STUDENTS REGISTRATION SYSTEM

For

Standard High School

By

Name

Reg. Number

Faculty of Computing and Management Science

Makerere University Business School

A Project Report Submitted to Makerere University Business School Department of
Business Computing in Partial Fulfillment of the Requirements for the Award of Degree in
Bachelor of Business Computing of Makerere University

Supervisor

Name

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Declaration

This is to certify that this report embodies the original work done by ……… during this project submission as a partial fulfillment of the requirement for the Award of Degree in Bachelor of Business Computing of Makerere University

Signed ……………………………………

Date: ………………………………

Approval

This Project Report has been submitted for Examination with the approval of the undersigned supervisor

Signed: …………………………………

Date: ……………………………………..

Name
Department of Business Computing
Makerere University Business School

Dedication

Acknowledgement

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List of Abbreviations

SRS	Student Registration System
CODASYL	Conference on Data Systems Languages
DFD	Data Flow Diagram
EERD	Enhanced Entity Relationship Diagram
E-SAS	Electronic Student Academic Systems
DFD	Data Flow Diagram
EERD	Enhanced Entity Relationship Diagram
ERD	Entity Relationship Diagram
GUI	Graphical user interface
HTML	Hyper Text Markup Language
MYSQL	My Structured Query Language
PHP	Hypertext Preprocessor
IMS	Information Management Systems
IT	Information Technology
SADB	Subject-Area Databases
SEDCAR	Standards for Education Data Collection and Analysis
SDLC	System Development Life Cycle
SQL	Structured query Language

Abstract

In this study, a student registration system to manage school records was developed. This was as a result of the realization of the need for an efficient and effective automated system given the incompetent nature of the manual systems in place in the managing of student's records. The dynamic nature of information technology and the wide array of information need to be implemented. Standard High School Zana was used as the case study. The system was implemented using MYSQL software development tool to develop the database because it is easy to learn and understand. **PHP** scripting language was used for interacting between the database and the Graphical User Interface (GUI). And Dreamweaver was used to develop user interfaces. JavaScript was used to ensure security controls and validation. The application was complete with user interface, summarized reports, for applicant and security controls necessary such that the user can start deriving value from the new application. The designed system was tested by a number of few courses which was successfully applied. To identify system requirements the questionnaire, observation and interview methods of data collection were used. The study identified the major problems faced by the use of manual filing systems to manage school records and attempted to solve them by developing an automated records management system. Recommendations such as user training, parallel system conversion and anti-virus update installations ensured smooth functionality and system availability. This student's registration system project report acts as a fundamental guide or tool to management of school records in system evaluation and decision making.

Chapter One
Introduction

1.0 Introduction

Records management is the field of management responsible for efficient and systematic control of the creation, receipt, maintenance, use, and disposition of the registration records of students Johanna (2008). Given the ever-increasing growth of litigation, investigations and regulatory actions coupled with the explosive growth of electronic records, automation of school's records management policies, processes and practices is no longer an option; it is now a necessity. Automated Student Registration Systems (ASRSs) have been available for nearly ten years. However, they have not been adopted or implemented at the anticipated level of success because the process of declaring and classifying records has been largely manual. To facilitate the adoption of needed new registration systems, all manual operating costs associated with the system's use and operation must be minimized.

Standard High School uses a file based system for keeping records such as admission book, school fees (ledger book), warden's book , also books and files for both teachers and students which are becoming expensive. These records include admission of students, discipline cases of students ,staff members and students performance among others however this is not efficient enough because the books wear out, it takes time looking for specific information in a lot of files and also get lost by malicious students or teachers retrenched hence loss of the school's records. This system of Student Registration was designed for improving the effectiveness and efficiency of managing student's registration electronic records.

The national focus on student outcomes has placed an additional burden on our nation's schools, school districts, and state education agencies according to The National Forum For Educational Statistics, for they must monitor the achievement of individual students, as well as groups of students, and show that all students are meeting high standards for learning. An education organization's ability to meet this challenge is affected by the organization's access to complete, accurate, and timely information about its students. This project has been developed to help education organizations plan and implement efficient systems for maintaining and using

individual student records so that effective decisions can be made for the benefit of the students and administration including DOS, teachers etc.

Many schools, and state education agencies already collect and use data effectively. However, the proliferations of new reporting requirements and dramatic changes in technology have had a profound effect on the need for student data and the education community's ability to manage student records. Purchase of more powerful computer hardware and software and the reconfiguration of information systems have become essential components in efforts to meet the needs of all students.

1.1 Background

Standard High School is a privately owned, mixed boarding, O and A level secondary school offering a wide range of subjects for students to choose from.

The school was founded in 1994 by a group of experienced and committed professional teachers. It has since then grown and expanded enough to excel and compete with traditional schools in the country. The school is registered by the ministry of education and has a UNEB center U0833.

The school uses books to keep records concerning information about students admitted and staff employed.

Standard High School has been using a manual system to capture the department and students records that are obtained. Records that are used in the school by the department are kept in the files until the end of every Term or year for assessment of student's performance. A lot of time is needed to process the request for a particular department in case all the departments order at the same time for the students records.

Since the requests from other stuffs are also made through the head office, this manual system takes time and often time computational errors are in the system. Also due to this paper manual system, there isn't much security in the records and every one could get access to the store registry file even if not authorized to do so. Reference to a particular registration record in a particular year would imply manually opening all the old files until the record is found. This did not only consume time but also wasted resources and manual labor in shifting and moving the files.

1.2 Problem Statement

Standard High School uses a file based system for keeping records such as admission book, school fees (ledger book), warden's book , also books and files for both teachers and students which are becoming expensive. These records include admission of students, discipline cases of students ,staff members and students performance among others however this is not efficient enough because the books wear out, it takes time looking for specific information in a lot of files and also get lost by malicious students or teachers retrenched hence loss of the school's records. It also retains the schools records for the case where a teacher is dismissed from the school and a new teacher is supposed to begin commencement of teaching.

1.3 Main Objective

The main objective of the study was to develop a computerized database system to manage information for Standard High School Zana that will handle data consistency and ensure maximum data security.

1.4 Specific Objectives

Automated Student Registration System for Standard High School was designed to cater for the following objectives.

The study was guided by the following objectives;

   i.   To clearly analyze the current system used by Standard High School- Zana to manage its data records.

   ii.   To establish the requirements necessary for designing a computerized database system for Standard High School Zana.

   iii.   To design a student registration system for Standard High School Zana

   iv.   To develop a student registration system for Standard High School Zana

   v.   To test the computerized student's registration system for Standard High School Zana.

1.6 Scope of the study

1.6.1 Subject scope

The study majorly concentrated on the management and how students are registered at Standard High School Zana with an aim of designing and developing a computerized web based student registration system.

1.6.2 Geographical scope

The study was conducted at Standard High School Zana. This was because I stay at Zana along Nyanama road and the school happens to be very near to my house. This enabled me not to spend much on transport to the school.

