DESIGN AND IMPLEMENTATION OF A COMPUTERIZED LIBRARY RECORDS MANAGEMENT SYSTEM; A CASE STUDY OF ST. JOHNS SECONDARY SCHOOL BUKEDEA

BY

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RESEARCH PROJECT REPORT SUBMITTED TO THE SCHOOL OF COMPUTER STUDIES IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF A BACHELORS DEGREE IN INFORMATION TECHNOLOGY OF KAMPALA INTERNATIONAL UNIVERSITY

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DECLARATION

I HELEN ASIO OKEDI hereby declare to the best of my knowledge that this graduation project is my original work and that it has never been submitted to any University or any other institution of learning for any award.

The literature and citations from other people's work have been duly referenced and acknowledged.

Date: 01/July/2010

Signed: 

APPROVAL

I certify that this project report is an original work of Helen Asio Okedi and has been submitted with my approval.

Signed ..... Date 01/07/2010

SSEGAWA E. James Kiggundu

DEDICATION

I dedicate this work to my parents Prof. & Mrs. John Okedi, brothers, sisters and my son Kenneth. Without their love, understanding, support and encouragement, this project would not have been possible.

I also dedicate this project to all the staff and students St. Johns Secondary School for giving me information regarding the school library during my data collection.

ACKNOWLEDGEMENT

It is with great sense of satisfaction that I present my project work. I thank God for giving me wisdom, knowledge and strength to do my degree. As I write this work I acknowledge my lecturer Mr. Ssegawa for guiding me through the project. I also acknowledge the efforts of St. Johns Secondary School for allowing me to use their facilities during the research.

More thanks goes to my fellow students and the dedicated and result-oriented Faculty who together made me through this project struggle.

ABSTRACT

St. Johns Secondary School is an upcoming school in the eastern part of Uganda. It has a growing library which operates on a manual system of pen and paper and a traditional filing system of file covers stacked on top of each other.

A research project has been carried out to computerize the library by implemnenting a computerized records management system. The computerized records system will be able to retrieve information, save, print and only to authorized users. The use of passwords will enable one to access the database.

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CHAPTER ONE

INTRODUCTION

1.0 INTRODUCTION

This chapter contains the background of the study, statement of the problem, main objective, specific objectives scope of the study, and conceptual model.

1.1 Background

St. Johns' International School is located in Kachumbala County in Bukedea district, Teso region, eastern Uganda. It is a community based secondary school which has been in existence for six years, offering education to orphans in eastern region whose parents have died of HIV/AIDS, civil wars, cattle rustling, famine and diseases. The school is one of the Universal Secondary Education (USE) schools in Bukedea district. The school teaches all subjects such as biology, chemistry, physics, geography, mathematics, agriculture, history, languages, music, dance and drama. The school was started with four classes namely senior one to four and now has up to senior six.

1.2 Statement of the Problem

The school library has a wide selection of books in all subjects of biology, chemistry, physics, geography, mathematics, agriculture, history, languages and music. There is growth in the number of library users as the school expands in both students and staff members. As a result the current traditional records system can not efficiently handle the workload of keeping an update record of movement of books in the library. Information retrieval is difficult and time consuming. Books tend to go missing without notice and it is difficult to trace scanty information on paper. This results to data redundancy, inconsistence and ineffectiveness of activities in the library. No one takes responsibility for mistakes when information is kept on files and handled by different people. Data is stored in different records which are not linked together rendering retrieval of information inconsistent and difficult. Incase of calamities such as fires or floods, it is difficult to recover lost files. It is therefore against this background that computerized library records system is set up to keep track of the library information.

1.3 Main objective

The main objective of this project is to design and implement a computerized records management system using Visual basic and MS Access.

1.3.1 Specific objectives

(i) What services are provided by the library.

(ii) What kind of security is provided to protect the data and the library.

(iii) How accurate is the data which is retrieved from the library.

1.4 Scope

1.4.1 Geographical scope

The school is in Bukedea District, Kachumbala Sub-County, and 12km on the Mbale-Kumi Road. At Kachumbala Trading Centre, turn left and move 2km into the village.

1.4.2 Research scope

The research covers St. Johns Secondary School Library. There are books, newspapers and magazines in the library. The books are for various classes in the subjects of sciences and arts. The books in science subjects are biology, physics, chemistry and mathematics, and arts subjects contain books in fine art, geography, music, history and literature.

1.5 Conceptual Model

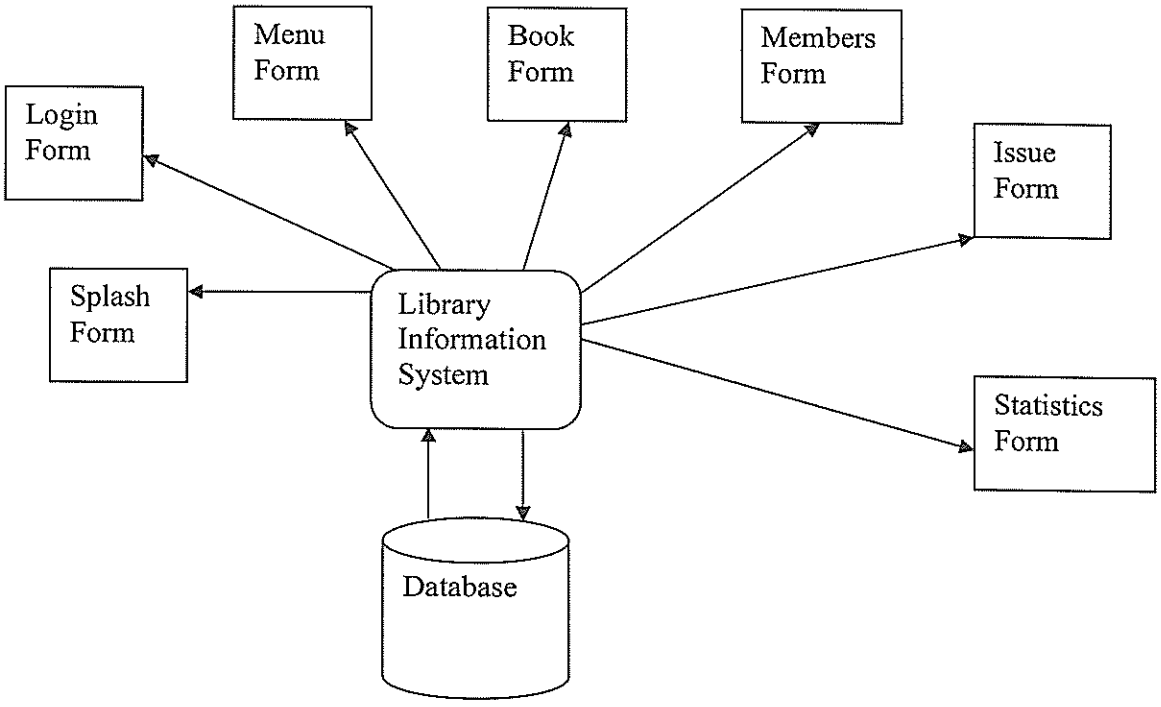


Figure1: Conceptual model of the library records management system

The Visual Basic Interface is used by the user to interact with the system. The user issues requests to MS Access (Database) via the Firewall which checks for authentication and if the user is authorized it opens a connection to the Database management system (MS Access) which then allows access to the Library Records Database.
MS Access receives the queries, processes them and sends them back to the interface through the Firewall.

