ANALYZING AND DEVELOPING THE MICRO CREDIT SYSTEM PROVIDED

BY BRAC.

A Thesis

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by

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DECLARATION

I hereby declare that this thesis is based on the results found by myself. Materials of work found by other researcher are mentioned by reference. This theis, neither in whole nor in part, has been previously submitted for any degree.

Signature of
Supervisor

Signature of
Author

Acknowledgement

After finishing our report, we acknowledge all the persons who have interacted with us. Without their help, this report writing would have been absolutely impossible for us. So our sincere thanks to them for their cooperation and support.

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However, we are the only responsible for the errors and omissions in the report, if any.

ABSTRACT

The goal of the thesis is to develop a software tool, which is capable of storing all the information of loan holder and loan giving scheme, the criteria and constrains of giving loans. We plan to focus on analysis and design of the existing system. A user provides the data of the members along with specifications. The software is responsible for finding a solution. The difficulty of this research project is in designing an effective method to resolve the entire loan scheme and to come up with a properly compensated system

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CHAPTER I

1 INTRODUCTION

Computer is a machine that performs tasks, such as calculations or electronic communication, under the control of a set of instructions called a program. Programs usually reside within the computer and are retrieved and processed by the computer's electronics. The program results are stored or routed to output devices, such as video display monitors or printers. Computers perform a wide variety of activities reliably, accurately, and quickly.

There are not only a variety of uses of computers in systems, but there are also many different ways to build systems. Sometimes a system just evolves .It may start with a very simple program to which more and more functionality is gradually added. Sometimes systems are built experimentally, trying out new ideas as the system is built. On the other hand, the development of an information system for a large business application must be carefully planned and monitored. Many information systems now use computer systems for manipulating information and are sometimes called computer-based information systems.

1.1 SYSTEM

System is any collection of component elements that work together to perform a task. In computer science, system is used in a variety of contexts. A computer is a hardware system consisting of a microprocessor and allied chips and circuitry, plus an input device (keyboard, mouse, disk drive), an output

device (monitor, disk drive), and any peripheral devices (printer, modem). Within this hardware system is an operating system, often called system software, which is an   essential set of programs that manage hardware and data files and work with application programs. External to the computer, system also refers to any collection or combination of programs, procedures, data, and equipment utilized in processing information: an accounting system, a billing system, a database management system.

System is an integrated aggregation of end items, interfaces, and support functions designed to fulfill a specific mission requirement. A system may include equipment, trained personnel, facilities, data and procedures, and software. For project purposes, a system is typically defined as the highest level of hardware organization composed of multiple subsystems. The term is also used to describe a disciplined and consistent approach to accomplish a task.

1.2   SYSTEM ANALYSIS AND DESIGN

System analysis and design is a complex, challenging and simulating organizational process that a team of business and systems professionals uses to develop and maintain computer-based information system.

System analysis is "Finding out what a system does and what its needs are". System analysis is an important activity that takes place when new information systems are being built or existing ones are changed. Its more crucial role is in defining user requirements. System analysis, often now called business systems analysis to emphasize its business emphasis, is needed in the first instance to clearly identify what is possible and how a new system will work. This includes gathering the necessary data and developing models for new systems.

Information systems are developed for different purposes, depending on the needs of the business. Transaction processing system (TPS) function at the operational level of the organization; office automation system (OAS) and knowledge work system (KWS) support work at the knowledge level. High-level systems include management information system (MIS) and decision support system (DSS). Expert system applies the expertise of decision makers to solve specific, structured problems. On the strategic level of management we find executive support system (ESS). Group decision support system (GDSS) and the more generally computer supported collaborative work (CSCW) system aid group-level decision making of a semi structured of unstructured variety.

1.3 SYSTEMS DEVELOPMENT LIFE CYCLE

Systems Development Life Cycle (SDLC) is the overall process of developing information systems through a multi step process from investigation of initial requirements through analysis, design, implementation and maintenance. There are many different models and methodologies, but each generally consists of a series of defined steps or stages. The Systems Development Life Cycle (SDLC) is a conceptual model used in project management that describes the stages involved in an information system development project from an initial feasibility study through maintenance of the completed application. Various SDLC methodologies have been developed to guide the processes involved including the waterfall model (the original SDLC method), rapid application development (RAD), joint application development (JAD), the fountain model and the spiral model. Mostly, several models are combined into some sort of hybrid methodology.

In general, an SDLC methodology follows the following steps:

1. The existing system is evaluated. Deficiencies are identified. This can be done by interviewing users of the system and consulting with support personnel.

2. The new system requirements are defined. In particular, the deficiencies in the existing system must be addressed with specific proposals for improvement.

3. The proposed system is designed. Plans are laid out concerning the physical construction, hardware, operating systems, programming, communications, and security issues.

4. The new system is developed. The new components and programs must be obtained and installed. Users of the system must be trained in its use, and all aspects of performance must be tested. If necessary, adjustments must be made at this stage.

5. The system is put into use. This can be done in various ways. The new system can phased in, according to application or location, and the old system gradually replaced. In some cases, it may be more cost-effective to shut down the old system and implement the new system all at once.

6. Once the new system is up and running for a while, it should be exhaustively evaluated. Maintenance must be kept up rigorously at all times. Users of the system should be kept up-to-date concerning the latest modifications and procedures.

Phase 1: Project Identification and Selection

The first phase of SDLC is project identification and selection. In this phase, an organization's total information system needs are identified, analyzed, prioritized and arranged. Someone identifies the need for a new or enhanced system. Project identification and selection consists of three primary activities:

      a. Identifying potential development projects
      b. Classifying and ranking projects
      c. Selecting projects for development

Phase 2: Project Initiation and Planning

In project initiation and planning phase a potential information systems project is explained and an argument for continuing or not continuing with the project is presented and a detailed plan is also developed for conducting the remaining phases of SDLC for proposed system. Two major activities are in this phase are investigation of the system problem or opportunity and the reasons why the system should or should not be developed by the organizations. The scope of the proposed system is determined in this phase.

Elements of project planning are:

✓   Describe the Project Scope, Alternatives and Feasibility
✓   Dividing the Project into Manageable Tasks
✓   Estimating Resources and Creating a Resource Plan
✓   Developing a Preliminary Schedule
✓   Developing a Communication Plan
✓   Determining Project Standards and Procedures
✓   Identifying and Assessing Risk

✓   Creating a Preliminary Budget

✓   Developing a Statement of Work

✓   Setting a Baseline Project Plan

Phase 3: Analysis

In analysis phase the current system is studied and alternative replacement systems are proposed. Analysis phase have several sub phases. The first is requirements determination. Methods for determining requirements are:

✓ Interviewing and Listening

✓ Directly observing Users

✓ Analyzing Procedures and other Documents

✓ Joint Application Design

✓ Using Prototype Identifying

✓ Processes to Reengineer

Then according to the requirement structure the system in context of their interrelationship and eliminate redundancies. Third, generate the alternative initial designs to match the requirements. Then from the alternatives determine the best solution that meet requirement properly and the cost, labor and technical levels of the organization is willing to commit to the development process. The output of the analysis phase is the alternative solution of the existing system.

Phase 4: Design

In the design phase description of the recommended solution is converted into logical and then physical system specifications. Design focuses on high level design like, what programs are needed and how are they going to interact, low-level design (how the individual programs are going to work), interface design (what are the interfaces going to look like) and data design (what data will be required). During these phases, the software's overall structure is defined. Analysis and Design are very crucial in the whole development cycle. Any glitch in the design phase could be very expensive to solve in the later stage of the software development. Much care is taken during this phase. The logical system of the product is developed in this phase.

Design phase has two parts: logical design and physical design. Logical design is the part of the design phase in which all functional features of the system chosen for development in analysis are described independently of any computer platform. Physical design is the logical specifications of the system from logical design are transformed into technology-specific details from which all programming and system construction can be accomplished.

Design phase highlighted on:

- ✓ Files and Databases
- ✓ Forms and Reports
- ✓ Dialogues and Interfaces
- ✓ System and Program Structure
- ✓ Distributed Systems

Phase 5: Implementation

In implementation phase information system is coded, tested, installed and supported the organization. In this phase the designs are translated into code. Computer programs are written using a conventional programming language or an application generator. Programming tools like Compilers, Interpreters, and Debuggers are used to generate the code. Different high level programming languages like C, C++, Pascal, Java are used for coding. With respect to the type of application, the right programming language is chosen. Implementation activities also include initial use support such as finalization of documentation, training programs and ongoing user assistance. Elements of implementation phase are:

- ✓ Coding
- ✓ Testing
- ✓ Installation
- ✓ Documentation
- ✓ Training
- ✓ Support

Phase 6: Maintenance

In the maintenance phase information system is systematically repaired and improved. After implementation users faces some problems about how the system works and often think of better ways to perform its function. So modification or change is needed. Software will definitely undergo change once it is delivered to the customer. There are many reasons for the change. Change could happen because of some unexpected input values into the system. In addition, the changes in the system could directly affect the software operations. The software should be developed to accommodate changes that could happen

during the post implementation period. Major activities that occur in maintenance phase are:

    ✓   Obtaining Maintenance Requests

    ✓   Transforming Requests into Changes

    ✓   Design Changes

    ✓   Implementing changes

There are several types of maintenance. Corrective maintenance refers to changes made to repair defects in design, coding and implementation of the system. Adaptive maintenance involves making changes to an information system to evolve its functionality to changing business needs or technologies. Perfective maintenance involves making enhancements to improve processing performance, interface usability, and add desire requirements and features. Preventive maintenance changes the system to reduce the chance of future system failure.

