“ManPower Information System”

Letter of transmittal

August, 2013

Dr. Md. Nawab Yousuf Ali
Department Chair, Computer science & Engineering
East West University
Jahurul Islam City,
Aftabnagar, Dhaka-1212

Dear Sir:

Thank you for assigning us such an attractive topic. I have tried my best to make the project successful on time although there were some limitations. After completing all the jobs I have written this report, which will help you to know about our project. It is expected that the report will tell that to focus on Integration of **ManPower Information System** Software.

I hope you will find the report relevant and meaningful.

Sincerely,

Anirban Halder
EWU ID# 2012-1-96-020
Program: MSc in CSE

Abstract

This project is mainly developed for the project requirement of East West University to ensure the development skill of knowledge. By this information system all activities of any manpower recruitment organization will be distributed among the members through network. Using online form IT people can be member here. As the purpose to keep record of foreign recruited individuals organizations and government may use this system to keep the actual information about human power which is using in abroad.

Acknowledgement

In the name of **ALLAH** who is the most merciful and the most graceful.

First of all I sincerely I would like to pay my gratitude to my project advisor Dr. Md. Nawab Yousuf Ali, Department Chair, Computer science & Engineering, East West University, who has given me the opportunity to make such a report for not only in this semester but also throughout my education life at real sectors by giving his valuable suggestions and advices at any time, at any situation. I would able to make this report effectively and properly only for his right direction. Beside that i again like to thank him to give me an opportunity to submit this report.

Declaration

I, Anirban Halder, a student of MSc in Computer Science & Engineering Of METROPOLITON UNIVERSITY-East West University declaring that, this report on the topic of "ManPower Information System" has been prepared for the fulfillment of the project course CSE 597.

CSE 597, Project as well as the partial requirement of MSc in Computer Science and Engineering degree.

The report and the project on "ManPower Information System" is originally prepared by Anirban Halder. All module and procedure of this project is being made after proper inspection and internet information.

It has not been prepared for any other purposes, rewards or presentations.

.....

Anirban Halder
Program-MSc in CSE
EWU ID: 2012-1-96-020

Letter of Authorization

Dated 05th August, 2013

Anirban Halder

EWU ID# 2012-1-96-020

Program: MSc in CSE

Dear Halder

I hereby authorized you to develop **"ManPower Information System"** to fulfill the requirement of the project of course CSE 597 to complete the Degree of Masters in Computer Science and Engineering.

I wish you complete this project successfully as the part of completion of the degree of Masters in Computer Science and Engineering.

Prof. Dr. Md. Nawab Yousuf Ali
Chairman
Department of Computer Science & Engineering
East West University
Aftabnagar, Dhaka-1212

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–Information References– (Must Include at Last of the Report)
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--PROJECT--

1. INTRODUCTION

The Domain Manpower Information System keeps the day by day tally record as a complete Human transfer & their effort in abroad. It can keep the information of Number of transfer, number of human in specific country, their effort for country and all other record about their job. In manpower recruitment agencies also can store their transaction, Searching the transaction, Transaction report, and their Account. The exciting part of this project is; it displays Agent information, Passport processing & status, Visa Status, different bank account statement, Transaction reports, Statistical Summary of Account

2. AIM

In the existing system the number of human transfer and transactions are done only manually paper-pen based system but in proposed system we have to computerize all the all the processing information and transaction using the **ManPower Information System**. All sort of information manage by an administrator and that is the reason of our main module is Administrative Module.

3. ADMINISTRATIVE MODULE

This module is the main module which performs all the main operations in the system. The major operations in the system are:

- Agent Account Create maintain
- Passport receiving and Status update
- Visa information update
- Agent transaction update
- Agent transaction report
- Passport status report
- Searching Transaction
- Transaction report

4. SYSTEM STUDY AND ANALISYS

4.1. SYSTEM ANALYSIS

System analysis is a process of gathering and interpreting facts, diagnosing problems and the information to recommend improvements on the system. It is a problem solving activity that requires intensive communication between the system users and system developers. System analysis or study is an important phase of any system development process. The system is studied to the minutest detail and analyzed. The system analyst plays the role of the interrogator and dwells deep into the working of the present system. The system is viewed as a whole and the input to the system are identified. The outputs from the organizations are traced to the various processes. System analysis is concerned with becoming aware of the problem, identifying the relevant and decisional variables, analyzing and synthesizing the various factors and determining an optimal or at least a satisfactory solution or program of action.

A detailed study of the process must be made by various techniques like interviews, questionnaires etc. The data collected by these sources must be scrutinized to arrive to a conclusion. The conclusion is an understanding of how the system functions. This

system is called the existing system. Now the existing system is subjected to close study and problem areas are identified. The designer now functions as a problem solver and tries to sort out the difficulties that the enterprise faces. The solutions are given as proposals. The proposal is then weighed with the existing system analytically and the best one is selected. The proposal is presented to the user for an endorsement by the user. The proposal is reviewed on user request and suitable changes are made. This is loop that ends as soon as the user is satisfied with proposal.

Preliminary study is the process of gathering and interpreting facts, using the information for further studies on the system. Preliminary study is problem solving activity that requires intensive communication between the system users and system developers. It does various feasibility studies. In these studies a rough figure of the system activities can be obtained, from which the decision about the strategies to be followed for effective system study and analysis can be taken.

4.2. EXISTING SYSTEM

In the existing system the number of human transfer and transactions are done only manually paper-pen based system. People are using file folder and different types of bookshelf to store the information. Sometimes they get damage due to get old and can be lost as well. Also for calculation they use calculators and hand written receiving latter. If it is necessary to find some passport or the status of passport then they have to search different document from different places

PROBLEMS WITH EXISTING SYSTEM

- Lack of security of data.
- More man power.
- Time consuming.
- Consumes large volume of pare work.
- Needs manual calculations.
- No direct role for the higher officials.
- Damage of machines due to lack of attention.
- Possibility to Lost of information

To avoid all these limitations and make the working more accurately the system needs to be computerized.

4.3. PROPOSED SYSTEM

The aim of proposed system is to develop a system of improved facilities. The proposed system can overcome all the limitations of the existing system. The system provides proper security and reduces the manual work.

ADVANTAGES OF THE PROPOSED SYSTEM

The system is very simple in design which is very user friendly and easy to implement. The system requires very low system resources and the system will work in almost all configurations. It has got following features

- Security of data.
- Ensure data accuracy's.
- Proper control of the higher officials.
- Reduce the damages of the machines.
- Minimize manual data entry.
- Minimum time needed for the various processing.
- Greater efficiency.
- Better service.
- User friendliness and interactive.
- Minimum time consumption.

4.4. FEASIBILITY STUDY

Feasibility study is made to see if the project on completion will serve the purpose of the organization for the amount of work, effort and the time that spend on it. Feasibility study lets the developer foresee the future of the project and the usefulness. A feasibility study of a system proposal is according to its workability, which is the impact on the organization, ability to meet their user needs and effective use of resources. Thus

when a new application is proposed it normally goes through a feasibility study before it is approved for development.

The document provide the feasibility of the project that is being designed and lists various areas that were considered very carefully during the feasibility study of this project such as Technical, Economic and Operational feasibilities. The following are its features:

- **TECHNICAL FEASIBILITY**

The system must be evaluated from the technical point of view first. The assessment of this feasibility must be based on an outline design of the system requirement in the terms of input, output, programs and procedures. Having identified an outline system, the investigation must go on to suggest the type of equipment, required method developing the system, of running the system once it has been designed.

Technical issues raised during the investigation are:

Does the existing technology sufficient for the suggested one?
Can the system expand if developed?

The project should be developed such that the necessary functions and performance are achieved within the constraints. The project is developed within latest technology. Through the technology may become obsolete after some period of time, due to the fact that never version of same software supports older versions, the system may still be used. So there are minimal constraints involved with this project. The system has been developed using Java the project is technically feasible for development.

- **ECONOMIC FEASIBILITY**

The developing system must be justified by cost and benefit. Criteria to ensure that effort is concentrated on project, which will give best, return at the earliest. One of the factors, which affect the development of a new system, is the cost it would require.

