

1.INTRODUCTION

Cement is any substance which binds together other materials by a combination of chemical processes known collectively as setting. Cements are dry powders and should not be confused with concretes or mortars, but they are an important constituent of both of these materials, in which they act as the 'glue' that gives strength to structures. Mortar is a mixture of cement and sand whereas concrete also includes rough aggregates.

Because it is a major component of both of these building materials, cement is an extremely important construction material. It is used in the production of the many structures that make up the modern world including buildings, bridges, harbours, runways and roads. It is also used for facades and other decorative features on buildings. The constant demand for all of these structures, increasingly from the developing world, means that cement is the second most consumed commodity in the world after water.

Development

Modern cement has come a very long way from its origins. Archeological evidence has been found that a form of crude concrete was used in hut construction in the areas now covered by Serbia, dating from around 5600BC and Israel (7000BC). Although the materials were never sufficiently strong to form monolithic structures, they provided some elements of stability to otherwise loose structures. The ancient Greeks also had access to lime plaster, which was often used for decorative purposes and crude cements derived from calcined lime were also used by the Roman Empire, notably in the construction of the Pantheon in Rome.

1.1 ORGANIZATION PROFILE

India is the second largest producer of cement in the world. No wonder, India's cement industry is a vital part of its economy, providing employment to more than a million people, directly or indirectly. Ever since it was deregulated in 1982, the Indian cement industry has attracted huge investments, both from Indian as well as foreign investors.

India has a lot of potential for development in the infrastructure and construction sector and the cement sector is expected to largely benefit from it. Some of the recent major initiatives such as development of 98 smart cities are expected to provide a major boost to the sector.

Expecting such developments in the country and aided by suitable government foreign policies, several foreign players such as Lafarge-Holcim, Heidelberg Cement, and Vicat have invested in the country in the recent past. A significant factor which aids the growth of this sector is the ready availability of the raw materials for making cement, such as limestone and coal. The Ram co Cement Dealer in Madurai

Market Size

As of June 2019, cement production capacity stood at 28.3 million tonnes per annum (MTPA). Capacity addition of 20 million tonnes per annum (MTPA) is expected in FY19-FY21.

The Indian cement industry is dominated by a few companies. The top 20 cement companies account for almost 70 per cent of the total cement production of the country. A total of 210 large cement plants account for a cumulative installed capacity of over 410 million tonnes, with 350 small plants accounting for the rest. Of these 210 large cement plants, 77 are located in the states of Andhra Pradesh, Rajasthan and Tamil Nadu. Capacity addition of 20 million tonnes per annum (MTPA) is expected in FY19- FY21.

1.2 PROJECT OVERVIEW

The project “**CEMENT DEALER MANAGEMENT SYSTEM**” maintains the transaction details of a cement dealer shop. Any Cements dealers shop needs to maintain their purchase, stock and sales of cements. This project backup the details all needed for cement shop owner or worker. The system facilitates to retrieve and report the available cements by its unique ID.

User friendly application development tool **Visual Basic 6.0** is used here to deploy every problem modules. The details entered by the end user like owner or worker can be stored in the backend **MS ACCESS**. The programming tool Visual Basic 6.0 is used to develop the project, which is rapid application development tool and ease of use.

This system helps to converts all the manual works to computerized one. The process of this project includes clement inward details, clement outward details, billing details and delivery reports. The report module helps the user to generate various reports by date and by customer id.

MODULES

This project deals with the following Modules

- Customer Details
- Cement Model Master
- Cement purchase details
- Product stock details
- Cement sales details
- Reports details

MODULE DESCRIPTION

Customer Details

New user and existing user are used in this cement dealer management process. User can enter their login id next they can manage administrative process to enter their process to order.

Cement Model Master

Cement product details are maintaining at this modules. It is used to view total number of item details of the production at here. It will very useful to all to view the item details.

Cement Purchase Details

Stores each models purchasing date, purchase id, the person, rate...etc from whom we purchased material, quantity and so on. Any new models that are available can be entered at here.

Product Stock Details

Number of cement bags available, sale cement bags details are maintaining in this module. Over all stock details available here.