1.7 Significance of the study

This project upon its completion and implementation was to be in position to solve the problems associated with the existing student's registration system in the following ways:

i.   The study serves as a reference for anyone who might wish to develop a school information management system.
ii.   The study enables knowledge and understandability to the researcher and also succeed in my current studies by attaining a degree in my studies.
iii. The study enabled the researcher gain experience in database design, development and management
iv.   It improved the administrative efficiency in decision making and management of the school.
v.   To other teaching institutions, the study helped them realize that running a computerized student registration system saves time and managing student's data more efficiently.
vi.   To policy makers like the government of Uganda, it helped them understand the benefits of computerizing students and records management systems.

Chapter Two
Literature Review

2.1 Introduction

This chapter is about work done by previous research in attempt to provide information to the Automated Student Registration System. But analysis of similar systems like Students Record, General Record Schedule, hotels information management information, automation of patients records system and State education data systems that increase learning and improve accountability. Kituyi, Kasse and Moya (2010) define a database as a collection of structured files containing related data.

2.2 Previous studies

According to Richard (2004) explains the opportunities and pit falls of using technology in records management. Thus automating records bring them together. They are easy to manage that is, to modify delete. Automated record documentation systems are electronic databases made up of data about the system.

Many scholars who have looked at documentation in system support in The IT industry have not yet answered the question "why haven't the previous program written to simplify IT support been put to good use?" Even suggest that previous projects presented in the faculty of computing and IT cited evidence to suggest that those systems are very good but IT support departments and organization require system that will help them retain knowledge from their IT support.

According to Burns (2001) states that automated hotel information system help in data capture, record keeping and retrieval of the information and also help managers make managerial decisions. This will eliminate data redundancy and duplication of records in the database. He did not talk about maintaining a knowledge base of various decisions made by the managers in the circumstances that he has faced for future use under similar circumstances.

According to Zaini (2000) says that automation of the present National park booking systems minimizes data redundancy, improve system flexibility and security. However she did not talk about tracking of the wild birds and animals yet it is the primary business of the parks is viewing

wild birds and animals. Also she left out how the system will help in providing their clients customer care.

2.3 Related Systems

According to Student Data Handbook for Elementary, Secondary, and Early Childhood

Education: 2000 Edition*.* The Student Data Handbook was developed to provide guidance concerning the consistent maintenance of student information. This handbook defines data elements and definitions describing personal information, enrollment, school participation and activities, out of school experience, assessment, transportation, health, special program participation and discipline for pupils in early childhood, elementary, and secondary education.

According to Standards for Education, Data Collection and Reporting Guidelines are available that describe "best practice" in collecting and reporting education data including student information. Called the Standards for Education Data Collection and Reporting (SEDCAR), these guidelines were developed pursuant to the Hawkins-Stafford Amendments of 1988, which authorized an effort to improve the comparability, quality, and usefulness of education data. SEDCAR is a helpful guide to basic principles for ensuring good quality in the key phases of data collection, storage, and reporting.

Anyone developing, redesigning, or taking charge of a student record system can benefit from the collective experience of the large team of professionals brought together to develop SEDCAR.

A Pilot Standard National Course Classification System for Secondary Education;

This document was developed to promote the use of a standard vocabulary and to encourage the maintenance of accurate and complete data about students. It is intended to serve as a reference document to public and private school agencies and researchers interested in course information at the secondary level.

Basic Data Elements for Elementary and Secondary Education Information System

This document contains a set of basic student and staff data elements recommended by the Core Data Task Force of the National Forum on Education Statistics. The purpose of these basic data

elements is to provide a common language to promote the collection and reporting of comparable education data to guide policy and assist in the administration of state and local education systems. The report also contains a recommended process for identifying and periodically updating the set of data elements to be maintained by a school, school district, state education agency, or other education unit with a need for student and staff information.

Protecting the Privacy of Student Records: Guidelines for Education Agency

These guidelines were developed to help state and local education agencies and schools to develop adequate policies and procedures to protect information about students and their families from improper release, while still satisfying the need for school officials to make sound management, instructional and service decisions. Suggested audiences include state education agency staff, state and local policy-makers, school district staff, school administrators and staff, program and support services staff, technical staff, and teachers and other school-based support professionals.

According to Barata (1998), the impact of information technology (IT) development on evolving frameworks for managing the creation, capture, maintenance, and use of evidential records in electronic systems is a great cause of concern among records professionals with regard to maintaining control over records created and stored in these systems. Organizations need reliable, authentic, purposeful records that support business objectives not just business processes and provide evidence of transactions that support those objectives. However, despite the inextricable link between the need to develop accountable and evidential recordkeeping systems and the development of IT standards that influence the way in which these systems need to be designed and implemented, archivists and records managers have made no significant attempts to participate in the IT standards development arena. This report explores the role records professionals can and need to assume with regard to proposing.

Liu *et al* (2009) analyses that assessment of time management is required in African schools and students. A sample of entering seventh-graders (N = 814) from five states across the African Countries completed this instrument, with 340 students retested 6 months later. Exploratory and confirmatory factor analysis suggested two factors (i.e., Meeting Deadlines and Planning) that adequately explain the variance in time management for this age group. Scales show evidence of

reliability and validity; with high internal consistency, reasonable consistency of factor structure over time, moderate to high correlations with Conscientiousness, low correlations with the remaining four personality dimensions, and reasonable prediction of students' grades. This called for automation to provide quick management

Zain et al (2004), shows the impact of Information and Communication Technology (ICT) on the management practices in the Malaysian Smart Schools. The analysis revealed that the impact has resulted in changes that include the enrichment of the ICT culture among students and teachers, more efficient student and teacher administration, better accessibility to information and a higher utilization of school resources. This analysis also revealed that time constraints, higher administrative costs, negative acceptance/support from some untrained staff, abuse of the ICT facilities and problems related to the imposed rigid procedural requirements are among the challenges encountered by the schools.

According to Johanna (2008), records are increasingly becoming electronic. Both public and private organizations are more and more making information and records only available to their employees, customers and constituents on such a format. Electronic Records Management Systems (ERMS) are, therefore, increasingly being implemented to manage the records of many organizations.

According to Clerk E. and Junior (2008) there are two reasons for retaining non-current records. First is to satisfy the legal and fiduciary responsibilities of the organization for specific periods of time; second is to permanently retain those records which document the history of the institution. Not all academic or research institutions have a records management program. This survey was an inquiry into the state of records management in ARL member institutions.

According to Vitalicy (2002), both schools and the Ministry of Education (MOE) generate information, which each in turn uses for the daily running of the schools, as well as for projecting and planning purposes. For the information to be used effectively, it must be accurate and reliable. This calls for efficient information management and herein lies the role of records.

Amongst the information generated by schools, for example, are enrolment statistics (capacities and demand), human, financial and material requirements, expenditures, etc, all of which are

crucial to the successful running of an education system as a whole. Schools are able to provide this information satisfactorily, provided it is on record.

According to Sulaiman et al (2008), nowadays computers are used to manage daily works. School management uses computer to process academic assessments. For example, teachers store students mark and grades in computer software such as Microsoft Office. However computers are merely used to store students assessments and there are no systematic place for analyzing and turning that data into information and knowledge. Therefore, the need to develop Electronic Student Academic Systems (E-SAS) to facilitate teachers and administration staffs in managing students' profile and academic assessments.

