

A PRISON DATABASE MANAGEMENT SYSTEM

CASE STUDY: NKOZI PRISONS - MPIGI DISTRICT

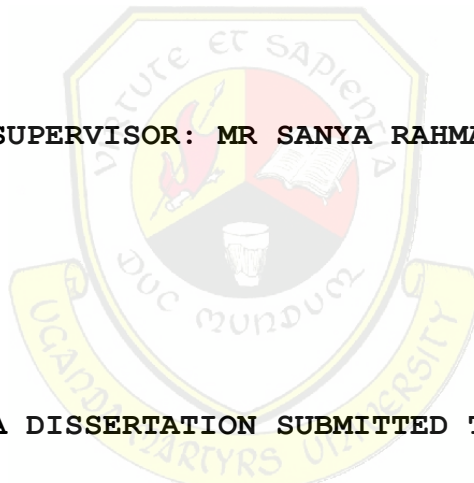
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2011-B071-10076

BSc INFORMATION TECHNOLOGY

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**A DISSERTATION SUBMITTED TO
THE FACULTY OF SCIENCE IN PARTIAL FULFILLMENT OF THE
REQUIREMENT FOR THE AWARD OF BACHELOR'S DEGREE
IN BSc INFORMATION TECHNOLOGY OF
UGANDA MARTYRS UNIVERSITY**

MAY 2014

PREFACE

The aim of this research report is to aid in the transition from only relying on paper based means of data storage but upgrade to a more manageable way of data storage and management through the designing and implementation of a prison database management system.

DEDICATION

This piece of work is dedicated to all my family members especially father; Mr. Akweny and mother Mrs. Lilly Akweny, God rest her soul. Thank you for the love, care, moral support, Financial and prayers.

To my sister Mrs. Jackiline Lutaaya and family who welcomed me and took me under her umbrella as one of their own.

To my brothers Andrew Akweny, Richard Akabo, Tony Okello (R.I.P) not forgetting my elder sister Friday Atim

To all my friends like Jude Mawanda, Kansiime Derrick, Kush Vyna Nakazzi, Richard Matovu, Josephine Neema for all the support.

ACKNOWLEDGEMENTS

First and foremost, I would like to thank God the Almighty and father for the gift of life, wisdoms, mercy, beauty, family and friends he gave me during my academic years in Uganda Martyrs University. Had it not been his providence, I would not have made it to the accomplishment of this research paper. More so, I thank all those who have rallied behind me in this fight to the end. Could not thank you less!!

To my supervisor Mr. SANYA RAHMAN, great thanks for all the help throughout my stay here and most especially for the research paper.

To all my classmates, thank you is an understatement for all that you did for my academic life and the teamwork in UMU and to all those who contributed directly or indirectly and I have not mentioned thank you for all your endeavors and pure hearts you offered to help me. God bless you for me.

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LIST OF ABBREVIATIONS AND ACRONYMS

- UMU - Uganda Martyrs University.
- ODBC - Open Data Base source
- ADO - ActiveX Data Control
- DDL - Data Definition Language
- DML - Data Manipulation Language
- OC - officer in charge
- PMS - prison Management System

ABSTRACT

The development of Prison Management System is used to manage the prisoner's information including their health status, cases, and farm equipment. The purpose of this system is to make a user friendly system to both users which are the system administrators. In this system, DBA will do most of the work by granting system privilege to users, create a dynamic table for using in the system.

The study resulted in designing of an application to track all of this information.

Looking at statistics, many organizations are doing their best to embrace the new ways of data storage in Uganda with the advancement of technology.

CHAPTER ONE

INTRODUCTION

1.1 Background of the study

Nkozi prison is found in Mpigi district in Uganda, established in the 1960s during Obote 1 regime. It is located about 2.5 kilometers on Kampala-Masaka highway. Nkozi prison is headed by the OC-CID (Officer in Charge of Crimes in the criminal investigation department) of Mpigi district. This prison is categorized into two main departments which are responsible for handling mainly two different kinds of people that is male and female. Due to the manual filing system widely used in some prisons in Uganda, the managing of records and compiling reports is time consuming and tiresome. In the processing of these reports, there is redundancy, loss or misplacements of the written information and loss of details about prisoners. The management system suggested above is going to provide a user-friendly interface to input and output reliable information about prisoners' record keeping and the compilation of the report is made easier. The prison has the following sections;

- Prisoners section
- Staff section
- Assets section
- Farm section

1.2 Problem Statement

The prisoners' records management system currently in place is inefficient, time consuming and operates under a manual file system to record the prisoners' details.

A few of the problems faced are associated with the current system include lack of storage space for files, time wasting in searching/retrieving particular information and easy data loss. The scattered nature of this data makes retrieval and traceability cumbersome and time consuming. Data is basically kept for five years in the manual state due to lack of storage space. Report generation is very tedious and cumbersome since information about different aspects has to be sought from various storage places and rooms. The above stated weaknesses identified during the systems study helped in the design of a computerized information to replace the old system of Nkozi prison.

1.3 General objective of the Study

To design and develop a prison records management system for Nkozi prison.

1.4 Specific objectives of the study.

- a) To design an efficient information system to keep track of prisoners records.
- b) To evaluate all the requirements needed for the development of the prison database management system.

c) To implement the prison's interface and database management system.

d) To test and validate the prisons interface and database management system.

e) To reduce the paper work by improving data storage and traceability database systems.

1.5 Scope of the Study.

The scope will throw more light on the boundaries of this project and in order to develop a system for users in prison department that enable them to manage the prisoner registration. Deliverables of the project is a complete system for the users.

1.5.1 Geographical scope

The study covered Nkozi Prison which is located in Mpigi district. The researcher collected data from the officer in charge (OC)

1.5.2 System scope.

The system scope covered different components of the project like the database data captures the records input into the system, the inventory of the prison like the equipment. The user can insert data of a new prisoner.

1.6 Limitation of the study.

Database management system is limited to handling the following:

- o Registering of staff, new prisoners.
- o Handling prisoners' health records.
- o Handling prison assets
- o Handling staff records
- o Handling farm equipment.

1.7 Significance of the research project.

Prison Management system (PMS) is aims at developing a prison management system that is a collection of registers for effective management of prisoners. The system is useful for users to manage and store the data of the prisoners.

With the implementation of this project, the prison department can change the existing system of data storage into a new system of data storage so that the DBA can do work more easily and ensure the data is completely secure by use of passwords and can have backup just in case something happened.

System weakness can be realized by the user as the use the interface of the system.

Storage of data will be improved as it can remain as a weak factor once it is poorly stored and can be compromised by anyone.

The system will attract more assistance from the government as it gets to know its relevance to the prison department.

1.8 Conclusions

The background of the study introduces a framework of the project. The boundaries of the system are clearly stated by the objectives and the scope of the study.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter talks about literature relating to the research project. That is to say, design implementation of a prison database system. It talks about how and why the system was built then it the research questions in chapter one. It also expounds more on the methodology and techniques employed in this project like information systems.

2.1 Information Systems

An information system is formalized computer information system is a combination of hardware, software, infrastructure and trained personnel organized to facilitate planning, control, coordination and decision making in an organization.

An information system according to (Alter, 2002), is a system that uses information technology (IT) to capture, transmit, store, retrieve, manipulate or display information in an organization(s)while information system (IT) refers to any computer-based tool that people use to work with information to support the information and information-processing needs of an organization.

