DESIGN AND IMPLEMENTATION OF AIRLINE FLIGHT INFORMATION SYSTEM

(A CASE STUDY OF AIR NIGERIA, LAGOS STATE.)

BY

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APPROVAL

I hereby certify that this research work has met the requirement for the award of Bachelor of Science degree in Computer Science and Information Technology.

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DEDICATION

This project is dedicated to God Almighty and my parent Mr. & Mrs. C.S Agianaku who financed this work and also my siblings for empowering me towards the completion of this project.

ACKNOWLEDTEMENT

In the course of writing this book, I benefited immensely from the assistance and encouragement of many people. My able supervisor Mrs. ChizobaEzeme and my colleagues who were constant sources of encouragement. I say a big thank you to you all.

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ABSTRACT

This project was out of the necessity to address the inherent problems encountered by members of staff of Air Nigeria and their customers. The manual processes involved in the management of airline were critical examined and the flows noted. The software so designed offers to a great extent, the solutions to these problems. The project went further to ret the different techniques used in implementing the newly design software in order to facilitate a broader understanding of the design software by any user. Airline flight information system are used to track and maintain records of flight schedules, passenger reservations and seat assignments, aircraft loading, flight inventory, ticket purchases and fare tariffs. The modern airline reservation system also serves customer needs from beginning to end of each customer's reserved flight, therefore laying out management tasks for each flight.

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CHAPTER ONE

1.0 INTRODUCTION

It is obvious that everything that is sustainable would have to go through advancement. In science and technology, the desire for improvement is a constant subject which triggers advancements. This is visible in every ramification and the airline industry is not an exemption.

Airline flight information system (ARS) used to be standalone systems. Each airline had its own system, disconnected from other airlines or ticket agents, and usable only by a designated number of airline employees. Travel agents in the 1970s pushed for access to the airlines' systems. Today, air travel information is linked, stored, and retrieved by a network of Computer Reservations Systems (CRS), accessible by multiple airlines and travel agents. The global distribution system (GDS) makes for an even larger web of airline information, not only merging the buying and selling of tickets for

multiple airlines, but also making the systems accessible to consumers directly. GDS portals and gateways on the Web allow consumers to purchase tickets directly, select seats, and even book hotels and rental cars.(Winston, Clifford 1995).

Aviation jobs are known for hitech. Many of the aviation jobs are made available by the airline operators and airport authorities.

Aviation jobs are one of the few Nigerian jobs that pay like their foreign counterparts. With the recent aviation security measures, aviation recruitments are done very carefully. Airline operators are now serious in their screening processes than before. This is because, any kind of misconduct or insecurity may lead to their license withdrawal. Most graduates are hired through internships which are normally advertised on this site. These are still very competitive since many applicants rush for

them whenever available. Graduates also get lucky to be hired through 'Hosts' recruitments i.e. when airline operators want to hire staff that will be serving inside the airplane.

1.1 BACKGROUND OF STUDY

Air Nigeria (formerly Nigerian Eagle Airlines and Virgin Nigeria Airways), is the national flag carrier of Nigeria. The airline operates scheduled regional and domestic passenger services. Its base is Murtala Mohammed International Airport, Lagos. The airline is a replacement for defunct Nigeria Airways. Its registered office is in Ikoyi, Lagos State, while its head office is on the 9th floor of Etiebets Place in Ikeja, Lagos State.

The carrier's loyalty programme is named 'Eagleflier'. On 28 September 2004, the Nigerian government and Virgin Group signed an agreement to establish a new airline for Nigeria, to be called Virgin Nigeria Airways. Nigerian institutional investors own 51% of the company and Virgin Atlantic Airways owns 49%. The airline's

inaugural flight was on 28 June 2005 from Lagos to London Heathrow using an Airbus A340-300 aircraft. Virgin Nigeria has since gone on to become one of Nigeria's largest airlines carrying its 1,000,000th passenger and 4,000th ton of airline within two years of operation. The airline has also received accolades including THISDAY Awards 2006 Airline of the year and a nomination for 2006 African Airline of the year by ASATA (Association of South African Travel Agents).[3] Virgin Nigeria had plans of making Nnamdi Azikiwe International Airport in Abuja its second base where in addition to its Lagos base Murtala Mohammed International Airport it will serve all countries in West Africa.

The Nigerian government set a deadline of 30 April 2007 for all airlines operating in the country to re-capitalise or be grounded, in an effort to ensure better services and safety. The airline satisfied the Nigerian Civil Aviation Authority (NCAA)'s criteria in terms of re-capitalization and was re-registered for operation

Aviation jobs in Nigeria are definitely scarce. They are seen as high qualification and technical jobs. Many of the aviation jobs are for captains, air hosts/hostesses, aviation maintenance engineers, aviation security guards, traffic and movement controllers etc.

1.2 **STATEMENT OF THE PROBLEM**

The management of Airline in Nigeria has over the years attracted poor patronage as a result of errors inherent in the system. It is no longer a new thing that loss of customers' goods is now the order of the day, the reasons are not far-fetched. Due to this manual procedure involved in Airline management, clients have no other option than to be at the mercy of these error prone procedures.

The method of information storage in the company is poor. This limits the number of official documents accessible by the customers because the system is not capable of managing old items of information which could be of use to be customer of anytime.

There is little or no security control system where the customers' goods, document and classified information of the customer could be safe guarded from unauthorized access.

1.3 PURPOSE OF THE STUDY

This project is aimed at exposing the relevance and importance of Airline flight information system (AFIS). It is projected towards enhancing the relationship between customers and airline agencies through the use of ARSs, thereby easing the flight ticketing and selling process and all air traveling operations..

1.4 LIMITATIONS

The project work is limited to ONLINE AIRLINE RESERVATION PORTAL FOR TRAVELING SERVICES PROVIDER. In the process of carrying out this research work, some factors tried to hinder the free flow of work. These factors include

- Time:Time factors in the sense that the semester was short and as a result combing this work with studies was tedious.

- Finance: Finances were rather on the lean side and as a result it affected the carrying out the research in that monetary commitment was needed for going to the case study, photocopying document, browsing etc.

1.5 AIMS AND OBJECTIVES

The Airline Reservation System (ARS) is a software application to assist an airline with transactions related to making ticket reservations, which includes blocking, reserving, cancelling and rescheduling tickets.

1. Minimize repetitive work done by the system administrator and reservation clerks.
2. Maintain consistency among different access modes, e.g. by phone, by web, at the information desk and across different physical locations. The users should be basically taken through the same steps by the system as they go through in conventional desk-reservation systems.

3. Maintain customer information in case of emergency, e.g. flight cancellation due to inclement weather. The profile can also be used by the airline company to track user preferences and travel patterns to serve them better, plan routes, for better marketing and efficient scheduling of flights.
4. Maximize the revenue of the airline company by various means:
5. Increase awareness among frequent travelers about various special offers and discounts.
6. Minimize the number of vacant seats on a flight and maximize flight capacity utilization.
7. Maintain the capability to adopt a flexible pricing policy. The price of the tickets should be dynamically determined based on how early, before the date of departure, the customer buys the ticket.

1.6 **SIGNIFICANT OF STUDY**

The significant of Airline management system is the computerization of the activities of the organization. It helps to facilitate the dairy

operation of the organization. The economy of the organization is affected positively because of the computerization of their operation. The findings of this research will also help the management to increase the income generation and smooth running of the everyday activities.

This presentation will be beneficial to all those who make use of Airline flight information system (ARSs), flight operators, air traveling operators, travel agents and airline agencies.

In addition, it will assist all those in computer-related disciplines who may want to appreciate the system and also those doing research on similar topic.

1.7 **SCOPE OF DELIMITATIONS**

This study is restricted to the full operations of Air Nigeria Company with respect to ONLINE AIRLINE RESERVATION PORTAL FOR TRAVELING SERVICES PROVIDER.

1.8 ASSUMPTIONS

It is assumed that the new system will do the following:

a. the new system will create room for the client to know all the necessary facts about their operation.

b. The new system will create an avenue where by the measurement and Gross weight of the airline will be known and the commensurate fees to be paid.

C. The new system will also make all the on-line operations carried out in airline management in Air Nigeria an easy task for official and staff of the establishment.

1.9 DEFINITION OF TERMS

1. **Administration:** is an aspect of running the organization by devising systems which will run smoothly.

2. **Client:** This any process that request specific services from server processes.

3. Computer: **This is an electrons machine that can accept; handle and manipulate data by performing arithmetic and logic operations without human intervention usually under the control of programmes**.

4. **Data:** This is for runner of information. It is unprocessed fact.

5. Database is a collection of information that is related to a particular subject or purpose.

6. **Hardware:** This is the electromechanical part of computer system.

7. **Information:** This is data that have been processed, interpreted and understood by the recipient of the message or report.

8. **Internet** is a collection of computer networks that operate to common standards and enable the computes and the program they run to communicate directly.

9. **Server:** This is a process that provides requested services for clients.

CHAPTER TWO

2.0 LITERATURE REVIEW

The history of airline reservations systems began in the late 1950s when American Airlines required a system that would allow real-time access to flight details in all of its offices, and the integration and automation of its booking and ticketing processes. As a result, Sabre (Semi-Automated Business Research Environment) was developed and launched in 1964. Sabre's breakthrough was its ability to keep inventory correct in real time, accessible to agents around the world. Prior to this, manual systems required centralized reservation centres, groups of people in a room with the physical cards that represented inventory, in this case, seats on airplanes.

The deregulation of the airline industry, in the Airline Deregulation Act, meant that airlines, which had previously operated under government-set fares ensuring airlines at least broke even, now needed to improve efficiency to compete in a free market. In this

deregulated environment the ARS and its descendants became vital to the travel industry. In the early days of American commercial aviation, passengers were relatively few, and each airline's routes and fares were tightly regulated by the Civil Aeronautics Board. These were published in a volume entitled *The Official Airline Guide*, from which travel agents or consumers could construct an itinerary, then call or telex airline staff, which would mark the reservation on a card and file it. As demand for air travel increased and schedules grew more complex, this process became impractical. This system was used in the hospitality branch.

