

QUALITY FUNCTION DEPLOYMENT

PROJECT REPORT

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE AWARD OF THE DEGREE OF

M.Sc (APPLIED SCIENCE - COMPUTER TECHNOLOGY)

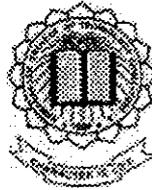
OF BHARATHIAR UNIVERSITY

Submitted by

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Guided by

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Department of Computer Science and Engineering

Kumaraguru College of Technology
(Affiliated to Bharathiar University)

Coimbatore – 641 006

APRIL 2003



KUMARAGURU COLLEGE OF TECHNOLOGY

(Affiliated to Bharathiar University)
Department of Computer Science and Engineering

Coimbatore – 641006



CERTIFICATE

This is to certify that the project work entitled

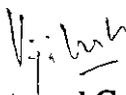
“QUALITY FUNCTION DEPLOYMENT”

Done by

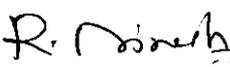
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Submitted in partial fulfillment of the requirement for the award of the degree of
M.Sc (Applied science - Computer Technology) of Bharathiar University.


Head of the Department


Internal Guide

Submitted for the university examination held on 10-05-2003


Internal Examiner (10.5.03)
ap/cs/ek/ct


External Examiner

DECLARATION

I here by declare that the project work entitled
“QUALITY FUNCTION DEPLOYMENT”

done at

**NEW WALK TECHNOLOGIES LIMITED
COIMBATORE**

and submitted to

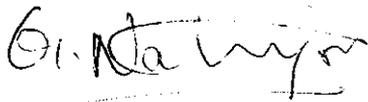
KUMARAGURU COLLEGE OF TECHNOLOGY
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in partial fulfillment of the requirement for the award of the degree of

M.Sc (APPLIED SCIENCE - COMPUTER TECHNOLOGY)

is a report of work done by me during my period of study in
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**Under the supervision of
Mr. V.Vijilesh, M.C.A., Lecturer, Dept. of CSE**

Name of the candidate	Register Number	Signature of the candidate
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Date : 10 - 05 - 2003

Table Creation

Create a blank (empty) table for entering your own data, you can:

- Use the Table Wizard to choose the for your table from a variety of predefined tables such as business contacts, household inventory, or medical records.
- Create a table in where you can add fields, define how each field appears or handles data, and create. When you save the new datasheet, Microsoft Access will analyze your data and automatically assign the appropriate for each field.

Create a table from existing data, you can:

- Data from another Access database or data in a variety of file formats from other programs.
- Perform a make-table query to create a table based on data in a current table. For example, you can use make-table queries to archive old records, to make backup copies of your tables, to select a group of records to export to another database, or to use as a basis for reports that display data from a specific time.

For example, each field in a Products table contains the same type of information for every product, such as the product's name. Each record in that table contains all the information about one product, such as the product's name, supplier ID number, units in stock, and so on.

In table Design view, you can create an entire table from scratch, or add, delete, or customize the fields in an existing table. If you want to track additional data in a table, add more fields. If an existing field name isn't descriptive enough, you can rename the field. Setting a field's data type defines what kind of values you can enter in a field. For example, if you want a field to store numerical values that you can use in calculations, set its data type to Number or Currency. You use a unique tag, called a primary key, to identify each record in your table. A table's primary key is used to refer to related records in other tables. Field properties are a set of characteristics that provide additional control over how the data in a field is stored, entered, or displayed. Which properties are available depends on a field's data type.

Relating two Tables

A common field relates two tables so that Microsoft Access can bring together the data from the two tables for viewing, editing, or printing. In one table, the field is a primary key that you set in table design view. That same field also exists in the related table as a foreign key. In the Suppliers table, you enter a supplier ID, company name, and so on for each supplier. Supplier ID is the primary key that you set in table Design view. In the Products table, you include the Supplier ID field, so that when you enter a new product, you can identify its supplier by entering that supplier's unique ID number. Supplier ID is the foreign key in the Products table.

Table Datasheet

In a table or query, datasheet view provides the tools you need to work with data. The Table Datasheet and Query Datasheet toolbars provide many of the tools you need to find, edit, and print records.

Quality Function Deployment

information about SQL Server database objects that are stored in the SQL Server database and provide added functionality for an Access project such as:

- Creating a lookup on a column.
- Displaying user-friendly validation text.
- Formatting data and Defining input masks.
- Using sub datasheets, saving sort order and filters, and saving datasheet appearance of tables, views, stored procedures, and inline user-defined functions.

Some extended properties are used by Access and are not visible through an Access project, such as a property that sets the column widths in a table datasheet. Other extended properties are available from the Database, Table, and Query Designers property sheets for views, single statement stored procedures (except column properties), and in-line functions. Because multi-statement stored procedures, and table and scalar user-defined functions are edited in the SQL Text Editor, they don't support extended properties.

By default, SQL Server does not support extended property inheritance. A column in a view does not automatically have the same properties as the column in the base table. However, an Access project does support inheritance by copying the extended properties from table columns to view and function columns on creation, and by copying extended properties from table columns to form and report control properties.

Access Tables

A table is a collection of data about a specific topic, such as products or suppliers. Using a separate table for each topic means that you store that data only once. This results in a more efficient database and fewer data-entry errors. Tables organize data into columns (called fields) and rows (called records).

- Microsoft SQL Server 2000 Desktop Engine on Windows 2000 and Windows 98 or later
- Microsoft SQL Server 7.0 on Microsoft Windows NT 4.0 or later (with Microsoft Windows NT Service Pack 4 or later) and Microsoft Windows 95 or later)
- Microsoft Data Engine (MSDE) on Windows NT 4.0 or later and Windows 95 or later
- Microsoft SQL Server 6.5 on Windows NT 4.0 or later (with SQL Server Service Pack 5 or later)

Working with Access project

Working with an Access project is very similar to working with an Access database. The process of creating forms, reports, data access pages, macros, and modules is virtually the same as that used to create an Access database.

Once you connect to an SQL Server database, you can view, create, modify, and delete tables, views, stored procedures, user-defined functions, and database diagrams by using the Database Designer, Table Designer, Query Designer, Query Builder, and SQL Text Editor. Although the user interface for working with these database objects is different from the equivalent database objects in an Access database, it is just as user-friendly. An Access project also contains many of the same wizards as an Access database, such as the Form Wizard, the Report Wizard, the Page Wizard, and the Input Mask Wizard. These Wizards help you to quickly create a prototype or simple application, and also make it easier to create an advanced application.

Extended Properties

If your Access project is connected to an SQL Server 2000 database, you can use and take advantage of extended properties. Extended properties store additional attribute

Microsoft Access

A Microsoft Access project (.adp) is an Access data file that provides efficient, native-mode access to a Microsoft SQL Server database through the OLE DB component architecture. Using an Access project, you can create a client/server application as easily as a file server application. This client/server application can be a traditional solution based on forms and reports, or a Web-based solution based on data access pages or a combination of both. You can connect the Access project to a remote SQL Server database, a local SQL Server database, or a local installation of SQL Server 2000 Desktop engine.

- Connects the Access project to the SQL Server database
- Database objects stored in the SQL Server database
- Database objects stored in the Access project

An Access project is called a project because it contains only code-based or HTML-based database objects: forms, reports, the name and location of data access pages, macros, and modules. These are the database objects that you use to create an application. Unlike a Microsoft access database, an Access project does not contain any data or data definition based objects: tables, views, database diagrams, stored procedures, or user defined functions. Instead, these database objects are stored in the SQL Server database.

To create your application and access the data, you connect the Access project to the SQL Server database by using the New command on the File menu to display the Data Link Properties dialog box or by using the Database Wizard.

You can connect to one of the following SQL Server databases:

- Microsoft SQL Server 2000 on Microsoft Windows 2000 and Microsoft Windows 98 or later

command property be written in procedures or subroutines. All procedures start with the keyboard SUB and close with END SUB.