The following are some of the important financial questions asked during preliminary investigation:

- The costs conduct a full system investigation.
- The cost of the hardware and software.
- The benefits in the form of reduced costs or fewer costly errors.

Since the system is developed as part of project work, there is no manual cost to spend for the proposed system. Also all the resources are already available, it give an indication of the system is economically possible for development.

- **OPERATIONAL FEASIBILITY**

This includes the following questions:

- Is there sufficient support for the users?
- Will the proposed system cause harm?

The project would be beneficial because it satisfies the objectives when developed and installed. All behavioral aspects are considered carefully and conclude that the project is behaviorally feasible.

5. System Design

5.1. INTRODUCTION

Design is the first step into the development phase for any engineered product or system. Design is a creative process. A good design is the key to effective system. The term "design" is defined as "the process of applying various techniques and principles for the purpose of defining a process or a system in sufficient detail to permit its physical realization". It may be defined as a process of applying various techniques and principles for the purpose of defining a device, a process or a system in sufficient detail to permit its physical realization. Software design sits at the technical kernel of the software engineering process and is applied regardless of the development paradigm that is used. The system design develops the architectural detail required to build a system or product. As in the case of any systematic approach, this software too has undergone the best possible design phase fine tuning all efficiency, performance and accuracy levels. System design goes through two phases of development: Logical and Physical Design.

5.2. LOGICAL DESIGN:

The logical flow of a system and define the boundaries of a system. It includes the following steps:

- Reviews the current physical system – its data flows, file content, volumes , frequencies etc.
- Prepares output specifications – that is, determines the format, content and frequency of reports.
- Prepares input specifications – format, content and most of the input functions.
- Prepares edit, security and control specifications.
- Specifies the implementation plan.
- Prepares a logical design walk through of the information flow, output, input, controls and implementation plan.
- Reviews benefits, costs, target dates and system constraints.

5.3. PHYSICAL DESIGN:

Physical system produces the working systems by define the design specifications that tell the programmers exactly what the candidate system must do. It includes the following steps.

- Design the physical system.
- Specify input and output media.
- Design the database and specify backup procedures.
- Design physical information flow through the system and a physical design Walk through.
- Plan system implementation.
- Determine training procedures, courses and timetable.
- Devise a test and implementation plan and specify any new hardware/software.
- Update benefits , costs , conversion date and system constraints

5.4. Design/Specification activities:

- Concept formulation.
- Problem understanding.
- High level requirements proposals.
- Feasibility study.
- Requirements engineering.
- Architectural design.

5.5. Analysis Modeling and Design Methodologies

At a technical level, software engineering begins with a series of modeling tasks that lead to a complete specification of requirements and a comprehensive design representation for the software to be built. Analysis modeling uses a combination of text and diagrammatic forms to depict requirements for data, function and behavior in a way that is relatively easy to understand and more important, straightforward to review for correctness, completeness and consistency. The analysis model is the first technical representation of a system.

There are a few analysis modeling methods but two of those models are widely used. They are – structured analysis and object oriented analysis (OOA). The structured analysis model is used in this project. Because OOA is used when there are many

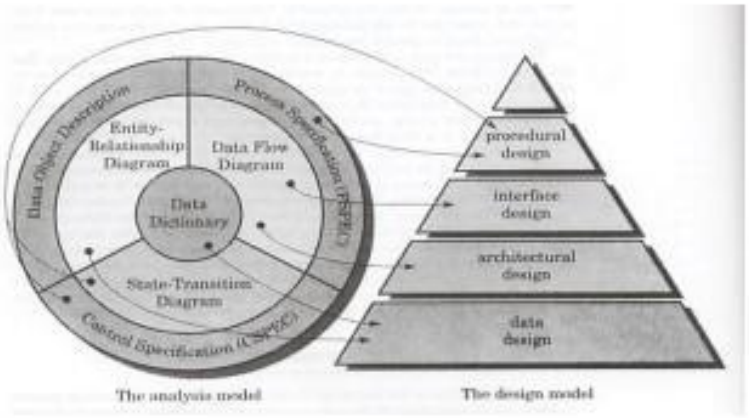
transformation flows. If there are many transformation flows, there is a great chance of data corruption. As there are very few transformation flows and many transaction flows in this system, structured analysis has been chosen.

The structured analysis is a classical modeling method which is used for a long time. It is a model building activity. These processes are mapped into design architecture. An analysis model has been used for structured analysis.

The analysis model must achieve three primary objectives:

- to describe what the customer usually do
- to establish a basis for the creation of a software design
- to define a set of requirements that can be validate once the software is built.

At the core of the model lies *data dictionary* which is a repository that contains descriptions of all data objects consumed or produced by the software. The data dictionary has been described in section 2.11.3. The core is surrounded by three different diagrams – entity relationship diagram (ERD), data flow diagram (DFD).



5.6. DATABASE DESIGN

A database is an organized mechanism that has the capability of storing information through which a user can retrieve stored information in an effective and efficient manner. The data is the purpose of any database and must be protected.

The database design is a two level process. In the first step, user requirements are gathered together and a database is designed which will meet these requirements as clearly as possible. This step is called Information Level Design and it is taken independent of any individual DBMS.

In the second step, this Information level design is transferred into a design for the specific DBMS that will be used to implement the system in question. This step is called Physical Level Design, concerned with the characteristics of the specific DBMS that will be used:

- Data Integrity
- Data independence

To decrease the searching time I tried to make the database such a way that table can be create dynamically fully controlled by the application. So it will be easier to search and consume less time which also support Normalization

Normalization is the process of decomposing the attributes in an application, which results in a set of tables with very simple structure. The purpose of normalization is to make tables as simple as possible. Normalization is carried out in this system for the following reasons.

- To structure the data so that there is no repetition of data, this helps in saving.
- To permit simple retrieval of data in response to query and report request.
- To simplify the maintenance of the data through updates, insertions, deletions.
- To reduce the need to restructure or reorganize data which new application requirements arise?

5.7. Entity Relationship model

In software engineering, an **Entity–relationship model** (**ER model**) is a data model for describing a database in an abstract way. An ER model is an abstract way of describing a database. In the case of a relational database, which stores data in tables, some of the

data in these tables point to data in other tables - for instance, your entry in the database could point to several entries for each of the phone numbers that are yours. The ER model would say that you are an entity, and each phone number is an entity, and the relationship between you and the phone numbers is 'has a phone number'. Diagrams created to design these entities and relationships are called entity–relationship diagrams or ER diagrams.

5.8. Identifying the Entities

Identifying the Entities according to the conceptual Design:

1. Agent
2. Passport
3. BalanceUpd
4. Rent
5. RentUser
6. Ticket
7. TktAgency
8. VisaInfo
9. VisaAgent

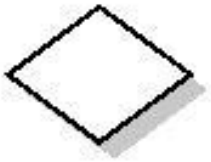
5.9. Entity Relationship Diagram

The *Entity Relationship Diagram* (ERD) enables a software engineer to fully specify the data objects that are input and output from a system, the attributes that define the properties of these objects and their relationship. It provides an excellent graphical representation of the data structures and relationship. They provide a clear view of the logical structure of data within the boundary of interest and allow the engineer to model the data without considering the physical form.

Some of the basic terms used in ERD are described below:

Entity: An entity is an object with physical existence or may be an object with conceptual existence. For example a car, a student, an employee, an applicant. An entity is represented by a rectangle.

Relationship: A relationship is a logical linkage between two or more entities which describes how the entities are associated with each other. A relationship is described by a diamond.