In 1946, American Airlines installed the first automated booking system, the experimental electromechanical Reservisor. A newer machine with temporary storage based on a magnetic drum, the Magnetronic Reservisor, soon followed. This system proved successful, and was soon being used by several airlines, as well as Sheraton Hotels and Goodyear for inventory control. It was seriously hampered by the need for local human operators to do the actual lookups; ticketing agents

would have to call a booking office, whose operators would direct a small team operating the Reservisor and then read the results over the telephone. There was no way for agents to directly query the system.

In 1953, Trans-Canada Airlines (TCA) started investigating a computer-based system with remote terminals, testing one design on the University of Toronto's Manchester Mark 1 machine that summer. Though successful, the researchers found that input and output was a major problem. Ferranti Canada became involved in the project and suggested a new system using punched cards and a transistorized computer in place of the unreliable tube-based Mark I. The resulting system, ReserVec, started operation in 1962, and took over all booking operations in January 1963. Terminals were placed in all of TCA's ticketing offices, allowing all queries and bookings to complete in about one second with no remote operators needed.

In 1953, American Airlines CEO C. R. Smith chanced to sit next to R. Blair Smith, a senior IBM sales representative, on a flight from Los Angeles to New York. C.R. invited Blair to visit their Reservisor system and look for ways that IBM could improve the system. Blair alerted Thomas Watson Jr. that American was interested in a major collaboration, and a series of low-level studies started. Their idea of an automated Airline Reservation System (ARS) resulted in a 1959 venture known as the Semi-Automatic Business Research Environment (SABRE), launched the following year.[1] By the time the network was completed in December 1964, it was the largest civil data processing system in the world.

Other airlines soon established their own systems. Delta Air Lines launched the Delta Automated Travel Account System (DATAS) in 1968. United Airlines and Trans World Airlines followed in 1971 with the Apollo Reservation System and Programmed Airline Reservation System (PARS), respectively. Soon, travel agents began pushing for a system that could automate their side of the process by accessing the various

ARSes directly to make reservations. Fearful this would place too much power in the hands of agents, American Airlines executive Robert Crandall proposed creating an industry-wide Computer Reservation System to be a central clearinghouse for U.S. travel; other airlines demurred, citing fear of antitrust prosecution.

An Airline Reservation System is part of the so-called Passenger Service Systems (PSS), which are applications supporting the direct contact with the passenger.

The Airline Reservations System (ARS) was one of the earliest changes to improve efficiency. ARS eventually evolved into the Computer Reservations System (CRS). A Computer Reservation System is used for the reservations of a particular airline and interfaces with a Global Distribution System (GDS) which supports travel agencies and other distribution channels in making reservations for most major airlines in a single system.

Airline Reservations Systems contain airline schedules, fare tariffs, passenger reservations and ticket records. An airline's direct distribution works within their own reservation system, as well as pushing out information to the GDS. A second type of direct distribution channel is consumers who use the internet or mobile applications to make their own reservations. Travel agencies and other indirect distribution channels access the same GDS as those accessed by the airlines' reservation systems, and all messaging is transmitted by a standardized messaging system that functions primarily on TTY messaging called SITA. Since airline flight information system are business critical applications, and their functionally quite complex, the operation of an in-house airline reservation system is relatively expensive.

Prior to deregulation, airlines owned their own reservation systems with travel agents subscribing to them. Today, the GDS are run by independent companies with airlines and travel agencies as major subscribers.

As of February 2009, there are only three major GDS providers in the market space: Amadeus, Travelport (the merged World span and Galileo systems), Sabre and Shares. There is one major Regional GDS, Abacus, serving the Asian marketplace and a number of regional players serving single countries, including Travelsky (China), Infini and Axxess (both Japan) and Topas (South Korea). There is a secondary GDS called Navitaire that hosts "ticket less" airlines such as AirTran, and previously JetBlue. Virgin America is hosted by iflyRes(aiRes), which is a new generation reservation system developed and operated by IBS Software Service Pvt. Ltd.

In additional to these "standardized" GDS, some airlines have proprietary versions which they use to run their flight operations. A few examples of this kind of system are Deltamatic (built off the Worldspan platform) and EDS SHARES. SITA Reservations remains the largest neutral multi-host airline reservations system, with over 100 airlines currently managing inventory.

An airline's inventory contains all flights with their available seats. The inventory of an airline is generally divided into service classes (e.g. First, Business or Economy class) and up to 26 booking classes, for which different prices and booking conditions apply. Inventory data is imported and maintained through a Schedule Distribution System over standardized interfaces. One of the core functions of the inventory management is the inventory control. Inventory control steers how many seats are available in the different booking classes, by opening and closing individual booking classes for sale. In combination with the fares and booking conditions stored in the Fare Quote System the price for each sold seat is determined. In most cases inventory control has a real time interface to an airline's Yield management system to support a permanent optimization of the offered booking classes in response to changes in demand or pricing strategies of a competitor.

Users access an airline's inventory through an availability display. It contains all offered flights for a particular city-pair with their available

seats in the different booking classes. This display contains flights, which are operated by the airline itself as well as code share flights which are operated in co-operation with another airline. If the city pair is not one on which the airline offers service it may display a connection using its' own flights or display the flights of other airlines. The availability of seats of other airlines is updated through standard industry interfaces. Depending on the type of co-operation it supports access to the last seat (Last Seat Availability) in real-time. Reservations for individual passengers or groups are stored in a so-called Passenger Name Record (PNR). Among other data, the PNR contains personal information such as name, contact information or special services requests (SSRs) e.g. for a vegetarian meal, as well as the flights (segments) and issued tickets. Some reservation systems also allow to store customer data in profiles to avoid data re-entry each time a new reservation is made for a known passenger. In addition most systems have interfaces to CRM systems or customer loyalty applications (aka Frequent Traveler Systems). Before a flight

departs the so-called Passenger Name List (PNL) is handed over to the Departure Control System that is used to check-in passengers and baggage. Reservation data such as the number of booked passengers and special service requests is also transferred to Flight Operations Systems, Crew Management and Catering Systems. Once a flight has departed the reservation system is updated with a list of the checked-in passengers (e.g. passengers who had a reservation but did not check in (No Shows) and passengers who checked in, but didn't have a reservation (Go Shows)). Finally data needed for revenue accounting and reporting is handed over to the administrative systems.

A computer reservations system (CRS) is a computerized system used to store and retrieve information and conduct transactions related to air travel. Originally designed and operated by airlines, CRSes were later extended for the use of travel agencies. Major CRS operations that book and sell tickets for multiple airlines are known as global distribution systems (GDS). Airlines have divested most of their direct

holdings to dedicated GDS companies, who make their systems accessible to consumers through Internet gateways. Modern GDSes typically allow users to book hotel rooms and rental cars as well as airline tickets. They also provide access to railway reservations in some markets although these are not always integrated with the main system.

CHAPTER THREE

METHODOLOGY AND SYSTEM ANALYSIS OF THE EXISTING SYSTEM

3.1 FACT FINDING METHOD USED.

The fact finding method used during this research are as follow

1. REVIEW OF RELATED DOCUMENT

Important document that has one or two things to do with the study were critically studied and much needed details with close relevancy to the study were taken care of and noted.

2. INTERVIEW METHOD

Some members of staff of Air Nigeria with some officials of Apapa ports Lagos were closely interviewed and their responses were found to be useful to this study. Also a handful of staff of Air Nigeria were interviewed and their contributions were found to be very helpful to this study