Form

The form is the central unit in Visual Basic. It is a window, initially blank on which controls are then pasted to create the required screen server's windows that can be customized as the interface of an application. To create the look, controls, graphics and pictures can be added to the form. Each form is saved on disk as a separate file with a FRM extension.

Module

Code that is attached to a form is accessible from anywhere on that form. However the code that has to be accessed from a different form should be written on a module. The modules are also saved as separate files, with .BAS extension.

Project

The project holds together the various forms and modules that make up a program. It is marked by .VBP extension.

Toolbox

Displays design-time controls, ActiveX controls, applets, HTML scraps, Objects and text based on the designer or editor you are using to build a project. The tools are enabled only when the associated designer or editor is active. Each tool in the Toolbox represents a control.

cannot implement multitasking without doing something about memory management. As new programs are started up and the old one is terminated, memory can be fragmented.

The system must be able to consolidate free memory space. This requires the system to move blocks of codes and data in the memory. Programs running under windows can overcome memory; a program can contain more code than fit into memory at any one time. Windows can have several copies of a program; this entire instance will share the same code in memory. A program under windows can share runtime located in other EXE files called "Dynamic Link Library".

Controls

Controls are the objects Accessed from Toolbox. It can be pasted onto a form and range from tables, which display text, through the picture boxes for graphic images, buttons, check boxes, lists and menus. Each control is then associated with a set of properties.

Tool bar

Provides quick Access to commonly used commands in the area of the programming environment, clicking on the toolbar once would carry out the action represented by that icon.

Procedure

Returns the date information with the Date Created and Date Modified properties. The procedure object allows one to create a stored procedure without having to know or use the provider's "CREATE PROCEDURE" syntax. With the properties of a procedure object, one can identify the procedure with the Name property. Specify the ADO Command and object that can be used to create or execute the procedure with the

New in Visual Basic 6.0

The original version of Visual Basic was by no stretch of the imagination of a tool for serious development. However, it was a landmark product in that it brought a graphical design environment to the world of windows development. It was neat, but the majority of the programmers treat it as a “toy” language. The subsequent version of the product, VB 2 didn't really do much to enhance Visual Basic's position in the development world because it still lacked native database support. The new version of the VB 3 added the jet database engine, giving VB built – in database support, VBX “stepping stone” designed primarily for easing the transaction between the 16-bit and 32-bit development. The first 32-bit OCX controls were found in VB 4. VB 4 added features such as ability to create OLE custom controls and also DLL's. VB 6 has a long list of minor changes, ranging from language features to re-vamping of the Setup Wizard.

Event Driven Programming

Visual Basic uses event-driven programming. The core of Visual Basic programming is the set of independent pieces of code that are activated by and so respond to only the events they have told to recognize. Much of the programming code events such as mouse click occur in what Visual Basic calls event procedure. An event is an action, recognized by an object, for which you can write code to respond. Events can be generated by a user action – such as clicking the mouse or pressing a key-by program code, or by the system, as with timers. Essentially every thing executable in the Visual Basic program is either in an event procedure to carry out its job.

Memory Management

Thus even in the windows 1.0, the 640 KB memory limit of the PC architecture was efficiently stretched without requiring any additional memory. An operating system

Visual Basic is the forefront of modern programming languages because it provides an array of sophisticated features that make the language truly object-oriented and interface it with the latest in database technology. Visual Basic object-based nature requires a variety of programming perspectives more so than with its procedural predecessors such as Quick Basic.

Visual Basic helps to be more productive by providing appropriate tools for the different aspects of GUI development. Its intuitive interface makes Visual Basic excellent tools for programmers. It is based on Basic language. Visual Basic provides the basis for the programming language used for a variety of applications from other vendors.

Visual Basic is object oriented i.e., it revolves around the ready – made objects and it is event driven, i.e., one event or another triggers all the activities in a program. Each object also has its own event handling. The Visual Basic system knows all about these already. It knows how to handle images, menu dialog boxes, drive and directory list and much more, the programmer's job is to determine where, how and when an object appears on the screen, what is caption read, and what happens when an event occurs. The programmer doesn't have to write code to trap these events, the system does it automatically. Operations don't have to follow a set of sequence and it can be easily interrupted, suspended or abandoned. The process of program design reflects the nature of the system.

Visual Basic is the simplest and easiest – to use the programming language for the windows environment. It has grown into the far-reaching capabilities and sophistication. The language includes custom control elements like the common dialog box, grid, db grid, db combo, and db list. It also includes OBJECT LINKING and interface to the Windows NT environment. It also supports ODBC and Structured Query Language.

The Basic part refers to the BASIC 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 hundreds statements, functions, and keywords, many of which relate directly to the windows GUI. Beginners can create useful applications by learning just a few of the keywords, yet the power of the language allows professionals to accomplish anything that can be accomplished using any other windows programming language.

The Visual Basic programming language is not unique to visual Basic. The Visual Basic programming system, Applications Edition included in Microsoft Excel, Microsoft Access, and many other windows uses the same language. The Visual Basic Scripting Edition is a widely used scripting language and a subset of the Visual Basic language. The investment you make in learning Visual Basic will carry over to these other areas.

Whether goal is to create a small utility for yourself or your work group, a large enterprise-wide system, or even distributed applications spanning the globe via the Internet, Visual Basic has the necessary tools that can be utilized.

- Data access features allow creating databases, front-end applications, and scalable server-side components for most popular database formats, including Microsoft SQL Server and other enterprise-level databases.
- ActiveX technologies allow using the functionality provided by other applications such as Microsoft Word, Word Processor, Microsoft Excel spreadsheet and other windows applications and objects created using the professional or Enterprise editions of Visual Basic.
- Internet capabilities make it easy to provide access to documents and applications across the Internet or Internet from within applications.
- Finished application is a true .exe file that uses a Visual Basic Virtual Machine that can freely distribute.

3. PROGRAMMING ENVIRONMENT

3.1 Hardware Requirements

- | | | |
|-----------------------|---|----------------|
| 1. Processor Type | : | Pentium III |
| 2. Processor Speed | : | 800 MHZ |
| 3. Memory | : | 64 MB RAM |
| 4. Hard Disk Capacity | : | 20 GB |
| 5. Monitor | : | SVGA Monitor |
| 6. Mouse | : | Logitech Mouse |
| 7. Keyboard | : | Acer 101 Keys |

3.2 Software Requirements

- | | | |
|---------------------|---|------------------|
| 1. Operating System | : | Windows 98 |
| 2. Front - End Tool | : | Visual Basic 6.0 |
| 3. Back - End Tool | : | MS - Access 97 |

3.3 Software Description

Visual Basic – 6.0

An Overview

Visual Basic is the quickest and easiest to create powerful, full-featured applications that take advantages of the graphical user interface in Microsoft windows operating systems. The visual part refers to the method used to create the graphical user interface. Rather than writing numerous of code to describe the appearance and location of interface elements, you simply add pre built objects into place on screen. Never used a drawing program such as paint, already have most of the skills necessary to create an effective user interface.

Requirements Entry:

The module gets the Technical and Customer requirement entries of the Product to its Customer or Competitor from the user.

Requirements View:

The module views the Technical and Customer requirement entries of the Product to its Customer or Competitor to the user with Graphical Chart display. The module also allows the user to take print out of the whole view with Graphical Chart.

Comparison / Evaluation (CHART/TABLE):

The module views the Comparison Chart of the Technical and Customer requirement entries of the Product to its Customer with Competitor to the user. The module also allows the user to take print out of the Graphical Chart and the Comparison Table.

2.2 Solution Strategies

- The solution to the specified problem should be in such a way the product comparison is made easy at all levels.
- The software should be GUI based and user friendly.
- Fewer users input and produce a maximum output.
- Reusability of data for product comparison.
- Graphical view comparison of the product should be user friendly.
- Tabular value comparison should be made easy.
- The software should have the flexibility to compare multiple competitor products.
- The data should be stored in database with proper security.

2.3 Product Functions

The Quality Function Deployment of a product Software is separated in to the following modules to increase the performance, which is used to debug easily when the error occurs.

