

IMPLEMENTATION OF SOFTWARE PROJECTS - PROBLEMS IN THE
CONTEXT OF BANGLADESH & SOLUTIONS FOR REQUIREMENT
COLLECTION

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COLLECTION

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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 thesis, neither in whole nor in part, has been previously submitted for any degree.

Signature of
Supervisor

Signature of
Author

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ABSTRACT

Business organizations are now-a-days eager to automate their systems so that they can do their tasks quickly and easily. The demand for software has increased compared to the past years. To meet this demand and to support the business organizations software development firms have grown up. But both the users and developers of software face problems during the software development process. These problems are responsible for software failure and if not failure it causes big problems when the users start using the system and the developers face intensive maintenance work. This scenario is no different in Bangladesh.

This research includes a study of the reasons why software projects may fail and the problems in the context of Bangladesh, how the latest techniques such as Joint Application Design and Prototyping can be used to reduce the problems of requirement collection. This paper also includes a description of a software project developed using these methodologies.

PREFACE

This paper consists of a study of the reasons due to which software projects fail in Bangladesh and the latest techniques that can be used to reduce failure by overcoming the problems involved in the requirement collection. These techniques cover the concept of prototyping methodology and JAD sessions. It also contains the system documentation and user manual of the project that was developed using the techniques that were proposed and were found feasible to use. The target audiences of this paper are people who have in-depth knowledge of System Analysis and Design techniques.

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CHAPTER I

INTRODUCTION TO THE PROBLEM

Development of computer-based information systems began in the 1950s. Since then, development environment and process has radically changed, mainly because of changing organizational needs and technological development. In the 1950s, focus of development was on the process the software performed and the goal was to increase efficiency of processing. Since processing power of computer was a critical resource, emphasis was given on the automation of the existing process. But now the scenario has changed. The concepts of business process improvement and reengineering have come into being with increase in processing power and other technological improvements. Organizations are now changing their business processes to avail and use better technology to derive higher efficiency.

Business organizations are now keen to automate their systems so that they can do their tasks quickly and easily. But even after such radical changes in business processes, needs, technological development and aggressiveness of the business environment, lots of information system projects fail or are in a dilemma. From a study it was found that the rate of software project failure is between 50% to 80%. This rate includes both small and large software projects. In a review of 13,522 projects done by the Standish Group in the year 2003, it was found that about

1. 66% of all software projects fail
2. 82% of the projects experience time overruns and
3. 48% of the projects do not have the required features on product release [10]

CHAPTER II

LITERATURE STUDY

Information System development is a complex, challenging and time-consuming process and thus requires a planned and structured development procedure. But in the early days of computing, the need for formal and well-planned life cycle for Information System Development was not well understood. Programmers used to move directly into the construction of the implementation phase after a very simple planning phase. It was found that the approach worked well for some small programs that require only one programmer, but if the requirements were complex and unclear the programmers missed important features. As a result the programmers had to start the project all over again or threw away parts of the program or refined it. This approach also made teamwork difficult because the team members had little idea about what to produce and how it was to be integrated to get the final product. So need for a structured procedure evolved in their minds and thus many new methodologies were developed over time. Now there are different system development methodologies, and each one is unique based on the order and focus placed on each phase of System Development Life Cycle (SDLC).

System Development Life Cycle (SDLC) is the process of understanding how an information system can support business needs, designing the system, building it and delivering it to the user [1]. System Development Life Cycle (SDLC) has a set of 5 core phases (the break down of the phases may differ according to different methodologies):

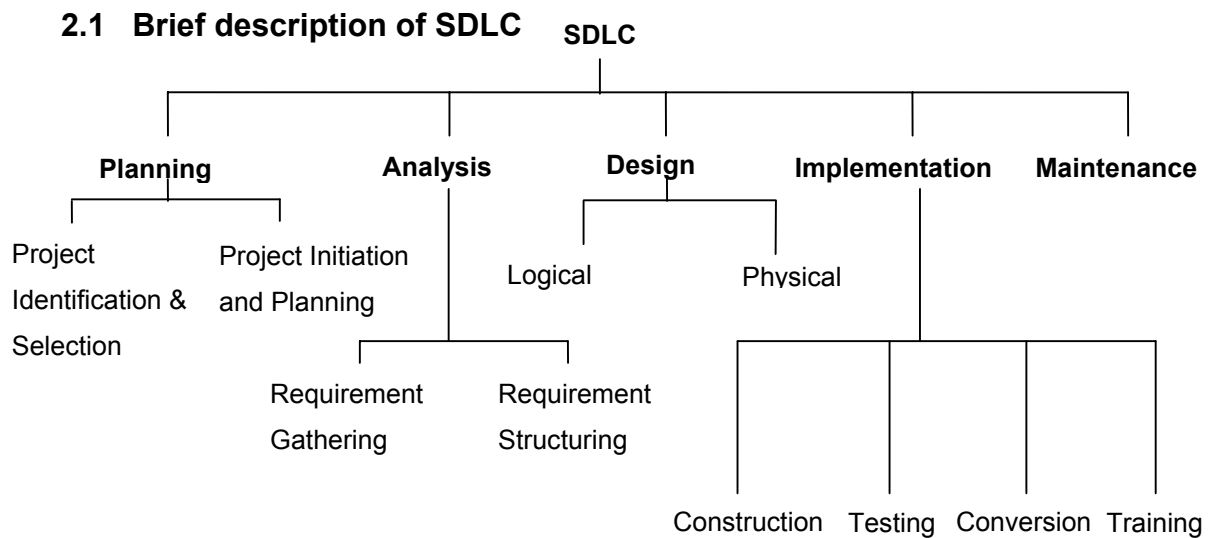


Figure 2.1: SDLC Hierarchy

2.1.1 Planning

This is the fundamental process of understanding why an information system should be built and determining how the project team will go about building it. The two sub-phases of the planning phase are: [1, 2]

2.1.1.1 Project identification and selection

In this phase the organization's total information system needs are identified, analyzed, prioritized and arranged [2].

2.1.1.2 Project initiation and planning

This is the second sub-phase of planning phase and the potential information system is explained in front of the approval committee along with arguments for continuing or not continuing with the project, this also involves technical, economic and organizational feasibility study for the system development. The cost of developing the project is also decided at this stage. If the committee approves the project a work plan is created and staff are assigned with different tasks that they need to accomplish [2].

2.1.2 Analysis

In this phase, the project team studies who will use the system, what the system will do and when and where the system will be used. The sub-phases of this phase are: [1]

2.1.2.1 Requirement gathering

During this sub-phase, the project team studies the current system(s), identifies improvement opportunities and develops concept for the new system [2].

2.1.2.2 Requirement structuring

All the analysis, system concept and models are structured using Data Flow Diagrams, Context Diagrams or Use-Case Modeling, Structural Modeling, Behavioral Modeling [2].

2.1.3 Design

In the design phase the Analyst decides how the system will operate, in terms of hardware, software and network infrastructure. The user interface, forms, reports, databases and the specific programs required are determined in this phase [2].

2.1.3.1 Logical design

In this phase all the functional features (forms, reports, database etc) are described independently of any computer platform [1].

2.1.3.2 Physical design

In this phase the logical specifications of the system are transformed into technology-specific details from which all programming and system construction can be accomplished [1].

2.1.4 Implementation

This is the phase when the system is actually built. The sub-phases of this phase are:

2.1.4.1 Construction

It is the phase when all the parts of the system are developed. Programming or coding is often seen as the focal point in this phase [2].

2.1.4.2 Testing

Testing is basically done along with the coding and the codes are edited as the programs are written and tested. Tests are done in different stages such as unit testing is done when each module is completed and they are tested independent of each other. When it succeeds unit testing the modules are integrated and an integration test is done to examine if the modules as a whole works fine. After successful integration testing system test is carried out to examine whether the system (the hardware, the software and the network infrastructure) as a whole performs well [1].

2.1.4.3 Conversion

This is the conversion process by which the new system replaces the old. There are different types of conversion methodologies e.g. **direct conversion** (the new system immediately replaces the old system), **parallel conversion** (both the old and new systems are operated for a month or two until it is clear that there are no bugs in the system), **phased conversion** (the system or a part of the system is installed in one part of the organization as an initial trial and then gradually installed in others) etc [2].

2.1.4.4 Training

Since the old system is replaced or radically changed by the new system the users need to be trained. In this phase the development team along with the committee decides whom to train, what to train and how to train

and train the users so that they can perform their tasks efficiently using the system [1].

2.1.5 Maintenance

This is the final phase of SDLC in which an information system is systematically repaired and upgraded according to user's need [1].

2.2 Software Failure: Definition and Reasons For Failure

2.2.1 Definition

In a report on ASC Professional Development it was stated that Mangione (2003) defined a software to be failure on non-completion of the project. The author of the report described software project failure as "if the main sponsor is dissatisfied leading to a loss of future projects with that sponsor then the software project can be said to be a failure [4].

According to different writers of the Internet, a project has failed if it never gained any benefit to any users or a useable version of the project has never been released.

2.2.2 Reasons for software failure

2.2.2.1 Poor cost and unrealistic schedules

It is unfair to call a project failure if it fails to meet budget and schedule goals that were inherently unattainable because the schedule and cost are determined based on hypothesis at the preliminary stage. But some business people consider it as failure. Like all engineering endeavors, every software project has a minimum achievable schedule and cost but it is very difficult to determine how much time and money is required to complete a software

project, therefore, an approximate time and money is allotted for every project.

Sometimes the allotted time is too short and the schedules are so tight that the schedules seem to be an unrealistic one in the middle of the project and the result is time over run. Project schedules prepared by the team leader or time allowed by the business people are sometimes made compact intentionally to keep project team under pressure. It is true that pressure can increase the quantity of results one receives, but, beyond a certain limit, dramatically reduces the quality of those results. In fact, pressure sometimes produces the opposite of intended effects.

Cost is another important factor, which may cause a software project failure in the middle of its development stage. It is very difficult to determine the cost of developing a software project at the beginning when a project is proposed because the project team comes to know only about the overall system that is to be automated. Unless the project is approved by the committee the project team cannot go for detail study or analysis of the project but that is the time when the project team comes to know the actual volume of work, but the cost is already decided at initiation so it is obvious that some project may fail at a stage if it is not funded well, leaving the software undone.

2.2.2.2 Inappropriate staffing

All kinds of projects require adequate number of people to complete the project effectively. When managers fail to provide adequate and properly trained resources, it is more likely that the project will not be delivered on time and the project will fail. Again, from the other side, additional manpower is not always effective. The law of diminishing returns goes for extra manpower too so too many people working on the same project may lead to the failure of the project. Even if efficient and experienced workforce is added to the project in the middle, it slows down the project since people involved from the beginning

of the project need to demonstrate, guide and help the new people to make them understand and contribute in the project.

2.2.2.3 Preparing documentation

Some programmers think that writing specifications (written before the coding starts) are just a waste of time. In reality documenting a project makes the ideas of the current system and to-be system more vivid and provides structured and defined ideas for both analyst and the other members of the team. If proper documentation is not prepared lots of features and ideas may be missing in the system.

2.2.2.4 Inadequate testing

Traditional development methods save testing to the final phase of a project. This is very problematic because issues with core architecture may not be exposed until a project is almost complete. At that time, correcting fundamental problems can be very costly or may even require an almost total revamping of the code base.

Another factor that adds to traditional method of testing is:- testing is often constrained by time. By the end of the project there is usually tremendous time pressure to deliver the system, so the first rollout of the new software is often buggy.

2.2.2.5 Integration

Large projects using traditional development methodologies often fall apart during the integration process. It is often the case that different teams of programmers, remain geographically dispersed or work in relative isolation on individual parts of the project for long stretches of time. As they finish their work, they typically turn over the code to the project manager who then

assigns it to a new team who attempts to integrate the disperse components and make them all work together. Since there has been no consistent communication between the teams during the development process, there are often significant problems at this stage as different interpretations of the requirements become apparent.

2.2.2.6 Failure to meet user requirements

An important reason for software project failure is because of providing inadequate and/or redundant features in the system and providing the user, a system that is far different from what s/he actually wanted. This dilemma often occurs due to unclear, inadequate or inconsistent communication between stakeholders, development team or the software clients. The reasons for unclear, inadequate and inconsistent communication are described below:

1. Poor communication

Most of the time designers and developers of the system receive most or all of their requirements from higher-level supervisors who are not directly involved or are not regularly using the existing system and the result is lack of essential features (features that are required to support the actual process of work) and user dissatisfaction.

2. Requirement capturing

Business people know their work well because they have worked with their systems for years but most of the time they do not understand what is actually required to transform their business ideas into logic. Even if the analyst has an idea of the standard procedure of the work s/he may not understand the way the client follows clearly. In reality all business people customize the standard procedure of their work according to their viability and flexibility. To satisfy a user, it is very important to understand his/her

requirements very clearly but understanding the process and client's requirements are not as simple as asking the client to describe his needs and then labor on developing the necessary features because most of the time, the users are not very clear about or unable to express or visualize what is required to transform their business ideas into reality or logic. Moreover, if the Analyst designs the software according to the standard procedure then the system may have scope for problems or the software may not be used if it is far different from the actual user requirements. However, Case tools and paper-based diagrams help the analyst and programmers to document and develop a system but do not help the user visualize software system requirements. The diagram below shows an example of this situation [3].

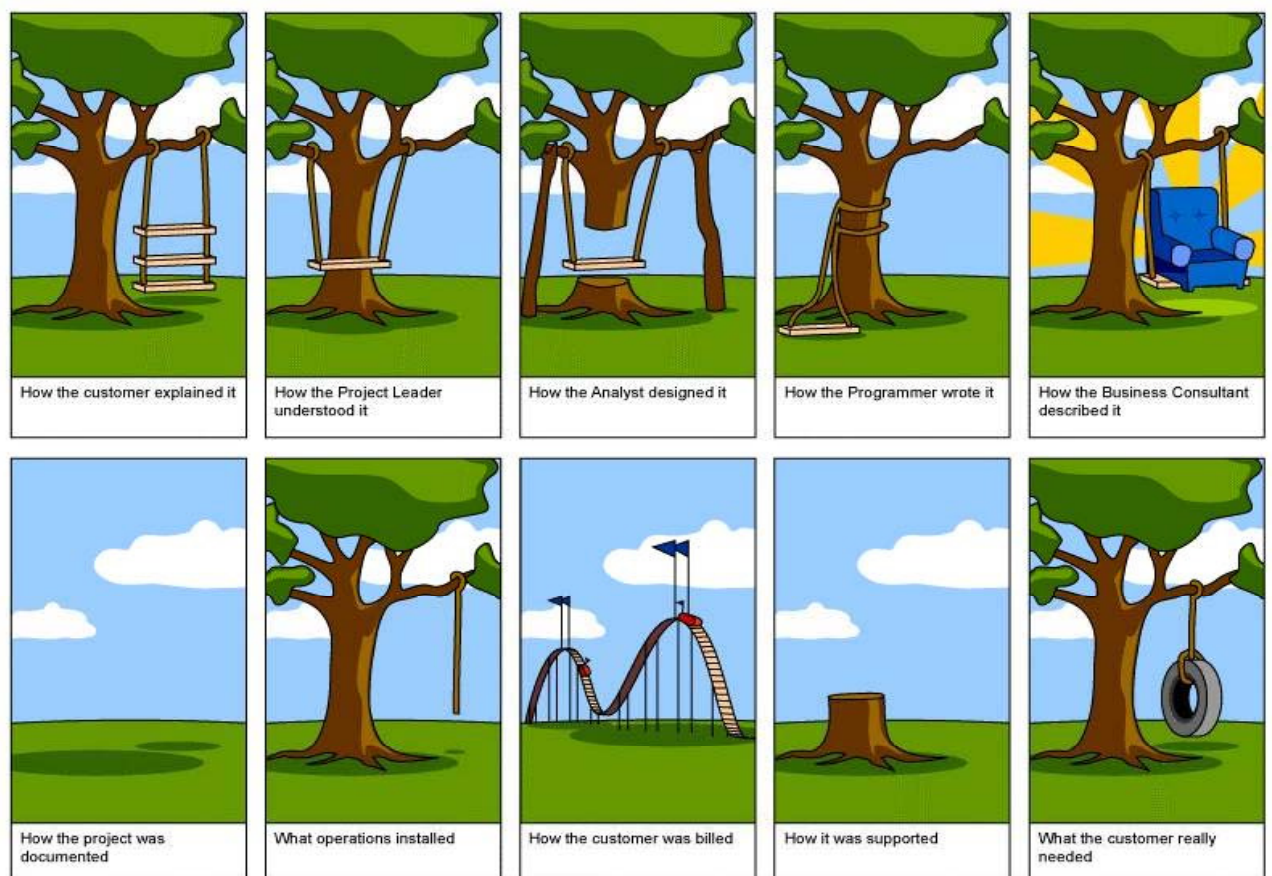


Fig. 2.1 Example of a real life situation

3. Changing requirements during development

To start designing and building products, engineers must know what product to build. Unfortunately, management, marketing and even customers often don't know what they want. The situation is worse when they think they know and then change their minds partway through the job when they are physically able to view or use parts of the software. If the requirements change in the early phases of the analysis or design it can be handled but major changes such as adding new items or features after or in the coding phase wastes time, money, effort and disrupt the work. This expensive rework may force abandoning the entire project.

Sometimes system development process takes so long that the requirement of the users change drastically with changes in business policies. As a result, requirement collected and organized become redundant and back dated. Thus the system developed becomes useless to the user or requires a lot of study, changes, work and time to get the system updated.

Some of the other reasons to why software projects fail are:

- Same people design and code
- Same people code and test
- Poor team management
- Lack of a test plan
- Coding too quickly

A report by the Standish Group shows the following statistics representing the factors, which contribute to the success of software projects [10].

Table 2.1
Project Success Factors and % of Responses

| | | |
|-----|---------------------------------|----------|
| 1. | User Involvement | 15.9% |
| 2. | Executive Management Support | 13.9% |
| 3. | Clear Statement of Requirements | 13.0% |
| 4. | Proper Planning | 9.6% |
| 5. | Realistic Expectations | 8.2% |
| 6. | Smaller Project Milestones | 0 - 7.7% |
| 7. | Competent Staff | 7.2% |
| 8. | Ownership | 5.3% |
| 9. | Clear Vision & Objectives | 2.9% |
| 10. | Hardworking, Focused Staff | 2.4% |
| 11. | Other | 13.9% |

CHAPTER III

PROJECT PLAN

At the preliminary stage it was decided to study software projects in Bangladesh to find out the reasons for software project failure. For this purpose a company that does software project work was selected. The main ideas were to identify whether the software developed by the company has succeeded or failed, to determine the reasons for their success and failure and to propose some modern techniques that can help the company (in this case ConnectBd Ltd) reduce the problems they face in implementing a successful software project.

From the above study and after reviewing the software it was found that user involvement, executive management support and clear statement of requirements are the major factors that lead to success and failure of software projects. So the scope of this project has been revised to:

- Study various software projects of ConnectBD Ltd
- Determine if the software project has succeeded or failed
- Determine the reasons for success and failure
- Suggest how failure of software can be overcome using “live” prototyping and Joint Application Design (JAD) using a participatory approach.
- Choosing of a new project
- Help and direct the software development team in requirement collection using prototyping and Joint Application Design (JAD) session.
- Comment on success achieved.

CHAPTER IV

SOFTWARE PROJECT OVERVIEW

4.1 List of Software Projects Developed By ConnectBD Ltd

Software developed by **ConnectBD Ltd** are:

1. Accounts Management System
2. Inventory Management System
3. LC Management System
4. Production Management System
5. Payroll and Human Resource Management System
6. VOIP Billing
7. ISP Billing
8. Prepaid Card Management System
9. ISP Dialer

Table 4.1
Current status of these software

| Name of the Software | No. of Clients | No. of current users |
|--------------------------------|-----------------------|-----------------------------|
| Accounts Management System | 4 | 2 |
| Inventory Management System | 2 | 1 |
| LC Management System | 1 | 1 |
| Production Management System | Not implemented | None |
| Payroll & HR Management System | Not implemented | None |
| VOIP Billing | Not implemented | None |
| ISP Billing | 1 | 1 |
| Prepaid Card Management System | 1 | 1 |
| ISP Dialer | Not implemented | None |

- ConnectBD Ltd primarily developed VOIP Billing, ISP Dialer, ISP Billing and Prepaid Card Management System for managing its own ISP and Prepaid cards respectively with a further view to sell the software in the market if any other company had a demand. ISP Billing and Prepaid Card Management System are currently being used by ConnectBD Ltd itself and the other two software were not implemented due to technical reasons.
- Accounts, Inventory, LC, Production and Payroll and HR Management were developed since these are very commonly used and necessary

modules for used by almost all the companies. All these modules can be integrated or used separately by customizing them according to the user's needs. Accounts, Inventory and LC Management are the most popular products of ConnectBd Ltd but Production, Payroll and HR Management were not implemented in any company.

So total of 44.4% i.e.4 of the software project developed were never implemented due to technical reasons and due to lack of proper market surveys or promotion of the software. For rest of the five software, ConnectBd Ltd itself uses Prepaid Card Management System and ISP Billing. For the rest of three software-*Accounts Management System* was purchased by 4 companies, *Inventory Management System* by two companies and *LC Management System* by one company out of which Accounts Management is currently used in two companies, Inventory Management by two companies and LC by one company.