Student Registration Record and Data management

According to Connolly and Begg (2005), Organizations today operate in a highly global, fast-paced and competitive environment. One of the key resources they need to perform their tasks effectively and efficiently is data management. Data management is a terminology they usually use for referring to the system, which provide the interface that able to hide specifically physical file operation, hence they can fully concentrate to the data logical. Database system is a software system class that relate with Database Management System and file management system .

According to Kituyi *et* al, (2010), we can consider a database as a collection of related data and the Database Management System (DBMS) as the software that manages and controls access to the database. The database approach overcomes most of the problems in manual system and file-based system. It is intended to meet the informational needs of all users at all department or operational level as well as users at the strategic level.

One of the components of Smart School is a smart school management. This component has several characteristics and one of its characteristic is student affairs. Student affairs deal with student profiles, performance, evaluations, test administration, counseling, health, insurance and others. The result of having a smart school management is a comprehensive student records system for the storage, retrieval and reporting of all student data. Therefore, Automated Student Registration System (ASRS) is developed to provide a systematic student profile and academic assessment for secondary school.

Records are one of the most important reasons that enable an organization to operate; therefore record requires to be managed in order to have effective organization operations. Student Registration reasons vary from organization to organization basing on factors like shelf life of record, operational need, delivery period, organization policies, capital available and storage capacity.

en.wikipedia.org/dwiki/ states that Student Registration is used to evaluate how much record is used. It is also used to know what is needed to be ordered. Student Registration can only happen if a record is recorded. Record rotation must be put into use with Student Registration by using the oldest information before the newer information.

Student Registration is the term that relates to a set of policies and procedures by which an organization determines which materials it will hold in record and the quality of each one of them that it will carry (Menon 1993).

According to Jessop and Morrison (1986) Student Registration is defined as the operation of continuous arranging of material flows so that record balances are adequate and able to support one current rate of consumption with due regards to the economy. Therefore Student Registration can undertake major functions like:

- Right types and qualities of items are available to user department s.
- Right levels of record will be set and maintained by carrying out record checks and record takes
- Records will be well maintained and accurate that losses are minimized or avoided
- Increase in security measures.

Hill (1996) considers the key to managing record as knowing why it is there and the function it performs.

Anupindi (2004), states that Student Registration is an attempt to balance record needs and requirement with the need to minimize costs resulting from obtaining and holding inventory.

2.3 Techniques of Students Registration record management

Managing record is a highly challenging role that requires systematic way to perform. This implies that there is different Student Registration or management approaches as stated by Gillespie (1992)

The techniques may depend upon whether the items are independent or dependent demand items. Independent demand items are those whose demand is not affected by the demand of or decisions about other items whereas the dependent demand items are those whose demand depends on the demand for or decisions about other items.

Dependent resource planning (Dip) is another technique for dependent items, however this one focuses basically on efficiency in product flow from upstream to the down streaming of the distribution

Advantages of Student Registration System

There are several advantages to using Student Registration Systems in a business setting. Below are some of the advantages of using Student Registration systems as stated by en.wikipedia.org/wiki/

Cost savings and reduction of labor costs in the long run

In many cases, a company's record represents one of its largest investments, along with its workforce and locations. Student Registration software helps companies cut expenses by minimizing the amount of unnecessary parts and products in storage and hence reduction on the labour force employed. It also helps companies keep lost sales low by having enough record at hand to meet demand.

Updated data and better quality data

Up-to-date data on record conditions and levels is also an advantage the Student Registration System gives to companies. Company executives can usually access the system through a mobile device, laptop or PC to check current inventory numbers and that the information provided is of better quality.

Improved access to data

The system ensures that its reliable by delivering and providing the need information to the different system users. Therefore it makes access to information easy.

Time savings

With the aid of restricted user rights, company managers can allow many employees to assist in inventory management. They can grant employees enough information access to receive products, make orders, transfer products and do other tasks without compromising company security. This can speed up the inventory-management process and save managers' time.

Existing Student Registration System

School patrons have been using a manual Student Registration System whereby different Student Registration activities were carried out manually. The manual system involved the use of file management system for storing the different record records, these records were stored in form of files and receipts that's after a sales is made. The manual system involved different Student Registration activities like record taking, record valuation, and record ordering these enabled records to management its record.

As stated by: http//clockworkaccounting.com/inventory-management-systems website, its stated that the manual system involves record taking, this involves making records, or list, of record, and noting its location and value. It's often an annual exercise - a kind of audit to work out the value of the record as part of the accounting process.

Standard High School Zana School manually carries out record taking and this is done by the cashier assistant and the accounts department, once the number of record is noted it's sent to the accounts department who secure the resources to use when re-recording the company store.

Student Registration System uses a record book that includes all records about the transactions in the school. This enables the business to keep a log of record received and record issued.

2.4 Types of Manual Systems

Cameron Balloons Virtual Factory (2005) came up with the following manual record systems:

• Fixed re-order record level the fixed re-order record level is whereby the business decides the minimum level of records it can tolerate and then re-orders before the records reach this level.

The exact timing will depend how long the records take to arrive. This minimum level is set so as to be able to give time to the suppliers.

• Fixed time re-ordering, the firm re-orders records at a fixed time each month or week. Organizations set up different times depending on their convenience to re-order records.

• Economic order quantity Economic order quantity, firms usually estimates what is needed and order at once. This method is used at the beginning of each yearly quarter.

• Just-in-time production, this method involves keeping records to an absolute minimum and the raw materials are ordered only when they are needed. It was developed in Japan. It deals in the production of goods. This can be wonderful for helping to reduce the need for working capital, but requires a very high level of organizational skill and a very close relationship with suppliers.

These fours methods would suite the company that employs them but still, the manual work is too much plus the related problems that come with it.

Combining the four methods and automating the whole Student Registration process will give that particular organization a very big boast in managing its record.

Kakeeto (2003) stated the problems that exist with manual record system as being inconsistencies incurred when entering products onto record cards, increasing volumes of stationery used, making it hard for the workers to identify the record cards in time. Student Registration is one aspect of business computing that enhances a company is business performances so as to reap big from the business venture being undertaken. Maintaining too high level of record items with a limited shelf life can only result in wastage and unsold record.

According to Kibera (1996), Inventory in most organizations is the largest single investment.

It's therefore sensible that the management understands what it is and also effectively managements it. And due to this new era of system automation there is need to computerize every system in the organization to reduce on the problems associated with manual systems.

Effective Student Registration is, therefore about implementing strategies to meet or exceed customer demand related to products availability by maintaining a sufficient record of each of record item, which will also maximize the convenience organizations profits. How can one maintain this aspect or come up with it? Automation of Student Registration will effectively maintain a sufficient buffer record for the smooth running of the organization.

