

Kumaraguru College of Technology
Department of Computer Science and Engineering
Coimbatore – 641006.

September 2004

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INVESTMENT AND MORTGAGE SYSTEMS
Project Work done at

SRM Systems and Softwares., Coimbatore

PROJECT REPORT

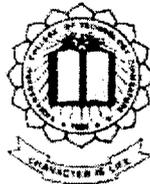
Submitted in partial fulfillment of the
Requirements for the award of the degree of

M.Sc. Applied Science (Software Engineering)
Bharathiar University, Coimbatore

Submitted by

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CERTIFICATE

This is to Certify that the Project work entitled “Investment And Mortgage System” was Analyzed, Designed and Developed by Ms. R.Deepika (Reg. No. 0137S0029) of Kumaraguru College of Technology, Chinnavedampatti, Coimbatore, submitted in partial fulfillment of the requirements of degree of M. Sc., Software Engineering has been carried out in our organization from June 2004 to September 2004. This project has been developed using VB & Oracle.

We wish success in all her future endeavors.

For SRM Systems and Software Limited

Manager - Projects

DECLARATION

I hereby declare that the project entitled **INVESTMENT AND MORTGAGE SYSTEMS**, submitted towards the fulfillment of M.Sc Applied Science (Software Engineering) from Bharathiar University is a record of original work done by me under the supervision of **Mr.C.Vijayaraghavan, M.C.A.**, SRM Systems and Softwares, Coimbatore and **Ms.V.Geetha, M.C.A.**, Senior Lecturer, Dept of Computer Science and Engineering, Kumaraguru College of Technology and this project work has not formed the basis for the award of any Degree/ Diploma/Associate-ship/Fellow-ship or any other similar title to any candidate of any University.

Place: COIMBATORE

Date: 24.9.04

Deepika R
Signature of the Student

SYNOPSIS

INTRODUCTION

The project entitled “Investment and Mortgage Management System ” is developed to computerize the process of maintaining information regarding the Party details, the Loan Sanction and Payment Details, Loan Repayment and Closing Details along with other details. The details that are currently maintained manually are to be computerized.

The automation includes the features to store and retrieve the information quickly, to modify the details easily, to provide security to the data. It should also be easy to prepare reports regarding Parties, loans, loan payments, loan repayments and to maintain information regarding the payment and receipt details.

NEED FOR AUTOMATION

With the computerization, it is very efficient for the company to maintain loan details and desired reports can be easily generated. The details of all the loans are maintained in the database. Computerization is very essential when work is to be completed at very high speed. The information of the loans can be generated immediately and accurately.

TOOLS USED

For the efficiency of the project, Visual Basic version 6.0 is used as front-end tool and ORACLE 8 is used as back end tool. This helps to prove that the system is efficient in providing sufficient information required by the organization.

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1. INTRODUCTION

1.1 Project Overview

The project entitled “**Investment and Mortgage Management System [IMMS]**” has been developed to computerize the process of maintaining information regarding the Party details, the Loan Sanction and Payment Details, Loan Repayment and Closing Details along with other details.

The software provides the features to:

- Store, retrieve and modify the information regarding Loan Schemes and Interest Rates
- Store, retrieve and modify the information regarding Party
- Store, retrieve and modify the information regarding Loan Application, Sanction, Payment details
- Store, retrieve and modify the information regarding Loan Repayment, Loan Closing details
- Take reports about Party, Loan details, Loan Sanction Details, Loan Repayment Details, Loan Closed details etc.

The main objective of developing the software is to provide the user an easy way to retrieve & to modify the existing data and to provide security to the data. As the details regarding the Party and Loans are to be kept safe, Security is provided while entering the data by means of validity checking, avoiding the redundancy of data. This software helps the user to store the details and to update the information easily & quickly whenever necessary.

The main aim of developing this software is to provide a simple but an efficient way to the user to maintain all the details. The software possibly helps the user to enter the details without missing data. While trying to fetch information from a huge amount of data is a time consuming and a tedious process.

1.2 ORGANIZATION PROFILE

SRM Systems & Software known for its industrial development and educational Excellence has its Head office in Chennai.

SRM InfoTech and Radiant Software have merged to form one of the biggest training companies in the country, part of the USD 150 million SRM Group.

SRM is understandably proud to have launched its operations from this IT hub of India.

The company specializes in high-end software training solutions in the area of Languages, Web Technologies, Client/Server Technologies, GUI, Internet, e-commerce, e-Business, Multi-Media and Database Administration.

SRM does have a strong technical and functional backup from a team of varied experienced people. It has an integrated training establishment to pool its extensive technical resources.

SYSTEM STUDY AND ANALYSIS

2. SYSTEM STUDY AND ANALYSIS

System Study and Analysis involves the process of gathering the information regarding the existing system. The details can be gathered either by visiting the Client place or by verifying the existing records. By meeting the users who are working in the system, we can easily get the details about the difficulties and disadvantages of the system, the enhancements required in the system.

After gathering the information, the details are verified and a report is prepared based on the available data. The analysis involves identifying the problem area, the solution to be implemented, to overcome the problem, identifying major requirements of the user etc. Then the report is given to the user, so that, he can verify whether the report specifies the actual problem he has. If there is any correction then the report is modified according to that.

2.1 Existing System

In the existing system, the details regarding the parties and loans are being processed manually. As the process is manual, there are many difficulties in maintaining the data. To search the transactions of a particular party is a time consuming and tedious process. While entering the data, one can enter an incorrect data, accidentally. As this system is money oriented, each paisa has to be taken into account. In manual processing there may be errors while summing up the values, calculating the interest, calculating the balance amount etc.

Even if these data are maintained properly, they have to be taken care of. i.e. The registers and other notebooks have to be kept safe for many years for the purpose of future verification and reference. For obtaining particular information more than one register has to be searched. These registers will be huge if the parties and the transactions are more, which will result in poor maintenance of data.

2.2 Proposed System

The proposed system should provide the features to store and retrieve the information quickly, to modify the details easily, to provide security to the data.

The proposed system involves the conversion of the manual work into the computerized form. Queries regarding the system can be made. Doing the work in the computerized form will generate accurate results. Instead of proceeding the work in the manual way, performing the work in the computerized form will reduce the occurrence of errors as much as possible.

The proposed system will provide the following features:

- Provides easy and fast access to data.
- Provides easy way to modify the data.
- Provides security to the data.
- Easy to prepare reports regarding Parties, loans, loan payments, loan repayments.
- Maintain information regarding the payment and receipt details.

3. PROGRAMMING ENVIRONMENT

“Investment and mortgage ” system has been developed under the following Hardware / Software configuration.

3.1 Hardware Configuration

Processor	:	Pentium III
Monitor	:	14 inches
Hard Disk	:	15 GB
RAM	:	64 MB
Mouse	:	Logitech

3.2 DESCRIPTION OF S/W AND TOOLS USED

Operating System	:	Windows 98
Front-end	:	Visual Basic 6.0
Back-end	:	ORACLE 8.0

The project is developed by the Graphical User Interface (GUI) VB6.0 with Oracle 8 as backend database.

Visual Basic – An Introduction

Visual Basic is developed by Microsoft. It provides a fast and easy way to create applications for Window. Visual Basic provides you with a complete set of tools to simplify rapid application development. "Visual" refers to the method used to create the graphical user interface (GUI).

The "Basic" refers to the BASIC (Beginners All - Purpose Symbolic Instruction Code) language, a language used by more programmers. BASIC helps the programmers to learn easily about what a programming language is and how to write error free programs.

Using GUI we can add the existing pre-build objects to the screen instead of writing codes to describe the appearance and location of interface elements or the objects that we use to display the data. Visual Basic has evolved from the original BASIC language and now contains several hundred statements, functions, and keywords, many of which relate directly to the Windows GUI.

Visual Basic includes advanced features such as native code compilation, High speed database access, and an improved development environment.

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.