3.2 ORGANIZATIONAL STRUCTURE OF AIR NIGERIA

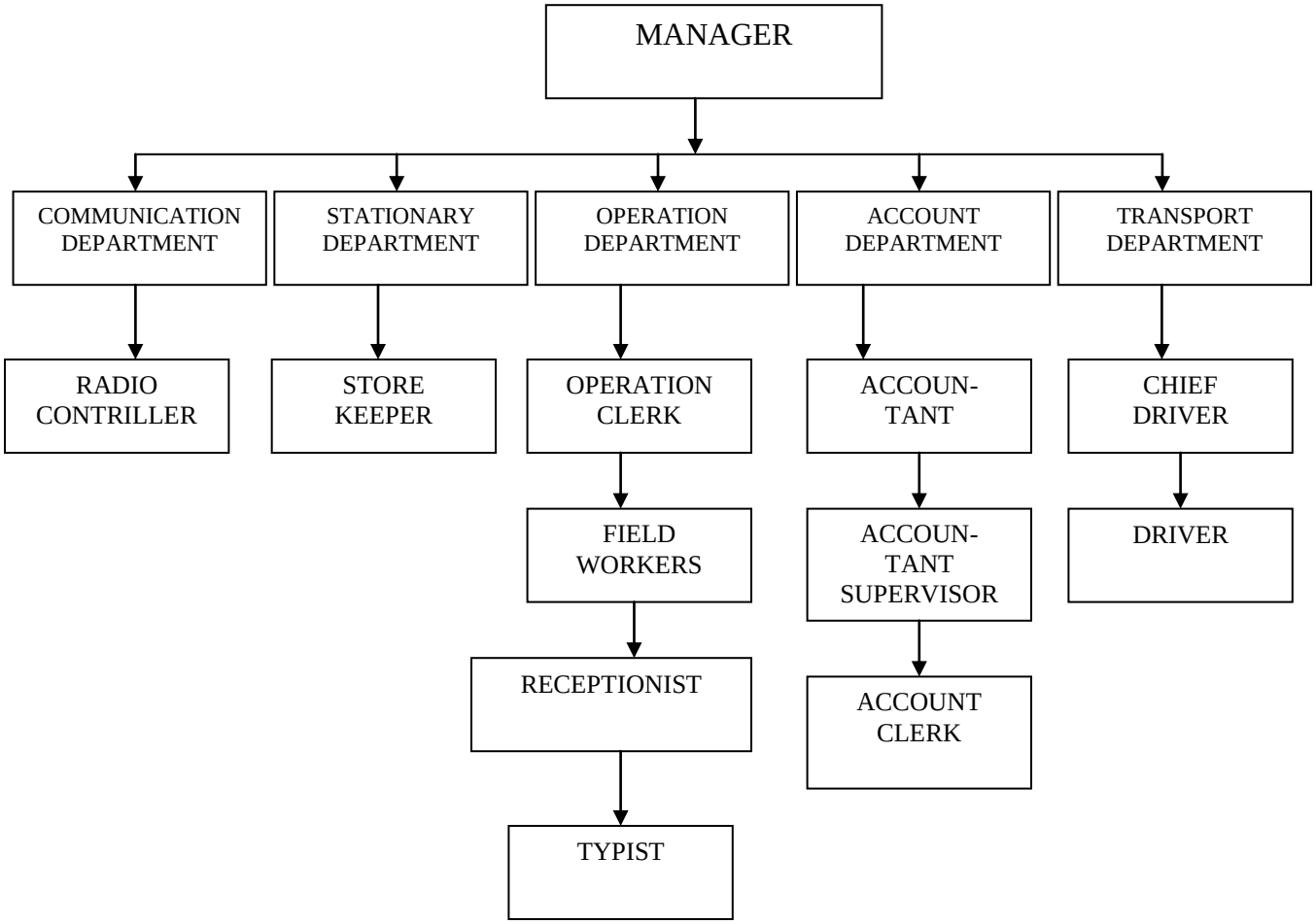


Fig 1: organizational structure

3.3 OBJECTIVES OF THE EXISTING SYSTEM

The objectives of the existing system are as follows.

- The Airline Reservation System (ARS) is a software application to assist an airline with transactions related to making ticket reservations, which includes blocking, reserving, cancelling and rescheduling tickets.
- Minimize repetitive work done by the system administrator and reservation clerks.
- Maintain consistency among different access modes, e.g. by phone, by web, at the information desk and across different physical locations. The users should be basically taken through the same steps by the system as they go through in conventional desk-reservation systems.
- Maintain customer information in case of emergency, e.g. flight cancellation due to inclement weather. The profile can also be used by the airline company to track user preferences and

travel patterns to serve them better, plan routes, for better marketing and efficient scheduling of flights.

- ❖ Maximize the revenue of the airline company by various means:
- ❖ Increase awareness among frequent travelers about various special offers and discounts.
- ❖ Minimize the number of vacant seats on a flight and maximize flight capacity utilization.
- ❖ Maintain the capability to adopt a flexible pricing policy. The price of the tickets should be dynamically determined based on how early, before the date of departure, the customer buys the ticket.

3.4 INPUT, PROCESS AND OUTPUT ANALYSIS

This deals with the process used to feed in data, work on the data and eventually gives out a resultant information

3.4.1 INPUT ANALYSIS

This deals with the process used to feed data to the system for processing. The following data are fed to the system for processing.

TELL US WHERE YOU'D LIKE TO FLY

Nature of the trip, departing from, going To,

Outbound Cabin/Fare type, Returning, Inbound Cabin/Fare type

HOW MANY PASSENGERS WILL BE TRAVELLING

Adults (Age 12+)

Children (2-11)

Infants (Under 2)

CHOOSE THE DATES YOU'D LIKE TO TRAVEL

Departing date

Returning date

Currency

PASSENGER DETAILS

Title, First name, last name, mobile phone, contact no, eagle flier no,

seat preference

PAYMENT DETAILS

Email address

Confirm email address

Master card no

3.4.2 PROCESS ANALYSIS

Once the inputs are collected, the obtained data are processed properly for effective use. The data/information processed is stored in the computer for subsequent use.

3.4.3 OUTPUT ANALYSIS

This involves the resultant documentation generated after processing of data/information supplied to the system. The output here can be:

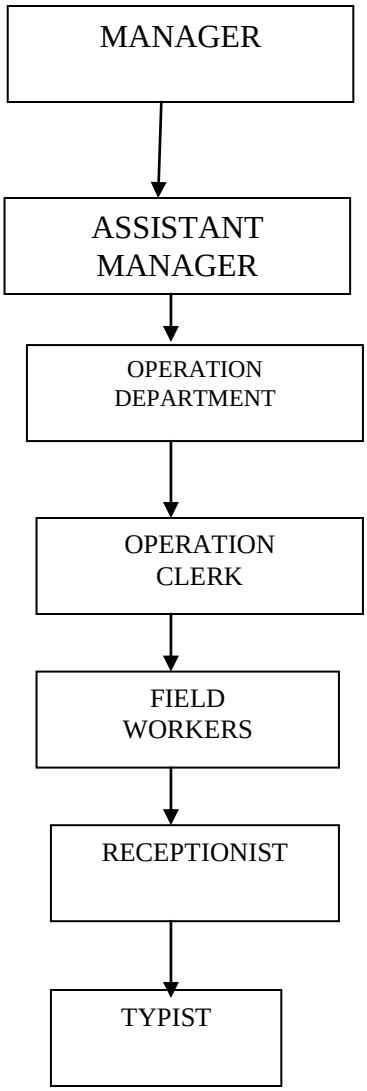
TRAVEL DETAIL

PASSENGER DETAILS

PAYMENT DETAILS

INFORMATION FLOW DIAGRAM

3.5 Information flow diagram



3.6 PROBLEMS OF EXISTING SYSTEM

a. The airline information is recorded in more than one place in separate register to back it up, which increased the amount of filling procedures.

b. The efforts wasted in duplication often causes lack of interest in the job.

c. Making reference to records most times becomes a problem because some of the records are not easily found.

d. It creates avenue for doubts on the capability of the company by the customer or clients.

3.7 JUSTIFICATION FOR THE NEW SYSTEM

The outcome of this study will provide a basis for developing the appropriate approach to the problems associated with air traveling operations in relation to Airline flight information system (AFIS).

The following objectives are to be achieved.

- Improve forecasting accuracy,
- Freeing up labor bottlenecks,

- Reducing the amount of product handling,
- Installing improvement targets,
- Enhancing efficiency in their operation

CHAPTER FOUR

4.1 SYSTEM DESIGN, TESTING AND IMPLIMENTATION

The major factor taken into consideration in the design of the new system is the issue of a strong and reliable database for effective form collection and processing. The new system also includes the pages for admission statistics, brochure and board members.

The unit of measurement that is officially used for producing the new system is that it should have a strong and reliable database for effective form collection and processing.

4.2 OUTPUT SPECIFICATION AND DESIGN

The output of the design is a comprehensive report of the program. It is an computerized ONLINE AIRLINE RESERVATION PORTAL FOR TRAVELING SERVICES PROVIDER. The output here is the reply given to the student showing that the admission form has been received.

4.3 INPUT SPECIFICATION AND DESIGN

The word input entails the various data supplied to the system which are processed to give out an output. The input is supplied to the system using computer keyboard mainly as an input device.

The major inputs are:

TRAVELLING DETAIL

Nature of the trip, departing from, going To,

Outbound Cabin/Fare type, Returning, Inbound Cabin/Fare type

HOW MANY PASSENGERS WILL BE TRAVELLING

Adults (Age 12+)

Children (2-11)

Infants (Under 2)

Departing date

Returning date

Currency

PASSENGER DETAILS

Title, First name, last name, mobile phone, contact no, eagleflier no, seat preference

PAYMENT DETAILS

Email address

Confirm email address

Master card no

4.4 FILE DESIGN

The method of file design chosen for this particular study is the top down file design. This is so that each module could be removed or added without necessarily affecting the entire problem. A master file with the following description was used.

FIELD NAME	FIELD TYPE	WIDTH	DEC
NATURE OF THE TRIP,	Character	11	0
DEPARTING FROM,	Character	11	0
GOING TO,	Character	15	0
OUTBOUND CABIN/FARE TY	Character	11	0
PE,	Character	11	0
RETURNING,	Character	11	0
INBOUND CABIN/FARE TYP	Character	11	0
E	INTEGER	3	0
ADULTS (AGE 12+)	Integer	3	0
CHILDREN (2-11)	Integer	3	0
INFANTS (UNDER 2)	Date	10	0
DEPARTING DATE	Date	10	0
RETURNING DATE	Character	4	0
CURRENCY	Character	10	0
TITLE,	Character	20	0

FIRST NAME,	Character	20	0
LAST NAME,	Character	11	0
MOBILE PHONE,	Character	35	0
CONTACT NO,	Character	10	0
EAGLEFLIER NO,	Character	3	0
SEAT PREFERENCE	Character	25	0
EMAIL ADDRESS	Character	25	0
CONFIRM EMAIL ADDRESS	Character	12	0
MASTER CARD NO			