1.3 IDENTIFYING AND GATHERING REQUIREMENTS

Defining user requirements requires an understanding of how the system works and what its problems are. There are many important issues to consider in getting a clear picture of a system. One is to look at the current business processes in the system and identify the tasks in those processes. Or one can begin by examining particular system functions and their tasks. The tasks can then be examined in detail. Such examination can identify the users, who carry out the tasks, the interactions between the users, the tools they use and the artifacts on which they operate. Thus an analyst must always consider the users and what they do. To have preconceived ideas about a system and analysts must approach any study with an open mind. There are two main ways of doing this – namely by:

- ✓ Asking questions by interviewing people in the system, through surveys and questionnaires, or by electronic means using e-mail or a discussion database.

- ✓ Directly observing the users.

1.3.1 GATHERING INFORMATION BY INTERVIEWING

Interviewing is perhaps the most commonly used technique in analysis. There is no real way to avoid interviews, as they must precede any other method for gathering information about system requirements it is always necessary first to approach someone and ask them what their problems and priorities are, and later to discuss with them the results of the analysis.

Questionnaire: Gathering information by filling in a form. It provides an alternative to interviews for finding out information about a system. Questionnaires are made up of questions about information sought by the analyst. The questionnaire is then sent to the user, and the analyst analyzes replies.

Electronic data gathering: Electronic communication systems are increasing being used to gather information. Thus it is possible to use electronic mail to broadcast a question to a number of users in an organization to obtain their viewpoint on a particular issue.

In the organization some time must be spent in talking to or interviewing people. Such interviews may only be in the initial stages to identify the major issues, or they can proceed throughout the entire life of a project. Interviewing is the main approach used to analyze large structured system. Interviewing is gathering information by asking questions.

It is important to establish a good relationship with interviewees and this should start right at the beginning.

There are some basic premises that you should always be aware of when conducting interviews. First, you must gain the confidence of your interviewees. To do this you must convince the interview of your own abilities and show that you are proceeding in an organized way and will not waste their time. You must also be sympathetic to their problems and not become aggressive and create the impression that you are there to apportion blame.

It is not important to force solutions upon users but rather to play the role of an advisor. Computer jargon should not be used to impress the user, though interviewers should explain the limitations of the computer in user terms and describe how it can assist users in their work. You should not try to elicit the response you want by asking leading questions.

Interviewers should also take care to ensure that they obtain all the needed information from interviews. It helps to let the user to know what information is required from the interview. The interviewer should then seek this information gradually and be precise and direct in their questioning.

The model and information about it grows at each interview. Analysts will be satisfied because their knowledge about the system is continually growing. The interviewees will more cooperative because they can see that their time is being used productively.

Interview search procedures: Search procedure is the process followed to gather information about a system. Information gathering in large systems with many information sources must proceed in an organized way to ensure that all the relevant information needed to build the system is obtained. Analysts must

determine what information needs to be gathered and the users who are to supply this information. They must then seek this information in an orderly way so that vital information is not neglected and being asked the same questions does not repeatedly bother people. To avoid such problems, it is necessary to develop a search procedure for gathering information. This procedure will define the steps to be followed in gathering information and the information to be obtained at each step. Such steps usually require the search to proceed in a top-down manner, objectives to be set for each step, and an appropriate search method to be chosen for each step.

The search procedure suggests what order is to use to search information sources and what methods are to be used as the search proceeds. Thus the search procedure becomes a plan starting what information is to be obtained from each source and what sequence is to be used to search the sources.

The interview plan specifies:

- ✓ The users to be interviewed
- ✓ The sequence in which the users are interviewed and
- ✓ The interview plan for each user

The first step in developing an interview plan is to identify the users to be interviewed. Often an organization chart can be used to identify such users. This chart describes the organization's units, the positions in these units and each position's occupant. The analyst uses the project's terms of reference to select the organizational units that fall within the boundary of the system study and is likely to be affected by any new system. Persons in these units then become candidates for interviewing. It is usually wise to begin interviewing at the top levels of the organizational areas, in order to get support and cooperation from managements before beginning to look into particular organizational activities or

suggesting new solutions. Management may then often suggest other users that should be interviewed and is more likely to support any proposed changes.

There are also some common goals in each interview. Preparation for the interview is always essential. The analyst should have an idea of what information is needed from the interview and ask direct questions to get this information. If the current interviewee cannot answer, the analyst should ask for advice about where to go next.

Preparation for the interview is always essential. The analyst should have an idea of what information is needed from the interview and ask direct questions to get this information.

One of the most important points about interviewing is what question you need to ask. It is important to ask the right questions in the correct order to get the most out of interviews. Questions can be characterized by their subject content and type. Obviously, the subject content of a question will depend on the specific system study. However, the type of question can be generalized and there are general guidelines to help you to choose the most appropriate questioning method for the interview in question.

It is often convenient to make a distinction between three kinds of questions. These are
- ✓ Open questions
- ✓ Closed questions
- ✓ Probes

The above three are explain in the following way:

Open Questions: Open questions are general questions that establish a person's viewpoint on a particular subject. It requires the responder to express a viewpoint.

The first interview with a user should emphasize open questions. This enables analysts to identify the values a user places on the system helps in gaining impression about the users like and dislike. This may then shape future interviews. Open questions also prompt the user to volunteer more detailed information so that closed questions may be unnecessary.

Closed Questions: Closed questions are more specific. It is a question that requires a direct answer. A closed question often restricts an interviewee to some specific answer. This may be a number, an explanation of a report, or a reason for doing something. The answer to closed questions can then be followed with a probe to get more detail.

It is possible to start with open questions follow then closed questions and then finished up with some more open questions. This approach is used mostly in follow-up interviews. It is an easy way to gradually lead a user into detailed questioning. Some people, when answering an open question, may provide enough information to make future detailed questions unnecessary. It is also possible to start with detailed questions and finished with open questions.

Probe: Probes are questions that follow up an earlier answer.

Interviewers must often select a particular questioning method for an interview. This method will use alternate sequence of closed and open questions.

1.3.2 Gathering Information by Observation

Interviewing and other ways of asking questions are characterized by having analysts learn about the system without themselves getting involved in the system. Interviews often emphasize what an individual does and how to support them, rather than looking at the individual's relationship to their group. The analyst then has to correlate findings about individuals and determine how the whole group works. It is also the interviewer's responsibility to find out the objectives of each individual and try to make them cohesive.

Using ethnography: Ethnography is gathering information by observation. It is not a new field but, rather, a new approach to analyzing computer system requirements. One of its most important goals is not to superimposing the interviewer or analyst's viewpoint on the system but to use the viewpoint of the people within the system.

Analysis by observation: The goal here is to observe what people do in an unobtrusive way. The best way to do this is by video recording. It is important in video recording to ensure that the presence of the video camera itself does not alter behavior while at the same time collecting sufficient in depth information to make useful observations.

From observation to design: Another characteristic of the ethnographic approach is that objectives are developed with user participation. Considerable time, for example, may be spent on the design of workspaces through experimentation. Such workspaces not only include the computer screen but also the physical space used for any manual work on associated documentation or paperwork.

CHAPTER II

2   PRESENT SYSTEM ANALYSIS

2.1 OVERVIEW OF BRAC

BRAC, a national private development organization, set up in 1972 by Mr. Fazle Hasan Abed, began as a relief organization focused on resettling the refugees returning from India after the War of Independence in 1971. This task over, BRAC redirected its focus to the issue of poverty alleviation and empowerment of the poor, especially women, in Bangladesh's rural areas. BRAC, the acronym for Bangladesh Rural Advancement Committee, has become its identity and it stands for working for the poor and the marginalized. From its modest birth in 1972, it is now one of the world's largest national NGOs, diverse in its operations with over 28,000 regular staff and 34,000 part-time teachers, working in 61,924 villages in all 64 districts of Bangladesh. BRAC has progressed by learning from experience and through a responsive and inductive process. Adjusting its strategy to prevailing circumstances, it does not pursue any rigid development model. From the mid-70s to early 80s, our holistic and flexible approach to rural development became the internationally accepted standard. It has been called upon to assist countries in Africa, Asia, and most recently in war ravaged Afghanistan.

BRAC diagnoses poverty in human terms. Women with social, cultural, technological, and structural constraints have been able to transform themselves as contributors not only to their families' well-being, but also to national production and development by increasing their access to economic and social resources with BRAC's assistance. Currently, BRAC promotes income

generation and social development of the poor, mostly landless rural people of Bangladesh through micro credit, health, education, and training programs.

BRAC Economic Development Program has so far organized over 4.07 million poor landless people, mostly women, into 119,836 Village Organizations (VOs), each having 30-40 members. These groups serve as forums where the poor can collectively address the principal structural impediments to their development, receive credit, and open savings accounts. While BRAC believes that micro credit is an important tool in breaking the cycle of poverty, it also places equal emphasis on training of its members in income generating activities and in facilitating their linkages with consumer markets. BRAC's credit program, initiated in 1976 has disbursed Taka 107,310 million, with a recovery rate at 98.04%. The savings deposited with BRAC now stand at Taka 6,285 million. The average loan size is Taka 6,879, where no collateral is required. BRAC organizes a number of social development initiatives designed to increase members' awareness of their rights and responsibilities, and to facilitate addressing issues of discrimination in their villages. BRAC continuously challenges itself to question its own assumptions, implicit and explicit, and reviews them in the light of unfolding reality and experiences. Since January 2002, BRAC Economic Development Program has been implementing its newest project, challenging the Frontiers of Poverty Reduction Targeting the Ultra Poor (CFPR-TUP). This program uses a specific set of criteria to identify those women who are in the very margins of society, and are too poor to take advantage of standard micro credit options. After identifying these ultra poor women, BRAC gives them income-earning assets, provides training in the women's chosen income generating activity, and offers education and health care services. Thus the ultra poor are nurtured to eventually merge into mainstream micro credit programs. BRAC's ultra poor program has already garnered international attention and is setting the standard for other development organizations to emulate. BRAC's Health, Nutrition and Population Program takes a broad approach to the health needs of the poor by providing basic curative and preventive services to more

than 31 million people. Trained health workers and female health volunteers work to raise awareness among the rural poor of health issues that directly impact their lives and families. It seeks to reduce maternal and child mortality, and reduce vulnerability to common diseases. Services are offered to control infectious diseases such as tuberculosis, acute respiratory infections, diarrhea, etc. The program also provides services to pregnant women that improve their health and nutrition status. The reproductive health needs of the community in general, with particular focus on BRAC members, are addressed through education on family life, contraception, STD/RTI control, and awareness of HIV/AIDS. BRAC encourages rural people to use safe water and practice hygienic sanitation. The Nutrition Facilitation Program is working as a partner of the Bangladesh Government's national nutrition initiative.