- **Visual Basic Tools**

Data access features which allows us to create databases, front-end applications for most popular database formats like Microsoft SQL Server and other enterprise level databases.

An ActiveX technology allows us to use the functionality provided by other applications, such as Microsoft Word (word processor), Microsoft Excel spreadsheet, and other Windows applications. A finished application is a true .exe file that uses a Visual Basic Virtual Machine that we can freely distribute.

- **Visual Basic Editions**

The Visual Basic Learning edition allows programmers to easily create powerful applications for Microsoft Windows and Windows NT. This edition consists of all intrinsic controls along with grid, tab and data-bound controls.

The Professional edition provides computer professionals with a full-featured set of tools for developing solutions for their clients. This edition consists of all the features of the Learning edition along with additional ActiveX controls, integrated Visual Database Tools and Data Environment, Active Data Objects, and the Dynamic HTML Page Designer.

The Enterprise edition allows professionals to create distributed applications by a team of programmers. This edition consists of all the features of the Professional edition along with Back Office tools such as SQL Server, Microsoft Transaction Server, Internet Information Server and more.

- **Visual Basic – An Event-Driven Application**

An event is an action recognized by a form or control. Event-driven applications execute Basic code in response to an event. Each form and control in Visual Basic has a predefined set of events. If one of these events occurs and there is code in the associated event procedure, Visual Basic invokes that code. We have to decide how they will respond to a particular event.

A section of code (an event procedure) corresponds to each event. When we want a control to respond to an event, we write code in the event procedure for that event.

- **Oracle – An Introduction**

Oracle8 is a ORDBMS, which is used as a backend database to maintain the information Oracle database can be connected to any application through the ODBC Bridge. Oracle 8.0 is an enhanced version of the previous oracle versions and is very much useful in information management environment. It provides the features to store very large amounts of data, to provide users rapid access methods to retrieve and modify data and to provide security to the data.

The Oracle 8.0 server allows for the sharing of data between applications; the information is stored in one place and used by many systems.

- Oracle 8.0 server Configurations

Oracle is **Host-based** in which the users are connected directly to the same computer on which the database resides. Oracle is developed using **Client/Server technology**, so the user can access the database from their personal computer (Client) via a network and the database from a separate computer (Server).

Oracle provides **Distributed Processing**, so the user can access a database that resides on more than one computer. The database is spread across more than one machine, and the users are unaware of the physical location of the data they work with.

Oracle also provides **Web-enabled computing**, it has ability to access data from an Internet-based **application**

4. SYSTEM DESIGN

System Design plays an important role while developing a new system or enhancing the functions of the existing system. System Design helps us to find perfect steps towards the solution. Designing a model of the required system helps us to determine the problem areas and the steps to be followed to overcome those problems.

Designing a model of the required system also helps us to continue the development without any break as we have found the problem areas and the necessary steps to be followed at design time itself. The system should be designed in some method through which the flow of data and the process steps are understandable.

If any prediction of error, it should be noted down and the assumption and if possible the steps to be followed can also be noted down. This will help us to minimize the occurrence of errors in other parts; also as we know the problem we can determine the solution for the problem also.

“Investment - Mortgage Management System” is designed in the way that it provides:

- User-friendly data entry
- Validations are provided for both the required data and the type of the data to be entered.
- Details regarding the parties, loans, Loan Sanction, Loan Payment, Loan Installment Repayment, Loan Closing, Investment Details are kept secured.
- Each party is given an unique code called partycode through which he is identified. If only the party has a partycode, he can be able to apply for the loan.

4.1 INPUT DESIGN

Designing the front-end form to get the information from the user should be done carefully. The form should get all the required information that are necessary. The input should be validated for errors.

Validation helps the user to enter the details correctly. If the detail is not available or not applicable its value should be set to default, so that we can enter it later. While designing the form, the order of entering the data plays a main role. The order should be friendly so that the user can enter the data easily and quickly.

In Visual Basic we have objects like Textbox, Combobox, listbox, picturebox, datepicker etc, by using them we can design the form. The main thing is that we have to decide clearly where to use a particular control and to find what is the use of using that control in that particular place.

In this software we have the forms like Login form, Entry form (User First Form), Loan Setup Form, Interest Rate Master Form, Loan Scheme Master Form, Party Master Form, Application Master Form, Loan Master Form, Document Collection Form, Loan Payment Form, Loan Repayment Entry Form, Loan Closing Form, Investment Entry Form etc. These Forms have been designed in an user friendly way so that the user can enter the details easily and thus avoid redundant data acceptance from the user.

In this software each loan is given to the party only if, he does not have any loans running. If he has any loans in progress, only after closing the loans, he can get a new loan.

4.2 OUTPUT DESIGN

The output that we provide should contain all the details that the user requires. The output can be provided in two ways: Screen Output, Reports.

- **Screen Output**

The output screen should be designed clearly so that the required information should be displayed. It should help the user to access the information quickly. To access & retrieve a particular data, a perfect and suitable searching technique should be used based on the type of access of data.

- **Report**

The report generated may be simple or brief regarding the type of report, but it should provide the clear information for which the report has been taken. In this project the reports for knowing the status of the company, the status of the party, the status regarding the loans sanctioned, the loan payment details, the loan installment payment details etc can be created to know the current situation of the concern. This will help the management to know the outstanding amount and the amount received and invested etc.

Some of the sample reports are:

- Party Details
- Interest Rate
- Application Details
- Loan Working
- Loan Sanction
- Document Collection
- Loan Closing
- Investment

4.3 DATABASE DESIGN

Database design plays a vital role in developing the projects. The forms are designed based on the database design. If the forms are designed after finishing the database design, it will be easier to decide the contents of the form. This will help us to decide what the details have to be accepted through the form and here to store the details that are accepted.

Before the database concepts become operational, user had programs that handled their own data independent of other users. It was a conventional file environment with on data integration or saving of common data source application.

In a database environment, common data are available across several applications and are used by several users. Instead of each program managing its own data, authorized users share data across application with a database software managing the database as an entity.

Data structuring is refined through a process called Normalization. Data are grouped in the simplest way possible, so that later changes can be made with a minimum of impart on the data structure.

Various objectives are considered for designing the database such as,

- Control of data integrity
- Control of redundancy
- Control of data security
- Data independence
- System performance
- System compatibility

TABLE FORMATS:

TABLE NAME: BANKMASTER

Field name	Data Type	Description
BankCode (PK)	Number	Unique identification for Banks
BankName	Varchar2	Name of the Bank
BankshortName	Varchar2	Short Name of the Bank

TABLE NAME: CITYMASTER

Field name	Data Type	Description
CityCode (PK)	Number	Unique Identification of the City
CityName	Varchar2	Name of the City

TABLE NAME: DOCUMENTMASTER

Field name	Data Type	Description
DocumentCode(PK)	Number	Unique identification of the Documents
DocumentName	Varchar2	Name of the Document
DocumentDesc	Varchar2	Description of the Document

TABLE NAME: OCCUPATIONMASTER

Field name	Data Type	Description
Occupationcode(PK)	Number	Unique identification of the Occupation
Occupationname	Varchar2	Name of the occupation

TABLE NAME: INTEREST RATE MASTER

Field name	Data Type	Description
InterstrateCode(PK)	Number	Unique identification of the Interest Rate
Period	Number	Period (months) for which interest rate are given
DailyIR	Number	Daily Interest Rate
WeeklyIR	Number	Weekly Interest Rate
MonthlyIR	Number	Monthly Interest Rate
BiMonthlyIR	Number	Bimonthly Interest Rate
QuartelyIR	Number	Quarterly Interest Rate
HalfyearlyIR	Number	Half Yearly Interest Rate
YearlyIR	Number	Yearly Interest Rate

TABLE NAME: CUSTOMER TYPE MASTER

Field name	Data Type	Description
CustomertypeCode(PK)	Number	Unique identification for Customer Type
CustomertypeName	Varchar2	Name of the Customer type