4.5 PROCEDURE CHART

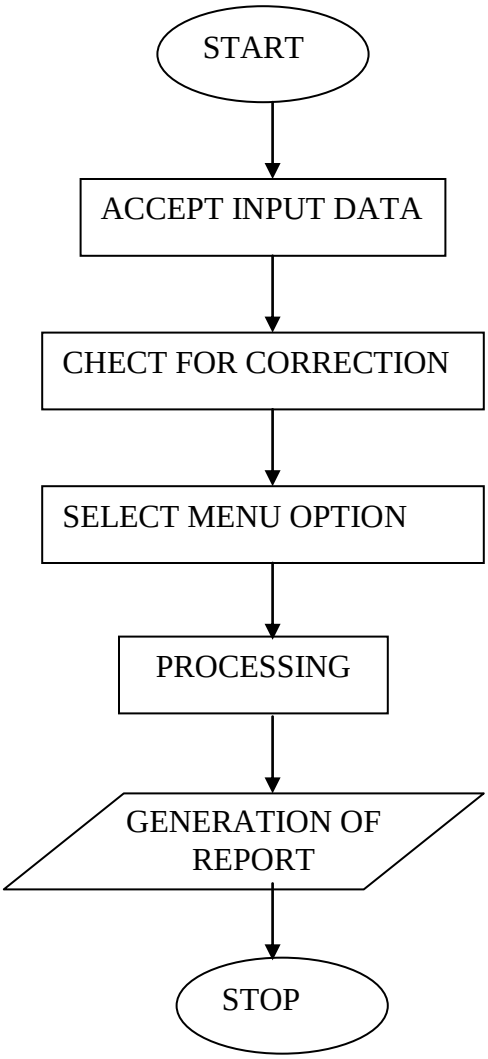


Fig 2: procedure chart

4.5 SYSTEM FLOW CHART

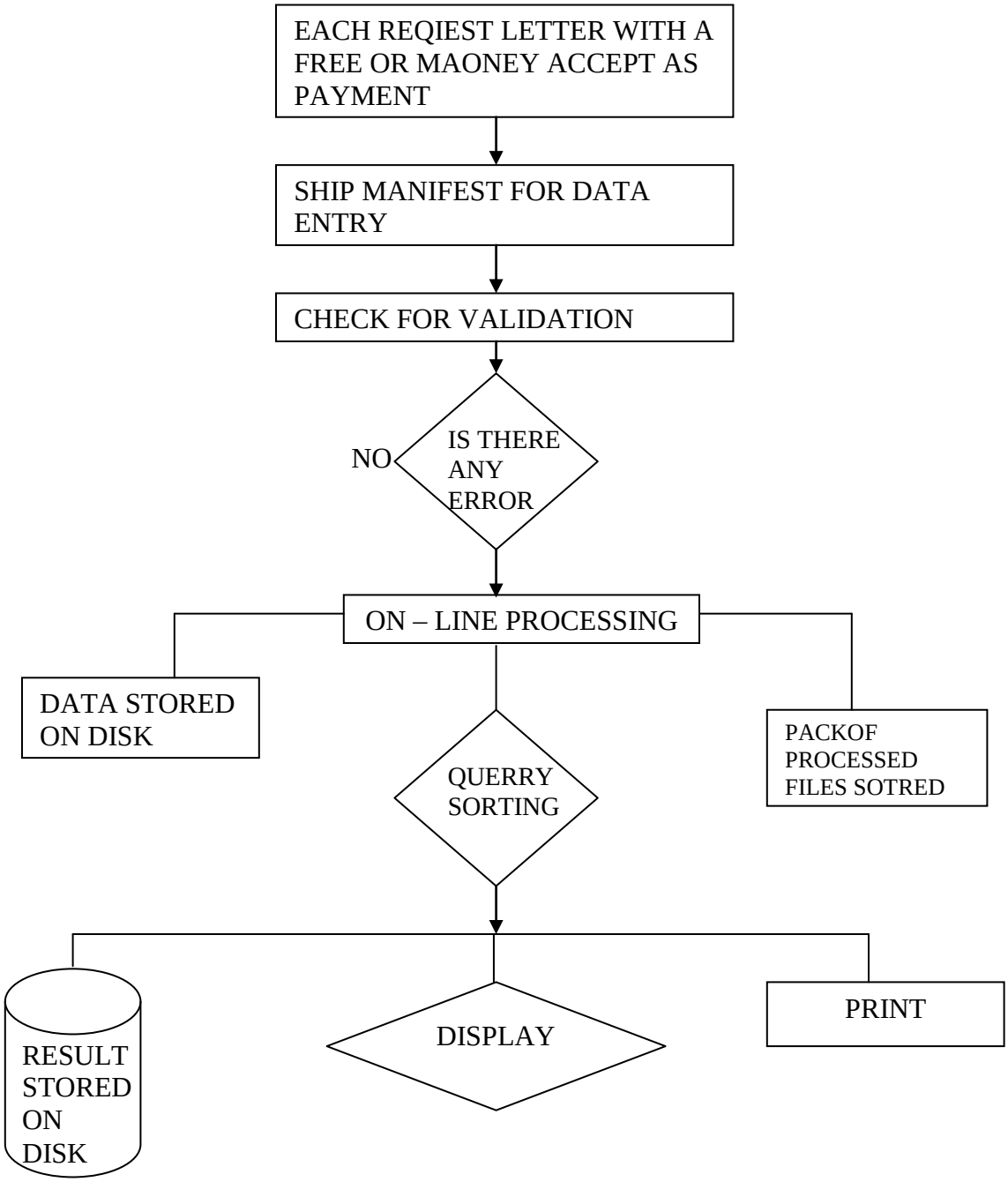


Fig 3: system flow chart

4.7 SYSTEM REQUIREMENT

4.7.1 HARDWARE REQUIREMENT

The following hardware is required for the efficient work of the system:

1. At least 20 gigabyte of hard disk
2. At least 128MB of RAM
3. At least 650MHZ of speed processor
4. At least Pentium II mother board
5. CD ROM
6. Floppy Disk

4.7.2 SOFTWARE REQUIREMENT

The following software is needed for adequate implementation of the design.

1. Window 98/2000/Xp
2. Microsoft FrontPage
3. Macro Media Dream Weaver

4. Macro Media Flash
5. Microsoft Access
6. Internet Explorer
7. Outlook expression

4.7.3 OPERATION REQUIREMENT

The operation requirement for this program is well installed window environment that will enable other needed program run effectively. It also required air ventilated environment. The necessary program like Microsoft Access should be installed for effective database updating.

4.7.4 PERSONNEL REQUIREMENT

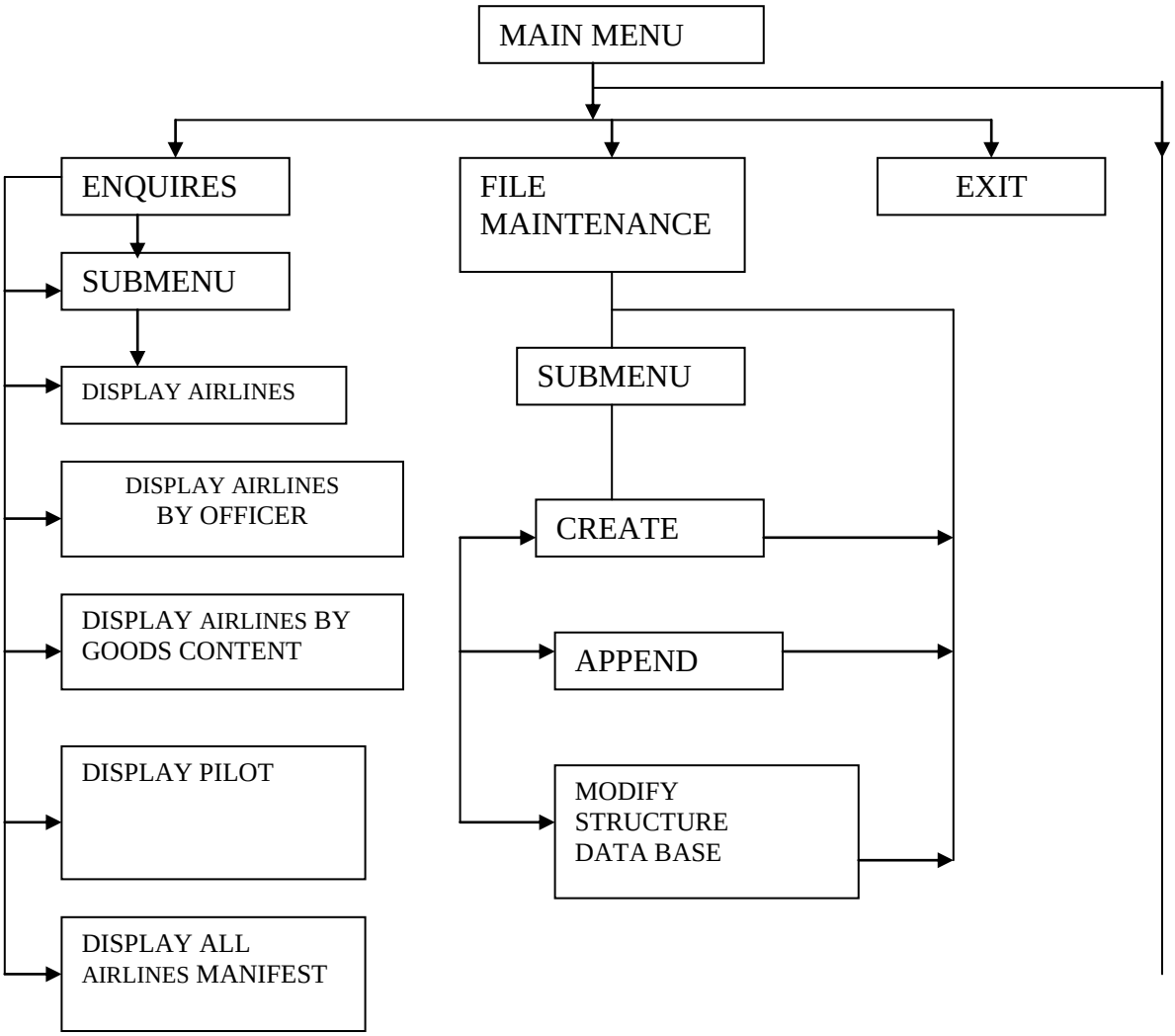
The operator of this program should have a minimum knowledge of computer operation. The program also requires that its operator should have knowledge of Microsoft Access database. This is required for the effective updating of the registration record.

4.7 IMPLEMENTATION

Having decided to computerize the ONLINE AIRLINE RESERVATION PORTAL FOR TRAVELING SERVICES PROVIDER with the design specification on chapter four, it is put to use in the following way:

4.8 PROGRAM DESIGN

Having considered the old system, the structure of the new system was being prepared on paper. This involves a segmental designing method applied to the structure for the new system.