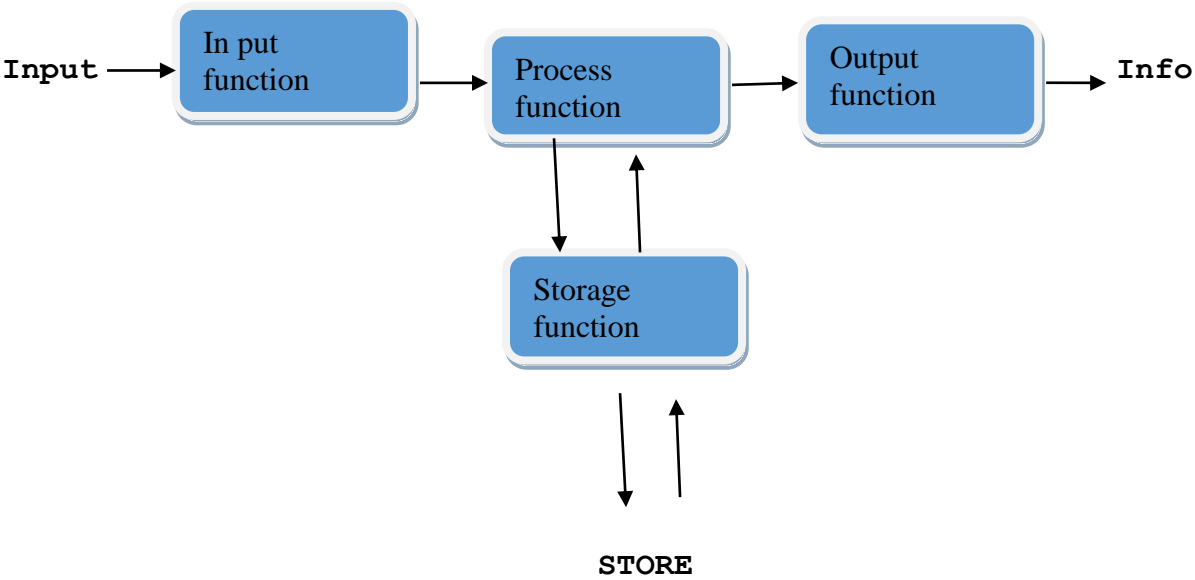
According to (Hagg, 2005), technology can be grouped into two categories; hardware and software. Hardware consists of the physical devices that make up a computer system that is; input,

output, processing, storage, telecommunications and connecting devices while software on the other hand is a set of instructions that the hardware executes to carry out a specific task for you.

2.2 Function Of Information System.

Information system accept raw data from the outside, then processes and stores it and retrieves the information when it is needed by the user at is to say an information system inputs data, processes, stores and outputs it when it is needed.

The diagram below shows stages data passes through to get processed.



According to Nickerson, C. (2001)

2.3 management system challenges

Information systems are put in place to overcome challenges such as poor data records, long queues for individuals who wish to get information, and time wastage among others. Many of these systems are used to run day to day business activities. However, these information systems most especially those in developing countries face challenges which limit their capacity to facilitate business processes thereby negatively impacting productivity

Both manual and computerized prison management system suffer from the problem of poor quality and maintenance of standards for the records as many people get to manage prisons from time to time. The manual record keeping of data may be constrained as a result of big data volumes of account of many prisoners and the documentation that goes with it.

During system design and development, costs are considered to be very crucial in terms of organization. A successful and complete system should have a proper budget for the purchase of requirements such as hard ware, software and it specialists to do the job among others but the funds provided are either inadequate or not utilized as planned thus systems may be left uncompleted.

2.4 Benefits

The objective of the prison database system is looked at as a way of creating a secure, reliable, efficient system to manage the prison records. This can be seen through the use of a digitalized record system and storage in a consolidated database. The stored record can then be retrieved, manipulated and viewed to enforce operations thus making the process simpler and more organized.

According to Reynolds *et al.*, (2004) an information system can be developed to manage changes and to promote participative decision making.

The system provides

2.5 development of management system

It requires particular techniques, tools and methodology to design and develop.

2.5.1 Tools and techniques

Research involves determining of the system requirements after interaction with the system users. This helps the researcher to clearly define the new user requirements to interact with the new system. The tools and techniques used for data collection are the interview guides, observation, document review (Savin-Baden and Major, 2013). Direct participant observation is where the observer renders services as part of the working team to get firsthand information enabled the researcher to study the

behavior in the system settings. This enables the researcher to study the behavior as it occurs.

According to Kothari (2003) document analysis is one of the techniques used in research. The technique looks at the various data collected considering its authenticity, meaning and credibility of the data source.

2.5.2 System development methodology

According to Gasson (1995) refers to a methodology as a holistic approach with an analytical framework showing the various activities or steps for the system development. Methodologies are also said to have strong support towards development of an information system such as managing control over the development process and direct impact on nature, structure and content of the system users. System development methodologies improve the existing situations through standardizing the development process, specifying activities and determining particular tools to be used in the development. The system development methodology is seen as a way of improving system productivity and quality of services (Russo, 1995). The system development methodology varies among the different projects depending on the problem context.

2.5.3 Database development.

According to Connolly and Begg (2005), a database is a central location in which data is stored and retrieved when need arises.

The data comes from the various departments of the organization and it is merged in the database. Only authorized individuals can access it to ensure security of information.

Developing of a database requires the use of both the data Definition Language (DDL) and Data Manipulation Language (DML). A database is believed to be a collection of logically related data. The data is related as entities, attributes and the relationships are identified following the database design used. The database management system (DBMS) is the software that will manage and control access to the database.

2.7 Summary

The chapter looked at the literature regarding information systems and a prison management system in particular. It explored challenges that can be addressed through various research studies as well as methodologies and techniques that can be used to design a prison database system.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

The software developer has the advantage of helping the user get what they want though may not necessarily know everything about what the organization wants.

Therefore it is crucial that the software developer interacts with the target user so as to get the true picture of what is on the ground and what is the exact users' need. This is very good for better product design and development.

In order to get a comprehensive understanding of the problem at hand, and a thorough identification of the user's requirements the following are the methods which were used to collect data in the prison.

3.2 Data collection methods

3.2.1 Interviews

Interviewing as a technique was used to collect data from the correspondents especially from those would will be interfacing the system. This was done face to face purposeful conversation between an interviewer and the respondent. This also involved the use of the interview guide with a number of open ended questions. The questions were read out to the interviewer and responds from interviewee recorded in a notebook by the interviewer. During these interviews, clarification of

misunderstood questions as well as responses was possible by the interviewer and interviewee, respectively. They were asked to give their opinion about the idea of a prison database management system of which most of them welcomed and supported the idea.

3.2.2 Questionnaires,

Advantages as per www.statpac.com/surveys/advantages.htm

Questionnaires are very cost effective when compared to face-to-face interviews. This is especially true for studies involving large sample sizes and large geographic areas. Written questionnaires become even more cost effective as the number of research questions increases.

Questionnaires are easy to analyze. Data entry and tabulation for nearly all surveys can be easily done with many computer software packages.

Questionnaires are familiar to most people. Nearly everyone has had some experience completing questionnaires and they generally do not make people apprehensive.

Questionnaires reduce bias. There is uniform question presentation and no middle-man bias. The researcher's own opinions will not influence the respondent to answer questions in a certain manner. There are no verbal or visual clues to influence the respondent.

Questionnaires are less intrusive than telephone or face-to-face surveys. When a respondent receives a questionnaire in the mail, he is free to complete the questionnaire on his own time-table. Unlike other research methods, the respondent is not interrupted by the research instrument.