Cement Sales Details

This module maintains every products sale in unique way. Day by day sales as well as product wise sales details will be entered with customer details in database.

Reports

This module helps the higher authority to know the result of the business by generating the reports. The report can also be generated for a stipulated time period from the total description of transaction details.

2. SYSTEM ANALYSIS

2.1 EXISTING SYSTEM

In the existing system various groups maintain data manually. The data maintenance adopted by the existing system is not systematic. The personal details about the customers, staff details and sales entry details each of these are maintained manually in a separate register. Handling of data becomes difficult, when the details are maintained in the form of hard copy.

Drawbacks of the existing system

- It is not computerized and hence not systematic.
- Lack of database security
- Same data stored in more than one location
- Slow access speed for searching and modifying data
- The customers were not aware of the products, which the organization deals with.

2.2 PROPOSED SYSTEM

The need for the proposed system arises from the limitations of the existing system, which is a manual one. The proposed system maintains a centralized database, which can store the relevant information about the general user, customer, sales and the stock details.

To develop user friendly software that meets the user needs any time. Since adding and deleting the task is easier. The system is computerized only. Information can be created and altered by administrator. The Primary Objective of the proposed system is to achieve competitiveness.

Advantages of the proposed system

- Increases the customer satisfaction through shorter delivery cycle.
- Data tampering is reduced
- Provides security that protect against outsider crime.
- Reduces cost of operations
- Brings down number of order processing mistakes

3. SYSTEM SPECIFICATION

3.1 HARDWARE SPECIFICATION

Processor	: Core 2 Duo
Speed	: 2 GHz
Hard disk capacity	: 500GB
RAM capacity	: 2 GP RAM
Keyboard	: 104 keys
Mouse	: Logitech
Monitor	: 15” Monitor

3.2 SOFTWARE SPECIFICATION

Operating system	: Windows-7
Front end	: Visual Basic 6.0
Back End	: MS Access

3.3 SOFTWARE DESCRIPTION

About Visual Basic 6.0:

Microsoft Visual Basic is one of the best GUIs and version 6.0 is the latest Version of the popular programming language. With its new features, Visual Basic is an even stronger contender in the application development area than ever before.

Microsoft Visual Basic, the fastest and easiest to create applications for Microsoft windows. Visual Basic provides with a complete set of tools to simplify Rapid Application Development (**RAD**).

Visual Basic 6.0:

The “**Visual**” part refers to the method used to create the graphical user interface (**GUI**), Rather than writing numerous lines of code to describe the appearance and location of interface elements, we simply add rebuilt objects into place on screen. The “**Basic**” part refers to the BASIC (Beginners All - Purpose Symbolic Instruction Code) language, a language used by more programmers than any other language in the history of computing. Visual Basic has evolved from the original BASIC language and now contains several hundred statements, functions and keywords, many of which relate directly to the windows GUI.

The purpose of Visual Basic is to develop robust stand-alone application, games, and utilities less time than it takes in other languages. We can use also ActiveX technology to create internet-enabled applications that are limited only by our imagination.

Visual Basic 6.0 is the newest addition to the family of Visual Basic products. It allows us to create Windows applications for our PC without being an expert in C++ or other programming languages.

Visual Basic 6.0 is specially designed to utilize the Internet. It comes with several controls that allow us to create web-based applications called ActiveX executables. They will work just like stand-alone visual basic application, but they are accessed through the Microsoft Internet explorer 3.1

Web browser. This allows us to revise our applications and distribute them through the Internet.

Some new features in visual basic 6.0 are given below:

- VB 6.0 is most productive tool for creating high-performance enterprise and web-based applications.
- VB 6.0 integrated visual database tools and new data environment designer can visually design oracle and MS SQL server databases and create reusable data access queries all without leaving the VB environment.
- Data report designer can quickly drag and drop custom data-bound controls to create forms or reports. Creation of custom data hierarchies is as easy as filling out a dialog box and dragging the command to the form.
- VB 6.0 professional edition is designed for individual professional or corporate developer who needs to create a client/server or Internet based applications.
- With the emergence of dynamic HTML page designer, multimedia rich applications can be developed using the document.
- Object model and dynamic HTML surface.