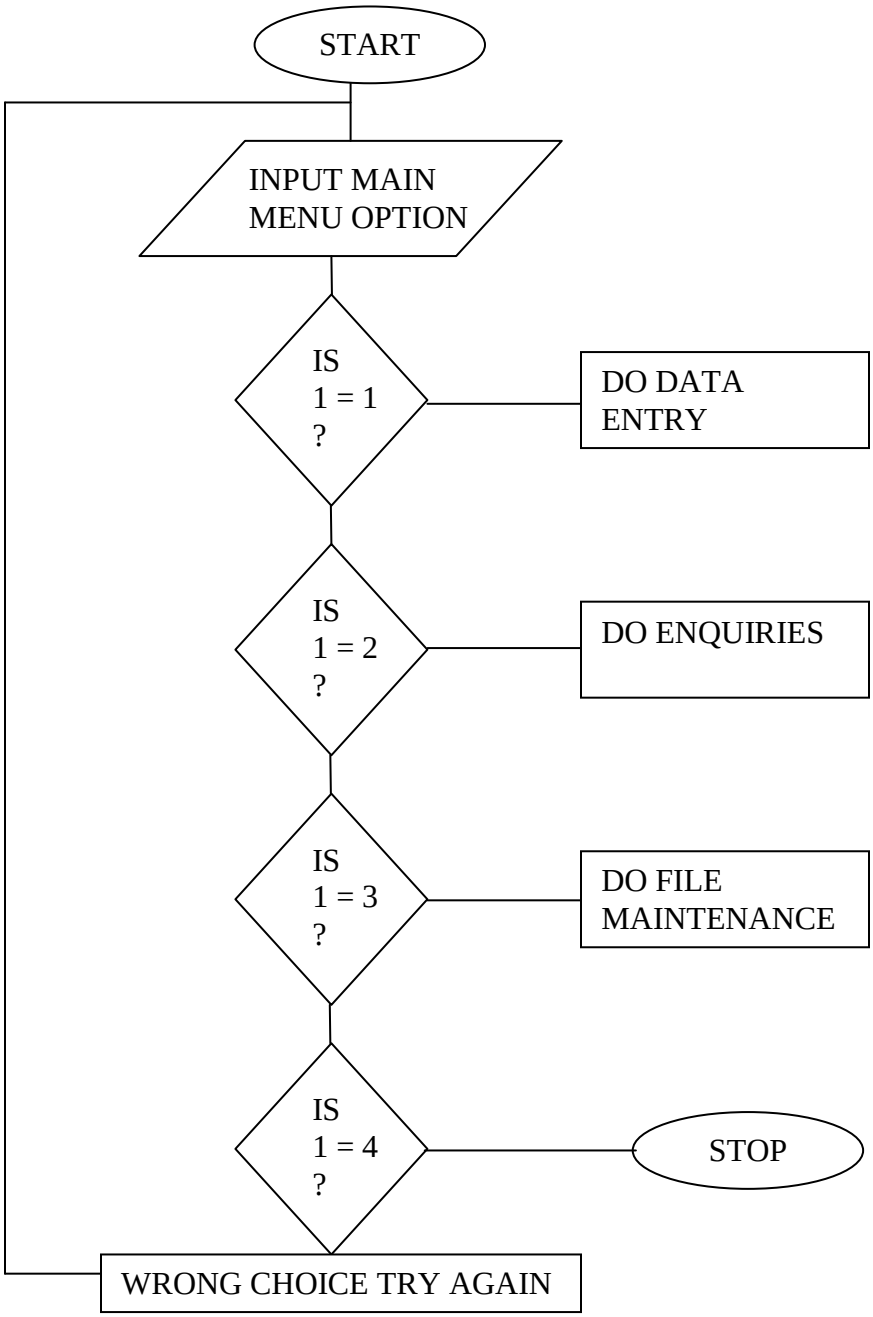
4.9 PROGRAM FLOW CHART

During the Computerized ONLINE AIRLINE RESERVATION PORTAL FOR TRAVELING SERVICES PROVIDER design, a modular designing approach was used to design the program for the system. The design

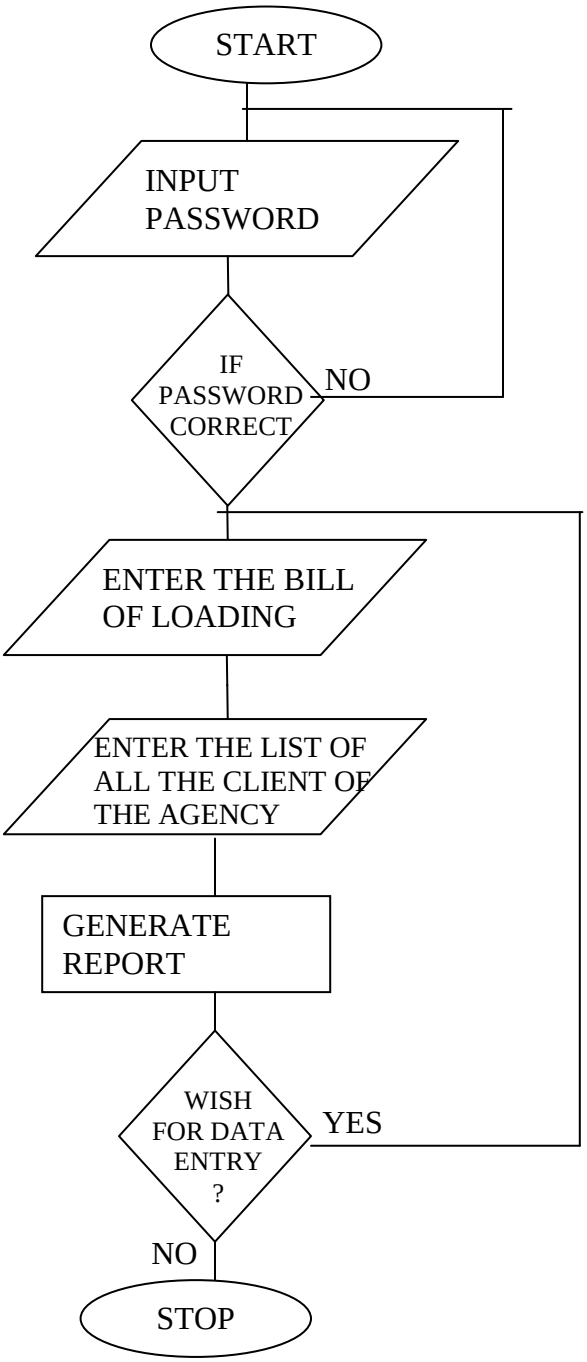
of the new system was carefully developed into paper considering the old system.

Flowchart was used as an effective graphical representation of the program, as well as a design tool and it is aided in the evaluation of a logical correct program.