TABLE NAME: LOAN TYPE MASTER

Field name	Data Type	Description
LoantypeCode(PK)	Number	Unique Identification for Loan Type
LoantypeName	Varchar2	Name of the Loan Type

TABLE NAME: APPLICATION MASTER

Field name	Data Type	Description
ApplicationCode(PK)	Number	Unique identification of the Application
ApplicationDate	Date	Date of Application
PartyCode	Number	Party code who applies for the loan
LoanSchemeCode	Number	Loan code for which loan is applied for
Status	Varchar2	Status of the application

TABLE NAME: PARTY MASTER

Field name	Data Type	Description
PartyCode(PK)	Number	Unique identification of the party
App-first-name	Varchar2	First Name of the Party
App-middle-name	Varchar2	Middle name of the party
App-last-name	Varchar2	Last name of the party
OccupationCode	Number	Occupation code of the party
App-income	Number	Income of the applicant
Coapp-first-name	Varchar2	First name of the co applicant
Coapp-middle-name	Varchar2	Middle name of the co applicant
Coapp-last-name	Varchar2	Last name of the co applicant
Coappoccupationcode	Number	Occupation code of the co applicant
Coapp-income	Number	Income of the co applicant
Address1	Varchar2	Address of the applicant
Address2	Varchar2	Address of the applicant
CityCode	Number	Citycode of the applicant
PinCode	Number	Pincode of the city
PhoneNo	Varchar2	Phone number of the party
OAddress1	Varchar2	Office address of the party
OAddress2	Varchar2	Office address of the party
OCityCode	Number	Citycode of the office
OPinCode	Number	Pincode of the office
OPhoneNo	Varchar2	Phone number of the office
EmailId	Varchar2	Email id of the party
CustomertypeCode	Number	Customer type code

TABLE NAME: LOANScheme MASTER

Field name	Data Type	Description
LoanschemeCode(PK)	Number	Unique identification for loan scheme
LoanschemeName	Varchar2	Name of the loan scheme
LoantypeCode	Number	Loan type code
LoanapplicableTo	Varchar2	To whom the loan are applicable to
MinDuration	Number	Minimum duration available for the loan
MaxDuration	Number	Maximum duration available for the loan
MinLoanAmount	Number	Minimum loan amount available for the loan
MaxLoanAmount	Number	Maximum loan Amount available for the loan

TABLE NAME: LOANWORKING

Field name	Data Type	Description
LoanworkingNo(PK)	Number	Unique identification for loan working
LoanworkingDate	Date	Loan working date
ApplicationNo	Number	Application number for which the loan working is done
LoanSchemeCode	Number	Loan scheme applied for
LoanAmount	Number	Loan amount applied for
Period	Number	Period required to pay back the loan
InterestrteCode	Number	Interest rate code
Frequency	Varchar2	Frequency for paying installments
Interestrte	Number	Interest rate set for the loan
No-Installments	Number	Number of installments allowed to pay back the loan
LoanStatus	Varchar2	Status of the loan

TABLE NAME: DOCUMENT COLLECTION ENTRY

Field name	Data Type	Description
Doc-Coll-Code(PK)	Number	Unique identification for document collection
Doc-Coll-Date	Date	Date of document collection
Loannumber	Number	Loan number for which the documents are collected
Doc-Code	Number	Document code indicating the type of the document
Doc-Number	Varchar2	Number / identification of the collected document
Vehi-Number	Varchar2	If the document is RC book, the registration number of the vehicle

TABLE NAME: LOANPAYMENT

Field name	Data Type	Description
PaymentNumber(PK)	Number	Unique identification of the Loan Payment
LoanNumber	Number	Loan number for which the payment is made
PaymentDate	Date	Date of payment
PaymentMode	Varchar2	Mode of payment
BankCode	Number	Bank code if payment is through Cheque
ChequeNo	Varchar2	Cheque number if the payment is through Cheque
ChequeDate	Date	Date of the cheque if payment made through Cheque
Amount	Number	Amount of payment

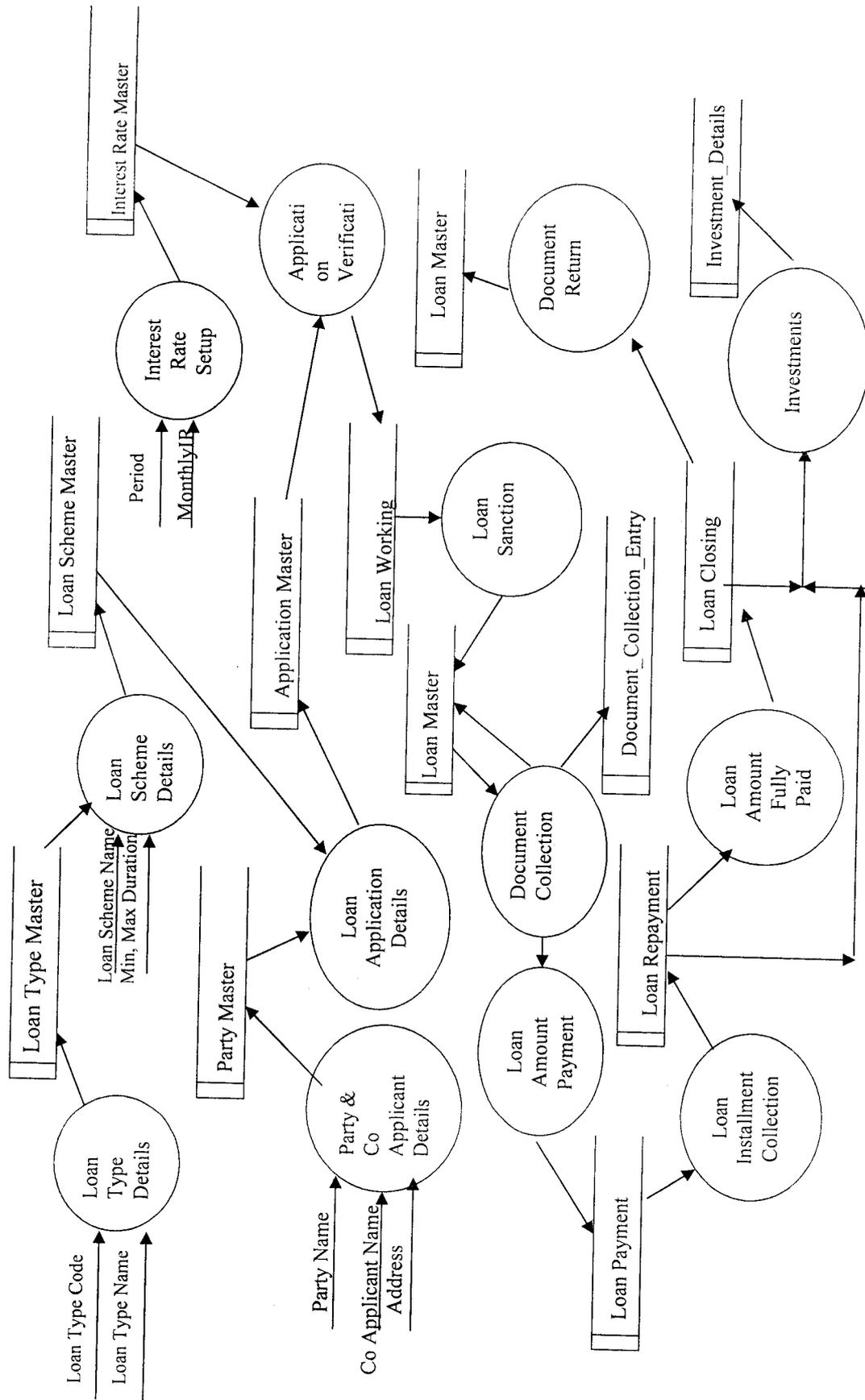
TABLE NAME: LOAN MASTER

Field name	Data Type	Description
LoanNumber(PK)	Number	Unique identification of the loan
LoanSanctiondate	Date	Loan sanction date
Applicationdate	Date	Date of application
Applicationno	Number	Application number for which loan is given
LoanSchemecode	Number	Loan code for which loan is applied for
LoanAmount	Number	Loan amount applied for
Period	Number	Period allowed to payback the loan
InterestRatecode	Number	Interest rate code
Frequency	Varchar2	Frequency between two installments
InterestRate	Number	Interest rate set for the loan
No-Installment	Number	Number of installments allowed
PrincipalAmount	Number	Principal amount of the loan
InterestAmount	Number	Interest rate for the amount
Princ-paid	Number	Principal paid till date
Int-paid	Number	Interest paid till date
Princ-balance	Number	Principal balance to be paid till date
Int-balance	Number	Interest balance to be paid till date
LoanStatus	Varchar2	Status of the loan
Doc-coll-status	Varchar2	Indicates whether documents are collected or not