AcaDemon (2005), Student Registration in the store business is important because these businesses depend on the rapid turnover of record items with a limited shelf life at relatively small margins. The store must be able to satisfy the customers by being able to supply the desired commodities when required. The stores shouldn't have a large amount of capital tied up in the record items lying in the store. Record is the value of the firm's current assets that are shown on the balance sheet, generally at cost. Periodic record System is a physically count record, usually made at the end of the accounting period, which does not maintain a detailed record of the actual record kept during the accounting period. Persons in charge of managing the records in a business must follow certain steps and perform an accurate records management system in order to avoid highly costs due to over recording matters. Such is how important record is to an organization that it must be really taken seriously.

Kanyanyuzi (2005), in her project Fixed Asset record System, the main objective of the project was to design and develop a database that will maintain the asset register. She developed a Web based database system to register and assist in tracking the assets. The project emphasis was mainly put on tracking the assets of the organization hence development of a register that will be used by the auditors who come to audit the organization. The main the objective was tracking assets of the organization whereas this project is looking at the managing of records meant to be sold.

A similar project was done on Stores Management Information System by Bwire(2004) .The project is main objective was to determine the record levels by computing the received and

distributed commodities and also to account for the stores rental goods by calculating the rented date and date of return. The aim of the study was to provide an Automated Computerized System for securing, quick evaluation and manipulation of records of goods received and distributed at the store. He also looked at the system to be able to collect, store, retrieve, communicate and use data for the purpose of efficient and effective management. The project mainly deals with stores looking at the aspect of goods whereby the management of services is not tackled.

Amoro (2004), in his project Automation of Business Transaction, whereby he focused on the system to be able to track the records of customers, orders and drugs as well as providing the reports on business transaction.

His system further focused calculating the discount on large purchases of drugs and also able to carry out registration of drugs and customers particulars. The project was mainly to deal with production and sale of drugs in the organization putting emphasis on production organizations. Data and system have no meaning till put into context of what business or organization does.

2.5 Weaknesses of the Existing System

The existing system at Standard High School Zana is associated with different weaknesses like the manual system fails to keep track of the different record that is entered into the school records office.

The system involved carrying out monthly record takes and this exposes the record to record theft and hence causing loss of revenue to the company.

Clockworkaccounting.com states that the manual system has some weaknesses and these include

- Manual systems are associated with record outs since its hard for it to keep track of the actual record that is kept in the organization stores
- With the manual system in place, organizations find it difficult to have meaningful Student Registration measures
- It's also difficult for manual system to management record levels
- The manual system is also not ideal for complex organizations
- The current system is also associated with fraud since all records about record are entered by different individuals who sometimes enter un genuine data entries

- Data entry errors can cause a lot of problems to inventory. For example if something goes missing, does that mean someone stole it? Or did the accounting clerk simply enter in the wrong quantity?

- Another weakness of the existing system is that it is time consuming. Even if your accounting clerk can punch in number really quickly, he/she can't do it as fast as a machine.

2.6 Comparison between the computerized and manual Student Registration System

Manual Management Systems

Manual system uses a file management system whereby the record records are stored in form of files and folders and records written down by the store assistants.

The manual system involves the physical counting of the record in store therefore the manual system is more tiring and takes more time than the computerized system where automatic record takes are taken as soon as goods are issued and received in and out of the store

Computerized Student Registration Systems

Student Registration systems have become the standard in the world. Barcodes are relatively inexpensive and have a couple of advantages over traditional manual-entry systems.

Accuracy, once the barcode is printed with the correct information, there is very little room for error. With manual-entry record systems the assistant may enter 96,900 instead of 99,600; this simply doesn't happen with barcodes.

Speed, even though some people are amazingly fast at the 10 key or at typing, there is no feasible way to be as fast as scanning it. Think about how much faster the grocery store process is with scanners. Imagine if the grocery store assistant had to enter everything in by hand; you would be in line for a lot longer. The one disadvantage of this type of Student Registration system over manual-entry accounting services is that for most companies it will cost more in terms of pure dollars paid. It costs money to buy barcode printers, scanners, and stickers. In addition it costs money to buy the software to manage it all. With hand entry all you need is a spreadsheet.

Chapter Three

Methodology

3.1 Introduction

This chapter presents the detailed selected methodologies for the study, methods and techniques that were used to achieve the specific objectives of the study. It also includes the research design which described the tools, approaches, processes and techniques employed in research study.

3.2 Data Collection techniques

It looks at analysis and comparison of other working systems and critique of the current method by reviewing the possible requirements. Review was on available literature about the existing Student Registration Systems, which will give the strategy for design. Questionnaires were used to verify the system, observation was used to elicit and specify requirements, sampling to select respondents who provided the data.

3.2.1 Questionnaires

This is a data collection technique in which written questions were presented and answered by respondents in a written form. The researcher designed questions which were distributed to the individuals so as to obtain statically useful information about the current school record practices. This technique was used due its ability to gather responses in a standardized way, it is cheap and information is easy to analyze. Here written questions were presented to the respondents and this helped me get detailed information about the difficulties they face with the current student's management at the school. See appendix ii

3.2.2 Interviews

This involved the interviewer and the respondents. The researcher interviewed some students and staff members so as to get first-hand information about both the existing system and suggestions about the user requirements of the new system. This method of data collection facilitated gathering responses in an objective and standardized way, learning about processes that cannot be observed, allowed representatives to raise concerns. It provided an opportunity to gather information from respondents who were knowledgeable about the system under study. It was also useful to respondents who did not communicate properly in writing or are lazy to complete questionnaires.

3.2.3 Observation

Observation was the other method used to understand how the current system at Standard High School Zana operates. This technique involved seeing various activities that occurred to get a clear view of what exactly takes place, other than the interviews conducted. This method was adopted because it enabled obtaining information, which I couldn't capture from a questionnaire. For example attitude of respondents can only be observed.

Observation was relevant in research because it gave more accurate assessment of how things actually worked approval to interviews. This technique helped find out the way forward to design the system.

3.3 System Requirements Specification

3.3.1 User classes and characteristics

Administrator. This is the headmaster who views all the data which other users view. He registers school staff members, manages the system and adds user to the system and also deletes them. This user can do anything with the system because he has all the rights

Director of studies. This is the one who registers students in the school. This user has limited rights to the system, since the headmaster can assign the duty of registering students to many people, they cannot delete any record from the system because they can delete records that were entered by other people.

Bursar. This is the person responsible with all payments for the schools for example staff payments, student payments, fees defaulters and all the expenses the school incurs. This user also has limited rights to the system as compared to the director of studies.

3.3.2 Design and implementation constraints

Xamp server was used because it is more secure than Wamp in tracking the sessions used by the user of the system.

All scripts were written in java and PHP

All HTML code conformed to the HTML 4.0 standard

The system used mysql database engine to store data for easy retrieval

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3.3.3 User requirements

These describe what the users will be able to perform with the system. The system services, constraints and goals were established by consultations of the system users and they were defined in detail as the functional requirements and the non-functional requirements.