Product Master:

This module assists the user to enter Product Code and to enter New Product (or) to edit the Existing Product.

2. PROBLEM DEFINITION & ANALYSIS

2.1 Problem Statement

- The Product Quality is being analyzed, provides incorrect data which makes difficulty for the company to compare their product details with their competitors.

- Quality Function Deployment of a product made manually requires more time and knowledge persons to find out the exact data.

- Analyzing and calculating the requirements of a product is a difficult task.

Due to these constraints the quality of the product is judged low. To overcome these disadvantages it is automated.

Project Goal

- To Maximizes the Quality of the Product and Customer Satisfaction with the Product.

- Provide a Comparison facility with other Competitor Products to know the exact Quality Status of the Product and other Competitor Products.

1.2 Organization Profile

Newwalk Technologies Limited is reputed for its strong all round technical expertise, efficient support and customer care.

- Newwalk Technologies Limited is a leading software developer in Coimbatore.
- The company is specialized in customizing corporate projects.
- It has a clear vision of a completely integrated infrastructure that provides new perspective to any area requiring IT solutions.
- The company conducts periodic training programs to meet both the in-house and open market needs.
- The company is full of spirit with bubbling IT professionals working for the global expansion and growth of the company.

1. INTRODUCTION

1.1 Overview of the Project:

The Quality Function Deployment software helps the clients to define the quality of their products and their competitor products. The software is designed in such a way that the clients can use it for multiple products. The software also helps the client to define their own requirements of their products. The requirements of the product are inputted as defined in the product details. The requirement is defined in three types,

1. Low
2. Medium
3. Strong

Constant value is assigned for the requirements. Each requirement that is inputted is being given an importance value (1 to 9). To find exact importance of the requirement specified. The error rate (complaints) is also specified by the user, so that it can be corrected in the future product. The sales point of the product is also defined to know the exact marketing rate with all these data inputted we could achieve the row weight value using specified formulas and also get the clear picture of the requirements in a chart format.

The comparison and evaluation of the product of a company with its competitor is compared and given in a separate chart display. So that the company can know the exact advantages and disadvantages of their product. The tabular form of the comparison and evaluation of a product of the company can be compared with multiple competitors.

CONTENTS

	Page No
1. Introduction	1
1.1 Overview of the Project	1
1.2 Organization profile	2
2. Problem definition and Analysis	3
2.1 Problem Statement	3
2.2 Solution Strategies	4
2.3 Product Functions	4
3. Programming Environment	6
3.1 Hardware Requirements	6
3.2 Software Requirements	6
3.3 Software Description	6
4. System design	17
4.1 Input Design	17
4.2 Output Design	18
4.3 Database Design	20
4.4 Process Design	23
5. System Testing and Implementation	26
5.1 System Testing	26
5.2 Implementation	28
5.3 System Maintenance	29
6. Conclusion	30
7. Bibliography	31
8. Appendix	32
8.1 Sample Screens	32

SYNOPSIS

Quality Function Deployment is a Quality Management Technique that translates the needs of the customer into technical requirements. Quality Function Deployment concentrates on maximizing customer satisfaction. Quality Function Deployment emphasizes understanding of what is valuable to the customer and then deploying these values throughout the engineering process.

Quality Function Deployment concepts are applicable to the customer communication problem that faces a company or competitor during early stages of requirement analysis. In meetings with the customer, Function Deployment is used to determine the value of each function that is required for the system. Information Deployment identifies both the data objects and events that the system must consume and produce.

Quality Function Deployment uses customer interviews and observation, surveys and examination of historical data as raw data for the requirements gathering activity. These data are translated into a table of requirements called the activity that is reviewed with the customer. A variety of diagrams, matrices and evaluation methods are then used to extract expected requirements and to derive exciting requirements.

ACKNOWLEDGEMENT

I would like to express my gratitude to our beloved Principal **Dr.K.K.Padmanabhan**, Ph.D., Kumaraguru College of Technology, Coimbatore, for his Constant encouragement throughout my course.

I wish to thank **Dr.S.Thangasamy**, Ph.D., Head, Department of Computer Science & Engineering, Kumaraguru College of Technology, Coimbatore, for his invaluable guidance and suggestions that encouraged me to complete this project successfully.

I admit my heart full thanks to my project guide **Mr.V.Vijilesh**, M.C.A., Lecturer, and our course co-ordinator, **Mr.R.Dinesh**, M.S., Assistant Professor, Department of Computer Science, Kumaraguru College of Technology, Coimbatore, for being supportive throughout the tenure of my project.

I express my profound gratitude to **Mr.R.Shanmugaprakash**, Managing director, Newwalk technologies Limited, Coimbatore, for providing me a key project in their firm and for his complete co-operation.

I am especially thankful to **Mr.M.Bala**, Project Leader, New walk technologies Limited, for providing me guidance and suggestions throughout the tenure of my Project.

I also take this opportunity to extend my sense of gratitude to all the faculty members, non-teaching staffs of the Computer science Department, K.C.T, Coimbatore, for their guidance and co-operation rendered throughout my course.

Date : 04-04-2003

CERTIFICATE

This is to certify that the project work entitled "Quality Function Deployment" is done by Mr. Natarajan. G. (Reg No: 0137Q0043) studying M.Sc (Applied Science – Computer Technology), in Kumaraguru College of Technology, Coimbatore during the period of December 2002 – March 2003

We wish all the best to him in future endeavors.


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4. SYSTEM DESIGN

4.1 Input Design

Product Master

This form allows the user to enter the Product Details. This form is treated as Master Form. This form gets the following information from the user.

1. Product Code
2. Product Name
3. Customer Requirements
4. Technical Requirements
5. Customer Name
6. No. of Competitors
7. Competitor Names

Product Selection

This form allows the user to select the Product and its Customer or Competitor to View or Edit the Requirement Entries. This form gets the following information from the user.

1. Product Name
2. Customer or Competitor Name

Requirements Entry

The module gets the Technical and Customer requirement entries of the Product to its Customer or Competitor from the user. This form plays an important role throughout the project, because all the Quality Function elements are entered here. The following information is got from the user.

1. Customer Requirements
2. Technical Requirements
3. Importance Value
4. Complaints Value
5. Goal
6. Sales Point
7. Action

4.2 Output Design

Product Selection

This form allows the user to select the Product and its Customer or Competitor to View the Requirement Entries. This form gets the following information from the user.

1. Product Name
2. Customer or Competitor Name

Requirements View

The Form views the Technical and Customer requirement entries of the Product to its Customer or Competitor to the user with Graphical Chart display. The Form also allows the user to take print out of the whole view with Graphical Chart. This form displays the following information.

1. Customer Requirements
2. Technical Requirements
3. Customer and Technical Requirements Chart View
4. Importance Value
5. Complaints Value
6. Goal
7. Sales Point
8. Importance Ratio
9. Row Weight
10. Column Weight
11. Action

Comparison / Evaluation CHART

The Form views the Comparison Chart of the Technical and Customer requirement entries of the Product to its Customer with Competitor to the user. The Form also allows the user to take print out of the Graphical Chart. This Form produces the following results.

1. Customer Competitive Evaluations
2. Competitive Technical Assessment

Comparison / Evaluation TABLE

The Form views the Comparison Table of the Technical and Customer requirement entries of the Product to its Customer with Competitor to the user. The Form also allows the user to take print out of the Comparison Table. This form produces the following results.