TABLE NAME: INVESTMENT DETAILS

Field name	Data Type	Description
Investment_no(PK)	Number	Unique identification of investment
Investment_Date	Date	Date of investment
Investment_code	Number	Indicates in which the amount is invested on
Investment_Amount	Number	Amount invested
Investment_period	Number	Period of investment
Maturity_date	Date	Date of maturity
Maturity_amount	Number	Maturity amount
Investment_status	Varchar2	Status of the investment

4.4 DATA FLOW DIAGRAM



5. SYSTEM IMPLEMENTATION & TESTING

Testing and implementation is the final phase of any software development. In this phase most possible error are identified and rectified to make the system as error – free.

5.1 IMPLEMENTATION

System implementation is the process of making the newly designed system fully operational and consistent in performance. That is, implementation is the process of having the personnel check out and put new equipment into use, train the users to use the new system and construct any file that are needed to use it.

If the implementation is not carefully planned and controlled, it can cause chaws. Thus it can be considered to be the most crucial stage in achieving a successful new system and in giving the users confidence that the new system will work and be effective.

Before the development of the system, the user specification, the forms and the respective reports are prepared. The user can specify the change if any, then the design department examines the changes and if accepted then the requirement of the user are taken care of. This is the stage where the system design begins, i.e., the theoretical design is converted into a working system.

All the technical errors are fixed and the test data is entered. Then the reports are prepared and compared with that of the existing system. If the new system is not working properly, then once again we can go back to the exiting system and after rectification; the new system can be installed.

5.2 SYSTEM TESTING

It is human inability to perform and communicate with perfection, and that is the reason why always software development is accompanied with software testing. Software testing is a critical element of software quality assurance. It represents the ultimate review of specification, design and coding of software.

Testing is called a destructive activity. It is a process of executing a program with the intent of finding errors. Good testing is that which has the high probability of finding an error which is yet undiscovered. A successful test uncovers a yet undiscovered error in the software. The final goal of testing is to see that the system performs its intended purpose satisfactory.

5.2.1 UNIT TESTING

In unit testing, the program units making up as a system are tested. Unit testing focuses first on the modules, independent of one another to locate errors. This enables to detect errors in coding and the logic within the module alone. This testing is also used to ensure the integrity of data stored temporarily.

UNIT TESTING FOR INVESTMENT AND MORTGAGE SYSTEM

Each module of the project was tested based on the requirements of the user. Testing helps to detect the errors and possibly to correct them also. For example, the entries from the user is minimized much, so that it reduces the cause of errors in entering the values. If also the values are selected, they are verified for specific conditions through which we can identify an invalid entry.

5.2.2 INTEGRATION TESTING

Integration testing is a systematic technique for constructing the program structure, while at the same time conducting tests to uncover errors associated with interfacing. That is, the program is constructed and tested in small segments, which makes it easier to isolate and correct.

INTEGRATION TESTING FOR INVESTMENT AND MORTGAGE SYSTEM

In this project the different modules Setup Module, Party Details Collection Module, Loan Application, Sanction & Payment module, Loan Repayment, Closing Module, Investment Module are validated individually and while integrating, the values are verified so that it matches the conditions specified by the users.

5.2.3 SYSTEM TESTING

System testing is actually a series of different tests, whose primary purpose is to fully exercise the computer-based system. Although each test is different purpose, we should verify that all the system element have properly integrated and perform the allocated functions

SYSTEM TESTING FOR INVESTMENT AND MORTGAGE SYSTEM

The system was tested for integrating all the modules, which were developed individually and tested to check if the flow of data through the system was correct, the testing process worked out smoothly and tested as mentioned.

5.2.4 SECURITY TESTING

Security testing attempts to verify the protection mechanisms built into system. Security prevents unauthorized access of system. The data is kept secured by the use of the back end software Oracle. The application is kept secured from third party by, entering the application if only the login details provided by the user are correct. Even after entering the application, we can lock the application so that others cannot use it.

6. CONCLUSION

The software entitled “Investment and Mortgage System” has been developed satisfying the requirements specifications since it is developed using VB6.0 as front end and Oracle 8 as back end. It provides all security features of relational database. Testing has been carried out to ensure that the system is functioning correctly and its error free.

The “Investment and Mortgage System” helps to maintain the details about the party, Loan Details, Investment Details of the company. As much care has been taken in designing the forms user – friendly, the user can easily be able to enter the details and also he can easily access and update data whenever necessary. The user can generate different combinations of reports, through which he can know the actual status of the company.

7. SCOPE FOR FUTURE DEVELOPMENT

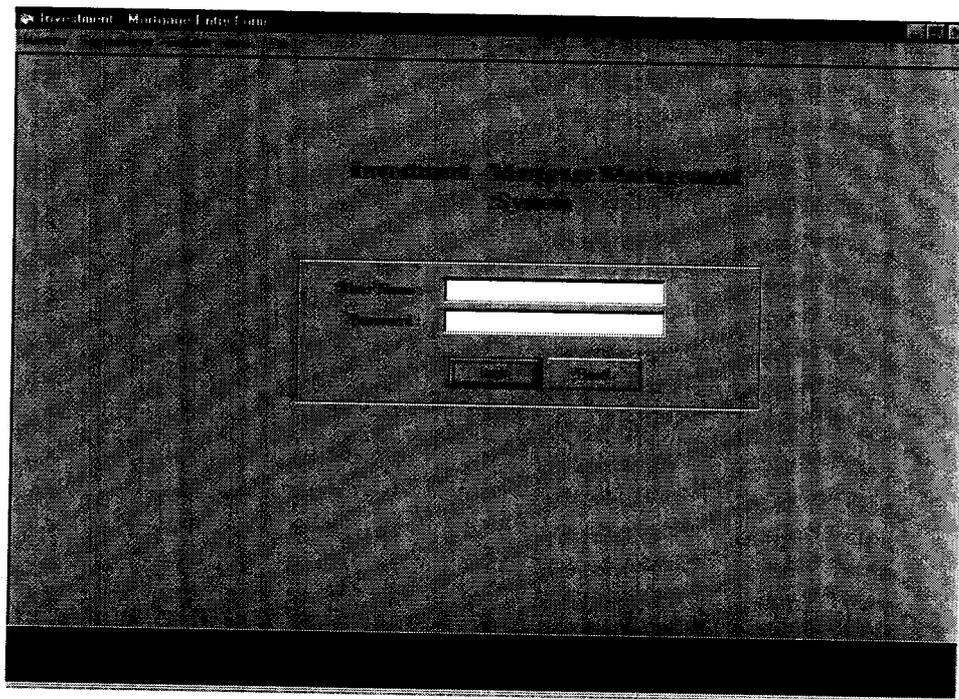
The software deals only with loan payment & Repayment, Investments, but in future if the company wants to modify the application so that it can accept deposits from the user, it can be done by directly adding the required forms. In future, if the company wants to maintain details from different branches, it can also be done easily by making small modifications.

Proper documentation has been made. This helps in adding or removing new modules to the system. The testing and grading can be implemented easily.