They are represented in the use case diagram below
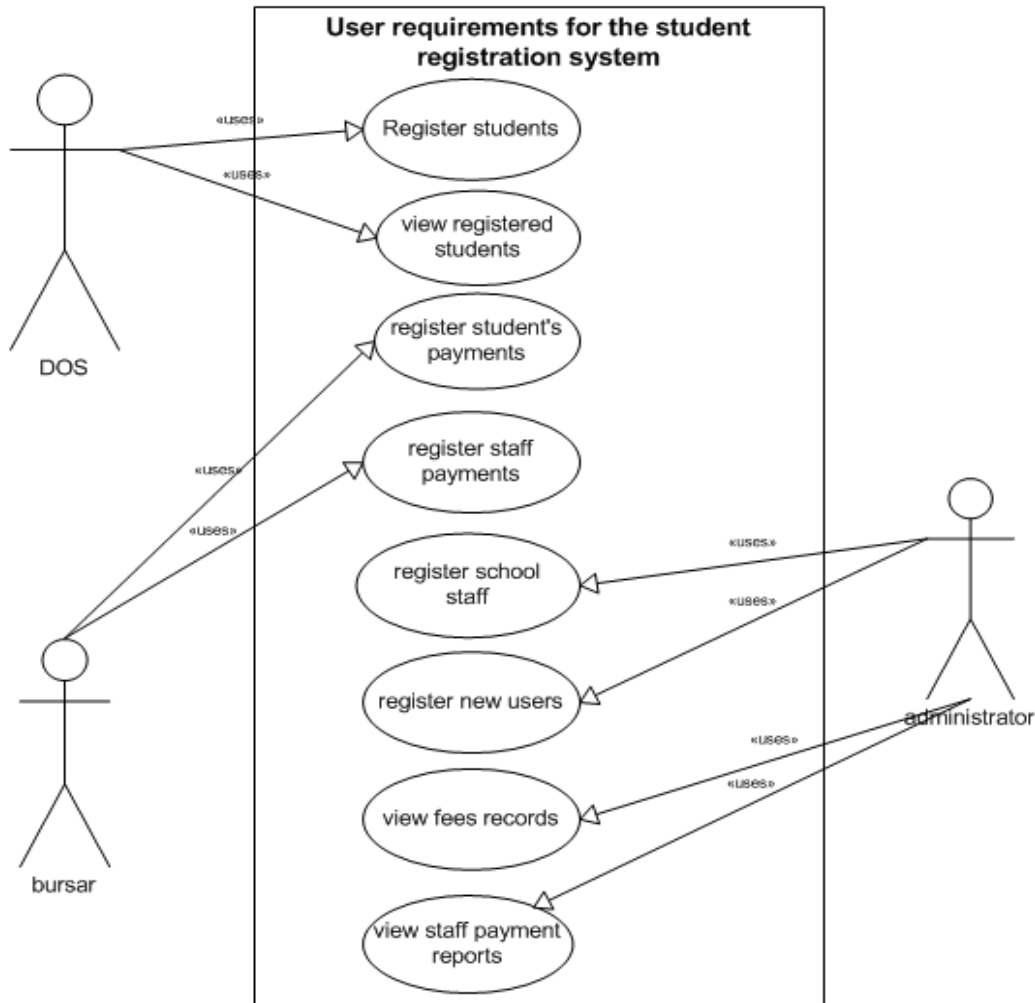
Use case diagram showing user requirements for the student registration system

3.3.4 Functional Requirements

This describes what the system should do

i.   The DOS shall be able to enter information and edit it.

ii. System shall allow DOS access to edit information in case of any mistakes made in insertion.

iii. System shall allow the director of studies to login to access their information

iv. The DOS shall be able to view their entries

v. The system shall enable the administrator access all data accessed by the other users of the system, add new users to the system.

3.3.5 Nonfunctional requirements

This consists of the constraints that must be adhered to during the development (design and implementation) like timing constraints, constraints on the development process and the standards of the system.

The following were the non-functional requirements for the system:

i. The system should be available and accessible.

ii. The system should use less storage space.

iii. The system should employ security measures for example user authentication.

3.3.6 External interface requirements

The system interfaces with windows XP, windows 7, windows 8, Windows vista operating systems. It will also interface with QWERTY keyboards, USB mice and a printer. The central database is mysql and PHP.

3.3.6.1 User interfaces

The font style of the system is Verdana and a font size of 11. Command buttons were used on different pages to enable the users access what they want simply by clicking on them. The colors used in the system were maroon, white and blue because some of the school uniforms are in maroon, the school t-shirts are white and blue sweaters so it reflected the school colors.

The standard button specified on the student registration system was the logout button which enables the users to log out when they have finished using the system. ENTER on the key board

enables the users to access the system after providing the right credentials instead of clicking the login button, ALT + left cursor enables the user to go back to the previous page.

3.3.6.2 Hardware interfaces

The system used a printer to enable users print out reports and excel documents generated. When the administrator clicks on staff reports, the report is displayed and when he needs to print it out, he clicks print button and the print dialogue box is displayed so the printer was specified for that functionality.

Other hardware was the keyboards, mice, LCD desktops and hard disk drives for back up.

3.3.6.3 Software interfaces

The system was able to interface with other operating systems like windows 8, windows XP. This was to support compatibility of the system with other operating systems. Other operating systems should have Mozilla, internet explorer, Google chrome installed for the system to run on the platforms because it is a web based database.

3.3.6.4 Communication interfaces

The web browsers the system used Mozilla Firefox, Google chrome, internet explorer. Some of the protocols used were hypertext transfer protocol, file transfer protocol

3.3.7 Security Requirements

The security function required authentication where login interfaces were provided and they involved making of the username and the password. Giving way of privileges to the person supposed to be able to give response to different users. Among others include modification, addition, creation and access among the developers, system administrators and staff.

3.3.8 Software quality attributes

Availability. The system was available for the users all day from morning to evening for easy retrieval of student's data from the database

Ease of use. Due to the user friendly graphical user interface, the system was ease for the users to interact with. There were no problems the users identified with its ease of use.

Compatibility. The system was able to interact with other software like the operating systems which were available. The system was also tested on the windows XP, 7 platforms.

Scalability. New features were added to the system hence enabling its expandability. For example a frame with moving data going up was added on the welcome page.

Backup for the system was done by exporting the database. This is a functionality available in mysql. A user can just import the database or its tables.

3.3.9 Other requirements

The system was developed in English language which the users of the sytem are well conversant with. The currency was Uganda shillings and legally the system was accepted because it didn't violate any laws set up by the government.

3.4 Analysis of requirements

After collecting the required information using the different data collection techniques, data was analyzed which showed that many people at the school liked to have a system to be put in place to reduce on the problems they face using a manual paper based system of management. Therefore was a need to remove contradictions and irrelevant requirements. The requirements were put into a requirements specification document to be used for design.

3.5 System Analysis and Design

The main purpose of this phase was used to identify all files, inputs, outputs, and application programs that were needed in the design and implementation.

The system development was broken down into stages based on the systems development life cycle (SDLC) of software engineering and the traditional database development life cycle. SDLC is process by which an information system comes into life and maintains its usefulness to an organization as it moves from inception to replacement.

At the end of SDLC, evaluation was carried out to ensure that the desired or stated goals and objectives for that particular stage are achieved.

3.6 System technologies and tools

3.6.1 Entity Relationship Diagram (ERD)

This is the main tool for data modeling; it shows the relationship between the entities involved in the system together with their attributes and indicates the number of occurrences of an entity that can exist for a single occurrence of the related entity.