3.2.3 Observations

Advantages

Directness

The main strength of observation is that it provides direct access to the social phenomena under consideration. Instead of relying on some kind of self-report, such as asking people what they would do in a certain situation, you actually observe and record their behavior in that situation. This, in principle at least, avoids the wide range of problems associated with self-report.

Diversity, Flexibility and Applicability

Observation can take diverse forms, from informal and unstructured approaches through to tightly structured, standardized procedures and can yield associated diverse types of data, both qualitative and quantitative. Observation, therefore, is applicable in a wide range of contexts.

Provision of a permanent record

Much of human social behavior that may be of interest to the researcher is highly transient. The fact that all observation entails some form of recording means that it provides a permanent record of such events or behavior, thus allowing further analysis or subsequent comparisons across time or location to be carried out.

Complementarity with other approaches

Using more than one technique of data collection through a process of triangulation is seen as highly desirable as an overarching research strategy. Therefore, another strength of observation is that it can effectively complement other approaches and thus enhance the quality of evidence available to the researcher.

3.2.4 Document analysis

Advantages of document analysis

The main advantages of document analysis are:

- it overcomes the difficulties of encouraging participation by users
- There are few costs involved other than staff time.

CHAPTER FOUR

SYSTEMS ANALYSIS AND DESIGN

4.1 Introduction

This chapter includes the processing of facts identified in the investigation process. The investigation led to Specification of the User Requirements, which was used to analyze and design the new system.

4.2 Weaknesses of the Current System

- a) It consumes a lot of time especially while tracing back old records, creating new records and updating existing ones.
- b) Some other data has to be collected from other individuals in different departments, where as if the system had been computerized data would be centrally accessed, updated and retrieved.
- c) Data is easily misplaced due to inadequate storage methods.
- d) The manual records are not durable.
- e) Tedious process of tracing records especially where data in many books or files, yet it has to be collected and used to compile a report.
- f) The physical space for storing records is running out. Records are kept for a life time. In addition to this files and books used for records are quite large in size, occupying a lot of space in the rather small working areas.

4.3 Proposed System

Taking in mind the above deficiencies, the system effectively deals with the above problems by providing a single integrated system where all the prison as well as prisoner information are stored in a single centralized system having complete prisoner profiles. Each prisoner profile would have his/her demographic details. This effectively scales down the time in which critical information has to be transferred to concerned agencies. Also maintenance of records is all the more easy as well as efficient when compared to the manual system.

4.4 Advantages of the proposed system.

Efficient organization of prison information and records

Information look up is easy

4.4.1 Functional requirements

The system should allow the administrator to create new user accounts.

The system should allow the administrator to edit user details.

The system should allow the administrator to delete a user account.

The system should be able to generate reports.

The system should allow for search mechanism basing on a given criteria.

The functional requirements specify what the product must do. They relate to the actions that the product must carry out in order to satisfy the fundamental reasons for its existence.

4.4.2 Non-functional requirements

Nonfunctional requirements are the properties that a particular system must have.

The system should be able to maintain high levels of integrity as to be able to detect and lock out an authorized users of the system.

The system should be reliable as to meet user expectations.

The interface of the system should be user friendly.

The system should be robust as in tested under different conditions.

4.4.3 User requirements

The system should allow system administrators to register new users into the system.

Database manager should ensure that the database is up and running.

SQL server should be used to run the database of the system.

Software

The system will run on Visual Basin.net 2012 version.

4.3 Conceptual Design

In conceptual design emphasis was put on the various ways through which the proposed system can be modeled using object oriented modeling design techniques by identifying object classes and their associations.

This was to ensure that the requirements of all the stakeholders are met and included within the system.

All the data collected from the interviews, questionnaires, observations and available documents as described in chapter three was put together to design and develop the new system.

4.3.1 Entities and their attributes

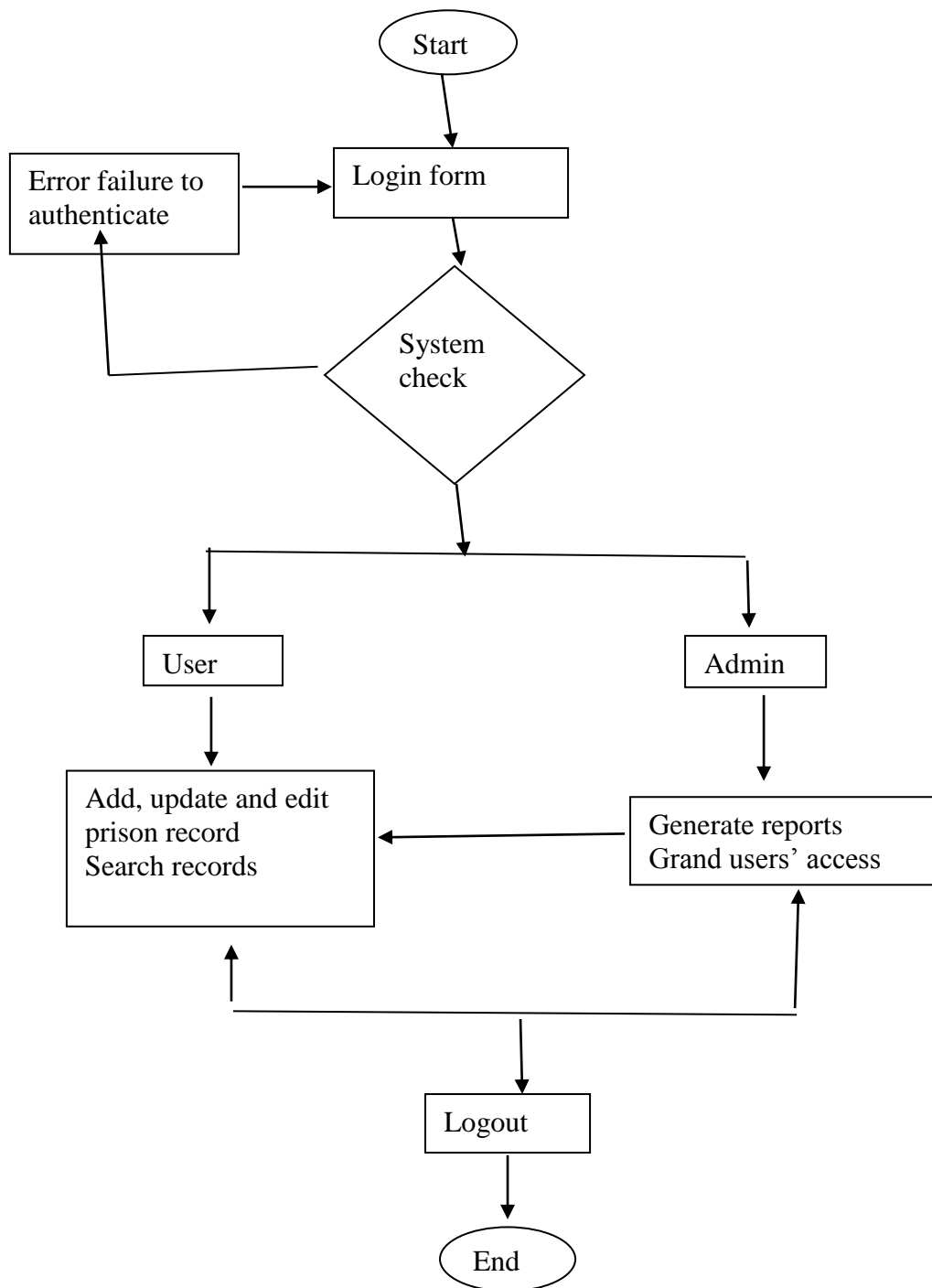
An entity may be described as a group of objects, which have the same properties which are identified by the organization as having independent existence. Entities are real world objects distinguishable from other objects and they are basic units in modeling classes or abstract objects, have a concrete existence and can be used to store data.

