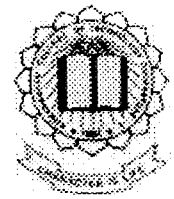
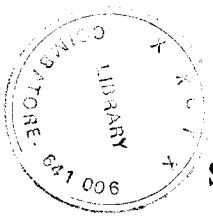
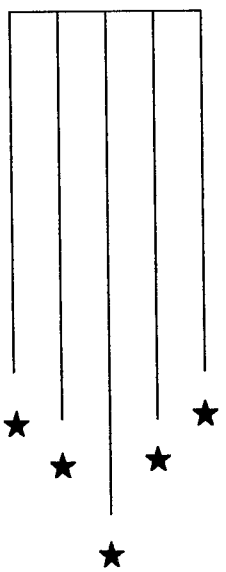
CREDIT CARD MANAGEMENT SYSTEM

PROJECT WORK







Submitted by

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Under the guidance of

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Computer Technology Department

In partial fulfillment of the requirements for the award of the degree of

BACHELOR OF SCIENCE

(Applied Science -Computer Technology)

of the BHARATHIAR UNIVERSITY, Coimbatore.

DEPARTMENT OF COMPUTER TECHNOLOGY

KUMARAGURU COLLEGE OF TECHNOLOGY

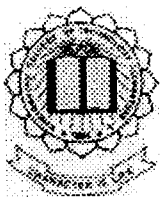
COIMBATORE-641 006.

KUMARAGURU COLLEGE OF TECHNOLOGY

COIMBATORE:641 006

Department of Computer Technology

Certificate



This is to certify that this project entitled

Credit Card Management system

has been submitted by Ms. NITHYA.V, RAJATHI.P, SARANYA DEVI.R

In partial fulfillment of the requirements for the award of degree of Bachelor of Science Applied Science Computer Technology of Bharathiar University, Coimbatore:641 046 during the academic year 2002-2003.

P.K Jayaraj
(Guide)

(Head of Department)

Certified that the Candidate was Examined by us in the Project Work Viva-Voce Examination held on 24.03.2003

University Register Number 0028Q0144, 0028Q0150, 0028Q0156

(Internal Examiner)

(External Examiner)

SILICON SOLUTIONS
SOFTWARE & INTERNET SOLUTION PROVIDER
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Coimbatore - 641 018. Phone : 0422 - 301485

Date : 21/03/2003

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Ms. V. NITHYA** (*Reg No.* 0028Q0144), **P.RAJATHI** (*Reg No.* 0028Q0150) and **R.SARANYA DEVI** (*Reg No.* 0028Q0156) Final year students of B.Sc., Computer Technology of Kumaraguru College of Technology ,Coimbatore – 641006, have done their project work entitled **"CREDIT CARD MANAGEMENT SYSTEM"** in our concern from 09.12.2002 to 09.03.2003 .During the period of work they was sincere and hardworking.

Their project has been implemented in our concern and is working upto the satisfaction of the users.

I wish them all success in his future endeavors.

Software Engineer/External Guide

D.SARAVANA KUMAR

Acknowledgement

An endeavor over a long period can be successful only with the advice and support and many well wishes. We take this opportunity to express our gratitude and appreciation to all of them.

We the students of Kumaraguru College of Technology, are really proud in doing a project at Gokul Capacitors, Coimbatore.

We are bound to express our gratitude to **Dr. K.K Padmanaban, B.Sc(Engg), M.Tech, Ph.D**., Principal, Kumaraguru College of Technology, for his constant encouragement throughout our course.

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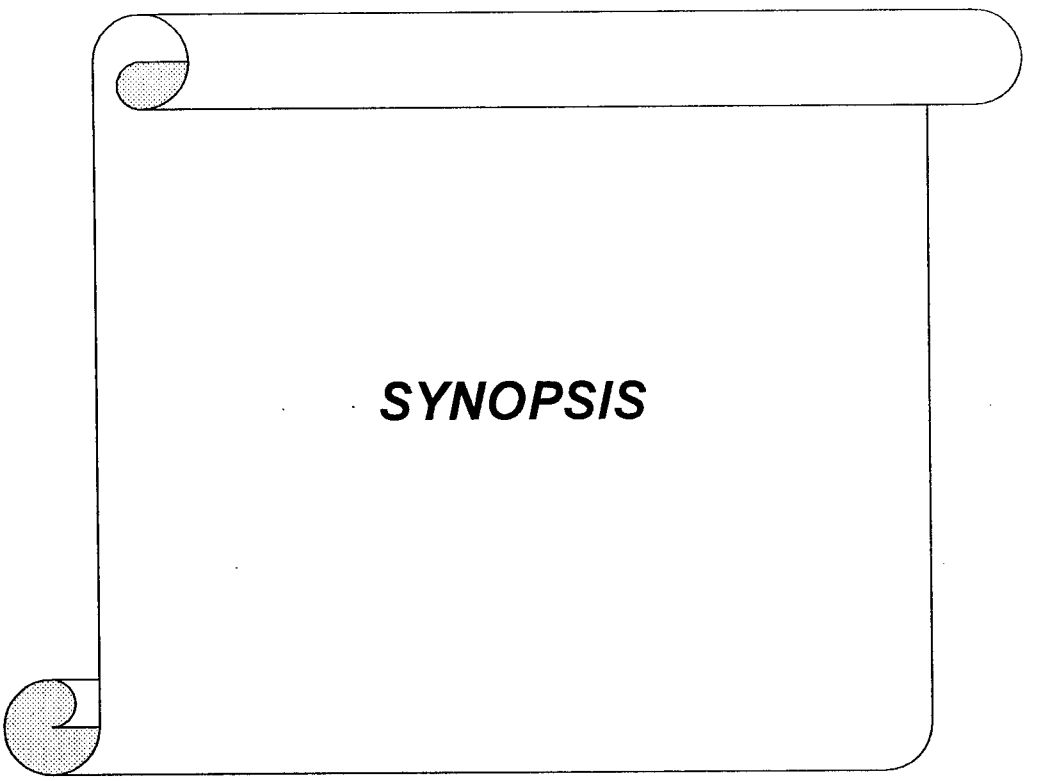
We wish to express our gratitude to our project guide **Mr.P.K.JayaPrakash M.C.A,** Department of Computer Technology, Kumaraguru College of Technology, Coimbatore, for being supportive through out the tenure of the project.

We express our gratitude to **Mr.D.Saravana Kumar, Software Engineer ,Silicion Solutions, Coimbatore** for giving us the opportunity to do this project.

We wish to thank all our friends and our family members who were showing this contributions in many subtle ways and indeed instrumental in achieving final results.


SYNOPSIS

SYNOPSIS

Credit Card Management System involves accepting of Filled Application Forms from the Limited Company Employee Category and for the Self-Employed Category through the Marketing Executives for the particular Direct Marketing Agent (DMA), who is having the authorization for Credit Card Marketing like Master Card, Visa Card, ABN Ambro etc., The filled application form data's are entered for processing.

It also manages the variety of credit card types and its personal information for the particular Marketing Agent and generates the reports for the particular credit card type.

This System is very useful for all types of Credit Card Marketing Agents. The system is designed with Microsoft Visual Basic 6.0 as front-end and MS-Access 2000 as back-end which is very much user interactive package for developing application software with data integrity . Each file is represented in terms of tables in which each table contains the filled application form records, company details, and credit card details.

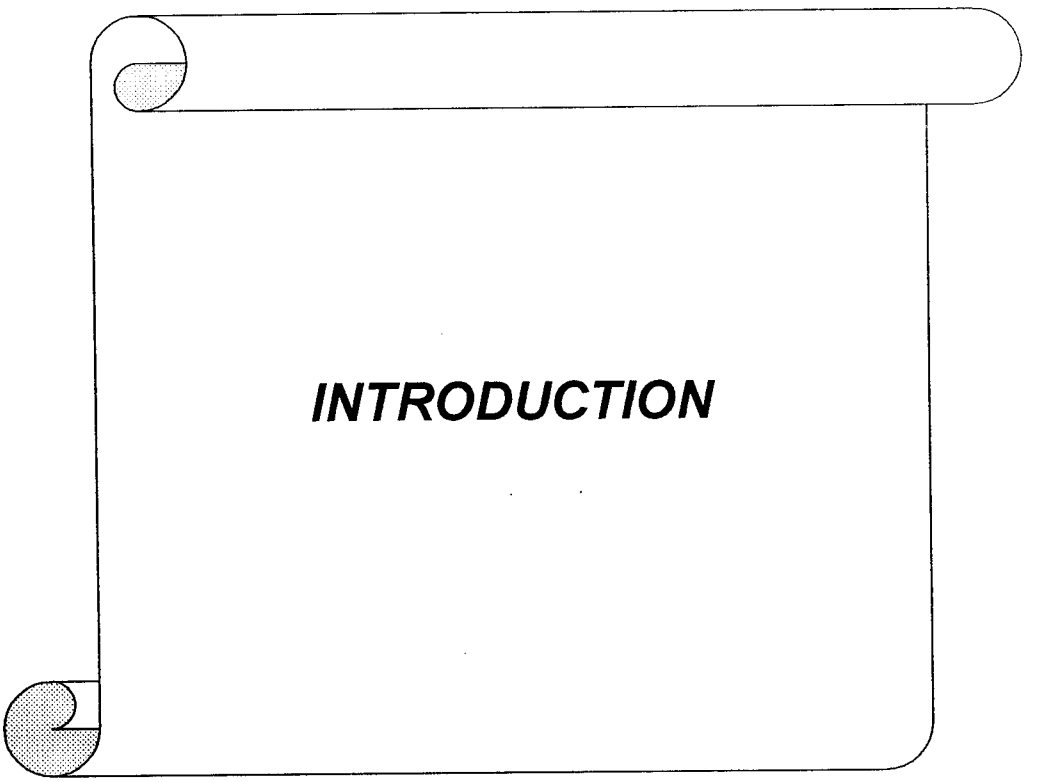
Tables are classified into Master & Transaction Tables, in which the details of credit card and the employee are stored in the Master

tables and the filled application form details, daily employee attendance details are stored in the Transaction Tables.

The System provides various reports regarding Credit Card, Employee incentive & Company Expense Details

1) Report of the Credit Card Types
2) Report of the Employee Personal, Payroll, Per Day Expense Details
3) Report of the Approved & Rejected Credit Card Holders who have applied.

CONTENTS


INTRODUCTION

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ORGANIZATION PROFILE:

SILICON SOLUTIONS, was corporate under the Companies act 1956 on the 21st day of March 1999. It is a private sector Concern, which mainly concentrates on Client/Server, Web Based, Multimedia & Package Development for Business Customers.

Since the concern started its activities its Goal has been to supply Customer's needs by:

- High Quality Packages.
- Fast and Reliable Feedback.
- Unconditional Customer Satisfaction.

The company is situated in Heart of the Coimbatore City. The main areas for Software Development are:

- Client/Server - Visual Basic 6.0 with MS-Access 2000 & SQL Server 7.0.
- Web Technology - HTML, XML, JavaScript, ASP & SQL Server 7.0.
- Multimedia - Adobe Photoshop & Macromedia Flash.
- Wireless Application - WML, WML Script, ASP, SQL Server 7.0.

PROJECT OVERVIEW

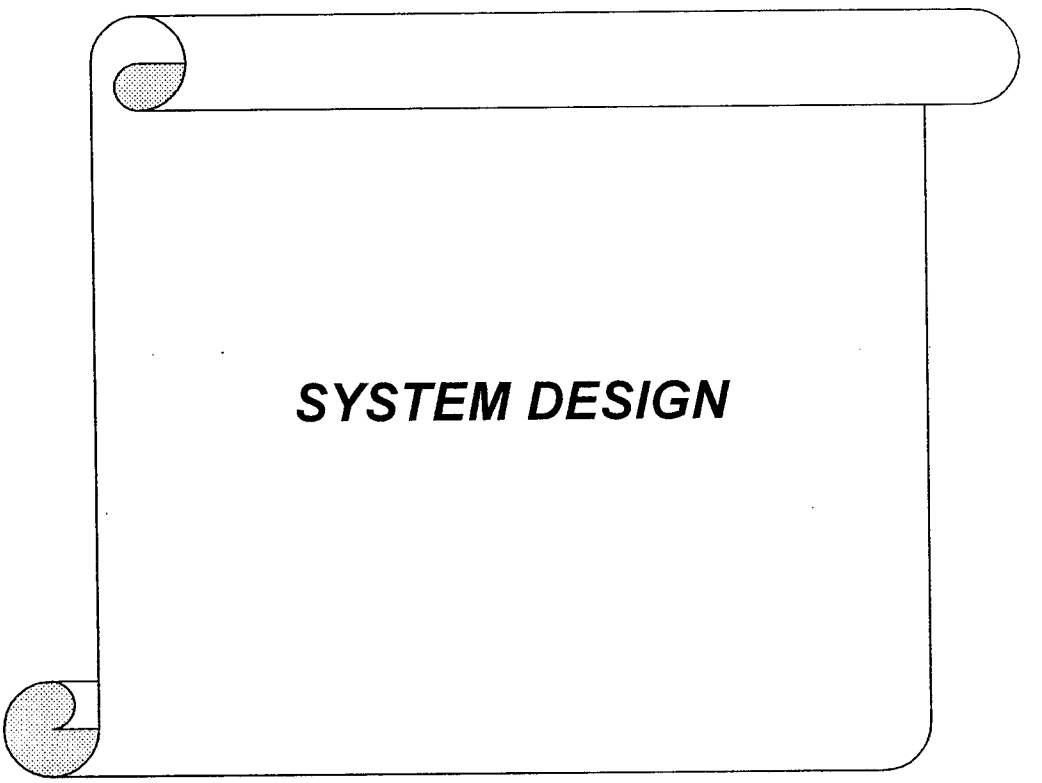
The project mainly concentrates on the computerization of activities done by Direct Marketing Agent who are eligible for supplying Credit Cards based on some predefined rules and regulations. The project mainly concentrates on:

- Capturing information about issue of Credit Cards and also the performance of each Sales Executive.
- Generating reports for corporate management information.