Visual Basic 6.0 Features

The Visual Basic Enterprise Edition contains all of the features included with the Visual Basic professional edition and the Visual Basic learning edition. In addition, it contains the following features, available in the enterprise edition only. For more information about other editions of Visual Basic, see Visual Basic editions.

Visual Component Manager:

This tool stores, organizes, and shares reusable components. It can contain wizards, ActiveX components, Database connection objects, and many other components used in Visual Basic projects. It is suited to enterprise-wide component cataloging and reuse because it is based on the open and scalable Microsoft Repository.

Visual Database Tools Integration:

With these designers you can visually create and modify database schemes and queries: Create SQL Server and Oracle database tables, drag and drop to create views, and automatically change column data types.

New Features of Visual Basic 6.0

- ADO (ActiveX Data Objects).
- Data Environment.
- ADO Data Control.
- Enhanced Data Binding.
- OLEDB Support.
- Visual Database Tools Integration.
- Setup Wizard Data Enhancement.

- Data Report.
- Data View Window.
- SQL Editor.
- Hierarchical Flex Grid Control.
- Data Repeater Control.
- Passing ADO Record sets.
- Data Form Wizard Enhancement.
- Data Object Wizard.
- File System Objects.
- Format Objects.

ADO Control:

The ADO Data control user Microsoft ActiveX Data Objects (ADO) to quickly create connections between data-bound control and data provides. Data-bound controls are any controls that feature a Data Source property. Data provides can be any source written to the OLEDB specification. We can also easily create our own data provider using Visual Basic's class module.

Although we can use the ActiveX Data Objects directly in our applications, the ADO Data control has the advantage of being a graphic control (with back and Forward buttons) and an easy-to-use interface that allows us to create database applications with a minimum of code.

Data Reports:

The Microsoft Data Reports designer is a versatile data report generator that features the ability to be created, banded hierarchical reports. Used in conjunction with a data source such as the Data Environment designer, we can create reports from several different relational tables. In addition to creating printable reports, we can also export the report to HTML or text files.

Uses:

- Automatically create reports that are exported in HTML format for instant distribution on the Internet.
- Create reports that show the sums of transactions occurring on a daily basis.

Data Combo:

The Data Combo and Data List controls strongly resemble the standard list box and combo box controls, but there are some important difference that give them great flexibility and usefulness in database application. Both controls can be automatically filled from a database field from the data control to which they are bound. In addition, they can optionally pass selected field to a second data control, making them ideal for “lookup table” application.

Textbox:

A Text Box control, sometimes called an edit field or edit control, displays information entered at design time, entered by the user, or assigned to the control in code at run time.

Timer:

A Timer control can execute code at regular intervals by causing a Timer event to occur. The timer control, invisible to the user, is useful for background processing

Tool Bar:

A Toolbar control contains a collection of Button objects used to create a toolbar that is associated with an application.

Label:

A Label control is a graphical control and we can use to display text that a user can't change directly.

List Box:

A List Box control displays a list of items from which the user can select one or more, if the number of items exceeds the number that can be displayed; a scroll bar is automatically added to the List Box control.

If no item is selected, the List Index property value is -1. The first item in the list is List Index 0, and the value of the List Count property is always one more than the largest List Index value.

Combo Box:

A Combo Box control combines the features of a Text Box control and List Box control-users can enter information in the text box portion or select an item from the list box portion of the control.

Data Combo:

The Data Combo control is a data-bound Combo Box that is automatically populated from a field in an attached data source, and optionally updates a field in a related table of another data source.

Data Grid:

Displays and enables data manipulation of a series of rows and Columns representing records and fields from a Record sets object.

Data List:

The Data List control is a data-bound list that is automatically populated from a field in an attached data source, and optionally updates a field in a related table of another data source.

Check Box:

A Check Box control displays an X when selected; the X disappears when the Check Box is cleared. Use this control to give the user a True/False or Yes/No option. We can use Check Box controls in groups to display multiple choices from which the user can select one or more. We can also set the value of a Check Box programmatically with the Value property.

Command Button:

Use a Command Button control to begin, interrupt, or end a process. When chosen, a Command Button appears pushed in and so is sometimes called a push button.