5.10. Relationship Cardinality

Relationship cardinality refers to the number of entity instances involved in the relationship. The cardinality ratios are:

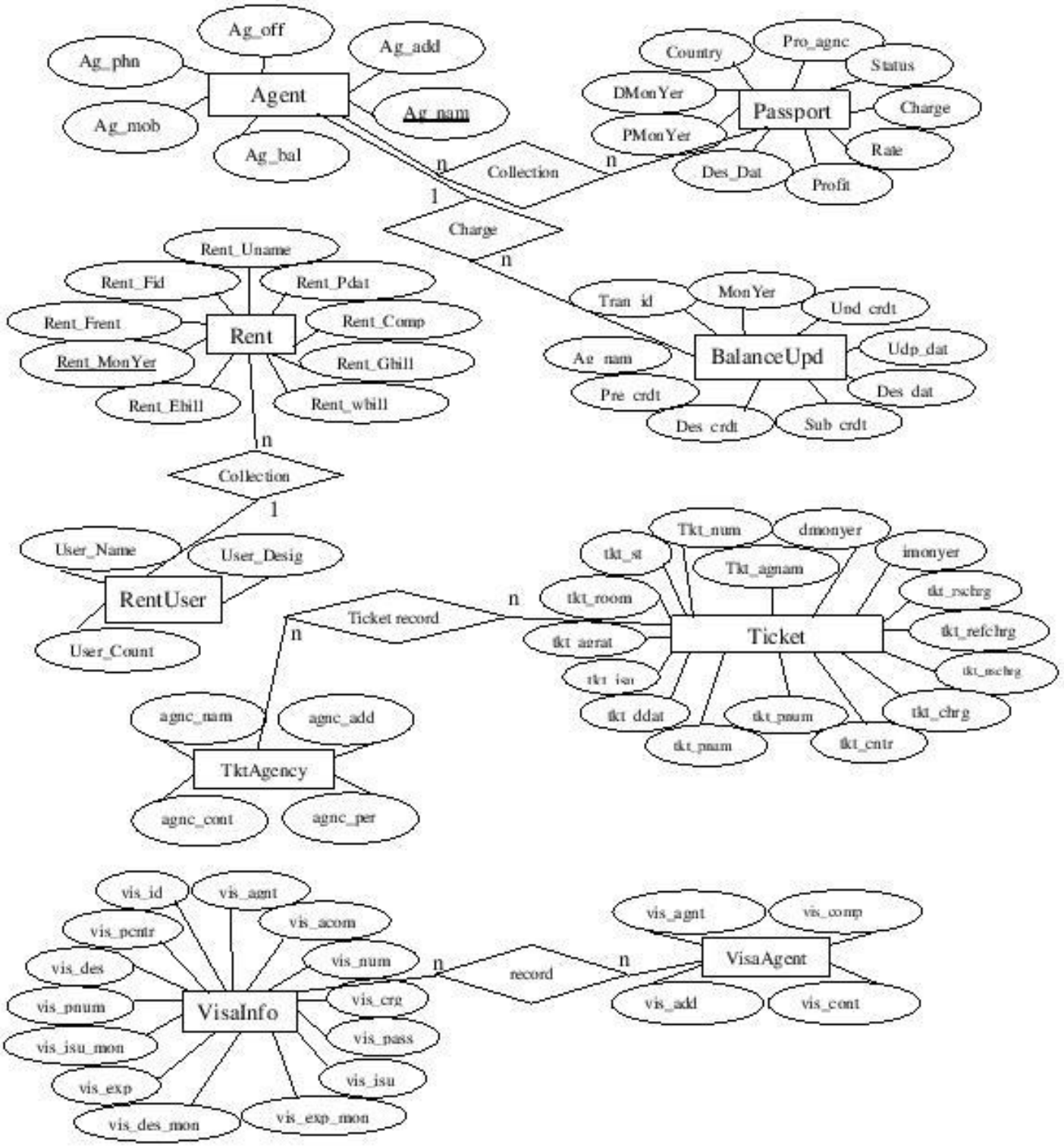
- 1:1 (One to One)
- 1:N (One to Many)
- M:N (Many to Many)

Attribute: Attribute is a piece of information that describes a particular entity. A attribute is described by a oval.

Primary Key: A primary key is an attribute or collection of attributes that allow us to identify an entity uniquely. Naturally a underline (PK) is using in attribute to identifying primary key.

Foreign key: A foreign key is an attribute of a relation which refers to an existing attribute of another relationship.

5.11. Entity Relationship Diagram



5.12. DATABASE TABLES STRUCTURE

Table: Agent

Field Name	Data Type
Ag_nam	Text
Ag_nid	Text
Ag_add	Memo
Ag_phn	Text
Ag_mob	Text
Ag_bal	Text

Table: BalanceUpd

Field Name	Data Type
Tran_id	Number
Ag_nam	Text
Pre_crdt	Text
Add_crdt	Text
Des_del	Text
Des_crdt	Text
Sub_crdt	Text
Upd_crdt	Text
Upd_dat	Text
MonYer	Text

Table: Passport

Field Name	Data Type
Country	Text
Pro_agnc	Text
Status	Text
Charge	Number
DesDat	Text
Rate	Number
Profit	Number
PMonYer	Text
DMonYer	Text

Table: Rent

Field Name	Data Type
Rent_Unam	Text
Rent_Hid	Text
Rent_Trent	Number
Rent_MonYer	Text
Rent_Ebill	Number
Rent_Gbill	Number
Rent_Wbill	Number
Rent_Comp	Number
Rent_Pdat	Text

Table: Ticket

Field Name	Data Type
tkt_agnam	Text
tkt_[illegible]	Text
tkt_num	Text
tkt_room	Text
tkt_agrat	Number
tkt_[illegible]	Text
tkt_ddat	Text
tkt_pnam	Text
tkt_[illegible]	Text
tkt_cntr	Text
tkt_chrg	Number
tkt_[illegible]	Number
tkt_[illegible]	Number
tkt_rschrg	Number
tmonyer	Text
dmonyer	Text

Table: TktAgency

Field Name	Data Type
agnc_nam	Text
agnc_add	Memo
agnc_cont	Number
agnc_per	Text

Table: RentUser

Field Name	Data Type
User_Name	Text
User_Desig	Text
User_Cont	Number

Table: VisaAgent

Field Name	Data Type
vis_agnt	Text
vis_comp	Text
vis_add	Memo
vis_cont	Number

Table: VisaInfo

Field Name	Data Type
vis_id	Number
vis_agnt	Text
vis_acom	Text
vis_num	Text
vis_org	Number
vis_isu	Text
vis_isu_mon	Text
vis_exp	Text
vis_exp_mon	Text
vis_des	Text
vis_des_mon	Text
vis_pass	Text
vis_pnum	Text
vis_pcntr	Text

6. SYSTEM DESCRIPTION

To develop **ManPower Information System** I use some module (part of the software required by the most of the recruiting agencies) are listed below:

- Authorized Agent
- Account Balance of Agent
- Record of Passport submission and their status
- Ticket information
- Ticket Agency information
- Visa information
- Rent of office room
- Rent of office room for Agent

Authorized Agent: Agent must have account in organization where he has deposit because organization does not economically deal with client. So authorized agent will collect the people who want to go to abroad for different types of job opportunity. They collect the valid passport and submit to organization for further processing.

Account Balance of Agent: When passport processing is done then charge will automatically deducted from agent account and balance will be update with all the information of passport process. If passport cannot be process due to any circumstance then balance will remain same but if is expired by the client then minimum charge will be deducted.

Record of Passport submission and their status: there are 4 status of passport after submission. Initially it is pending. All the status is given below.

- **Dispatch** (Processing done. Cost is deducted from Agent)
- **Refund** (Process not done. No cost)
- **Pending** (Waiting for Process. No cost)
- **Expired** (Process done but client not respond. Minimum Cost is deducted from Agent)

Ticket information: After passport processing for visa then client can collect their transportation ticket. However most of the client depends on the organization so that

organization also has some collaboration with ticket agency where they buy ticket for the client. This information also record because sometime ticket need to be changed or replace.

Ticket Agency information: As organization buy, change and replace ticket from different agency then Ticket agency should be authorized. Also all agencies are not selling all types of ticket of all airlines. So by the demand of the client organization should find appropriate ticket agency where they can collect desire ticket.

Visa information: Organization also keeps the record of release of visa from different country and assign to their client. It is also possible to get complain from client that the job visa and the actual job is not same or salary is not according to visa information then organization investigate according to the visa information.

Rent of office room: Based on the size of room facility (e.g. washroom, water, window, floor and room partition) they have some fixed rent and to have the proper record of system and make the system more accurate this information is also keep in database.