1. Row Weight Comparison Table

4.3 Database Design

MASTER TABLES

TABLE NAME : PRODUCT

PRIMARY KEY : PCODE

NAME	TYPE	LENGTH	DESCRIPTION
PCODE	NUMBER	INTEGER	Product Code
PNAME	TEXT	75 CHAR	Product Name
CUST REQ	NUMBER	INTEGER	Customer Requirements
TECH REQ	NUMBER	INTEGER	Technical Requirements
CUST_CODE	NUMBER	INTEGER	Customer Code
CUST_NAME	TEXT	75 CHAR	Customer Name

TABLE NAME : COMPETITOR

PRIMARY KEY : PCODE,COMP_CODE

NAME	TYPE	LENGTH	DESCRIPTION
PCODE	NUMBER	INTEGER	Product Code
COMP_CODE	NUMBER	INTEGER	Competitor Code
COMP_NAME	TEXT	75 CHAR	Competitor Name

TRANSACTION TABLES

TABLE NAME : CUSTOMER

PRIMARY KEY : PCODE, CUSTREQ_CODE

NAME	TYPE	LENGTH	DESCRIPTION
PCODE	NUMBER	INTEGER	Product Code
CUSTREQ_CODE	NUMBER	INTEGER	Customer Requirement Code
DESCRIPTION	TEXT	75 CHAR	Description

TABLE NAME : TECHNICAL

PRIMARY KEY : PCODE, TECHREQ_CODE

NAME	TYPE	LENGTH	DESCRIPTION
PCODE	NUMBER	INTEGER	Product Code
TECHREQ_CODE	NUMBER	INTEGER	Technical Requirement Code
DESCRIPTION	TEXT	75 CHAR	Description

TABLE NAME : MATRIX

PRIMARY KEY : PCODE, CCODE, CUSTREQ_CODE, TECHREQ_CODE

NAME	TYPE	LENGTH	DESCRIPTION
PCODE	NUMBER	INTEGER	Product Code
CCODE	NUMBER	INTEGER	Competitor Code
CUSTREQ_CODE	NUMBER	INTEGER	Customer Requirement Code
TECHREQ_CODE	NUMBER	INTEGER	Technical Requirement Code
MVALUE	NUMBER	INTEGER	Matrix Value

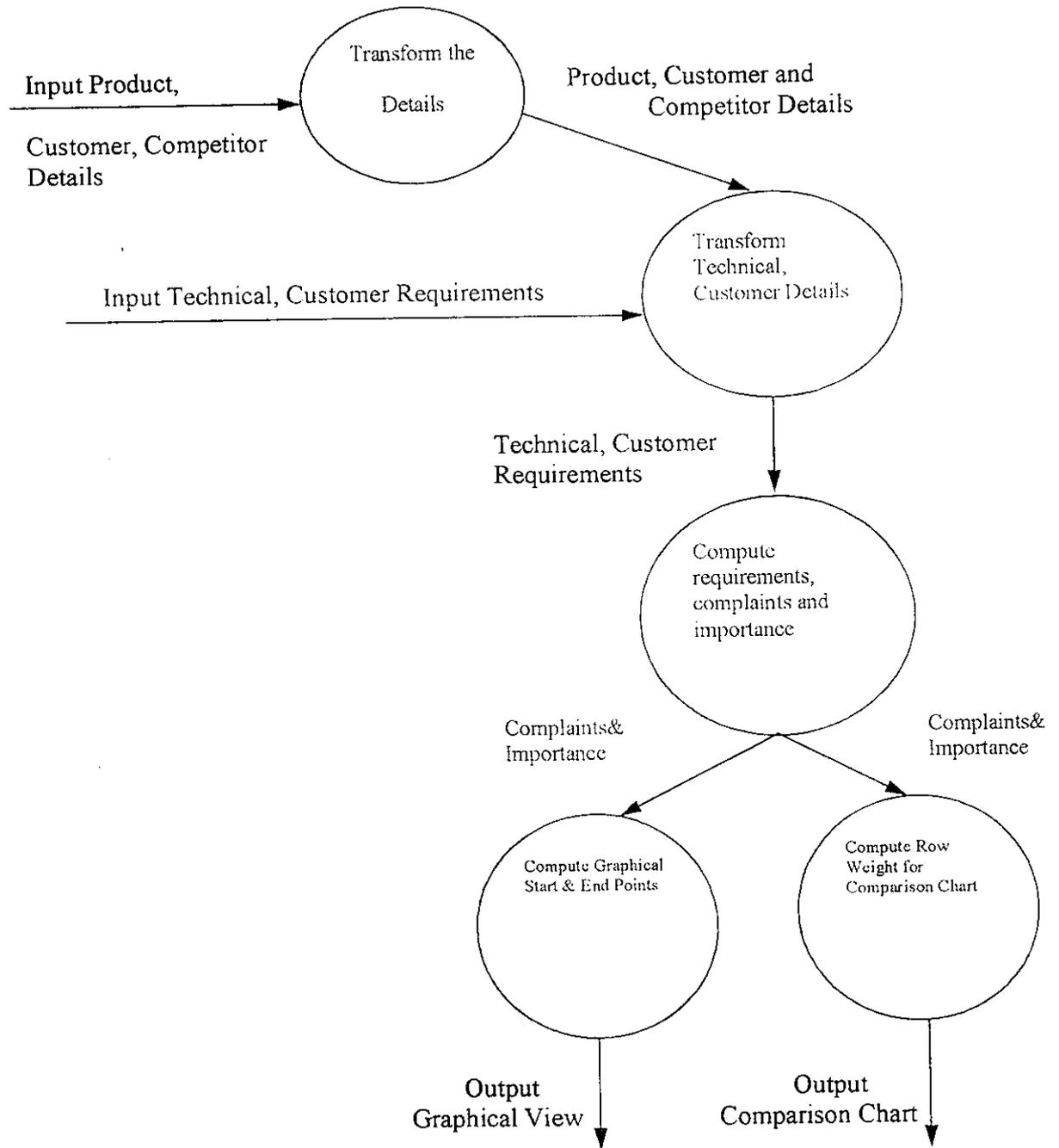
TABLE NAME : SURVEY

PRIMARY KEY : PCODE, CCODE, CUSTREQ_CODE

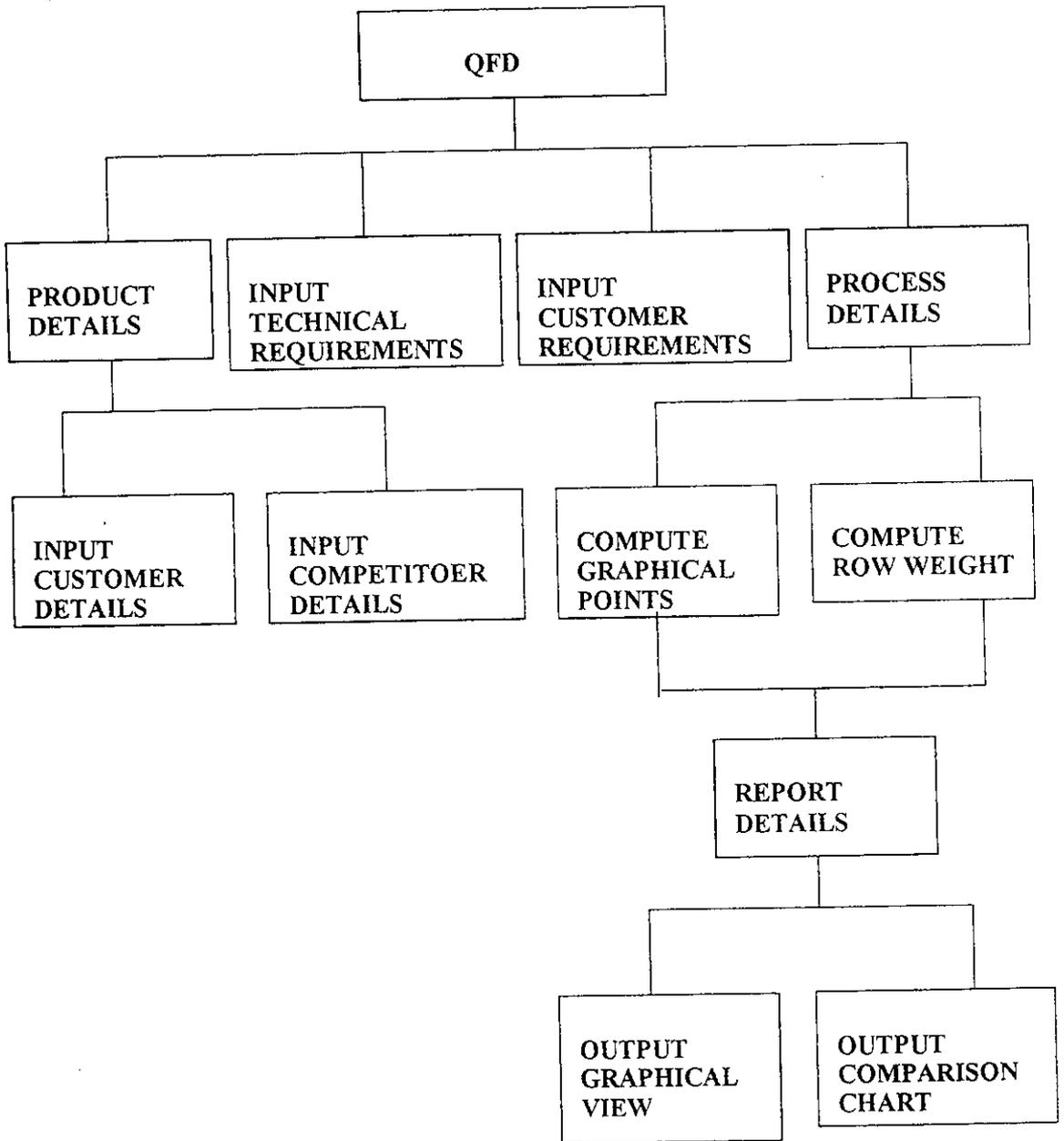
NAME	TYPE	LENGTH	DESCRIPTION
PCODE	NUMBER	INTEGER	Product Code
CCODE	NUMBER	INTEGER	Competitor Code
CUSTREQ_CODE	NUMBER	INTEGER	Customer Requirement Code
IMPORTANCE	NUMBER	INTEGER	Importance
COMPLAINTS	NUMBER	DOUBLE	Complaints
GOAL	NUMBER	DOUBLE	Goal
SALES_POINT	NUMBER	DOUBLE	Sales Point
ACTION	TEXT	100 CHAR	Action