Among these three software *Accounts Management System* and *Inventory Management System* have the highest number of users. So the study was carried out on these two software. Both these software provide almost all the features required to manage accounts and inventory of any organization but they are customized according to the user's requirements before they are installed at the user's end.

4.2 Features Provided By Accounts And Inventory Management System

4.2.1 Features provided by Inventory Management System are:

Inventory Management System provides the following features:

Entry Forms:

- Initial Information Tracking

These are the general information tracking forms such as:

- Department or Section Information- stores information of the departments or sections of the organization who are using the software.
 - Related Employee Information stores employee information such as their name, address, phone etc. This information also helps to support user log in.
 - Vendor & Client Information- tracks information of the vendors of the organization such as name, address, phone number etc
 - Country Information
- Item Information entry
- This form is used to store item information such as item code, units of measure and item rate collection. The item code will have a special code format consisting of three meaningful parts:
- group identity
 - subgroup identity and
 - Item's identity.
- Store Requisition
- Store Purchase Requisitions.
- Raw materials availability checking

The other features provides by the system are

- Reminder for crisis items
- Approval analyzing on standard rate collected from different supplier
- Purchase Issue Order

- ❑ Information on Stock In or Out such as:
 - Materials received
 - Materials Consumption
 - Wastage materials analysis.
 - Costing Mode (FIFO, LIFO, W/A).
 - Costing in several steps of Work-in-Progress
- ❑ Finished goods valuation
- ❑ Sales Order
- ❑ Multi-stock management

Reports Generated by Inventory Management System

- ❑ Daily transaction report
- ❑ Periodic transaction statement
- ❑ Current stock status
- ❑ Incoming transaction
- ❑ Outgoing transaction
- ❑ List of items out of stock
- ❑ Raw materials requisition
- ❑ Issue slip print
- ❑ Invoice print
- ❑ Purchase report
- ❑ Wastage product report
- ❑ WIP report in every step of production
- ❑ Vendor wise billing report
- ❑ Customer wise sales report

- ❑ Sales report
- ❑ Periodic sales report
- ❑ Sales & consumption graph

4.2.2 Features Provided by Accounts Management System are:

Entry forms:

- ❑ Transactions are posted using different screens: Journal voucher, Credit voucher, Cash Receipt Voucher, Bank Receipt Voucher, Cash Payment, Bank Payment and Debit voucher screen etc
- ❑ Bank Interest Forecasting
- ❑ Income & Expense graphical comparison
- ❑ Net income graphical comparisons
- ❑ Control head or Sub-ledger grouping or group report
- ❑ Multi-Company Integrated Database
- ❑ Consulted statement for all company
- ❑ Management report in one page (BS/IS/CF/RA)
- ❑ Transactions with cheque are held in a temporary holding area until they can be recognized
- ❑ Pre-defined initial data such as Balance sheet or income statement account group or subgroup
- ❑ Account code will have special code format consisting of four parts:
 1. Accounting grand group
 2. Subgroup

3. Control head and

4. Sub-ledger identity.

- ❑ Chart of accounts entry and update
- ❑ Accounts receivable and payable
- ❑ Party information (Customer and Vendors) with a specific head of accounts entry and update
- ❑ Expense alert according to predefined budget
- ❑ Bank account corresponding with a specific ledger account entry and update screen
- ❑ Showing accounts balance details when its transaction is being progressed.
- ❑ Budgeting facility for every head of accounts. Budget for every individual month for a specific project.
- ❑ Ease of entry using different tree structure.
- ❑ Different User has different access/priority.
- ❑ Various API programming facility included.
- ❑ Automatic fixed asset scheduling.
- ❑ Project wise accounting statement.

Reports of Accounting System

The software generates the following reports:

- ❑ Chart of accounts with summary name
- ❑ Category wise chart of accounts
- ❑ Fixed Asset Scheduling
- ❑ Budget report
- ❑ Income statement with percentage (P/L)

- ❑ Individual vouchers: Journal, Credit and Debit voucher, separately
- ❑ List of all vouchers or specific category
- ❑ Bank book report
- ❑ Individual bank book report
- ❑ Cash book
- ❑ Cash receipt & payment
- ❑ Bank receipt & payment
- ❑ Individual client information
- ❑ Accounts payable for the total business
- ❑ Accounts payable for the individual vendor
- ❑ Accounts receivable for the individual customer
- ❑ Customer classification by accounts receivable
- ❑ Found requisition statement
- ❑ Fixed asset scheduling statement
- ❑ Journal ledger
- ❑ Head wise journal ledger
- ❑ Comparative income statement
- ❑ Trial balance
- ❑ Ratio analysis
- ❑ Cash flow
- ❑ Balance sheet
- ❑ Notes (break down) of balance sheet
- ❑ Comparative balance sheet
- ❑ User Log report

Both the software provide the following security and user friendly interfaces:

- a. **Data Security:** Data security is a very important issue because the databases contain critical data of accounts and inventory. Databases are designed in SQL Server to support issues related to security.
- b. **Graphical User Interface:** Both the software are Windows based so they provide interactive and user-friendly interfaces. They also support user-friendly techniques like popup menu on right click of mouse, drag & drop etc. Animations are also used wherever attention of the user is needed.
- c. **User Access Levels:** Both the software provide the privilege to define multiple users each having different access level to screens and reports as assigned by the supervisor. The levels are:
 - **Admin** is the Top-level user. This user can perform any kind of activities and can create new user and invoke every corners of the software.
 - **Supervisor** is the Medium-level user. This user can perform any kinds of activities. But cannot create new user or delete an existing user.
 - **Entry** is the Lowest-level user. This user can search, add or modify records but does not have the right to delete records.
- d. **Data Entry Using Calendar Control:** A special feature of the system is the Calendar control. On entering date in any column the user can click on the Calendar Control and can navigate through and select a date. The date is automatically placed into the column.
- e. **Interactive Reporting:** The system provides a very easy to use and robust report generator. The user can preview all the reports i.e.

see the report on the screen, zoom the preview, navigate through the pages, print etc.

4.2.3 Overview of the software study

In the survey five (Accounts Management-3 and Inventory Management-2) out of six of the business people (users) who purchased and used Accounts and Inventory Management System were interviewed. 50% of the users of Accounts and Inventory Management System are currently using the software. The survey included both those who are currently using the software and those who are not. All the users except two said that the software worked pretty well but the software had some extra features which created problems for them and some of the important features were missing which caused them troubles in supporting the related tasks so they could not totally depend on the system at first. Lots of changes were made as they continued using the software and it took a lot of time to get the complete system according to their needs. One of the users among those who were not satisfied with the software said that there were lots of bugs in the software and the reports provided did not fulfill their requirements. The other user was totally disappointed with the system since the system did not serve their purpose and the users were not trained properly and no user manual was provided. Since no system documentation was provided he could not ask any other developer to modify the system so that they can use the system. A summary of the problems users faced is given in the next page:

Table 4.2

Name of the Project: Accounts Management System

| Particulars | Name of the company (pseudonym) | | |
|--|--|--|---|
| | ABC Ltd. | DEF Ltd. | GHI Ltd. |
| Why the software was built/ customized for the Company | <ol style="list-style-type: none"> 1. The company was always eager to use modern technology. 2. To reduce the time required to managing accounting information and prepare Accounting ledgers. | <ol style="list-style-type: none"> 1. To reduce the time required to managing accounting information and prepare accounting ledgers. 2. Quick & error free reporting | <ol style="list-style-type: none"> 1. To get reports whenever required. 2. To prevent data loss and to keep data together. 3. To get summary information |
| Does the customer depend on the system? | Yes | No (They are currently using TALLY, a well known off-shelf accounting software) | Partially dependent |
| Usefulness | <ol style="list-style-type: none"> 1. It provides Balance Sheet, Income Statement, Asset Schedule, Cash flow statement and all other ledgers required to maintain accounting information/system. 2. Decision making and understanding the financial status of the company 3. Requires less employee | <ol style="list-style-type: none"> 1. Provided periodic Trial Balance, Income Statement, B/S and all other ledgers required. 2. Helped in decision-making, understanding company profitability and financial position. | Provides all the financial statements required. |
| Project failed/ succeeded | Succeeded | Failed because management did not offer ConnectBd Ltd to develop the new system | Not fully Successful (Require intensive maintenance) |
| Reason for success/failure | <ol style="list-style-type: none"> 1. It has satisfied the reasons for the development of the software i.e. less time is required to do the tasks. 2. It provides almost all the features. | <ol style="list-style-type: none"> 1. Reduced time and error 2. Met user requirements. | <ol style="list-style-type: none"> 1. Keeps data together 2. Generate some reports |
| Problems with the software (if any) | <ol style="list-style-type: none"> 1. Some features were missing and there are some extra features that are not required. So it sometimes becomes very difficult to manage the tasks. 2. Weak security system 3. System crash 4. Sensitive to error | <ol style="list-style-type: none"> 1. The software cannot be used in all the branches. 2. Security system was not strong enough. | <ol style="list-style-type: none"> 1. Reports provided are not according to the user requirements. 2. Previous Data were not input by the software company before conversion 3. Training not provided 4. No system documentation & Reports provided. User manual has been provided. |

Table 4.3

Name of the Project: Inventory Management System

| Particulars | Name of the Company (pseudonym) | |
|---|---|--|
| | UVW Ltd. | XYZ Ltd. |
| Why the software was built/customized for the Company | <ol style="list-style-type: none"> 1. The company was always eager to use modern technology. 2. To reduce the time, error and manpower required | <ol style="list-style-type: none"> 1. To reduce the time required managing inventory. 2. Quick & error free reporting 3. To build a system which would provide information on reorder level, current stock position etc. |
| Does the customer depend on the system? | Yes | No |
| Usefulness | <ol style="list-style-type: none"> 1. It stores and provides information on monthly consumptions and issues. 2. Reports on stock position, reorder level etc. | No use |
| Project failed/ succeeded | Succeeded | Failed |
| Reason for success/failure | <ol style="list-style-type: none"> 1. It has satisfied the reasons for the development of the software i.e. less time and manpower is required to do carry out the operation. 2. It provides almost all the features. | The system does not reflect what the company required. |
| Problems with the software (if any) | <ol style="list-style-type: none"> 1. There are problems in the printed reports. 2. Require some changes. | <ol style="list-style-type: none"> 1. The person who was trained left and no user manual was provided for new users. 2. Previous data were not input during conversion 3. Problems/errors to input data. 4. Since there were problems in data entry the users do not know whether the system has met all the requirements. |

The main problems, that can be sorted out from the above table are:

- Missing features due to
 - a. Lack of user involvement during the SDLC
 - b. Lack of Management interest to involve actual users
 - c. Software clients hiding information
 - d. Analyst's unable to understand the actual requirement
- Weak security systems
- System Crash
- Inadequate training
- Poor conversion Method
- Data migration
- Lack of proper planning and study before deciding to get an IT solution

The chart below reflects percentage of the users facing problems the above stated problems.

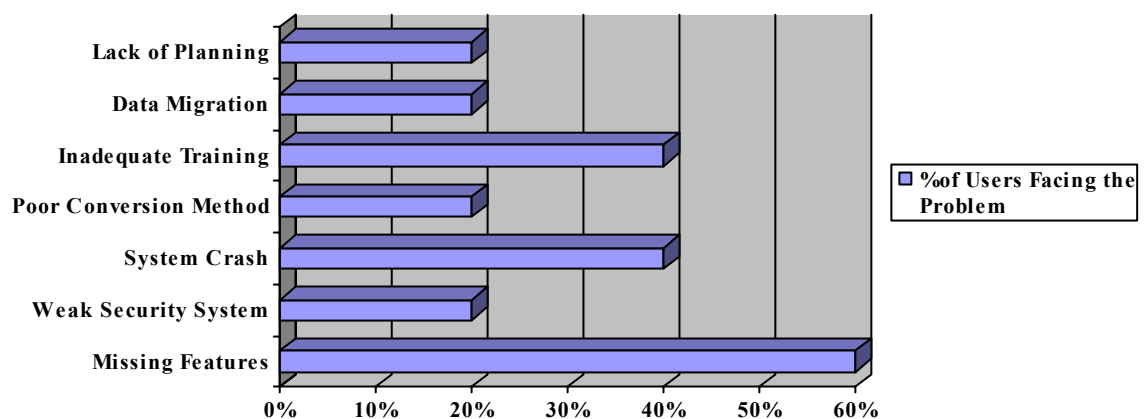


Figure: 4.1 Overview of the lacking of the software projects reviewed

CHAPTER V

SOFTWARE FAILURE IN THE CONTEXT OF BANGLADESH

5.1 How the Actual Users and System Developers Described and Visualized IT Project Failure

5.1.1 Users

Before moving on to the reasons why software fails let us first determine how the software developers and users described and visualized software failure. Users were asked, “In your opinion, what is a successful IT project?” the most popular answer was requirement fulfillment. All the users said, whatever features developers provide the project will not be successful if the users cannot depend on the system for the purpose it is built for. They also stated that the system should provide accurate results, should be user friendly and complete. According to the users all software require changes and maintenance after installation because that is the time when they come to know what they require and what has been developed but the changes should not be so major that it effects the user’s normal flow of work or the users cannot use the software due to missing of some important features. Few users said that the system should be delivered on time and software developed should be technically feasible.

5.1.2 Developers

According to the Software Developers a software project is successful when it fulfils user requirements which is possible through user involvement and cooperation through out the project. They also stated that user’s interest to use new technology, learn new things and user training is also very important in this regard. This is because there were situations when the development team or the business company could not even understand

whether the software fulfils the organization or user's requirement because the software was never used due to lack of organizational involvement and/or training.

5.2 Problems in the Context of Bangladesh

Bangladesh is said to be a prospective country in the field of Information Technology. Wide range of software development companies have grown up to support businesses, entertainment and media sector using computerized systems. Although few, but software are sometimes exported to foreign countries too. To promote Bangladesh in the world market and to survive in competition Bangladesh needs to ensure quality of software. But Bangladeshi IT sector still lacks some of the important factors required to produce quality software. Although, there is no statistical data showing the rate of success of software projects but the above study already shows that the IT people have a long way to go to provide successful software projects and to satisfy users even in the home market.

In the study it was found that Bangladeshi software development teams and software users face a lot of problems during development, which cause software failure. Even if the software does not fail due to these factors but these factors are barriers to user satisfaction. The problems include both the problems described in the Literature Review in section 2.2 and the problems described by the developers and users as given below.

5.2.1 Lack of data migration facility

An important factor that is mostly overlooked in Bangladesh is data migration. For a working system all data has to be migrated to the new system before the user can start working with the system. But in Bangladesh software is developed and installed at the user end leaving data migration as a part of the user's responsibility. As a result users cannot start using the system instantly from the time when the system is installed. The users need to enter

previous data first and then use the system. So the user's task is doubled since s/he has to do the same tasks twice and has to input previous data in parallel to his present tasks. Thus it puts extra pressure on the user and they lose their interest to use the system.

5.2.2 Lack of Feasibility Study

When a software project is initiated no technical, economic or organizational feasibility study is carried out. So after the development of the software it is often found that the software is not used because of lack of technical support or the organization cannot afford the cost of running the software or the users feel reluctant to use the software. Sometimes all these three reasons combined, decide the failure of the project.

5.2.3 Inadequate training, poor conversion method and lack of support

Even a well-written, well-documented and carefully designed system may fail due to inadequate training of users, poor conversion method from old to new system and lack of user support.

Problem arises when the actual users who were trained after installation of the software leave the job and someone new is appointed. The new user is not trained and the situation is worse when there is nobody else in the organization who can train the newly appointed executive. Since the users are new to the system they require intensive training for smooth operation of the software.

The training session is normally carried out by showing the user how to use the system. Although user manual is provided most of the users feel comfortable to use the system when s/he is trained by someone who knows operating the system better rather than learning using the user manual and the manuals often do not relate to the business model. As a result, the system remains unused and the benefit that was supposed to be derived from it is lost.

In Bangladesh, the software is installed directly into users computer when writing and testing of the software is complete rather than having any conversion plan.

Another major problem is providing instant support. Since there is no other department or people to provide support after installation of the software, someone from the development team has to take the responsibility and s/he cannot provide instant support to the users since they are always burdened with other software development work.

5.2.4 Missing Feature

The most important reason stated by the software users and the software development team of ConnectBD Ltd, to make a software project successful is fulfillment of user requirements. Both satisfied and unsatisfied users said that the software they used or using had some features missing and also has some extra features which created problems in their natural flow of work. The reasons identified behind these missing features and/or not fulfilling user requirements are:

- The first time the development team involves software users is during planning and requirement collection. The second time they involve clients is at the end of the project, when the system is delivered to the customer. This is the time the team gets real client feedback, but it's too late - the time and money for the project are all used up and changing the software based on user feedback also becomes very difficult.
- Since the top management do not like to involve the actual users (employees who will use the system) and the future users of the system also do not understand what is going on and what will be the effect of using new technology in the organization, they think that they will lose their job and so they create barriers in the process of requirement collection and implementation of the system.

- The top management of the company think that they know everything about the work process and don't like to involve the actual users (employees who will actually work with the system) and the result is a system with important features missing in it and ultimately huge changes are required to run the system costing huge amount of money which may be almost the cost of developing the software again.
- Software clients sometimes tend to hide information knowingly or unknowingly. Even though they require a complete solution they only develop a part of it and think that the rest can be developed and integrated later. They do not understand that the analysis should be done together because the tasks are interrelated. As a result, it becomes difficult to develop another system and integrate it with the other, since lots of database interdependencies, and changes in designs are required.
- One of the members of the development team of ConnectBD Ltd stated that the major reason for missing feature or not meeting user requirement is that- the developers or the development team is specialized in technology and the business people are specialized in their own field, it is not possible for an IT specialist to become expert in all fields. Even if the IT specialist or team gain(s) knowledge on the subject matter on which the software will be developed but the business people or the people who will use the software may have their own procedure of doing the job rather than following the standard procedure so it is not possible for the developers or the team to understand the requirements as good that they can provide a complete software (that fulfils user requirement completely and does not have any missing features).
- One major problem faced by the development team after installation or when the users first get to see the actual software is constant changes in the design of the forms and reports of the software. These changes not only occur because the users do not like the design or color of the

forms and reports but also because the concept of user friendliness depends on the user's understanding and ease of use of the system.

5.2.5 Lack of proper planning and study before deciding to get an IT solution

When the management takes decision of adopting an IT solution, they do not have concrete ideas on the IT solutions available in the market or how customized software can help them to overcome their problems. The IT Company they get involved with for the IT solution also do not provide much information in this regard and as a result it is sometimes found that a customized software is built and after using the system the users tend to have ideas on what they want and what similar off-shelf software or vice-versa are available in the market which will be more efficient for them to use. As a result, a software is developed spending huge amount of money, time and other resources and then the management decides to get an off-shelf software if they find an off-shelf software can serve their purpose better or they decide to get a customized software if they have been using off-shelf software and find a customized software can serve their purpose better.

5.2.6 Some of the Other Problems

- **Workload:** When a project is scheduled and the work is in progress a new project is assigned to the development team, so the previous project has to be rescheduled or one or both the projects are delayed.
- **Delayed appointment:** Most of the time the users cannot maintain the scheduled appointment with the software development team and the schedule has to be changed and thus not only the delivery of the project is delayed but the other projects the team is working on has to be rescheduled or is delayed.
- **Lack of IT knowledge:** Most of the Corporate people in Bangladesh do not have much knowledge on IT and most of organization do not have

their own IT department so they do not understand the development process of software projects, information they need to provide and how to change over to the new system. These factors not only cause problems to the developers but also create a resistance among the employees to use new technology.

- **Poor teamwork:** Most of the time the concept of division of labor or teamwork is missing. It was found from observation that for most of the system development project there is no team work and the same person does the analysis, design, coding, testing, provide training and support. This factor not only lacks the advantages that can be derived from team work but also lacks the advantage of division of labor.

CHAPTER VI

METHODS OF REQUIREMENT COLLECTION

6.1 Traditional Methods Of Requirement Collection

Analysis is the first SDLC phase where the Analyst begins to understand the needs of the system in details. System analysis involves a substantial amount of effort and cost and is therefore undertaken only after management has decided that the software project under consideration has merit and should be pursued through this phase. Most observers would agree that most of the errors in developed software are directly involved with system requirement collection and inadequate efforts in analyzing and designing them. However, for many reasons, it is always difficult to obtain a correct and complete set of requirements.

Requirements determination is the beginning of the analysis phase and also plays a vital role in developing a strong foundation for the system. There are some traditional methods to help collect system requirements, such as interviewing, carrying out surveys, directly observing users, etc.

6.1.1 Interview

This is one of the primary ways to gather information about an information system. In general, interviews are conducted one-on-one (one interviewer and one interviewee) basis, but sometimes owing to time constraints several people are interviewed at the same time. There are five basic steps to the interview process: selecting interviewees, designing interview questions, preparing for the interview, conducting interview and follow-up [2].

A good system analyst must be good at interviewing and no project can be conducted without interviews. There are many ways to arrange an effective interview and none of the ways is superior to the others. However, experienced analysts commonly accept some of the following best practices for an effective interview:

- Prepare the interview carefully, including appointment, priming questions, preparing checklist, agenda, and questions
- Listen carefully and take notes during the interview (tape record if possible)
- Review notes within 48 hours after interview
- Be neutral
- Seek diverse views
- Separate facts from opinion

6.1.1.1 Selecting interviewees

The first step in interviewing is to create an interview schedule that lists all the people who will be interviewed, when, and for what purpose [2].