8. BIBLIOGRAPHY

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- Neol Jerke, **Visual Basic 6 - The Complete Reference**, Tata Mc-Graw Hill Publications, Edition 1999.
- George Koch, Kevin Loney-**Oracle 8 The Complete Reference**, Tata Mc-Graw Hill Publications, Edition 1998.

SAMPLE FORMS



PARTY MASTER FORM:

Investment Mortgage Entry Form
Master Transaction Report

Party Master Entry Form

2	Prasanna
Nithya	Devi
-	N
K	Doctor
Teacher	200000.00
100000.00	

Tvs nagar	20, Db road
saibaba colony	r s puram
Coimbaore	Coimbaore
641604	641608
0422-2423533	0422-2442323

nithya@yahoo.com Professional

Nithya - K
2
Tvs nagar,saibaba colonyCoimbaore - 641604

APPLICATION FORM:

Investment - Mortgage Entry Form

Application Entry Form

26/Aug/2004

Nithya - K

Teacher

100000

PrasannaDevilN

Doctor

200000

T vs nagar,saibaba colony,Coimbaore-641604

0422-2423533

20, Db road, s puram-641608

0422-2442323

nithya@yahoo.com

Housing

Housing Loan - I

Nithya - K

2

T vs nagar,saibaba colonyCoimbaore - 641604

Save

INTEREST RATE:

Investment Mortgage Entry Form
Master Transactions Report

Interest Rate Master

2	24.00
3.00	3.35
4.00	4.15
4.35	4.67
5.00	

	12	3.00	3.15	3.25	3.50	3.75	4.00	4.15
	24	3.00	3.35	4.00	4.15	4.35	4.67	5.00
	36	3.40	3.65	3.85	4.00	4.25	4.65	5.00
	48	3.40	3.65	4.00	4.33	4.56	4.75	5.00

LOAN WORKING:

Investment Mortgage Entry Form

16/Sep/1999

Vijaya C Raghavan

Housing Loan - I

1

26/Aug/2004

12

1

3.5

350000.00

16/Mar/2000

6

12	3	3.15	3.25	3.5	3.75	4	4.15
24	3	3.35	4	4.15	4.35	4.67	5
36	3.4	3.65	3.85	4	4.25	4.65	5
48	3.4	3.65	4	4.33	4.56	4.75	5

Vijaya C Raghavan

LOAN SANCTION:

The screenshot shows a software window titled "Investment - Mortgage Entry Form" with a menu bar containing "File", "Edit", and "Report". The main content area displays a "LOAN SANCTION FORM" with the following fields and values:

Borrower Name	Vijaya Raghavan C
Sanction Date	16/Oct/2005
Interest Rate	3.50
Tenure	1
Sanctioned Amount	350000.00
Disbursement Date	16/Oct/2006
Disbursement Amount	147000.00
Monthly Payment	82833.33
Frequency	BiMonthly
Term	12
Start Date	26/Aug/04
End Date	6

At the bottom of the form, there are several buttons: "OK", "Cancel", "Print", and "Exit".

DOCUMENT COLLECTION ENTRY:

Investment Mortgage Entry Form

Document Collection Entry

2

Land Document

Date: 26/Aug/2004

Registration Number: TDGTS

Archive Number: TN 38 2326

Nithya K -
Tvs nagar
saibaba colony
Coimbatore - 641604

Nithya - K

LOAN PAYMENT:

Investment Mortgage Entry Form

Loan Payment Entry Form

Account No. Payment Date: Payment Amount:

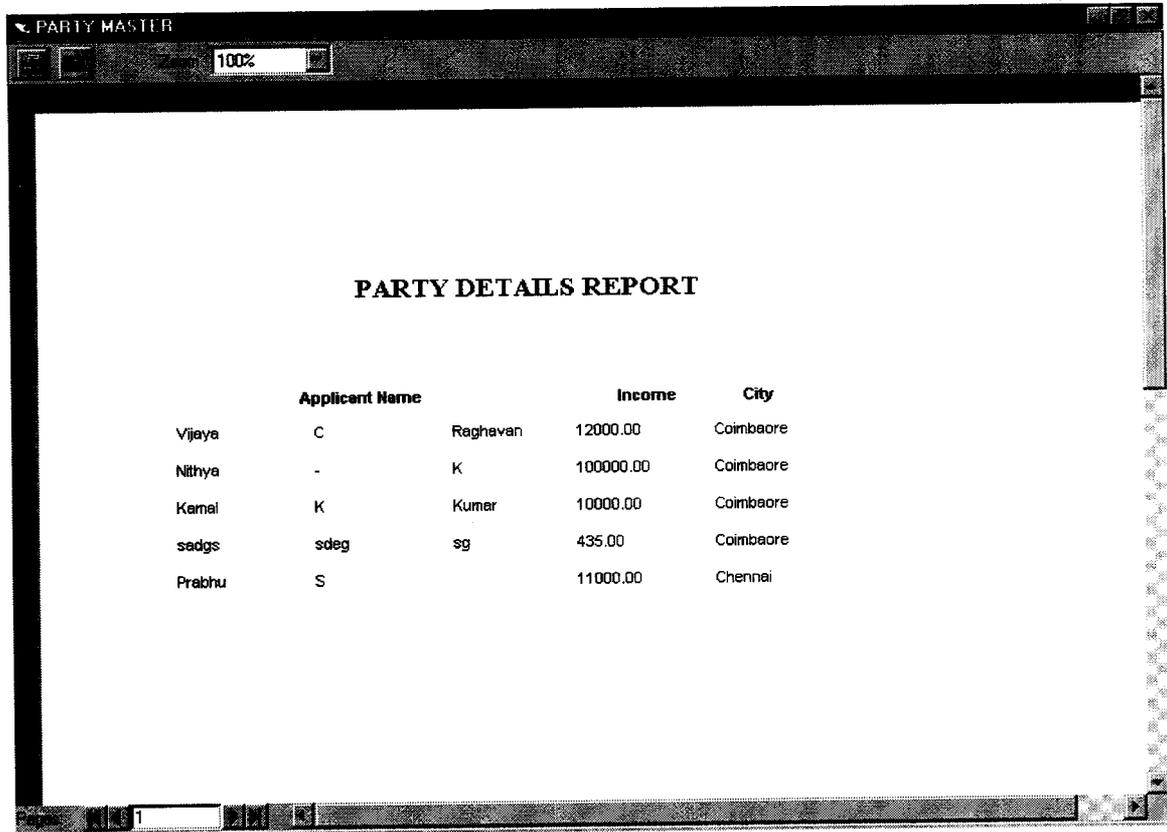
Account Name:

Account Balance:

Payment Method: Payment No. Payment Date:

Payment Amount:

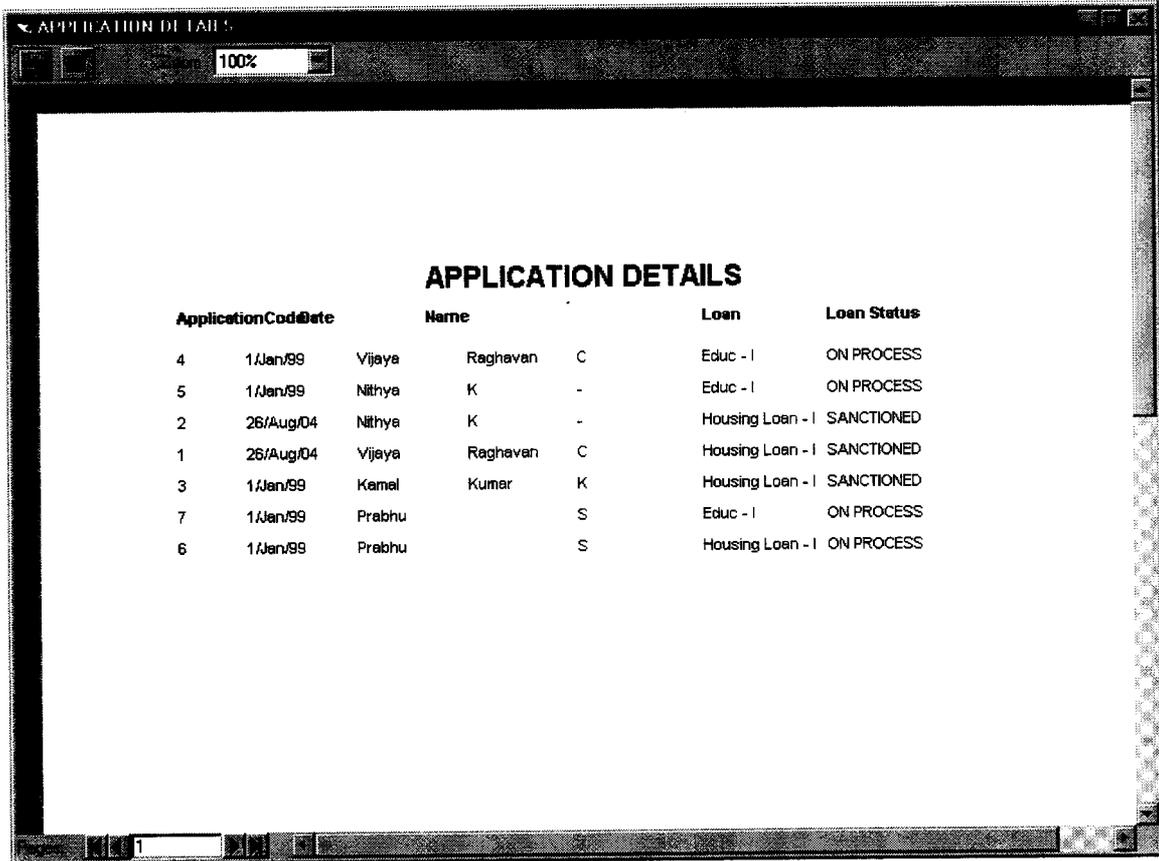
SAMPLE REPORTS



The image shows a screenshot of a software application window titled "PARTY MASTER". The window has a standard Windows-style title bar with a zoom level of "100%". The main content area displays a report titled "PARTY DETAILS REPORT". The report is a table with five columns: "Applicant Name", "Income", and "City". The data rows are as follows:

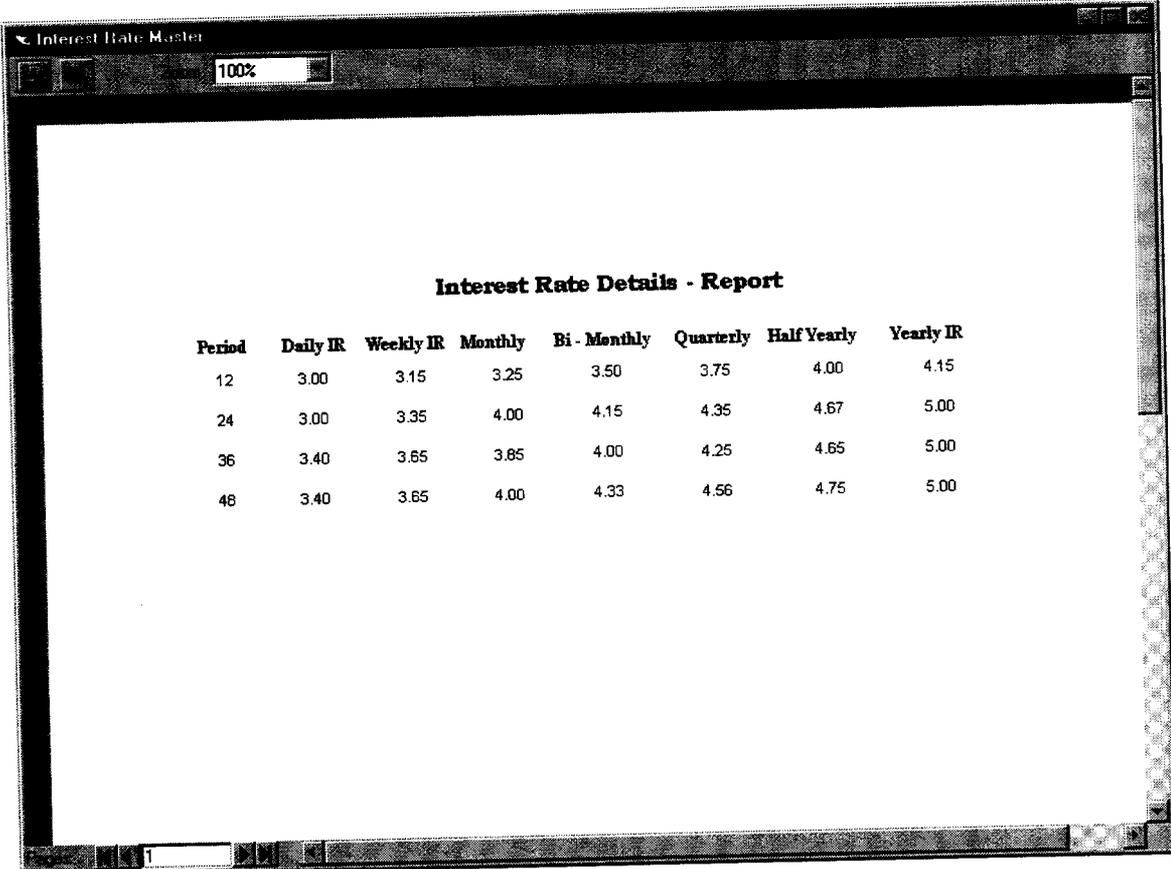
	Applicant Name		Income	City
Vijaya	C	Raghevan	12000.00	Coimbaore
Nithya	-	K	100000.00	Coimbaore
Kamal	K	Kumar	10000.00	Coimbaore
sadgs	sdeg	sg	435.00	Coimbaore
Prabhu	S		11000.00	Chennai

APPLICATION DETAILS:



Application Code	Date	Name	Loan	Loan Status
4	1/Jan/99	Vijaya Raghavan	C	Educ - I ON PROCESS
5	1/Jan/99	Nithya K	-	Educ - I ON PROCESS
2	26/Aug/04	Nithya K	-	Housing Loan - I SANCTIONED
1	26/Aug/04	Vijaya Raghavan	C	Housing Loan - I SANCTIONED
3	1/Jan/99	Kamal Kumer	K	Housing Loan - I SANCTIONED
7	1/Jan/99	Prabhu	S	Educ - I ON PROCESS
6	1/Jan/99	Prabhu	S	Housing Loan - I ON PROCESS