BRAC works with people whose lives are dominated by extreme poverty, illiteracy, disease and other handicaps. With multifaceted development interventions, BRAC strives to bring about positive change in the quality of life of the poor people of Bangladesh. BRAC firmly believes and is actively involved in promoting human rights, dignity and gender equity through poor people's social, economic, political and human capacity building. Although the emphasis of BRAC's work is at the individual level, sustaining the work of the organization depends on an environment that permits the poor to break out of the cycle of poverty and hopelessness. To this end, BRAC endeavors to bring about change at the level of national and global policy on poverty reduction and social progress. BRAC is committed to making its programmers socially, financially and environmentally sustainable, using new methods and improved technologies. As a part of its support to the program participants and its financial sustainability, BRAC is also involved in various income generating enterprises.

Poverty reduction programs undertaken so far have bypassed many of the poorest. In this context one of BRAC's main focuses is the ultra poor. Given that

development is a complex process requiring a strong dedication to learning, sharing of knowledge and being responsive to the needs of the poor, BRAC places a strong emphasis on their organizational development, simultaneously engaging itself in the process of capacity building on a national scale to accelerate societal emancipation. The fulfillment of BRAC's mission requires the contribution of competent professionals committed to the goals and values of BRAC. BRAC, therefore, fosters the development of the human potential of the members of the organization and those they serve. In order to achieve its goal, wherever necessary, BRAC welcomes partnerships with the community, like-minded organizations, governmental institutions, and the private sector and development partners both at home and abroad.

2.1.1 MICRO CREDIT PROGRAM

Bangladesh is characterized by high levels of poverty accompanied by low productivity. Because the poor cannot provide collateral and typically deal in small denominations of money, they are denied access to the formal banking system, and are thus deprived of the facilities to borrow, save and invest in productive activities. In addition, moneylenders from the informal credit markets charge very high interest rates restricting poor people's access to credit earnings. Making credit universally available is therefore an essential strategy in reducing income poverty.

Launched in 1974, BRAC's Micro credit Program aims to:

• Make credit available to poor women, especially in rural areas.
• Provide credit at a reasonable price.
• Involve poor women in income generating activities through credit provision.
• Promote the economic development of the country by increasing the income level of the rural poor.
• Operate self-sustaining credit activities.

The micro credit program of BRAC is a tool for poverty alleviation and empowering the poor. Lack of access to the formal banking system deprives them of the facilities to borrow, save and invest in productive activities and this is a major reason why poor people remain poor. The formal banking sector also requires collateral. Making credit available to the rural poor enables them to become involved in different income generating activities which, in turns, allows them to become economically self-reliant. Through this process BRAC's micro credit program works to create a self-sustaining and reliable financial service program for the poor.

Chapter III

3 DATABASE DESCRIPTION

3.1 AN OVERVIEW

Our database has been developed using MYSQL server for the backend and PHP, HTML for front end. The primary actor of our database is the accountant and Area manager. The designed database is equipped with the following properties

- ➢ Keeps record of all the members' information.
- ➢ Stores data of all the region, area, and organization.
- ➢ Keeps track of the entire member passbook, credit officer (program organizer), area manager and accountants' information.
- ➢ Shows at a glance all the member's nominee information. The nominee can take the insurance if the member is deceased.
- ➢ Holds all the information about the loan proposal, loan approval, loan Disbursement and loan collection information.
- ➢ Keeps track of all the saving information, saving collection information, saving withdraw information (where applicable).
- ➢ Keeps track of all the insurance given the area.

The front end was designed to support the functionalities mentioned below: Login prompt to restrict access to authorized users only

- ➢ Easy to use forms to view records, add new records, update records and delete records (where applicable)

➢ Graph option can be invoked from any table. Only numeric values can be plotted in a plethora of graphs that include 3D bar, 3D lines. Pie charts etc.

➢ Specialized reports with input parameters.

3.2 ENTITY RELATIONSHIP DIAGRAM (ERD)
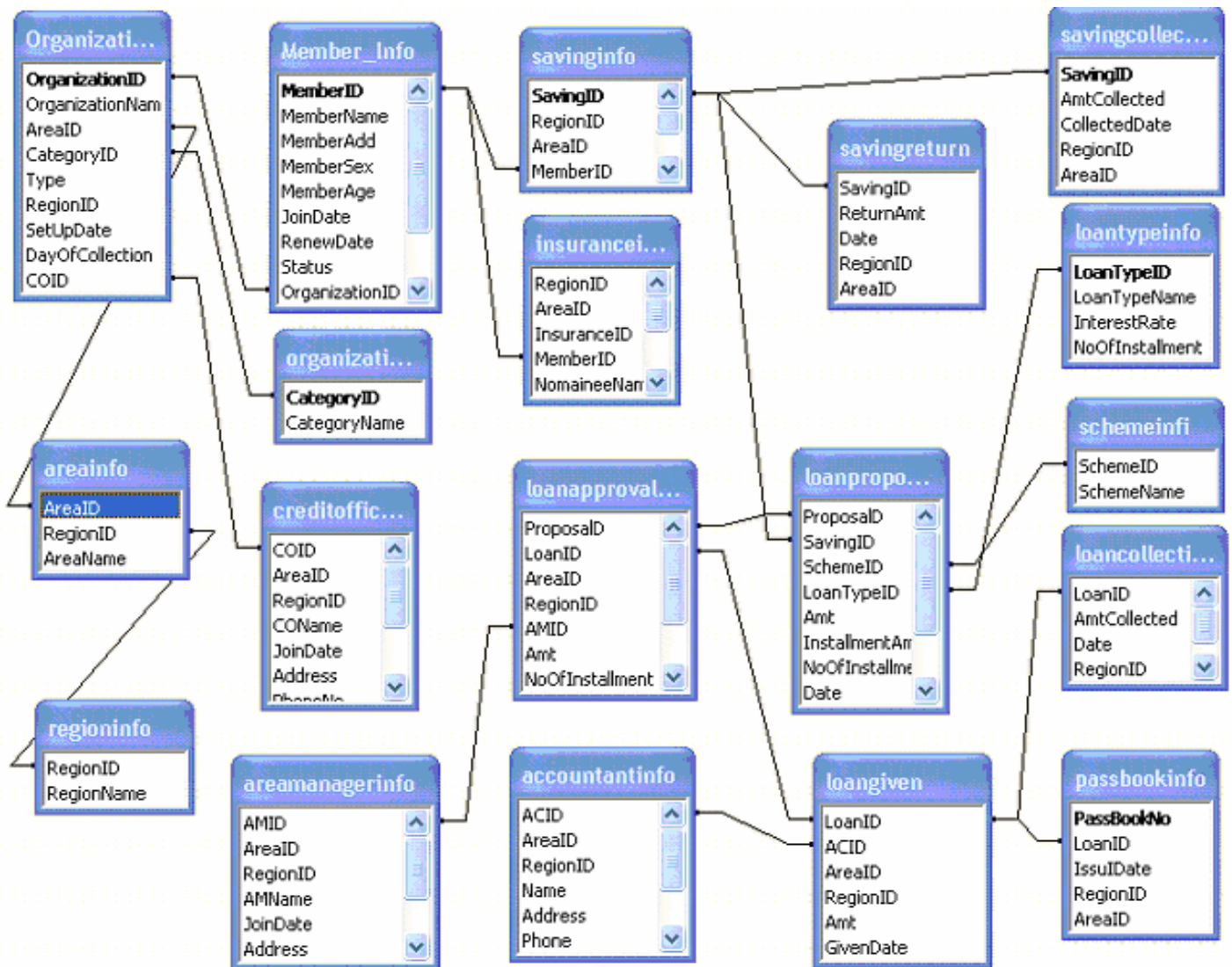
3.3 TABLES

3.3.1 MEMBERS DATABASE

This database holds information about the members. Whenever a new member is to be stored or existing member information needs to be modified then this database is examined and reviewed by the accountants.

Each member is given a specific identity number members ID, which is the primary key. This database maintains a relation with the organization information database, area information database and region database because this database reflects the relation of which member is included in which organization, region and area. Member's name, sex, age, joining date (which date a member is joining the organization), renew date (if the member renews the membership then this field is applicable) member's fee (which describes when a person become a member he/she needs to give a fixed amount of money to become a member of the organization) and finally status (describes whether the member is active or inactive in the company).

Table Name: Members info	
Description: Stores Information about the Members	
Fields: Primary key (Member id, Region id, Area id)	
Field Name	Domain
Member id	String
Member Name	String
Member Address	String
Organization id(foreign key)	String
Area id	String
Region id	String
Member sex	String
Member age	String

Joining date	Date
Renew date	Date
Registration fee	Double
Status	String

Table 3.3.1: Description of Member Info table

Field	Type	Attributes	Null	Default	Extra
MemberID	varchar(10)		No		
MemberName	varchar(30)		No		
MemAdd	varchar(150)		No		
MemberSex	varchar(10)		No		
MemberAge	varchar(10)		No		
JoinDate	date		No	0000-00-00	
RenewDate	date		Yes	NULL	
Status	varchar(10)		No		
OrganizationID	varchar(10)		No		
RegionID	varchar(10)		No		
AreaID	varchar(10)		No		
RestrationFee	double		No	0	

Figure 3.3.1: Member information Table

3.3.2 ORGANIZATION INFORMATION TABLE:

Areas Monitoring Unit consists of a number of organizations. Each organization works only in a specific area and maximum forty members is under an organization. Each team is given a specific identity number; Organization id is the primary key in this database. Day of collection field describes which date a credit officer collects money from this organization. The database maintains the relation which organization is working under which area and region and which credit officer is responsible for this organization and under which category this organization falls. But this relation is important in tracing out an organization is under a region, area, which category and who is the in charge of the organization. If credit officer is changed then this database needs to be updated.