4.4 Process Design

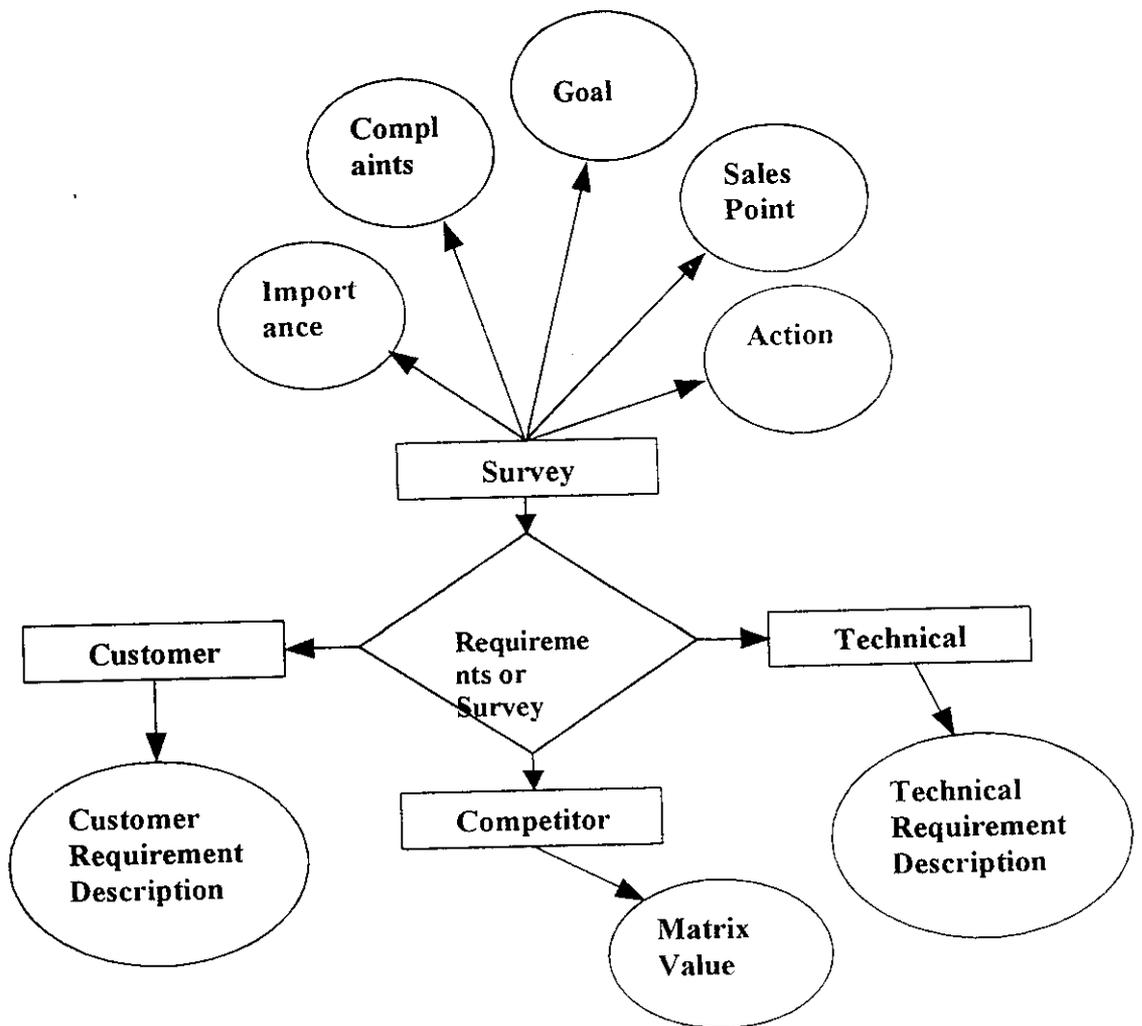
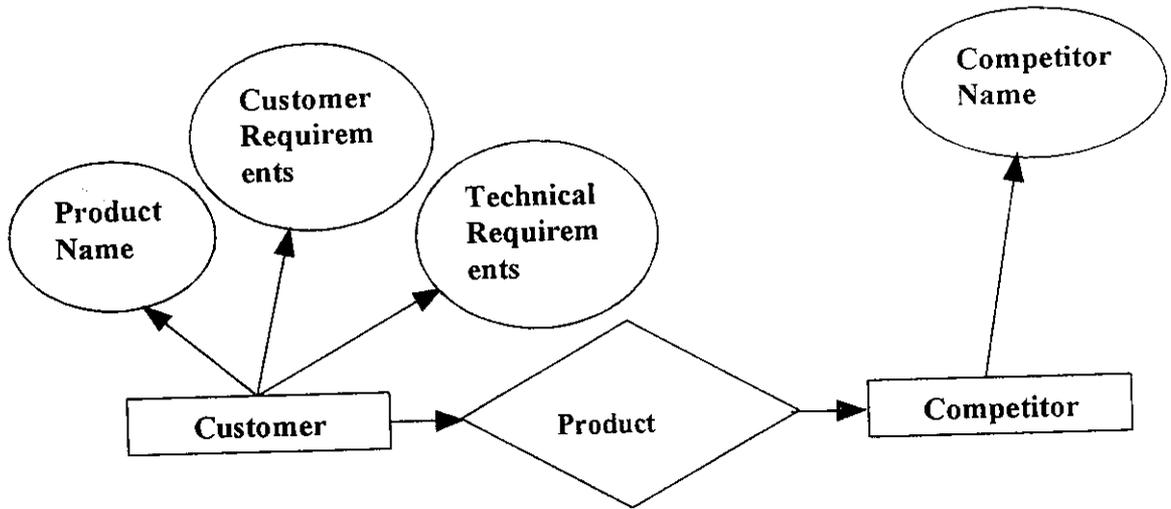
DATA FLOW DIAGRAM



STRUCTURE CHART



E-R DIAGRAM



5. SYSTEM TESTING AND IMPLEMENTATION

5.1 Testing

Testing of the debugged programs is one of the most critical aspects of computer programming because, without programs that work, the system would never produce the output for which it was designed. Testing is best performed when user developments are asked to assist in identifying all possible situations that might arise. The philosophy behind testing is to find errors and bugs. The sample data are used for the testing. It is not the quantity but the quality of data used those matters of testing. Testing is aimed at ensuring that the system works accurately and efficiently before live operation commence.