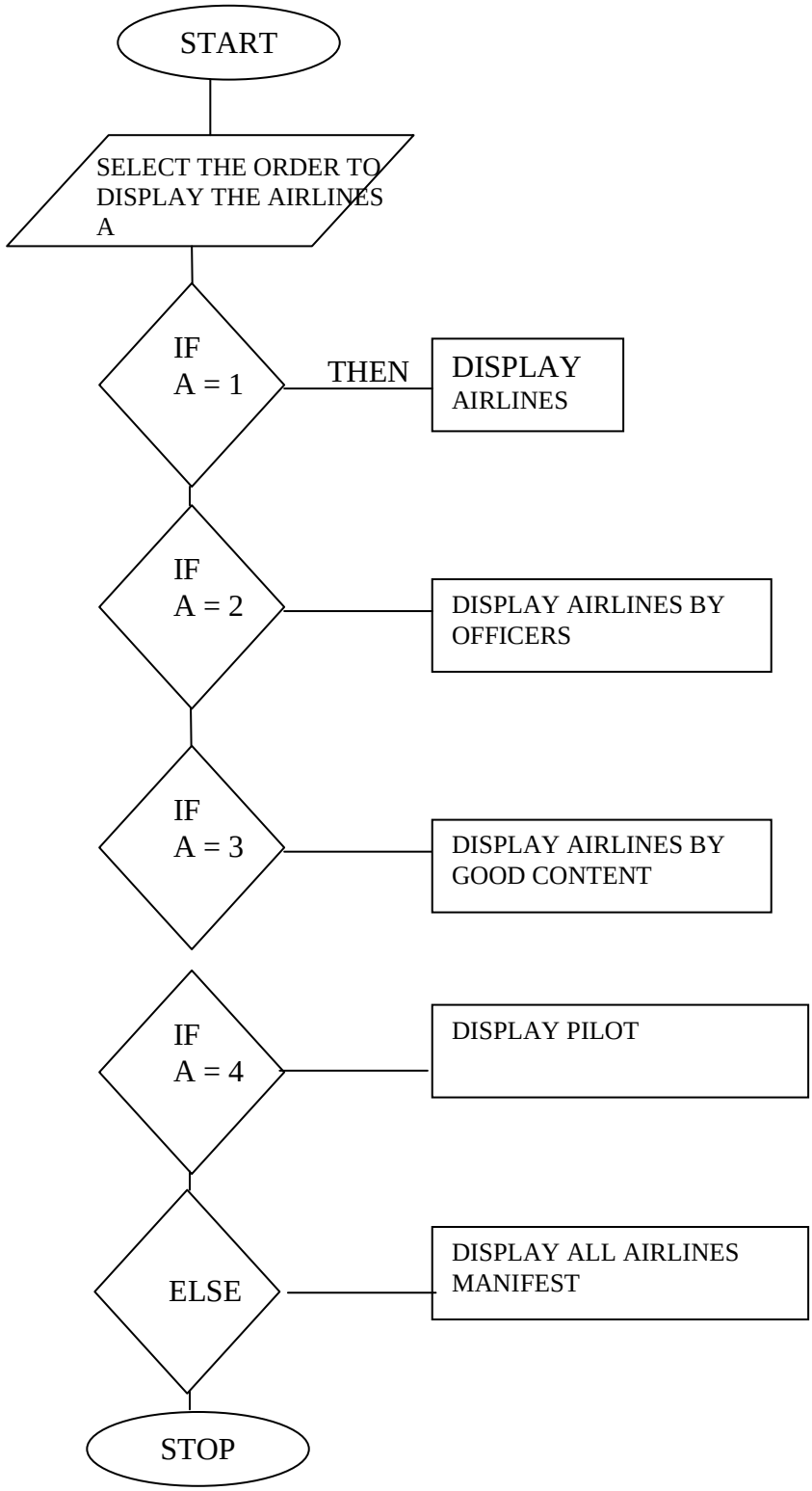
Fig 4: Program flow chart



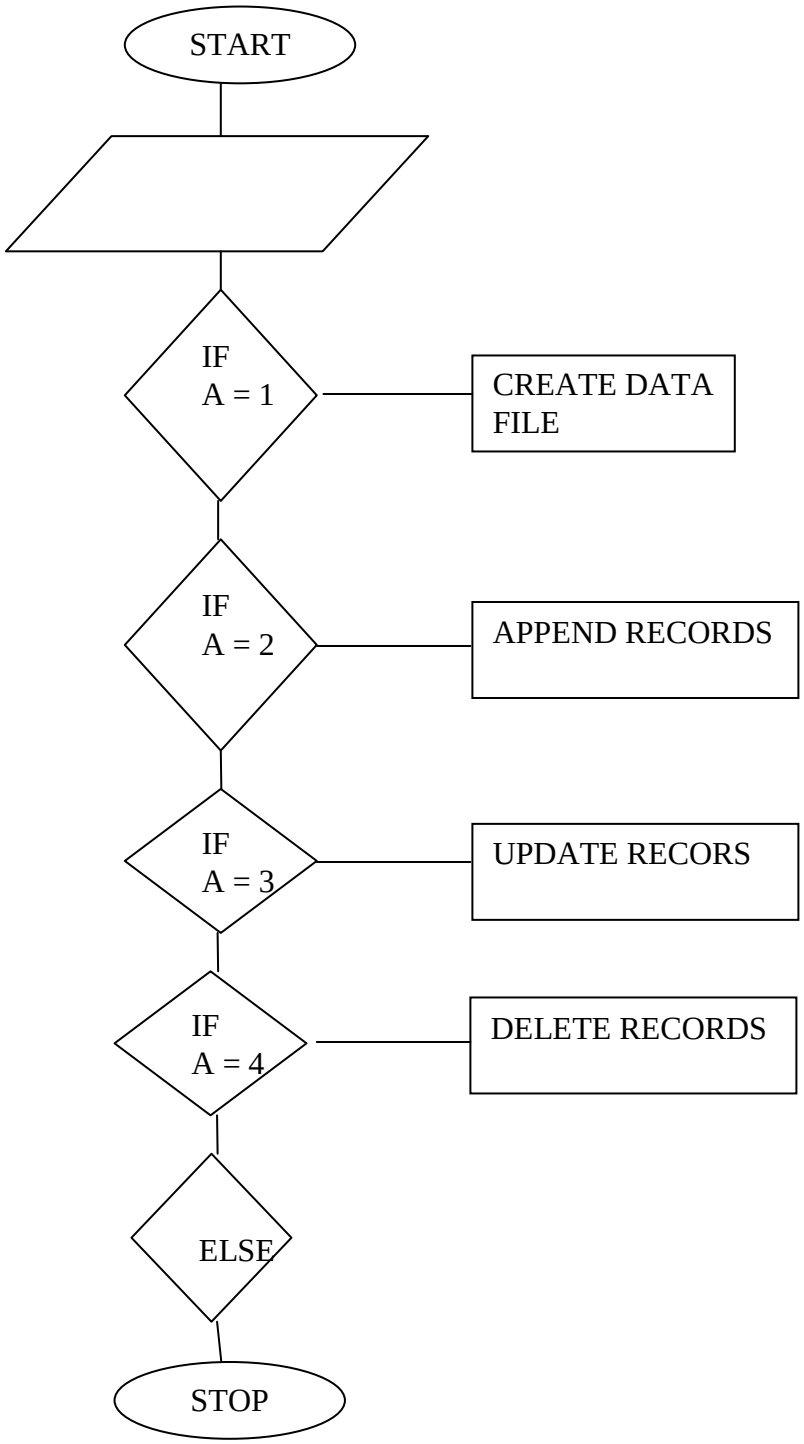
4.9.1 DATA ENTRY FLOW CHART



4.9.2 ENQUIRES FLOWCHART



4.9.3 FILE MAINTENANCE FLOWCHART



4.10 CODING

TO BE COLLECTED FROM THE PROGRAMMER

4.10.1 TEST DATA/TEST RUN

The accuracy of the program was tested with some varying data. This gives the assurance that the new system with achieve its purpose and objectives.

4.11.2 USER TRANING

The user of the system is given orientation as to the running of the program. It has a password which protects the system from unauthorized users.

4.11.3 CUT OVER PROCEDURE

In view of the test plan, direct changeover was recommended since the program is working perfectly.

4.12 DOCUMENTATION

Documentation is written description of new program works, how it is to be used or how it is to be executed to ensure the attainment of an

earlier stated aims and objectives of the new system. There are three categories of documentation they are:

1. User documentation
2. Operator documentation
3. Program documentation.

USER DOCUMENTATION: This is an account of how a program is to be used. It is written non-technical language and does contain any details of how the program works. In relating this is to the design and implementation of a ONLINE AIRLINE RESERVATION PORTAL FOR TRAVELING SERVICES PROVIDER on how the program is to be used.

At the beginning, switch on the system: At C:/> (prompt) type QBASIC, if it is resident in C:/> otherwise change to dos by typing CD DOS and press enter. Then Type QBASIC and press enter.

To retrieve the source program press ALT + F and from the file menu select open. Then type Airline. BAS if it is in the direction you want to use.

If the name of the file is in A Drive (i.e. floppy disk) at the open dialogue box Type A :/> and type Airline. BAS and press enter. Then press F5 or shift + F5 to run the program. Every other operation is to be carried out by the user / operation following. The systems instructions (the program is interactive and users friendly)

PROGRAM DOCUMENTATION

This is a details account of how each module of a program works. It is for the use of any who wishes to understand the detailed working of a program in order to test it or modify it

The modules used were discussed below. Airline BAS is the main procedure where all procedures were integrated. The procedure of the program design although all the modules or procedures were link using a declaration and call statement. The following are the subs of modules that were linked to form software.

There are four modules in the Airline BAS.

The entry sub-program: This contains the files of all the patients, the name, address, telephone numbers etc. the Dbase contains all the records while the listing>BAS is responsible for the particulars.

OPERATOR DOCUMENTATION: Operator documentation is a description, for computer operators, of how a program is to be run. It states which devices are needed and which data files must be loaded, and any special stationary required. It also specifies what is to be done should the program fail.

How the program is to be run were stated in user documentation. The device were already stated in system requirement and the data files to be loaded were also stated in user documentation and no special stationary is required

In case the program fails. Please consult an analyst or a programmer who understands the functional specification of the software

CHAAPTER FIVE

SUMMARY

A new computer system for an Airline flight has been designed and implemented in this project work. The exercise was carried out based on the loopholes existing in the management of air Transport Service. Number of problems encountered in the manual service process thereby creating opportunity for

1. Reliability in the management of customer's document.
2. Fast discharge of auditing responsibilities.
3. Accuracy of computations.
4. Provision of easy adjustment and update of customer records.

RECOMMENDATION

For this research work, I recommend a parallel change over, parallel change over means a situation where by the old and the new way of working is implemented. That is, the old (manual) and the newly designed software computerized for transaction of business between the company and her customers are being run.

This is to enable a sound understanding of the new system design for the effectiveness of this changeover; there are other tasks that must be accomplished. They include the following.

1. Installation of cooling devices such as the air condition for cooling the computer system
2. The company should be sending their staff for training so that they acquire more skills and experience in operating the new designed system
3. Provision of security measures for the system e.g. Alarm gadgets and burglary proof should be in place.
4. Installation of telephone services is needed so that there won't be any problem in communication.
5. Provision of false floor and false ceiling.
6. Provision of house cleaner to keep the computer room neat and dust free.

CONCLUSION

Airline Reservation System (ARS) has led to ease of airline ticketing, flight scheduling and also provided a means for customers to access and book flights from their homes. It has also increased the speed with which information about customers are retrieved and handled and flight scheduling is tasked. Owing to the ease and comfort of Airline flight information system, local flights which are not on the system should be encouraged to compensate the system. Secondly, the system should be made affordable so as to encourage consumers and travel agents on patronizing the system