Table Name:: Organization info	
Description: Stores Information about the Organization	
Primary key (Organization id, Region id, Area id)	
Field Name	**Domain Name**
Organization id	String
Organization name	String
Setup date	Date
Category ID	String (of organization category table)
Area id	String (of branch table)
Region ID	String (of Region table)
Type	String(male/female)
Credit officer ID	String(of credit officer table)
Day of collection	(Saturday/Sunday/Monday/Tuesday/ Wednesday/Thursday)

Table 3.3.2: Description of Organization Info table

Field	Type	Attributes	Null	Default	Extra
OrganizationID	varchar(10)		No		
OrganizationName	varchar(20)		No		
AreaID	varchar(10)		No		
CategoryID	varchar(10)		No		
Type	varchar(10)		No		
RegionID	varchar(10)		No		
SetUpDate	date		No	0000-00-00	
DayOfCollection	varchar(20)		No		
COID	varchar(10)		No		

Figure 3.3.2: Organization information Table

3.3.3   ORGANIZATION CATEGORY DATABASE

This database is designed for the purpose of keeping track of category of an organization .The fields are Category ID, category Name. Category Id is the primary key here. Generally the data of this database is not subject to change.

Table Name: Organization Category Table	
Description: Stores Information about the Organization category	
Primary key (Category id)	
Field Name	**Domain**
Category id	String
Category name	String

Table 3.3.3: Description of Organization Category table

Field	Type	Attributes	Null	Default	Extra
CategoryID	varchar(10)		No		
CategoryName	varchar(50)		No		

Figure 3.3.3: Organization Category Table

3.3.4   SAVING INFORMATION DATABASE

Savings is an important component of micro credit services. This table keeps track of all the saving information of a member. The fields are saving id (primary key), organization id from organization table, member id from members table, saving target field describes how much money a member need to save every week. total amount field describes how much money a member is saved this field is updated every time s/he save. A member saves his or her money in the organization by a number of installments. When the saving amount of money reaches certain stage he/she can apply for loan.

Table Name: : Saving info	
Description: Stores Information about the Organization	
Primary key (Saving id, Region id, Area id, Saving date)	
Field Name	**Domain**
Saving id (primary key)	String
Organization id	String
Member id	String
Saving Target	Integer
Total Saving Amt	Double
Region id	String
Area id	String
Saving Date	Date

Table 3.3.4: Description of Saving info table

Field	Type	Attributes	Null	Default	Extra
SavingID	varchar(10)		No		
RegionID	varchar(10)		No		
AreaID	varchar(10)		No		
MemberID	varchar(10)		No		
TotalSavingAmt	double		No	0	
SavingDate	date		No	0000-00-00	
SavingTarget	double		No	0	

Figure 3.3.4: Organization information Table

3.3.5   SAVING COLLECTION INFO DATABASE

When a member saves money these tables keep the track of all the information of his/her saving .The fields are saving id, amt collected, collection date, region id, area id. From saving id we shall know what is his/her saving target and from credit officer id we shall know which credit officer has collected this money.

Table Name: : Saving collection info	
Description: Stores Information about the Saving Collection of Members	
Primary key (Saving id, Region id, Area id, Collection Date)	
Field Name	Domain
Saving id	String
Amount collected	Double
Collection Date	Date
Region id	String
Area id	String r

Table 3.3.5: Description of Saving Collection Info table

Field	Type	Attributes	Null	Default	Extra
SavingID	varchar(10)		No		
AmtCollected	double		No	0	
CollectedDate	date		No	0000-00-00	
RegionID	varchar(10)		No		
AreaID	varchar(10)		No		

Figure 3.3.5: Saving Collection info Table

3.3.6   LOAN TYPE DATABASE

BRAC micro credit has different types of loan. This field keeps track of the entire loan name and the interest rate. The fields are loan type id, loan name and interest rate.

Table Name: Loan type	
Description: Stores Information of type of Loan	
Primary key (Loan type id)	
Field Name	Domain

Loan type id	String
Loan type name	String
Interest rate	Integer
No of installment	Integer

Table 3.3.6: Description of Loan Type Info table

Field	Type	Attributes	Null	Default	Extra
LoanTypeID	varchar(10)		No		
LoanTypeName	varchar(20)		No		
InterestRate	varchar(10)		No		
NoOfInstallment	varchar(10)		No		

Figure 3.3.6: Loan Type info Table

3.3.7   LOAN PROPOSAL DATABASE

This table keeps track of how many people has applied for loan. When a member has fulfilled the saving criteria he/she apply for the loan. The fields are proposal id, saving id field is shows how much money s/he has saved, scheme id field is used to see which scheme a member has applied for loan, duration, date of application, principle amount applied (how much money a member wants), installment amount (how much money s/he is giving back every week), no of installment. Loan type id (which type of loan s/he wants to get) from loan type and saving id. We can also get the member information from saving id because in saving information table member id is the foreign key. This database maintains a relation with the area info, region info, loan type, saving info database.

Table Name: :Loan proposal	
Description: Stores Information of type of Loan	
Primary key (Saving id, Region id, Area id, Proposal Id)	
Field Name	**Domain**
Proposal ID	String
Saving id	String

Loan type no	String
Scheme Id,	String
duration	String
Date of application	Date
Amt applied	String
Installment amt	String
No of installment	String
Region id	Integer
Area id	Integer

Table 3.3.7: Description of Organization Info table

Field	Type	Attributes	Null	Default	Extra
ProposalD	varchar(10)		No		
SavingID	varchar(10)		No		
SchemeID	varchar(10)		No		
LoanTypeID	varchar(10)		No		
Amt	double		No	0	
InstallmentAmt	double		No	0	
NoOfInstallment	int(11)		No	0	
Date	date		No	0000-00-00	
Duration	int(11)		No	0	
AreaID	varchar(10)		No		
RegionID	varchar(10)		No		

Figure 3.3.7: Organization information Table

3.3.8   SCHEME INFO DATABASE

BRAC micro credit program gives loan to the people in different scheme like agriculture, sericulture, fisheries etc. This database is used for saving the entire scheme provided by BRAC micro credit program. Generally this database is not changed or updated. The fields are Scheme ID and Scheme Name.

Table Name: Scheme Info Table	
Description: Stores Information of type of Scheme	
Primary key (Scheme id)	
Field	**Domain**
Scheme id	String
Scheme name	String

Table3.3.8: Description of Scheme Info table

Field	Type	Attributes	Null	Default	Extra
SchemeID	varchar(10)		No		
SchemeName	varchar(20)		No		

Figure 3.3.8: Scheme info Table

3.3.9   LOAN APPROVAL DATABASE

This table keeps track of how many loan are given and how much loan are given in a particular branch. When a member had applied or proposed for a loan the officer considers some conditions and gives the loan .The loan may be according to the proposal or the officer are select the criteria. The fields are loan id, proposal id, sanction date, sanction amount, installment amount, AMID(this field is used to see which area manager is approved this loan) no of installment, remarks. Here some fields are same as loan proposal table but they are not same because the area manager can set different installment amount, no of installment and amount. This database maintains a relationship with the loan proposal database and area manager info database.

Table Name: Loan approval Table	
Table Name: Stores Information of Loan approval	
Table Name: (Loan id,proposal id,area id,region id)	
Field name	**Domain**
Loan id	String
Area Id	String
Region id	String

Area Manager Id	String
Proposal id	String
Sanction date	Date
Sanction amt	Double
Installment amt	Integer
No of installment	Integer
Remarks	String

Table 3.3.9: Description of loan Approval table

Field	Type	Attributes	Null	Default	Extra
ProposalD	varchar(10)		No		
LoanID	varchar(10)		No		
AreaID	varchar(10)		No		
RegionID	varchar(10)		No		
AMID	varchar(10)		No		
Amt	double		No	0	
NoOfInstallment	int(11)		No	0	
InstallmentAmt	int(11)		No	0	
Date	date		No	0000-00-00	
Remarks	varchar(50)		Yes	NULL	

Figure 3.3.9: Loan Approval Table

3.3.10 LOAN GIVEN DATABASE

The accountant gives the money to the members. So the accountant id is used here. Loan given date is kept here because loan approval date and loan given table may not be the same. The   fields are   Loan Id, accountant Id, Amount given and given date.

Table Name: Loan Given Table	
Description: Stores Information of Loan Disbursement	
Primary key (Loan id, Accountant Id, area id, region id)	
Field Name	Domain
Loan id	String
Accountant Id	String
Amt	Double
Date	Date
Region id	String
Area Id	String

Table 3.3.10: Description of Loan Given table

Field	Type	Attributes	Null	Default	Extra
LoanID	varchar(10)		No		
ACID	varchar(10)		No		
AreaID	varchar(10)		No		
RegionID	varchar(10)		No		
Amt	double		No	0	
GivenDate	date		No	0000-00-00	

Figure 3.3.10: Loan Given Table

3.3.11   LOAN COLLECTION DATABASE

Every week a member gives back his loan. This field is used for keeping track of which member is giving back money in which date. The fields are credit officer id, member id, organization id, loan id, collection date, amount collection,

Table Name: Loan collection	
Description: Stores Information of Loan approval	
Primary key (Loan id, Collection date, area id, region id)	
Fields	Domain
Loan Id	String
Amt Collected	String
Collection date	Date

Region id	String
Area Id	String

Table 3.3.11: Description of Loan Collection table

Field	Type	Attributes	Null	Default	Extra
LoanID	varchar(10)		No		
AmtCollected	double		No	0	
Date	date		No	0000-00-00	
RegionID	varchar(10)		No		
AreaID	varchar(10)		No		

Figure 3.3.11: Loan Collection Table

3.3.12   PASSBOOK INFORMATION DATABASE

When a member gets a loan, he/she gets a passbook, Every week when he/she pays back the money and saving the credit officer keeps track of all the information like, date of payment, amount given or paid back, amount due and saving in the passbook. The fields are passbook no (primary key), issue date and loan id from the loan table and member id from the members table. A member may have several passbook (but at a time one is active) when a passbook is finished or lost he/she can apply for another passbook. A member must have a passbook.