The existing system is manual and the system conceives more time and less accuracy is guaranteed. The proposed system meets all its drawbacks.

The project is done in the platform VB 6.0 as front-end and MS-Access 2000 as back-end. The project covers all the needs of the reception maintenance. The reception procedures are made easier by the system.

In day today life speed plays an important role. The system meets the same successfully. The satisfaction of the customer is the important . The system is carefully designed to provide more flexibility with regard to the existing system. The project is designed carefully to avoid unnecessary errors and easy handling.


SYSTEM DESIGN

SYSTEM DESIGN

The system design contains certain well-defined objectives for the efficient and effective functioning of the system. The primary objectives are furnished below:

1. To develop and implement a completely automated system.
2. To provide the users with attractive and user friendly input screens.
3. To enforce security, integrity, consistency, accuracy, and validity of data.
4. To generate daily, weekly and monthly reports.
5. To provide the maintenance of master databases.
6. To provide the user with powerful GUI.

SYSTEM STUDY

System study is the first and foremost step in understanding the existing system properly. Once the existing manual system's operation, problems and shortcomings are known, the next step known as system design is easy. Various methods are available for gathering the necessary information about the existing system. The various techniques used in the study of existing system are:

1. Observation
2. Documentation
3. Discussion

As a part of the study phase, various documents for transaction, and incentive details are collected, and are used in the Project design.

System study is a detailed study of various operations performed by a system and their relationships within and outside the system. One aspect of analysis is defining the
boundaries of the system and determining whether or not a candidate system should consider other related systems. During analysis data is collected on the available files, decision points and transactions handled by the present system.

Some logical system models and tools are used in the system analysis. The steps necessary for system analysis are system planning and initial investigation, information gathering through interviews, questions and so on. Tools like data dictionary, decision tree, data flow diagram, structured English are useful for feasibility study and cost benefit analysis.

EXISTING SYSTEM

The human being is the earliest and still most prevalent form of data processor. In the manual system information regarding each and every department is collected and is maintained in the registers. The information is manually collected, and so the time consuming is more in the manual records system.

The most serious drawback of manual maintenance is security. The information entered could not be kept secure and hence changes to the record can be easily made, this will lead to severe loss for the concern. The possibility of error is also maximum in manual maintenance. Computerization makes it easy to handle the enormous amount of data.

DRAWBACKS OF EXISTING SYSTEM

1) Enormous amount of time consumption for doing things.

2) *Operations are time consuming.*

Whenever a need of search arises the process evolves search through the paper.

3) *Readability of records is constrained.*

All the records may not be handled or written by the same person. So the format will be different resulting in loss.

4) Paper records are easily damaged with time. The life time of paper records are vary less that it easily gets damaged. It faces the risk of loss of data.

5) The great limitation to the existing system is that services to the customers is limited

6) *Expenditure is high:*

Manually system need more manpower for it's functioning than computer systems. Expenditure is high in terms of salary and time.

NEED FOR COMPUTERIZATION

Manual work can be reduced considerably by the computerization of the system. In computerized system updating can be done at any time and the details can be retrieved easily.

Advantages of computerization:

1. Greater processing speed.
2. Faster information retrieval.
3. Avoidance of Human errors.
4. Reports can be obtained any time.

Computerization of the commercial system has become a necessity due to the following reasons:

Features:

1. Maintaining large volume of data :

As the number of procedures increases the volume of data to be handled also increases. Manual maintenance of bulk data was found to be a failure. Computerization made it easy to handle the enormous amount of data.

2. Quick and accurate response :

Quick and accurate response is another point of necessity of computerization. We could retrieve bulk data's from the database within a fraction of time.

3. Security :

The users of the package are filtered by means of login name and password. Hence only the authorized users will be able to handle data. By manual system any one could manipulate data which would question the data security.

4. Greater Processing speed :

Computerization increases the processing speed of the system, thus the system is capable of processing enormous amount of data in limited time.

5. Easy to use :

Computerization has attained its popularity due to the easiness with which it can be used.

6. Mandatory Updates :

The Company details and Customer Details could be easily updated with the help of computerization. During the updating process the possibility of error occurrence is also less.

THE PROPOSED SYSTEM

Compared to the manual system the Proposed system has the following features:

1. The system is more user friendly.
2. It is equipped with powerful GUI (Graphical User Interface).
3. The inter related data are grouped into different input screens.
4. Provides a high uniformity among all screens format.
5. The system works in high speed and accuracy.
6. It generates neat formatted report, based on which the decision is possible.
7. It handles bulk amount of data.

NEED FOR THE PROPOSED SYSTEM

Speed is the word of the moment in today's busy world. So the proposed system does the above mentioned statement successfully... The system is carefully designed to provide more flexibility with regard to the existing system.

ABOUT THE SOFTWARE

The softwares used in the project are *Visual Basic 6.0* as front-end and MS_Access 2000 as back end.

MS –VISUAL BASIC 6.0

Overview:

Visual Basic is the fastest and easiest way to create applications for Microsoft Windows. Visual Basic provides a complete set of tools to simplify rapid application development both for the experienced professional and new windows programmers.

In the name Visual Basic – the "Visual" part refers to the method used to create the Graphical User Interface. Unlike many languages, which require numerous lines of coding to describe the appearance and location of interface elements, Visual the "Basic" part refers to the BASIC language as its basic syntax of statement is

retained by Visual Basic. But Visual Basic now contains several hundreds of statements, functions and keywords, many of which relate directly to the windows graphical user interface. The Compiler in Visual Basic gives many options for optimizing the compiled code, such as optimization for small code favor for Pentium pro etc.

Visual Basic is a very open environment that supports the Client/Server architecture, Active X, Component Object Model (COM), Distributed Component Object Model (DCOM). It also supports database connectivity with Microsoft Access as well as Oracle.

Integrated Development Environment enables to develop, run, test and debug applications. It is capable of creating different project types to develop application and it contains Member, Toolbars, form layout, context menus, toolbar property window, and immediate window.

Visual Basic 6.0 programming is programming for the user. It aims at providing the user with an interface that is intuitive and easy-to-use. A Visual Basic Programming environment provides all features that are required to develop a graphical user interface as ready-to-use components. These components can be moved, resized and renamed as required.

Advantages :

Visual Programming enables visual development of graphical user interfaces.

1. Ready to use components:

In VB, the programmer need not write code to display the required component. The visual-programming environment displays a list of available components. The programmer can pick up the required components from the list. In this, there is no restriction in the number of controls that can be placed.

2. *Built In Code.*

The interface components provided by the VB environment have some built in-code.

3. *Event Driven Programming.*

A major part of the interactions between people in everyday life is in the form of events and responses to events. The interface components have the ability to recognize user events. The programmer determines the response of the components and the events.

Components Used:

The Components used in the Visual Basic are the following:

1. Microsoft Windows Common Control
2. Microsoft Common Dialog Control
3. Microsoft Mask Edit Control
4. Microsoft ADO Control.
5. Microsoft Flex grid & Hierarchal Flex grid Control.
6. Microsoft Tabbed Dialog Control.

MS_Access 2000

MS_Access is a relative database management system which is also known as the native backend of the package Visual Basic. This database allows the user to create tables and pass queries to retrieve data from these tables.

The user is allowed to store, retrieve and update the data elements stored in the database. The database system permits the users to set constraints, where the users cannot overcome these constraints or the system doesn't allow any unauthorized usage. The current version of Oracle is more users friendly and it interacts with people by providing several help facilities.

Advantages :

The Database window in Oracle provides a variety of options for viewing and manipulating Database Objects :

1. *Organize Database Objects into Groups*

2. *View Related Data in a Sub Datasheet*

Use a Sub Datasheet to view and edit related or joined data in a table, query, or form datasheet, or in a Sub Form all from the same view.

3. *Support for Unicode and Dual Font*

You are able to use the characters of any language that 'Unicode' supports in your data. You can use Unicode compression to offset the effect of Unicode's increased storage space requirements. You can also take advantage of the dual-font support by specifying a substitute font that you can use in addition to your default font to properly display all of the characters in your data.

4. *Automatic Error Rectification*

AutoCorrect automatically corrects common side effects that occur when you rename forms, reports, tables, queries, fields, text boxes or other controls.

5. *Portable*

MS_Access Database Reports can be distributed even to users who don't have MS_Access Versions.

6. *Interactive*

MS_Access is a highly interactive database management system compared to other database management systems.

SYSTEM CONFIGURATION

The hardware necessary to support are identified, ordered, delivered, installed and tested at this time. The Software developed is IDM and its hardware specifications are the following

Hardware Specification

System	: LG Studio works 15 inch
Processor	: Pentium 3
Speed	: 933 MHz
Base Memory Size	: 128 MB RAM
Auxiliary Storage Medium	: Floppy Disk
Floppy Disk Drive	: 1.44 MB
Hard Disk Drive	: 20 GB
Keyboard	: 107 keypad including 12 function keys
Printer	: Panasonic Kx-P1150 multimode printer
Monitor	: Super VGA 800*600 @75Hz

Software Specification

Operating System : Microsoft Windows 98 (Second Edition)

Front end : MicrosoftVisualBasic 6.0 (Enterprise Edition)

Back end : MS_Access 2000

Documentation Package : Microsoft Word 2000.

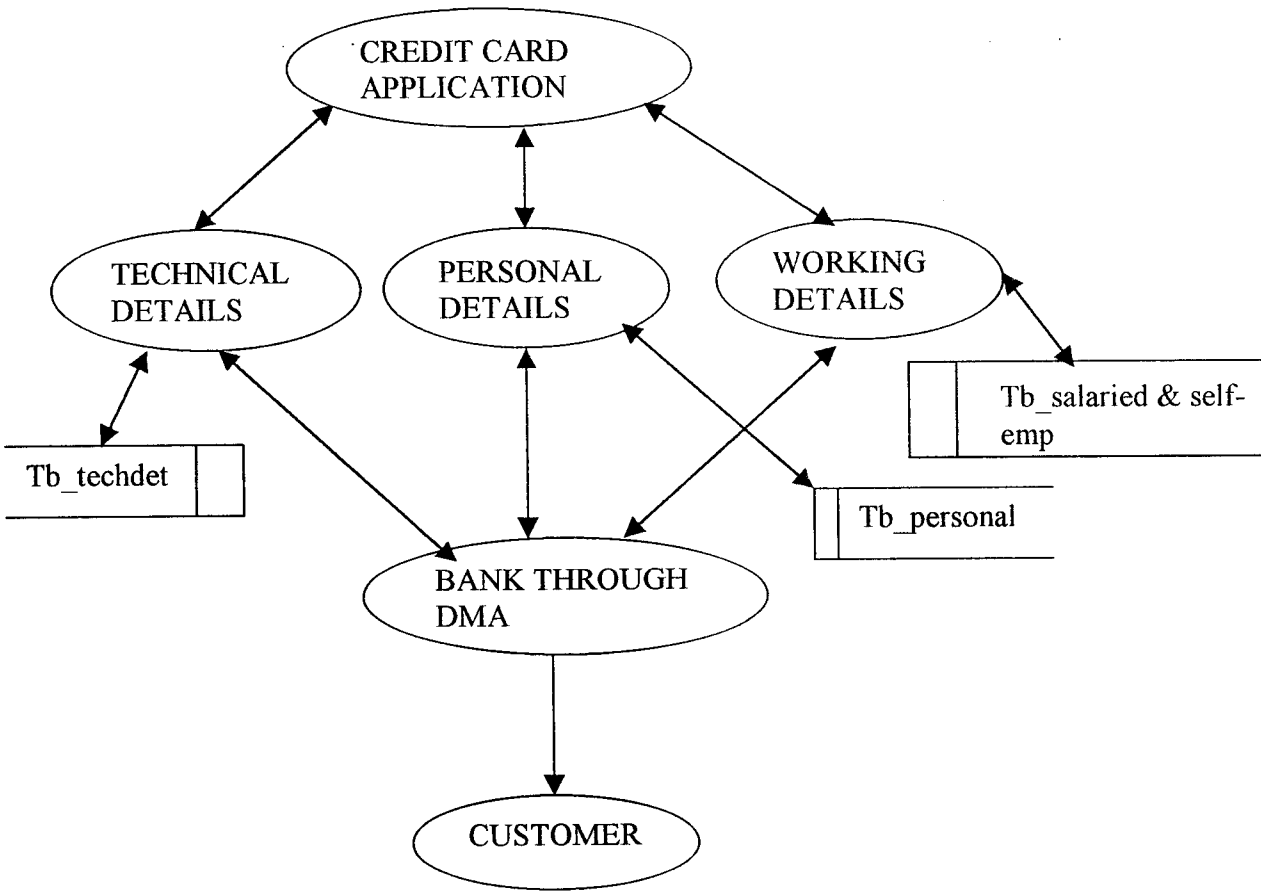
System Resources

System	: Microsoft Windows 98, Second Edition
Computer	: Genuine Intel X86 Family 6 model 8 Stepping 6 63.0 MB RAM
System Resources	: 78% free
Virtual Memory	: 32 bit
File System	: 32 bit
Disk Compression	: Not Installed
PC Cards	: No PC Card Sockets are installed.