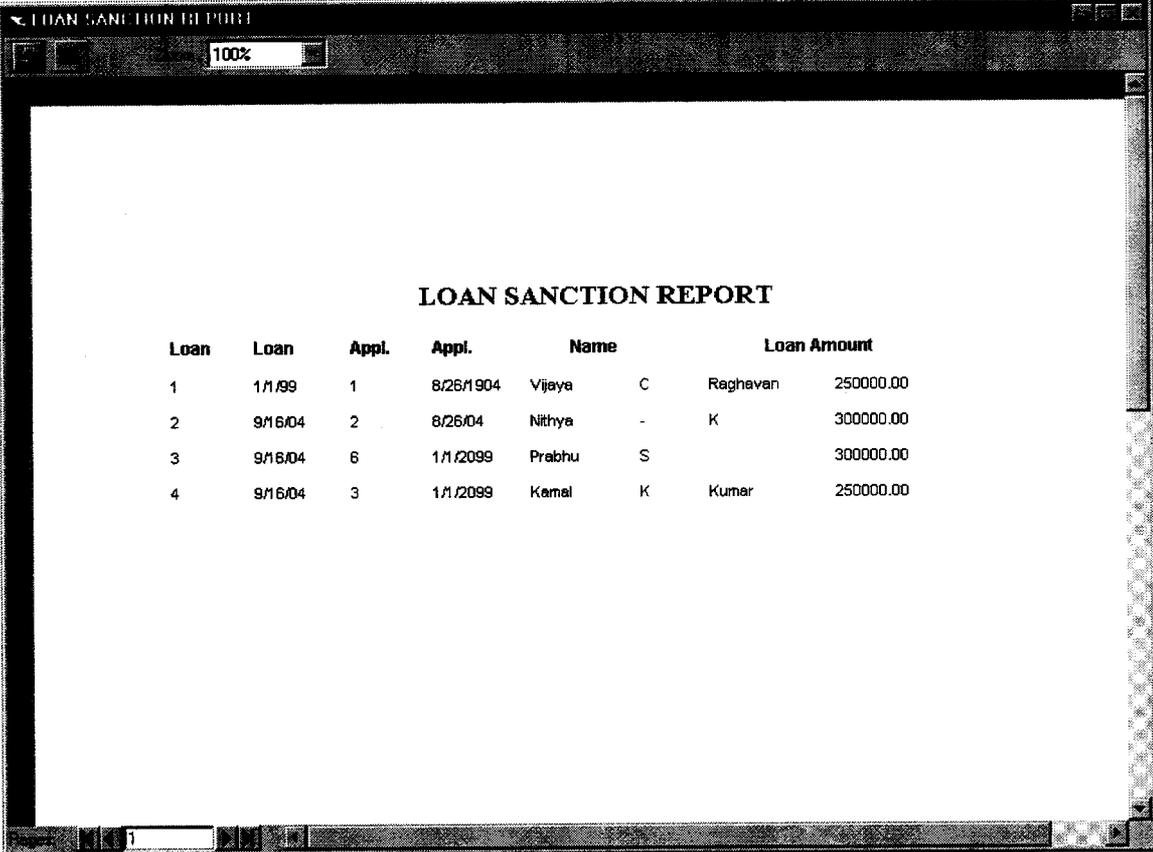
INTEREST RATE DETAILS:



The screenshot shows a software window titled "Interest Rate Master" with a zoom level of "100%". The main content area displays a report titled "Interest Rate Details - Report". The report is a table with 8 columns: "Period", "Daily IR", "Weekly IR", "Monthly", "Bi - Monthly", "Quarterly", "Half Yearly", and "Yearly IR". The data is organized into four rows corresponding to periods of 12, 24, 36, and 48. The values in the table are as follows:

Period	Daily IR	Weekly IR	Monthly	Bi - Monthly	Quarterly	Half Yearly	Yearly IR
12	3.00	3.15	3.25	3.50	3.75	4.00	4.15
24	3.00	3.35	4.00	4.15	4.35	4.67	5.00
36	3.40	3.65	3.85	4.00	4.25	4.65	5.00
48	3.40	3.65	4.00	4.33	4.56	4.75	5.00

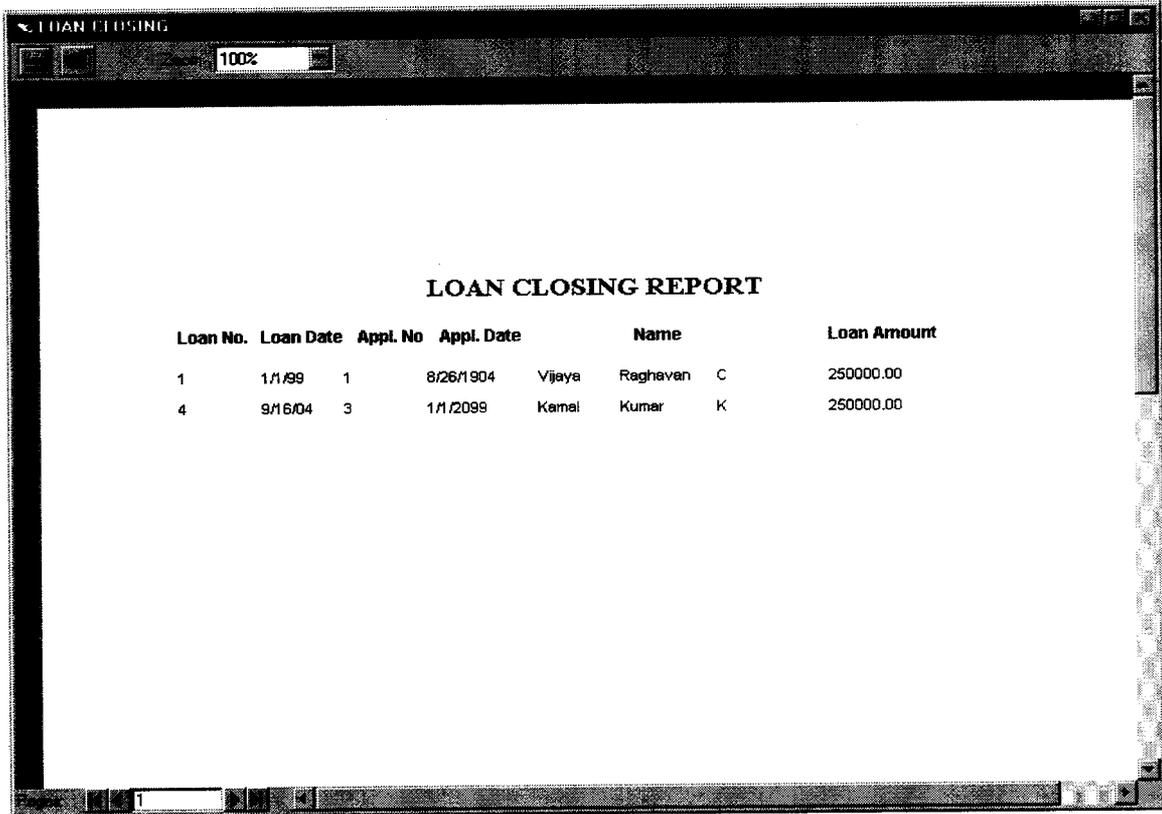
LOAN SANCTION DETAILS:



The image shows a screenshot of a software window titled "LOAN SANCTION REPORT". The window has a standard Windows-style title bar with a close button, a maximize button, and a zoom level indicator set to "100%". The main content area displays a table with the following data:

Loan	Loan	Appl.	Appl.	Name		Loan Amount	
1	1/1/99	1	8/26/1904	Vijaya	C	Raghavan	250000.00
2	9/16/04	2	8/26/04	Nithya	-	K	300000.00
3	9/16/04	6	1/1/2099	Prabhu	S		300000.00
4	9/16/04	3	1/1/2099	Kamal	K	Kumar	250000.00