1.6 Significance

This project will increase the efficiency in conducting the business processes hence saving time. For example if the Librarian wants to know the type and number of books in stock.

Academicians and other researchers will use the researched work to compare ideas. Hopefully this project will increase the security of the Library books. For example who has the custody of which books and for how long?

Since system runs on a networked environment, information will be shared by the School administrators hence reduce the time wasted by moving from one place to another. The database will be accessed by the authorized personnel only.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter provides a review of the issues that have been explored and studies both theoretically and empirically in the existing literature made by other scholars and academicians on records management systems.

2.1 Records Management System

Records management system is a computerized system which performs the daily business processes like processing requests and maintaining up to date record levels. For example maintaining a list of library users and their particulars the system used a network to enable different level managers to access the database. Visual basic programming language was used to create the user interface.

2.2 Database systems

It is a collection of logically related data and programs that can access and manipulate the data and output the required information. As noted in implementing a database design using Microsoft SQL server 7.0 NIIT limited, for a business to be successful, fast access to information is critical. Important decisions are based on the available information at any point in time. In order to get the right information at the right time business data is stored in a computer system which aids in fast access to the information and also helps in managing data effectively (O'Leary and O'Leary, 2000)

Database management system (DBMS) is a set of programs that enable the user to create, manipulate and maintain a database. The core of the DBMS is called the database engine which responses to specific commands to create database structures and the read, write and update records from the database. The most successful DBMS are based on relational technology which involves tables that are related to one another through via foreign keys (O'Leary and O'Leary, 2000).

2.2.1 Advantages of database systems

Database systems have several advantages. For instance database improves security. Unauthorized users are not allowed to access the database. Actually without security it's more risky to have records in a centralized location. Database security is achieved by using usernames, passwords and views (Aronson, 2001).

Database systems controls and reduces data redundancy. Data redundancy is inputting the same data many times this can be controlled by integrating files so that multiple copies of the same data not stored. Database systems also improve data consistency and data integrity. Database integrity refers to the validity and consistency of the stored data. Integrity also refers to the constraints or rules which the database is not permitted to violate. (Connolly and Begg, 2000)

2.2.2 Disadvantages of database systems

Database systems are complex. This means that they require an expert to develop them.
They also require additional hardware which results to additional costs (Aronson, 2001).

2.3 Information system

The term information system refers to a system of persons, data records and activities that process the data and information. it includes manual and automated processes. Computer-based information systems are the field of study for information technology, elements of which are sometimes called an "information system" as well, a usage some consider to be incorrect (Aronson, 2001).
Steven Alter in his book 'Information Systems 2nd edition' defines information systems as system that use information technology to capture, transmit, store, retrieve, manipulate or display information used in one or more business processes (Steven, 2000)

2.3.1 Characteristics of information systems

The Organization of data into information: For data to be made meaningful it must have a purpose. The purpose of the stored data should reflect the purpose and type of the information system. Data needs to be processed and organised before it becomes information. Organising the data will most likely involve the processes of sorting and filtering (classifying) before it can be analysed and stored for later retrieval. Data dictionaries are used to help organise the data. Ability to Analyse the Information: Once the data has become information it needs to be

analyzed to make the most of the information stored. Analysis of databases is done through the tools of queries and reports (http://www.encyclopedia.com/articles/04322.html)

2.3.2 Advantages of Information system

Information systems have facilitated quick access of data stored in databases hence saves time the user requires to access data. Information systems are accurate in their execution of services/ processes. This reduces errors made during processing of data (Steven, 2000).

Information systems facilitate sharing of hardware resources like printers and disk drives. It also enables sharing of data between computers in the system. This reduces duplication of data. Information systems also enhance security of data by use of passwords and data encryption methods. It entails only people with full access rights to enter the system and make changes to the system and data stored therein. It also facilitates easy backup of data. Information systems have also provided for easy manipulation of the ever increasing amount of data (Aronson, 2001).

2.4 Review of methodologies

System development methodology is a very formal and precise system development process that defines a set of activities, methods, best practices, deliverables and automated tools for system developers and project manager to use to develop and maintain most or all information systems and software (Whitten, 2000).

2.4.1 System Development Life Cycle (SDLC)

The records management system uses the System Development Life Cycle (SDLC). A traditional SDLC consists of four fundamental phases i.e. Planning, Analysis, Design and Implementation phases (Turban, 2001).

It is a cycle because it is possible to return to any phase. Projects must go through these phases. Whitten (2000) argues that development life cycle methodologies have seven phases these are preliminary investigation, problem analysis, requirement analysis, decision analysis, design, construction and implementation. In general terms the proposed system will use the system development life cycle which includes the four major phases which are planning, analysis, design and implementation.

2.4.2 Design tool to be used

2.4.2.1 Visual basic

The records management system will use Visual Basic programming language to build the user interface. Visual Basic is a programming environment that is, a program specifically designed to facilitate the creation of new programs .Visual Basic runs on windows operating system and it is mostly used to create business applications (Burrows and Langford, 2000).

CHAPTER THREE

METHODOLOGY

3.0 Introduction

This chapter includes research procedure, target population, sample population, data collection, fact finding techniques, development methodology, information system plan, feasibility analysis, project plan, schedule, and risk assessment which were the steps taken to arrive at the new system.

3.1 Research Design

Before the research was started the researcher has to visit the school and seek for permission to carry out the research. The researcher was required to prove that she is a student at university by presenting a valid Identity card of the university. The researcher reviewed documentation of the existing system in order to establish the requirements of the new system. The purpose of the above procedure was to help the researcher come up with a good records management system in order to provide better services to the users.

3.2 Target population

The data collection technique targeted the students and staff of St. John Secondary School.

3.2.1 Sample Population

To select the sample population the researcher used simple random sampling technique because all students and staff in the school have a right to use the library. The procedure to carry out random sampling involved identifying any ten students and/or four staff members and two and/or one respectively were picked.

3.3 Data Collection

3.3.1 Primary Data

Primary data included students and staff members of St. Johns Secondary School who were interviewed by the researcher and those who filled the questionnaires.

3.3.2 Secondary Data

Secondary data are the books in the St. Johns School library.