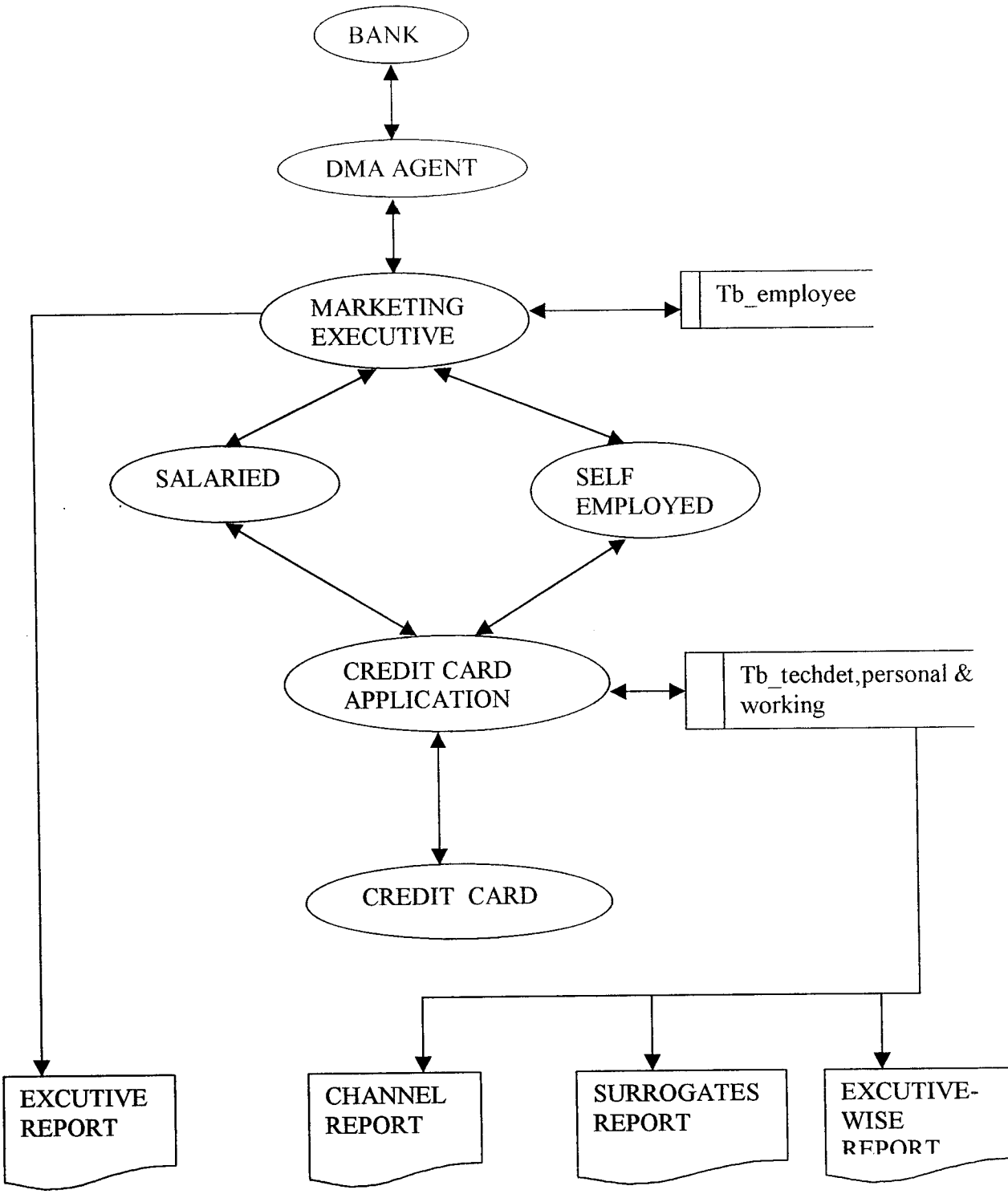
2.4 DATAFLOWDIAGRAM

LEVEL 0 DFD

LEVEL 1 DFD



GENERAL


BANK
DMA AGENT
MARKETING EXECUTIVE
Tb_employee
SALARIED
SELF EMPLOYED
CREDIT CARD APPLICATION
Tb_techdet,personal & working
CREDIT CARD
EXCUTIVE REPORT
CHANNEL REPORT
SURROGATES REPORT
EXCUTIVE-WISE REPORT

DATABASE DESIGN:

A database is a collection of interrelated data stored with minimum redundancy to serve many users quickly and efficiently. The general objective is to make information access easy and flexible for the user. In Visual Basic, we can create our databases and create tables for storing data. Database design is based on several objectives such as controlled redundancy, ease of learning and use, data independence, more information at low cost, accuracy and integrity, recovery from failure, privacy, security and enhanced performance. The database design is an integrated collection of data. The objectives of the database are:

1. Data integration
2. Data integrity
3. Data independence

Integration means the collecting of data, which are scattered on different devices. Data integrity means that the logical information is inconsistent owing to differences in duplicated physical data. Data independence is the organization of independent data and the knowledge of the data organization and access techniques built into the application logic.

Designing databases

The DBMS, which is used in Credit Card Management, includes the following:

Table Driven

The table driven DBMS uses records and fields.

Schema Design

Schema design is mainly concerned with choosing record types and content and set types content and characteristics. The data items, which will go into the database, are first defined, then grouped together into records and the records grouped together into sets. The first stage in to analyze the data into the third normal form and then use a data mapping technique to decide which record and set grouping should be made.

Normalization

Normalization is a series of tests used against the data to eliminate redundancy and make sure that the data associated with the correct table or relationship. Normal forms are tests used to normalize data. Data structuring is refined through the process of normalization. The tables for Credit Card Management System are normalized up to third normal form.

First Normal Form

A relation is in the first normal form if it does not contain any repeating elements or groups

Second Normal Form

A relation is in the second normal form if it is in the first normal form and all non-key attributes are fully functionally dependent on the primary key.

1) Primary key

Primary key is the one in which in a table that does not accept unique & null values. In some tables more than one column is required to uniquely identify a row and the combination of these also forms a primary key

Third Normal Form

A relation is in third normal form if it is in the second normal form and all non-key attributes are non-transitively dependent on the primary key.

Database Design

Studying the existing system and conducting preliminary investigations determine the user requirements determined by the usage of Data Flow Diagram. The Database developed ensures that the database is well defined and efficient to store the necessary data.

TABLE STRUCTURES

Table name: tb_cardmaster **Description: Card Master**

S.No	Field	Data Type	Width	Constraint	Description
1	Id	Text	5	Primary key	Card Id
2	Name	Text	25		Card Name
3	Salaried	Number	6		For Salaried
4	Selfemployed	Number	6		For SelfEmp.

Table name: tb_channelmaster **Description: Channel Master**

S.No	Field	Data Type	Width	Constraint	Description
1	Id	Text	5	Primary key	Channel Id
2	Description	Memo	50		Description

Table name: tb_promomaster **Description: Promo Master**

S.No	Field	Data Type	Width	Constraint	Description
1	Id	Text	5	Primary key	Promo Id
2	Description	Text	50		Description

Table name: tb_surragatemaster **Description: Surragate Master**

S.No	Field	Data Type	Width	Constraint	Description
1	Id	Text	5	Primary key	Surragate Id
2	Description	Text	50		Description
3	Fees	Number	7		Processing Fees

Table name: tb_cctechdet **Description: Technical Details**

S.No	Field	Data Type	Width	Constraint	Description
1	Appno	Text	5	Primary key	App.Number
2	Appdate	date			App. Date
3	Dmacode	Text	5		DMA Code
4	Promocode	Text	5	Foreign Key	Promo
5	Dmecode	Text	5	Foreign Key	DME Code
6	Cardtype	Text	25	Foreign Key	Card Type
7	Saragates	Text	5	Foreign Key	Surragates
8	Channelcode	Text	5	Foreign Key	Channel

Table name: tb_ccpersonal **Description: Personal Details**

S.No	Field	Data Type	Width	Constraint	Description
1	Appno	Text	5	Foreign key	App. No
2	Appname	Text	25		App. Name
3	Gender	Text	6		Gender
4	Dob	Date			D.O.B
5	Mstatus	Text	10		Marital Status
6	Mname	Text	25		Mother's Name
7	address1	Text	25		Door No.
8	address2	Text	25		Street & Taluk
9	City	Text	25		District
10	Pin	Number	10		Pin Code
11	Std	Number	10		STD Code
12	Phone	Number	10		Phone Number
13	Mobile	Number	15		Mobile Number
14	Restype	Text	20		Residential Type
15	Resstatus	Text	25		Residential Status
16	Document	Text	25		Document's Attached
17	Photocard	Text	5		Photo Card
18	Wstatus	Text	25		Work Status

Table name: tb_ccsalaried **Description: Salaried Employees**

S.No	Field	Data Type	Width	Constraint	Description
1	Appno	Text	5	Foreign key	App.No.
2	cmpname	Text	25		Company Name
3	address1	Text	25		Address 1
4	address2	Text	25		Address 2
5	city	Text	25		City
6	pin	Number	10		Pin Code
7	designation	Text	25		Designation
8	department	Text	25		Department
9	std	Number	10		STD Code
10	phone	Number	10		Phone Number
11	mobile	Number	15		Mobile Number
12	income	Number	6		Annual Income
13	suppl	Text	20		Supplementary Card

Table name: tb_ccselfemp **Description: Self Employed**

S.No	Field	Data Type	Width	Constraint	Description
1	Appno	Text	5	Foreign key	App.No
2	cmpname	Text	25		Company Name
3	address1	Text	25		Address 1
4	address2	Text	25		Address 2
5	city	Text	25		City
6	pin	Number	10		Pin Code
7	firm	Text	25		Firm
8	profession	Text	25		Profession
9	std	Number	10		STD Code
10	phone	Number	10		Phone Number
11	mobile	Number	15		Mobile Number
12	income	Number	6		Annual Income
13	suppl	Text	20		Supplementary Card

INPUT DESIGN

In accurate input data is the most common source of errors in data processing. Errors entered by data entry operators can be controlled by input design. Input design is the process of converting user-originated inputs to a computer-based format. Input design is a part of overall system design. The objective of input design for Investors Data Manager system is,

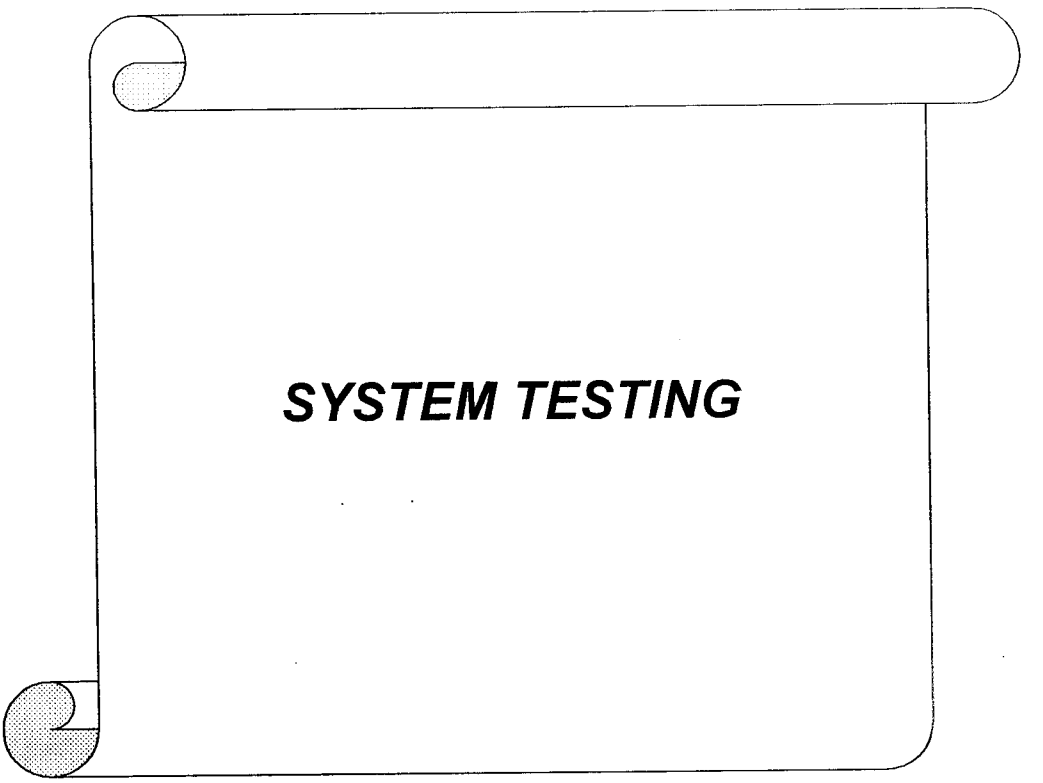
1. To produce a cost-effective method of input
2. To achieve a high level of accuracy
3. To ensure that the input is acceptable and understood by the user staff

OUTPUT DESIGN

Computer output is the most important and direct source of information to the user. Proficient, intelligible output design should improve the system's relationships with the user and help in decision making. A major form of output is a hard copy from a printer. Printouts should be designed around the output requirement of the user.

Outputs from computer system are required primarily to communicate the results of processing the users in a form which they can understand and which meets their requirements. The hardcopy output is produced for later consultation.

Output is the most important and direct source of information to the management. They are obtained in the form of various reports. Efficient output design improves system relationship with the user and the process of decision-making. Sample reports are given in the appendix


SYSTEM TESTING

SYSTEM TESTING

System testing is the most vital activity that has to be enforced in any system development cycle. This could be done as parallel activity along with the system development or during the implementation. The feedback received during this testing was carefully examined for further enhancement to be made in the system.

The system was tested with sample data and adequate corrections were made as per the requirements. Enough validation checks and error messages are provided, such as the user data entry error are minimized. The testing was done in the following three steps:

1) The function performance of the individual modules.
2) The interface of the system.
3) The user requirement specification.