Data Report Object:

The Data Report object is the programmable object that represents the Data Report designer.

Scroll Bar Controls:

Scroll bars provide easy navigation through a long list of items or a large amount of information.

Events:

An event is a specific action that occurs on or with a certain object. Visual Basic can respond to a variety of events: mouse clicks, changes in data, forms opening or closing, and many others. Events are usually the result of user action.

Using either an event procedure or a macro, we can add our own Custom response to closing an event occurs on a form, or control.

Delete:

The delete event occurs when the user performs some action, such as pressing the DEL key, to delete a record, but before the record is actually deleted.

Change Event:

The change event occurs when the contents of a text box or the text portion of a combo box change. It also occurs when we move from one page to another page in a tab control. Examples of this event include entering a character directly in the text box or combo box or changing the control's Text property setting by using a macro or Visual Basic.

About Microsoft Access:

Microsoft access is a fully featured database management system (DBMS) that lets us collect, organize, find, display, and print information about our personal and business life. The amount and variety of information it can deal with is staggering. Access comes with wizards and a variety of predefined database elements.

Database:

A database is simply a collection of used data. The phone book is an example. Access database include such objects as tables, queries, forms, and more.

Tables:

In access tables are collection of similar data. With all tables can be organized differently, and contain mostly different information – but they should all be in the same database file. For instance we may have a database file called video store. Containing tables named members, tapes, reservations and so on. These tables are stored in the same database file because they are often used together to create reports help to fill out on screen forms.

Relational Database:

Access is a relational database. This means that it allows data that has been stored different places to be linked. Relational databases tools like access can help us manage information in three important ways. They can

- Reduce redundancy
- Facilitate the sharing of information
- Keep data accurate

Records:

A record is all the information contained in one row of an access data sheet table. We might include a row for each entry.

Fields:

Fields are places in a table where we store individual chunks of information.

Primary Key and Other Indexed Fields:

Access use key fields and indexing to help speed many database operations. We can tell access, which should be key fields, or access can assign them automatically.

Controls and Objects:

Controls are access objects that help us display, print and use our data. They can be things like field labels that we drag around when designing reports they can be pictures, or titles for reports, or boxes containing the results of calculations.

Queries and Dynasets:

Queries are request to information. When access responds with its list of data, that response constitutes a dynaset. A dynamic set of data meeting our query criteria. Because of the way access is designed, dynasts are updated even after we have made our query.

Forms:

Forms are onscreen arrangement that make it easy to enter and read data. We can also print the forms if we want to. We can design form our self, or let the access Auto form feature.

Reports:

Reports are paper copies of dynasets. We can also print reports to screen. Access helps us to create the reports by using report designer. There are even wizards for complex printouts.

Properties

Properties are the specifications we assign to parts of our database design. We can define properties for fields, forms, controls, and most other access objects.

Calculations, Expressions and Functions:

We can have access to do the calculations as required. We can instruct access to perform specific calculations by building expressions using built in functions.

Wizards:

Wizards are built in assistants that know how to guide us through steps necessary for common tasks.

Access Wizards Can Help Us Create

- Queries
- Tables
- Forms
- Reports
- Macro
- Mailing labels
- Modules
- Controls and button

4. SYSTEM DESIGN

4.1 ARCHITECTURAL DESIGN

DESIGN FUNDAMENTAL

The word system is possibly the most overused and abused term in the technical lexicon. System can be defined as the “a set of fact, principles, rules etc., classified and arranged in an orderly form so as to show a logical plan linking the various parts” here the system design defines the computer based information system. The primary objective is to identify user requirements and to build a system that satisfies these requirements.