3.4 Research Instruments

3.4.1 Observation

Observation method was used by the researcher. The researcher went and observed the staff and students doing a normal school day and found out that it took more than ten minutes for the Librarian to retrieve records. Observation is a fact finding technique where by the researcher participated in or watched a person perform activities to learn about the system being used at St. Johns Secondary School. The analyst learnt first-hand information about the inadequacies of the exiting system. The analyst was able to see exactly the activities going on in the library. This method was also inexpensive compared to other techniques which usually required substantially more employees release time and copying expenses. Although observation is a very useful fact-finding technique, it also has some setbacks. For example some humans did not like being watched and alerted others resulting into the library being vacated. This method was also less expensive though may not give appropriate results.

3.4.2 Questionnaires

Also the researcher used questionnaires with the free format. These are special-purpose documents that allow the analyst to collect information and opinions from the respondents. Questionnaires provide a relatively inexpensive means for gathering data from large number of individual.

This offered the respondent greater latitude in the answer. I.e. when a question was asked the respondent recorded the answer in the space provided. Multiple-choice questions were also included in the questionnaire. This allowed a brief free-format response when none of the standard answers applied. This made the results much easier to tabulate

3.5 Analysis, Design and Development

After collecting the data it was checked for accuracy. The existing system was analyzed by collecting facts from the existing documentation so that the researcher can know the problem with the current system and be able to come up with solutions. Requirements of the new system were analyzed. This is because fact finding activities can produce requirements that are conflicting with each other. The goal of requirement analysis is to discover and resolve the problems with the requirement and reach agreement on any modifications in order to satisfy the user. Designing the new system was done after the requirements analysis phase had been done. A

network and database architecture design was made to show how the database and the network system were interconnected.

3.6 Development Methodology and Tools

The system was developed using the system development life cycle. During the planning step, the researcher identified the scope and the boundary of the system and planned the development strategy and goals. In the analysis stage, the researcher studied and analyzed the problem, causes and effects of the new system and also analyzed the requirements that had to be fulfilled for the new system to be successful. The researcher then designed the new system and developed a prototype .In the implementation stage, the system was put into use then the system was developed using modern technology tools. Visual basic programming language was used to develop the user interface. This is because visual basic offers a strong Graphical User interface (Aronson, 2001). MS Access was used to store the information and handle the large number of clients. This is because MS Access can be used in distributed computing, that is it can be used in a networked environment. The application operates on Windows operating systems this is because windows operating system is widely used.

3.7 Information System Plan

3.7.1 System Request

System request report is a document which tries to solve the problem of the school. It shows the value of the system to the school.

Name of the project

Design and implementation of a computerized records management system using Visual Basic and MS Access.

Name of the organization

St. Johns Secondary School

Business needs of the organization

The business needs of the school include processing and maintaining records. The school is of secondary level with a growing population of both students and staff members.

Expected functionality of the system

The system is expected to automate the processes of the library. The system will also run on a networked environment (LAN) share the resources i.e. the database. The system will enable the users to know the books in stock.

Expected value of the system

The system is expected to improve efficiency in the library processes, hence saving time. The system will also grant access to privileged user in the database.

3.8 Feasibility Analysis

The project size is small. The users are not experienced with the new system hence the need for training. The programmer is experienced and knowledgeable with visual basic programming language which was used to develop the user interface. The development tools were available that is, the DBMS.

3.8.1 Economic feasibility

The expected benefits of building the system will be (tangible benefits) Fewer processing errors because the processes will be automated and decreased response time between when a query is sent and when the feedback is received. Also the overall expenses of paper work will be reduced.

Intangible benefits

Improved users goodwill will be expected because the system will ensure that time is saved and this increases efficiency. The librarian's moral will be improved because it will be less tedious to use the new system than using the manual system. The system will likely enhance better decision making, that is, through reviewing the computerized summaries the administrators will be able to make quick decisions based on accurate information because computers rarely make errors. The cost of developing the system will be estimated from the outset of the project and it will be reviewed after the end of each project phase.

3.8.2 Organization feasibility

The librarian, students and staff members will have a positive attitude towards the system because it has been tedious conducting business processes manually. Training users is expected to be easy because the system will have an easy to use graphical user interface.

3.9 Project plan

The project plan was based on the four phases of the system development life cycle (SDLC) which includes planning, analysis, design and implementation. During the planning phase the researcher produced a system request report. This is a document produced by the researcher to show the need of a new system for an organization. It includes project name, name of the school, and the expected functionality of the system. The researcher was also required to carry out a feasibility analysis and come up with a feasibility analysis report. Also the researcher was required to draw up a schedule to show the various tasks and activities against a specified time frame. It was also necessary to carry out a risk assessment and come up with a risk assessment report.

Analysis phase

During the analysis phase, the researcher was required to study the existing system (current system) and was expected to come up with a current system report. This report shows the strength and weakness of the existing system. The researcher was also required to determine the requirements of the new system and come-up with a report. This report identified data, process and interface requirement of the new system. Also the researcher was expected to produce a conceptual design of the database. This involved coming up with a conceptual design model which shows logical structure of the entire database. The target users of the system were identified. Business benefits and costs were to be assessed and the researcher came up with an analysis report.

Design phase

The researcher was required to produce process models i.e. come up with a (Unified Modeling Language) UML and or data flow diagrams to show the flow of data through the system and work or processing performed by the system. The user interface and screen displays forms and report designs were also produced. The system architecture design was produced. This included coming-up with network models, hardware and software specification and also security design of the new system. Program designs were also produced to show how the program files linked to each other.

Implementation phase

During the implementation phase the researcher constructed the application and the database program codes, database and documentation was done during this phase. The researcher also

documented the program tools and hardware tools and came up with a list of the software and hardware tools which were used to develop or build the system. During this phase the researcher was required to produce a change management plan. This is a plan for organizational issues such as training, assessing cost-benefits of the system change of management policies etc.

3.10 Risk assessment

Every business decision has a degree of risk and uncertainty; this also includes building a new system. For instance lack familiarity of development tools may delay the project completion making it lag behind schedule. However this risk was avoided by training and acquiring expertise on the unfamiliar tools. Also managing the four phases of the system development life cycle was not easy. It is not easy to manage the implementation phase and complete it in time. This can be controlled by acquiring professional guidance whenever possible.

3.11 Problems encountered during the study

The research was carried out in a tight time schedule which led to delays and beating deadlines wasn't possible. Carrying out a research requires a lot of finances which were not available hence it was a great limitation to the research process. Difficulty was also experienced during handing out questionnaires, this is because most staff members feared to would cost them their jobs and students feared saying they do not understand the questions. Designing of questionnaires was not easy.

CHAPTER FOUR

SYSTEM ANALYSIS, DESIGN & DEVELOPMENT

4.0 Introduction

This chapter explains the logical design, physical design developed by the researcher, entity relationship diagram, flow chart, the new design system, data input and findings from questionnaires and observation. The new system is designed to meet the needs of St. John Secondary School library. It is also designed to ensure accurate record keeping and provide better services to users. It will be expected to overcome the shortfalls associated with the current system.