WHITE BOX TESTING

This testing some times called Glass box testing is a text case box design method that uses the control structure of the procedural design to derive the test cases.
The reasons, which provide an argument for white box testing areas, are follows:

1) Logical errors and incorrect assumptions are inversely proportional to the probability that a program path will be executed.

2) We often believe that a logical path is not likely to be executed when, intact, it may be executed on a regular basis.

3) Topographical error are random.

BLACK BOX TESTING

Black Box Testing is testing without knowledge of the internal workings of the item being tested. For example, when black box testing is applied to software engineering, the tester would only know the "legal" inputs and what the expected outputs should be, but not how the program actually arrives at those outputs. It is because of this that black box testing can be considered testing with respect to the specifications, no other knowledge of the program is necessary. For this reason, the tester and the programmer can be independent of one another, avoiding programmer bias toward his own work. For this testing, test groups are often used, "Test groups are sometimes called professional idiots...people who are good at designing incorrect data." Also, do to the nature of black box testing; the test planning can begin as soon as the specifications are written. The opposite of this would be glass box testing, where test data are derived from direct examination of the code to be tested. For glass box testing, the test cases cannot be determined until the code has actually been written. Both of these testing techniques have advantages and disadvantages, but when combined, they help to ensure thorough testing of the product.

Advantages:

1. More effective on larger units of code than glass box testing
2. Tester needs no knowledge of implementation, including specific programming languages
3. Tester and programmer are independent of each other
4. Tests are done from a user's point of view
5. Will help to expose any ambiguities or inconsistencies in the specifications
6. Test cases can be designed as soon as the specifications are complete

Disadvantages:

1. Only a small number of possible inputs can actually be tested, to test every possible input stream would take nearly forever
2. Without clear and concise specifications, test cases are hard to design
3. There may be unnecessary repetition of test inputs if the tester is not informed of test cases the programmer has already tried
4. May leave many program paths untested
5. Cannot be directed toward specific segments of code which may be very complex (and therefore more error prone)
6. Most testing related research has been directed toward glass box testing

Testing Strategies/Techniques

Black box testing should make use of randomly generated inputs (only a test range should be specified by the tester), to eliminate any guess work by the tester as to the methods of the function. This testing focuses on the functional requirements of the software. Black box testing is not an alternative to White-box testing technique; rather it is a complementary approach that is likely to uncover a different class of errors than White-box method. Black-box testing attempts to find errors in the following categories:

1) Incorrect or missing functions.

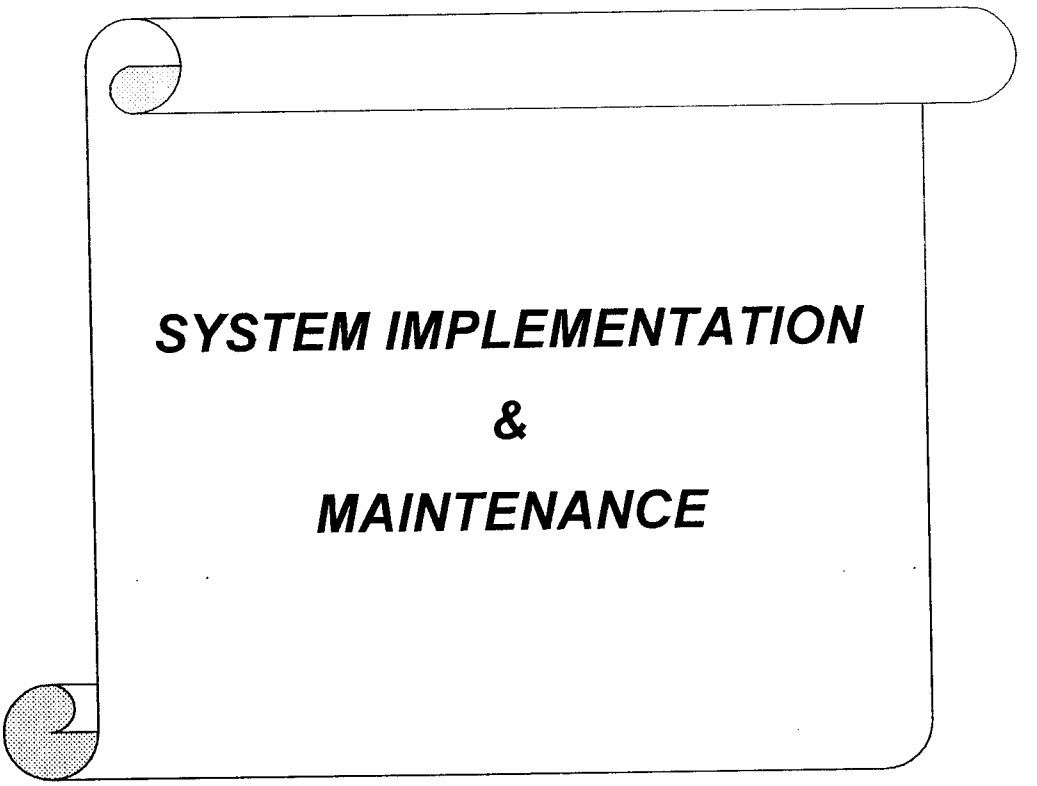
2) Interface Errors.

3) Errors in data structure or external database access.

4) Performance errors.

5) Initialization and termination errors.

Black-box testing purposely disregards control structures; attention is focused on the information domain.


SYSTEM IMPLEMENTATION
&
MAINTENANCE

PLAN

The system should be installed windows platform with Microsoft Visual Basic 6.0 and MS_Access 2000. Since all the conditions are satisfied the system can be implemented.

Education & Training

The user of the system should be properly educated and trained. So that they can make the system efficient. If the user is not aware of the programming language, he should be taught about the subject how it differs from others, its limitations and other advantages over other front-end tools etc. Next he should be given a brief introduction to the back end its advantages and other important concepts should be given. Then the user should be introduced to the system, its working, the output generated etc.

After educating the user, he has to be trained to use the system. By means of the user manual provided with the system, the training can be made easy.

Change Over

Since the new system has to handle a large amount of data at a time, it is sage to have a change over. The result of the new system must be compared with that of the manual system. If the results are similar we can replace the existing system with the new one.

MAINTENANCE

Software

Maintenance is the engine of the system development. It holds the software industry captive, trying up programming resources. Analysts and programmers spent far more time problems than they do writing them.maintenance is not as rewarding and exciting as developing a system. It is perceived in requiring neither skill nor experience. Software maintenance is the process of modifying a software or component after its delivery inorder to correct faults, improve the performance and other attributes, or to adapt to the changed element.

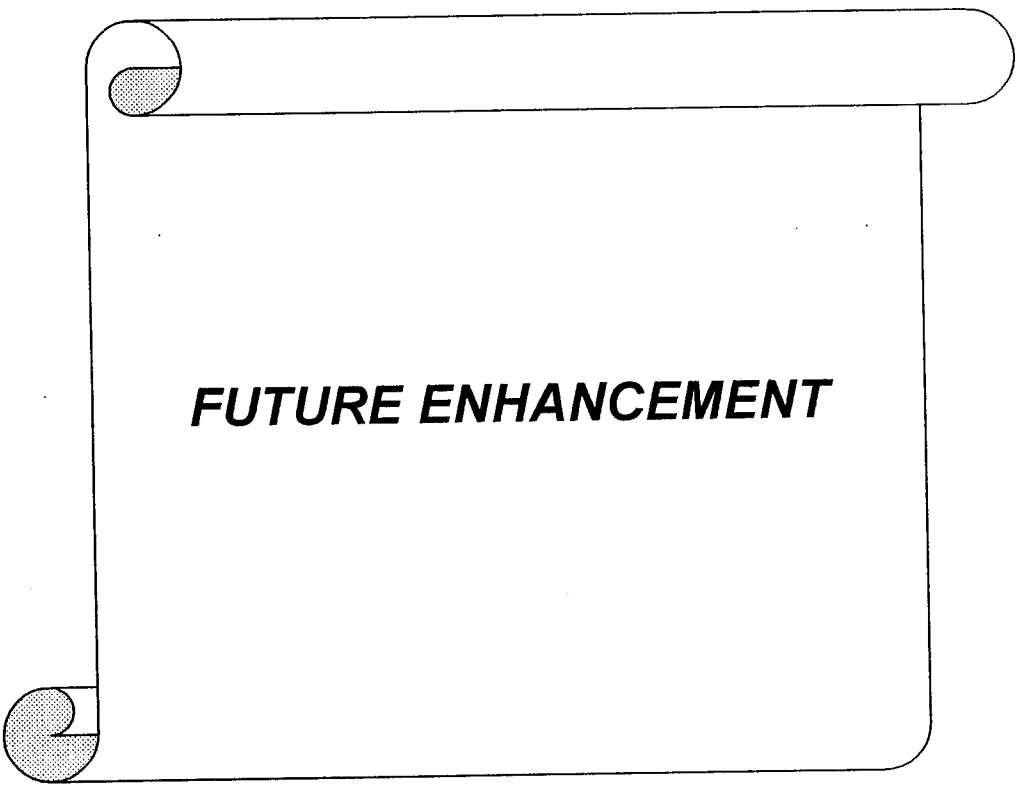
Maintenance covers a wide range of activities including correcting the coding and design errors, updating the documentation and test data and upgrading the user support. There is an aging process that calls for periodic maintenance of hardware and software. Maintenance is always necessary to keep the software useful and reusable. Hardware also requires periodic maintenance to keep the system in its standards.

Software activities can be classified into:

1) Corrective Maintenance.
2) Adaptive Maintenance.
3) Perfective Maintenance.

- Corrective Maintenance removes software faults.
- Adaptive Maintenance modifies the software to keep it up data with its operative environment.
- Perfective Maintenance improves the system without changing its functionality. The objective of Perfective Maintenance should be to prevent failures and optimize software.

It may be needed because of changes in the user requirements; changes in target platform; or changes in external interfaces. Minor adaptive changes should be handled by normal maintenance process. Major adaptive changes should be handled through separate target.


FUTURE ENHANCEMENT

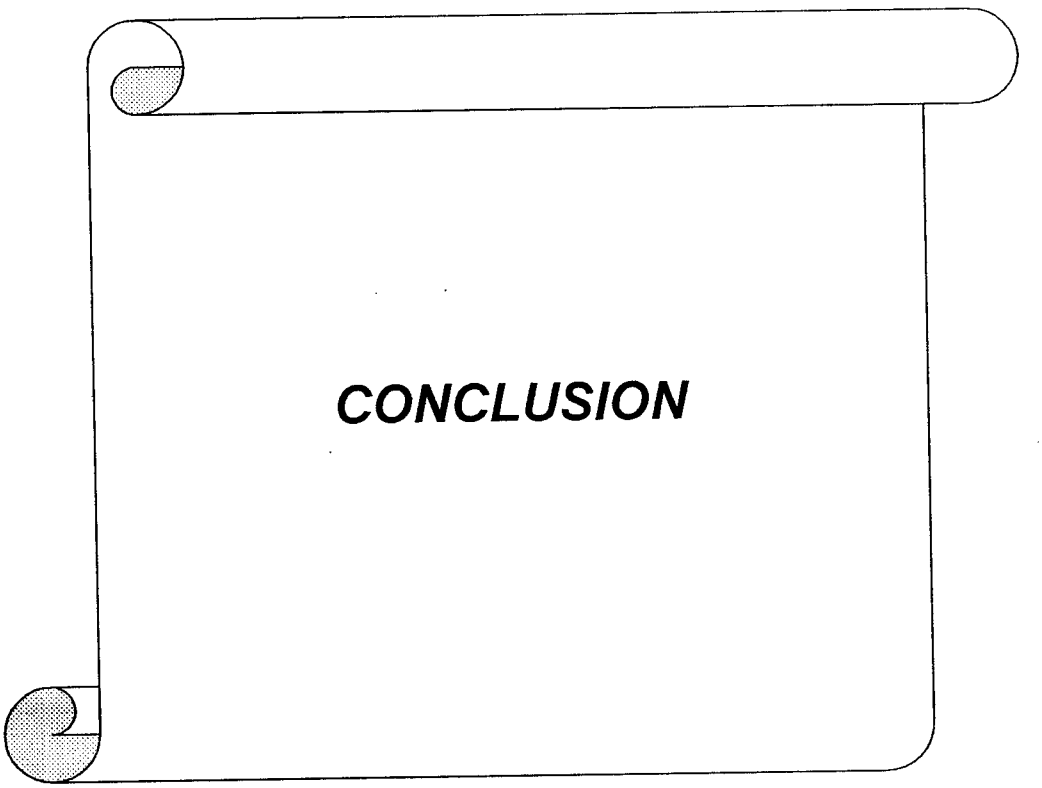
FUTURE ENHANCEMENT

The Software is completely based on user's view and description, and it Promises most of the facilities that govern the Management. The software provides a user friendly environmental and reduces user difficulties.

The Software is working successfully without any errors and the Management has approved most of the Software's Success.

The Software as such is concentrating only in some fields of the Management. In the near future the Management is planning to computerize all of its departments, to maximize their service to Customers. The Management has asked for much detailed Software that will guide them to the computerization of all of its fields.