6.1.1.2 Designing questions

There are three types of interview questions: closed-ended questions, open-ended questions, and probes [2].

- Closed-ended questions are those that require a specific answer. Closed-ended questions are used when the analyst is looking for specific, precise information [2].
- Open-ended questions are those that leave room for elaboration on the part of the interviewee. They are similar in many ways to essay questions. Open-ended questions are designed to gather rich information and give the interviewee more control over the information that is revealed during the interview. Sometimes the information that

the interviewee chooses to discuss uncovers information that is just as important as the answer [2].

- The third type of question is the probing question. Probing questions follow up on what just been discussed in order to learn more, and they are often used when the interviewer is unclear about the interviewee's answer. They encouraged the interviewee to expand on or to confirm information from the previous response, and they are a signal that the interviewer is listening and interested in the topic under discussion. Many beginning analysts are reluctant to use probing questions because they are afraid that the interviewee might be offended at being challenged or because they believe it shows that they do not understand what the interviewee has said. When asked politely, probing questions can be a powerful tool in information gathering [2].

None of these types of questions is any better than another, and usually a combination of questions is used during an interview [2].

6.1.1.3 Preparing for the interview

It is important to take a prior preparation for the interview session. An interviewer should have a general interview plan. The plan includes the questions that will be asked, the order of the questions, how the follow up will be and how the topics will be related to each other [2].

The interviewer should confirm the areas in which the interviewee has knowledge so that the interviewer does not ask questions that s/he cannot answer [2].

The interviewer should review the topic areas, the questions, and the interview plan, and clearly decide which has the greatest priority in case the interviewer runs out of time [2].

6.1.1.4 Conducting the interview

When the interviewer starts the interview, the first goal is to build rapport with the interviewee so that s/he trusts the interviewer and is willing to tell the whole truth, not just give the answers that s/he thinks has been asked. The appearance of an interviewer should be professional and unbiased, independent seeker of information. The interview should start with an explanation of why an interview with that person is going to be held and after satisfied responses, the interviewer can move to the planned questions [2].

6.1.1.5 Follow up

After the interview is over, the interviewer needs to prepare an interview report that describes the information from the interview. The report contains interview notes, information that was collected over the course of the interview and is summarized in a useful format [2].

The interview report is sent to the interviewee with a request to read it and inform the analyst of any clarifications or updates needed. The interviewee needs to be convinced that the corrections to the report are genuinely required. Usually there are few changes, but the need for any significant changes suggests that a second interview will be required [2].

6.1.1.6 Potential interviewing problems:

- Interviews may create bad feelings between people
- Taking interviews of a number of people separately takes up a lot of time
- The interviewees may think that their jobs are at risk
- The interviewees may not like someone to change their traditional way of work
- They may think that the interviewee is wasting their time.

- Same question to different people may provide contradictory answers
- The interviewer may become biased

6.1.2 Questionnaires

It overcomes some of the problems of interviewing by gathering information from many people in a relatively short time and of being less biased in the interpretation of their results. It also reduces the problem of creating bad feelings among people since no body knows who has written what. Choosing right questionnaires respondents and designing effective questionnaires are the critical issues in this information collection method [2].

People usually use only a part of the functions of a system, so they are always just familiar with a part of the system functions or processes. So in most situations, one copy of the questionnaire obviously cannot fit to all the users. To conduct an effective survey, the analyst should group the users properly and design different questionnaires for different groups. When designing questionnaires, the analyst should concentrate on the following issues:

- The questions are not ambiguous
- The questions are set in such a way that the answers are consistent chronological
- The kind of question to be applied-open-ended or close-ended
- The proper length of the questionnaires

The major problem of requirement collection through questionnaire is lack of discussion, which helps to decide on contradictory points, bring out related problems and agreed solutions to the problems and bringing out new ideas.

6.1.3 Directly observing the users

People are not always very reliable informants, even when they try to be reliable and tell what they think is the truth. People often do not have a completely accurate appreciation of what they do or how they do it. Since people can not always be trusted to reliably interpret and report their own actions, analyst can supplement and corroborate what people say by watching what they do or by obtaining relatively objective measures of how people behave in work situation [2].

However, the problem of observation is that it can cause people to change their normal operational behavior. This makes gathered information biased [2].

6.1.4 Analyzing procedures and document study

By examining existing system and organizational documentation, Analyst can find out details about the current system. In documents, analysts can find information such as problem with the existing system, opportunities to meet new needs, the actual flow and process of work, and the reasons why current systems are designed as they are, etc.

However, when analyzing the official documentation, analysts should pay attention to the difference between the systems described on the official documentation and the practical systems in real world because the difference between formal and informal system of work, inadequacies of formal procedures, individual work habits and preferences, and other factors that universally exist.

CHAPTER VII

LATEST TECHNIQUES THAT CAN BE USED TO OVERCOME THE PROBLEMS

7.1 Modern Techniques

Some modern techniques have been developed to overcome the problems of requirement collection described in the previous section. These methods do not only overcome the problems of the methods of requirement collection but also overcome the reasons stated in **section 5.2-d**. The modern techniques are:

- **Joint Application Design (JAD)**

&

- **Prototyping**

7.1.1 JAD Session

JAD is a structured process in which at least 10 to 20 users meet together under the direction of a facilitator skilled in JAD techniques [2]. Reality says:

- people who actually do a job have the best understanding of that job
- People who are trained in IT have the best understanding of the possibilities of that technology
- Information systems and business processes cannot exist in isolation

So the philosophy of a JAD session is to design the best information system by bringing people from business and IT in one place and creating a common language. The JAD group meets for several hours, days or weeks

until all the issues have been discussed and the needed information are collected.

To have a successful JAD session the following factors should be considered:

- Make sure the decision makers are all present
- The number of participants is not too many or not too few (less than 8)
- The facilitator keeps the group focused on the goals
- Differing views are handled immediately
- Issues are resolved quickly
- Assumptions are documented and understood

The JAD session takes place in a location away from the workplace so that there is no interruptions [2].

7.1.1.1 History of JAD

JAD was first introduced by Chuck Morris of IBM, in 1977, as a technique for gathering requirements for geographically distributed systems. In 1980, IBM Canada adopted and refined the approach. In 1984, IBM formalized JAD by publishing the JAD Overview pamphlet. By the late 1980s, many companies were implementing facilitated JAD workshops for analysis and design. JAD represents Joint Application Design since it joins together people from different areas to work together.

7.1.1.2 Basic components of a JAD session

JAD session is normally carried out in a meeting/conference room arranged in U-shape so that all the participants can see each other. At the front of the room there is a white board, flip chart and an overhead projector for use by the facilitator or other participants. The participants of JAD session are:

Executive sponsor is the person from the customer's organization who has the ultimate authority to make decisions about the project. The sponsor may be the customer's project leader, the CIO, or, in some cases, the CEO. The facilitator works with the sponsor to get the project started; it is essential, however, that the sponsor makes key decisions, not the facilitator.

The executive sponsor has the following responsibilities:

- Accept ultimate authority and responsibility for the functional areas to be addressed by the system.
- Resolve business policy conflicts by being the ultimate decision maker.
- Set the vision for the project.
- Ensure the project team has access to and commitment from the right business user experts.

Facilitator/session leader is the person who is an expert in JAD techniques. The success or failure of the JAD process is closely tied to how well the facilitator handles the session. S/he is responsible for identifying those issues that can be solved as part of the meeting and those which need to be assigned at the end of the meeting for follow-up investigation and resolution. The facilitator serves the participants and does not contribute information to the meeting. The facilitator must also be able to communicate effectively with different personality types present on a JAD session.

The responsibilities of JAD facilitators include the following:

- Organize and schedule JAD activities
- Guide the JAD sessions
- Mediate dispute
- Encourage participation
- Maintain focus

- Enable the decision making process by summarizing the discussions

It is important that the facilitator be impartial and has no vested interest in the outcome of the session.

There is a thought that trained facilitators can successfully facilitate meetings regardless of the subject matter or their familiarity with it. This does not apply, however, to facilitating meetings to build information systems. A successful Information System facilitator needs to know how and when to ask the right questions, and be able to identify when something does not sound right.

Participants/Users: They are the source of input of the session. This is the group of people in the business area directly or indirectly affected by the project and is experts in their field.

Users have the following responsibilities in the JAD process:

- Serve as the main focus of JAD (users make up 65 percent to 75 percent of the total group)
- Provide business expertise
- Represent the strategic, tactical, or operational direction of the business
- Represent all major user groups or fractions affected by the project
- Represent multiple levels of the organization

IT representatives lend technical advice when it is required, help develop logical models and specifications, and build the prototype. To perform these tasks, they must be knowledgeable about the JAD process and the tools and methods being used. IT representatives are typically some of the key developers of the system. They use the JAD opportunity to become experts in

the customer's business functions. Whatever their level of expertise, however, they must not try to force the decision making process, but rather assist in developing the user's view of the solution.

IT representatives have the following responsibilities in the JAD process:

- Help customer turn ideas into models of business requirements
- Ensure all technological constraints are represented
- Develop an understanding of user business goals, priorities, and strategies
- Represent job functions such as data administration, business analysis, programming, prototyping, and production/operations management.
- Ensure a solution that is realistic for the budget, can be delivered when needed, and takes advantage of available technology most effectively

Scribe/Modeler/Recorder/Documentation Expert records and publishes the proceedings of the meeting and does not contribute information to the meeting.

Observers are generally members of the application development team assigned to the project. They sit behind the participants and silently observe the proceedings.

7.1.1.3 Project Characteristics

All the projects, however, are not good candidates for JAD sessions. An appropriate project for JAD session should exhibit at least some of the following characteristics:

- Involves many groups of users whose responsibilities cross traditional department or division boundaries
- Is considered critical to the future success of the organization
- Involves willing users
- Is a first-time project for the organization
- Has a troubled project history or relationship between the systems and user organizations

Although the characteristics above describe a good JAD candidate project, all the characteristics do not need to be present in the project. But the project must have a good number of users i.e. at least 8.

7.1.1.4 Advantages Provided by JAD

Furthermore, according to website articles, one by Alan Cline and one by Bill Jennerich several articles and case studies have concluded that the JAD process can yield tremendous benefits. Below is a list that combines the highlights of the findings:

- **Reduced system development time-** in JAD, information can be obtained and validated in a shorter time frame by involving all participants (or at least a representative set of participants) who have a stake in the outcome of the session. JAD eliminates process delays and has been shown to reduce application development time between 20% to 50%.
- **Improved system quality and productivity-** much of the system's quality depends on the requirements gathered. JAD involves users in the development life cycle, lets users define their requirements, and thus ensures that the system developed satisfies the actual activities of

the business. JAD is quoted the best method for collecting requirements from the users, clients, or customer advocates.

- **Reduced system cost-** Reduced development time, reduces the labor cost for developers, as well as users. Important process like requirement gathering requires involvement and commitment of business area experts. The cost of taking them away from their daily operation is very high. JAD can reduce the involvement time of these business experts and hence reduce the cost further. Cost is also reduced by catching errors, misunderstandings and mistakes early in the development phase. Studies have found that a majority of system errors result from early analysis errors, and the earlier these errors are corrected, the much less they will cost. The JAD sessions let designers and users work together in the very early stage of the development cycle, defining scope, requirements of projects and resolving conflicts among different user groups. It puts much effort early in the life cycle in order to improve the quality and increase productivity and to reduce cost.
- Enhanced communication and relationship between business end-users and IT personnel.
- **Cultivate ownership, easier acceptance (buy-in) and stronger commitment by users-** the involvement of business end-users is no longer on advisory or consultation spectrum. It is the participation and contribution in the project development life-cycle. The more users contribute to the system, the easier for them to accept it and commit to it.
- **Reduce function creep-** It is one of the best ways to reduce function creep, most of which results from poor initial requirements.
- **Enhanced education for participants and observers-** By participating in JAD and being the medium between other users and IT, the business end-users will be kept fully informed about the progress of the system development.

7.1.1.5 Problems with JAD

Like all other methods of requirement gathering JAD also has some problems. The problems of JAD are:

1. There are some people who often dominate the discussion while others remain silent.
2. The normal JAD sessions include mid-level and senior level managers. So subordinates may not want to speak out their problems in front of their seniors. The information gathered from the discussion may be biased and incorrect.
3. In a group of 15 people, if everyone participates equally for only 4 minutes then each person will have to listen for 54 minutes. This will make the session boring and the participants may lose their interest to participate in the session

7.1.1.6 JAD session using QBPRG method

QBPRG-Question Based Participation for Requirement Gathering is a technique adapted by Dr. Yousuf M. Islam, of BRAC University, from a technique used by Bangladesh Rural Advancement Committee (BRAC) for the purpose of information collection. This technique can be used in the JAD session to overcome the problems of JAD. This technique uses cards to gather information. A question is hung on a clipboard and read out and each participant is provided with a number of cards (usually 3) and asked to write one opinion/answer per card in response to the question. If someone has more opinions then s/he can ask for extra card(s). The cards are then collected from the participants and clipped under the question. They are then sorted or clustered under common headings with user participation and if any of the answers require discussion, the participants discuss about it and the facilitator maintains the time and discussion.

QBPRG method helps to overcome the problems of JAD by the following ways:

- Since all the participants have to write on the card so everybody has to brainstorm and participate.
- Since all the participants write the answers on the cards and the cards does not contain the writer's name there is no way to determine who is writing what and thus the subordinates can overcome their fear and provide correct and unbiased information.
- Since all participants write the answers when a question is hung and read out, the communication process allows several participants to contribute information simultaneously. Thus all the participants contribute through out the session rather then sitting idle and listening.
- Each idea is given equal importance by posting on the board – the participants therefore feel important as their idea are represented. Such participation promotes ownership.

This method also helps to keep documents since the cards are sorted and bundled with the question for further study.

7.1.2 Prototyping

Prototype is a quick-and-dirty program that provides minimal amount of features. It provides the user a system very quickly so that they can interact with the system and thus understand whether the analyst understood what they want and also helps the analyst to refine real requirements quickly. This process continues throughout the life cycle. The project team performs analysis, design, and update of the prototype concurrently until the analysts, users and the project team agree that the system provides all the functionalities and according to user's requirements.

There are two types of prototyping methodologies. The methodologies are:

7.1.2.1 Prototyping-based methodology

Under this methodology the prototype is re-analyzed, redesigned and re-implemented until and unless the users are satisfied. Each prototype after reengineering provides few more facilities than the previous one. The process continues and when it supports enough functionality it is called the actual system and is installed at the user end.

The advantage of this methodology is that it provides a system for the user to interact with although it is not ready for widespread organizational use.

7.1.2.2 Throw-Away Prototyping

Throw-away prototyping methodology has a relatively thorough analysis phase that is used to gather information and to develop ideas for the new system concept. Throw-away prototypes are built for the concepts that are not well understood. Each of the issues that are not well understood is examined by analyzing, designing and building a prototype. The prototype may not be a complete working system rather it is a part of the system and requires further refinement. When the prototype is approved by the user, the actual system is built and the prototype has no further use.

The main advantage of this process is that it helps the users understand how the actual system will look like. Since the prototype is interactive rather than paper based, the users can use the system and can come up with better ideas and improvements.

Both these methods have a disadvantage that, it may take longer time to deliver the final system.

7.1.2.3 Proposed method of prototyping- “Live” prototyping

To overcome the problem of taking longer time to deliver the final software developed using prototypes, a new prototyping methodology was proposed. The new method is similar to throw-away prototyping but reduces the problem of taking longer time. This method of prototyping can be called ‘live’ prototyping.

Live prototyping involves designing a Spreadsheet similar to the ledgers/registers in which users keep their records. The user will input information into the Spreadsheet and the developer will follow how the user input information. The developer will make changes to the sheets as and when the user is facing problem while entering information into the Spreadsheets. Since Spreadsheets are very easy to use and designed as information are kept in a register the user can easily understand what fields to add and which ones to remove. The user can also understand the changes that need to be made. Once the Spread Sheets are ready and approved by the user, forms are designed. Designing and connecting forms and reports in Spreadsheet is very easy and less time consuming because it supports Macros. Macros are coded in Visual Basic and allow required reports to be generated. The user easily understands what is going on and is able to give appropriate feedback. The process of changing requirements continues until the user is fully satisfied and implementation of the actual system starts once the user approves it.

This system of prototyping was used to finalize the requirements for a new project the description of which is given in Appendix-A and the Spreadsheets and forms designed in Excel to gather user requirements are given in Appendix-B.)

The advantages that were found by using this prototype are:

- the prototype provides actual data to the developer
- the user can clearly understand how the actual system will look like

- the prototype represents the finalized design of the system that includes the user interface, buttons, forms, reports and of course the business logic that is used to create the macros before it is too late for making changes.

7.2 Expected Outcomes From The Proposed Methodologies

7.2.1 Advantages of proposed techniques over traditional requirement collection methods

JAD technique helps to overcome some of the problems of traditional methods of requirement collection as described below:

- Since JAD session involves the actual user the actual users overcome the fear of losing their job.
- The problem of creating bad feelings between people may be overcome by using QBPRG method since no body can understand who has written what and the risk of creating bad feelings is reduced.
- Since all the people join together it reduces the time and hassle of taking interviews separately.
- As all the information is collected through discussion, the possibility of biased information is abandoned.

7.2.2 How JAD session and prototyping can overcome the problems prevailing in Bangladesh

As discussed earlier that the problems of requirement collection are:

- Communication gap between the users, management and the software development team
- Lack of user involvement in the development process
- Lack of user's knowledge in IT and developer's idea of how the users carry out the task

- User's uncertainty of the information s/he should provide, top management's reluctance to involve actual users etc
- The time gap of involving the user with the development process

As JAD session involves users from different departments and levels, user involvement is ensured. So the first two problems can be solved using JAD session. The management, users and software development team can get together and reduce the communication gap and confusion through discussion. It also encourages user participation since the users feel that their decision or participation is appreciated. Since the decision making authority is also present in the discussion prompt decisions can also be taken.

The second two problems can be over come by using prototypes which will help the developers understand the process of work and the flow of data more clearly. The users can also work with the system and get a clear idea of how the system will work, what new information needs to be added and what information should be discarded for efficient processing of data; this reduces scope creep and major changes users ask for after installation.

Since users are involved in both JAD session and using prototypes, the users are always connected to the software development work and can also ensure changes at the primary stage of the development.

7.4 Overview Of the techniques of requirement collection

The following table shows a comparison of the different techniques of Requirements Collection

Table 7.1

Techniques of requirement collection

Although all these methods of requirement collection have some

| Characteris- tic | Interview- s | Questionnai- res | Observati- on | Document analysis | JAD | Prototyping |
|--|---|--|---|---|--|--|
| Information Richness | High | Medium to low | High | Low (passive and old) | High | Medium to High |
| Time Required | Can be extensive | Low to moderate | Can be extensive | Low to moderate | Dedicated period of time of all kinds of involved people | Moderate and can be extensive |
| Expense | Can be high | Moderate | Can be high | Low to moderate | High | High |
| Chance for Follow-up and probing | Good | Limited | Good | Limited | Good | Good |
| Confidentialit y | Interviewe e is known to interviewe r | Respondent can be unknown | Person observed is known to interviewer | Depends on nature of document | All the people know each other | Usually know each other |
| Involvement of Subject | Interviewe e is involved and committed | Respondent is passive, no clear commitment | Interviewee s may or may not be involved and committed depending on whether they know if they are being observed | None, no clear commitmen t | All kinds of people are involved and committed | Users are involved and committed |
| Potential Audience | Limited numbers, but complete responses from those interviewe d | Can be quite large, but lack of response from some can bias results | Limited numbers and limited time of each | Potentially biased by which documents were kept or because document not created for this purpose | Potentially biased by the subordinator intentionally don't want to directly point out his superior's errors. | Limited numbers; it is difficult to diffuse or adapt to other potential users |

disadvantages and each of the methods overcome some of the problems of

the other but they are all important in requirement gathering. In practice, information gathering and information analysis are done iteratively and combine a series of different techniques. Information gathering may start with interviews followed by document study and/or observation followed by JAD session, some information gathering may involve questionnaires followed by further interviews, JAD session and document study.

7.5 Actual Outcomes from the Proposed Methodologies

From the research it was found that requirement collection is a major problem in satisfying users, so latest techniques have been proposed which can help to overcome the problems of requirement collection. Both the proposed techniques were supposed to be implemented in the development of the Software Patron Management Software for Foundation of NGOs in Bangladesh but only prototyping methodology was used.

The prototype was built after some interviews and document study to get a more vivid view of the system to make the user understand what information is required and to approve the design. The prototype using Spreadsheets was very effective because:

The prototype helped the development team to understand the user's process clearly and to reduce scope creep.

It helped the users understand how the actual system would look like and what information should be included and what information should be discarded from the software.

(User feedback on the prototyping methodology used for the software developed for Foundation of NGOs in Bangladesh is given in Appendix-C.3.)