The Quality Function Deployment of Product Software is tested with the following test plans by the programmer during the development phase and customer site with real data.

1. Integration Testing
 - I) Black Box Testing
 - a) Functional Test
 - b) Performance Test
 - c) Stress Test
 - II) White Box Testing
 - a) Structure Test
2. Acceptance Testing

Functional Test

During the functional test executing the code with standard inputs, for which the results will occur within the expected boundaries. The whole Software is executed with

standard inputs and the results will occur within the expected boundaries. Product Comparison Chart and the Product Comparison Table results are perfectly match with the requirement entries.

Performance Test

During the Performance Test the execution time spent in various parts of the unit, response time, device utilization and throughput are tested. These constraints are transferred from low to high at the end of this test. So the performance of the software product becomes high.

Stress Test

Stress tests derive the system to its limits. All the limitations of the Quality Function Deployment of a product is found during this test.

- No. of Customer and Technical requirements are limited.
- The Comparison Chart must be produced between the customer and any one of its competitors. Here the No. of Competitors will be restricted.

Structure Test

The Structure Test verifies logical execution along different execution paths. Even if it looks like all possible execution paths have been tested, there might still exist some more paths. A missing path may detect only during the functionality of the Software at the Customer Site. All the execution paths are given to the customer.

Acceptance Test

Acceptance Test checks whether the System Implemented satisfies the requirement specifications of the Customer. The programmer as well as the Customer performs Acceptance Test. Since Manual inspection is usually not an adequate mechanism for detecting violations of coding standards. Some abnormal situations may arise during the maintenance phase.

5.2 Implementation

Implementation of software package refers to the final installation of the package in its real environment, to the full satisfaction of the users and operation of the full satisfaction of the system. In short, implementation constitutes all the activities that are required to put an already tested and completed package into operation. The success of any information system lies to it is successful implementation.

Implementation is the stage of the project when theoretical design is turned into working system. It involves careful planning, investing of the current system and it's constraints on implementation, design of methods to achieve the change over procedure and evaluation of the change over methods.

Problems arise during implementation if there is lack of adequate planning or resistance to change. Hence to avoid such problems a lot of planning is done during the analysis and design phase. Security auditing procedure like password maintenance, display of error message for invalid data entry etc. must be provided, necessary modification should be made and they're to suit the user requirements.

5.3 System Maintenance

Maintenance activities occur after the delivery of the Quality Function Deployment of a product to the customer. Maintenance phase continues as long as the software product continues to perform useful task. Maintenance activities also involved providing new functional capabilities, improving user displays and correcting problems. The QFD of a product system is customized software, so it will not require huge maintenance phase.

Maintenance requires the following activities,

- Preparation of Maintenance Guide
- Reduce the Maintenance Cost
- Provide full support to the Customer
- Familiarity with the Standard boundary conditions
- Adopt Changes

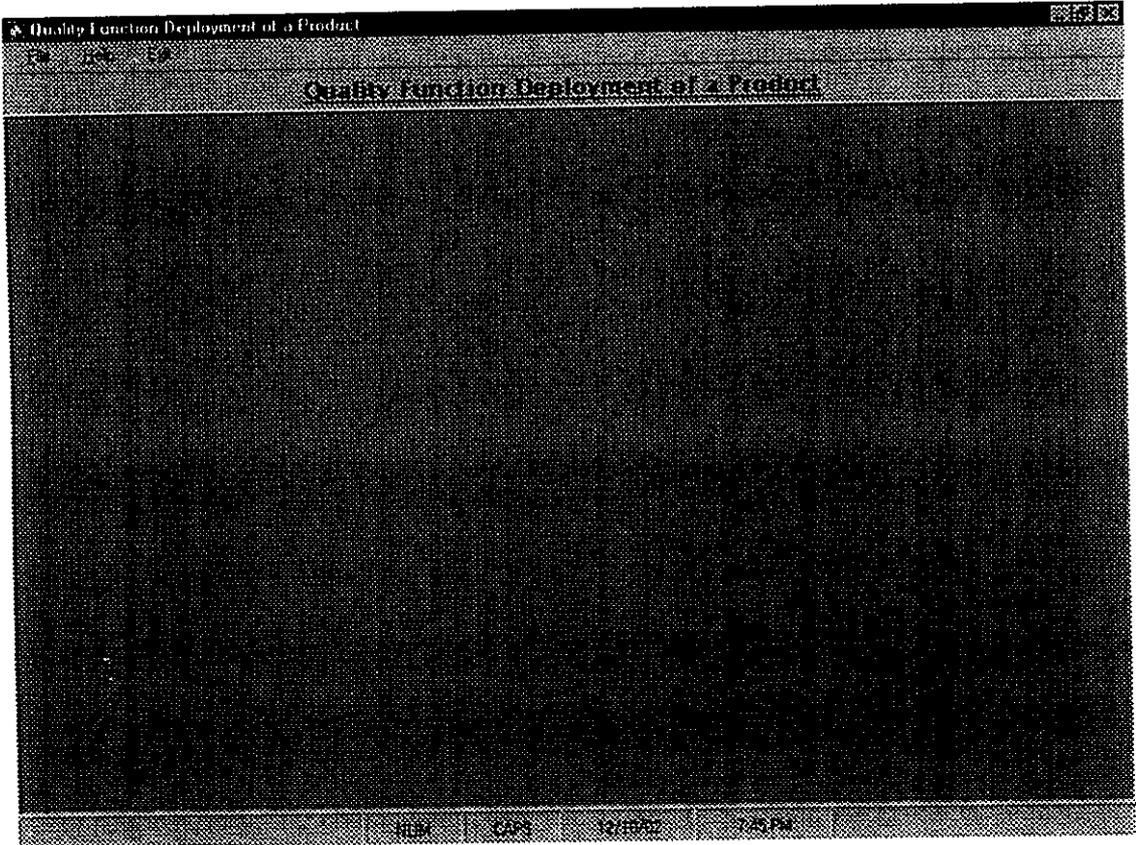
6. CONCLUSION

Quality Function Deployment of product software is successfully installed in the customer site. The system satisfies all requirement specifications of the customer and produce better results more than expected. The customer becomes happy with the system and they are adopted easily with the new system. The system also assists the customer to know the exact status of their product and competitor product. The entire system is developed to satisfy the particular customer. So the system is not easy to handle by the users like other applications without knowing the system specifications.