In the near future the company is planning to host a website which will allow it to ***Receive Online Orders.***


CONCLUSION

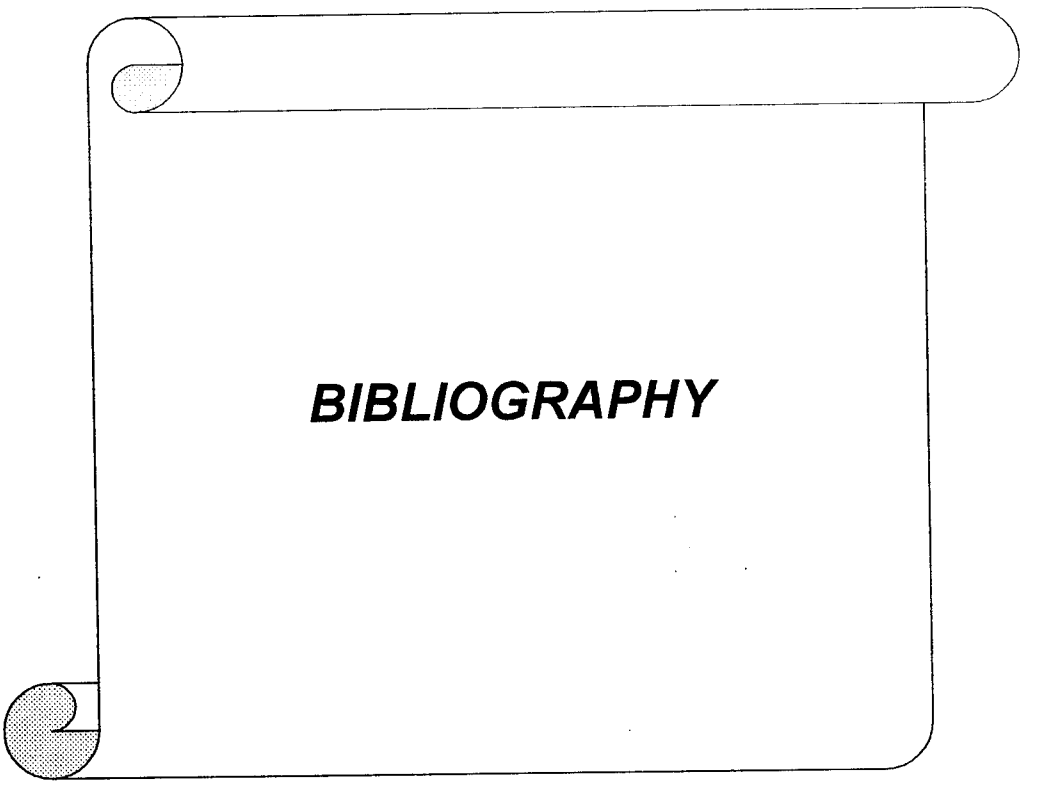
CONCLUSION

In every Organization, computerization plays the most important role in day-to-day activities. The computerization of Credit Card Management is reliable and very easy to use. It saves a lot of time and is very efficient. The flexibility of the program developed is quite high.

The use of computerization has very little chance of committing any data entry error since it has enough validation check. The system is flexible and changes can be made without any difficulties. The system is tested with possible sample data before any valid data is inputted.

The Credit Card Management System has been developed to do the most of the transactions for Direct Marketing Agents for Credit Card. The manual system resulted in loss of time as well as errors in transactions, which resulted in minor loss. The successful completion of the system resulted in:

1. Elimination of manual processing
2. The system is user friendly with GUI & tool tip help
3. Fast data processing compared to manual processing
4. Generation of reports
5. Immunization of the system from unauthorized user accesses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  Gary Cornell

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  Leo Barey

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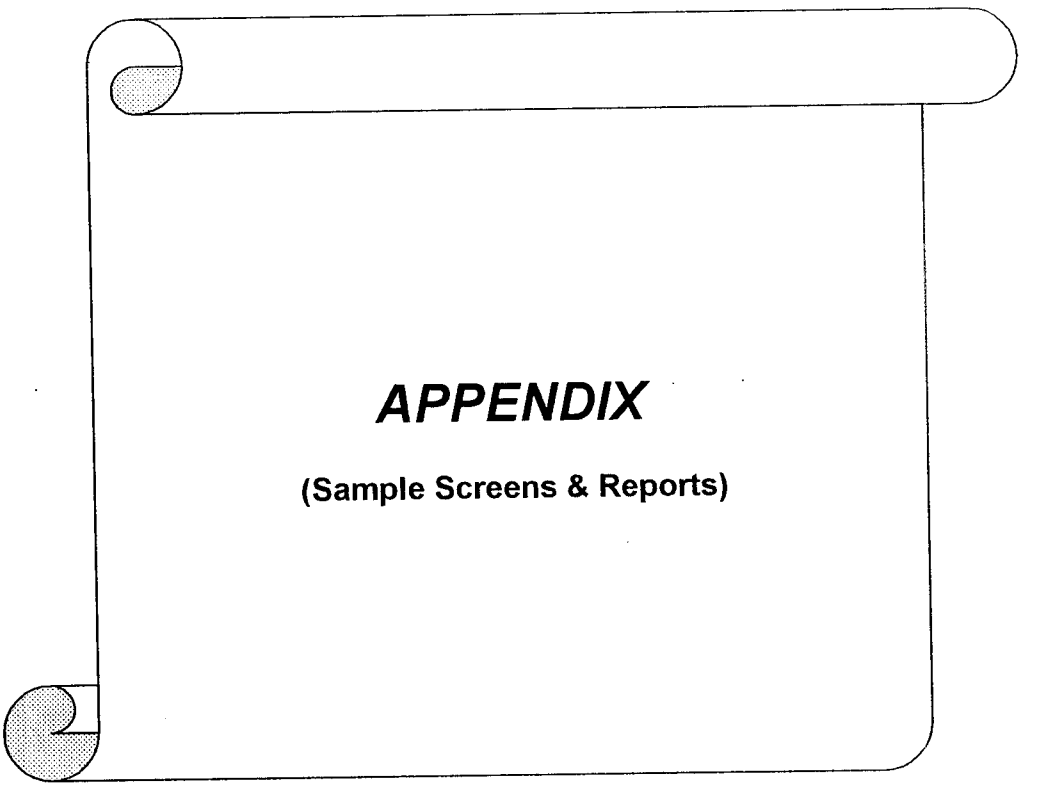
- www.vbcode.com
- www.vbtutorials.com
- www.developersia.com

Note of Thanks to: Yahoo Messenger


APPENDIX
(Sample Screens & Reports)

SAMPLE CODING

Card Master

```
Dim cn As New ADODB.Connection
Dim rs As New ADODB.Recordset
Function clear()
txtid.Text = ""
txttype.Text = ""
txtsal.Text = ""
txtself.Text = ""
txtid.Enabled = True
txtid.SetFocus
End Function
Private Sub cmdadd_Click()
clear
End Sub

Private Sub cmddel_Click()
Dim X
X = (txtid.Text)
Dim i
i = MsgBox("Do you want to delete the record", vbYesNo + vbInformation)
If i = vbYes Then
   Dim qry As String
   qry = "delete * from tb_cardmaster where id='" & X & "'"
   cn.Execute qry
   MsgBox "Deleted", vbInformation, "Credit Card"
   txtid.Enabled = True
   clear
   gridload
End If
End Sub

Private Sub cmdexit_Click()
Unload Me
MDIForm1.Show
End Sub

Private Sub cmdsave_Click()
Dim i
```

```
i = MsgBox("Do you want to store the record", vbYesNo + vbInformation, "Credit
Card")
If i = vbYes Then
   Dim a, b, c
   Dim X As String
   a = (txtid.Text)
   X = txttype.Text
   b = Val(txtsal.Text)
   c = Val(txtself.Text)
   Dim qry As String
   qry = "insert into tb_cardmaster values('" & a & "','" & X & "'," & b & "," & c & ")"
   cn.Execute qry
   MsgBox "Saved", vbInformation, "Credit Card"
   clear
   gridload
 Else
   clear
 End If
 End Sub

 Private Sub Command1_Click()
 Dim i
 i = MsgBox("Do you want to modify the record", vbYesNo + vbInformation, "Credit
 Card")
 If i = vbYes Then
    Dim X
    X = (txtid.Text)
    Dim qry As String
    qry = "delete * from tb_cardmaster where id='" & X & "'"
    cn.Execute qry
    Dim a, b, c
    Dim y As String
    a = (txtid.Text)
    y = txttype.Text
    b = Val(txtsal.Text)
    c = Val(txtself.Text)
    Dim qry1 As String
    qry1 = "insert into tb_cardmaster values('" & a & "','" & y & "'," & b & "," & c &
  ")"
    cn.Execute qry1
    MsgBox "Modified", vbInformation, "Credit Card"
    txtid.Enabled = True
    gridload
```

```
   clear
End If
End Sub
Private Sub Form_Load()
Me.WindowState = 2
cn.Open ("FileDSN=creditcard")
rs.ActiveConnection = cn
gridload
End Sub

Function gridload()
rs.Open "select * from tb_cardmaster"

msfshow.Rows = 100
msfshow.clear
msfshow.Refresh

msfshow.Row = 0
msfshow.Col = 0
msfshow.Text = "Card Id"
msfshow.Col = 1
msfshow.Text = "Card Name"
msfshow.Col = 2
msfshow.Text = "Salaried"
msfshow.Col = 3
msfshow.Text = "Self Emp."


msfshow.Row = 1
rs.Requery
Do While Not rs.EOF
   msfshow.Col = 0
   msfshow.Text = rs.Fields("id").Value
   msfshow.Col = 1
   msfshow.Text = rs.Fields("name").Value
   msfshow.Col = 2
   msfshow.Text = rs.Fields("salaried").Value
   msfshow.Col = 3
   msfshow.Text = rs.Fields("selfemployed").Value
   msfshow.Row = msfshow.Row + 1
   rs.MoveNext
Loop
rs.Close
```

```
End Function

Private Sub Form_Unload(Cancel As Integer)
cn.Close
End Sub

Private Sub msfshow_Click()
txtid.Enabled = False
rs.Open "select * from tb_cardmaster"

Dim X
X = msfshow.Text

rs.Requery
Do While Not rs.EOF
   If rs(0) = X Then
      txtid.Text = rs(0)
      txttype.Text = rs(1)
      txtsal.Text = rs(2)
      txtself.Text = rs(3)
      Exit Do
    Else
      rs.MoveNext
    End If
 Loop
 rs.Close

 End Sub

 Private Sub txtid_KeyPress(KeyAscii As Integer)
 If KeyAscii = 13 Then
    If txtid.Text = "" Then
       MsgBox "Enter ID", vbInformation, "Credit Card"
       txtid.SetFocus
    Else
       txttype.SetFocus
    End If
 End If
 End Sub
 Private Sub txtsal_KeyPress(KeyAscii As Integer)
 If KeyAscii = 13 Then
    If txtsal.Text = "" Then
       MsgBox "Enter Salaried Annual Income"
```

```
      txtsal.SetFocus
    Else
      txtself.SetFocus
    End If
End If
End Sub

Private Sub txtself_KeyPress(KeyAscii As Integer)
If KeyAscii = 13 Then
    If txtself.Text = "" Then
       MsgBox "Enter Self Employed Annual Income"
       txtself.SetFocus
    Else
       cmdsave.SetFocus
    End If
End If
End Sub

Private Sub txttype_KeyPress(KeyAscii As Integer)
If KeyAscii = 13 Then
    If txttype.Text = "" Then
       MsgBox "Enter Card Type", vbInformation, "Credit Card"
       txttype.SetFocus
    Else
       txtsal.SetFocus
    End If
End If
End Sub
```