Rent of office Room for Agent: Authorized agent use the office in the same building in organization so that document and information especially money cannot be lost. In that case to use the reputation and space of organization authorized agent has to pay monthly rent for their office room. Also there is another option that if any agent wants to take office outside of the organization then it is also accepted.

6.1. Data Flow Diagram

A *data flow diagram* is a graphical representation that depicts information flow and the transforms that are applied as data move from input to output. It is known as data flow graph or bubble chart (Pressman 3111).

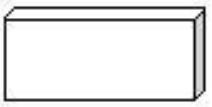
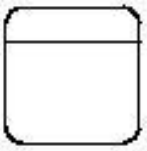
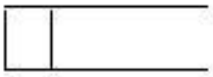
The DFD may be used to represent a system or software at any level of abstraction. DFD may be partitioned into levels that represent increasing information flow and functional detail. Therefore, the DFD provides a mechanism for functional modeling as well as information flow modeling.

A level 0 DFD, which is also known as fundamental system model or a context model, represents the entire software or system element into as a single bubble with input and output data indicated by incoming and outgoing arrows respectively. Then bubble of context model should be decomposed into several levels.

In DFD, there are four symbols that are given in the figure:

- A *square* defines a *source* or *destination* that is *external entity* of system data.
- An *arrow* identifies *data flow* that is data in motion. It is a pipeline through which information flows.
- A *circle* or a *bubble* represents a *process* that transforms incoming data flow(s) into outgoing data flow(s).
- An *open rectangle* is a *data store* or a temporary repository of data.

