Standards, procedures, and guidelines are poorly defined and enforced.
- Programs are often maintained without care for structure and documentation. There are minimal standards for maintenance.
- Programmers expect that they will not be in their current commitment by time their programs go into the maintenance cycle.

7. CONCLUSION

“SUPERMARKET MANAGEMENT SYSTEM” provides a total solution to the elimination of redundancy of information in various places. This system improves the efficiency of the organization since this system is developed in Visual Basic6.0 as front end and MS Access as back end. Using this system the database is dynamically maintained. The developed system is user friendly; easy to learn apart from the entire above feature it needs minimal training time for the users. The system with strict access control procedure provides the needed security and authorization.

This system totally ends on the data that has been entered by the personnel. Any false information in the order entry will lead to wrong decision. This package has been designed such that this can be extended to any extent that could help it being more efficient system. Hence this package gives good scope for further development. Performance of the system can be monitored; optimization may be done wherever necessary for efficient functioning of the system.