Channel Master

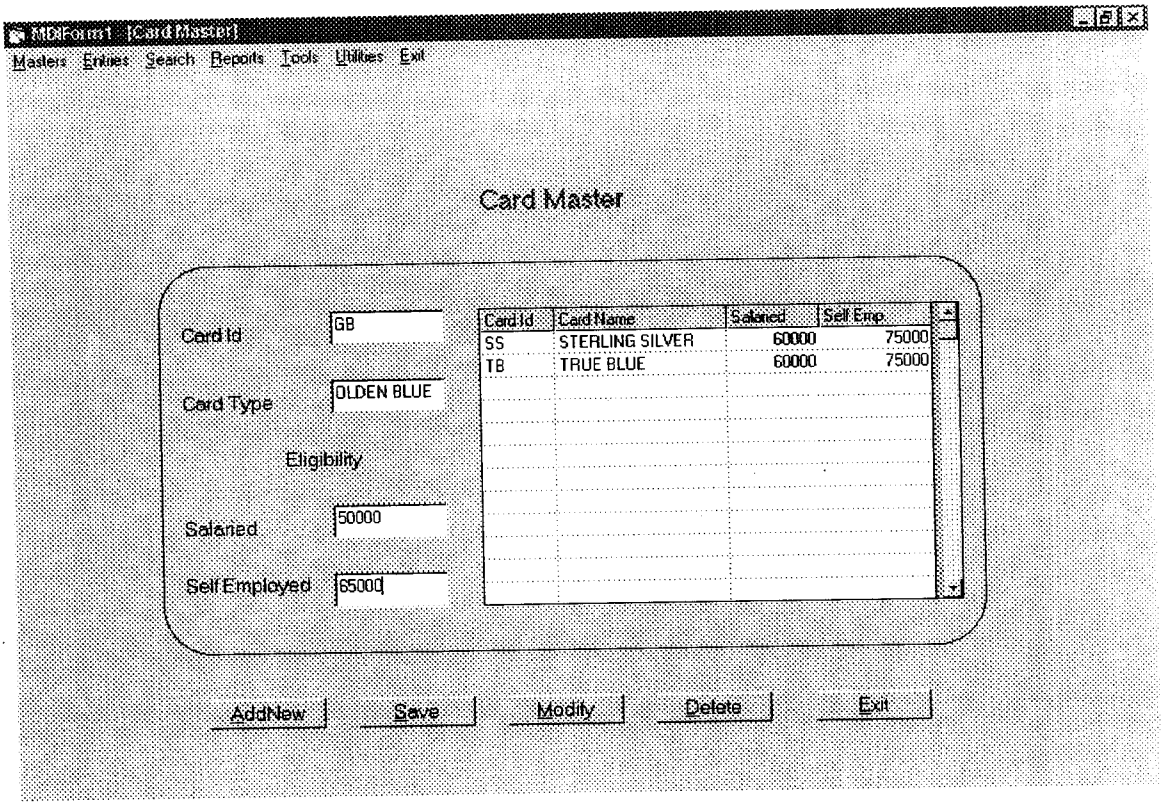
```
Dim cn As New ADODB.Connection
Dim rs As New ADODB.Recordset
Function clear()
txtid.Text = ""
txtdescription.Text = ""
txtid.Enabled = True
txtid.SetFocus
End Function
Private Sub cmdadd_Click()
clear
End Sub

Private Sub cmddel_Click()
Dim X
X = (txtid.Text)
Dim i
i = MsgBox("Do you want to delete the record", vbYesNo + vbInformation)
If i = vbYes Then
   Dim qry As String
   qry = "delete * from tb_channelmaster where id='" & X & "'"
   cn.Execute qry
   MsgBox "Deleted", vbInformation, "Credit Card"
   txtid.Enabled = True
   gridload
   clear
 End If
End Sub

Private Sub cmdexit_Click()
Unload Me
MDIForm1.Show
End Sub

Private Sub cmdmod_Click()
Dim i
i = MsgBox("Do you want to modify the record", vbYesNo + vbInformation, "Credit
Card")
If i = vbYes Then
   Dim X
   X = (txtid.Text)
```

```
  Dim qry As String
  qry = "delete * from tb_channelmaster where id='" & X & "'"
  cn.Execute qry
  Dim a, b, c
  Dim y As String
  a = (txtid.Text)
  y = txtdescription.Text
  Dim qry1 As String
  qry1 = "insert into tb_channelmaster values('" & a & "','" & y & "')"
  cn.Execute qry1
  MsgBox "Modified", vbInformation, "Credit Card"
  txtid.Enabled = True
  gridload
  clear
End If
End Sub

Private Sub cmdsave_Click()
Dim i
i = MsgBox("Do you want to store the record", vbYesNo + vbInformation, "Credit
Card")
If i = vbYes Then
   Dim a, b
   a = (txtid.Text)
   b = txtdescription.Text
   Dim qry As String
   qry = "insert into tb_channelmaster values('" & a & "','" & b & "')"
   cn.Execute qry
   MsgBox "Saved", vbInformation, "Credit Card"
   gridload
   clear
 Else
   clear
 End If
 End Sub
 Private Sub Form_Load()
 Me.WindowState = 2
 cn.Open ("FileDSN=creditcard")
 rs.ActiveConnection = cn
 gridload
 End Sub
 Function gridload()
 rs.Open "select * from tb_channelmaster"
```

```
msfshow.clear
msfshow.Refresh

msfshow.Rows = 100
msfshow.Row = 0
msfshow.Col = 0
msfshow.ColWidth(0) = 1500
msfshow.Text = "Channel Code"
msfshow.Col = 1
msfshow.ColWidth(1) = 3500
msfshow.Text = "Channel Name"


msfshow.Row = 1
rs.Requery
Do While Not rs.EOF
   msfshow.Col = 0
   msfshow.Text = rs.Fields("id").Value
   msfshow.Col = 1
   msfshow.Text = rs.Fields("description").Value
   msfshow.Row = msfshow.Row + 1
   rs.MoveNext
Loop
rs.Close
End Function

Private Sub Form_Unload(Cancel As Integer)
cn.Close
End Sub

Private Sub msfshow_Click()
txtid.Enabled = False
txtid.Enabled = False
rs.Open "select * from tb_channelmaster"

Dim X
X = msfshow.Text

rs.Requery
Do While Not rs.EOF
   If rs(0) = X Then
      txtid.Text = rs(0)
```

```
      txtdescription.Text = rs(1)
      Exit Do
    Else
      rs.MoveNext
    End If
Loop
rs.Close
End Sub

Private Sub txtdescription_KeyPress(KeyAscii As Integer)
If KeyAscii = 13 Then
   If txtdescription.Text = "" Then
      MsgBox "Enter Description", vbInformation, "Credit Card"
      txtdescription.SetFocus
   Else
      cmdsave.SetFocus
   End If
End If
End Sub

Private Sub txtid_KeyPress(KeyAscii As Integer)
If KeyAscii = 13 Then
   If txtid.Text = "" Then
      MsgBox "Enter Code", vbInformation, "Credit Card"
      txtid.SetFocus
   Else
      txtdescription.SetFocus
   End If
End If
End Sub
```

SAMPLE SCREENS



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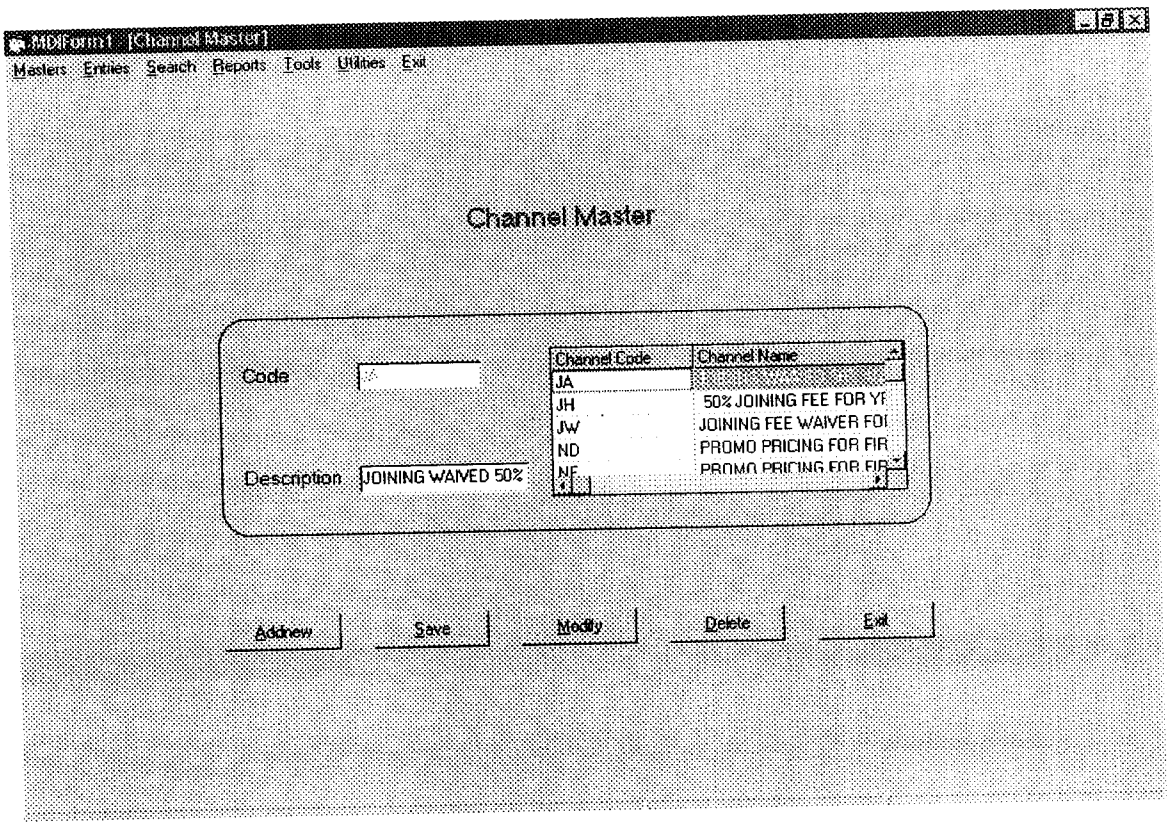
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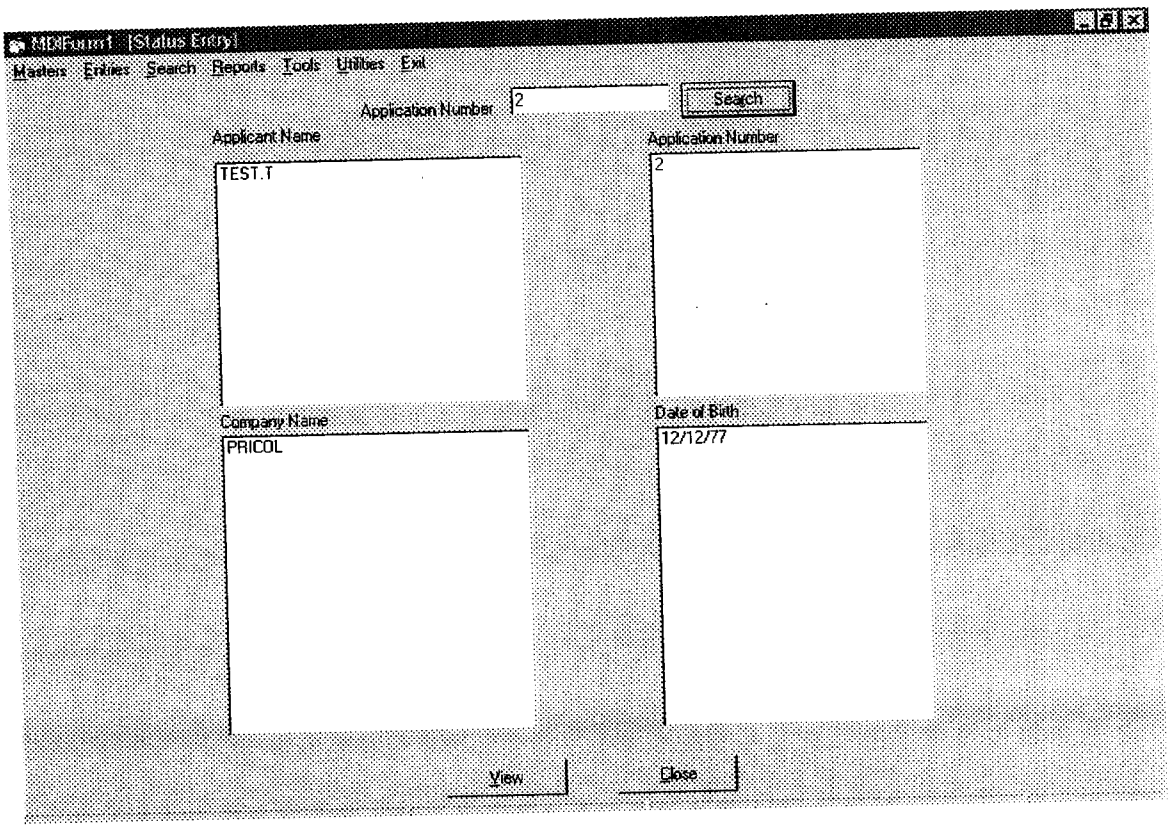
Channel Master
Code
Description
JOINING WAIVED 50%
Channel Code
Channel Name
JA
JH
50% JOINING FEE FOR YF
JW
JOINING FEE WAIVER FOI
ND
PROMO PRICING FOR FIR
NF
PROMO PRICING FOR FIR
Addnew
Save
Modify
Delete
Exit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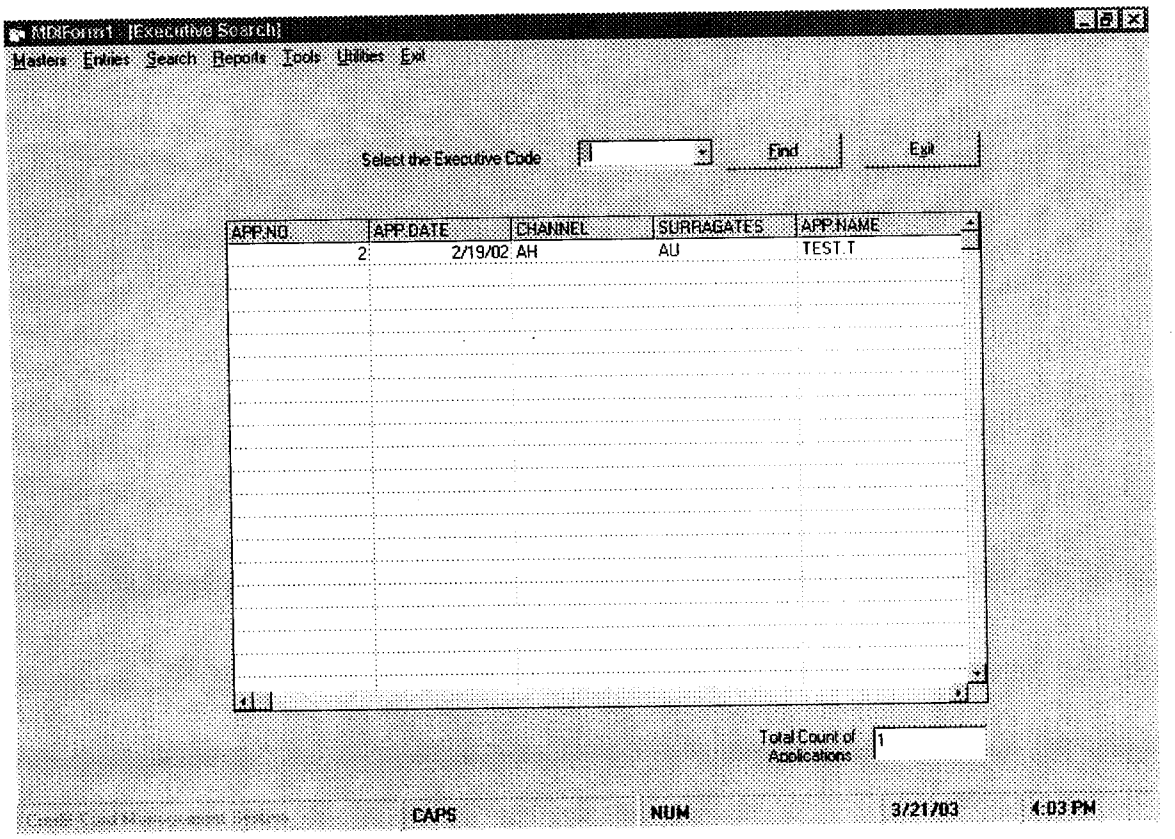
Applicant Name
TEST.T
Application Number
2
Company Name
PRICOL
Date of Birth
12/12/77
View
Close