6.2. Symbol of DFD

Description	Symbol
Data flow	
Source & Destination	
Process	
Data Store	

6.3. Data Flow Model for ManPower Information System

Context Level Diagram

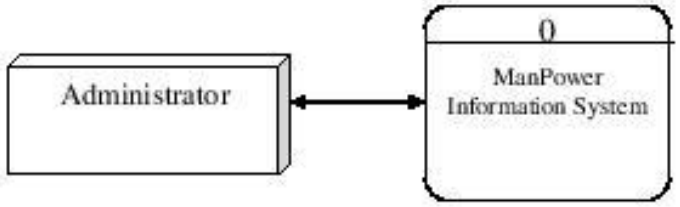


Fig: Context level Diagram

Level 1 DFD

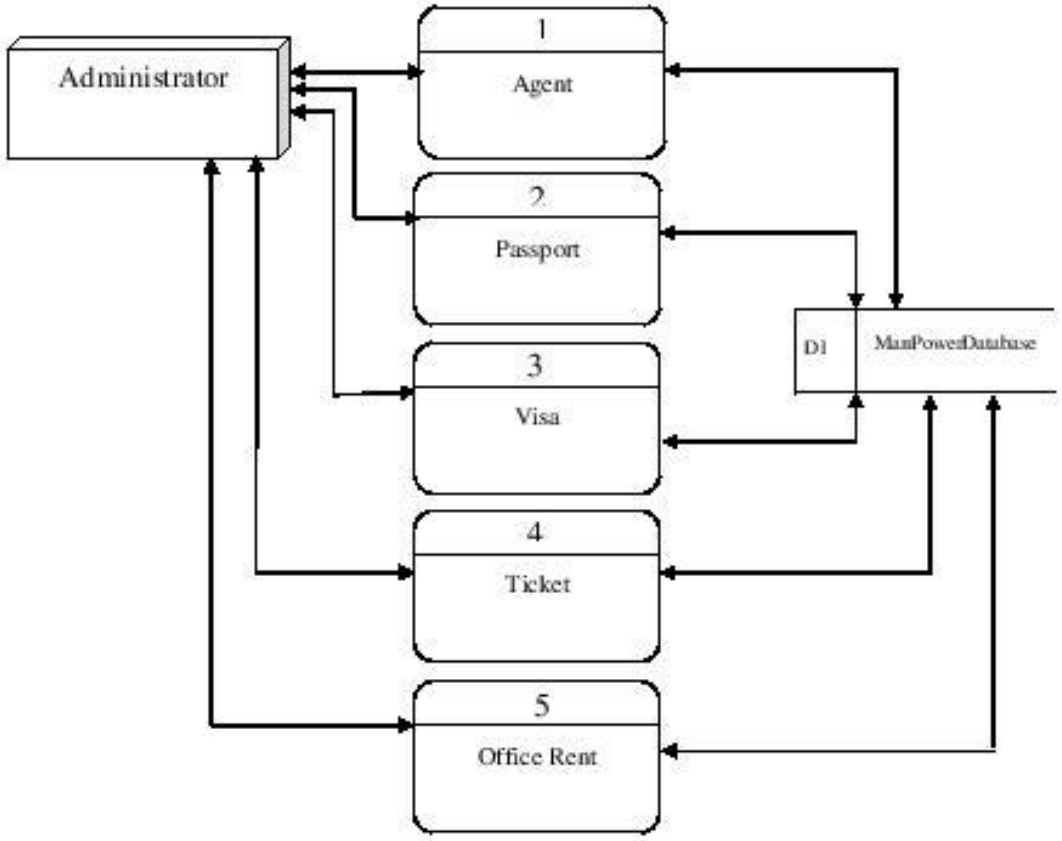


Fig: level 1 Diagram

Level 2 of Process 1

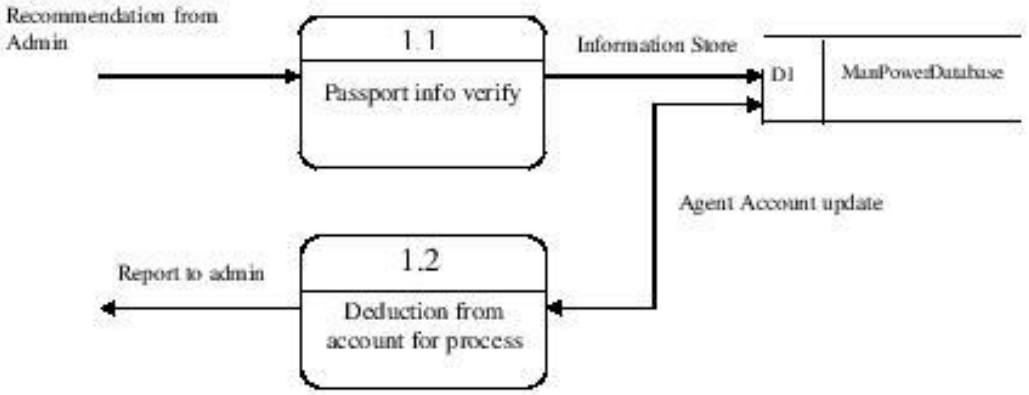


Fig: level 2 Diagram of process 1

Level 2 of Process 2

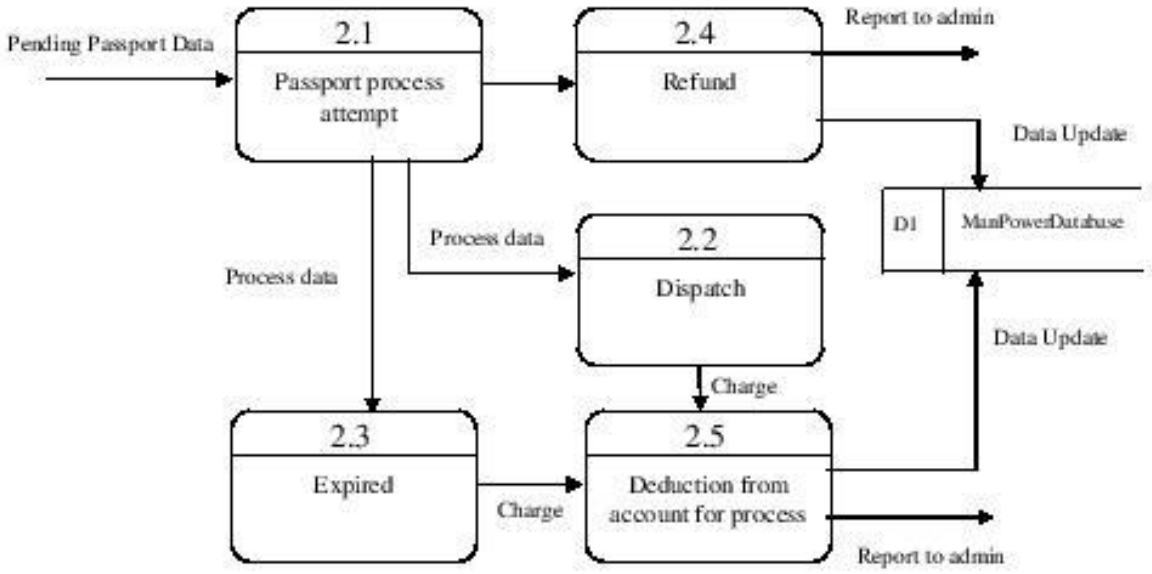


Fig: level 2 Diagram of process 2

Level 2 of process 3

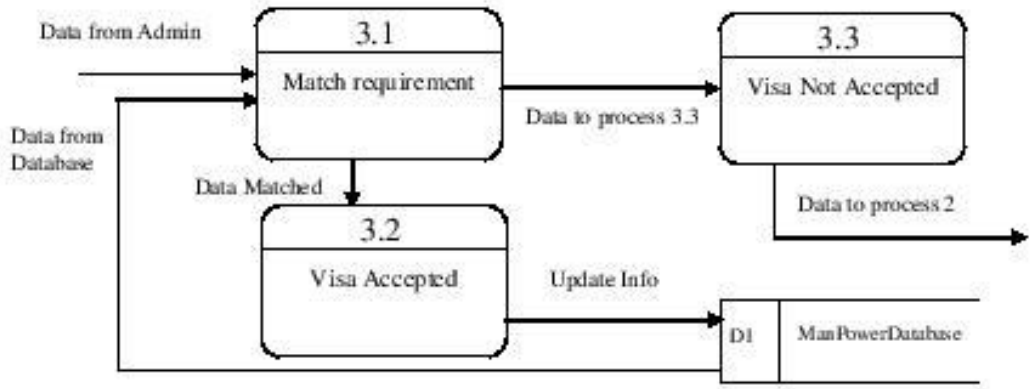


Fig: level 2 Diagram of process 3

Level 2 of process 4

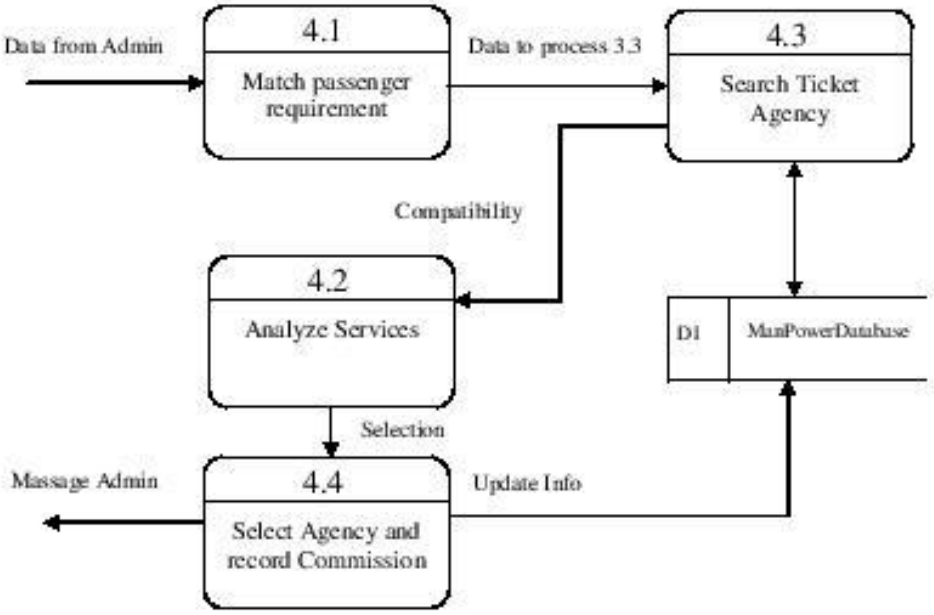


Fig: level 2 Diagram of process 4

Level 2 of process 5

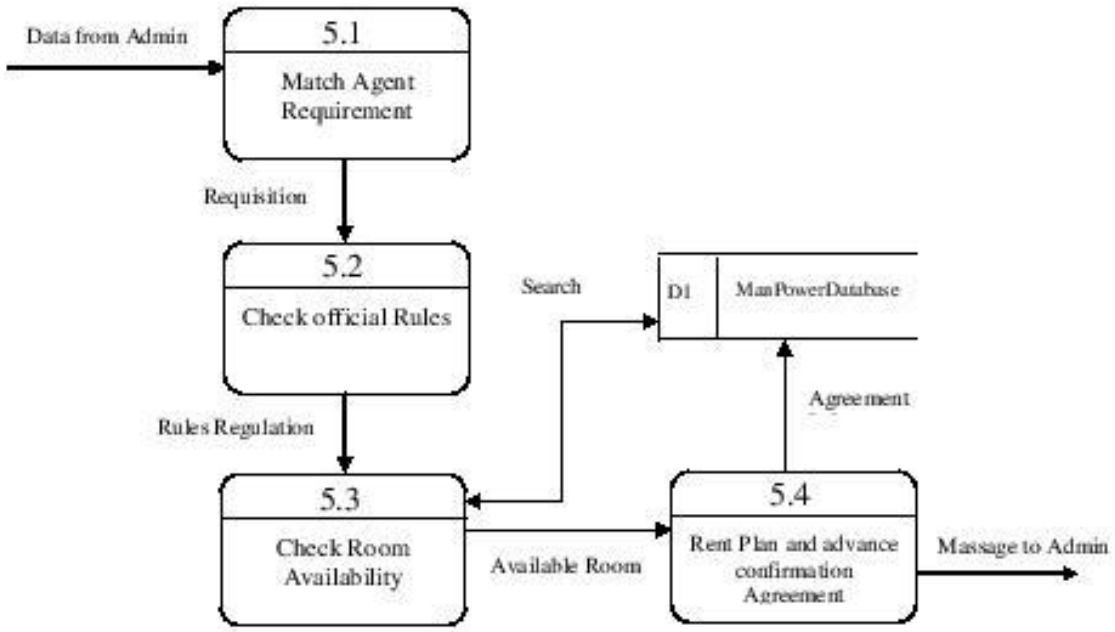
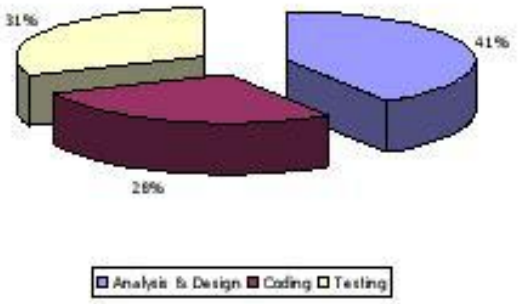


Fig: level 2 Diagram of process 5

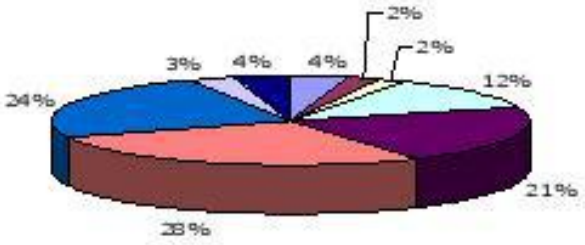
7. Effort Distribution

The software project estimation technique leads to estimates of work units required to complete the software development. A recommended distribution of effort across the definition and development phases is referred as the 40-20-40 rule. Forty percent of all effort is allocated to front-end analysis and design, twenty percent is allocated to coding and the remaining forty percent is allocated to back-end testing. This rule is used as a guideline only.

In this project, 41% of full software development has been allocated to analysis and design, 28% has been allocated to coding and the remaining 31% is allocated to software testing and support.



A detailed view of the effort distribution chart is illustrated below:



7.1. Task Scheduling

Project scheduling is an activity of distributing the estimated efforts within the planned project duration. There are some basic rules for project scheduling. They are as follows –

- **Compartmentalization** – The project must be compartmentalized into a number of manageable activities and tasks.
- **Interdependency** – The interdependency of each compartmentalized activity or task must be determined. Some tasks must occur in sequence while others can occur in parallel.
- **Time allocation** – Each task to be scheduled must be allocated some number of work units.