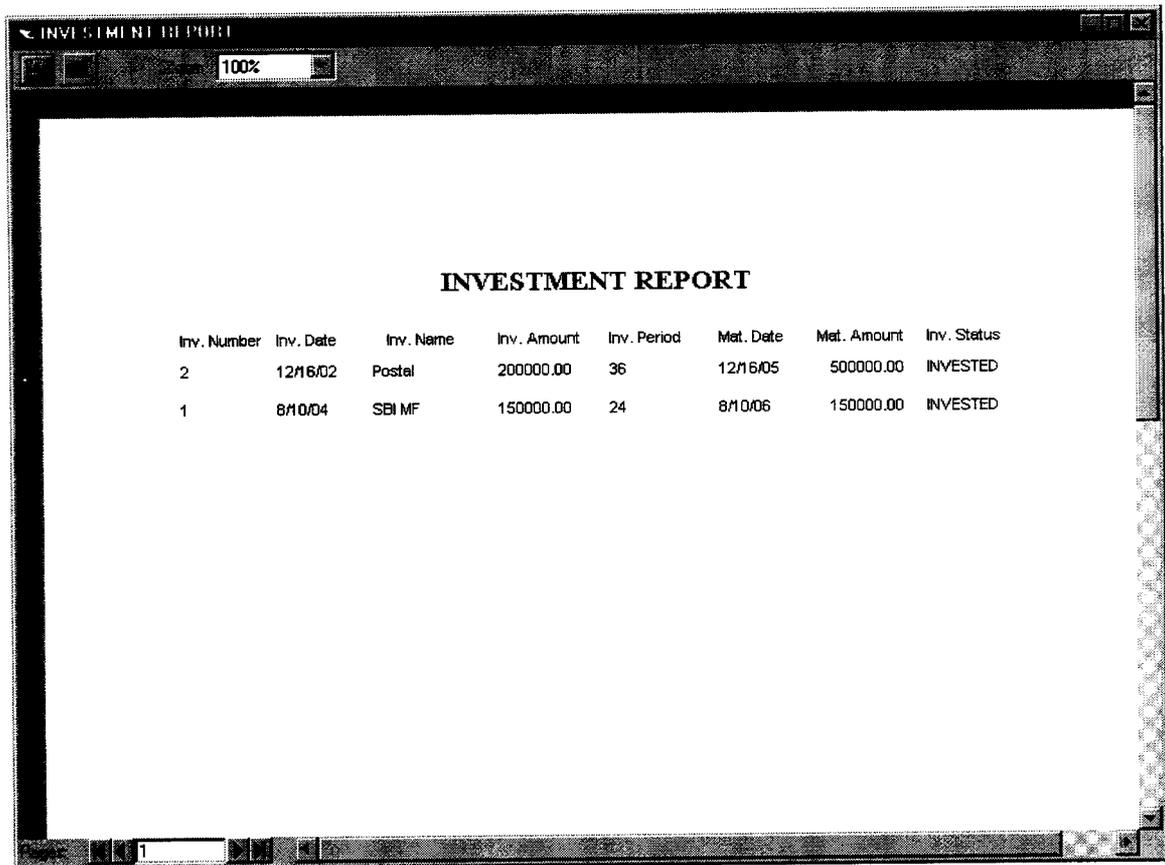
LOAN CLOSING REPORT:



The screenshot shows a window titled "LOAN CLOSING" with a progress indicator at "100%". The main content area displays a report titled "LOAN CLOSING REPORT" with the following data:

Loan No.	Loan Date	Appl. No	Appl. Date	Name	Loan Amount
1	1/1/99	1	8/26/1904	Vijaya Raghavan C	250000.00
4	9/16/04	3	1/1/2099	Kamal Kumar K	250000.00

INVESTMENT DETAILS:



The image shows a screenshot of a software window titled "INVESTMENT REPORT". The window has a standard Windows-style title bar with a zoom level of "100%". Inside the window, the text "INVESTMENT REPORT" is centered at the top. Below this, a table displays investment data with the following columns: Inv. Number, Inv. Date, Inv. Name, Inv. Amount, Inv. Period, Mat. Date, Mat. Amount, and Inv. Status. There are two rows of data in the table.

Inv. Number	Inv. Date	Inv. Name	Inv. Amount	Inv. Period	Mat. Date	Mat. Amount	Inv. Status
2	12/16/02	Postal	200000.00	36	12/16/05	500000.00	INVESTED
1	8/10/04	SBI MF	150000.00	24	8/10/06	150000.00	INVESTED

SAMPLE CODE

```
Public cn As New ADODB.Connection
Public password As String

Public Sub CenterScreen(ChildForm As Form, ParentForm As MDIForm)
    Dim w As Integer
    Dim h As Integer

    ParentForm.mnuMasters.Enabled = False
    ParentForm.mnuTransactions.Enabled = False
    ParentForm.mnuReports.Enabled = False

    w = ParentForm.ScaleWidth - ChildForm.Width
    h = ParentForm.ScaleHeight - ChildForm.Height
    ChildForm.Left = w / 2
    ChildForm.Top = h / 2
End Sub

Public Sub Connect()
    cn.Open "dsn=invmor;uid=scott;pwd=tiger"
End Sub

'To clear controls in a form
Public Sub ClearControls(FormName As Form)
    Dim c As Control
    Dim i As Integer
    For Each c In FormName
        If TypeOf c Is TextBox Then
            c = ""
        ElseIf TypeOf c Is Label Then
            If c.BorderStyle = 1 Then
                c = ""
            End If
        ElseIf TypeOf c Is ComboBox Then
            c = ""
        ElseIf TypeOf c Is DTPicker Then
            c = Date
        ElseIf TypeOf c Is ListBox Then
            For i = 0 To c.ListCount - 1
                c.Selected(i) = False
            Next
        End If
    Next
End Sub
```

'Procedure containing the instructions that has to be performed if Cancel is clicked

```
Public Sub DisableControls(FormName As Form)
```

```
    FormName.cmdNew.Enabled = True
```

```
    FormName.cmdEdit.Enabled = False
```

```
    FormName.cmdSave.Enabled = False
```

```
    FormName.cmdNew.SetFocus
```

```
End Sub
```

'To determine the Next Value of the Primary Key Field in a Table

```
Public Function FindNextNo(ColumnName As String, TableName As String)
```

```
    Dim rs As New ADODB.Recordset
```

```
    Dim NextValue As Integer
```

```
    rs.Open "select max(" & ColumnName & ") as n from " & _
```

```
    TableName, cn, adOpenKeyset, adLockOptimistic
```

```
    If IsNull(rs!n) Then
```

```
        NextValue = 1
```

```
    Else
```

```
        NextValue = rs!n + 1
```

```
    End If
```

```
    rs.Close
```

```
    FindNextNo = NextValue
```

```
End Function
```

```
Dim editflag As Boolean
```

```
Dim sql As String
```

```
Private Sub cmdCancel_Click()
```

```
    txtCityCode = ""
```

```
    txtCityname = ""
```

```
End Sub
```

```
Private Sub cmdEdit_Click()
```

```
    editflag = True
```

```
    fraCityDetails.Enabled = True
```

```
    cmdSave.Enabled = True
```

```
    txtCityname.SetFocus
```

```
End Sub
```

```
Private Sub cmdExit_Click()
```

```
    Unload Me
```

```
    Set frmCityMaster = Nothing
```

```
    EnableMenu
```

```
End Sub
```

```
Private Sub cmdNew_Click()
```

```
    editflag = False
```

```
    fraCityDetails.Enabled = True
```

```
    cmdCancel_Click
```

```
    FindNextNo
```

```
    txtCityname.SetFocus
```

```
    cmdSave.Enabled = True
```

End Sub

Private Sub cmdSave_Click()

Dim flag As Boolean

flag = AlreadyExists()

If Not flag Then

If Not editflag Then

sql = "Insert into CityMaster values (" & Val(txtCityCode) & _
", " & Trim(txtCityname) & """)"

Else

sql = "Update CityMaster set cityname = " & Trim(txtCityname) & "" & _
" where citycode = " & Val(txtCityCode)

End If

cn.Execute sql

If Not editflag Then

MsgBox "Record Added", vbOKOnly, "RECORD SAVING
CONFIRMATION"

Else

MsgBox "Record Modified", vbOKOnly, "RECORD MODIFICATION
CONFIRMATION"

End If

Else

MsgBox "City Name Already Exists", vbInformation

Exit Sub

End If

cmdEdit.Enabled = False

cmdSave.Enabled = False

ShowCityName

cmdCancel_Click

Exit Sub

End Sub

Private Sub Form_Load()

CenterScreen Me, frmInvMorEnt

ShowCityName

End Sub

Public Sub ShowCityName()

Dim rs As New ADODB.Recordset

Dim i As Integer

i = 0

msfCityName.Rows = 1

msfCityName.Rows = 2

sql = "Select CityCode, CityName from CityMaster order by CityName"

rs.Open sql, cn, adOpenKeyset, adLockOptimistic

While Not rs.EOF

i = i + 1

msfCityName.TextMatrix(i, 0) = i

Dim found As Boolean

rs.Open "Select CityName from CityMaster where citycode <> " & _
Val(txtCityCode), cn, adOpenKeyset, adLockOptimistic