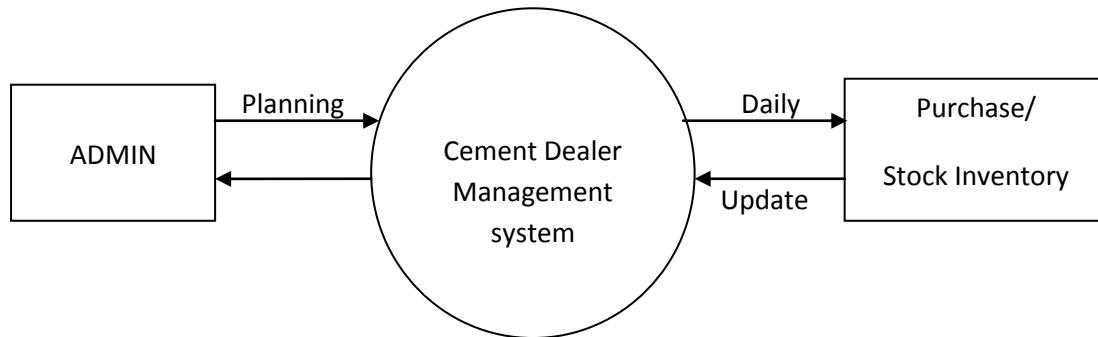
Design is much more creative process than analysis. Design is the first step in the development of any system or product. Design can be defined as “the process of applying various techniques and principles for the purpose of defining a device, a process or a system in sufficient detail to permit its physical realization”.

Data Flow Diagram

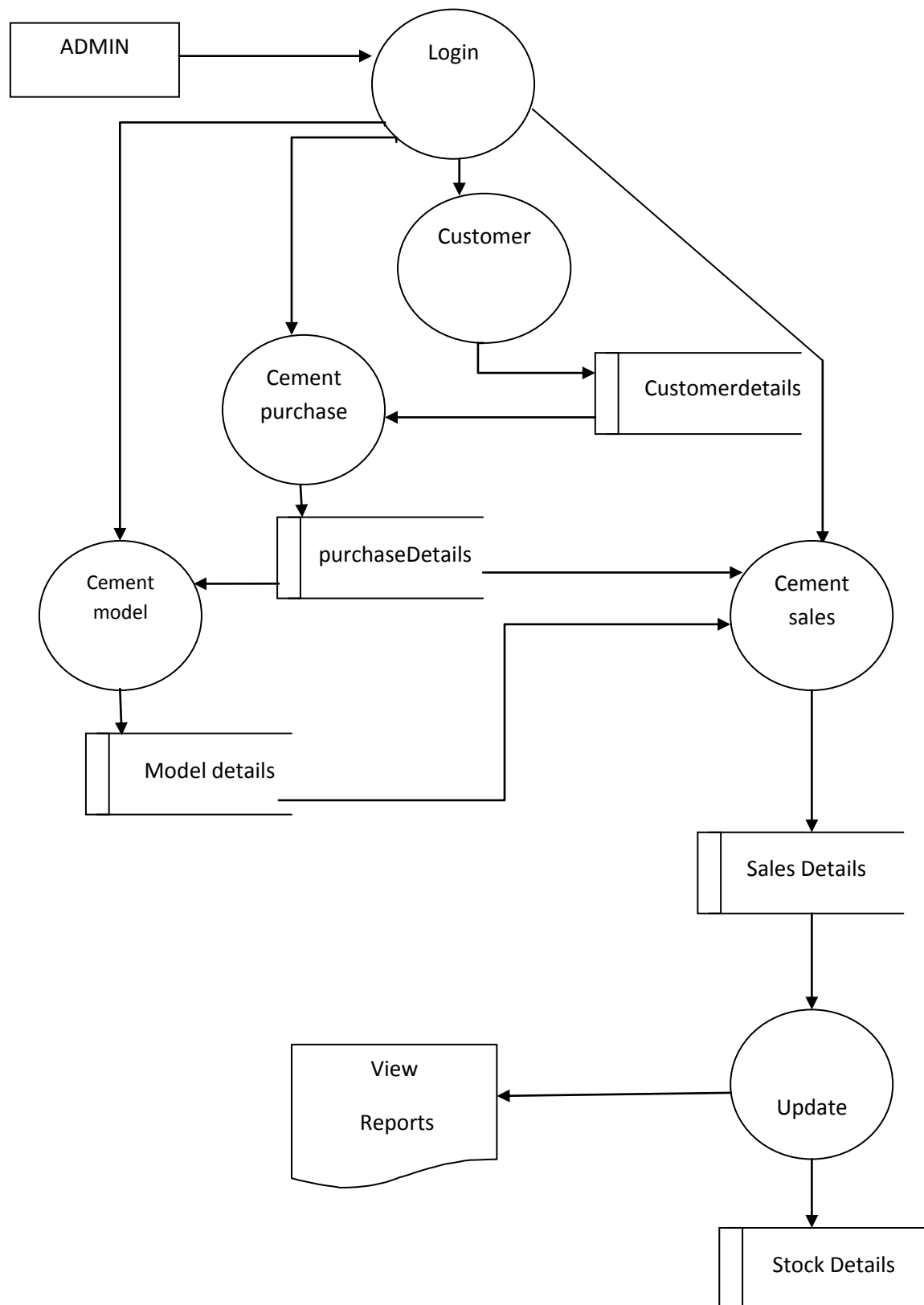
This is a analysis tool to architect’s blueprint as for system design. The DFD presents a picture of what is being specified and is a conceptually easy-to-understand presentation of the application. The process is partitioned so that a clear picture of the progression from general to specific in the system flow.