3.6.2 Data Flow Diagrams (DFD)

Data flow diagrams were used for process modeling; it helps to show how data moves in and out of the system by giving graphical representation of the system components, processes and how they interface with each other.

3.7 system implementation

The implementation of the Automated Student Registration System for the school was realized by use of object-oriented PHP, HTML, MYSQL and Dreamweaver technologies.

PHP was used to:-

a) Connect the user interface with the prototype database because it is free ware.
b) Validate data before it is entered into the database
c) User login authentication
d) Open source language; it has good connective abilities and runs on many operating systems.

MYSQL is a Structured Query Language (SQL) based, client/server relational database. Each of these terms describes a fundamental part of the architecture of MySQL Server. A database is a storage place for data. The user runs an application that accesses data from the database and presents it to the user in an understandable format. There are different ways to organize data in a database but relational databases are one of the most effective. Relational database systems are applications of mathematical set theory to the problem of effectively organizing data. In a relational database, data is collected into tables (called relations in relational theory). I choose MYSQL because it is easy to use, secure and scalable. It also manages memory very well and runs on many operating systems therefore supporting several development interfaces.

Dreamweaver technology was used to draw the user interfaces of the application because it can work in a visual editing environment. Dreamweaver also provides with helpful tools to enhance web creation experience.

Fireworks technology was used for designing background images and banner.

3.8 System integration and testing

This activity was aimed at evaluating the attributes of the systems against users' requirements. I did not completely test the program with moderate complexity. Testing was done by testing few students, staff entry samples. The purpose of testing was a fully working system, quality assurance, and removal of errors. The system was tested on different hardware platforms and it performed its functional needs.

3.9 Validation and Verification

Validation was done by carrying out; unit testing, integration testing and system testing. This was aimed at analyzing the tools to detect the differences between existing and required conditions and to evaluate the features of the tools. At each level, white box testing, Black box testing or both was done. During white box testing the researcher validated the intended logic and structure of the code they are observing while during black box testing, the researcher focused on validating the functional requirements.

Chapter Four

Systems Analysis And Design

4.1 Introduction

This chapter involves discussing the weaknesses and strengths of the previous systems, establishment of the requirements for the Automated Student Registration System and the design of the new system. The new system is designed to meet the needs of automated Student Registration users and the public as far as managing the school records and maintaining a knowledge base is concerned.

4.2 The Existing System study

Records that are used in the school by the department are kept in the files until the end of every Term or year for assessment of student's performance. A lot of time is needed to process the request for a particular department in case all the departments order at the same time for the students records.

The existing system does not provide for the full capture of the students records and therefore the design of the Automated Student Registration System will play a major role in the capture of student's data with few errors and the saving of lecturer's time in the entering of student's records.

4.2.1 Weakness of the Existing System

The system uses a file based way of management that does not have a knowledge base that will help to retain knowledge of how different student records are sorted out from the different classes. It uses a file based system in keeping student records which has problems like the prone to errors, delays in the issue of reports at the end of the academic term.

4.3 System Design

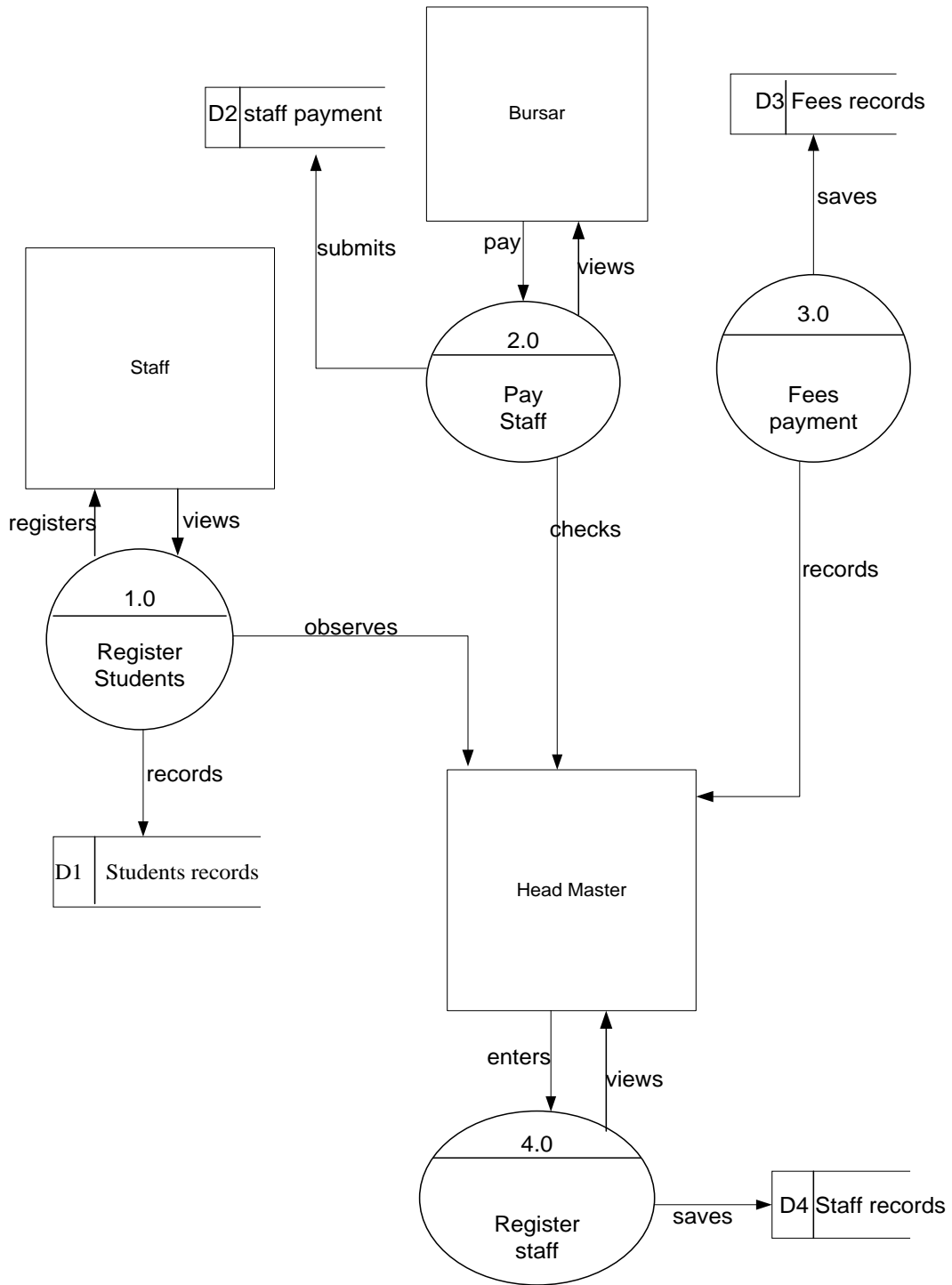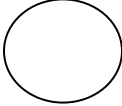## 4.4 DATAFLOW DIAGRAMS

4.4.1 Level Zero Data Flow Diagram

Figure 1 : 4.4.1 Level Zero Data Flow Diagram

Symbols used for the DFD

NAME	SYMBOL	DESCRIPTION
Process		These are the procedures that manage the connection requests or workflows of system information.
Data flow		This shows the direction of flow of the system process.
External entity		This shows the outputs and the inputs to the system.
Data stores		This shows the storage for the recorded information stored in the database.