The system has been installed at the user end and is currently in use by Foundation of NGOs in Bangladesh. From observation, interviews and experience it was found that the number and types of changes asked by the users of Foundation of NGOs is comparatively less than the changes asked by the users of other software developed by ConnectBd Ltd. The changes asked by Foundation of NGOs in Bangladesh were-

- Some formats in the numeric fields such as Total Number of Districts, Unions, Employees and Partners should automatically turn into 123,456,789 formats rather than 123456789.
- The expenditure field should automatically change to 123,456.00 formats if the input given is 123456.
- Expenditure and Working Hours required a bigger field size.

Whereas the changes in some other software were as critical as adding new fields in the database, adding new features in the forms, removal of some extra features since these features caused problems in working with other features.

JAD session is also a very effective methodology in gathering requirements from the users. But this methodology was not used since the project characteristics did not reflect the characteristics required to implement JAD session. Although the users were very enthusiastic and always preferred their involvement but the project size was not big enough since the number of users of the software is only three and the features were not very critical. Prototype was enough to understand their requirement and for design approval.

But a Joint Application Design (JAD) session can be made very effective by showing the prototype to the users and allowing the users to use it. This will help the users understand the system well and they will be able to participate in the discussion and can ask for changes instantly since they will be able to visualize the system and will have the opportunity to discuss about it.

CHAPTER VIII

LIMITATIONS OF THE PROPOSED METHODOLOGIES

The advantages and success criteria have been discussed earlier but none of the methods are perfect. Both prototyping and JAD session has some limitations and disadvantages. The limitations of using JAD have been already discussed and QBPRG method has been suggested as a solution to the limitations of JAD session. But there are some other limitations of using this method. The limitations are:

- Successful requirement collection through JAD session may require few days or weeks and the session needs to be held in a place distant from the work place. The business people may not agree to stop their work for so long and burden themselves with work after they finish the session and come back to the work place.
- Holding JAD sessions require expenses- the expenses involves availing facilitator, a suitable place for JAD session and the equipments required.

The limitations of using prototypes are:

- The software has to be developed twice- the prototype and the actual system, thus it increases the cost and time required to deliver the system. However, a lot of time is saved in finalizing or freezing requirements since the user can start using the prototype very quickly and can give feedback on what is required and what is not. Thus it saves time in collecting requirements. Time can also be saved by designing the prototype using macros in Excel.
- It has been found that some users are always changing their requirements and design. So updating the prototype never seems to end, as a result it becomes very difficult to keep someone

involved in updating the prototype rather than involving him/her with other projects. And the development of the actual system is delayed. But in practice it was found that the users go for changes when the actual system is developed if the actual system does not satisfy all his/her requirements and it becomes difficult to make changes at that stage. Since Spread sheets are very easy to connect and program using macros so the time and cost involved in making huge changes in a later stage is reduced by making changes in an earlier stage.

CHAPTER IX

CONCLUSION AND FUTURE RESEARCH WORK

Requirement collection is a major problem and an important issue for the development of successful software projects. Partial and imperfect requirement leads to user dissatisfaction and involves huge cost and trouble at a later stage of the SDLC. To satisfy users and to reduce cost (money spent in making changes after installation of the project) it is very important to gather complete and perfect information.

Prototyping and JAD are the most recent techniques of freezing user requirements. Use of live prototyping in developing Patron Management System for Foundation of NGOs in Bangladesh provided a clear idea of the actual system to the user and helped the developers to get a clear view of the system to be developed. Although JAD was not used since the project size was small and the number of future users of the software is very small but JAD session can be a very effective methodology if the project possesses the characteristics required to carry out a successful JAD session.

This research work can be used by ConnectBd Ltd to reduce the problems faced by the developers during requirement collection and to satisfy software users by providing software, which fulfills their requirements better. This will provide ConnectBd Ltd software clients higher satisfaction rate, reduce maintenance cost, time and work and will also increase the rate of success of software projects.

This research has been carried out based on only one company so a wider research can be carried out involving all or the major software developing companies to get a wider view of the current status of software development, problems faced by both users and developers and to determine the future scope of software development in Bangladesh.

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APPENDICES

APPENDIX-A

1.0 INTRODUCTION

Foundation of NGOs in Bangladesh (FNB) is a non-government organization registered with the Registrar of Joint Stock Companies under the Societies Registration Act of 1860. The NGOs working for the development of Bangladesh register their name with FNB to strengthen themselves and to avail the facilities provided by FNB. FNB was set up with the mission to carry out the following duties:

- To take steps for resolving various problems of the NGOs through contacts and consultations with the Government;
- To mobilize resources for solving the financial crisis of local and small NGOs, for building their capacities and also for strengthening mutual cooperation and coordination;
- To strengthen NGO and NGO cooperation.

The NGOs get their names registered with FNB by paying a registration fee every year and they also donate funds to this organization so that it can run its operation smoothly, serve the purpose for which it was set up and can also help the small and/or new NGOs during their financial crisis.

2.0 SCOPE OF THE TOTAL SYSTEM

The scope of this project is to develop a web site which will have information about Foundation of NGOs (FNB), its history, bulletins, photo gallery, annual reports, membership information etc. All the information is static except for the membership information. Membership information will contain information about the NGOs which are working for the development of Bangladesh. The web page will have a search page which will help the users to view any information regarding the NGOs using some search criteria. A software is required to track member/nonmember NGO information to support this search.

This part of the thesis contains the specifications of the software which was built for Foundation of NGOs to track member/non-member NGO and their membership information using a prototyping methodology. The software is named as Patron Management Software for Foundation of NGOs and this is the first version of the software.

3.0 SCOPE OF THE SOFTWARE

This software is a part of the system described in “Scope of the Total System” which will help FNB to track member/non-member information. This software will run in a standalone computer or computers in a Local Area Network. All member and non-member information will be input and the database will be periodically transferred to the web server using any File Transfer Protocol software. Any Internet browser can browse NGO information along with information about FNB, its history, bulletins, photo gallery, annual reports, membership information etc. Note that information about FNB, its history etc are all static information on the web and only NGO information will be displayed according to some search criteria from the database transferred to the web server.

The benefit of this system is the coordinator (person at FNB involved with patron management) can add, delete and update information whenever there is new information or there is any change in the information.

The goal of this system is to provide the most updated information to its browsers and to promote NGOs working in Bangladesh in front of the government, business organizations, public and world.

4.0 DESCRIPTION OF THE AS-IS-SYSTEM

1. NGOs collect registration forms from the Coordinator at FNB.
2. NGOs fill-up all the required information and submit it to the Coordinator and pay the registration fee to the Accounts department.
3. The Accountant provides a receipt and records the financial information in a register book.
4. The NGOs also donate funds to FNB and a record is maintained in the accounts ledger.
5. The NGOs pay a membership renewal fee every year to renew their membership and the ledger is updated.
6. The forms filled-up by the NGOs are filed and put into a cabinet.

The Data Flow Diagram of the As-Is-System is given in the next page.

Paper Based Input Forms Used by Foundation of NGOs that were collected for study are given in Appendix-C.1 .

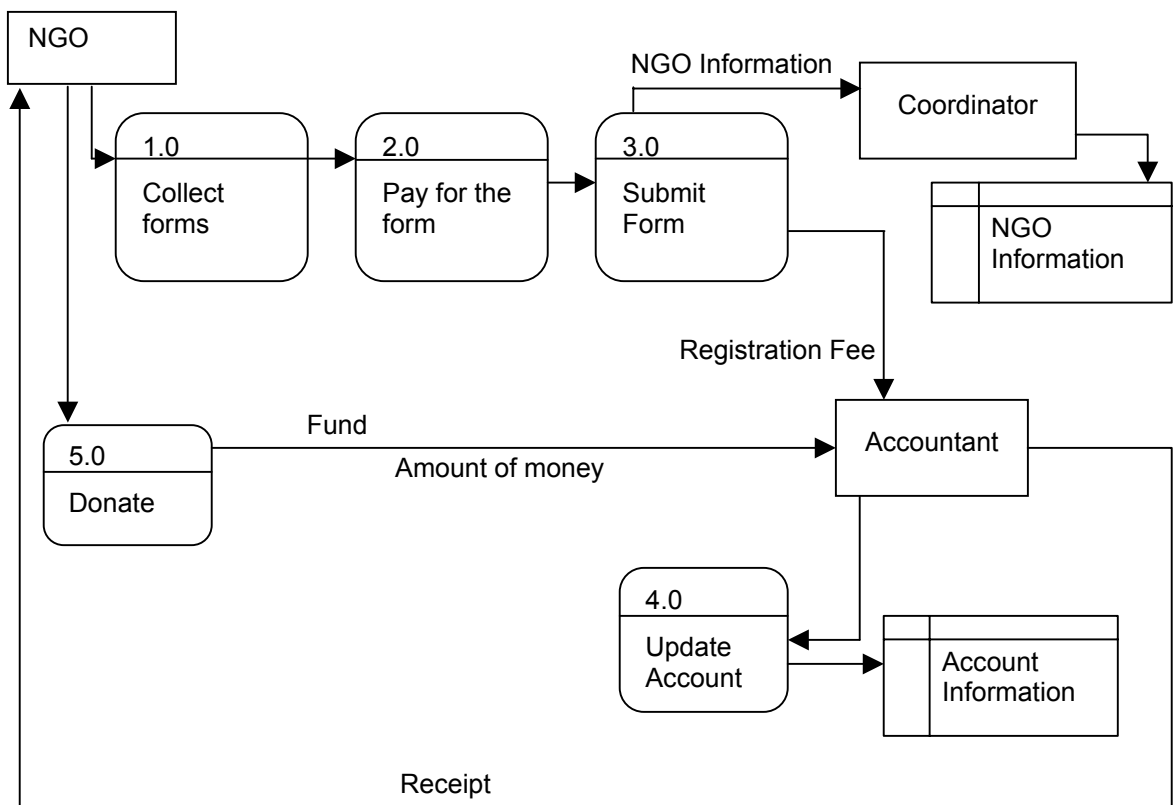


Figure-4.1 Data Flow Diagram of the As-Is-System

5.0 DESCRIPTION OF THE TO-BE-SYSTEM

1. The NGOs enter into the web site and download forms from the web.
2. The NGOs fill up the form and submit it to the coordinator and pay the registration fee in the Accounts department.
3. The Coordinator inputs NGO and membership information in the database and transfers it to the web server.
4. The NGOs or any web browser can enter into the web site and can search and print information of all/any NGO information.
5. When any NGO donates fund to FNB the accounts information is updated.
6. The NGOs renew their membership every year by paying renewal fee and also provide information if there is any change in the NGO information.
7. All the new NGO information or updated information and the member information are input into the software and the database is transferred to the web server.

Data Flow Diagram of the To-Be-System is given in the next page.

Description of the sheets and forms designed in Microsoft Excel (prototype) are given in Appendix-B

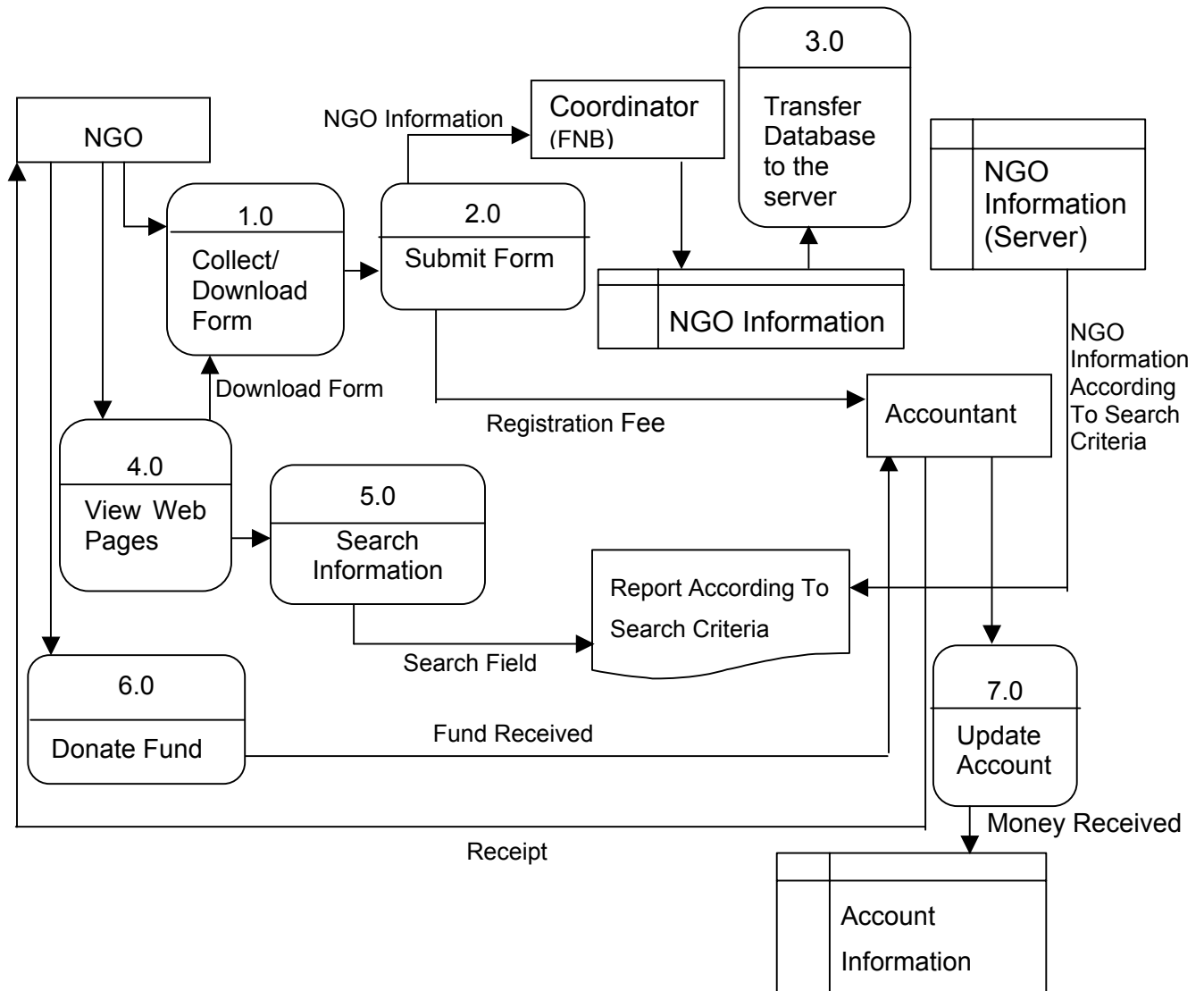


Figure 5.1: Data Flow Diagram of the to-be-system

6.0 ENTITY RELATIONSHIP DIAGRAM

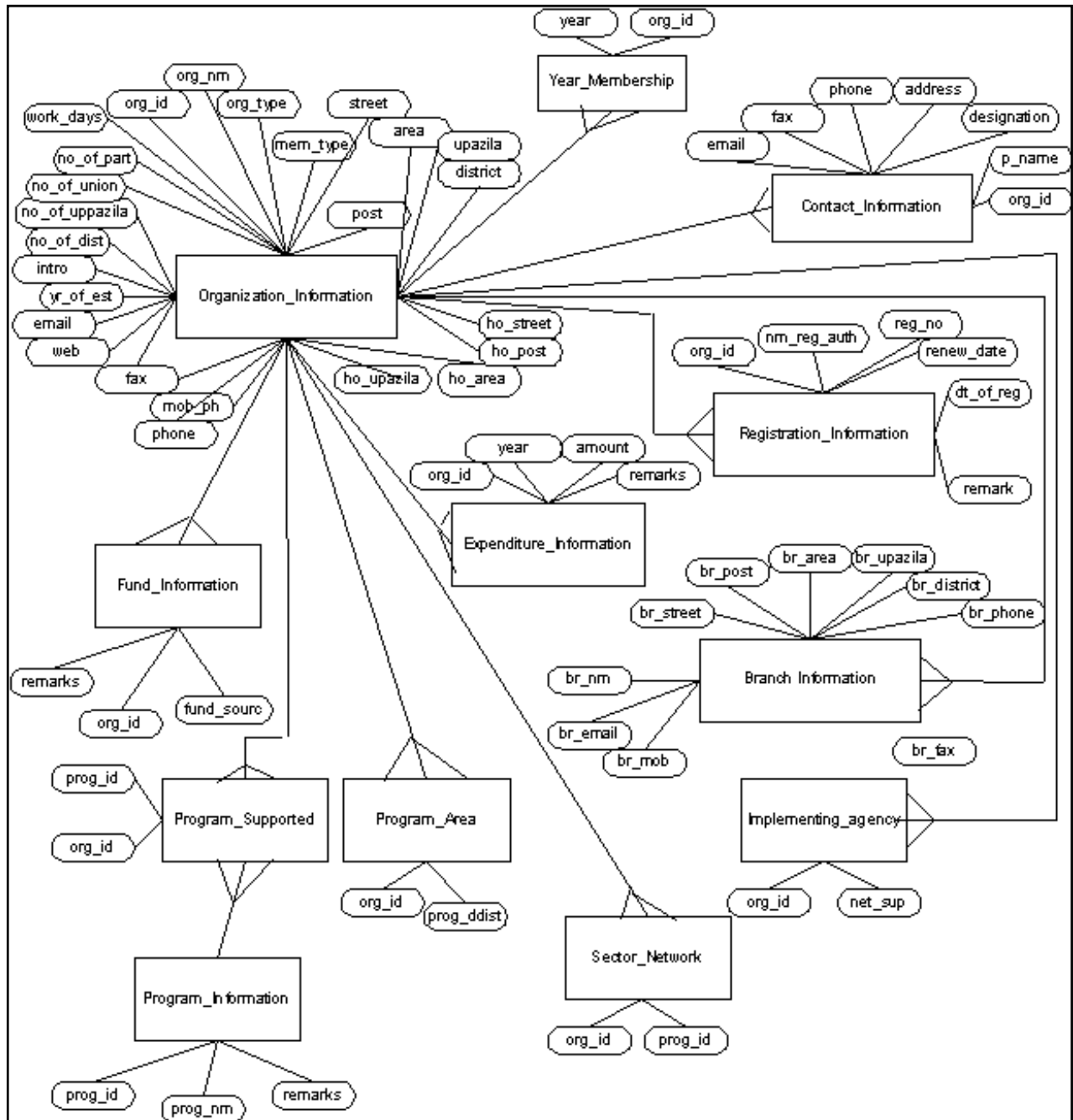


Figure: 6.1 Entity Relationship Diagram

7.0 MODULES

7.1 Forms

NGO Information- This form tracks NGO's general, contact legal, program, network supported by the NGO, expenses and directory information. If the NGO is a member of Foundation of NGOs in Bangladesh (FNB) then all these information should be input (recommended but not required). If the NGO is not a member of FNB then only NGO/Contact and NGO Directory information needs to be input.

NGO Information

NGO/Contact Information | Legal/Program Information | Network Supported/Expenses | NGOs Directory

Organization ID

Name

Member Non-Member

Which Type of membership the organization is applying for:-

Honorary Member Regular Member Associate Member

Organization Information

Contact Address

Street/Village Post Area

Upazila District

Phone Mobile Fax

Web Email

Headoffice Address Click here if the Contact Address and Head Office address are same

Street/Village Post Area

Upazila District

Introduction

Contact Information

Name Designation Address

Phone Fax Email

| Name | Designation | Address | Phone | Fax | Email |
|------|-------------|---------|-------|-----|-------|
| | | | | | |

Figure-7.1-a NGO/Contact Information Page

NGO Information

NGO/Contact Information
 Legal/Program Information
 Network Supported/Expenses
 NGOs Directory

Registration Information

Name of the Authority:
Registration Number:
Date of Registration:
Date of Renewal:
Remarks:

| Registration Authority | Registration Number | Registration Date | Renewal Date | Remarks |
|------------------------|---------------------|-------------------|--------------|---------|
| | | | | |

Program Information

Name of the Organization's Main Programmes

Program:

Districts Covered

Name of the District:

Programs Covered in Total Number of :

Districts:
Upazilas:
Unions:

Figure-7.1-b Legal/Program Information Sheet

NGO Information

District
 Metropolitan
 Associate

Type of NGO

Enter the Coalition/Network/Sector Network Supported:

Select Program Supported

Program

Total Partners

Expenses

Year Expenditure Remarks

| Year | Expenditure | Remarks |
|------|-------------|---------|
| | | |
| | | |

Others: Organization Information

Total Number of Permanent Staff Total Number of Beneficiaries

Figure-7.1-c Network Supported/Expenses Page

NGO Information

Year of Establishment Working Days Office Time

Branch Information
 Serial Number Name Street/Village
 Post Area Upazila
 District Phone Mobile
 Fax Email

| Sl. No | Branch Name | Street | Post | Area | Upazila | District | Ph |
|--------|-------------|--------|------|------|---------|----------|----|
| | | | | | | | |

Financial Information
 Fund Source Remark

| Fund Source | Remarks |
|-------------|---------|
| | |

Figure-7.1-d NGO Directory Page

Membership Renewal Information- This form is used to store information of the member NGOs for a particular year.

Membership Renewal Information

Year: 2005

| List of NGOs | | List of Members | |
|-----------------|-------------------|-----------------|-------------------|
| Organization ID | Organization Name | Organization ID | Organization Name |
| 1 | | | |

Navigation buttons: Add, Edit, Delete, Exit



Figure-7.2 Membership Renewal Information

Program Information- This form is used to input program information.