Effort validation – Every project has a defined number of staff members. But in this case I myself develop it for the course requirement. However in group project it should be ensured that no more than the allocated number of people has been scheduled at any given time.

Defined responsibilities – Every task that is scheduled should be assigned to me to reach the maximum outcome.

Defined outcomes – Every task that is scheduled should have a defined outcome. The outcome is normally a work product or a part of a work product.

7.2. Time Chart for Activity:

Total system development is a combination of set of tasks. These set of tasks should be done sequentially and timely. Project schedule works as the guideline of the supervisor Dr. Md. Nawab Yousuf Ali and myself Md. Saidur Rahman as system developer. The task chart of this system is as follows –

Time	Month1	Month2	Month3	Month4	Month5	Month6	Month7
System Introduction							
Analyze							
Design							
Code							
Test							

Figure: Time chart

8. SYSTEM SPECIFICATION

8.1. HARDWARE REQUIREMENTS

MotherBoard : Intel Pentium D
Processor : 1.0 GHz Clock speed
RAM : 512 MB or more
Hard disk : 20 GB or more
Monitor : VGA/SVGA
Keyboard : 104 Keys
Mouse : 2 buttons/ 3 buttons

8.2. SOFTWARE REQUIREMENTS

Operating System : Windows 98/2000/XP /Vista/Windows7
Front-end : Visual Basic 6.0
Back-end : MS Access / MS SQL Server (For Network Use)
Report : Crystal Report 9.0

9. Project Cost Estimation

Cost estimation describe the expense that need to spend during project development. The project cost estimation mostly based on:

- Personal cost
- Hardware cost
- Software cost

9.1. Personal cost:

I myself develop this complete this project. So I do not need any personal cost in this project.

9.2. Hardware Cost:

Cloned desktop system Configuration:
Hardware Accessories Cost= 26900 TK
Hardware Accessories life= 36 Months
Hardware Accessories usage = 8 Months
Hardware Accessories use cost = (26900/36) × 8 = 5980 TK

Total Hardware cost 5980 TK.

Machine	Quantity	Parts	Quantity	Price	Depreceation	Depreceation cost	Hardware cost
Desktop Computer	1	Mother Board	1	4000 YK	4000 TK/36 Months) ×8 Months	889 TK	
		Processor Core2 duo	1	3500 TK	(3500 TK/36 Months)×8 Months	778 TK	6869 TK
		2GB RAM	1	1800 TK	(1800 TK/36 Months)×8 Months	400 TK	
		320 GB HDD	1	3000 TK	(3000 TK/36 Months)×8 Months	667 TK	
		Monitor	1	8000 TK	(8000 TK/36 Months)×8 Months	1778 TK	
		DVD Writer	1	1600 TK	(1600 TK/36 Months)×8 Months	356 TK	
		Keyboard, Mouse & others	1	1000 TK	(1000 TK/36 Months)×8 Months	223 TK	
Printer	1	Printer	1	8000 TK	(8000 TK/36 Months)×8 Months	1778 TK	
Total							**6869 TK**

Figure: Hardware cost Table

9.3. Software Cost:

Legal Licensed Software for system develop:

Software Cost= 115200 TK

Software licensed Validity= 12 Months

Software usage = 8 Months

Software use cost = (115200/12) × 8 = 76800 TK

Total Software cost 76800 TK.

Software Package	Price	Depreciation	Depreciation Cost	Total
Microsoft Windows 7 (Professional)	18400 TK	(18400 TK /12 Months)×8 Months	12266 TK	76798 TK
Microsoft office 2007	16800 TK	(16800 TK /12 Months)×8 Months	11200 TK	
MS Visual Basic 6	16000 TK	(16000 TK /12 Months)×8 Months	10666 TK	
Crystal Report 9	24000 TK	(24000 TK /12 Months)×8 Months	16000 TK	
MS SQL Server	40000 TK	(40000 TK /12 Months)×8 Months	26666 TK	
			Total	**76798 TK**

Fig: Software cost table

9.4. Other Cost:

Decoration and Technical Cost:

Description	Cost
Electricity & other bill	2000
Electronics equipment & Servicing	6000
Total	**8000**

Total Estimation

To develop this project the estimated cost is

Personal Cost	:0 TK
Hardware Cost	:6,870 TK
Software Cost	:76,800 TK
Others Cost	:8,000 TK
Total	**:91,670 TK**

10. SYSTEM IMPLEMENTATION AND TESTING

Implementation is the stage of the project where the theoretical design is turned into a working system. It can be considered to be the most crucial stage in achieving a successful new system gaining the users confidence that the new system will work and will be effective and accurate. It is primarily concerned with user training and documentation. Conversion usually takes place about the same time the user is being trained or later. Implementation simply means convening a new system design into operation, which is the process of converting a new revised system design into an operational one.

10.1. SYSTEM TESTING

Software Testing is the process of executing software in a controlled manner, in order to answer the question - Does the software behave as specified?. Software testing is often used in association with the terms verification and validation. Validation is the checking or testing of items, includes software, for conformance and consistency with an associated specification. Software testing is just one kind of verification, which also uses techniques such as reviews, analysis, inspections, and walkthroughs. Validation is the process of checking that what has been specified is what the user actually wanted.

Validation : Is this indentifying valid data?

Unit : Is any unit of system working correctly with all related data?

Integration : Are all unit of system working properly when unit combines?

Output : Are all outputs correct?

Software testing should not be confused with debugging. Debugging is the process of analyzing and localizing bugs when software does not behave as expected. Although the identification of some bugs will be obvious from playing with the software, a methodical approach to software testing is a much more thorough means for identifying bugs. Debugging is therefore an activity which supports testing, but cannot replace testing.
Other activities which are often associated with software testing are static analysis and dynamic analysis. Static analysis investigates the source code of software, looking for problems and gathering metrics without actually executing the code. Dynamic analysis

Looks at the behavior of software while it is executing, to provide information such as execution traces, timing profiles, and test coverage information.

Testing is a set of activity that can be planned in advanced and conducted systematically. Testing begins at the module level and work towards the integration of entire computers based system. Nothing is complete without testing, as it vital success of the system testing objectives, there are several rules that can serve as testing objectives. They are

Testing is a process of executing a program with intend of finding an error. A good test case is one that has high possibility of finding an undiscovered error. A successful test is one that uncovers an undiscovered error.

If a testing is conducted successfully according to the objectives as stated above, it would uncovered errors in the software also testing demonstrate that the software function appear to be working according to the specification, that performance requirement appear to have been met.

There are three ways to test program.

- For correctness
- For implementation efficiency
- For computational complexity

10.2. TEST PLAN

A test plan implies a series of desired course of action to be followed in accomplishing various testing methods. The Test Plan acts as a blue print for the action that is to be followed. The software engineers create a computer program, its documentation and related data structures. The software developers is always responsible for testing the individual units of the programs, ensuring that each performs the function for which it was designed. There is an independent test group (ITG) which is to remove the inherent problems associated with letting the builder to test the thing that has been built. The specific objectives of testing should be stated in measurable terms. So that the mean time to failure, the cost to find and fix the defects, remaining defect density or frequency of occurrence and test work-hours per regression test all should be stated within the test plan.

The levels of testing include:

- Validation Testing
- Unit Testing
- Integration Testing
- Output Testing

Validation Testing: I imputed different types of value with different format. This software recognizes the correct format and accept. If any acceptation occurs then immediately it notify user and recommend the correct format.

Unit Testing: Combination of input is perfectly works for each and every unit and I did not found any error which produce during combined and data from different table and calculation source.

Integration Testing: I took several attempt to find different types of result and calculation which will related all the sub part of ManPower Information system where all the unit and database is using in this system and found system is reliable.

11. TRAINING

Once the system is successfully developed the next important step is to ensure that the administrators are well trained to handle the system. This is because the success of a system invariably depends on how they are operated and used. The implementation depends upon the right people being at the right place at the right time. Education involves creating the right atmosphere and motivating the user. The administrators are familiarized with the run procedures of the system, working through the sequence of activities on an ongoing basis.