The following are the major entities of Nkozi Prisons and their brief description.

No	Entity Name	Attributes.	Description
1.	Prisoners	Prisoner ID, First name, Last name, Sex, Offence, Date of birth, Marital status, Contact, Next of kin, Nationality, Home District, Duration of sentence, room number, qualification	Stores information on Prisoners' Registration, Prisoners' information retrieval and room allocation
2.	Staff	Staff ID, First & last name, Contact, status, sex, Position.	Stores information about the staff and support staff.
3.	Assets	Asset ID, Asset name, category, Date in Staff ID	Stores information on the Assets used by the prison.
4.	Farm	Tool ID, Tool name,	Stores information on

	equipment	Date of issue, Staff ID, Prisoner ID	the tools used in the prison farms and who uses which tool.
5.	Prisoner's health	Prisoner ID, First name, Last name, Gender, Date of birth, Health status	Contains information about the health status of prisoners.

4.4 Logical Design



The data logical design the table entities and describes the field names, their data types, length and the constraints that apply to them.

4.4.1 Assets Table

Field Name	Data Type(size)	Description
Asset ID	Auto number	Number issued to every Asset comes bought for the prison
Asset name	text (20)	The name of the Asset bought
Category	text(20)	The kind of asset bought
Date in	text(20)	The date for which the asset was bought
Staff ID	text (15)	The identity of who bought the asset

4.4.2 Farm equipment Table.

Field Name	Data Type(size)	Description
Tool ID	Auto Number	Primary key automatically field by DBMS
Tool name	text (20)	The tool specification
Date of issue	Date/tie	Date the tool is take from store

Staff ID	Auto Number	Staff identity
Prisoner ID	Auto Number	Prisoner identification

4.4.3 The prisoners' Table

Field Name	Data type (size)	Description
Prisoner ID	AutoNumber	Prisoner Identification number.
First name	text (11)	Prisoner's First name
last name	text (11)	Prisoner's last name
sex	text	Sex of the Prisoner
marital status	text	marital status of the Prisoner
Date of birth	Date/time	Prisoner date of birth
Offence	Memo	The offence committed by the Prisoner
contact	text	The address of the Prisoner
next of kin	text	Person who is to contacted

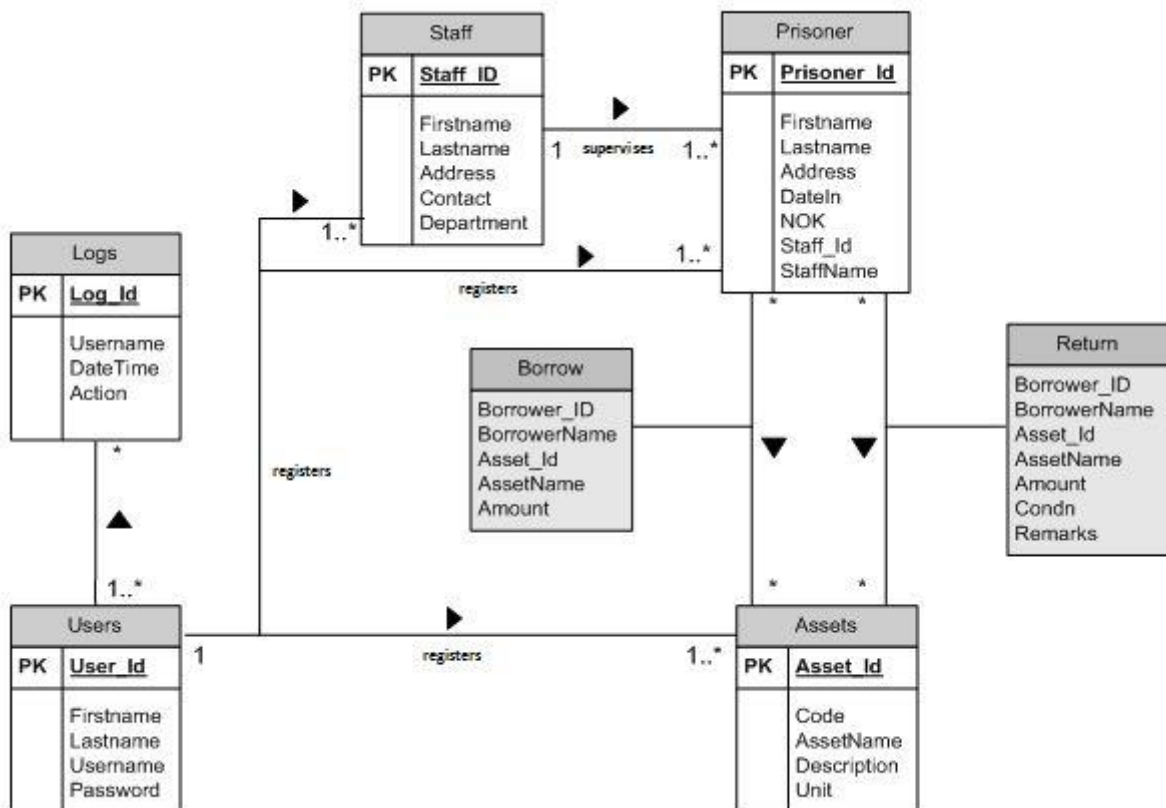
		when needed by the Prisoner
nationality	text	Place of birth/origin of the Prisoner
Home district	text	The district of the Prisoner
duration of sentence	text	Time to be in the Prison
Room Number	text	The room number allocated to the Prisoner
Qualification	text	Qualifications of the Prisoner
Occupational status	text	Occupational status of the Prisoner

4.4.4 Staff Table:

Field Name	Data type (size)	Description
Staff ID	text (15)	Primary key of the staff automatically field by DBMS
Position	text (25)	The ranking of staff members
First name	text (25)	First name of staff

		member
last name	Text (25)	Last name of staff number.
Date of Birth	Date/Time	Date of Birth of the staff member
Sex	Text	The type of gender
Marital status	Text	The relationship type.

Figure 1 Database Table-Relationships



4.5 The user interface

The user interface was developed in visual basic to provide an easy interaction of the system users with the database to perform tasks such as updating, entering data into the database, and other related tasks.

It consists of the 5 forms and 6 reports as shown below.

4.5.1 Login form



The image shows a login form with a blue background. On the left, there is a graphic of a padlock and the word "LOGIN" written vertically. The form contains two input fields: "Username" with the text "admin" and "Password" with three dots indicating a masked password. Below the fields are two buttons: "Log In" with a user icon and "Close". At the bottom, there is a link that says "Forgot Password? Click Me".

Fig 4.3 Input specification for Login details: when implemented would be used to verify and authenticate users' access to the system.