Table Name: Passbook information Table	
Description: Stores Information of passbook of members	
Primary key (Passbook no)	
Field	Domain
Passbook no	String
Issue date	Date
Loan id	String
Region id	String
Area id	String

Table 3.3.12: Description of Passbook information table

Field	Type	Attributes	Null	Default	Extra
PassBookNo	varchar(10)		No		
LoanID	varchar(10)		No		
IssuIDate	date		No	0000-00-00	
RegionID	varchar(10)		No		
AreaID	varchar(10)		No		

Figure 3.3.12: Passbook information Table

3.3.13   INSURANCE DATABASE

This is the table for keeping track the information of the nominee of the members. this is needed because when a member will die how can his/her money will be given back ,duration of giving back the money and the distributaries rate .the fields are insurance id (primary key),member id ,nominee name ,relation, age ,address, duration, distribution rate. BRAC Micro credit System has a policy when an active member is die they will give those member fixed amount money.

Table Name:Insurance Table	
Description: Stores Information of insurance nominee members	
Primary key (insurance id)	
Field	**Domain**
Insurance id	String
Member id	String
Region id	String
Area id	String
Nominee name	String
Relation	String
Age	String
Address	String
Duration	Integer

Distributation rate	Double

Table 3.3.13: Description of insurance info table

Field	Type	Attributes	Null	Default	Extra
RegionID	varchar(10)		No		
AreaID	varchar(10)		No		
InsuranceID	varchar(10)		No	0	
MemberID	varchar(10)		No	0	
NomaineeName	varchar(60)		No	0	
Relation	varchar(10)		No	0	
Age	varchar(10)		No	0	
Address	varchar(100)		No	0	
Duration	int(11)		No	0	
Rate	double		No	0	

Figure 3.3.13: insurance information Table

3.3.14   CREDIT OFFICER/PROGRAM ORGANIZER (PO) DATABASE

This table keeps track of all the information of a credit officer when he joins in the BRAC micro credit office. A credit officer is also a program organizer (PO) but my database uses him as a credit officer. A credit officer works under a particular branch .The fields of the table are credit officer id, credit officer name, join date, address, phone no, PIN no, status (active/transfer/inactive), remarks field describes about his performance in the company made by area manager and branch no from the branch table is need here because under a branch the credit officer id is unique but this number may have another branch.

Table Name: Credit officer Table	
Description: Stores Information of credit officer(Program organizer)	
Primary key (Credit Officer id, Area id, region id)	
Field name	**Domain**
Credit officer id	String
Area id	String
Region Id	String
Name	String
Joining date	Date
Address	String
Phone no	String
PIN no	String
Status	String
Remarks	String

Table 3.3.14: Description of credit officer table

Field	Type	Attributes	Null	Default	Extra
COID	varchar(10)		No		
AreaID	varchar(10)		No		
RegionID	varchar(10)		No		
COName	varchar(30)		No		
JoinDate	date		No	0000-00-00	
Address	varchar(40)		No		
PhoneNo	varchar(10)		Yes	NULL	
Status	varchar(10)		No		
Remarks	varchar(50)		Yes	NULL	
PIN	varchar(10)		No		

Figure 3.3.14: Credit officer Table

3.3.15   AREA MANAGER DATABASE

This table keeps track of all the information of an area manager when he/she joins in the BRAC micro credit office. An area manager works under a particular branch. The fields of the table are manager id, manager name, join date, address, phone no, PIN no, status (active/transfer/inactive), remarks field describes about his performance in the company made by regional manager and branch no from the branch table.

Table Name: Area Manager info Table	
Description: Stores Information of Area Manager	
Primary key (Area Manager id, Area id, region id)	
Field Name	**Domain**
Area manager id	String
Area ID	String
Region Id	String
Manager name	String
Joining date	Date
Address	String
Phone no	String
PIN no	String
Status	String(active /in active)
Remarks	String

Table 3.3.15: Description of Area Manager Info table

Field	Type	Attributes	Null	Default	Extra
AMID	varchar(10)		No		
AreaID	varchar(10)		No		
RegionID	varchar(10)		No		
AMName	varchar(30)		No		
JoinDate	date		No	0000-00-00	
Address	varchar(40)		No		
PhoneNo	varchar(10)		Yes	NULL	
Status	varchar(10)		No		
PIN	varchar(10)		No		

Figure 3.3.15: Area Manager Information Table

3.3.16   ACCOUNTANTS INFO DATABASE

This table keeps track all the information of an Accountant when he/she joins as a BRAC micro credit officer. The fields of the table are accountants id, name, join date, address, phone no, PIN no, Area id, Region id status (active/transfer/inactive), remarks field describes about his performance in the company made by regional manager and branch no from the branch table.

Table Name: Accountants info Table	
Description: Stores Information of Accountant of a Area	
Primary key (Accountant id, Area id,region id)	
Field Name	Domain
Accountants id	String
Area ID	String
Region Id	String
Name	String
Joining date	Date
Address	String
Phone no	String
PIN no	String

Status	String(active /in active)
Remarks	String

Table 3.3.16: Description of Accountant Info table

Field	Type	Attributes	Null	Default	Extra
ACID	varchar(10)		No		
AreaID	varchar(10)		No		
RegionID	varchar(10)		No		
Name	varchar(50)		No		
Address	varchar(100)		No		
Phone	varchar(10)		Yes	NULL	
JoinDate	date		No	0000-00-00	
Status	varchar(30)		No		
PIN	varchar(10)		No		

Figure 3.3.16: Accountant information Table

3.3.17   SAVING RETURN DATABASE

This is the table for paid back money to the members when the members want to get back their saving money. When the office gives back the saving money to the members, he needs to know organization id, member id, loan id and saving id. The fields are rebid which is the primary key, organization id, member id, loan id and saving id

Table Name: Saving Return Table	
Description: Stores Information of Saving Return	
Fields: Primary key ()	
Field Name	Domain
Area id	String
Region Id	String
Saving id	String

Return amt	Double
Date	Date

Table 3.3.17: Description of Saving Return table

Field	Type	Attributes	Null	Default	Extra
SavingID	varchar(10)		No		
ReturnAmt	double		No	0	
Date	date		No	0000-00-00	
RegionID	varchar(10)		No		
AreaID	varchar(10)		No		

Figure 3.3.17: Saving Return Table

3.3.18   AREA DATABASE:

This database keeps records of areas under a region. Each area within a region has its entry. An area is identified by its Area LD and is, maintained at the respective regions.

Table Name: Branch Table	
Description: Stores Information of Branch or Area	
Table Name: (Area ID)	
Field	**Domain**
Area id	String
Area name	String
Region Id	String

Table 3.3.18: Description of Branch table

Field	Type	Attributes	Null	Default	Extra
AreaID	varchar(10)		No		
RegionID	varchar(10)		No		
AreaName	varchar(20)		No		

Figure 3.3.18: Branch Table

3.3.19 REGION DATABASE

This database relates each region with their specific id. The size of this database is usually fixed unless BRAC micro credit office decides to increase the number of regions in Bangladesh. The primary key of this database is Region id.

Table Name: Region Table	
Description: Stores Information of Region	
Primary key (Region ID)	
Field	**Domain**
Region id(primary key)	String
Region name	String

Table 3.3.19: Description of o table

Field	Type	Attributes	Null	Default	Extra
RegionID	varchar(10)		No		
RegionName	varchar(20)		No		

Figure 3.3.19: Region Table

3.4   DESCRIPTIONS OF FORMS

Screens of the interface are developed in Flash MX and HTML.

3.4.1   HOME PAGE

Home Page		
Label	Control	Description
Home	Button	Switches to Home page
Customer	Button and text	Switches to Customer page
Assignment	Button and text	Switches to Assignment page
Loans	Button and text	Switches to loan page
Saving	Button and text	Switches to saving page
Report	Button and text	Switches to report page

Figure 3.4.1: Home Menu

3.4.2   CUSTOMER PAGE

Customer Page		
Label	Control	Description
Home	Button	Switches to Home page
Customer	Button	Switches to Customer page
Assignment	Button	Switches to Assignment page
Loans	Button	Switches to loan page
Saving	Button	Switches to saving page
Report	Button	Switches to report page
Organization Setup	Text	Switches to Organization setup page
Member setup	Text	Switches to Member setup page

Figure 3.4.2: Customer page

3.4.3 ORGANIZATION SETUP FORM

Organization Setup Form		
Label	Control	Description
Home	Button	Switches to Home page
Customer	Button	Switches to Customer page
Assignment	Button	Switches to Assignment page
Loans	Button	Switches to loan page
Saving	Button	Switches to saving page
Report	Button	Switches to report page
Organization Setup	Text	
Member setup	Text	Switches to Member setup page
Organization Id	Text field	Used to input Organization id
Organization Name	Text field	Used to input the name of the Organization
Category ID	List/Menu	Used to input the category Id of the Organization (VO/EO/Mela)
Credit Officer ID	List/Menu	Used to input the Credit officer id, who is the in charge of the organization?
Set up date	List/Menu	Used to input the Set up Date of the Organization
Organization Type	List/Menu	Used to input the type of the Organization (M/F)
Day of collection	List/Menu	Used to input the Day, which date a PO/CO collected the loan/saving.
Region ID	List/Menu	Used to input the ID of the Region (Fixed)
Area ID	List/Menu	Used to input the ID of the Area (Fixed)