Program Information

Program ID Program Name

Remarks (if any)

 **Add Row**  **Del Row**

| Program ID | Program Name | Remarks |
|------------|--------------|---------|
| | | |





 **Add**  **Edit**  **Save**  **Exit**

Figure-7.3 Program Information Form

7.2 Tables and Their Relationships

These tables are the actual outputs of the software, which will be transferred to the web server to support searching in the web.

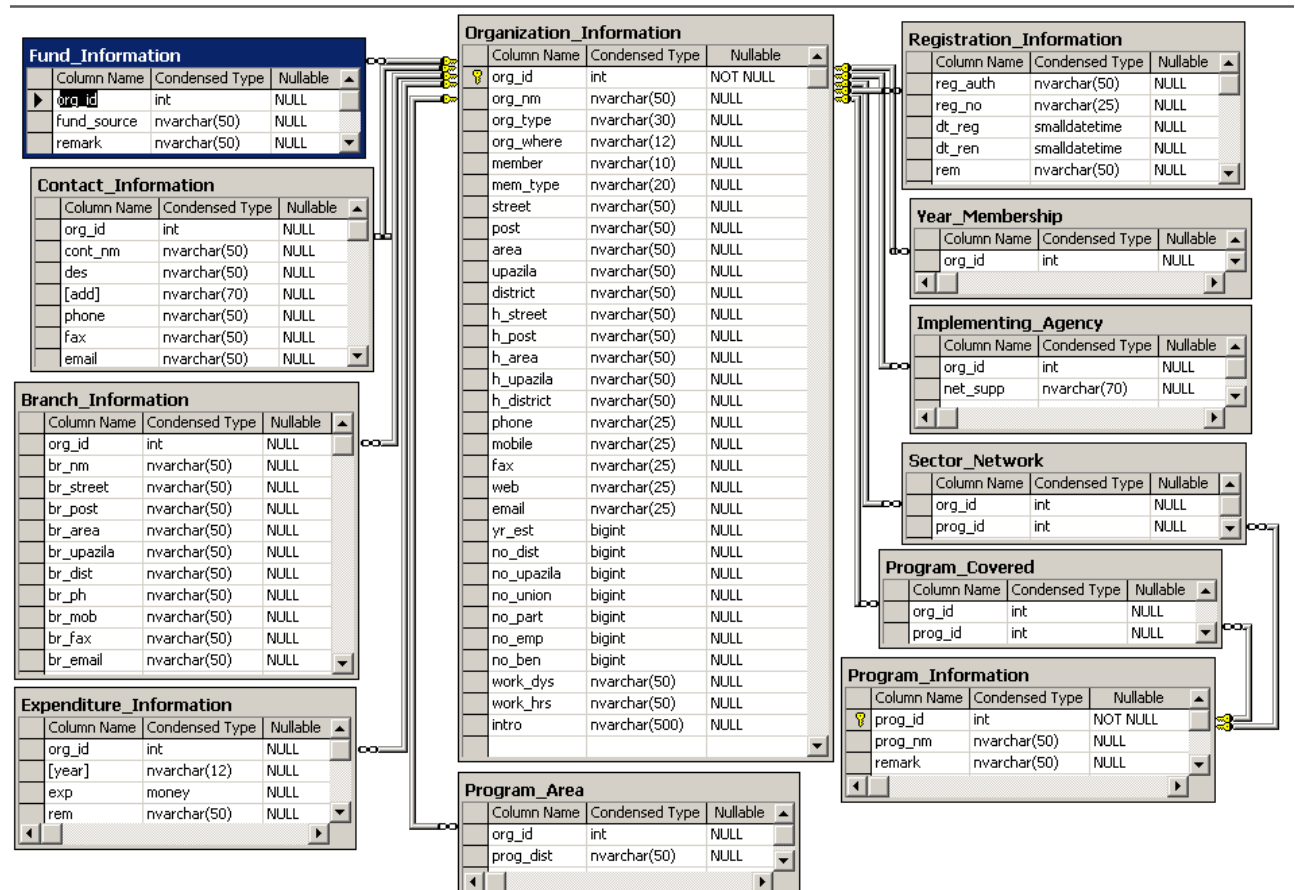


Figure-7.4 Tables and Their Relationship

7.3 Supporting Tables and Forms

The following tables and forms are used to support the security system of the software.

| Company | | | |
|-------------|----------------|----------|--|
| Column Name | Condensed Type | Nullable | |
| compname | char(50) | NULL | |
| compaddr | char(200) | NULL | |
| phone | char(100) | NULL | |
| fax | char(100) | NULL | |
| email | char(100) | NULL | |
| desig1 | char(20) | NULL | |
| fullname1 | char(40) | NULL | |
| desig2 | char(30) | NULL | |
| fullname2 | char(40) | NULL | |

| UserInfo | | | |
|-------------|----------------|----------|--|
| Column Name | Condensed Type | Nullable | |
| UserID | int | NULL | |
| UserName | nvarchar(10) | NULL | |
| Password | nvarchar(10) | NULL | |
| userLevel | int | NULL | |
| LoginDate | datetime | NULL | |

| UserLogRpt | | | |
|-------------|----------------|----------|--|
| Column Name | Condensed Type | Nullable | |
| UserLogID | int | NULL | |
| UserName | nvarchar(10) | NULL | |
| InTime | smalldatetime | NULL | |
| OutTime | smalldatetime | NULL | |

Figure-7.5 Supporting Tables

Sign-in Form- is used to secure the software from unauthorized user access. The user needs a valid user name and password to enter and work with the software.

Figure-7.6 Sign-in Form

Change Password Form- If the user wants to change his/her password s/he can enter into this form and confirm his/her new password.



The image shows a 'Change Password' dialog box. It has a blue title bar with the text 'Change Password' and standard window control buttons (minimize, maximize, close). The main area is light gray and contains four text input fields: 'User Name', 'Old Password', 'New Password', and 'Confirm New Password'. At the bottom, there are two buttons: 'Save' (with a floppy disk icon) and 'Cancel' (with a red arrow icon).

Figure-7.7 Change Password Form

Create/Delete User- This form is used to create a new user and/or to delete an existing user.



The image shows a 'Create/Delete User' dialog box. It has a blue title bar with the text 'Create/Delete User' and standard window control buttons. The main area is light gray and contains several elements:

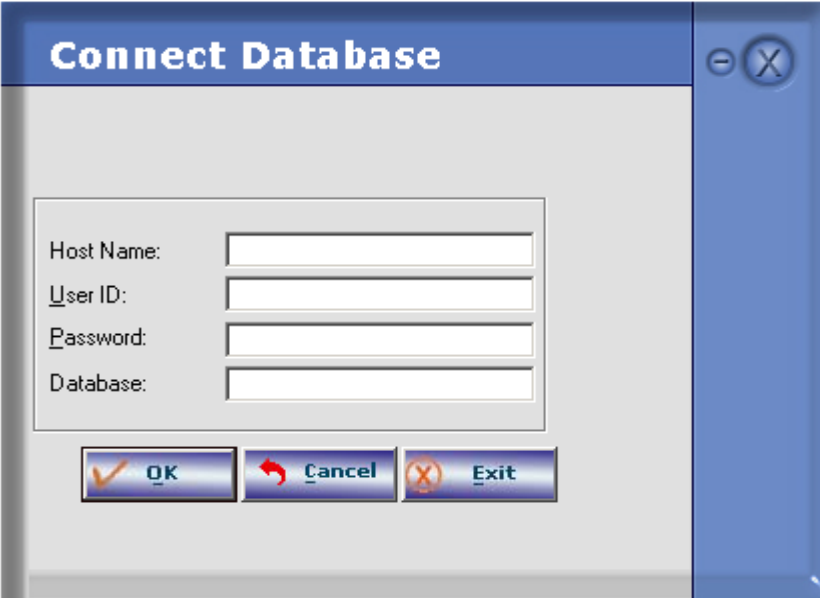
- User Name:** A text input field.
- User Level:** A radio button group with three options: 'Admin', 'Supervisor', and 'Entry'.
- Password:** A text input field.
- Confirm Password:** A text input field.
- Table:** A table with two columns: 'User Name' and 'User Level'. It contains two rows of data:

| User Name | User Level |
|-----------|------------|
| user | 3 |
| admin | 1 |

At the bottom, there are three buttons: 'Save' (with a floppy disk icon), 'Delete' (with a red X icon), and 'Exit' (with a red X icon).

Figure-7.8 Create/Delete User Form

Connect Database- This form is used to locate server and to connect the database with the server when the software is first installed.



The image shows a dialog box titled "Connect Database". It has a blue header bar with the title and standard window control buttons (minimize, maximize, close) on the right. The main area is light gray and contains four text input fields stacked vertically, each with a label to its left: "Host Name:", "User ID:", "Password:", and "Database:". Below the input fields are three buttons: "OK" with a checkmark icon, "Cancel" with a red arrow icon, and "Exit" with a red X icon.

Figure-7.9 Connect Database Form

Company Information- This is a supporting form used to enter information of the company who is using the software.

| Company Information | | | | | | | | | | |
|--|----------------------|----------------------|-----------|-------------|----|----------------------|----------------------|----|----------------------|----------------------|
| Name of Company | <input type="text"/> | | | | | | | | | |
| Address | <input type="text"/> | | | | | | | | | |
| Phone | <input type="text"/> | | | | | | | | | |
| Fax | <input type="text"/> | | | | | | | | | |
| Email | <input type="text"/> | | | | | | | | | |
| <table border="1"><thead><tr><th></th><th>Full Name</th><th>Designation</th></tr></thead><tbody><tr><td>1.</td><td><input type="text"/></td><td><input type="text"/></td></tr><tr><td>2.</td><td><input type="text"/></td><td><input type="text"/></td></tr></tbody></table> | | | Full Name | Designation | 1. | <input type="text"/> | <input type="text"/> | 2. | <input type="text"/> | <input type="text"/> |
| | Full Name | Designation | | | | | | | | |
| 1. | <input type="text"/> | <input type="text"/> | | | | | | | | |
| 2. | <input type="text"/> | <input type="text"/> | | | | | | | | |
| <input type="button" value="Save"/> <input type="button" value="Exit"/> | | | | | | | | | | |

Figure-7.10 Company Information Form

7.4 Reports

A copy of the reports are given in Appendix C.2

8.0 TESTING

Table 8.1:

Tabular format of test result

| Sl. No | Test Description | Result | Fig. | Fields |
|--------|--|---|-----------------|--|
| 1 | Is Organization ID unique for all NGOs? | Organization ID is unique and is generated by the system. Nobody can change the ID. | 8.1 | Organization ID |
| 2 | Do the text fields take all types of character? | Yes, they take alphabets, numbers and other characters | 8.1 | Organization name, contact address, head office address, phone, fax, web, email |
| 3 | Do the numeric fields take numbers? | Yes, they take numbers | 8.2 | Districts, Upazilas, Unions |
| 4 | Do the numeric fields take alphabets and other special characters? | No, the numeric fields do not take any alphabet or special character. | 8.3 | Total Number of Staffs, Total Number of Beneficiaries |
| 5 | Do the numeric fields change to the required format? | Yes, the numeric fields change into the required format. | 8.2 8.3 | Districts, Upazilas, Unions, Expenditure |
| 6 | Does Contact Information, Registration Information, Branch Information, Expenditure Information take multiple information? | Yes, they take multiple information. | 8.1,8.2,8.3,8.4 | Contact Information, Registration Information, Branch Information, Expenditure Information |
| 7 | Can the user select Program Information when the organization is a Sector Network and input Network Supported when the organization is an Implementing Agency? | Yes | 8.3 | Enter the Coalition/Network/Sector Network Supported, Select Program Supported |
| 8 | Does the system save Null values? | Yes | 8.1 | Introduction |
| 9 | Does the system check user name and password correctly during user log in? | Yes | 8.5 | Log in form |
| 10 | Can the user type in new name in the Membership Information | No, the user can only select from the existing organization names. | 8.6 | Membership Information Form |
| 11 | Does the Date Time Picker take the correct Date? | Yes | 8.2 | Registration & Renewal Date |

NGO Information

NGO/Contact Information
Legal/Program Information
Network Supported/Expenses
NGOs Directory

Organization ID:

Name: Member Non-Member

Which Type of membership the organization is applying for:

Honorary Member Regular Member Associate Member

Organization Information

Contact Address

Street/Village: Post: Area:

Upazila: District:

Phone: Mobile: Fax:

Web: Email:

Headoffice Address Click here if the Contact Address and Head Office address are same

Street/Village: Post: Area:

Upazila: District:

Introduction:

Contact Information

Name: Designation: Address:

Phone: Fax: Email:

Add Row Del Row

| Name | Designation | Address | Phone | Fax |
|------------|-----------------|---------------------------|-----------------|-----------------|
| Mr. Matin | Director | 68/2 Dhanmondi Dhaka-1205 | (88)-02-4335443 | (88)-02-5464556 |
| S.A.Rahman | General Manager | 20-C Lalmatia Dhaka-1205 | 97878797 | 798798787 |
| | | | | |

Save Cancel

Figure-8.1 Test Data

NGO Information

NGO/Contact Information Legal/Program Information Network Supported/Expenses NGOs Directory

Registration Information

Name of the Authority: Registration Number:

Date of Registration: 8/11/2004 Date of Renewal: 11/8/2004 Remarks:

| Registration Authority | Registration Number | Registration Date | Renewal Date | Remarks |
|------------------------|---------------------|-------------------|--------------|---------|
| Bangladesh Bank | BB-123 | 8/11/2004 | 11/8/2004 | |
| | | | | |

Program Information

Name of the Organization's Main Programmes

Program:

- 1) Child Education
- 2) Poultry
- 3) Democracy
- 4) Health and Nutrition
- 5) Arsenic
- 6) Disabled
- 7) Livestock
- 8) Training
- 9) Street Child
- 10) Networking
- 11) Water
- 12) Sanitation
- 13) Micro Finance

Districts Covered

Name of the District:

Chittagong
Dhaka
Faridpur
Narayanganj
Rajshahi
Sylhet

Programs Covered in Total Number of :

Districts: Upazilas: Unions:

Figure-8.2 Test Data

NGO Information

NGO/Contact Information
Legal/Program Information
Network Supported/Expenses
NGO's Directory

Where the Organization Intends to Belong to: District Metropolitan Associate

Type of NGO:

Enter the Coalition/Network/Sector Network Supported

Add Row
 Del Row

Chilagong
Dhaka
Rajshahi

Select Program Supported

Add Program
 Del Row

Program

Total Partners

Expenses

Year: Expenditure: Remarks:

Add Row
 Del Row

| Year | Expenditure | Remarks |
|------|--------------------|---------|
| 1990 | 575,765,654,423.00 | |
| 1233 | 4,554,566.32 | |
| | | |

Others: Organization Information

Total Number of Permanent Staff: Total Number of Beneficiaries:

Save
 Cancel

Figure-8.3 Test Data

NGO Information

NGO/Contact Information
Legal/Program Information
Network Supported/Expenses
NGOs Directory

Year of Establishment: Working Days: Office Time:

Branch Information

| | | | | | |
|---------------|----------------------|-------|----------------------|----------------|----------------------|
| Serial Number | <input type="text"/> | Name | <input type="text"/> | Street/Village | <input type="text"/> |
| Post | <input type="text"/> | Area | <input type="text"/> | Upazila | <input type="text"/> |
| District | <input type="text"/> | Phone | <input type="text"/> | Mobile | <input type="text"/> |
| Fax | <input type="text"/> | Email | <input type="text"/> | | |

| Sl. No | Branch Name | Street | Post | Area | Upazila | District | Ph |
|--------|-------------|----------|------|----------|---------|----------|-------|
| 1 | TARC | Savar | 2768 | Savar | Dhaka | Dhaka |)-02 |
| 2 | TARC | Faridpur | 2433 | Faridpur | Dhaka | Dhaka | 3)-02 |

Financial Information

Fund Source: Remark:

| Fund Source | Remarks |
|-----------------|---------|
| Bangladesh Bank | |
| Janata Bank | |

Figure-8.4 Test Data

Sign-in

User Name:

Password:

FNB

Invalid User..Logon Denied..

Figure-8.5 Test Data

Membership Renewal Information

Year:

| List of NGOs | |
|-----------------|-------------------|
| Organization ID | Organization Name |
| 2 | UNDP |
| 4 | World Vision |
| 5 | ABC |

| List of Members | |
|-----------------|-------------------|
| Organization ID | Organization Name |
| 1 | BRAC |
| 3 | DORP |




 Save  Cancel

Figure-8.6 Test Data

9.0 STRENGTHS AND WEAKNESSES OF THE SYSTEM

The strength of the system is that the forms have been designed such that the user can input information in the sequence given in the manual form.

The weakness of the system is, the security system is not that strong and the access control of the user levels (Admin, Supervisor and Entry) shown in **figure: 7.11** have not been assigned. Another weakness of the system is that the serial number in Branch Information has to be input manually and if the user input an existing number then the existing number will be over written by the new information with the same serial number. This problem also exists in Program Information Form. In Program Information while adding a new program a new ID is generated but if a batch of program is added the first ID is assigned by the system when Add is clicked but the ID of the next programs has to be assigned by the user and if the user inputs an existing ID the existing information will be over written by the new information.

10.0 EXTENSION OF THE SYSTEM

Patron Management System for Foundation of NGOs in Bangladesh has been developed to support search member information in the web. But after using the system they have decided to extend the software for their official use too. Foundation of NGOs is now willing to add a searching mechanism which will help them to search any NGO Information using any search criteria.

11.0 HARDWARE AND SOFTWARE REQUIREMENTS

- Pentium II or higher or any other equivalent processor with a minimum of 64 MB (megabytes) of RAM.
- Minimum 2 GB free space in Hard Disk is recommended.
- CD-ROM drive
- VGA monitor, SVGA monitor or better. Monitor display of 1024 x 768 is recommended.
- Either Windows 98 or higher or Windows NT 8.0 or higher with service pack 3 or higher.
- Printer supported by your operating system, if you plan to print reports.
- Foundation of NGOs may use any of the File Transfer Protocol software such as WS FTP Pro.
- Norton Anti-virus or any other anti-virus to keep the system and the machine safe from virus attack. (This is important since the database will be frequently transferred and downloaded to and from the web.)

12.0 NETWORK REQUIREMENTS

To use Patron Management System in LAN environment the following network configuration is required for both sharing a data base file and/or printing to a network printer:

- ◆ Network using either Windows 95 or higher or Windows NT 8.0 or higher with Service Pack 3.

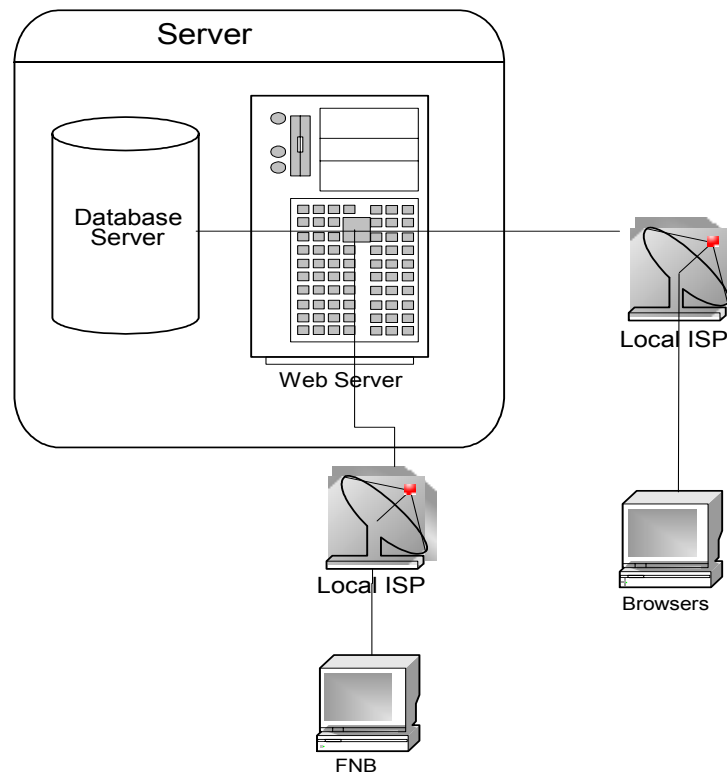


Figure-12.0 Network Diagram

13.0 DESIGN AND IMPLEMENTATION CONSTRAINTS

The design constraint of Patron Management System for Foundation of NGOs is that, all the information related to an NGO needs to be fitted into one form. All the fields have been managed into one form using Microsoft Tabbed Control 6.0 but the general information are scattered so that the user can follow the same sequence of the paper-based form.