Implementation is the state in the project where the theoretical design is turned into a working system. By this, the users get the confidence that the system will work effectively. The system can be implemented only after through testing.

The systems personnel check the feasibility of the system. The actual data were inputted to the system and the working of the system was closely monitored. The master option was selected from the main menu and the actual data were input through the corresponding input screens. The data movement was studied and found to be correct queries option was then selected and this contains various reports. Utilities provide various data needed for inventory was input and the module was test run. Satisfactory results were obtained. Reports related to these processes were also successfully generated. Various input screen formats are listed in the appendix.

Implementation walkthroughs ensure that the completed system actually solves the original problem. This walkthrough occurs just before the system goes into use, and it should include careful review of all manuals, training materials and system

documentation. Again, users, the analyst and the members of the computer services staff may attend this meeting.

Training Session: For training purpose I planned to part to make it familiar for the user. In this way it can be much easier to use and maintains.

- Training Workshop: to make a training workshop where several topic included for the administrator which are, how to use, data backup, security arrangement, and error handling
- I will create a user manual for the system where all the process of activities will be written in easy way so that user do not need technical concept of system.

12. UPCOMING FEATURES:

- **Database Security Management:**
  Still I do not implement any database backup process. Primarily it will done by manually and in next update I planned to use parallel data storage process called SCSII

- **Multipurpose cooperative society include:** This is the new part of software which will be include to expand the boundary and service of organization.

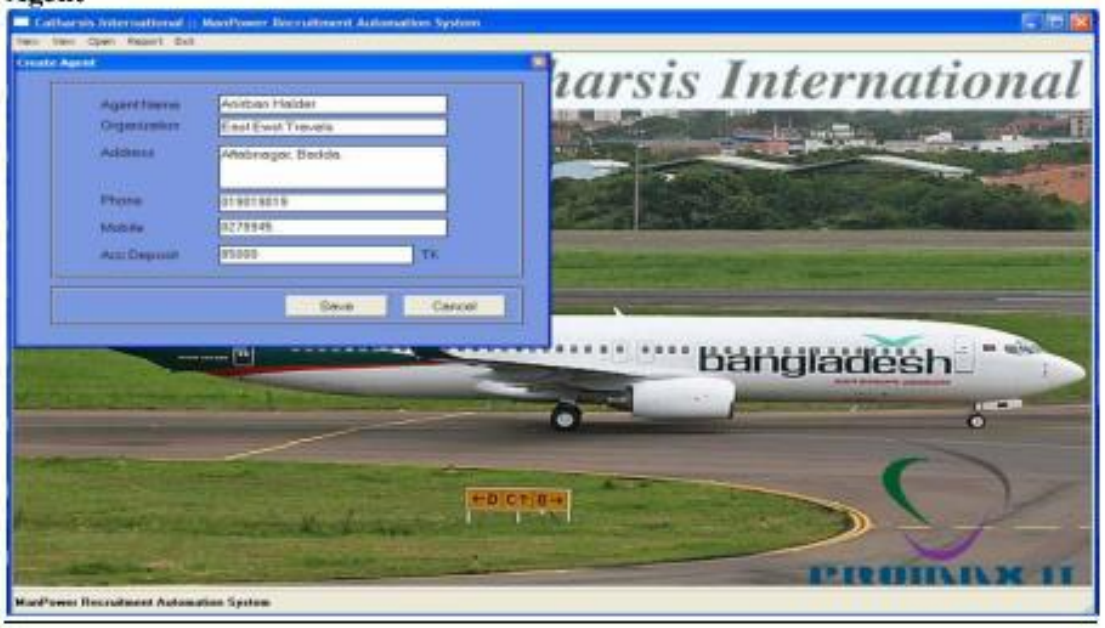
- **Network facility for authorized agent:** Still only a single person can use this software due to profile security. So it will update network facility with user profile.

- **SMS Based Service:** Most case people need to come to the organization and ask about their status. However, due to some agent they get the wrong information and suffer. It create a bad impact in manpower recruitment sector. So I planned to include a push pull SMS service that client will get the status automatically without knowing agent.