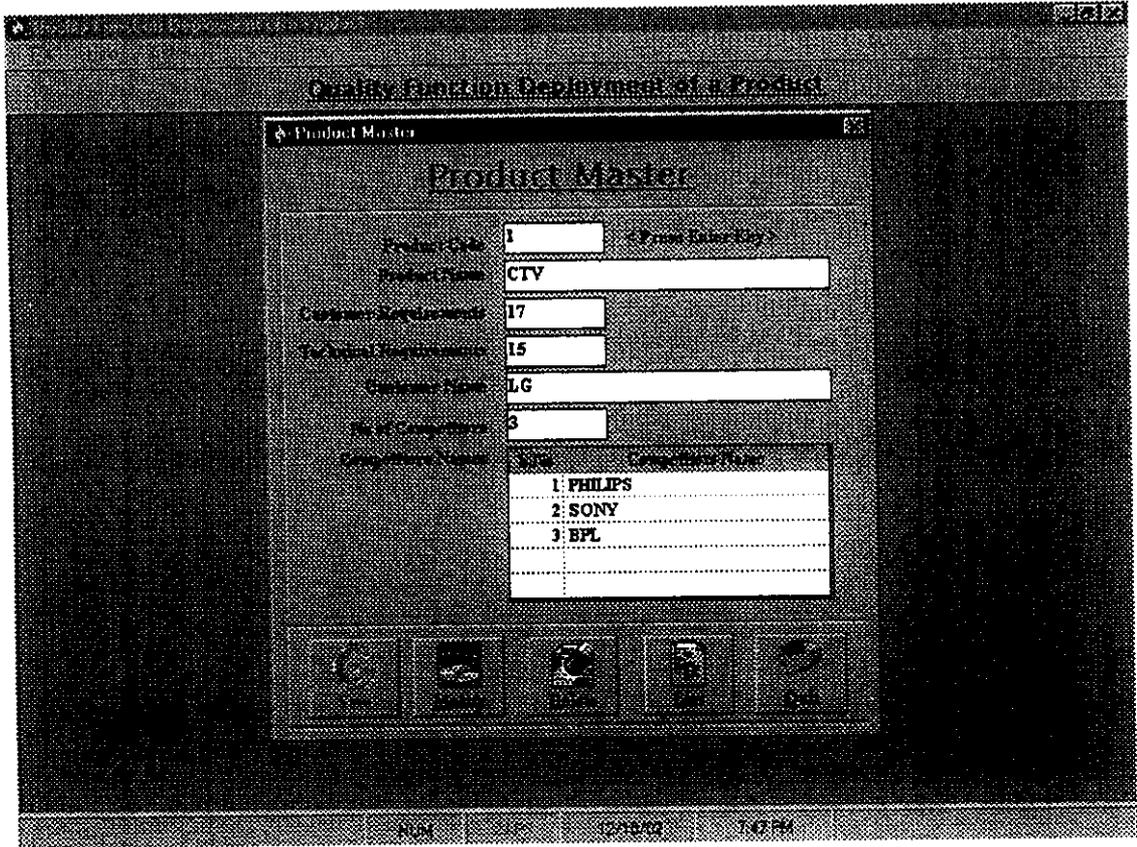
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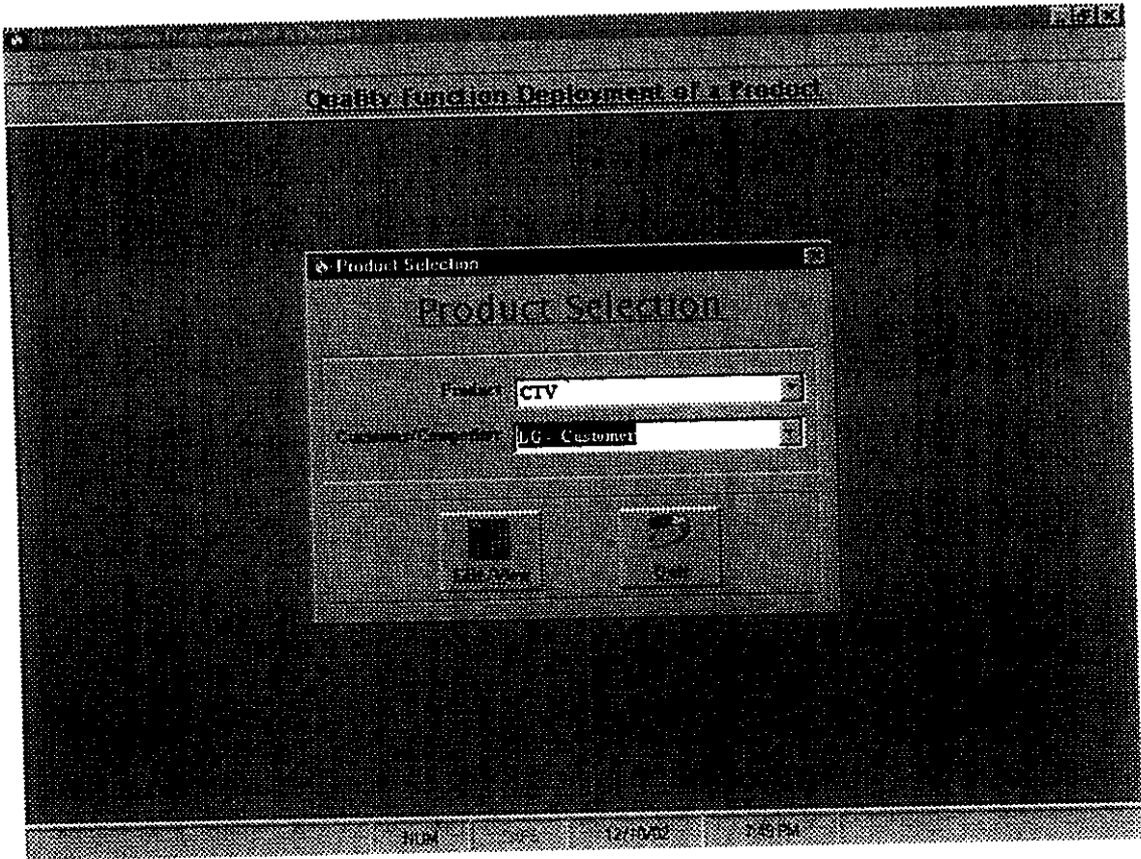
MENU SCREEN