4.4.2 Table 1 Key for the symbols used in the DFD

4.5 The context diagram for the proposed system

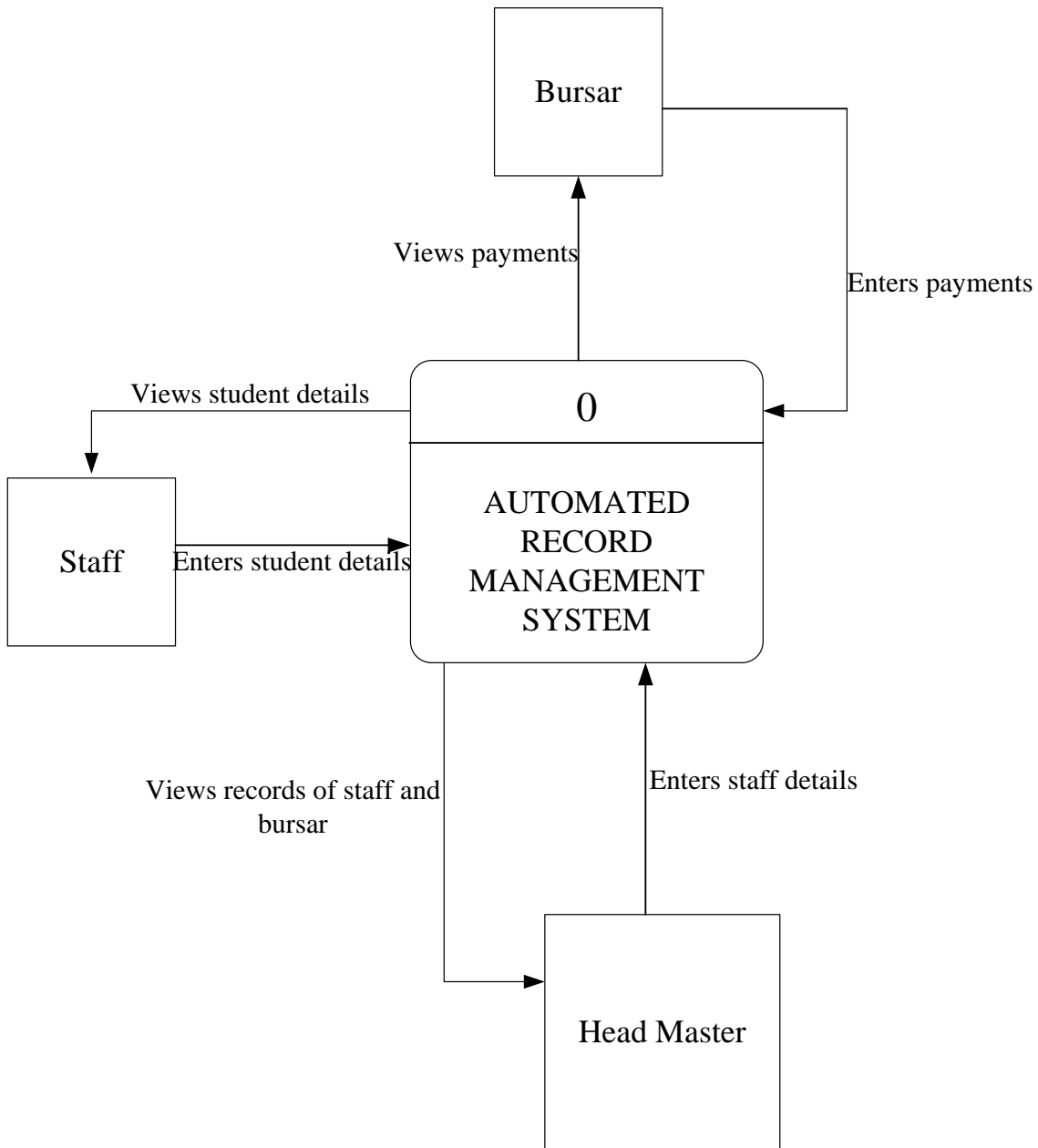# CONTEXT DIAGRAM FOR THE AUTOMATED RECORD MANAGEMENT SYSTEM

Figure 2 : 4.5.1 Context Diagram

4.6 Data Modeling

The database was designed with different users that access the system which are Bursar, Headmaster and DOS.

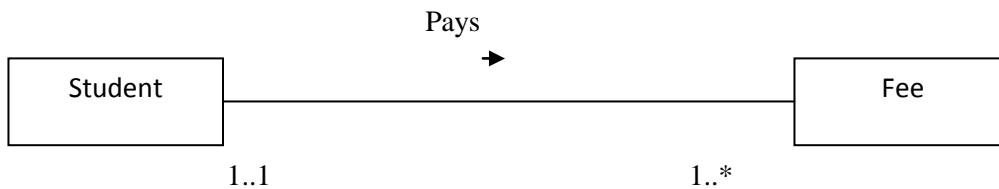All their entries are stored in the database.

They are authenticated with a different username and password for the login credentials.

4.9.1 Conceptual database design

This is the process of constructing a model of the information used in an Institution independent of all physical considerations. This includes identification of the important entities, relationships and attributes.

4.9.1.1 Binary relationships between Entities
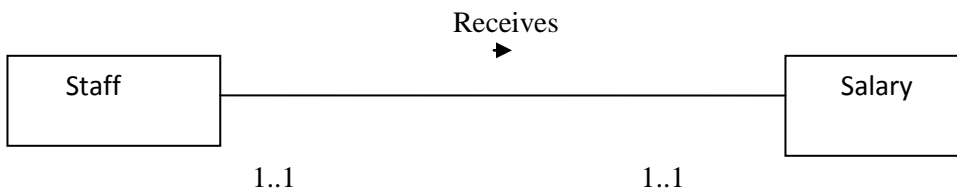
Student-Fee (1: 1) …One – to – One relationship

Pays

```
┌──────────────┐                              ┌──────────────┐
│   Student    │──────────────────────────────│     Fee      │
└──────────────┘                              └──────────────┘
      1..1                                          1..*
```

A student registered in the school makes payment for the services.

DOS-Student (1: M) One – to – One relationship.

Registers

```
┌──────────────┐                              ┌──────────────┐
│    DOS       │──────────────────────────────│   Student    │
└──────────────┘                              └──────────────┘
      1..*                                          1..*
```

A DOS registers students to the school progra

Staff-Salary (1: 1) One – to – One relationship.