4.1 The Old System

The current system is basically manual whereby pen and paper is used to record the activities in the library which activities involve loaning books, recording the new books in the library and registering the members in the library. The paper is filed away in file covers and stacked on top of each other at some corner within the librarian's office.

4.1.1 Challenges

(a) It takes quite some time to retrieve a document.

(b) Reports are not accurate because not all documents are traced.

(c) Documents get filthy and sometimes tear.

(d) Documents get lost.

4.2 The New System

The new system is very accurate and fast depending on garbage-in-garbage-out (GIGO) input of data. Files and folders created on the computer is to file the data. It will be possible to print information, correct data and save the data. It will be networked so that instead of having to move to the library to look at some information, a mere press of the button will enable the management staff access the library data.

4.2.1 Advantages

(a) It is a reliable system.

(b) It is accurate depending on input of data.

(c) Easy to manage.

(d) Very fast in data input and output.

4.3 System Requirements

4.3.1 Hardware

(a) Desktop computer monitor

(b) Keyboard

(c) External mouse

(d) Computer printer

(e) Mouse pad

(f) Systems unit

(g) Printing paper

4.3.2 Software

(a) Microsoft Applications

(b) CDs

(c) Software

(d) Operating system e.g. Windows XP

4.3.3 Operations

Electricity is needed to operate the computer. Software applications are required for running the programmes and an authorized user will be able to login using a username and password.

4.3.4 Security

Passwords are created for authorized and authenticated users to prevent the information getting into wrong hands. The library has special locks and the keys kept by three persons (librarian, Headmaster and Bursar).

4.4 Systems Design

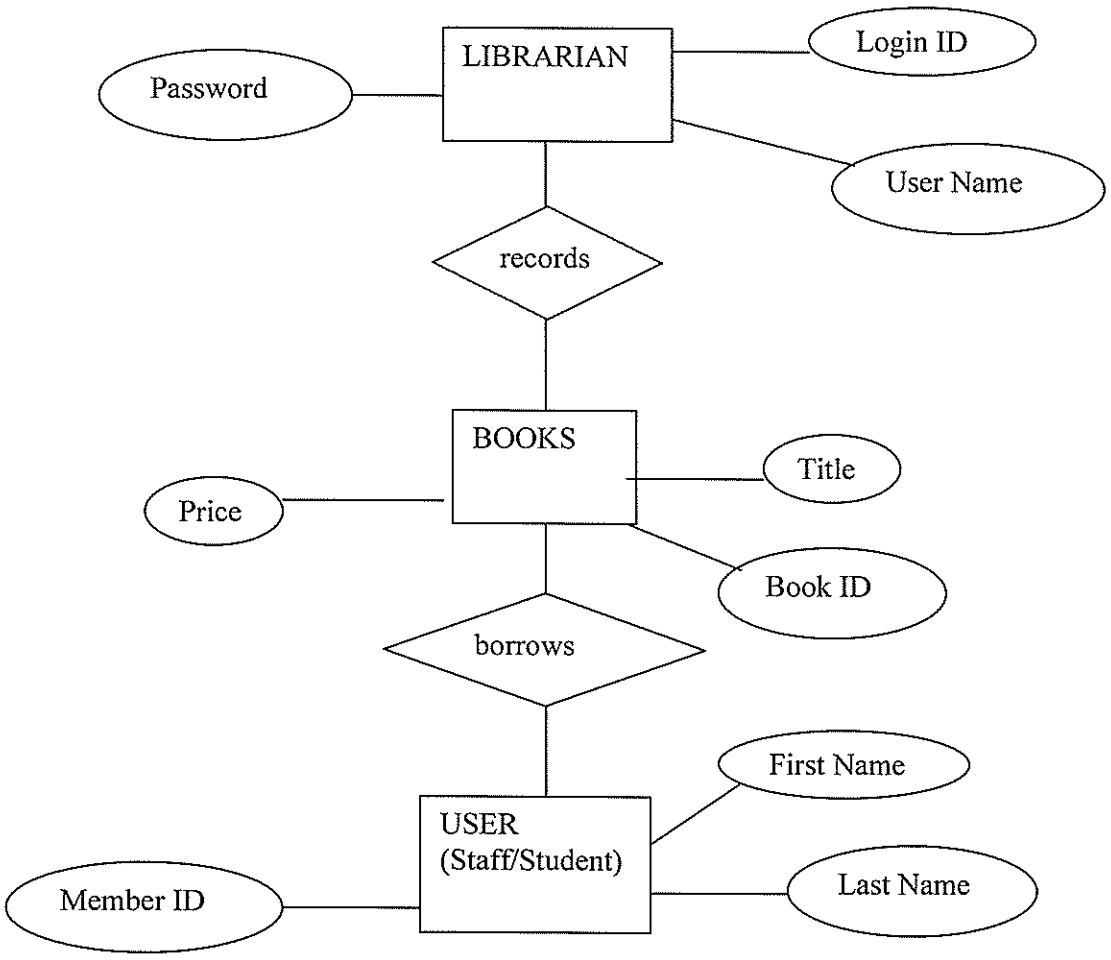
4.4.1 Logical design

This is concerned with the conversion of logical records structures of a data model supported by a database management system identifying entities and their matching attributes and the relationship types determining the attributes domain. It involves the use of entity relations diagrams.

4.4.1.1 Entity Relationship Diagram

An entity relationship model is part of system development methodology that provides an understanding of the logical data requirement of a system independently of the systems' organization and process. It is also reflects a static view of the relationship between different entities.

Figure 2: Entity Relationship Diagram



From the above diagram, one book can be borrowed by one library user and also many books can be borrowed by many different library users. The relationship between the books entity and users' entity is many to many.

4.4.1.2 Flow chart

Data flow diagram is a tool that depicts the flow of data through a system and the work of processing performed by the system (Jeffrey and Whitten, 2001).It can also be described as a graphical modeling technique that models the sources and destination of data inputs and outputs and the data maintained by the information system. It is a graphic design that shows both how data flows to and from an information system.

The flow chart below shows how the librarian interacts with the system. When the librarian inputs data the system updates the records.