4.2 DATAFLOW DIAGRAM

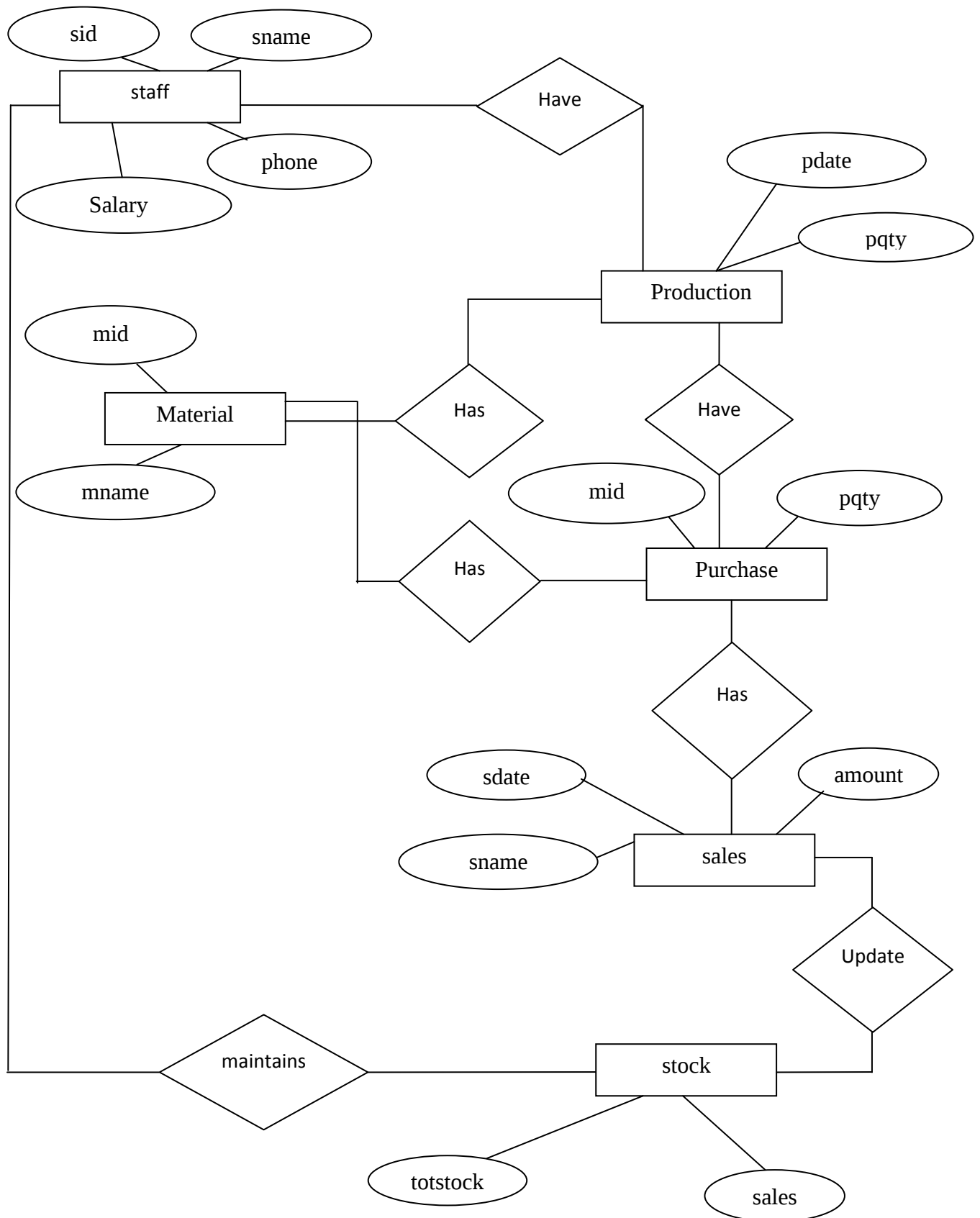
Level 0:



Level 1:



4.2.1 ER DIAGRAM



4.3 DATA BASE DESIGN

TABLE DESIGN

Table Name: tblstaff

Primary Key: sid

Field Name	Data Type	Size	Description
sid	Number	6	Staff id
sname	Text	20	Staff name
fhname	Text	20	Father name
dob	Text	15	Date of birth
qual	Text	10	Qualification
desig	Text	10	Designation
dept	Text	10	Department
doj	Text	15	Date of joining
add1	Text	15	Address 1
add2	Text	15	Address 2
add3	Text	15	Address 3
add4	Text	15	Address 4
add5	Text	15	Address 5
phone	Number	10	Phone no
salary	Number	6	Salary

Table Name: tblmaterial

Primary Key: mid

Field Name	Data Type	Size	Description
mid	Number	6	Material id
mname	Text	20	Material name

Table Name: tblproduction

Field Name	Data Type	Size	Description
Pdate	Text	15	Production date
Pqty	Number	5	Production quantity

Table Name: tblpurchase

Foreign Key: mid

Field Name	Data Type	Size	Description
mid	Number	6	Material id
pqty	Number	5	Production Quantity
rate	Number	5	Production rate
pdate	Text	15	Production date

Table Name: tblsales

Field Name	Data Type	Size	Description
sdate	Text	15	Sales date
mname	Text	20	Material name
place	Text	15	Place name
tbags	Number	5	Total bags
rpbags	Number	5	Replace bags
quat	Number	5	Quantity
amount	Number	5	Amount

Table Name: tblstock

Field Name	Data Type	Size	Description
totstock	Number	5	Total stock
sales	Number	5	Total sales

5. SYSTEM TESTING AND IMPLEMENTATION

5.1 SYSTEM TESTING

Testing is an important phase in project development. System testing makes a logical assumption that if all parts of the system are correct, and the goal will be achieved successfully. The software must meet the user specification and it must satisfy according to the needs of the users.

In Cement dealer Management system validation is achieved through a series of test cases i.e., by demonstrating the system function which is operational that the input is properly accepted and output is properly produced and that the integrity of the external information (e.g. data files) is maintained which really uncovers error in conformity with requirements. Validation refers to a set of activities that ensures that the software that has been built is traceable to customer requirements. Verification refers to a different set of activities that ensures that the software correctly implements a specific function. Before starting the plan we kept one thing in our mind that they must be that they have the highest likelihood of find the most errors with a minimum amount of time and effort. If we will go through the software

engineering methodologies then there are many test case design has been developed. Which offers a systematic approach to testing and a mechanism to ensure the completeness of test and uncovering errors in software? Basically any engineered product can be tested in two ways: Knowing the specified function that a product has been designed to perform test can be conducted that demonstrate each function is fully operational at the same time searching for errors in each function. Knowing the internal working of a product, test can be conducted to ensure that “all gear Mesh” i.e., internal operation performs according to specification and all internal components have been adequately exercised. Hence in such consequences we concentrated on following two approach of testing.

Testing is the process of executing a project within the intend of finding errors. A good test case is one that has a high probability of finding an undiscovered error.