Save	Button	

Figure 3.4.3: Organization Setup page

3.4.4   MEMBER INFORMATION SETUP FORM

Member Information Setup Form		
Label	Control	Description
Home	Button	Switches to Home page
Customer	Button	Switches to Customer page
Assignment	Button	Switches to Assignment page
Loans	Button	Switches to loan page
Saving	Button	Switches to saving page
Report	Button	Switches to report page
Organization Setup	Text	Switches to Member setup page
Member setup	Text	
Member ID	Text field	Used to input Member id
Region ID	List/Menu	Used to input the ID of the Region(Fixed)
Area ID	List/Menu	Used to input the ID of the Area (Fixed)
Organization ID	List/Menu	Used to input Organization id
Name	Text field	Used to input the name of the Member
Address	Text field	Used to input the Address of the Member
Sex	Text field	Used to input the Sex of the Member(M/F)
Age	Text field	Used to input the age of the Member
Join date	List/Menu	Used to input the Join Date of the Member
Status	List/Menu	Used to input the Status (Active/Inactive) of the member in the organization.
Registration Fee	List/Menu	Used to input the registration

		fee(Fixed).
Renew date	3 Text field	Used to input the Renew Date (When Applicable) of a member
Save	Button	

*fields is not compoluasary

Save

Figure 3.4.4: member form

3.4.5 ASSIGNMENT PAGE

Assignment Page		
Label	Control	Description
Home	Button	Switches to Home page
Customer	Button	Switches to Customer page
Assignment	Button	Switches to Assignment page
Loans	Button	Switches to loan page
Saving	Button	Switches to saving page
Report	Button	Switches to report page
Passbook Information Setup	Text	Switches to Passbook information page
Credit Officer setup	Text	Switches to Credit Officer setup page
Area manager Setup	Text	Switches to Area Manager setup page
Accountants Setup	Text	Switches to Accountants setup page

Figure 3.4.5: Assignment Page

3.4.6 PASSBOOK INFORMATION FORM

Passbook information form		
Label	Control	Description
Home	Button	Switches to Home page
Customer	Button	Switches to Customer page
Assignment	Button	Switches to Assignment page
Loans	Button	Switches to loan page
Saving	Button	Switches to saving page
Report	Button	Switches to report page
Passbook Information Setup	Text	
Credit Officer setup	Text	Switches to Credit Officer setup page
Area manager	Text	Switches to Area Manager setup page

Setup		
Accountants Setup	Text	Switches to Accountants setup page
Passbook No	Text field	Used to input the passbook no
Loan ID	Text field	Used to input the Loan ID
Issue date	List/Menu	Used to input the issue Date of Passbook
Region ID	List/Menu	Used to input the ID of the Region(Fixed)
Area ID	List/Menu	Used to input the ID of the Area (Fixed)
Save	Button	

Figure 3.4.6: passbook information form

3.4.7   CREDIT OFFICER FORM

Credit Officer Form		
Label	Control	Description
Home	Button	Switches to Home page
Customer	Button	Switches to Customer page
Assignment	Button	Switches to Assignment page
Loans	Button	Switches to loan page
Saving	Button	Switches to saving page
Report	Button	Switches to report page
Passbook Information Setup	Text	Switches to passbook information setup page
Credit Officer setup	Text	
Area manager Setup	Text	Switches to Area Manager setup page
Accountants Setup	Text	Switches to Accountants setup page
Credit Officer ID	Text field	Used to input the credit officer id
PIN	Text field	Used to input the PIN
Name	Text field	Used to input the name of credit officer
Address	Text field	Used to input the address of credit officer
Phone NO	Text field	Used to input the phone no (if has)
JOIN date	List/Menu	Used to input the join date of credit officer
Status	Text field	Used to input the Status (Active/inactive)
Remarks	Text field	Used to input the remarks (if necessary)
Region ID	List/Menu	Used to input the ID of the Region

		(Fixed)
Area ID	List/Menu	Used to input the ID of the Area (Fixed)
Save	Button	

Figure 3.4.7: Credit officer form

3.4.8   AREA MANAGER FORM

Area Manager Form		
Label	Control	Description
Home	Button	Switches to Home page
Customer	Button	Switches to Customer page
Assignment	Button	Switches to Assignment page
Loans	Button	Switches to loan page
Saving	Button	Switches to saving page
Report	Button	Switches to report page
Passbook Information Setup	Text	Switches to passbook information setup page
Credit Officer setup	Text	Switches to Credit Officer setup page
Area manager Setup	Text	Switches to Area Manager setup page
Accountants Setup	Text	Switches to Accountants setup page
Manager ID	Text field	Used to input Manager ID
PIN	Text field	Used to input the PIN
Name	Text field	Used to input the name of Area Manager
Address	Text field	Used to input the address of Area Manager
Phone NO	Text field	Used to input the phone no(if has)
JOIN date	List/Menu	Used to input the join date of Area Manager
Status	Text field	Used to input the Status (Active/inactive)
Region ID	List/Menu	Used to input the ID of the Region (Fixed)

Area ID	List/Menu	Used to input the ID of the Area (Fixed)
Save	Button	

Figure 3.4.8: Area Manager Form

3.4.9 ACCOUNTANTS FORM

Accountants Form		
Label	Control	Description
Home	Button	Switches to Home page
Customer	Button	Switches to Customer page
Assignment	Button	Switches to Assignment page
Loans	Button	Switches to loan page
Saving	Button	Switches to saving page
Report	Button	Switches to report page
Passbook Information Setup	Text	Switches to passbook information setup page
Credit Officer setup	Text	Switches to Credit Officer setup page
Area manager Setup	Text	Switches to Area Manager setup page
Accountants Setup	Text	Switches to Accountants setup page
Accountant ID	Text field	Used to input Accountant ID
PIN	Text field	Used to input the PIN
Name	Text field	Used to input the name of Accountant
Address	Text field	Used to input the address of Accountant
Phone NO	Text field	Used to input the phone no (if has)
JOIN date	List/Menu	Used to input the join date of Accountant
Status	Text field	Used to input the Status (Active/inactive)
Region ID	List/Menu	Used to input the ID of the Region (Fixed)

Area ID	List/Menu	Used to input the ID of the Area (Fixed)
Save	Button	

Figure 3.4.9: Accountant Form

3.4.10   LOAN PAGE

Loan Page		
Label	Control	Description
Home	Button	Switches to Home page
Customer	Button/Text	Switches to Customer page
Assignment	Button/Text	Switches to Assignment page
Loans	Button/Text	Switches to loan page
Saving	Button/Text	Switches to saving page
Report	Button/Text	Switches to report page
Loan Proposal	Text	Switches Loan Proposal page
Loan Approval	Text	Switches Loan Approval page
Loan Disbursement	Text	Switches Loan Disbursement page
Loan Collection	Text	Switches Loan Collection page

Figure 3.4.10: Loan Page

3.4.11 LOAN PROPOSAL FORM

Loan Proposal Form		
Label	Control	Description
Home	Button	Switches to Home page
Customer	Button	Switches to Customer page
Assignment	Button	Switches to Assignment page
Loans	Button	Switches to loan page
Saving	Button	Switches to saving page
Report	Button	Switches to report page
Loan Proposal	Text	
Loan Approval	Text	Switches Loan Approval page
Loan Disbursement	Text	Switches Loan Disbursement page
Loan Collection	Text	Switches Loan Collection page
Proposal ID	Text field	Used to input the Proposal ID
Saving ID	Text field	Used to input the Saving ID
Region ID	List/Menu	Used to input the ID of the Region(Fixed)
Area ID	List/Menu	Used to input the ID of the Area (Fixed)
Scheme ID	List/Menu	Used to input the Scheme ID
Loan Type ID	List/Menu	Used to input Loan Type ID
Amt	Text field	Used to input the Amt
Installment	Text field	
No of Installment	Text field	
Duration	List/Menu	Used to input the Duration
Date of Proposal	List/Menu	Used to input the Date
Save	Button	

Figure 3.4.11: Loan proposal form

3.4.12 LOAN APPROVAL FORM

Loan Approval Form		
Label	Control	Description
Home	Button	Switches to Home page
Customer	Button	Switches to Customer page
Assignment	Button	Switches to Assignment page
Loans	Button	Switches to loan page
Saving	Button	Switches to saving page
Report	Button	Switches to report page
Loan Proposal	Text	Switches Loan Proposal page
Loan Approval	Text	
Loan Disbursement	Text	Switches Loan Disbursement page
Loan Collection	Text	Switches Loan Collection page
All proposal Information	Button	Used to view all proposal
Loan ID	Text field	Used to input the Loan ID
Proposal ID	Text field	Used to input the Proposal ID
Area Manager	Text field	Used to input the Area Manager ID
Region ID	List/Menu	Used to input the ID of the Region(Fixed)
Area ID	List/Menu	Used to input the ID of the Area (Fixed)
Amt	Text field	Used to input the Amt
Installment		
No of Installment		
Date of Approval	List/Menu	Used to input the Date of Approval
Remark	Text field	Used to input the Remark
Save	Button	

MICRO CREDIT SYSTEM

BRAC

Home Customer Assignment Loans Saving Report

Loan Approval

All Proposal Information

Loan proposal
Loan Approval
Loan Disbursment
Loan Collection

Loan ID	
Proposal ID	
Area manager	
Region ID	
Area /Branch ID	
Amt	
Installment Amt	