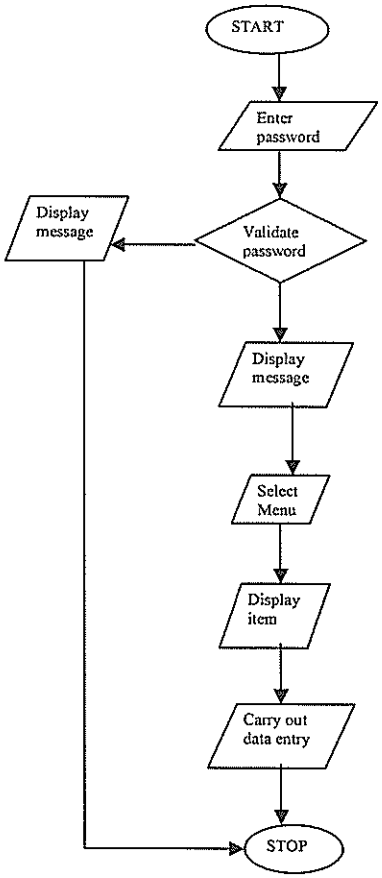
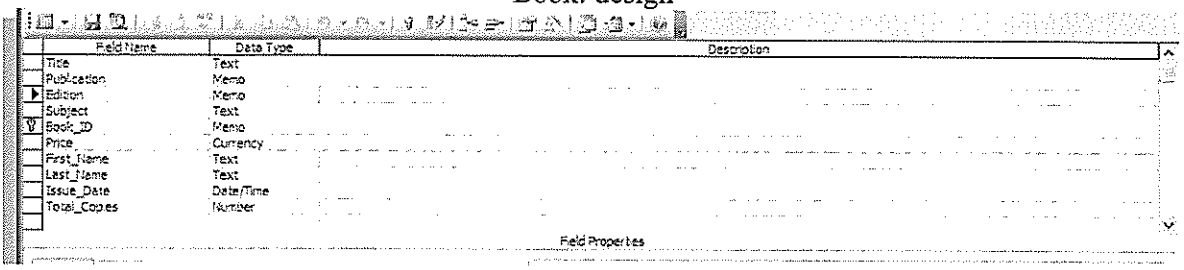


Figure 3: Flow chart

Table 1: Books

The tables below show the design view of how the table was created and the table itself.

Book: design



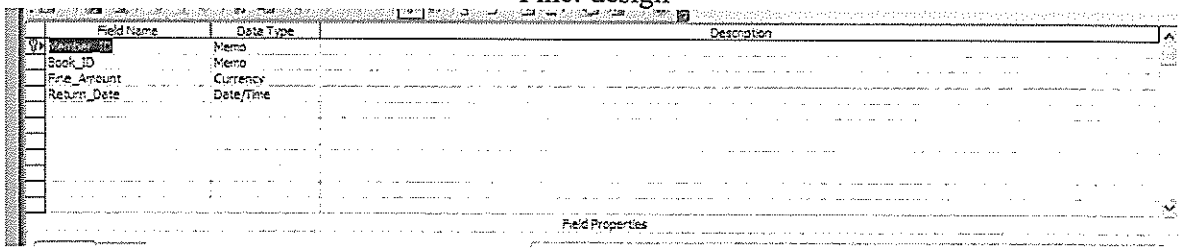
Books: table

Title	Publication	Edition	Subject	Book_ID	Price	First_Name	Last_Name	Issue_Date	Total_Copies
Fine Art	August 2002	IX	Arts	A-FA-1	28000	Job	Kim	8/30/2003	100
Biology Made Easy	March 1990	IV Edition	Sciences	Sc-B-4	35000	Nancy	Butlery	2/17/2000	45
Mathematics	January 2000	II Edition	Sciences	SC-M-2	30000	Ben	Curl	3/2/2002	60
					0				0

Table 2: Fines

The Fine table shows the design view of the table and also the table for the Fines.

Fine: design



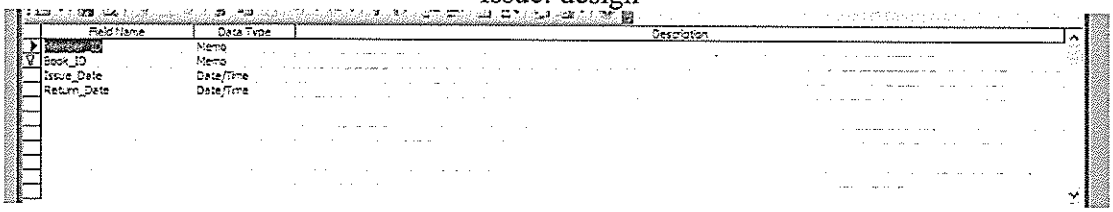
Fine: table

Member_ID	Book_ID	Fine_Amount	Return_Date
JL/Staff/10	A-FA-1	15000	6/11/2010
JL/Stud/1660	Sc-B-4	12000	6/24/2010
		0	

Table 3: Issue

Below is both the design view of how the table was created and the table itself. The Issue table shows borrowed books.

Issue: design



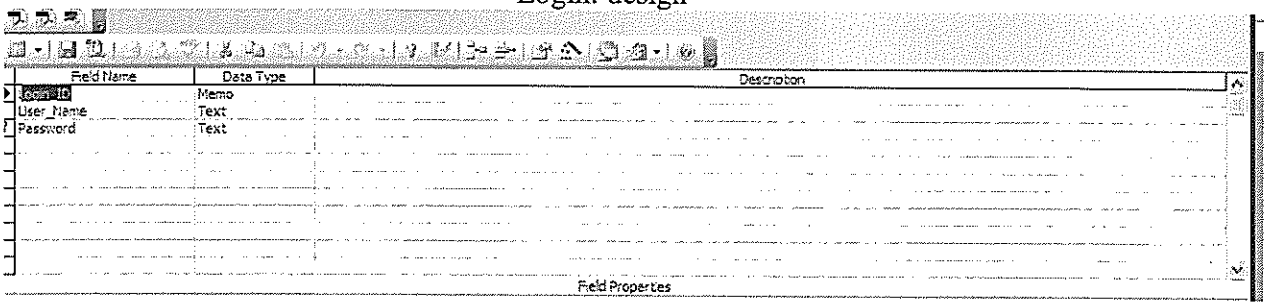
Issue: table

	Member_ID	Book_ID	Issue_Date	Return_Date
▶	JL/Stud/1667	A-Geo-2	7/20/2010	7/21/2010
	JL/Staff/13	A-Lit-3	6/10/2010	6/24/2010
*				

Table 4: Login

The table are for design view during creation of the table and the table itself showing the user login ID and name.

Login: design



Login: table

	Login_ID	User_Name	Password
▶	167	cathy	kabu
	169	rita	masaba
	166	betty	naluyima
	168	helen	okedi
*			

4.4.2 Physical Design

4.4.2.1 Interface Design

The goal of the interface design is to provide the best way for people to interface with the computers, or what is commonly known as human computer Interface (HCI).Provision of good interface is becoming more important because of its impact on organizations. This impact is increasing, because most people in organization are spending more time with computers as part of their normal work –they enter transactions retrieve data, design artifact, and do other myriad things that to be done in the organizations. Their work and satisfaction are improved with better interface, leading to an improvement in their quality of the work and the effectiveness of the organization. Many people believe that improving interaction between people and computers is one of the most important activities in design. One of the most important reasons for paying attention HCI is that, nowadays, computers are used nearly by everyone, not only people closely associated with computers. People are no longer interested in technology behind the computers; they simply want a tool that is easy to use and can help them with their problems. They do not want to spend a lot of time learning about computer software, they just want computers to make their own work easier. A good interface certainly helps to fulfill this goal.