4.5.3 Prisoners' registration form

New Prisoner

Prisoner Information

Prisoner ID: 8
DateIN: 01-Jul-14
Firstname: achen
Next of Kin: apio
Lastname: winnie
Contact: 798987899
Address: katwe
Supervisor: g
Gender: Female

Buttons: New, Modify, Delete, Reset

prisoner_id	firstname	lastname	address	gender	datein	nok	contact	s
3	Julian	Mukiibi K	Bukoto	Female	20-Jun-14	Nakata H	778989988	5
7	kawoya	emma	kawempe	Male	11-Jun-14	kaggwa	774567898	10
8	achen	winnie	katwe	Female	20-Jun-14	apio	798987899	9
9	ntege	joshua	bumaka	Male	20-Jun-14	kim	788767877	11
10	kalenda	robert	mukono	Male	20-Jun-14	william	778675455	10
11	kakaire	henry	kayabwe	Male	11-Jun-14	brenda	753456657	9
12	kintu	betty	mutukula	Female	26-Jun-14	Aggie	798765433	13

Fig 4.4 when implemented would be used to register prisoners who are brought in.

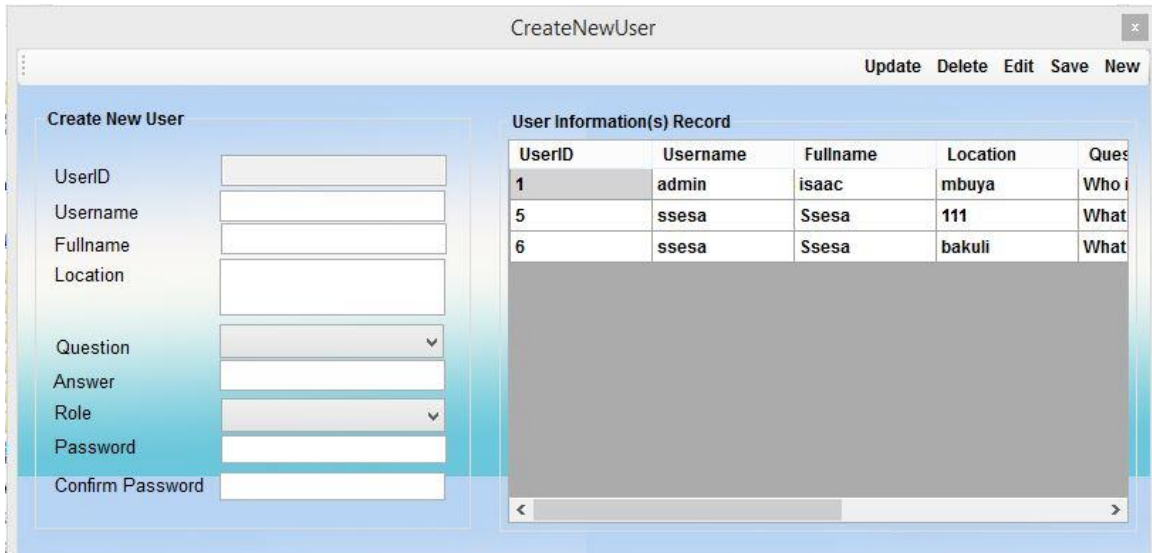


Fig 4.5 when implemented would be used to register the administrators who man the system.

The 'Borrow' form window displays the following data:

- Transaction ID: 10
- Borrower Name: achen winnie
- Item: garden fork
- Available: 45
- Amount: 30

Buttons: Save, Cancel

Fig 4.6 when implemented would be used to track the borrowed items and by which prisoner.

trans_id	Borrower_id	Borrower_name	Asset_id	Asset_name	Amount
6	2	Julius Kizito	2	Hoe	7
8	5	bintu gedion	5	garden fork	4
9	9	ntege joshua	6	watering can	5

Button: Return Borrowed

Fig 4.7 shows the items borrowed.

Return

Transaction ID: 18

Borrower Details

Name: bintu gedion

Asset: garden fork

Amount: 4

Returned: 4

Condition: Bad

needs repair

Save Cancel

Fig 4.8 shows the interface that is used to register the returned items.

Prisoners' Report

Filter by Month

Main Report Filter BY 04-Jul -14 Load Reset Load Monthly Report

NKOZI PRISON

Prisoners' Report

Prisoner ID 3	DateIN 20-Jun-14
Firstname Julian	Contact 778989988
Lastname Mukiibi K	Incharge Marvin Kabali h
Address Bukoto	
Next of Kin Nakata H	

Prisoner ID 7	DateIN 11-Jun-14
Firstname kawoya	Contact 774567898
Lastname emma	Incharge kalyowa keneth
Address kawempe	
Next of Kin kaggwa	

Prisoner ID 8	DateIN 20-Jun-14
Firstname achen	Contact 798987899
Lastname winnie	

Current Page No.: 1 Total Page No.: 1+ Zoom Factor: 100%

Fig 4.9 shows the final report of prisoners filtered either by gender, day or month.

4.5.3.2 Linking the Prisoners, form to the prisoners' table

For a form to be able to send data to a table in the database, it must be linked to the table using the following steps:

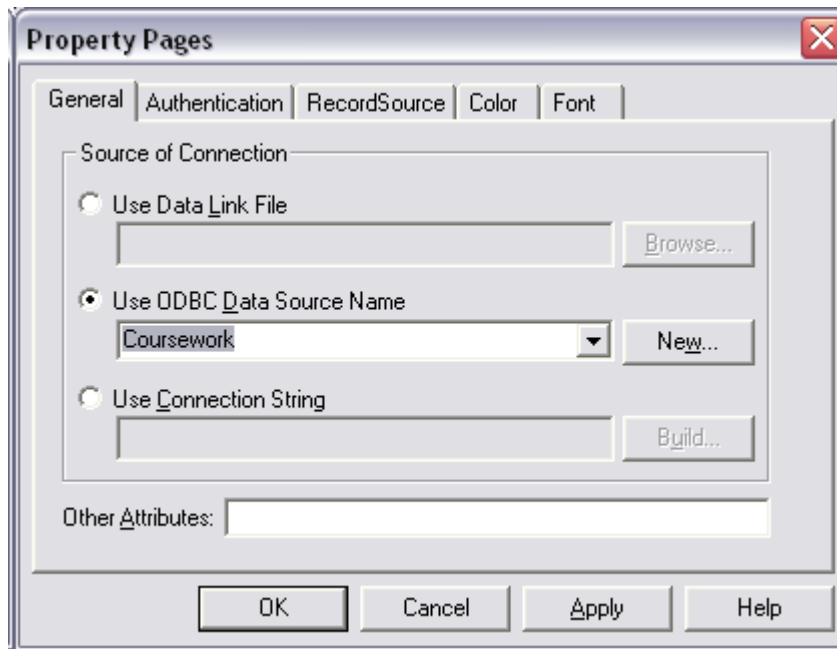
- i) The database must be placed among the open databases by selecting start->control panel and select administrative tools from the control panel. Open Data Base source (ODBC) from the administrative tools.

Click add and choose Microsoft access driver (*.mdb) from then create new database window and click finish. Enter the name of the data source in the data source name textbox and click select to browse for the database to include it among the open databases.

- ii) Then use the ActiveX Data Control (ADO) to link the forms to the database tables.