14.0 USER DOCUMENTATION

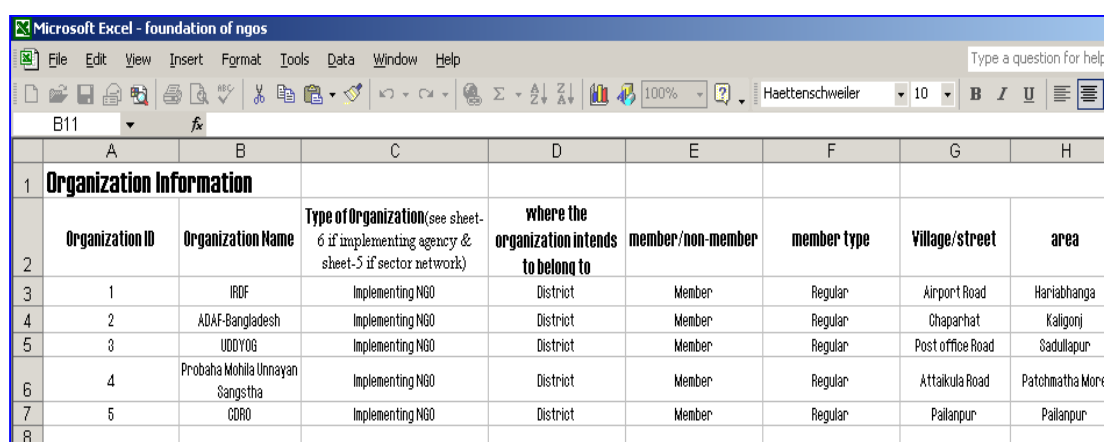
A user manual is provided with the system to guide users during installation and to help them learn the system him/herself.

User Manual is given in Appendix-D

APPENDIX-B

1.0 Sample Excel Sheet

The following **Excel sheets** were designed after some interviews and document study. The users were given these sheets to input information and changes were made when they faced problem to enter information. They used the sheets and gave their feedback on what new information to add and which information should be discarded.



The screenshot shows a Microsoft Excel spreadsheet titled "foundation of ngos". The table contains the following data:

| 1 | Organization Information | | | | | | | |
|---|---------------------------------|---------------------------------|---|---|-------------------|-------------|------------------|-----------------|
| 2 | Organization ID | Organization Name | Type of Organization (see sheet-6 if implementing agency & sheet-5 if sector network) | where the organization intends to belong to | member/non-member | member type | Village/street | area |
| 3 | 1 | IRDF | Implementing NGO | District | Member | Regular | Airport Road | Hariabhang |
| 4 | 2 | ADAF-Bangladesh | Implementing NGO | District | Member | Regular | Chaparhat | Kalligonj |
| 5 | 3 | UDDYOG | Implementing NGO | District | Member | Regular | Post office Road | Sadullapur |
| 6 | 4 | Probaha Mohila Unnayan Sangstha | Implementing NGO | District | Member | Regular | Attaikula Road | Patchmatha More |
| 7 | 5 | CDRO | Implementing NGO | District | Member | Regular | Pailanpur | Pailanpur |
| 8 | | | | | | | | |

Figure B-1 Organization Information

| | A | B | C | D | E | F | G |
|---|----------------------------|----------------------------|--------------------|---------------------------------------|--|---------------|---------------|
| 1 | Contact Information | | | | | | |
| 2 | organization id | Name of the contact person | Designation | Address | Residential Phone No. of the Chief Executive | fax | email |
| 3 | 1 | Md. Reazul Haque Patwari | Executive Director | Airport road, Hariabhang, Lalmonirhat | 0591-61023 | Not available | Not available |
| 4 | 2 | Jamini Kanta Roy Joy | Executive Director | Chaparhat, Lalmonirhat-5520 | Not available | Not available | Not available |
| 5 | 3 | Zillur Rahman Khandoker | Executive Director | Joyenpur, Sadullapur, Gaibandha | Not available | Not available | Not available |
| 6 | 4 | Md. Lutfar Rahman | Executive Director | Nagdha (School para), Atghoria, Pabna | Not available | Not available | Not available |
| 7 | 5 | Hazi Md. Abdullah Faruq | Executive Director | Firoza House, Pailanpur, Pabna | Mobile: 0172-177138 | Not available | Not available |
| 8 | | | | | | | |

Figure B-2 Contact Information

| | A | B | C | D | E | F |
|----|------------------------|---|----------------------------|-----------------------------|------------------------|------------------------|
| 1 | Legal Status | | | | | |
| 2 | Organization ID | Name of the Registration Authority | Registration Number | Date of Registration | Date of renewal | remarks(if any) |
| 3 | 1 | DSS, | Lal/sadar/116/2000 | 2/7/00 | | |
| 4 | | Joint Stock Company | Raj-S/45 | 2/4/00 | | |
| 5 | 2 | Dss | Lal/Kali/97/99 | 28/02/1999 | | |
| 6 | | NGOAB | Not available | Not available | | |
| 7 | 3 | NGOAB | 1456 | 8/12/99 | | |
| 8 | 4 | WAB | MBA/Pab/279/2000 | 5/12/00 | | |
| 9 | 5 | DSS | Pabna-688/99 | 2/6/99 | | |
| 10 | | | | | | |

Figure B-3 Registration Information

| | A | B | C |
|----|-------------------------|--|------------------------|
| 1 | Fund Information | | |
| 2 | organization id | Funding source | remarks(if any) |
| 3 | 1 | Islamic Relief Bangladesh, Centre for Women & Children Studies | |
| 4 | | DAE, Samaj Kallyan Parishad, Own Fund | |
| 5 | 2 | USCC-B, Ngo Foun, BT S, Plan, BRAC, ATSEC, SUPRO, IAVE | |
| 6 | 3 | SDC, IG Bern, BRAC, World Fish Centre, ADD Bangladesh | |
| 7 | 4 | Own Fund & Govt. Fund | |
| 8 | 5 | IDE, IT DG, SDC, UNICEF, IOGH, BADC, MSS, SRG, FEMA | |
| 9 | | SAMATA, HABITET Council, Youth Dev. | |
| 10 | | | |
| 11 | | | |

Figure B-4 Fund Information

| | A | B | C | D |
|----|--------------------------------|-----------|------------------|-----------------|
| 1 | Expenditure Information | | | |
| 2 | organization id | year | expense (amount) | remarks(if any) |
| 3 | 1 | 2000 | 834,941.00 | |
| 4 | | 2001 | 921,315.00 | |
| 5 | | 2002 | 1,216,190.00 | |
| 6 | 2 | | 440,600.00 | |
| 7 | | | 650,600.00 | |
| 8 | | | 870,690.00 | |
| 9 | 3 | 1999-2000 | 938,205.00 | |
| 10 | | 2000-2001 | 2,472,258.00 | |
| 11 | | 2001-2002 | 1,182,560.00 | |
| 12 | 4 | 2000-2001 | 317,555.00 | |
| 13 | | 2001-2002 | 525,750.00 | |
| 14 | | 2002-2003 | 650,275.00 | |
| 15 | 5 | 2000 | 798,950.00 | |
| 16 | | 2001 | 998,688.00 | |
| 17 | | 2002 | 1,248,360.00 | |

Figure B-5 Expenditure Information

| | A | B | C | D | E | F | G | H |
|----|---------------------------|---|-----------------------|-------------|-------------|----------------|-----------------|---------------|
| 1 | Branch Information | | | | | | | |
| 2 | organization id | branch name | street/Village | post | area | upazila | district | phone |
| 3 | 1 | Khedabagh | | | | Lalmonirhat | Lalmonirhat | Not available |
| 4 | | Mirerbari | | | | Mirerbari | Lalmonirhat | Not available |
| 5 | | Rajarhat | | | | Rajarhat | Lalmonirhat | Not available |
| 6 | | Kurigram | | | | Kurigram Sadar | Lalmonirhat | Not available |
| 7 | 2 | Daikhawa | Hatibandha | Daikhawa | | | Lalmonirhat | Not available |
| 8 | | Kalir Thann | Kalir Thann | Kumirhat | Aditmari | | Lalmonirhat | Not available |
| 9 | | Kollkonda (Beside Tista River) | Kollkonda | Kollkonda | Gangchara | | Lalmonirhat | Not available |
| 10 | | Banagram (Beside Banagram Primary School) | Banagram | Kawni | Kawni | | Rangpur | Not available |
| 11 | 3 | Uddyog, Bogra Road | Palashbari | | | | Gaibandha | Not available |
| 12 | 4 | Pabna Sadar | | | | Pabna Sadar | Pabna | Not available |
| 13 | | Atghoria | | | | Atghoria | Pabna | Not available |
| 14 | | Chadmohor | | | | Chadmohor | Pabna | Not available |
| 15 | 5 | Dogaachy | | | | Pabna Sadar | Pabna | Not available |
| 16 | | Solimpur | | | | Pabna Sadar | Pabna | Not available |
| 17 | | Sahapur | | | | Pabna Sadar | Pabna | Not available |
| 18 | | Nazingong | | | | | Pabna | Not available |
| 19 | | Tantibandha | | | | | Pabna | Not available |
| 20 | | Tatibond | | | | | Pabna | Not available |
| 21 | | Sujanagar Sadar | | | | | Pabna | Not available |

Figure B-6 Branch Information

| | A | B | C |
|----|-----------------------------|-------------------------------|------------------------|
| 1 | Programmes Available | | |
| 2 | Programme ID | Programme Name | remarks(if any) |
| 3 | 1 | Adivasis/Etnic Minority | |
| 4 | 2 | Apiculture | |
| 5 | 3 | Adolescent Children | |
| 6 | 4 | Adult Education/Mass Lit. | |
| 7 | 5 | Advocacy & Lobbying | |
| 8 | 6 | Alternative Tech. Dev. & Trg. | |
| 9 | 7 | Arsenic | |
| 10 | 8 | Child Education | |
| 11 | 9 | Child Survival | |
| 12 | 10 | Coordination | |
| 13 | 11 | Credit | |
| 14 | 12 | Capacity Building | |
| 15 | 13 | Day Care Centre | |
| 16 | 14 | Dev. Com. & Pub | |
| 17 | 15 | Democracy | |
| 18 | 16 | Disabled | |
| 19 | 17 | Disaster Pre. & management | |
| 20 | 18 | Election Monitoring | |
| 21 | 19 | Entrepreneurship Development | |
| 22 | 20 | Env. & social Forestry | |

Figure B-7 Programs Available

| | A | B | C | D | E | F |
|----|----------------------------|---------------------|--|----------------------------|-------------|--------------------------------------|
| 1 | Programme Supported | | | | | |
| 2 | Organization ID | Programme ID | Name of the District where the program is covered | Name of the Upazila | Area | Present Status of the program |
| 3 | 1 | 4 | | | | |
| 4 | | 7 | | | | |
| 5 | | 11 | | | | |
| 6 | | 12 | | | | |
| 7 | | 17 | | | | |
| 8 | | 18 | | | | |
| 9 | | 20 | | | | |
| 10 | | 21 | | | | |
| 11 | | 24 | | | | |
| 12 | 2 | All | | | | |
| 13 | 3 | 1 | | | | |
| 14 | | 3 | | | | |
| 15 | | 5 | | | | |
| 16 | | 7 | | | | |
| 17 | | 8 | | | | |
| 18 | | 10 | | | | |

Figure B-8 Programs Supported by the NGO

| | A | B |
|----|----------------------------|---|
| 1 | Implementing Agency | |
| 2 | Organization ID | Name of the Coalition Network |
| 3 | 1 | CWCS, NGO's Consortium, Lalmonirhat |
| 4 | 2 | NGO Forum for DWSS |
| 5 | 3 | BMSP, PHM-Bangladesh, ALRD, NGO Forum for drinking water supply & Sanitation, Forum for regenerity Agri. Movement |
| 6 | | |
| 7 | 4 | Bangladesh National Youth Council, EAMA, IDE, SUPRO, Anti-Tobacco & Drug Network |
| 8 | | |
| 9 | 5 | Not available |
| 10 | | |
| 11 | | |

Figure B-9 Implementing Agency

| | A | B | C |
|---|------------------------|---|---------------------------|
| 1 | Sector Network | | |
| 2 | Organization ID | Programs Supported by the Organization | Number of Partners |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| 6 | | | |

Figure B-10 Sector Network

| | A | B |
|----|-------------------------------|---------------------------------|
| 1 | Membership Information | |
| 2 | Year | Organization Name |
| 3 | 2001 | IRDF |
| 4 | 2001 | ADAF-Bangladesh |
| 5 | 2001 | Probaha Mohila Unnayan Sangstha |
| 6 | 2002 | IRDF |
| 7 | | ADAF-Bangladesh |
| 8 | | Probaha Mohila Unnayan Sangstha |
| 9 | | CDRO |
| 10 | | UDDYOG |
| 11 | | |

Figure B-11 Membership Information

2.0 Updates

Major updates were made in the “Program Supported” sheet because the organizations who obtained FNB’s membership did not reflect which programs are being carried out in which districts/ area and the status of the programs explicitly. The information NGOs provided were- the programs they support, districts and areas where they are currently working. So the sheet was broken down into two sheets as follows:

| | A | B |
|----|----------------------------|---------------------|
| 1 | Programme Supported | |
| | Organization ID | Programme ID |
| 2 | | |
| 3 | 1 | 4 |
| 4 | | 7 |
| 5 | | 11 |
| 6 | | 12 |
| 7 | | 17 |
| 8 | | 18 |
| 9 | | 20 |
| 10 | | 21 |
| 11 | | 24 |
| 12 | 2 | All |
| 13 | 3 | 1 |
| 14 | | 3 |
| 15 | | 5 |
| 16 | | 7 |
| 17 | | 8 |

Figure B-12 Programs Supported

| | A | B |
|---|----------------------------------|--|
| 1 | Coverage Area of the NGOs | |
| | Organization ID | Name of the District where the program is covered |
| 2 | | |
| 3 | 1 | Dhaka |
| 4 | | Sylhet |
| 5 | 2 | Dhaka |
| 6 | | Sylhet |
| 7 | | Chittagong |
| 8 | | |

Figure B-13 Programs Supported

3.0 Sample Form Designed in Excel

The image shows a software interface for an NGO information form. The window title is "NGO Information". It features four tabs: "NGO/Contact Information", "Legal/Program Information", "Network Supported/Expenses", and "NGO Directory". The "NGO/Contact Information" tab is selected. The form includes the following fields and controls:

- Organization ID: Text input field with a "Search" button.
- Organization Name: Text input field.
- Member status: Radio buttons for "Member" and "Non member".
- Membership type: Radio buttons for "Associate Member", "Regular Member", and "Honorary Member".
- Street: Text input field.
- Postoffice: Text input field.
- Area: Text input field.
- Upazila: Text input field.
- District: Text input field.
- Head Office: Text input field.
- Postoffice: Text input field.
- Area: Text input field.
- Street: Text input field.
- District: Text input field.
- Upazila: Text input field.
- Mobile: Text input field.
- Fax: Text input field.
- Phone: Text input field.
- Email: Text input field.
- URL: Text input field.
- Introduction: Text area.
- Contact Information section:
 - Name: Text input field.
 - Designation: Text input field.
 - Address: Text input field.
 - Phone: Text input field.
 - Fax: Text input field.
 - Email: Text input field.
- Buttons: "Add Row" and "Del Row" buttons.
- Bottom navigation: "Add", "Edit", "Delete", and "Exit" buttons.

Figure B-14 NGO Information Form

The forms were designed in Excel and given to the users to use and determine the changes required. The designs were updated according to the user's requirement and the final design was implemented in Visual Basic 6.0 when the users finally approved it.

APPENDIX-C

C.1 PAPER BASED INPUT FORM

ফেডারেশন অব এনজিও-স ইন বাংলাদেশ (এফ এনবি)
THE FEDERATION OF NGOs IN BANGLADESH (FNB)

এফএনবি-র সদস্যপদের (নিয়মিত/সহযোগী) আবেদনপত্র
APPLICATION FORM FOR FNB (REGULAR/ASSOCIATE) MEMBERSHIP

সংস্থাটি কোন ধরনের সদস্যপদের জন্য আবেদন করছে (টিক ✓ দিন)
Which type of membership the organization applying for (Please tick ✓)

নিয়মিত সদস্য
Regular Member

সহযোগী সদস্য
Associate Member

০১. সংগঠন (Organization) :
- ক) নাম (Name) :
- খ) যোগাযোগের পূর্ণ ঠিকানা (Address):
- গ
- প্রধান কার্যালয়ের ঠিকানা :
- (যদি ভিন্ন হয়) :
- গ. ফোন (T & T with local code) : (Mobile) :
- ঘ. ফ্যাক্স (Fax) :
- ঙ. ই-মেইল (E-mail) :
- চ. সংস্থার প্রতিষ্ঠার বৎসর (Year of Establishment) :
০২. সংস্থার নির্বাহী প্রধানের নাম ও ঠিকানা (আবাসিক টেলিফোন নম্বর, যদি থাকে) (Name of the Chief Executive with Address and Residential Telephone No., if any) :
-
-
০৩. নির্বাহী প্রধানের অনুপস্থিতিতে দায়িত্ব সম্পাদনকারী কর্মকর্তার নাম ও পদবী (Name and Designation of the Authorized Person in absence of the Chief Executive) :
-

০৪. আইনগত অবস্থান: নিবন্ধন (Legal Status: Registration) [জয়েন্ট স্টক কোম্পানী, সমাজ সেবা অধিদপ্তর, এনজিও বিষয়ক ব্যুরোসহ সকল প্রকার রেজিস্ট্রেশন নম্বর ও তারিখ উল্লেখ করতে হবে]

| | | |
|--|---------------------------------|---------------|
| রেজিস্ট্রেশনকারী কর্তৃপক্ষের নাম Name of Registration Authority | নিবন্ধন নং: Registration No. | তারিখ Date |
|--|---------------------------------|---------------|

০৫. সংগঠনের সংক্ষিপ্ত পরিচিতি (বিস্তারিত তথ্য আলাদা কাগজে লিখুন অথবা মুদ্রিত থাকলে তা সংযুক্ত করুন):
Brief Introduction of the Organization (Please attach separate sheet for detail information or enclose printed copy if available)

- ক. সংগঠনের কি কি ধরনের কর্মসূচি আছে (আরম্ভের তারিখসহ দুই বৎসর বা ততোধিক সময় চলমান মূল কর্মসূচিসমূহের নাম ও পূর্ববর্তী দুই বৎসরে সমাপ্ত কর্মসূচিসমূহের আরম্ভ ও সমাপ্তির তারিখ):
Name of the Organization's main Programmes completed and on-going:

- 1.
- 2.
- 3.
- 4.
- 5.

- খ. কর্মসূচি বাস্তবায়নের জেলা, উপজেলা ও এলাকাসমূহ (আলাদা কাগজে সংযুক্ত করুন):
Name of districts, upazilas and areas where programmes are implemented (Please write in separate sheets):

- গ. মোট কতটি জেলায় কর্মসূচি বিস্তৃত আছে :
Total number of districts covered

- ঘ. মোট কতটি উপজেলা ও ইউনিয়নে কর্মসূচি বিস্তৃত আছে : উপজেলা- টি, ইউনিয়ন- টি
Total number of upazilas covered

০৬. সংক্ষেপে বাস্তবায়নাবধীন কর্মসূচির বর্তমান হাল:
Present Status of ongoing projects/programmes

.....
.....

০৭. সংগঠন কোথায় অন্তর্ভুক্ত হতে চান : জেলা মেট্রোপলিটন
Where the organization intends to belong: District Metropolitan
০৮. সংগঠনটির প্রকার: বাস্তবায়নকারী এনজিও সেক্টর নেটওয়ার্ক আন্তর্জাতিক এনজিও
Type of the organization: Implementing NGO Sector Network International NGO
০৯. সংগঠনটি বাস্তবায়নকারী সংস্থা হলে-
If it is an implementing Agency
ক) কোন কোয়ালিশন, নেটওয়ার্ক বা সেক্টর নেটওয়ার্কের সদস্য বা অন্তর্ভুক্ত হলে সেই কোয়ালিশন, নেটওয়ার্ক বা সেক্টর নেটওয়ার্কের নাম :
Whether it belongs to any Coalition, Network or Sector Network :
1. 2.
3. 4.
১০. সংগঠনটি সেক্টর নেটওয়ার্ক হলে-
If the organization is a Sector Network
ক) কোন ধরনের কর্মসূচি বা এনজিওকে সহায়তা দিতে এই নেটওয়ার্ক কাজ করে:
Which kind of programmes or NGOs being supported by this Network :
.....
খ) সেক্টর নেটওয়ার্কের মোট সদস্য/পার্টনার সংখ্যা :
Total number of members or partners of the Sector Network:
১১. সংগঠনের গত তিন বছরের মোট বাৎসরিক ব্যয়ের পরিমাণ:
Total expenditure of the organization over the last three years
১) বৎসর (Year) মোট ব্যয় (Total Expenditure)
২) বৎসর (Year) মোট ব্যয় (Total Expenditure)
৩) বৎসর (Year) মোট ব্যয় (Total Expenditure)
১২. আবেদনের তারিখে সংগঠনের স্থায়ী কর্মীর মোট সংখ্যা:
Total number of permanent staff on the date of application:
১৩. সংগঠনের বিভিন্ন কর্মসূচিতে সংগঠিত উপকারভোগী বা দলীয় সদস্যদের মোট সংখ্যা:
Total number of beneficiaries:

আবেদনকারীর ঘোষণা (Declaration of the Applicant)

আমি, নিম্নস্বাক্ষরকারী এতদ্বারা ঘোষণা করছি যে, আমার সংস্থা (.....) ফেডারেশন অব এনজিও-স ইন বাংলাদেশ-এর আদর্শ, উদ্দেশ্য ও কর্মকাণ্ডে আকৃষ্ট হয়ে এবং সংগঠনের গঠনতন্ত্রের প্রতি পূর্ণ আস্থা ও আনুগত্য প্রকাশ করে তার সদস্যপদ লাভে আগ্রহ ব্যক্ত করছি।

আমি প্রত্যয়ন করছি যে, আমার সংস্থাকে সদস্য করা হলে আমি বা আমার সংস্থা উক্ত ফেডারেশনের গঠনতন্ত্র, আদর্শ, উদ্দেশ্য এবং কর্মকাণ্ডের প্রতি সকল সময় আস্থাশীল থাকব। আমি আরো ঘোষণা করছি যে, আমি বা আমার সংস্থা কোন রাজনৈতিক দলের সদস্য বা কর্মকাণ্ডের সাথে সম্পৃক্ত নই এবং ভবিষ্যতেও সম্পৃক্ত হবো না।

I, the undersigned hereby declare that my organization (.....) being attracted by the objects and activities of the Federation of NGOs in Bangladesh (FNB) and expressing allegiance to the Constitution and Memorandum of FNB seeks its membership.