No of installment	
Date of Approval	Year 2005 Month January Day 1
Remark	

Save

Figure 3.4.12: Loan approval form

3.4.13 LOAN DISBURSEMENT FORM

Loan Disbursement Form		
Label	Control	Description
Home	Button	Switches to Home page
Customer	Button	Switches to Customer page
Assignment	Button	Switches to Assignment page
Loans	Button	Switches to loan page
Saving	Button	Switches to saving page
Report	Button	Switches to report page
Loan Proposal	Text	Switches Loan Proposal page
Loan Approval	Text	
Loan Disbursement	Text	Switches Loan Disbursement page
Loan Collection	Text	Switches Loan Collection page
All Approval Information	Button	Used to view All Approval
Loan ID	Text field	Used to input the Loan ID
Accountant ID	Text field	Used to input the Accountant ID
Region ID	List/Menu	Used to input the ID of the Region (Fixed)
Area ID	List/Menu	Used to input the ID of the Area (Fixed)
Approved Amt	Text field	Used to input the Amt
Date of Disbursement	List/Menu	Used to input the Date of Disbursement
Save	Button	

Figure 3.4.13: Loan Disbursement form

3.4.14   LOAN COLLECTION FORM

Loan Collection Form		
Label	Control	Description
Home	Button	Switches to Home page
Customer	Button	Switches to Customer page
Assignment	Button	Switches to Assignment page
Loans	Button	Switches to loan page
Saving	Button	Switches to saving page
Report	Button	Switches to report page

Loan Proposal	Text	Switches Loan Proposal page
Loan Approval	Text	Switches Loan Approval page
Loan Disbursement	Text	Switches Loan Disbursement page
Loan Collection	Text	
Loan ID	Text field	Used to input the Loan ID
Region ID	List/Menu	Used to input the ID of the Region (Fixed)
Area ID	List/Menu	Used to input the ID of the Area (Fixed)
Amt Collected	Text field	Used to input the Amt Collected
Date of Collection	List/Menu	Used to input the Date of Disbursement
Save	Button	

Figure 3.4.14: Loan collection form

3.4.15 SAVING PAGE

Saving Page		
Label	Control	Description
Home	Button	Switches to Home page
Customer	Button	Switches to Customer page
Assignment	Button	Switches to Assignment page
Loans	Button	Switches to loan page
Saving	Button	Switches to saving page
Report	Button	Switches to report page
Saving Information	Text	Switches to Saving information page
Saving Collection	Text	Switches to Saving Collection page
Saving Withdraw	Text	Switches to Saving Withdraw page

Figure 3.4.15: Saving Page

3.4.16   SAVING INFORMATION FORM

Saving information Form		
Label	Control	Description
Home	Button	Switches to Home page
Customer	Button	Switches to Customer page
Assignment	Button	Switches to Assignment page
Loans	Button	Switches to loan page
Saving	Button	Switches to saving page
Report	Button	Switches to report page
Saving Information	Text	
Saving Collection	Text	Switches to Saving Collection page
Saving Withdraw	Text	Switches to Saving Withdraw page
Saving ID	Text	Used to input the Saving ID
Member ID	Text	Used to input the Member ID
Region ID	List/Menu	Used to input the ID of the Region (Fixed)
Area ID	List/Menu	Used to input the ID of the Area (Fixed)
Total Saving Amt	Text field	
Date	List/Menu	Used to input the Date
Saving Target	List/Menu	Used to input the Saving Target
Save	Button	

Figure 3.4.16: Saving information form

3.4.17   SAVING COLLECTION PAGE

Saving Collection Page		
Label	Control	Description
Home	Button	Switches to Home page
Customer	Button	Switches to Customer page
Assignment	Button	Switches to Assignment page
Loans	Button	Switches to loan page
Saving	Button	Switches to saving page
Report	Button	Switches to report page
Saving Information	Text	

Saving Collection	Text	Switches to Saving Collection page
Saving Withdraw	Text	Switches to Saving Withdraw page
Saving ID	Text	Used to input the Saving ID
Region ID	List/Menu	Used to input the ID of the Region (Fixed)
Area ID	List/Menu	Used to input the ID of the Area (Fixed)
Amt Collected	Text field	Used to input the amount
Date of collection	List/Menu	Used to input the Date of collection
Save	Button	

Figure 3.4.17: Saving collection form

3.4.18   SAVING WITHDRAW FORM

Saving Withdraw Form		
Label	Control	Description
Home	Button	Switches to Home page
Customer	Button	Switches to Customer page
Assignment	Button	Switches to Assignment page
Loans	Button	Switches to loan page
Saving	Button	Switches to saving page
Report	Button	Switches to report page
Saving Information	Text	
Saving Collection	Text	Switches to Saving Collection page
Saving Withdraw	Text	Switches to Saving Withdraw page
Saving ID	Text	Used to input the Saving ID
Region ID	List/Menu	Used to input the ID of the Region (Fixed)
Area ID	List/Menu	Used to input the ID of the Area (Fixed)
Return Amt	Text field	Used to input the Return Amt
Date	List/Menu	Used to input the Date
Save	Button	

Figure 3.4.18: Saving withdraws form

3.5 STORED PROCEDURES

3.5.1 INSERT STORED PROCEDURE TABLE

Stored procedure name	Parameter(s)	Use
New_Member	All fields of the members information Table	Inserts a new member Record
New_Nominee	All fields of the insurance info Table	Inserts a new nominee Record
New_Organization	All fields of the Organization info Table	Inserts a new organization Record
New_Credit officer	All fields of the credit officer Table	Inserts a new credit officer Record
New_Area manager	All fields of the area manager Table	Inserts a new area manager Record
New_Accountants	All fields of the Accountant Table	Inserts a new Accountant Record
New_Passbook information	All fields of the passbook information table	Inserts a new passbook Record
New_Loan_proposal	All fields of the loan proposal table	Inserts a new loan proposal Record
New_Loan_approval	All fields of the loan approval table	Inserts a new loan approval Record
New_Loan_Disbustment	All fields of the loan given table	Inserts a new loan Disbursement Record
New_Loan_colllection	All fields of the loan collection table	Inserts a new loan collection Record

New_Saving_informatio n	All fields of the saving information table	Inserts a new saving information Record
New_Saving_collection	All fields of the saving collection table	Inserts a new saving collection Record
New_saving_withdraw	All fields of the saving withdraw table	Inserts a new saving withdraw Record

3.5.2   UPDATE STORED PROCEDURE TABLE

Stored procedure name	Parameter(s)	Use
U_member	All fields of the members info Table	Update a members Record
U_LC	All fields of the Loan Collection Table	Update a Loan Collection Record
U_SC	All fields of the Saving Collection Table	Update a Saving Collection Record
U_CO	All fields of the credit officer info Table	Update a credit officer Record
U_A_M	All fields of the area manager info Table	Update a area manager Record
U_ACC	All fields of the accountant Table	Update a accountant Record
U_SC	All fields of the Saving Collection Table	Update a new Saving Collection Record
U_PASSBOOK	Passbook no field of the passbook information Table	Update a new passbook Record

3.5.3 DELETE STORED PROCEDURE TABLE

Stored procedure name	Parameter(s)	Use
Delete_MT	Member id	Deletes record matching the supplied Member id
Delete_LT	Loan id	Deletes record matching the supplied loan id
Delete_COT	Credit Officer ID (Credit officer Table)	Deletes record matching the Credit Officer ID
Delete_AM	Area manager ID (Area Manager table)	Deletes record matching the Area manager ID
Delete_ACC	Accountant ID (Accountant table)	Deletes record matching the Accountant ID

3.6 REPORTS

There are several reports.

3.6.1 LOAN DISBURSEMENT REPORT

3.6.1.1 Organization wise loan Disbursement report

BRAC

BRANCH: (Branch No) Branch Name

Organization wise loan disbursement report

Date: Date (Date Month Year) to Date (Date Month Year)

Serial no	Organization No	Organization Name	Organization Category	Credit Officer no	Credit Officer Name	Total Amount

Generates a result set containing all the loan Disbursement information of all organizations in a particular area between the two specified date

Particular Area loan Disbursement report		
Label	Type	Description
Date	Fixed	Two dates is taken from the table. Each field in a report with a fixed value has only one value.
Organization Name	Fixed	A fixed value is taken from a table. Each field in a report with a fixed value has only one value.
Area ID	Variable	
Region ID		
Organization ID	Fixed	
Organization category	Fixed	
Credit officer ID	Fixed	
Credit officer Name	Fixed	
Total amount loaned	Variable	Sum of "amount loaned Disbursed"
Serial no	Variable	

3.6.1.2 Member wise loan disbursement report

BRAC

BRANCH: (Branch No) Branch Name

Member wise loan disbursement report

Organization Category: Organization Category No Name [Initials]

Organization: (Organization No) Organization Name   CO No:

CO Name:

Date: Date (Date Month Year) to Date (Date Month Year)

Member No	Member Name	Disbursement Date	Total Amount

Generates a result set containing all the Members loan Disbursement information of a particular organization between the two specified date

Particular member loan Disbursement report in a particular organization		
Label	Type	Description
Date	Fixed	Two dates is taken from the table. Each field in a report with a fixed value has only one value.
Organization ID	Variable	A value is taken from a table
Region ID		
Area ID		
Member ID	Fixed	
Amount	Variable	Has one or more values queried from related table or values queried and operated on arithmetically
Disbursement		
Date of loan	Variable	

3.6.2 LOAN COLLECTION REPORT

3.6.2.1 Organization wise loan Collection report

BRAC

BRANCH: (Branch No) Branch Name

Organization wise loan Collection report

Project: Project No Program Name (Fund Name)

Date: Date (Date Month Year) to Date (Date Month Year)

Serial no	Organization No	Organization Name	Organization Category	Credit Officer no	Credit Officer Name	Total Amount

Generates a result set containing all the loan Collection information of all organization in a particular area between in the two specified date.