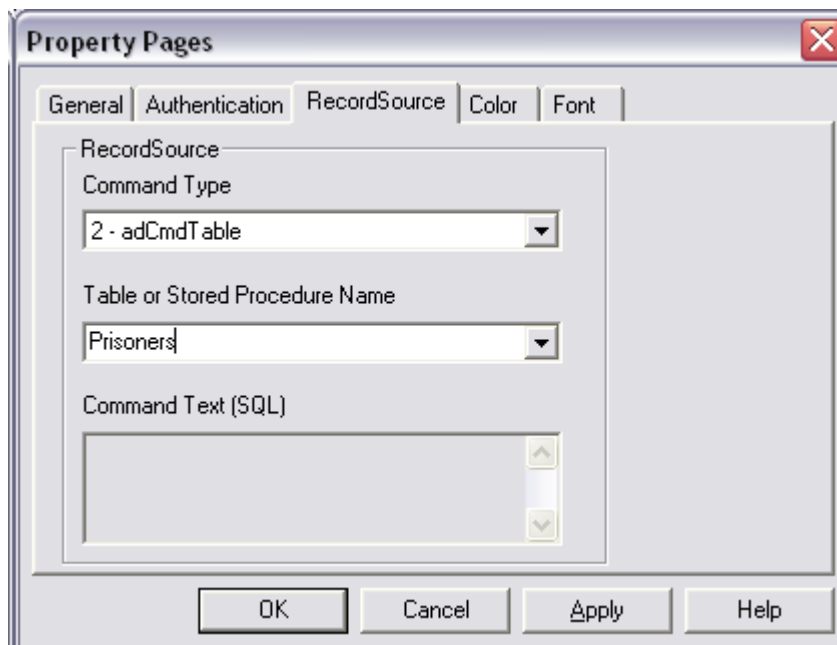
The following steps were used to link the patients form to the patients table:

- Right click the Data control and select Adodc1 properties. The window below appears.



Select Use ODBC Data source Name and choose the database.

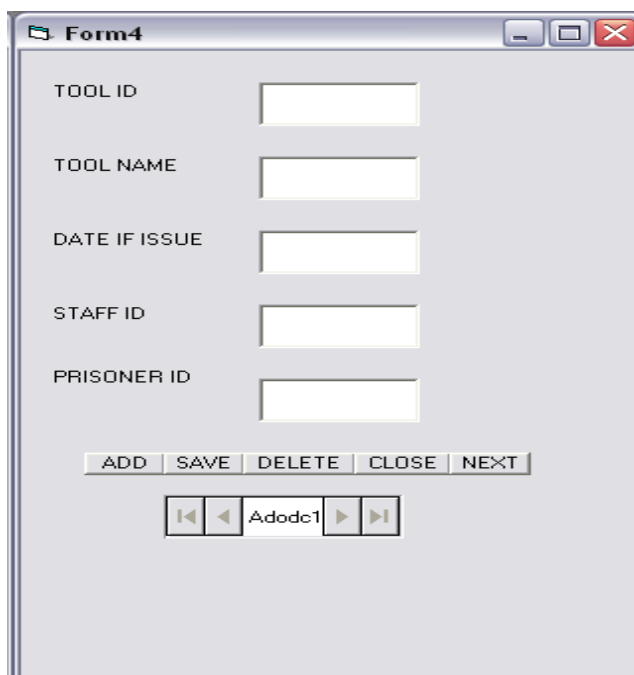
- Click the Record Source Tab to display the window below



- Select 2 - adCmdTable, and select patients table from the tables list and click apply.

- The form is connected to the patients table.
- We then set the lock type property of the data control to 2-adlock pessimistic such that all updates to the data are added automatically to the database by the data control.

4.6.1 Farm equipment form



The image shows a screenshot of a Windows application window titled "Form4". The window contains a form with five text input fields, each preceded by a label: "TOOL ID", "TOOL NAME", "DATE IF ISSUE", "STAFF ID", and "PRISONER ID". Below the input fields is a horizontal row of five buttons: "ADD", "SAVE", "DELETE", "CLOSE", and "NEXT". At the bottom of the form is a data control component labeled "Adodc1", which includes navigation arrows (back, forward, first, last) and a central label "Adodc1".

4.6.2 The prisoners' health record form

Form5

PRISONER ID

FIRST NAME

LAST NAME

GENDER

DATE OF BIRTH

HEALTH DETAILS

STAFF ID

ADD SAVE DELETE CLOSE NEXT

Adodc1

4.5.7.1 The prison's assets form

Assets

Manage

Asset Records

Asset ID: Unit in Stock:

Name: Additional Notes:

Code:

New Entry Update Delete Reset

Asset Records

	asset_id	code	assetname	descr	stock
	2	HH1	Hoe	for digging	78
	4	tr	tractor	for digging	12
▶	5	gf	garden fork	collecting rubbish	45
	6	wc	watering can	for watering	89
	8	sp	spades	carrying soil	0

Fig 4.10 shows the form used to register new assets brought into the prison.

4.5.8.1 Staff registration form

Staff_Id	Firstname	Lastname	Address	Contact	Department
8	kato	godfrey	kiswa	0789897654	Admin
9	amony	prosy	mukono	0790768547	Admin
10	kalyowa	keneth	mutudwe	0750985097	Technical
11	kwesa	john	lubiri	0706834566	Technical
12	byasoe	karim	mulago	0778987866	Finance
13	kato	peter	nkozi	0789898776	Technical

Fig 4.11 shows the administrators who are in the system database and can access the system.

4.9 Creating a Report:

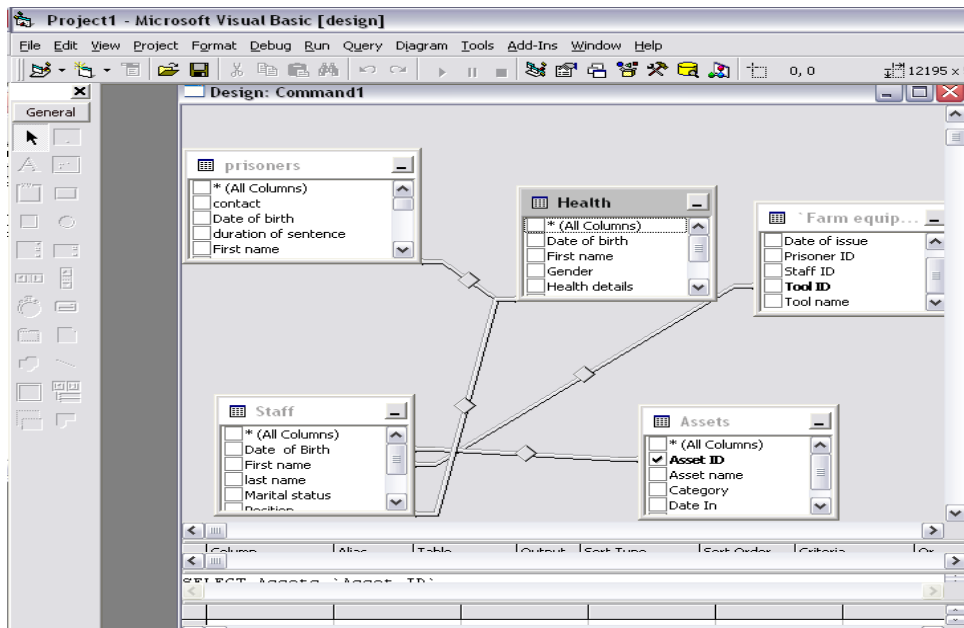
The report created must be able to extract data from the database and display it in a document as required by the user.

For a report to be able to extract data from the database, The researcher had to first create a data environment that points to the database from which the report will get the data by selecting project->add data environment from the visual Basic menu.

He then used the connection button in the data environment to select from the list of databases, the database he want to point to.

He then added a command button to the connection button in the data environment which points to the particular table where the data will be extracted from.