The different testing strategies are:

- ❖ Unit testing
- ❖ Integration testing
- ❖ Validation testing
- ❖ Output testing

Unit Testing

Unit testing focuses verification efforts on the smallest unit of software design of the module. This is also known as “module testing”. This testing is carried out during programming stage itself. In this testing step, each module is found to be working satisfactorily as regards to the expected output of the modules.

Integration Testing

Data can be lost across an interface, one module can have adverse effect on another sub function when combined it may not produce the desired major functions. Integration testing is a systematic testing for constructing test to uncover errors associated within an interface.

The objectives taken from unit tested modules and a program structure is built for integrated testing. All the modules are combined and the test is made.

A correction made in this testing is difficult because the vast expenses of the entire program complicated the isolation of causes. In this integration testing step, all the errors are corrected for next testing process.

Validation Testing

After the completion of the integrated testing, software is completely assembled as a package; interfacing error has been uncovered and corrected and a final series of software test validation begins.

Validation testing can be defined in many ways but a simple definition is that validation succeeds when the software function in a manner that can be reasonably expected by the customer. After validation test has been conducted, one of two possible conditions exists:

- The function or performance characteristics confirm to specification and are accepted.
- A derivation from specification is uncovered and a deficiency list is created, proposed system under consideration has been listed by using validation testing and found to be working satisfactorily.

Output Testing

The next process of validation testing, is output testing of the proposed system, since no system could be successful if it does not produce the required output in the specified format. Asking the user about the format required, list the output to be generated or displayed by the system under considerations.

Output testing is a different test whose primary purpose is to fully exercise the computer based system although each test has a different purpose all the work should verify that all system elements have been properly integrated and perform allocated functions.

The output format on the screen is found to be corrected as the format was designed in the system design phase according to the user needs for the hard copy also; the output testing has not resulted in any correction in the system.

5.2 SYSTEM IMPLEMENTATION

System implementation is the stage of the project that the theoretical design is turned into a working system. If the implementation stage is not properly planned and controlled, it can cause error. Thus it can be considered to be the most crucial stage in achieving a successful new system and in giving the user confidence that the new system will work and be effective.

Normally this stage involves setting up a coordinating committee, which will act as a sounding board for ideas; complaints and problem. The first task is implementation planning; i.e., deciding on the methods and time scale to be adopted. Apart from planning two major task of preparing for implementation are, education takes place much earlier in the project; at the implementation stage the emphasis must be on training in new skills to give staff confidence they can use the system. Once staff has been trained, the system can be tested.

After the implementation phase is completed and the user staff is adjusted to the changes created by the candidate system, evaluation and maintenance is to bring the new system to standards. The activities of the implementation phase can be summarized as,

- ◆ Implementation planning
- ◆ Education planning
- ◆ System planning

6. MAINTENANCE

6.1 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. FUTURE ENHANCEMENT

SCOPE FOR FUTURE ENHANCEMENT

The project entitled “**Cement Dealer Management System**” is developed successfully from all the modules. The main advantage of the implementation of this project reduces the time consumption during the manual work. Further; it is very faster and economical to the concern based on the computerization process. It is very economical due to the time saving and quicker process. The process done based on our project is very easier for the users to access it. The calculations done at the computer is very accurate and reliable. It may be stored and referred in the future for the development of the concern with the modern technological enhancements.

- In Future this application is converted into online application. It will allow the user to use this application in anywhere at any time.
- The online booking system will be added in future for booking cement order through online.

8. CONCLUSION

The world of computers is not static. It is always subject to change. The technology today will become outdated the very next day. To keep abreast of the technological improvements the system needs refinements, so it is concluded, it will be improved for further enhancements, whenever the user needs an additional feature into it.

The project title “**Cement Dealer Management System**” is developed successfully with various modules. It also generates reports of all needs such as requirement report, daily and monthly report as customer report, stock details report etc., and this system satisfies all the requirements of the company and the application is developed by advanced software Visual Basic which is widely used in all applications.

The system was tested with all possible samples of data and the performance of the system proves much effective and the data maintenance and manipulation is achieved practically.

The system has been developed in Visual Basic 6.0 to reduce the response time and ensure flexibility. The system also gives opportunity for further development and enhancement of the existing system.

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