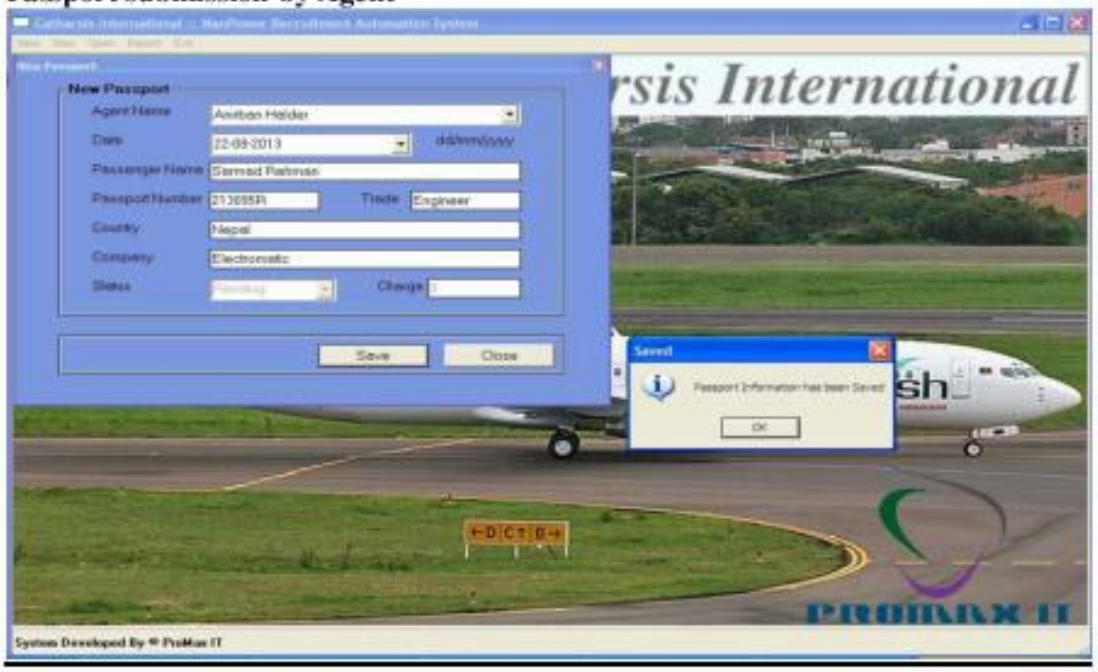
13. SCREEN SHOTS

Main Interface of ManPower Information System

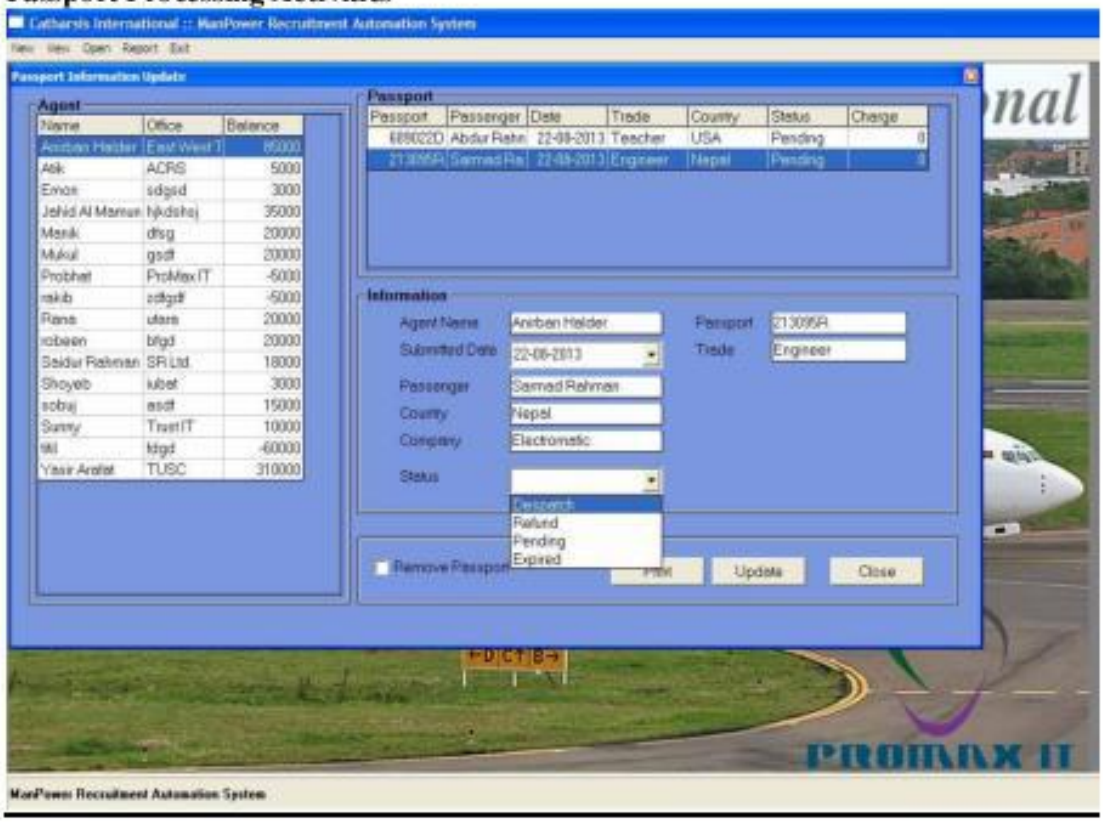
Agent



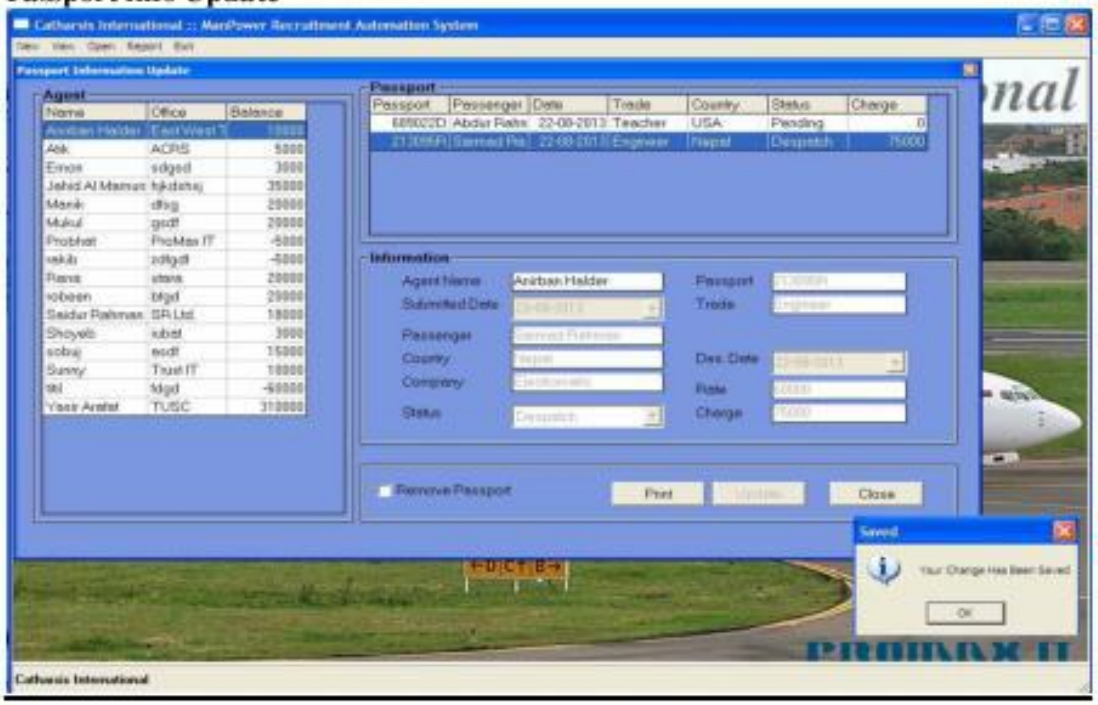
Passport submission by Agent



Passport Processing Activities

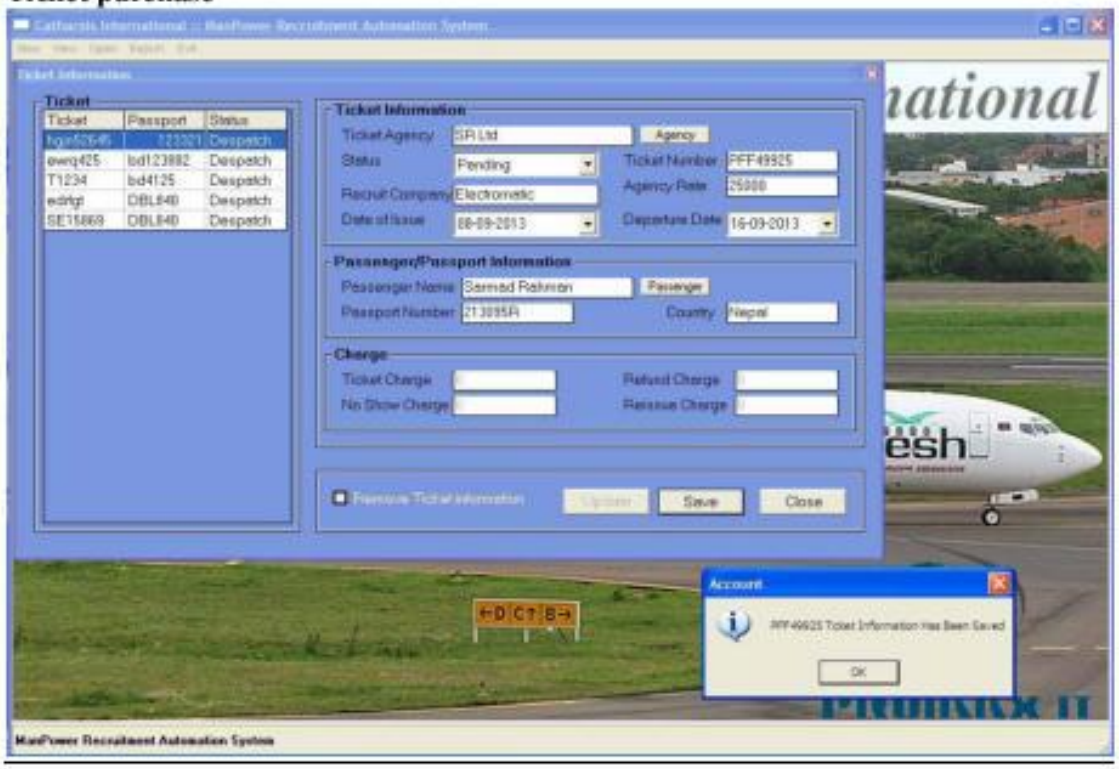


Passport info Update



Visa Processing

Ticket purchase



Office Rent for Agent

14. CONCLUSION

"ManPower Information System" keeps the day by day tally record as a complete Recruitment information in abroad. It can keep the information of Number of transfer, number of human in specific country, their effort for country and all other record about their job. In manpower recruitment agencies also can store their transaction, Searching the transaction, Transaction report, and their Account. The exciting part of this project is; it displays Agent information, Passport processing & status, Visa Status, different bank account statement, Transaction reports, Statistical Summary of Account

15. INFORMATION SOURCE

BOOKS:

1. Evangelos Petroutsos, 'Mastering Visual Basic 6' BPB Publication
2. Deitel & Deitel), 'Visual Basic 6.0 how to program' Pearson Education
3. Kendall & Kendall 8e 'System Analysis & *Design' PHI Learning*
4. Roger S. Pressman 'Software Engineering: A Practitioner's Approach'McGrawHill

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1. http://en.wikipedia.org/wiki/Dfd
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3. http://en.wikipedia.org/wiki/Manpower
4. http://manpower-bd.net/
5. http://www.bdyellowbook.com/catalog/Business___Services/Manpower_Recruiting_Agency/index4.html

ORGANIZATION REFERENCE

1. Cathersis International, Banani, Dhaka.
2. Tasnim Tahmid Travels, Banani, Dhaka