Data environment for patients report



He then started the report by selecting project->add data report from the visual basic menu.

The researcher then dragged the controls under the command button to the form so that their contents can be displayed on the report when the report is run.

CHAPTER FIVE

IMPLIMENTATION AND TESTING

5.1 Creating the executable program

After creating the interface for the database, we created an installable executable program of our interface by selecting

start->programs->Microsoft visual basic.net->Microsoft visual basic.net tools->package deployment wizard. The package deployment wizard prompted him to browse for the project for which he wanted to create a package. This is followed by a series of steps after which the package was completed and ready for installation.

5.2 Installation of the interface

To install the interface, he opened the setup file of the package and the installation interface. Click ok to continue with the installation. The interface was complete after the above step and could be opened from the start menu.

5.3 System Requirements

In order to come up with the project, the following software and hardware components were used:

5.3.1 Hardware Requirements

In the cost of the design, the software developed required the following hardware for an effective and efficient operation of the new system.

- Pentium core i3
- 4GB RAM.
- Enhanced keyboard.
- At least 40GB hard disk.
- E.G.A/V.G.A, a colored monitor.

5.3.2 Software requirements

The software requirements includes:

- A window 7 or higher version for faster processing
- Wamp server 2.0

CHAPTER SIX

CONCLUSION, DISCUSSIONS AND RECOMMENDATIONS

6.1 Summary

With the day to day changes in information technology, it has become a necessity to have data centralized backed by new developments in the industry for modernization and advancement in prisons. It makes it very quick and easy to share information related to a particular prisoner hence putting law and order in order.

It is recommended that Nkozi Prisons be the first in this area, then could also spread to other areas of the country.

6.2 Conclusion

Management of prisons as well as prison records is a very important factor in the national security which becomes all the more important in the current security situation that come with development. Prison management in Uganda is still in its early stage where by there is use of manual system of record keeping. This system is inefficient as well as looking up of specific information is tedious.

Prison management system (PMS) is effective in storing all the information appropriately which have all the necessary information about a prisoner hence lots of time is saved and information delivery is quick.

6.3 Recommendations

At the moment, the Prison Management System can only be deployed to be run by a single prison. But the system has the scope to be developed as a distributed application where each implementation of PMS in different prisons can be connected and communicate with each other. In such a case, a person sitting in a different office can access records with ease of Course with permission. This will make the whole system highly centralized as well as well connected.

REFERENCES

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SYSTEMS: prentice Hall 2001

APPENDIX

```
Public Class frmLogIn

    Dim DateNow As Date

    Dim TimenOW As Date

    Private Sub frmLogIn_Load(ByVal sender As
System.Object, ByVal e As System.EventArgs) Handles
MyBase.Load

        Label5.Hide()

        txtFullname.Hide()

        connectDatabase()

        DateNow = Date.Today

        TimenOW = TimeOfDay

    End Sub

    Dim var As Integer

    Private Sub btnLogIn_Click(ByVal sender As
System.Object, ByVal e As System.EventArgs) Handles
btnLogIn.Click

        ConnectionState()

        Dim mysqlDR_Users As MySqlDataReader

        Dim mysqlC_Users As New MySqlCommand

        With mysqlC_Users
```

```

        .Connection = conn

        .CommandText = "SELECT * FROM tblUsers " &
"WHERE Username='" & txtUsername.Text & "' AND " &
"Password='" & txtPassword.Text & "'"

End With

mysqlDR_Users = mysqlC_Users.ExecuteReader

mysqlDR_Users.Read()

If mysqlDR_Users.HasRows Then

    Hide()

    logRecord()

    MainMenu.ShowDialog()

Else

    If var <= 2 Then

        MsgBox("Wrong Username or Password",
vbExclamation, "Incorrect Password")

        var = var + 1

        txtUsername.Text = ""

        txtPassword.Text = ""

    Else

```



```
        MsgBox("You have entered the wrong password  
too many times, you are now locked out. Please contact  
your system administrator. The program will now  
terminate.", vbCritical, "Locked Out")
```

```
        End
```

```
    End If
```

```
End If
```

```
End Sub
```

```
Private Sub txtUsername_TextChanged(ByVal sender As  
System.Object, ByVal e As System.EventArgs) Handles  
txtUsername.TextChanged
```

```
Try
```

```
    ConnectionState()
```

```
    Dim mysqlDR_Users As MySqlDataReader
```

```
    Dim mysqlC_Users As New MySqlCommand
```

```
    With mysqlC_Users
```

```
        .Connection = conn
```

```

        .CommandText = "SELECT * FROM tblusers
WHERE Username='" & txtUsername.Text & "'"

    End With

    mysqlDR_Users = mysqlC_Users.ExecuteReader

    If mysqlDR_Users.HasRows Then

        While mysqlDR_Users.Read

            txtFullname.Text =
(mysqlDR_Users.Item(2))

        End While

    End If

    Catch ex As Exception

    End Try

End Sub

Private Sub logRecord()

    conn.Close()

    connectDatabase()

    Dim mysqlC_Users As New MySqlCommand

    With mysqlC_Users

```

```
        .Connection = conn

        .CommandText = "Insert Into tblLogRecord VALUES
('" & txtUsername.Text & _
        "','" & DateNow & _
        "','" & TimenOW & _
        "','" & txtFullname.Text & "'"")"

        .ExecuteNonQuery()
```

```
    End With
```

```
End Sub
```

```
Private Sub btnCancel_Click(ByVal sender As
System.Object, ByVal e As System.EventArgs) Handles
btnCancel.Click
```

```
End
```

```
End Sub
```

```
Private Sub txtPassword_KeyUp(ByVal sender As Object,  
ByVal e As System.Windows.Forms.KeyEventArgs) Handles  
txtPassword.KeyUp
```

```
    If e.KeyCode = Keys.Enter Then
```

```
        btnLogIn.PerformClick()
```

```
    ElseIf e.KeyCode = Keys.Escape Then
```

```
        btnCancel.PerformClick()
```

```
    End If
```

```
End Sub
```

```
Private Sub Label3_Click(ByVal sender As System.Object,  
ByVal e As System.EventArgs) Handles Label3.Click
```

```
    Dim frmRetrievePassword As New frmRetrievePassword
```

```
    frmRetrievePassword.Show()
```

```
End Sub
```

```
Private Sub GroupBox1_Enter(ByVal sender As  
System.Object, ByVal e As System.EventArgs) Handles  
GroupBox1.Enter
```

```
End Sub
```

```
Private Sub txtPassword_TextChanged(ByVal sender As  
System.Object, ByVal e As System.EventArgs) Handles  
txtPassword.TextChanged
```

```
End Sub
```

```
End Class
```

```
Public Class Staff
```

```
Dim cmd As New MySqlCommand
```

```
Dim da As New MySqlDataAdapter
```

```
Private Sub frmAddPrisoner_Load(ByVal sender As  
System.Object, ByVal e As System.EventArgs) Handles  
MyBase.Load
```

```
Me.CenterToScreen()
```

```
cmdsave.Hide()
```

```
Try

    conn.Open()

    With cmd

        .Connection = conn

        .CommandText = "Select * from tbstaff"

    End With

Catch ex As Exception

    MsgBox(ex.Message)

End Try

conn.Close()

da.Dispose()

filltable(dgvTrans)

End Sub
```

```
Public Sub filltable(ByVal dgvTrans As Object)
```

```

Dim publictable As New DataTable

Try

    da.SelectCommand = cmd

    da.Fill(publictable)

    dgvTrans.DataSource = publictable

    ' dgvTrans.Columns(0).Visible = False

    da.Dispose()

Catch ex As Exception

    MsgBox(ex.Message)

End Try

End Sub

Public Sub numb()

    Dim cmdcno As New MySqlCommand("select * from
tbstaff", conn)