→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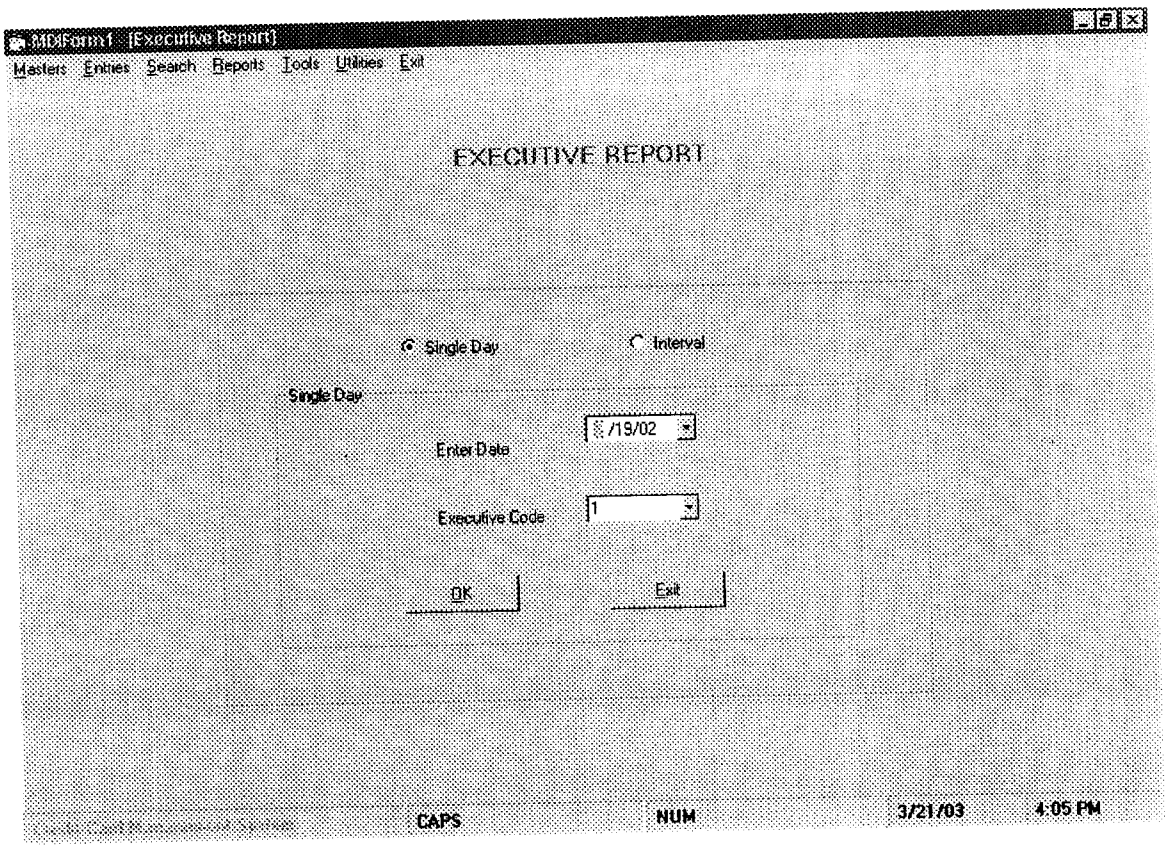
Select the Executive Code
Find
Exit
APP.NO
APP.DATE
CHANNEL
SURRAGATES
APP.NAME
2
2/19/02
AH
AU
TEST.T
Total Count of Applications
1
CAPS
NUM
3/21/03
4:03 PM