I do affirm that if my organization is given membership of FNB it shall always remain committed to the constitution, objects and activities of the FNB. I further declare that neither me nor my organization is associated in any way with any political party, nor will be in future.

নির্বাহী প্রধানের স্বাক্ষর

Signature of the Chief Executive

নাম (Name):

তারিখ (Date):

জাতীয় কার্যনির্বাহী বোর্ডের সভায় উপস্থাপন ও অনুমোদনের তারিখঃ

Date of submission and approval by NEB:

ফেডারেশন সভাপতির স্বাক্ষর :

Signature of the NEB Chair:

বিঃ দ্রঃ

- প্রয়োজনমতো অতিরিক্ত কাগজ ব্যবহার করুন। [Please use extra sheets if required]
- পূরণকৃত ফরমের সাথে সংগঠনের রেজিস্ট্রেশন সার্টিফিকেটের সত্যায়িত অনুলিপি, বাৎসরিক অডিট রিপোর্ট এবং কর্ম-প্রতিবেদনের অনুলিপিও অবশ্যই জমা দিতে হবে। [Please enclose attested copies of the Registration Certificate, Copies of the Annual Activities Report and Audit Report of the Organization]
- সংগঠনের নির্বাহী কমিটির সদস্যদের নামের পূর্ণ তালিকা ও ঠিকানাও আবেদনপত্রের সাথে সংযোজন করতে হবে। [Also enclose the full list and address of the Executive Committee Members of the Organization]

The Federations of NGOs in Bangladesh (FNB)
Information sheet for the Directory of NGOs in Bangladesh

Central Office:
 House # 64/A, Road#15/A
 Dhanmondi R/A, Dhaka-1209

Name of the organization : _____
 Address : _____

Phone : _____ Fax : _____

E-mail : _____ Web-site : _____

Name of the Chief Executive : _____ Designation: _____

Regional /Project/Branch office:
 (Attach extra sheet with detail address)

Working Day : _____ Office Time : _____

Name of the Programmes (put tick marks in the box of programmes which you are implemented or involved)

- | | | |
|---|---|--|
| <input type="checkbox"/> Adivasis/Etnic Minority | <input type="checkbox"/> Adolescent Children | <input type="checkbox"/> Adult Education/Mass Lit |
| <input type="checkbox"/> Advocacy & Lobbying | <input type="checkbox"/> Aids Prevention | <input type="checkbox"/> Alternative Tech.Dev.&Trg |
| <input type="checkbox"/> Apiculture | <input type="checkbox"/> Arsenic | <input type="checkbox"/> Capacity Building |
| <input type="checkbox"/> Child education | <input type="checkbox"/> Child Survival | <input type="checkbox"/> Coordination |
| <input type="checkbox"/> Credit | <input type="checkbox"/> Day care centre | <input type="checkbox"/> Democracy |
| <input type="checkbox"/> Dev.Com.&Pub | <input type="checkbox"/> Disabled | <input type="checkbox"/> Disaster Pre.& Management |
| <input type="checkbox"/> Election Monitoring | <input type="checkbox"/> Entrepreneurship Development | <input type="checkbox"/> Env.& Social Forestry |
| <input type="checkbox"/> Fisheries | <input type="checkbox"/> Food Processing | <input type="checkbox"/> Functional Education |
| <input type="checkbox"/> Gender & Development | <input type="checkbox"/> Health & Nutrition | <input type="checkbox"/> Housing |
| <input type="checkbox"/> Human Resources Dev. | <input type="checkbox"/> Human Rights | <input type="checkbox"/> Infrastructure Dev |
| <input type="checkbox"/> Institution Building | <input type="checkbox"/> Land Reform & Dev. | <input type="checkbox"/> Legal Aid/LegalEdn. |
| <input type="checkbox"/> Library | <input type="checkbox"/> Livestock | <input type="checkbox"/> MCH & FP |
| <input type="checkbox"/> Media Linkage/Campaign | <input type="checkbox"/> Micro Enter.Dev. | <input type="checkbox"/> Networking |
| <input type="checkbox"/> Non-formal Primary Education | <input type="checkbox"/> Poultry | <input type="checkbox"/> Prevention of Drug,Add |
| <input type="checkbox"/> Reproductive Health | <input type="checkbox"/> Research | <input type="checkbox"/> Rural Enterprise Dev. |
| <input type="checkbox"/> Scholarship Programme | <input type="checkbox"/> Sectoral Forum | <input type="checkbox"/> Social Mobilisation |
| <input type="checkbox"/> Street Children | <input type="checkbox"/> Sustainable Agriculture | <input type="checkbox"/> Training |
| <input type="checkbox"/> Village Volunteer Programme | <input type="checkbox"/> Voter Education | <input type="checkbox"/> Water & Sanitation |
| <input type="checkbox"/> Women's Development | <input type="checkbox"/> Working with the Old | <input type="checkbox"/> Others |

 Signature:
 Chief Executive
 Date:

C.2 REPORTS OF PATRON MANAGEMENT SYSTEM

The Federations of NGOs in Bangladesh (FNB)

House# 64/A, Road# 15/A
 Dhanmondi R/A, Dhaka-1209
 Tel: 815 1920-1, Fax: 815 1920-1
 Website:www.fnb-web.org

Fund Information

BRAC

| Fund Source | Remarks |
|-----------------|-----------------|
| Bangladesh Bank | |
| Janata Bank | |
| Khan Foundation | Private Company |

| Sl. No. | District/Upazila |
|---------|------------------|
| 1 | Dhaka |
| 2 | Comilla |
| 3 | Chittagong |
| 4 | Cox's Bazar |
| 5 | Feni |
| 6 | Khulna |
| 7 | Rajshahi |
| 8 | Sylhet |
| 9 | Barisal |
| 10 | Patuakhali |
| 11 | Barisal |
| 12 | Barisal |
| 13 | Barisal |

| Sl. No. | District/Upazila |
|---------|------------------|
| 1 | Dhaka |
| 2 | Comilla |
| 3 | Chittagong |
| 4 | Cox's Bazar |
| 5 | Feni |
| 6 | Khulna |
| 7 | Rajshahi |
| 8 | Sylhet |
| 9 | Barisal |
| 10 | Patuakhali |
| 11 | Barisal |
| 12 | Barisal |
| 13 | Barisal |

The Federations of NGOs in Bangladesh (FNB)

House# 64/A, Road# 15/A
 Dhanmondi R/A, Dhaka-1209
 Tel: 815 1920-1, Fax: 815 1920-1
 Website: www.fnb-web.org

Program Information

BRAC

| Sl.No. | Programs Supported |
|--------|----------------------|
| 1 | Arsenic |
| 2 | Child Education |
| 3 | Democracy |
| 4 | Disabled |
| 5 | Health and Nutrition |
| 6 | Livestock |
| 7 | Micro Finance |
| 8 | Networking |
| 9 | Poultry |
| 10 | Sanitation |
| 11 | Street Child |
| 12 | Trining |
| 13 | Water |

| Sl. No. | Districts Covered |
|---------|-------------------|
| 1 | Chittagong |
| 2 | Dhaka |
| 3 | Faridpur |
| 4 | Narayanganj |
| 5 | Rajshahi |
| 6 | Sylhet |

The Federations of NGOs in Bangladesh (FNB)

House# 64/A, Road# 15/A
 Dhanmondi R/A, Dhaka-1209
 Tel: 815 1920-1, Fax: 815 1920-1
 Website: www.fnb-web.org

Detail Information

BRAC

| | |
|--------------------------------|-----------------|
| Member | Member |
| Membership Type | Regular Member |
| Street | 66, Mohakhali |
| Post | 1212 |
| Area | Mohakhali |
| Upazila | Dhaka |
| District | Dhaka |
| Phone | 897877 |
| Mobile | 01718768768 |
| Fax | 87789889 |
| WebAddress | www.brac.com |
| Email | brac@yahoo.com |
| Head Office Street | 66, Mohakhali |
| Head Office Post | 1212 |
| Head Office Area | Mohakhali |
| Head Office Upazila | Dhaka |
| Head Office District | Dhaka |
| Year of Establishment | 1,990 |
| Organization Belongs to | Metropolitan |
| Type of Organization | Sector Network |
| Working Days | Saturday-Sunday |
| Working Hours | 9am to 5 pm |

| Total Number of Partners | Total Number of Employees | Total Number of Beneficiaries |
|-----------------------------|---------------------------|-------------------------------|
| 0 | 123,123,123 | 21,312,323 |
| Programs Covered in: | | |
| Total Number of Districts | Total Number of Upazilas | Total Number of Unions |
| 5,654 | 435,345 | 353,454 |

**Brief Introduction of
the Organization**

The Federations of NGOs in Bangladesh (FNB)

House# 64/A, Road# 15/A
 Dhanmondi R/A, Dhaka-1209
 Tel: 815 1920-1, Fax: 815 1920-1
 Website: www.fnb-web.org

Contact Information

BRAC

| Name of the Contact Person | Designation | Address | Phone | Fax | Email |
|----------------------------|-----------------|------------------------------|------------|-----------|------------------|
| Mr. Matin | Director | 68/2 Dhanmondi Dhaka-1205 | 88 02 4335 | 85464556 | matin@yahoo.com |
| S.A.Rahman | General Manager | 20-C Lalmatia Dhaka-1205 | 97878797 | 798798787 | rahman@yahoo.com |

C.3 FEEDBACK FROM USERS ON THE USE OF PROTOTYPE



ফেডারেশন অব এনজিও-স ইন বাংলাদেশ (এফএনবি)
The Federation of NGOs in Bangladesh (FNB)

Central Office :
 House # 64/A, Road # 15/A
 Dhanmondi R/A, Dhaka-1209

কেন্দ্রীয় কার্যালয়ঃ
 বাড়ি # ৬৪/এ, সড়ক # ১৫/এ
 ধানমন্ডি আ/এ, ঢাকা-১২০৯

06 January 2005

To Whom It May Concern

A Microsoft Excel sheet was provided to FNB by the ConnectBD Limited after some participatory interview session. Since we have knowledge in Excel it was easier for us to insert required information in the sheet. It also gave us a clear idea about the information required to develop the Patron Management software for FNB and we could easily provide our feedback on the sheet concerning the other information required to be included and/or removed.

On the basis of our feedback on Excel sheet ConnectBD Limited developed a Demo version of software that helped us to understand the way the system and the data flows will work, the types and designs of the forms and reports. It also helped us to explore and enhance our ideas and overall understanding on the whole process.

We found it to be a good method of communication and understanding between the software developers and the people who will be using the system.

Taposh Kumar Ghosh
 Accounts Manager

APPENDIX-D
USER MANUAL

CHAPTER I

SYSTEM REQUIREMENTS

PREPARING YOURSELF

Before installing Patron Management System (PMS) for Foundation of NGOs in Bangladesh (FNB), you need the following hardware and Operating System.

1.1. Hardware and Software Requirements

- To use System you need the following hardware and software configuration:

- Pentium II or higher or any other equivalent processor with a minimum of 64 MB (megabytes) of RAM.
- Minimum 2 GB free spaces in Hard Disk are recommended.
- CD-ROM drive
- VGA monitor, SVGA monitor or better. Monitor display of 1024 x 768 is recommended.
- Either Windows 98 or higher or Windows NT 8.0 or higher with service pack 3 or higher.
- Printer supported by your operating system, if you plan to print reports.

1.2. Network Requirements

If you want to use PMS in LAN environment you will need the following network requirement. PMS network requirements are the same whether you are sharing a data base file or printing to a network printer.

- ◆ Network using either Windows 95 or higher or Windows NT 8.0 or higher with Service Pack 3 or Novell Server (as file server) version - 8.0 or higher.

You should choose one location as data site for your company's data base file. The location you choose should be accessible from all the computers that need to use PMS. You may also put the data base file on the computer of the person who uses the system most. This allows that person to have the fastest access to the data base file.

1.3 Safety Requirements

To ensure safety of the system Norton or any other anti-virus software should be used. To protect loss of data, back up should be taken at the end of every week. Anti-virus is recommended to be updated within every 15 days.

1.4 Security Requirements

To ensure security every user should be given a user name and password by the administrator. The user can change his/her password if s/he wishes but the password must not be disclosed to anybody else.

CHAPTER II

INSTALLING PATRON MANAGEMENT SYSTEM (PMS)

2.1 Installing Patron Management System(PMS)

This section will instruct you how to install PMS.

- If you are a new user of Windows, Onscreen Tutorial (comes with Windows) will help you to learn about basic Windows techniques.
- To install the system shut down all running programs, including virus protection programs because some virus protection programs interfere with installation.
- Before using PMS install it from CD. Make sure that you have enough space in your hard disk. The process of installing the software is described below:

2.2. Browse from Installation CD.

Insert PMS Installation CD into the CD ROM Drive of your computer. Open the CD from My Computer or Explorer and Figure 2.2 will be displayed on the screen:

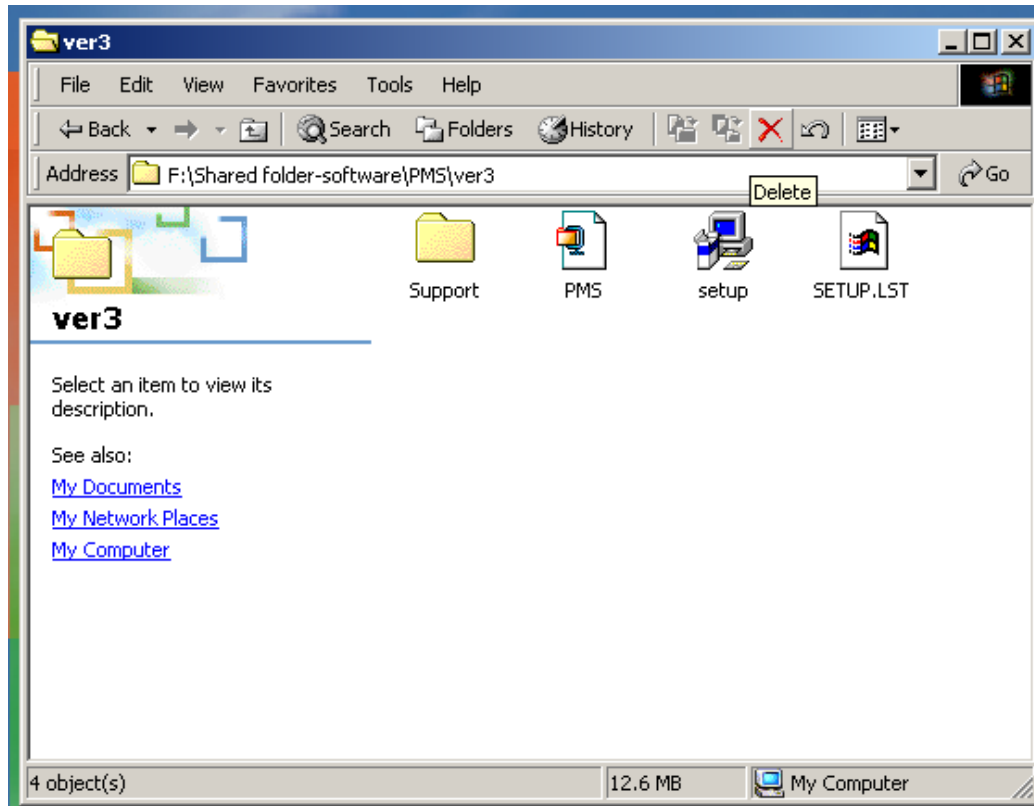


Figure 2.2 Contents of the Installation CD

2.3. Start Installation

Click **setup.exe** icon and it will start the installation wizard.

Step 1:

Click **OK** to install PMS or click **Exit Set up** to exit.

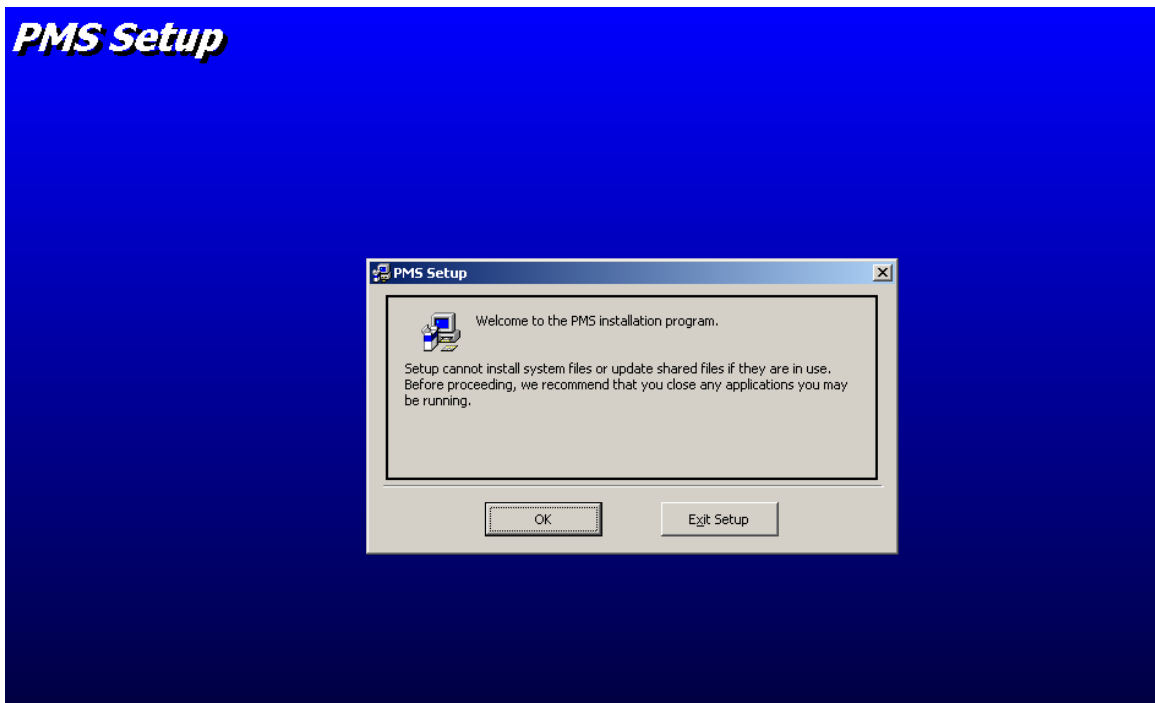


Figure 2.3.1 Welcome Window

Step 2:

The Change directory window will appear as figure 2.3.2. The default directory is C:\Program Files\PMS\. You can click **Change Directory** and select the path if you want to change this path. Click Setup Icon to continue.

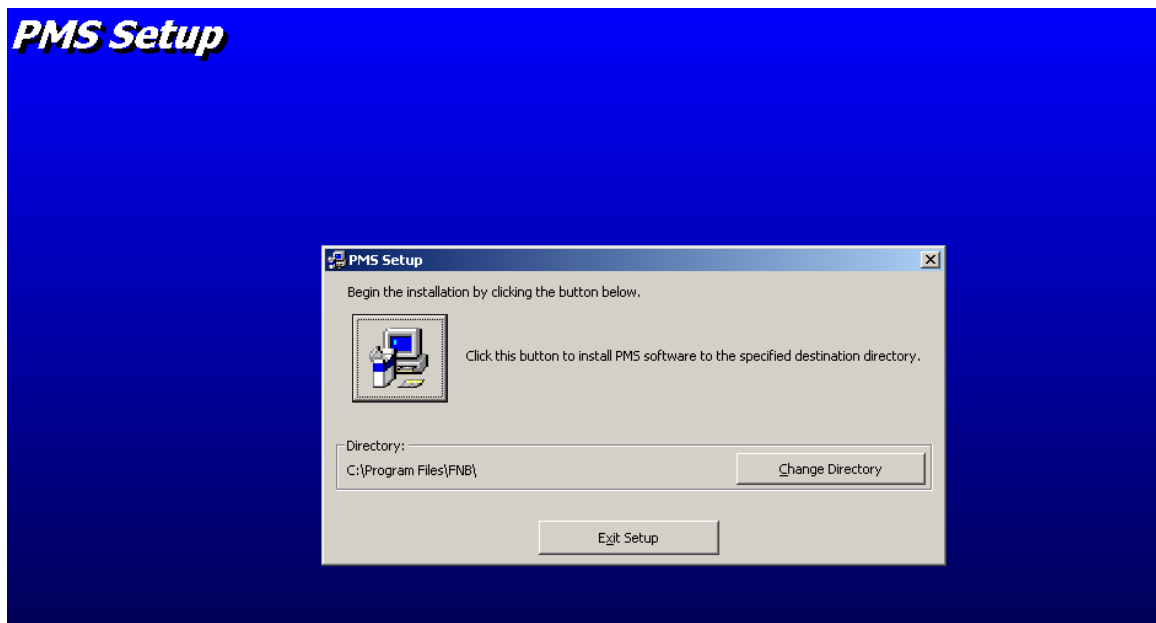


Figure 2.3.2 Change Directory Window

Step 3:

Select Program Group Window will appear as figure 2.3.3. You can Choose Program group where PMS will be found in [Start]→[Programs] on your computer. Press [Continue] to continue installation.