```

```

conn.Open()

Dim drcno As MySqlDataReader = cmdcno.ExecuteReader

While drcno.Read

    txtid.Text = drcno(0)

End While

txtid.Text = Val(txtid.Text) + 1

drcno.Close()

conn.Close()

End Sub

Private Sub btnsave_Click(ByVal sender As System.Object,
ByVal e As System.EventArgs) Handles btnsave.Click

    cmdsave.Show()

    numb()

```



```
End Sub
```

```
Private Sub cmdsave_Click(ByVal sender As System.Object,  
ByVal e As System.EventArgs) Handles cmdsave.Click
```

```
    If txtFirstname.Text = "" Then
```

```
        MessageBox.Show("Insert Name Please!", "WARNING",  
MessageBoxButtons.OK, MessageBoxIcon.Exclamation)
```

```
    ElseIf txtLastname.Text = "" Then
```

```
        MessageBox.Show("Insert Password Please!",  
"WARNING", MessageBoxButtons.OK, MessageBoxIcon.Exclamation)
```

```
    ElseIf cbodept.SelectedIndex = -1 Then
```

```
        MessageBox.Show("Choose Supervisor!", "WARNING",  
MessageBoxButtons.OK, MessageBoxIcon.Exclamation)
```

```
Else
```

```
    Try
```

```
        conn.Open()
```

```
Dim command As New MySqlCommand("insert into
tbstaff(Firstname,Lastname,Address,Contact,Department) values
('" & txtFirstname.Text & "','" & txtLastname.Text & "','" &
txtaddress.Text & "','" & txtcontact.Text & "','" &
cbodept.Text & "' )", conn)
```

```
command.ExecuteNonQuery()
```

```
MessageBox.Show("Information Successfully
Recorded!", "INFO", MessageBoxButtons.OK,
MessageBoxIcon.Information)
```

```
command.Dispose()
```

```
conn.Close()
```

```
Try
```

```
conn.Open()
```

```
With cmd
```

```
.Connection = conn
```

```
.CommandText = "Select * from tbstaff"
```

```
End With
```

```
Catch ex As Exception
```

```

        MsgBox(ex.Message)

    End Try

    conn.Close()

    da.Dispose()

    filltable(dgvTrans)

    cmdsave.Hide()

    txtid.ResetText()

    txtFirstname.ResetText()

    txtLastname.ResetText()

    txtaddress.ResetText()

    txtcontact.ResetText()

    cbodept.SelectedIndex = -1

Catch ex As Exception

    MsgBox.Show(ex.Message, "ERROR
BITCHES!!!", MessageBoxButtons.OK, MessageBoxIcon.Error)

End Try

```

```
End If
```

```
End Sub
```

```
Private Sub btncancel_Click(ByVal sender As System.Object,  
ByVal e As System.EventArgs) Handles btncancel.Click
```

```
    cmdsave.Hide()
```

```
    txtid.ResetText()
```

```
    txtFirstname.ResetText()
```

```
    txtLastname.ResetText()
```

```
    txtaddress.ResetText()
```

```
    txtcontact.ResetText()
```

```
    cbodept.SelectedIndex = -1
```

```
Try
```

```
    conn.Open()
```

```
    With cmd
```

```
        .Connection = conn
```

```
        .CommandText = "Select * from tbstaff"
```

```
    End With
```

```
Catch ex As Exception
```

```
    MsgBox(ex.Message)
```

```
End Try
```

```
conn.Close()
```

```
da.Dispose()
```

```
filltable(dgvTrans)
```

```
End Sub
```

```
Private Sub DataGridView_CellClick(ByVal sender As Object,  
ByVal e As System.Windows.Forms.DataGridViewCellEventArgs)  
Handles dgvTrans.CellClick
```

```
    txtid.Text = dgvTrans.CurrentRow.Cells(0).Value
```

```
    txtFirstname.Text = dgvTrans.CurrentRow.Cells(1).Value
```

```
    txtLastname.Text = dgvTrans.CurrentRow.Cells(2).Value
```

```
    txtaddress.Text = dgvTrans.CurrentRow.Cells(3).Value
```

```
txtcontact.Text = dgvTrans.CurrentRow.Cells(4).Value
```

```
cbodept.Text = dgvTrans.CurrentRow.Cells(5).Value
```

```
End Sub
```

```
Private Sub Button1_Click(ByVal sender As System.Object,  
ByVal e As System.EventArgs) Handles Button1.Click
```

```
    If conn.State = Data.ConnectionState.Open Then
```

```
        conn.Close()
```

```
    End If
```

```
    If txtFirstname.Text = "" Then
```

```
        MsgBox("Please select an item to update",  
MsgBoxStyle.Information, Me.Text)
```

```
        Exit Sub
```

```
    End If
```

```

Try

    Dim cmditem As New MySqlCommand("Update tbstaff
set  firstname='" & txtFirstname.Text & "',lastname='" &
txtLastname.Text & "',address='" & txtaddress.Text & "'" where
Staff_Id=" & txtid.Text, conn)

    conn.Open()

    cmditem.ExecuteNonQuery()

    MsgBox("                Successfully                Updated",
MsgBoxStyle.Information, Me.Text)

    conn.Close()

Try

    conn.Open()

    With cmd

        .Connection = conn

        .CommandText = "Select * from tbstaff"

    End With

Catch ex As Exception

    MsgBox(ex.Message)

End Try

```

```
        conn.Close()

        da.Dispose()

        filltable(dgvTrans)

    Catch ex As Exception

        MsgBox(ex.Message)

    End Try

End Sub
```

```
Private Sub Button2_Click(ByVal sender As System.Object,  
ByVal e As System.EventArgs) Handles Button2.Click
```

```
    If conn.State = Data.ConnectionState.Open Then
```

```
        conn.Close()
```

```
    End If
```

```
    If txtFirstname.Text = "" Then
```

```
        MsgBox("Please select an item to delete",  
MsgBoxStyle.Information, Me.Text)
```

```
        Exit Sub
```

```
    End If
```



```

Try

    Dim cmditem As New MySqlCommand("delete from
tbstaff where Staff_Id=" & txtid.Text, conn)

    conn.Open()

    cmditem.ExecuteNonQuery()

    MsgBox("User      Successfully      deleted",
MsgBoxStyle.Information, Me.Text)

    conn.Close()

Try

    conn.Open()

    With cmd

        .Connection = conn

        .CommandText = "Select * from tbstaff"

    End With

Catch ex As Exception

    MsgBox(ex.Message)

End Try

```

```

        conn.Close()

        da.Dispose()

        filltable(dgvTrans)

    Catch ex As Exception

        MsgBox(ex.Message)

    End Try

End Sub

    Private Sub GroupBox1_Enter(ByVal sender As System.Object,
ByVal e As System.EventArgs) Handles GroupBox1.Enter

    End Sub

    Private Sub btnsave_Click_1(ByVal sender As System.Object,
ByVal e As System.EventArgs) Handles btnsave.Click

    End Sub

    Private Sub Staff_Load(ByVal sender As System.Object,
ByVal e As System.EventArgs) Handles MyBase.Load

    End Sub

```