MDIForm1 [Executive Report]
Masters Entries Search Reports Tools Utilities Exit
EXECUTIVE REPORT
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Interval
Single Day
Enter Date
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Executive Code
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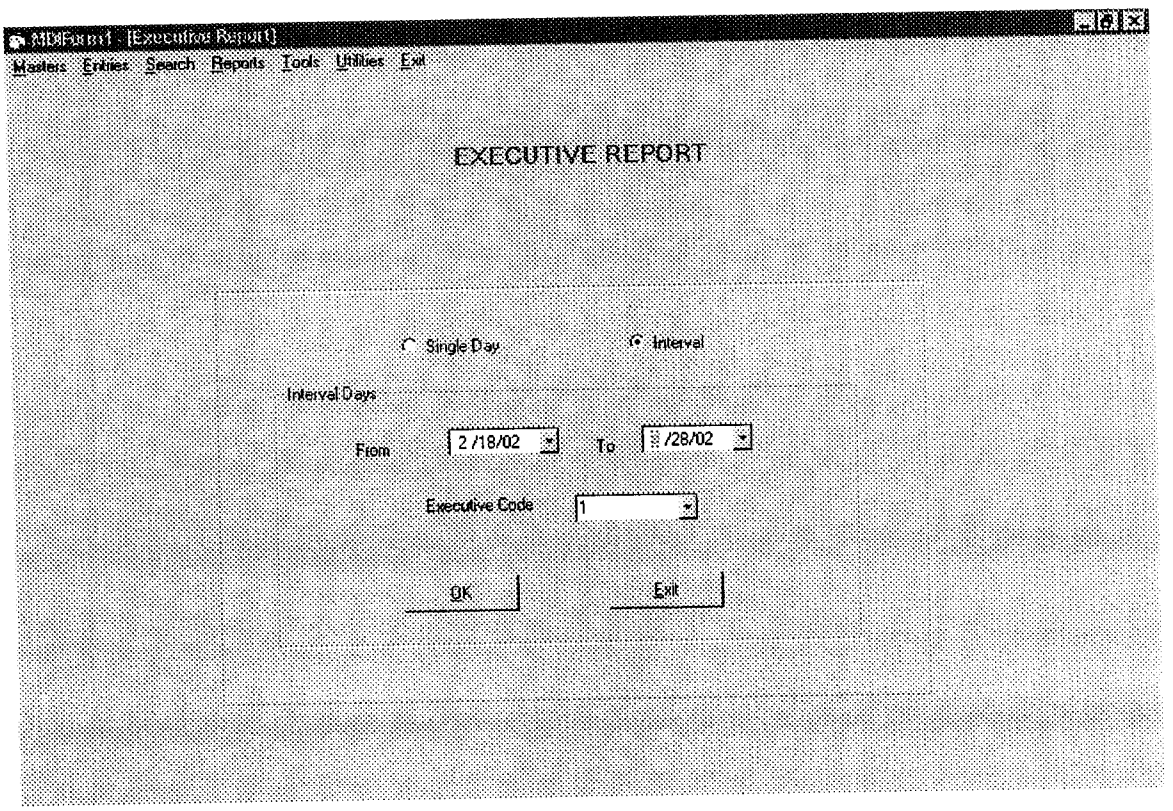
CAPS
NUM
3/21/03
4:05 PM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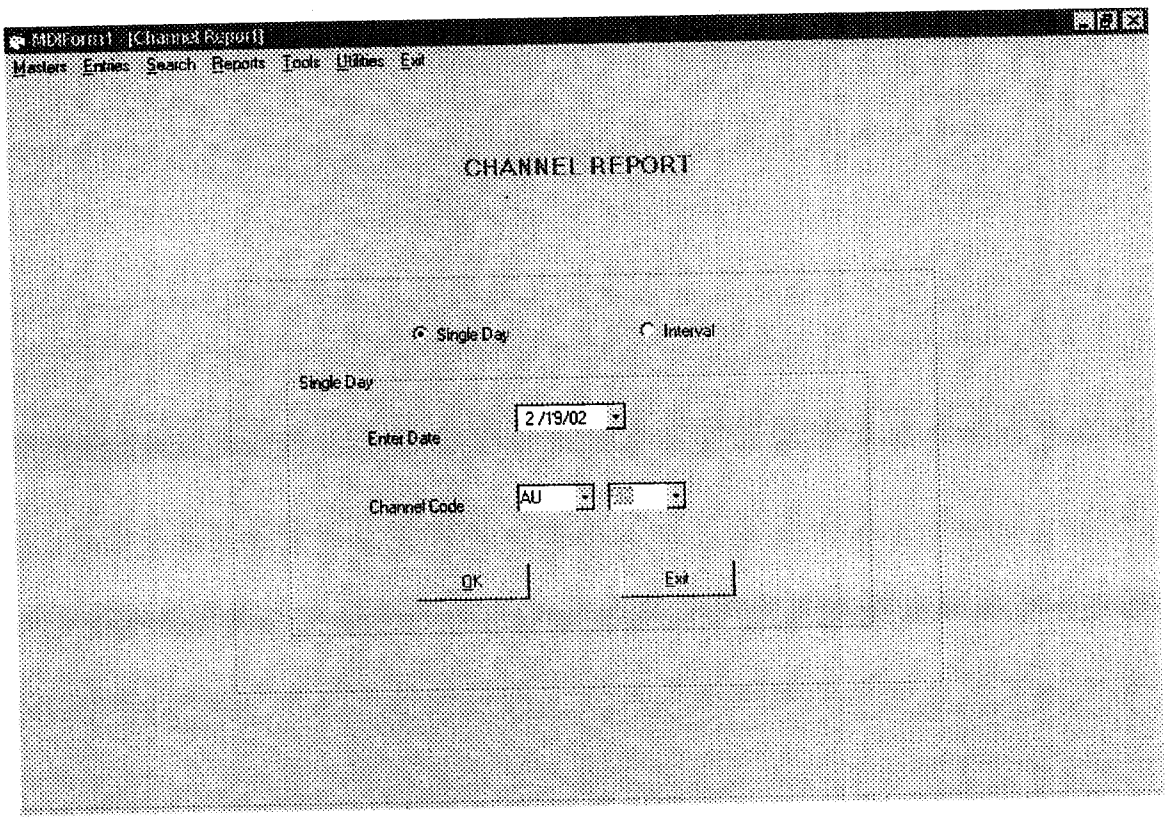
Interval
Interval Days
From
2 /18/02
To
/28/02
Executive Code
1
OK
Exit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Interval
Single Day
Enter Date
2/19/02
Channel Code
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OK
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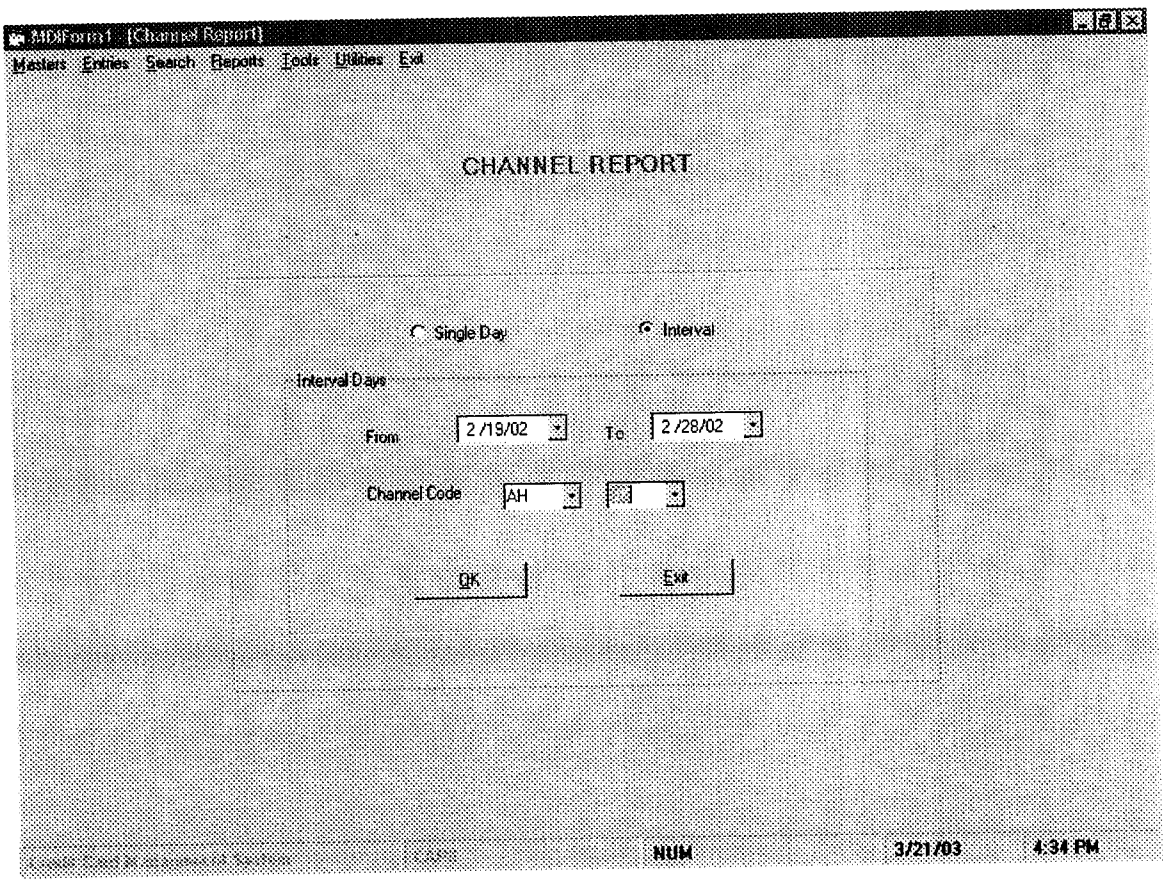
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Masters Entries Search Reports Tools Utilities Exit
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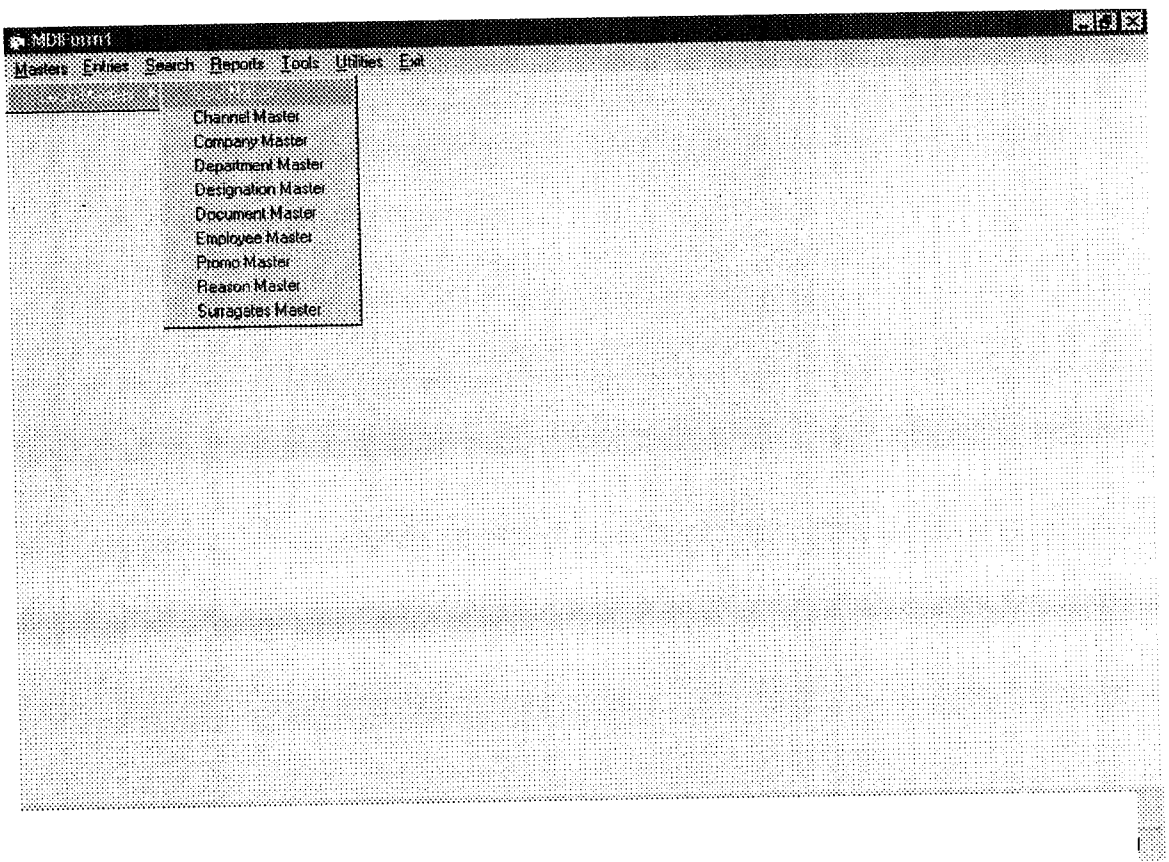
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Department Master
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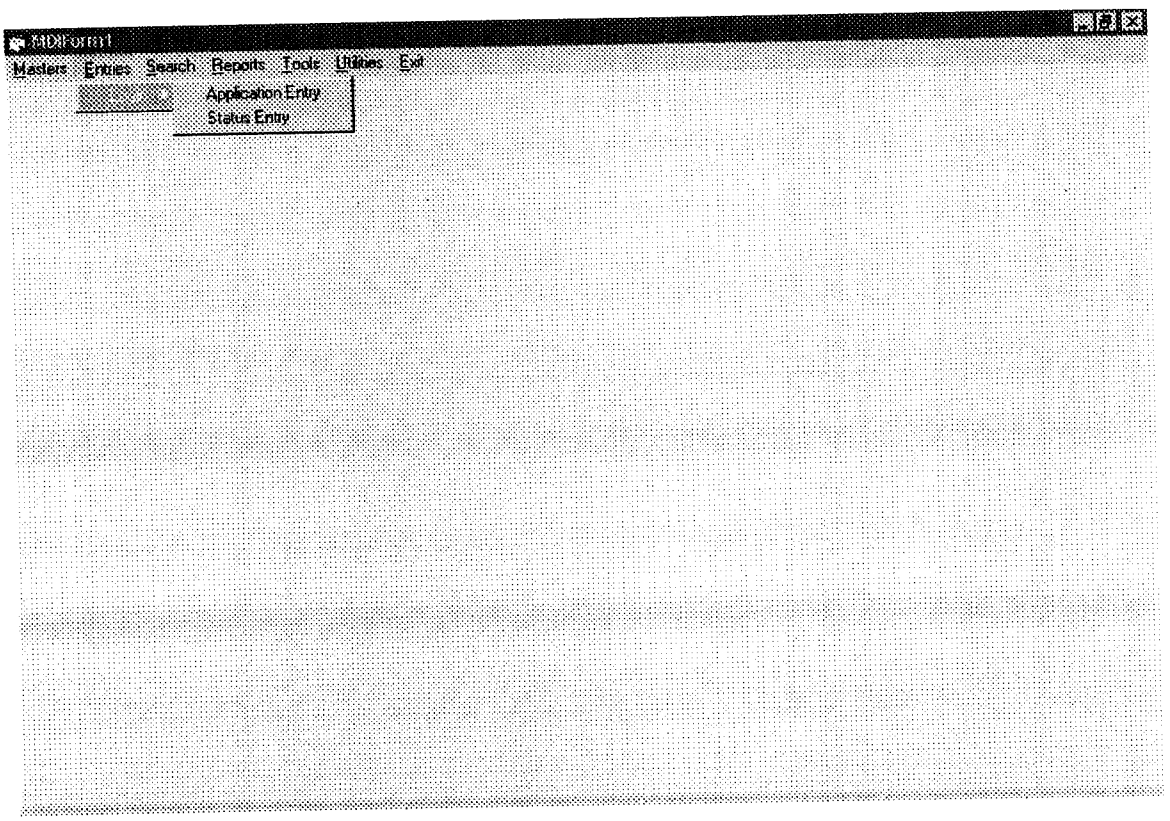
Document Master
Employee Master
Promo Master
Reason Master
Surrogates Master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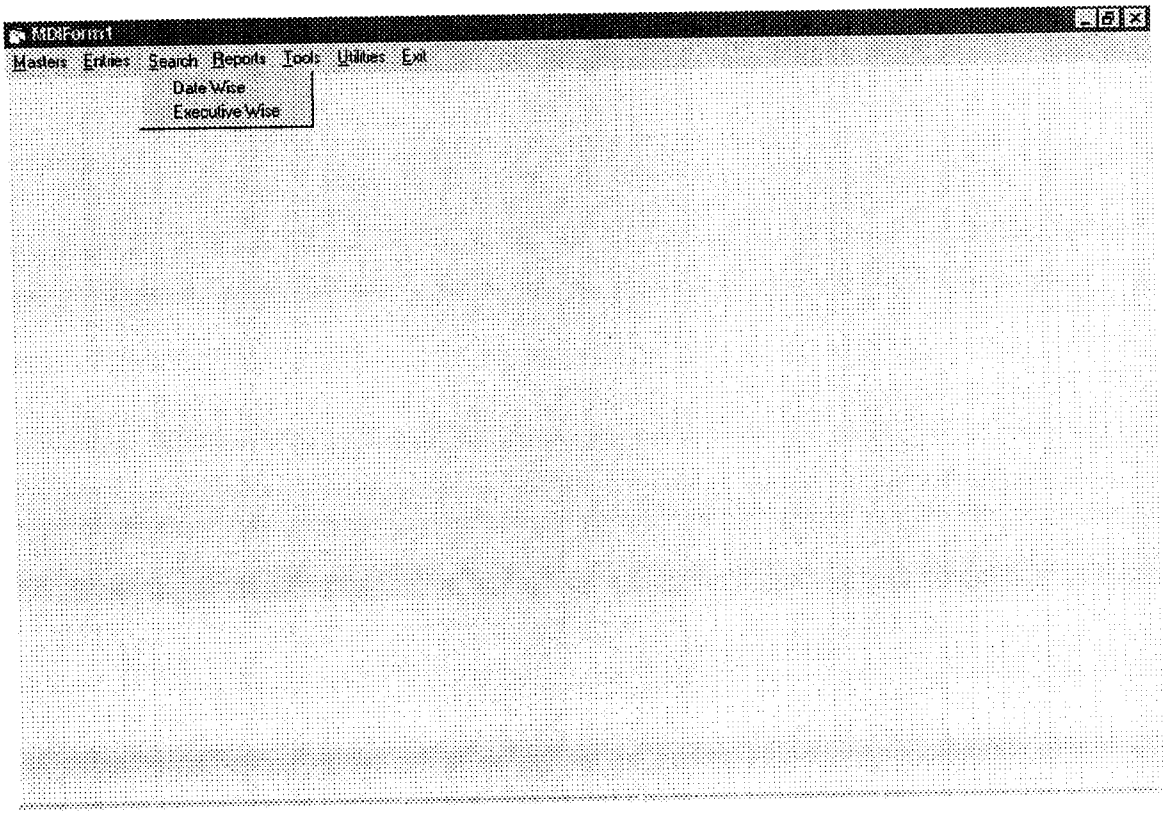
Application Entry
Status Entry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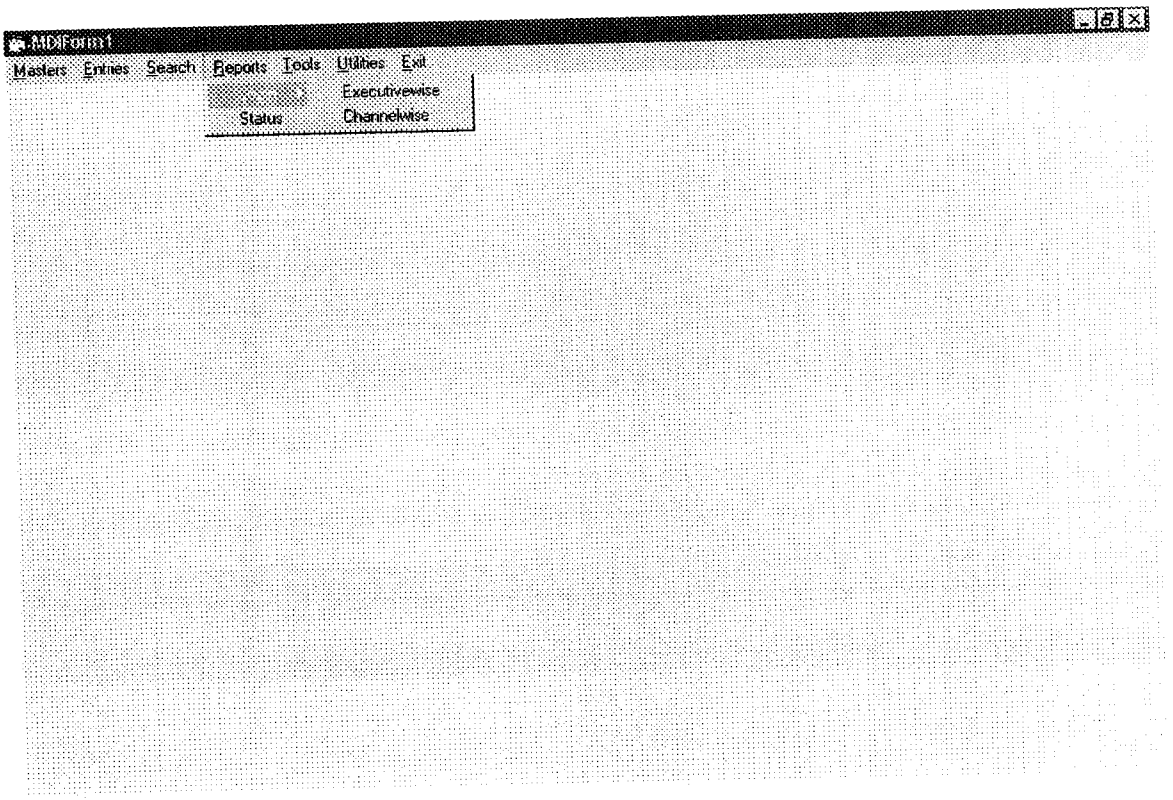
Date Wise
Executive Wise


MDIForm1
Masters Entries Search Reports Tools Utilities Exit
Executivewise
Status
Channelwise

SMCB MARKETING,COIMBATORE-641 018.

Printed On Friday,March 21,2003

App.Date	Applicant Name	Channel	D.O.B	Gender	Marital.Stat.	Mother's Name	Phone	WorkStatus
02/19/03	saranya devi	NP	5/11/83	FEMALE	Single	shanthi	654250	3

SMCB MARKETING,COIMBATORE-641 018.

Printed On Friday,March 21,2003

App.Date	Applicant Name	Channel	D.O.B	Gender	Marital.Stat.	Mother's Name	Phone	WorkStatus	DMECode
02/19/03	saranya devi	NP	5/11/83	FEMALE	Single	shanthi	654250	3	cc2

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  Evangelos Petroutsos.

  : Ground Up Visual Basic 6.0
  Gary Cornell

  : Microsoft Visual Basic 6.0
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  : Introduction to Visual Basic 6.0
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- SAD : System Analysis and Design.
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  : Introduction to SAD
  Leo Barey

WEBSITES

www.vbcode.com
www.vbtutorials.com