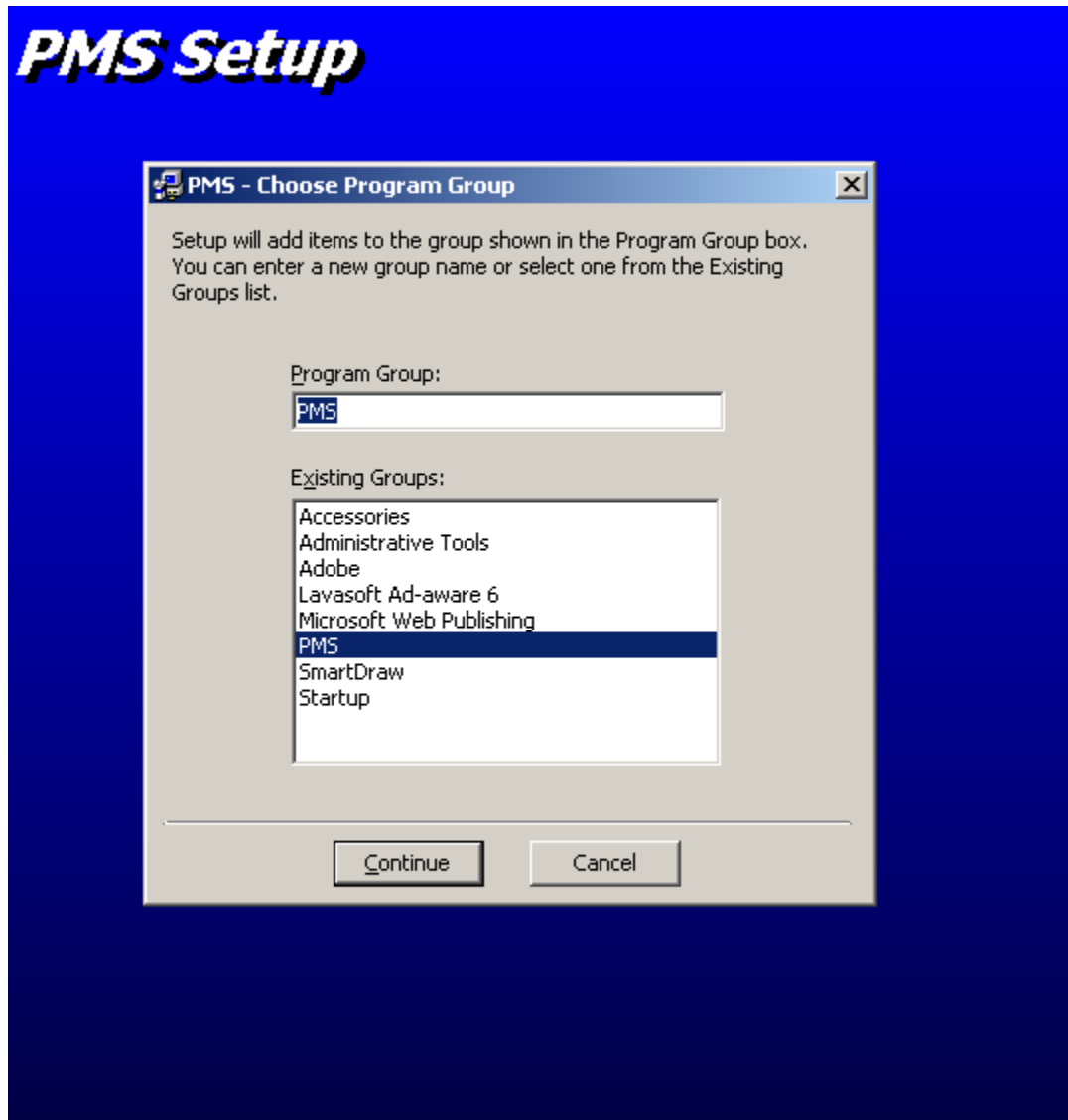


Figure 2.3.3 Select Program Group Window

Step 4:

Progress Window will appear as figure 2.3(d). After completing installation this window will be closed automatically and show the message of successful installation.

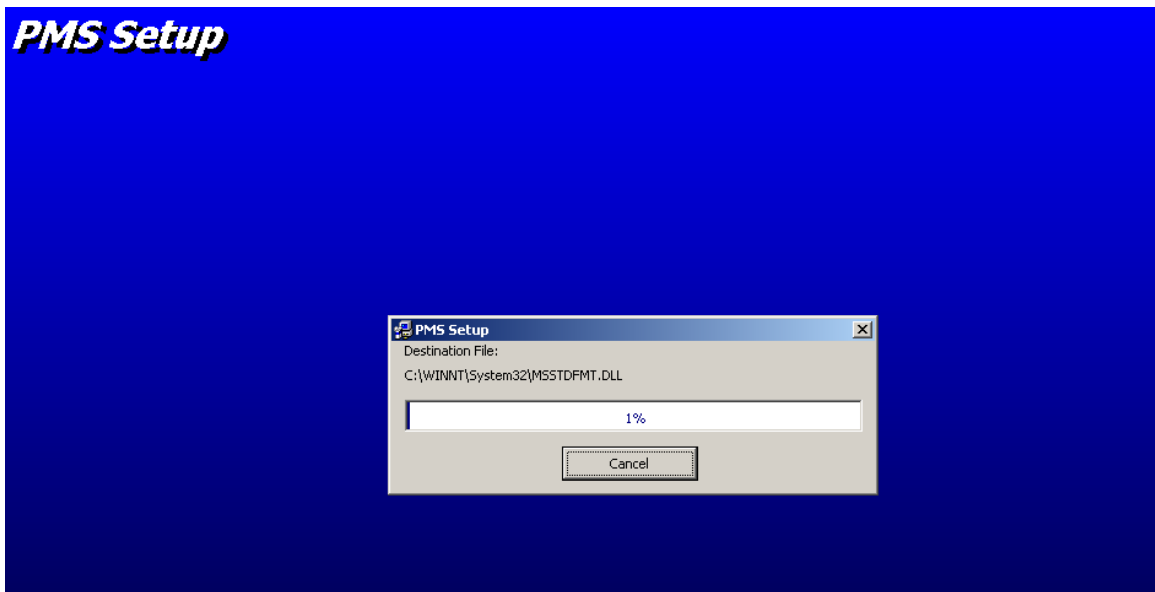


Figure 2.3.4 Progress Window

CHAPTER III

BASIC SETTINGS

3.1 Database Connection Form:

At the first time when you run the software, you will see the following form on the screen:

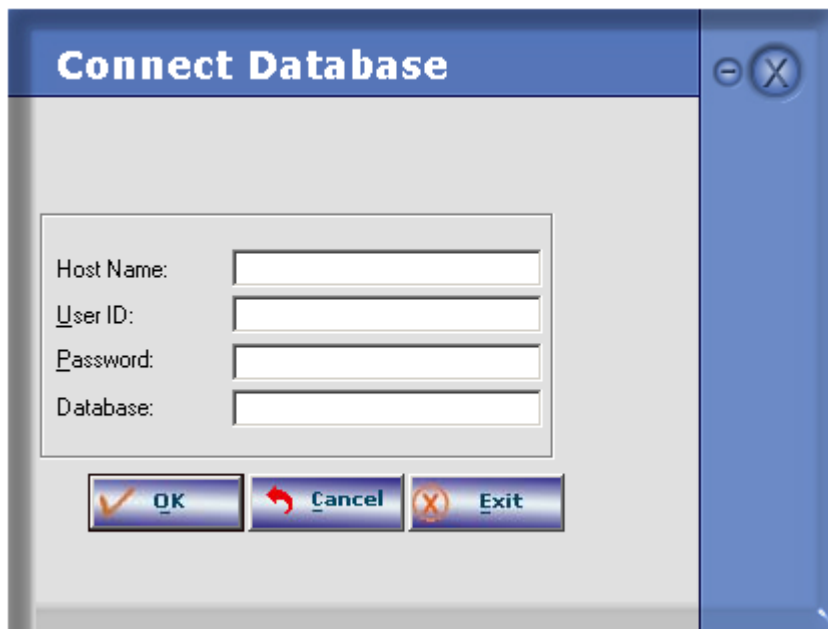


Figure 3.1(a): Database Connection Form

This is the form by which you can connect your database from your server machine. Write your Server name in the “Host Name” text box. Enter ID in the “User ID” text box. If you have Password then enters the password in the “Password” text box. Write your database name in the “Database” text box. Now click on the “OK” button and the Sign-in form will be displayed on the screen as bellow:



Figure 3.1(b): Sign-in Form

Each user name must be different and have a password to sign-in to that user's session. When you install this software a user named "admin" and password "admin" is automatically created. You must login with this default User Name and Password when you login for the first time after installation and then you can create new user if necessary (the steps to create new user is described in section 3.3).

Write User Name as "admin" and Password as "admin" in the corresponding text boxes. Click on "OK" button and you will get the permission to use this software.

When Sign-in the menu is displayed on the screen. Click on settings and this menu serves 3 purposes:

- The user can enter company information from the Company Information submenu.
- The user can enter user related information from the Admin submenu.
- The user can exit from the system from Exit submenu

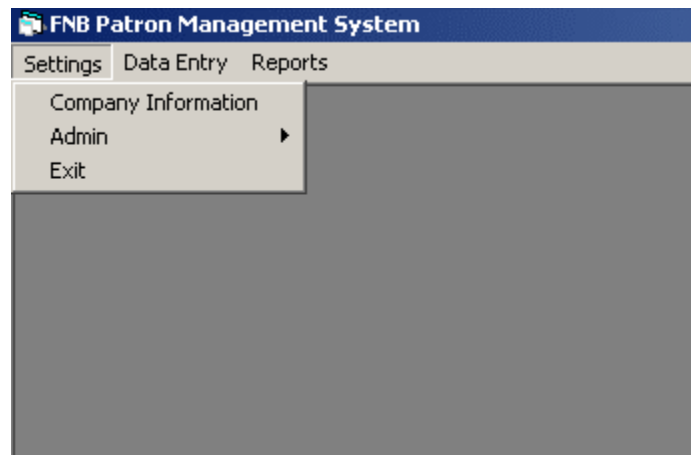


Figure 3.1(c): Setting Menu

3.2 Company Information Entry Screen:

Figure 3.2 is company information entry screen. This Form will store the information about your organization. In this screen you must enter the name of your organization in the “**Organization**” field and address of the organization in the “**Address**” field. These two fields are mandatory i.e. you must have to supply values for these two fields. Other fields are optional. Only one company information should be stored in your system. You can modify the information but not delete it. This will be the title address of all reports generated from the inventory system.

After any new entry or modification click the “Save” button to make the changes permanently.

| Company Information | | |
|-------------------------------------|----------------------|-------------------------------------|
| Name of Company | <input type="text"/> | |
| Address | <input type="text"/> | |
| Phone | <input type="text"/> | |
| Fax | <input type="text"/> | |
| Email | <input type="text"/> | |
| Full Name | | |
| Designation | | |
| 1. | <input type="text"/> | <input type="text"/> |
| 2. | <input type="text"/> | <input type="text"/> |
| <input type="button" value="Save"/> | | <input type="button" value="Exit"/> |

Figure 3.2 Company Information Entry Screen.

3.3 Create/Delete User:

User name is the name of the users who use this software. The maximum length of user name and password will be 10 character of any valid character (Numeric or Alphabetic or any combination). The administrator of the application can create users of three different levels.

User levels: Levels of user is nothing but the privilege grants for a user.

Admin: - is the Top-level user and has the authority to perform any kind of activities. This user can create new user and can invoke every corners of the software.

Supervisor: - is the Medium-level user. This user can perform any kind of activities but cannot create any new user.

Entry: - is the Low-level user. This user can perform searching, adding or modifying records but does not have the right to delete records.

| User Name | User Level |
|-----------|------------|
| user | 3 |
| admin | 1 |

Figure 3.3 New User Entry Screen.

To create a new user, follow the steps given below:

- Click on the “Settings” menu, click “Admin” and click “Add New/Delete User”.
- Set user name and press Tab

- Click the User Level according to the authority you want to grant for the user & Press Tab.
- Enter password & press Tab.
- Enter the same password in the Confirm Password field to confirm that the password has been typed correctly. Press Tab and click Save.

A new user has been created and the user can log in using the new User Name and Password.

You can delete an existing user if you are an admin level user.

To delete a user follow the steps given below:

- Enter the User Name (the User Name must be an existing user name) and press Tab.
- Enter password.
- Click Delete to delete the User.

Note: If the "Delete" button is not enabled then the user name entered in the "User Name" field is not an existing user.

3.4 Change User Password Screen:

Any user can change his/her password. To do this the user must enter his/her User name, old password to confirm that he/she has the right to change the password and then enter the new password in the “New Password” and “Confirm Password” fields.



The screenshot shows a dialog box titled "Change Password". It features a blue header bar with the title and window control icons. The main content area is light gray and contains four text input fields arranged in two pairs. The first pair consists of "User Name" and "Old Password" fields. The second pair consists of "New Password" and "Confirm New Password" fields. Below the input fields are two buttons: "Save" and "Cancel".

Figure 3.4 Change Password Screen.

CHAPTER IV

PATRON MANAGEMENT SYSTEM (PMS)

This section will instruct you how to use Patron Management System section of the software. Patron Management System Operating Manual is very easy and user friendly, which is described below. The Basic Settings for User and Company has been described in Chapter 3.

The software has three menus from where the user can easily navigate between various options and functionality of the software.

4.1 Data Entry Menu:

This menu provides two functionalities to the user

- The user can add, edit, delete and view NGO Information.
- The user can add, edit, delete and view member information.

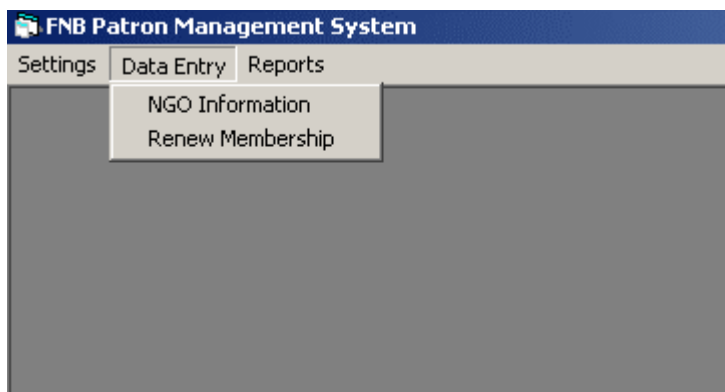



Figure: 4.1 Data Entry Menu

4.2 NGO Information Screen:

To view “NGO Information” screen click “Data Entry” option in the menu and then click on “NGO Information”.

NGO Information

Organization ID  Member Non-Member

Name

Which Type of membership the organization is applying for:

Honorary Member Regular Member Associate Member

Organization Information

Contact Address

Street/Village Post Area

Upazila District

Phone Mobile Fax

Web Email

Headoffice Address Click here if the Contact Address and Head Office address are same

Street/Village Post Area

Upazila District

Introduction


Contact Information

Name Designation Address

Phone Fax Email

| Name | Designation | Address | Phone | Fax | Email |
|------|-------------|---------|-------|-----|-------|
| | | | | | |

Figure: 4.2(a) NGO Information Screen

- You can also view information of the existing NGOs by clicking on the  icon beside Organization Id.
- To ADD any new NGO Click on the “Add” Button. Enter all the required information in the corresponding text boxes.

- If the NGO is a member organization then click on “Member” and select the type of membership. This will enable “Legal/Program Information” and “Network Supported/Expenses” tab. Click on the required tab and input all the information. A member Organization will have NGO/Contact Information(fig. 4.3(a), Legal/Program Information, Network Supported/Expenses and NGO Directory information. The Legal/Program, Network Supported/Expenses and NGO Directory are as follows:

The screenshot displays the 'NGO Information' window with the 'Legal/Program Information' tab selected. The interface is divided into several sections:

- Registration Information:** Contains input fields for 'Name of the Authority', 'Registration Number', 'Date of Registration' (set to 11/8/2004), 'Date of Renewal' (set to 11/8/2004), and 'Remarks'. It includes 'Add Row' and 'Del Row' buttons.
- Table:** A table with columns: Registration Authority, Registration Number, Registration Date, Renewal Date, and Remarks.
- Program Information:**
 - Name of the Organization's Main Programmes:** A list box for 'Program' with 'Add Program', 'Del Row', and 'Add' buttons.
 - Districts Covered:** A list box for 'Name of the District' with 'Add Row' and 'Del Row' buttons.
- Summary:** 'Programs Covered in Total Number of:' with input fields for 'Districts', 'Upazilas', and 'Unions'.
- Footer:** 'Add', 'Edit', 'Delete', and 'Exit' buttons.

Figure 4.2(b) Legal/Program Information

NGO Information

District
 Metropolitan
 Associate

Type of NGO

Enter the Coalition/Network/Sector Network Supported:

Select Program Supported:

Program

Total Partners

Expenses

Year Expenditure Remarks

| Year | Expenditure | Remarks |
|------|-------------|---------|
| | | |

Others: Organization Information

Total Number of Permanent Staff Total Number of Beneficiaries

Figure: 4.2(c) Network Supported/Expenses

NGO Information

NGO/Contact Information Legal/Program Information Network Supported/Expenses **NGOs Directory**

Year of Establishment Working Days Office Time

Branch Information

Serial Number Name Street/Village

Post Area Upazila

District Phone Mobile

Fax Email



| Sl. No | Branch Name | Street | Post | Area | Upazila | District | Ph |
|--------|-------------|--------|------|------|---------|----------|----|
| | | | | | | | |




Financial Information

Fund Source Remark

| Fund Source | Remarks |
|-------------|---------|
| | |

Figure: 4.2(d) NGO Directory

- A non-member organization will have only NGO/Contact and NGO Directory information.
- To add Contact Information/Registration Information/Expenses/Branch Information/Financial Information type the information in the corresponding text boxes and click  button. To Remove an information from a list double click on the information and click . To make changes to any of the information in the list double click on the information and the information will appear in the corresponding text boxes. Make required changes and click on “Add Row”. Note that changes made in the first field (column) of the list will be considered as a new record.

- To select a program from Program Information click  beside the textbox “Program” and select the program.
 - If the Program is not in the list click the button “Program” and carry out the process described in 4.3(d) and then click on  and double click on the program or select the program and click add.
- When all the information of an organization is entered click on “Save”. Note that, Legal/Program Information and Network Supported/Expenses can be only entered if the organization is a member NGO.
- To edit or delete an information click on  button beside “Organization ID” text box and select the organization. Click on Edit, make changes and click on save. To select the organization and click on Delete.

The screenshot displays a software window titled "Program Information". At the top right, there are standard window control buttons (minimize, maximize, close). The main area contains three input fields: "Program ID", "Program Name", and "Remarks (if any)". Below these fields are two buttons: "Add Row" (with a plus icon) and "Del Row" (with a minus icon). A table with three columns is present, with headers "Program ID", "Program Name", and "Remarks". The table is currently empty. At the bottom of the window, there is a row of four buttons: "Add", "Edit", "Save", and "Exit".

| Program ID | Program Name | Remarks |
|------------|--------------|---------|
|------------|--------------|---------|

Figure: 4.2(d) Program Information Screen

- To add a new Program Information click on Add and input information in the corresponding text boxes and “Click on Add Row”.
- To edit a program information click on “Edit” and double click on the program information you want to edit. The selected program information will appear in the corresponding text boxes. Make required changes and click on “Add Row”. Note that change in the Program ID will be considered as a new record.

- To delete a program information click on Edit and double click on the information. The information will be shown in the corresponding text boxes. Click on Del Row and Save. This will delete the program from the list and the new list will be saved.

4.3 Renew Membership Screen

This form helps to select the NGOs who has renewed their membership. Click “Data Entry” from the menu and then click “Renew Membership”.

Membership Renewal Information





Year: 2005

| List of NGOs | |
|-----------------|-------------------|
| Organization ID | Organization Name |
| 1 | |

| List of Members | |
|-----------------|-------------------|
| Organization ID | Organization Name |

Navigation buttons: Add, Edit, Delete, Exit

Figure 4.3 Membership Renewal Screen

- To view the members of the previous years click on  and the NGOs who were members during that particular year will appear on the list under the title “List of Members” . The names of the NGOs which will appear under the title “List of NGOs” are the NGOs who were not the members for that particular year.
- To add members into a year click Add, select the year by clicking on , select the ID or name of the NGO and click  when all the member NGOs have been added click Save. To remove a NGO from the list click .
- To edit an information click on “Edit” select the year, add or remove information from the list and click on Save.
- To delete an information select the year and click Delete.