Splash screen

The splash screen is the first form that shows up when the program is loaded. It stays for a brief moment and then the login form is loaded.

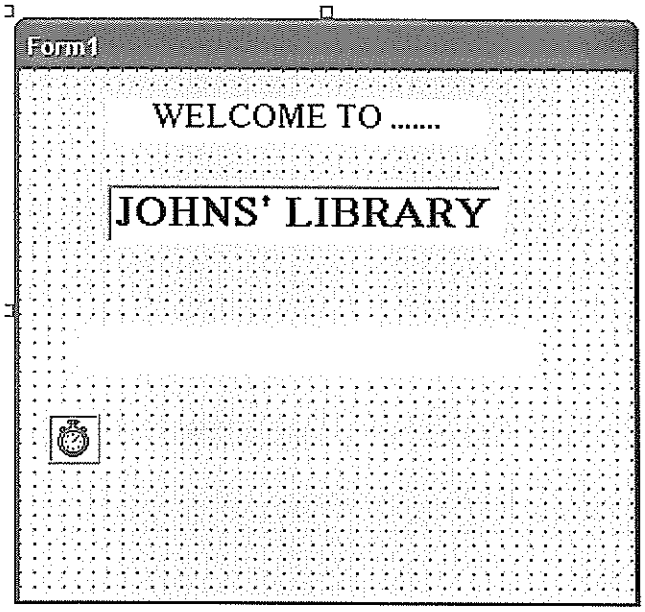


Figure 5: Splash screen

Login form

It appears after loading the program. It is used for authentication to ensure that only authorized people have access to the system through the use of usernames and passwords.

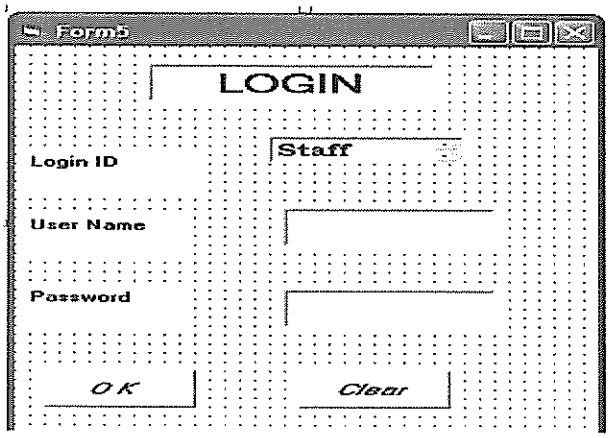


Figure 6: Login form

Menu Form

It enables the user to gain access to the other forms in the system.

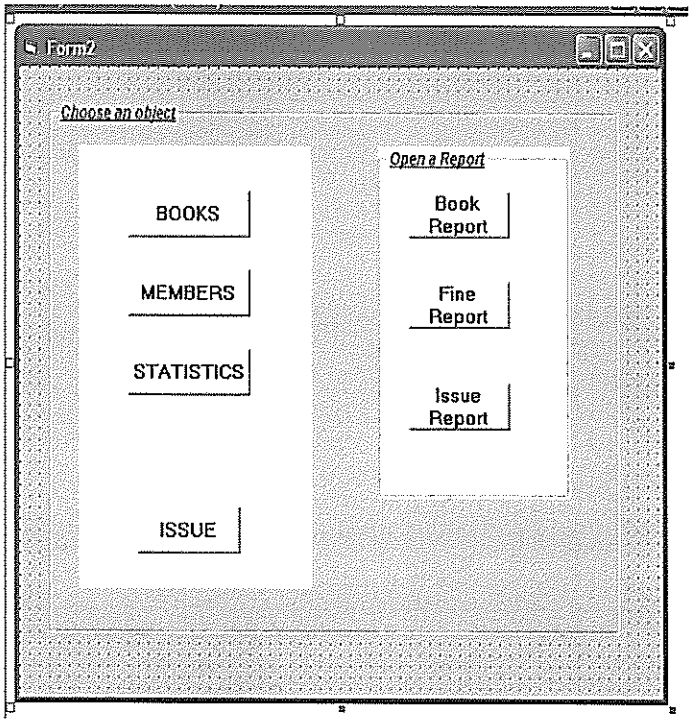


Figure 7: Menu Form

Book Form

It enables the user to view the details about the books in stock.

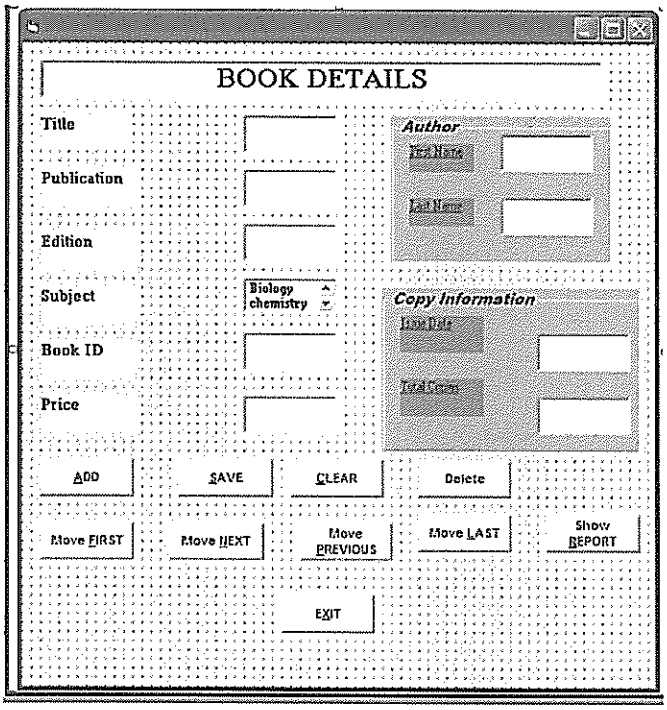


Figure 8: Book Form

Members Form

It enables the user to view details about the library members.

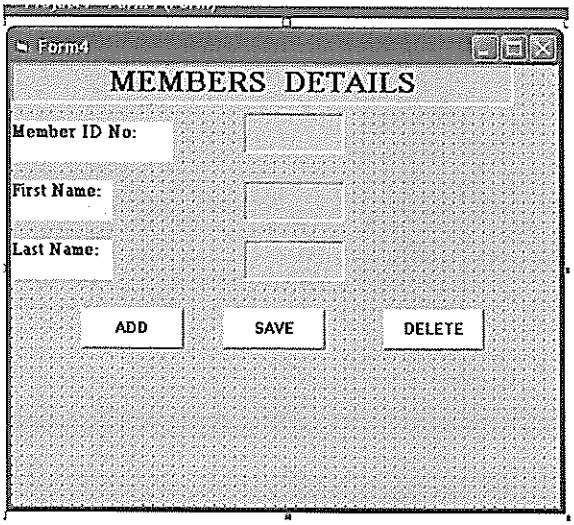


Figure 9: Members Form

Statistics Form

Gives a brief about books which are loaned out.