PRODUCT MASTER



PRODUCT SELECTION



REQUIREMENTS ENTRY

Quality Function Deployment of a Product

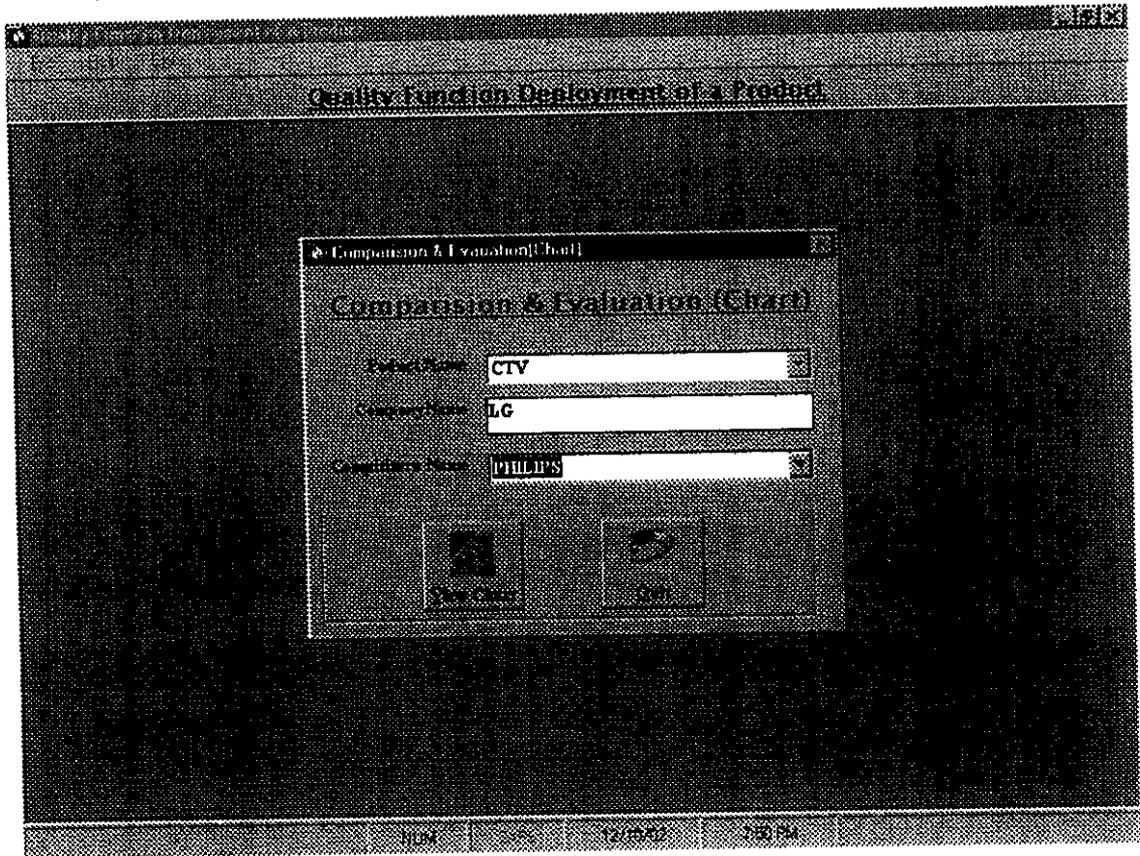
Requirements Input of CIV

Customer IC

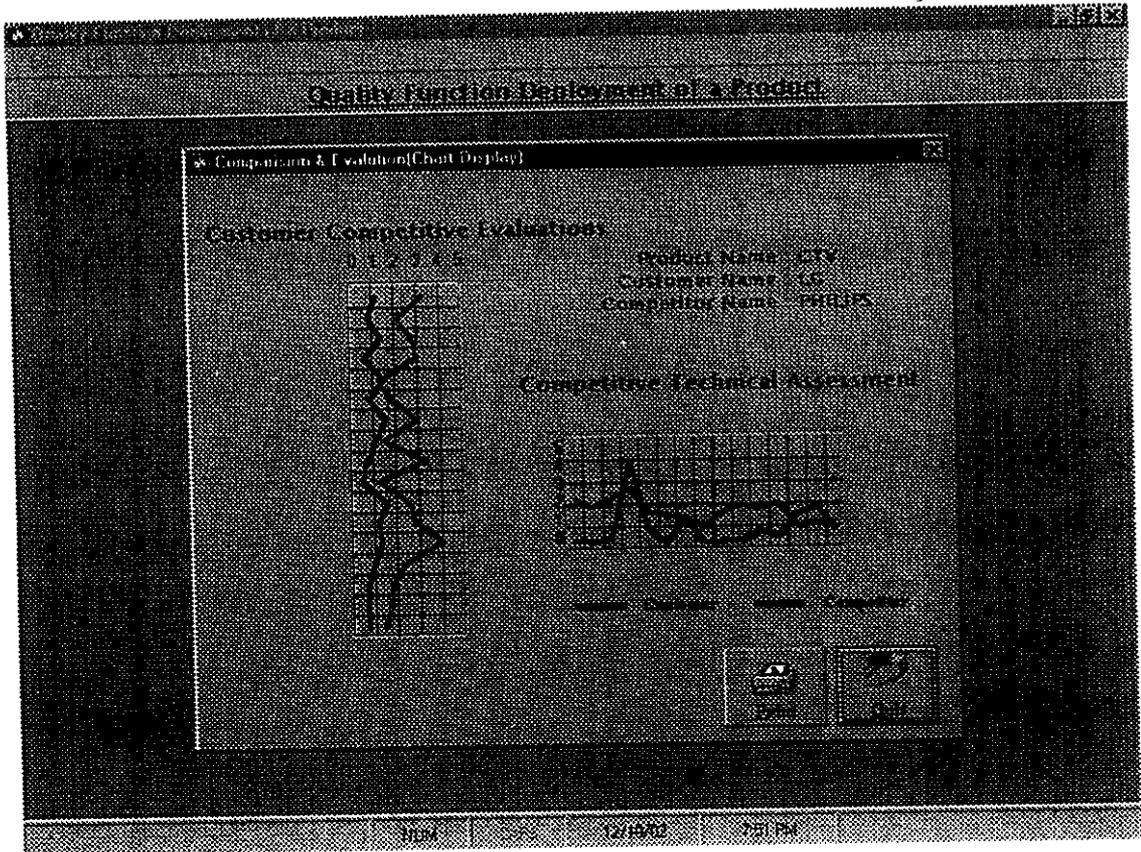
Technical Requirements	F	l	p	h	a	l	a	a	e	s	d	p	i	p				
Customer Requirements	t	l	l	l	l	l	l	l	l	l	l	l	l	l	l	l	l	l
	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Picture Clarity	1	1														124	1.5	1.2
More No of Channels	3	3														46	3	1
Full Function Remote	5	6														2.6	2	1
Video Games	7	7														8.2	2	1
Zoom Facility	9	2														1.5	1	1
Message Read and Write	11	6														1.6	1	1
Alarm On/Off	13	8														2.5	1	1
Slow Motion Play	15	4														8.9	1	1.2
Wide Screen Display	17	5														8.6	1	1.2

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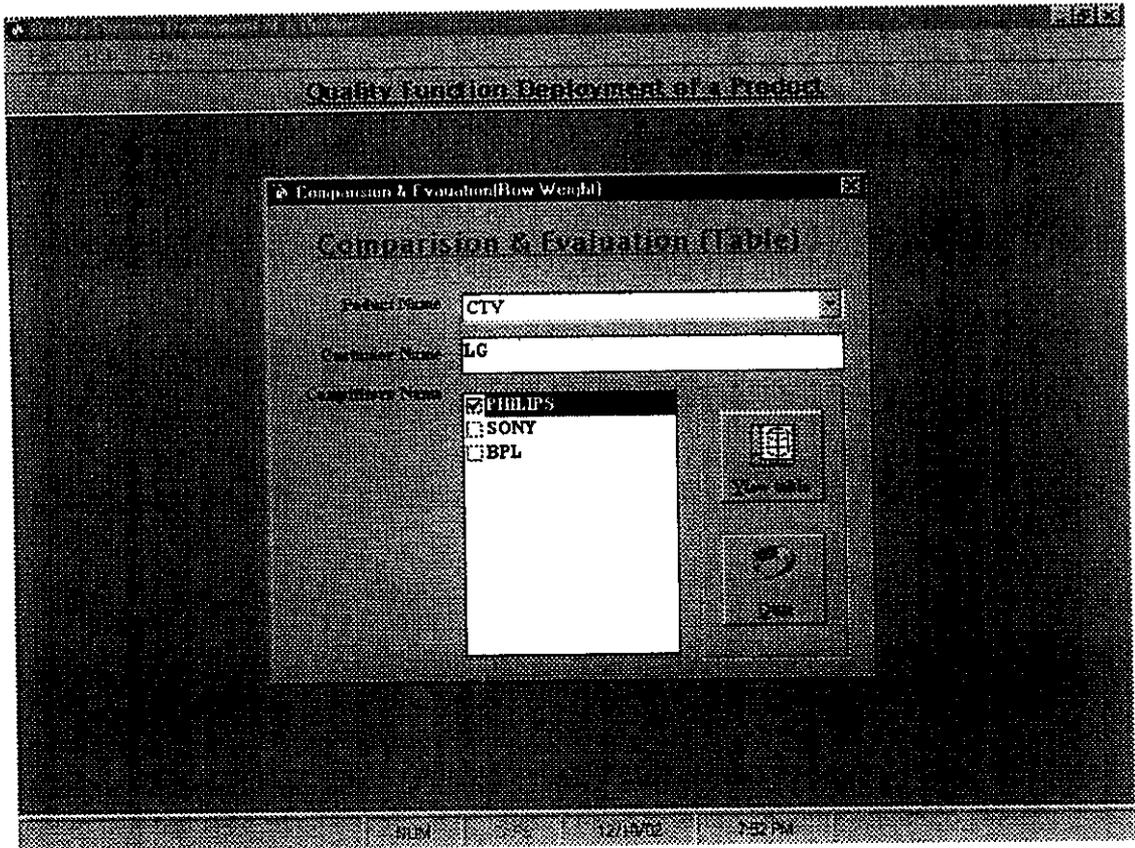
COMPARISON & EVALUATION CHART SELECTION



COMPARISON & EVALUATION CHART



COMPARISON & EVALUATION TABLE SELECTION



COMPARISON & EVALUATION TABLE

Quality Function Deployment of a Product

Row Weight (Comparison)

Row No.	LG	PHILIPS
1	0.1	0.03
2	0.25	0.17
3	0.43	0.48
4	1.33	0.3
5	0.55	0.06
6	1.33	0.36
7	0.58	0.25
8	0.06	0.48
9	0.18	0.3
10	0.62	1.57
11	0.25	0.58
12	0.22	1.08
13	0.4	0.06
14	0.26	0.41
15	0.48	1.14
16	0.72	0.73
17	0.6	0.45

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ABOUT THE PRODUCT