Particular Area loan collection report		
Label	Type	Description
Organization Name	Fixed	
Organization ID	Fixed	
Region ID		
Area ID	Variable	A fixed value is taken from a table. Each field in a report with a fixed value has only one value.
Area ID	Fixed	
Credit officer ID	Fixed	
Credit officer Name	Fixed	
Total amount loaned	Variable	Sum of "amount loaned collected"
Serial no	Variable	

3.6.2.2 Member wise loan Collection report

BRAC

BRANCH: (Branch No) Branch Name

Member wise loan Collection report

Organization Category: Organization Category No Name [Initials]

Organization: (Organization No) Organization Name   CO No:

Project: Project No Program Name (Fund Name)   CO Name:

Date: Date (Date Month Year) to Date (Date Month Year)

Member No	Member Name	Loan No	Total Amount collected

Generates a result set containing all the Members loan collection information of a particular organization between the two specified date

Particular member loan Disbursement report in a particular organization		
Label	Type	Description
Date	Fixed	Two dates is taken from the table. Each field in a report with a fixed value has only one value.
Region ID		A value is taken from a table
Area ID		
Organization ID	Variable	
Member Name	Fixed	A fixed value is taken from a table. Each field in a report with a fixed value has only one value.
Member ID	Fixed	
Loan NO	Variable	
Amount Collection	Variable	Has one or more values queried from related table or values queried and operated on arithmetically

3.6.3   LOAN OVERDUE REPORT

3.6.3.1 Organization wise loan overdue report

BRAC

BRANCH: (Branch No) Branch Name

Organization wise loan overdue report

Project: Project No Program Name (Fund Name)

Date: Date (Date Month Year) to Date (Date Month Year)

Serial no	Organization no	Organization Name	Organization Category	Credit Officer no	Credit Officer Name	Total Amount

Generates a result set containing all the loan overdue information of all organization in a particular area between in the two specified date

Particular Area loan Overdue report		
Label	Type	Description
Date	Fixed	Two dates is taken from the table. Each field in a report with a fixed value has only one value.
Region ID		A value is taken from a table
Area ID	Variable	
Organization Name	Fixed	A fixed value is taken from a table. Each field in a report with a fixed value has only one value.
Organization ID	Fixed	
Organization category	Fixed	
Credit officer ID	Fixed	
Credit officer Name	Fixed	
Total amount Overdue	Variable	Sum of "amount loaned Overdue"
Serial no	Variable	

3.6.3.2 Member wise loan overdue report

BRAC

BRANCH: (Branch No) Branch Name

Member wise loan overdue report

Organization Category: Organization Category No Name [Initials]

Organization: (Organization No) Organization Name   CO No:

Project: Project No Program Name (Fund Name)   CO Name:

Date: Date (Date Month Year) to Date (Date Month Year)

Member No	Member Name	Loan No	Total Amount due

Generates a result set containing all the Members loan overdue information of a particular organization between the two specified date

Particular member loan Overdue report in a particular organization		
Label	Type	Description
Date	Fixed	Two dates is taken from the table. Each field in a report with a fixed value has only one value.
Region ID	Variable	A value is taken from a table
Area ID		
Organization ID		

Amount overdue	Variable	Has one or more values queried from related table or values queried and operated on arithmetically
Date of loan	Variable	

3.6.4 BASIC AREA INFORMATION REPORT

BRAC's Credit Program

Basic Information of the Area

Report as on: Date (Date Month Year)

Region No: Region Name:

Area No: Area Name:

	Male	Female	Total
Number of Vo			
Number Of Member			
Program: All			
NO. of O/S Borrower			
Loan Overdue(TK)			
Loan Outstanding(TK)			
Saving Balance(TK)			

Basic Area Information Report		
Label	Type	Description
Date	Fixed	A fixed date is taken from the table. Each field in a report with a fixed value has only one value.
Region ID Area ID Organization ID	Variable	A value is taken from a table
Member Name	Fixed	A fixed value is taken from a table. Each field in a report with a fixed value has only one value.
Member ID	Fixed	
Date of loan	Variable	
Number of Vo		
Number Of Member		
NO. Of O/S Borrower		
Loan Overdue (TK)		
Loan Outstanding (TK)		
Saving Balance (TK)		

3.7 HOW MUCH THE SYSTEM IS ACTUALLY BENEFITED?

A. The Head office can get any information from the Regional centers at any working day through the network.

B. The cost and time of traveling will reduced nearly to zero for data transfer

C. No manual data transfer between Head office and Regional centers is required

D. Various reports can be generated with less effort.

E. Data of many years can be stored with incurring less cost and more less space.

F. Any query can be processed much quickly than the previous system.

G. As information flow increases in Greater volume so the system will act more efficiently than the previous system.

H. More security can be given to data.

I. Overall computerization of tile office will increase the working efficiency or the employees.

J. Previously to get a report they need to view lots of table and they need to make this report manually, which was time consuming, and monotones .our proposed system need not do such kind of work they get the report easily.

K. One area report format is vary to other area report format in Current system which was may cause problem but our proposed system report format is same so it is easy to view the report.

Chapter IV

4 SOFTWARE REQUIREMENTS

4.1 OPERATING SYSTEM (FOR THE PC OF REGION AND HEAD OFFICE):

Microsoft NT4.0 Server

4.1.1 REASON FOR SELECTION:

To manage the network in the Head office we have to choose a network based operating system. Thus UNIX may come as the first choice. But it needs a system administrator with good experience. Upon that, all the PCs of our network is in Windows XP environment. As it is proved to be much more user friendly and manages network clients efficiently, we choose NT4.0 to be our operating system to administrate the network.

4.2 OPERATING SYSTEM (FOR OTHER PCs):

Microsoft WINDOWSXP

4.2.1 REASON FOR SELECTION:

The general computer-literate people in our country work mostly in Windows environment. As Windows XP is the most widely used operating system here we choose its more popular and easy to use version windows XP to be our operating system.

4.3 SOFTWARE FOR FRONT END DATABASE PROGRAMMING:

PHP

Macromedia Dream Weaver MX 2004

4.3.1 REASON FOR SELECTION:

Now a day Macromedia Dream Weaver MX is becoming most popular for web page design as it is most users friendly for designer. As we work on html and MYSQL server we need PHP Language. I choose Macromedia Dream Weaver MX as our front end database support for availability of programmers.

4.4 SOFTWARE FOR BACK END DATABASE SUPPORT:

Microsoft SQL Server 2000 Personal Edition

4.4.1 REASON FOR SELECTION:

In fact there is no alternative of Microsoft SQL Server for back end database management till date

4.5 SOFTWARE FOR OFFICE SUPPORT:

Microsoft Office XP Professional Edition

4.5.1 REASON FOR SELECTION

Most of the computer operators know MSOffice, and there also is no other alternate Office Management software.

5 APPENDIX

Basic area information:

NUMBER OF VO:

Female VO:

"select count(OrganizationID) as from organizationinfo where CategoryID = '001'
and Type ='F' ";

Male VO

"select count(OrganizationID) as from organizationinfo where CategoryID = '001'
and Type ='m' ";

NUMBER OF MEMBER:

Number of female member:

select count(MemberID) from membersinfo where Membersex ='F';

Number of male member:

    select count(MemberID) from membersinfo where Membersex ='m';

Number of O/S borrower:

Number of male O/S borrower:

select count(LoanID) from loanapprovalinfo as la inner join loanproposalinfo as lp
on la.ProposalD =lp.ProposalD inner join Savinginfo as si on
lp.SavingID=si.SavingID inner join membersinfo as mi on
si.MemberID=mi.MemberID where Membersex='m';

Number of female O/S borrower:

select count(LoanID) from loanapprovalinfo as la inner join loanproposalinfo as lp
on la.ProposalD =lp.ProposalD   inner join Savinginfo as si on
lp.SavingID=si.SavingID inner join membersinfo as mi on
si.MemberID=mi.MemberID where MemberSex='F';

Sum of Loan Overdue
Sum of Loan Overdue for male:

select sum(lc.AmtCollected)from loancollectioninfo as lc inner join
loanapprovalinfo as la on lc.LoanID=la.LoanID inner join loanproposalinfo as lp
on la.ProposalD =lp.ProposalD   inner join Savinginfo as si on
lp.SavingID=si.SavingID inner join membersinfo as mi on
si.MemberID=mi.MemberID where Membersex='m'

Sum of Loan Overdue for female:

select sum(lc.AmtCollected)from loancollectioninfo as lc inner join
loanapprovalinfo as la on lc.LoanID=la.LoanID inner join loanproposalinfo as lp
on la.ProposalD =lp.ProposalD inner join Savinginfo as si on
lp.SavingID=si.SavingID inner join membersinfo as mi on
si.MemberID=mi.MemberID where Membersex='f'

Sum of loan Outstanding:
Sum of Female loan Outstanding:

select sum(lg.Amt)from loangiven as lg inner join loanapprovalinfo as la on
lg.LoanID=la.LoanID inner join loanproposalinfo as lp on la.ProposalD
=lp.ProposalD inner join Savinginfo as si on lp.SavingID=si.SavingID inner join
membersinfo as mi on si.MemberID=mi.MemberID where Membersex='f';

Sum of Male loan Outstanding:

select sum(lg.Amt)from loangiven as lg inner join loanapprovalinfo as la on lg.LoanID=la.LoanID inner join loanproposalinfo as lp on la.ProposalD =lp.ProposalD inner join Savinginfo as si on lp.SavingID=si.SavingID inner join membersinfo as mi on si.MemberID=mi.MemberID where Membersex='m';

Sum of saving balance:

Sum of Male saving balance:
select sum(sc.AmtCollected)from savingcollectioninfo as sc inner join savinginfo as si on sc.SavingID=si.SavingID inner join membersinfo as mi on si.MemberID=mi.MemberID where Membersex='m';

Sum of female saving balance:
select sum(sc.AmtCollected)from savingcollectioninfo as sc inner join savinginfo as si on sc.SavingID=si.SavingID inner join membersinfo as mi on si.MemberID=mi.MemberID where Membersex='f';

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