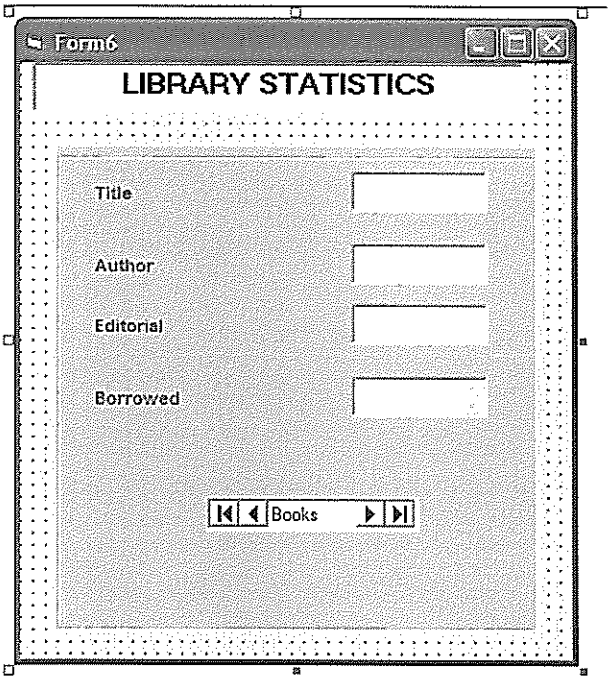


Figure 10: Statistics Form

Issue Form

It enables the user to see in detail the books loaned out.

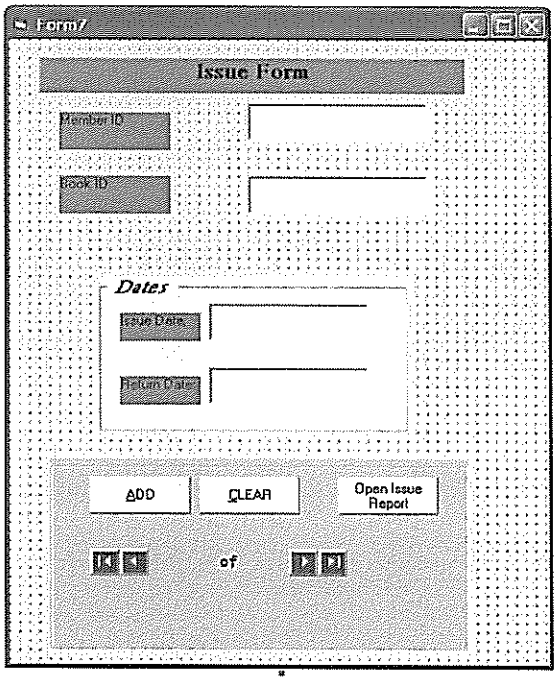


Figure 11: Issue Form

Report Form
Enables the user to know details about the books in stock.

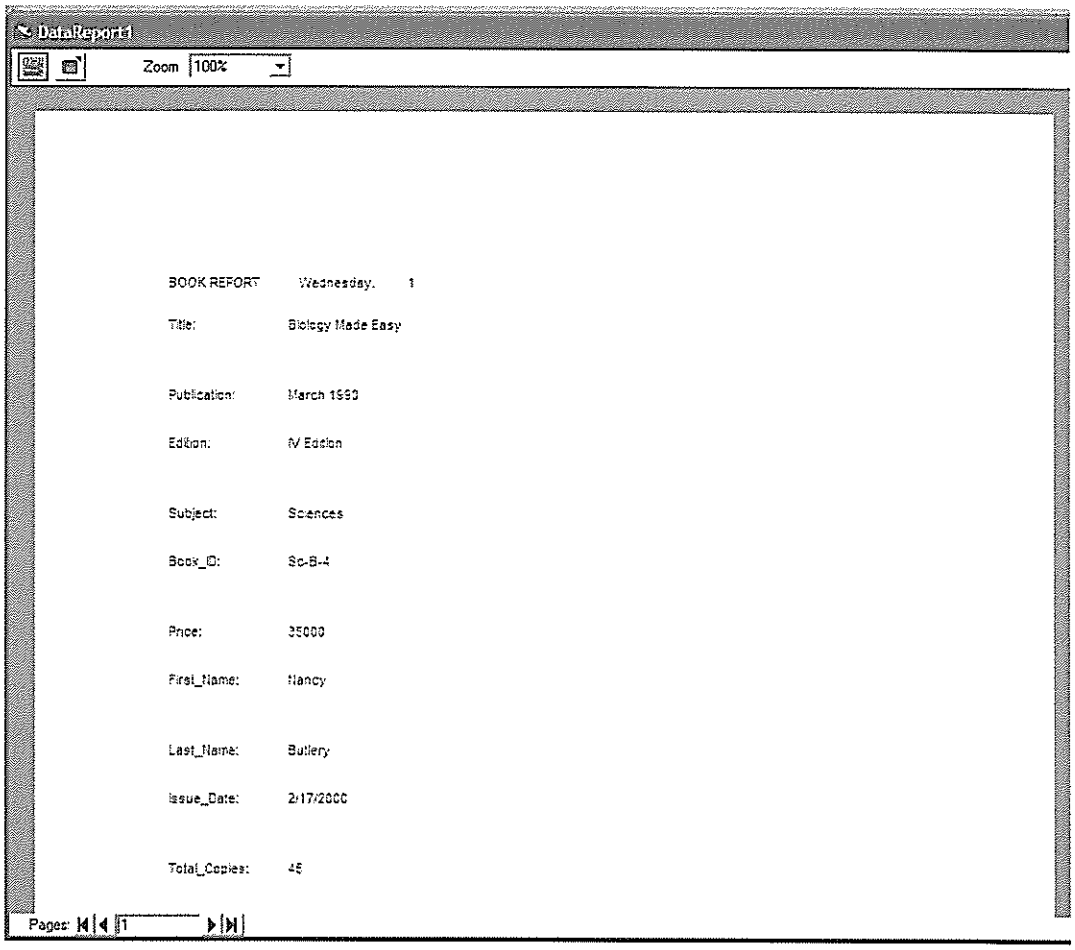


Figure 12: Book Report

4.5 The New System Design

The new design system is a platform depended software that runs on windows. It automates the business processes and stores the data in a database developed using MS Acess. The data on the system is protected by user names and passwords.

CHAPTER FIVE

SYSTEM TESTING

5.0 Introduction

This chapter contains program testing and system conversion. The System was designed and users trained on how to use the records management system. This was done in a period of two days because the interface is user-friendly. System testing and review was also done to ensure that it is performing as designed. It was reviewed to ensure that it has met the objectives.