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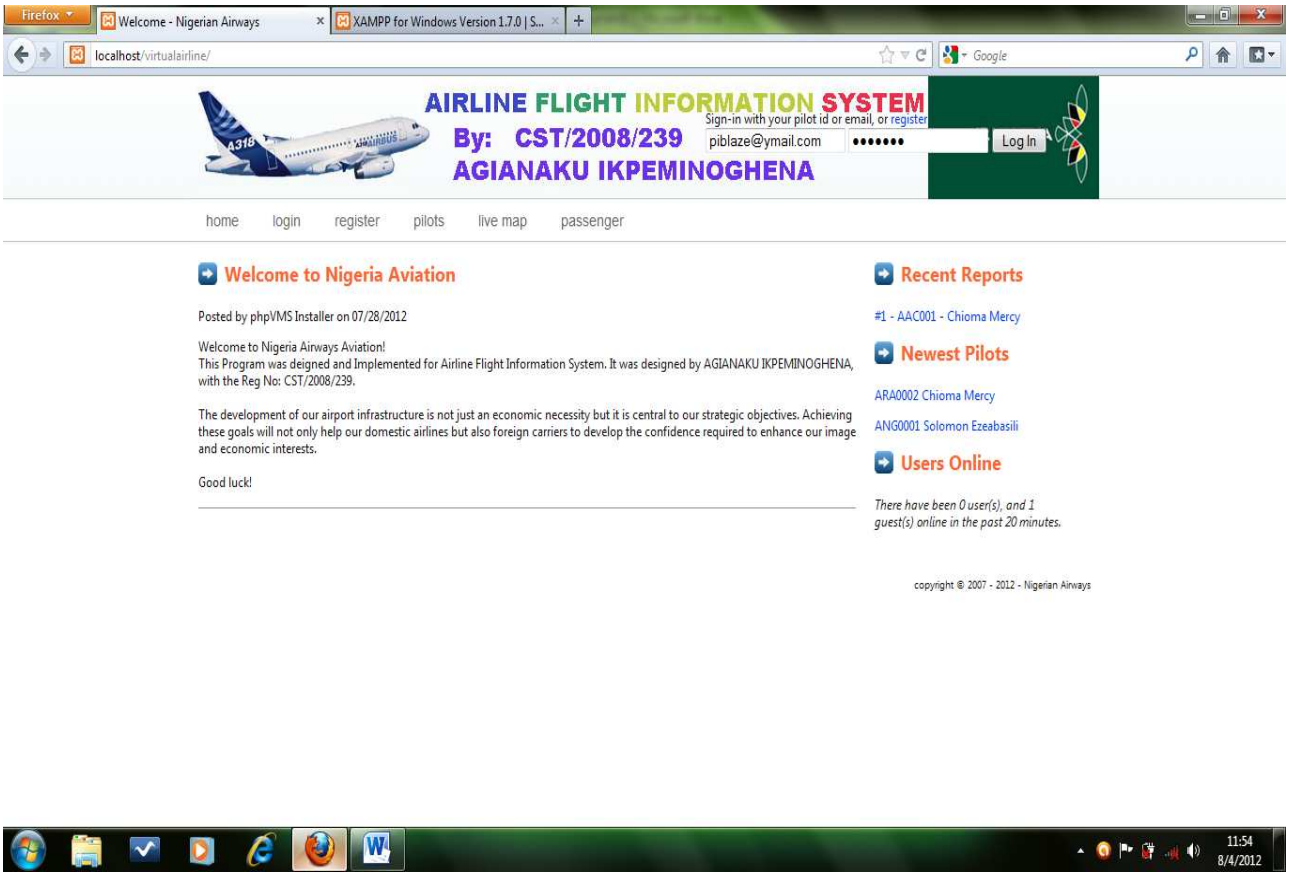
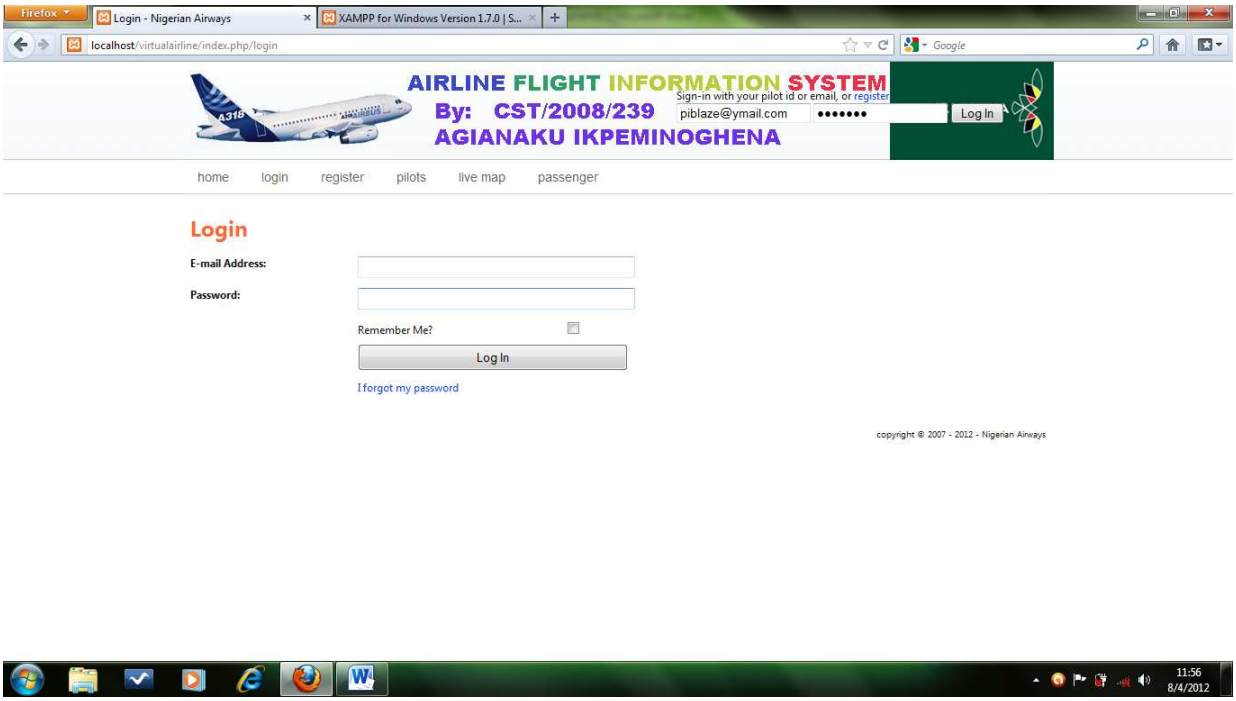
APPENDIX I



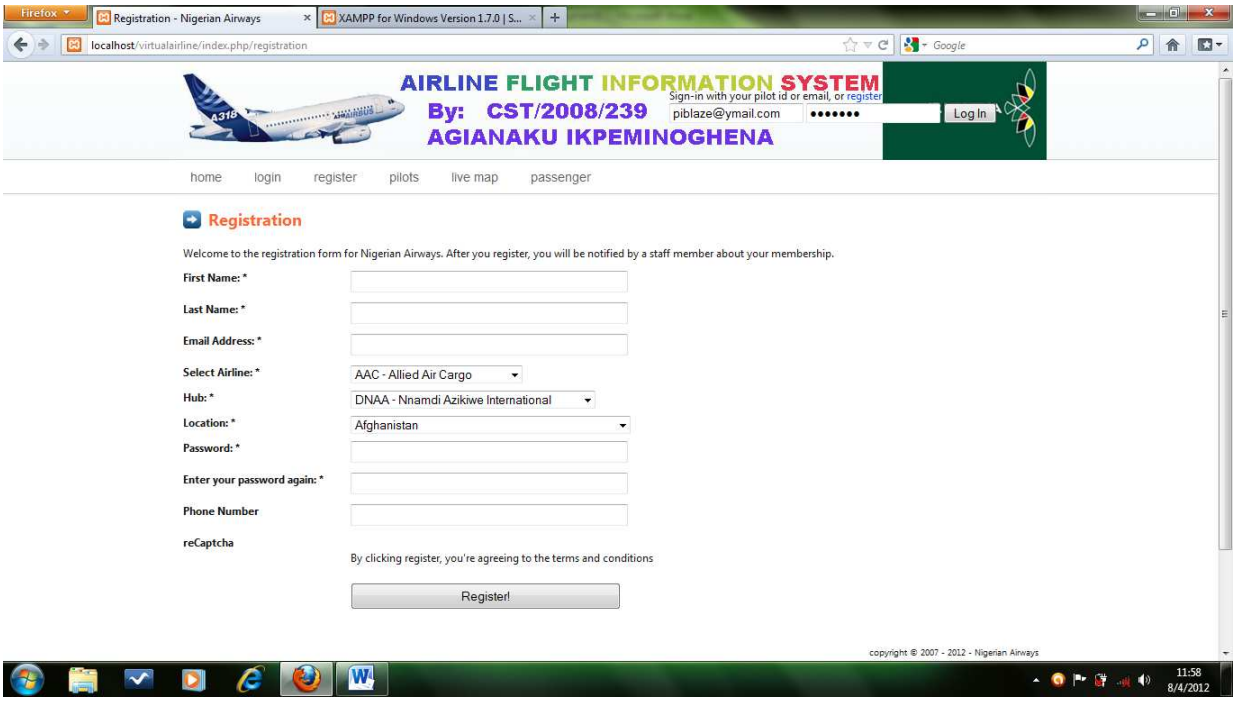
HOME PAGE

APPENDIX II



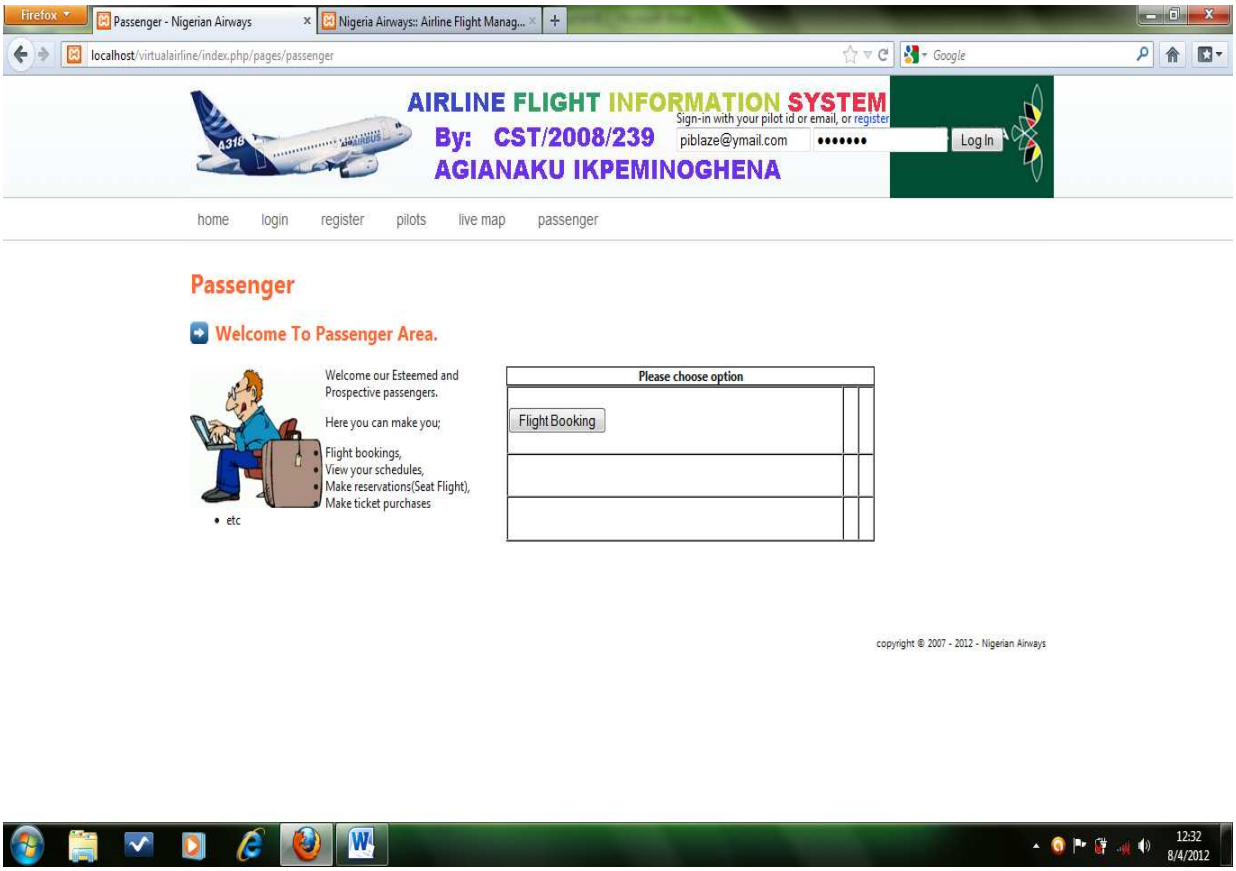
LOGIN FORM

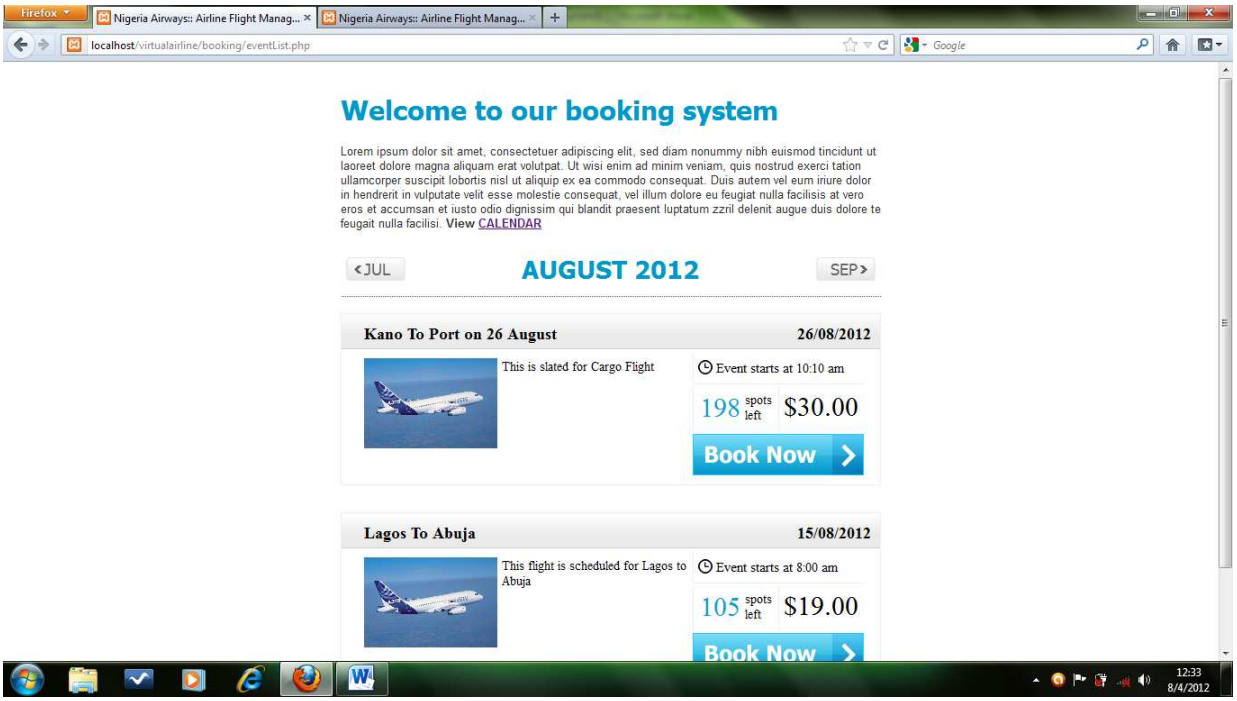
APPENDIX III



CUSTOMER REGISTRATION FORM

APPENDIX IV


Firefox
Passenger - Nigerian Airways
Nigeria Airways:: Airline Flight Manag...
localhost/virtualairline/index.php/pages/passenger
Google
AIRLINE FLIGHT INFORMATION SYSTEM
By: CST/2008/239
AGIANAKU IKPEMINOGHENA
Sign-in with your pilot id or email, or register
piblaze@ymail.com
Log In
home
login
register
pilots
live map
passenger
Passenger
Welcome To Passenger Area.
Welcome our Esteemed and Prospective passengers.
Here you can make you;
Flight bookings,
View your schedules,
Make reservations(Seat Flight),
Make ticket purchases
etc
Please choose option
Flight Booking
copyright © 2007 - 2012 - Nigerian Airways
12:32
8/4/2012



FLIGHT BOOKING SECTION

Appendix V

Source Code

```
Include "includes/dbconnect.php";

Include "includes/functions.php";

        $name =

(!empty($_REQUEST["name"]))?strip_tags(str_replace("'","`",$_REQ

UEST["name"])):'';

        $phone =

(!empty($_REQUEST["phone"]))?strip_tags(str_replace("'","`",$_REQ

UEST["phone"])):'';

        $email =

(!empty($_REQUEST["email"]))?strip_tags(str_replace("'","`",$_REQ

UEST["email"])):'';

        $comments =

(!empty($_REQUEST["comments"]))?strip_tags(str_replace("'","`",$_

REQUEST["comments"])):'';
```

```
	$date =
(!empty($_REQUEST["date"]))?strip_tags(str_replace("'","`",$_REQU
EST["date"])):'';
$bookingTexts = getBookingText($serviceID);
	include "includes/javascript.validation.php";
	if(!empty($msg2) && $msg2=="captcha"){
		$msg = "<div class='error_msg'>Captcha error! Please
try again</div>";
	}
?>
<link rel="stylesheet" type="text/css" href="css/style.css" />
<noscript>
    <div class="js_error">Please enable JavaScript or upgrade to
better <a href="http://www.mozilla.com/en-
US/firefox/upgrade.html" target="_blank">browser</a></div>
</noscript>
<?php echo $msg; ?>
```

```
<div class="internal_booking_form">
<form name="ff1" enctype="multipart/form-data" method="post"
action="booking.processing.php" onsubmit="return checkForm();">
<input type="hidden" value="<?php echo $date?>" name="date">
<input type="hidden" name="interval" value="<?php echo $int;?>"
/>
<input type="hidden" name="serviceID" value="<?php echo
$serviceID;?>" />
<?=getFullMonth(date("n", strtotime($date)))." ".date("d",
strtotime($date)).", ".date("Y", strtotime($date))?> Availability</h2
<p class="desireTime">Please select desired time. <?php echo
$bookingTexts[0]?> <?php echo $bookingTexts[1]?></p>
<?php echo $availability?>
 <?php
                        $num1 = rand(1,9);
                        $num2 = rand(1,9);
                        $sum = $num1 + $num2;
```

```
                    ?>
                    <div class="tab">Booking Form</div>
                    <div class="book_form">
                        <table width="650" class="booking_form">
                            <tr>
                                <td align="left">
                                    <span>Your
Name*: </span>
                                    <input type="text"
name="name" id="name" value="<?php echo $name?>"
onchange="checkFieldBack(this)"/>

        <span>Phone*: </span>
        $phone =
(!empty($_POST["phone"]))?strip_tags(str_replace("'","`",$_POST["p
hone"])):";
```

```
	$email =
(!empty($_POST["email"]))?strip_tags(str_replace("'","`",$_POST["e
mail"])):'';
	$comments =
(!empty($_POST["comments"]))?strip_tags(str_replace("'","`",$_POS
T["comments"])):'';
	$date =
(!empty($_POST["date"]))?strip_tags(str_replace("'","`",$_POST["dat
e"])):'';
	$interval =
(!empty($_POST["interval"]))?strip_tags(str_replace("'","`",$_POST["i
nterval"])):'';
	$time = (!empty($_POST["time"]))?$_POST["time"]:'';
	$captcha_sum =
(!empty($_POST["captcha_sum"]))?strip_tags(str_replace("'","`",$_P
OST["captcha_sum"])):'';
```

```
	$captcha =
(!empty($_POST["captcha"]))?strip_tags(str_replace("'","`",$_POST["
captcha"])):'';
($name)."&phone=".urlencode($phone)."&email=".urlencode($email)
."&comments=".urlencode($comments)."&{$timeURL}");
		header("Location:
index.php?".http_build_query($queryString));
	exit();
	}
	$status=getServiceSettings($serviceID,'spot_invoice')?1:2;
	if(!empty($name) && !empty($phone) && !empty($email)){
Please check your input.</div>";
		} else {
	3. PREPARE BOOKING DATE/TIME
			# CREATE ORDER
			$q="INSERT INTO bs_reservations (dateCreated,
name,
```

```
                                $res=mysql_query($q) or die("error!
002");
                                //needed for message
                                $tempVar .= "<tr><td>".date("d ",
strtotime($date)).getFullMonth(date('n',strtotime($date))).date(" Y",
strtotime($date))."</td><td>".date((getTimeMode())?"g:i a":"H:i",
strtotime($dateFrom))."</td><td>".date((getTimeMode())?"g:i
a":"H:i"
href=\"http://".$_SERVER['SERVER_NAME'].$baseDir."manageReserv
ation.php?email=".urlencode($email)."&uid=".$uid."\">link</a>";
```