The librarian needs training in data entry and how to retrieve data stored in files. The goals are to convert the system models, specified as a structure charts, into a set of program modules.

5.1 Sample Codes

Splash Form

```
Option Explicit
Dim i As Integer

Private Sub Timer1_Timer()
i = i + 1
If i = 1 Then
Label3.Caption = "PLEASE WAIT... ... ..."
ElseIf i = 3 Then
Label3.Caption = "Loading  Database... ... ..."
ElseIf i = 5 Then
Label3.Caption = "Creating Database... ... ..."
Unload me
Form5.Show
End If
End Sub
```

Login Form

```
Private Sub cmdclear_Click()
Text1.Text = ""
txtPassword.Text = ""
End Sub

Private Sub cmdOK_Click()
login.Recordset.MoveFirst
While Not login.Recordset.EOF
If text1.Text = login.Recordset.Fields(0) And (txtPassword.Text = login.Recordset.Fields(1)
Then
Form2.Show
Unload Me
Exit Sub
Else
```

```
login.Recordset.MoveNext
End If

MsgBox ("please enter the correct user name & password "), , " ACCESS DENIED"
End Sub
```

Mdi form

```
Private Sub cmdbkrpt_Click()
DataReport1.Show
End Sub

Private Sub cmdfinerpt_Click()
DataReport2.Show
End Sub

Private Sub cmdissuerpt_Click()
DataReport3.Show
End Sub
```

5.2 Testing

Program testing is recognized as an important part of quality assurance. Testing as shown below proceeds in parallel with system development, here a test plan is developed in parallel with system design. The test plan is then used in system testing.

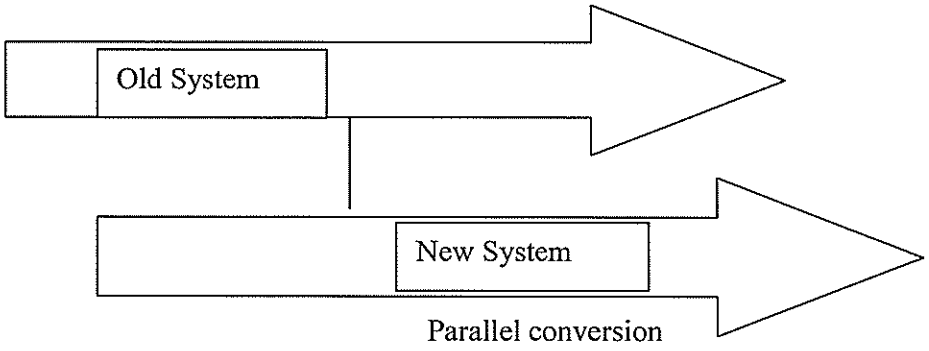


Figure 4: Illustration of systems conversion

CHAPTER SIX

EVALUATION, RECOMMENDATIONS AND CONCLUSION

6.0 Introduction

This chapter explains the evaluation, recommendation and conclusion arrived at by the researchers.

6.1 Evaluation of the new system

The new records management system if implemented will achieve the following: the information system will control data redundancy in the library thus improving performance. Also the system will ensure data integrity within the school since there will be only one single storage area of data.

6.1.1 Findings

The library system will permit only authorized users to update the data in the database whenever it is necessary. This will be achieved by use of a passwords and usernames also the system will permit instant data storage, fast retrieval, tracking of stock, movement and better financial management.

6.2 Limitations of the new system

Although the new system achieved the above performances it has some limitations and biggest being that incase of power failure it will not be possible to use the new system.

6.3 Recommendation

St. Johns Secondary School should adopt the database in order to store library information. This enables easy retrieval of users' records, summary retrieval and updates can be done in the database.

St. Johns Secondary School should test run the records management system in order to ensure that it of the expected quality. Testing the system avoids unexpected failure or break down. Testing the system ensures that bugs are identified and taken care of before full system implementation takes place.

6.4 Conclusion

This project can be considered to have achieved most of the set goals and objectives as they were intended during the analysis phase. For instance a database to store the library information was designed and implemented. This is expected to increase efficiency and proper record keeping

The processes were automated and computerized. The time taken to produce a library report has been reduced.

APPENDICES

REFERENCES

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APPENDIX A

STUDY QUESTIONNAIRE

TOPIC: Computerised Records Management System for St. Johns Secondary School

This questionnaire is seeking information on the library records management of St. Johns Secondary School. The information you will provide will be treated with the highest level of confidentiality. You are kindly asked to appropriately fill the form herein below.

Your cooperation is highly appreciated.

Qn.1: What is the hierarchy of the school?

.....

.....

.....

Qn.2: When was this library started?

.....

.....

Qn.3: Which system is used for controlling the library? (tick where appropriate)

- ☐ *Manual*
- ☐ *Automatic*
- ☐ *Both*
- ☐ *N/A*

Qn.4: Are you satisfied with the current system? (tick where appropriate)

- ☐ *Yes*
- ☐ *No*
- ☐ *Not sure*
- ☐ *N/A*

Qn.5: What are some of the challenges you face in the library?

……

……

……

……

……

Qn.6: What is the conduct of the library users? (tick where appropriate)

- ❑ *poor*
- ❑ *fair*
- ❑ *good*
- ❑ *excellent*
- ❑ *not sure*
- ❑ *N/A*

Qn.7: Which method is used to capture and store library information?

……

……

……

……

APPENDIX B

Source code for the program

Splash Form

```
Option Explicit
Dim i As Integer

Private Sub Timer1_Timer()
i = i + 1
If i = 1 Then
Label3.Caption = "PLEASE WAIT... ... ..."
ElseIf i = 3 Then
Label3.Caption = "Loading  Database... ... ..."
ElseIf i = 5 Then
Label3.Caption = "Creating Database... ... ..."
Unload me
Form5.Show
End If
End Sub
```

Login Form

```
Private Sub cmdclear_Click()
Text1.Text = ""
txtPassword.Text = ""
End Sub

Private Sub cmdOK_Click()
login.Recordset.MoveFirst
While Not login.Recordset.EOF
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Then
Form2.Show
Unload Me
Exit Sub
Else
login.Recordset.MoveNext
End If

MsgBox ("please enter the correct user name & password "), , " ACCESS DENIED"
End Sub
```

Mdi form

```
Private Sub cmdbkrpt_Click()
DataReport1.Show
End Sub

Private Sub cmdfinerpt_Click()
DataReport2.Show
End Sub
```

```
Private Sub cmdissuerpt_Click()
DataReport3.Show
End Sub
```

Menu Form

```
Private Sub cmdbk_Click()
Form3.Show
End Sub

Private Sub cmdmbrs_Click()
Form4.Show
End Sub

Private Sub cmdstis_Click()
Form6.Show
End Sub

Private Sub cmdissue_Click()
Form7.Show
End Sub
```