Receives

```
┌──────────────┐                              ┌──────────────┐
│    Staff     │──────────────────────────────│    Salary    │
└──────────────┘                              └──────────────┘
      1..1                                          1..1
```

29

Each staff is entitled to a salary for the services offered

4.10 Entity Relationship Diagram

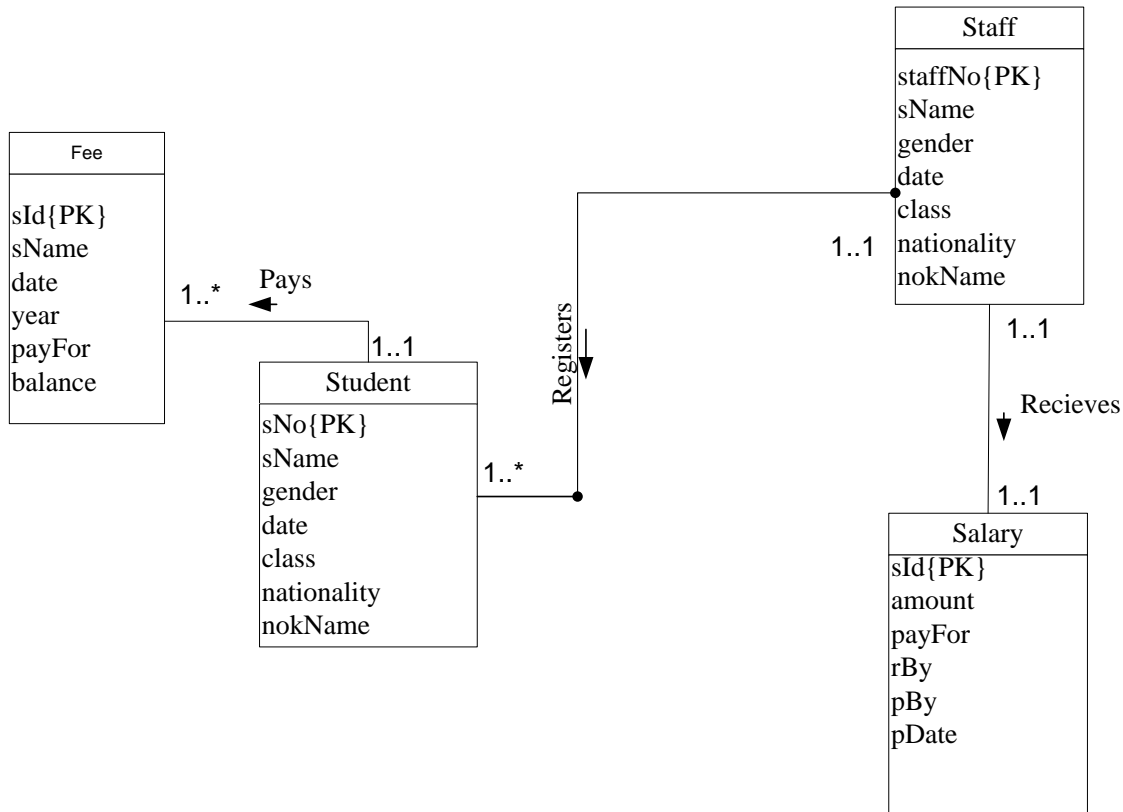GENERAL ENTITY RELATIONSHIP DIAGRAM

Figure 3: General Entity Relationship Diagram

4.9.2 Logical Database Design

Fee (sId{PK}, name ,dat, year ,class ,term ,amount ,payf , balance,sNo{FK})
Primary key: sId
Foreign Key: sNo

Student (sNo{PK}, name ,gender ,dat ,class ,term ,date ,nationality ,nokname ,nokaddress, staffNo{FK})

Primary key: sNo

Foreign Key: staffNo

StaffSalary (sNo{PK}, name ,gender ,dat ,class, date ,nationality nokname ,nokaddress, sId{FK})

Primary key: sNo

Foreign Key: sId

Users (username, password, usertype)

4.11 Data Dictionary

After normalization and identification of the functional dependencies, the final data structures for the various tables and their corresponding data fields and sizes are as below;

This shows the records of student's records by staff

Students

Attributes	Description	Datatype	Constraints
sno	Shows student number as a unique identifier	varchar(22)	Primary key
name	Student name	Varchar(33)	Not null
gender	Gender	Varchar(33)	Not null
dat	Date of birth	Date	Not null
class	Class and stream	Varchar(44)	Not null
term	Term of study	Varchar(33)	Not null
date	Date of registration	Varchar(33)	Not null
nationality	Nationality	Varchar(22)	Not null
nokname	Next of kin name	Varchar(33)	Not null
nokaddress	Next of kin address	Varchar(222)	Not null
nokcontact	Next of kin contact	Varchar(222)	Not null

Table 2 Student Registration

The records of students to be enrolled in the school are recorded down by the registrar of authorized staff.

Fees

Attributes	Description	Datatype	Constraints
sid	Unique Identifier	Varchar(33)	Primary key
name	Name of payer	Varchar(33)	Not null
dat	Date of payment	Date	Not null
year	Year	Varchar(22)	Not null
class	Class	Varchar(22)	Not null
term	Term of study	Varchar(22)	Not null
amount	amount	Double (9,1)	Not null
payf	Payment for	Varchar(22)	Not null
balance	balance	Double (9,1)	Not null

Table 3 Fees payment

Fees payments are recorded by the bursar only.

Salary

Attributes	Description	Datatype	Constraints
sid	Unique Identifier	int(255)	Primary key
amount	Amount paid	Varchar(33)	Not null
payf	Payment for	Varchar(33)	Not null
rby	Received by	Varchar(33)	Not null
pby	Payee	Varchar(33)	Not null
pdate	Date of payment	Varchar(33)	Not null

Table 4 Salary

Staff record

Attributes	Description	Datatype	Constraints
sno	Unique Identifier	Int(255)	Primary key
name	Name of staff	Varchar(22)	Not null
gender	gender	Varchar(22)	Not null
dat	Date of birth	Date	Not null
class	Class	Varchar(22)	Not null
date	Date of recruitment	Date	Not null
nationality	nationality	Varchar(22)	Not null
nokname	Next of kin name	Varchar(22)	Not null
nokaddress	Next of kin address	Varchar(22)	Not null
nokcontact	Next of kin contact	Varchar(222)	Not null

Table 5 Staff Records

Staff records are registered by the head master who is in charge of giving jobs.

Users

Attributes	Description	Datatype	Constraints
username	Unique Identifier	Varchar(22)	Primary key
password	password	Varchar(22)	Not null
user type	User type	Varchar(22)	Not null

Table 6 Users

Users are given password to authorize them for logging in

Chapter Five
Systems Development

5.1 Introduction

This chapter shows the screen shots of how the student registration system was implemented at standard high school Zana.

5.2 System study

The newly designed Automated Student Registration System was aimed at solving the problems that were experienced as a result of using the manual Student Registration practices. This was done through a number of strategies; Administrator has to register first the teachers and Staff with a valid password and username, to proceed in applying and selecting choice of interests of the tasks that take place at school. This thus, helped in curving a number of loopholes that were in the old Student Registration practices.

Login Page

This is the page that authentcates users to the system. There are three user rights which include bursar, DOS and headmaster. They all have different panels of management. Provision of correct username and password redirects them to the correct panel otherwise denied access.
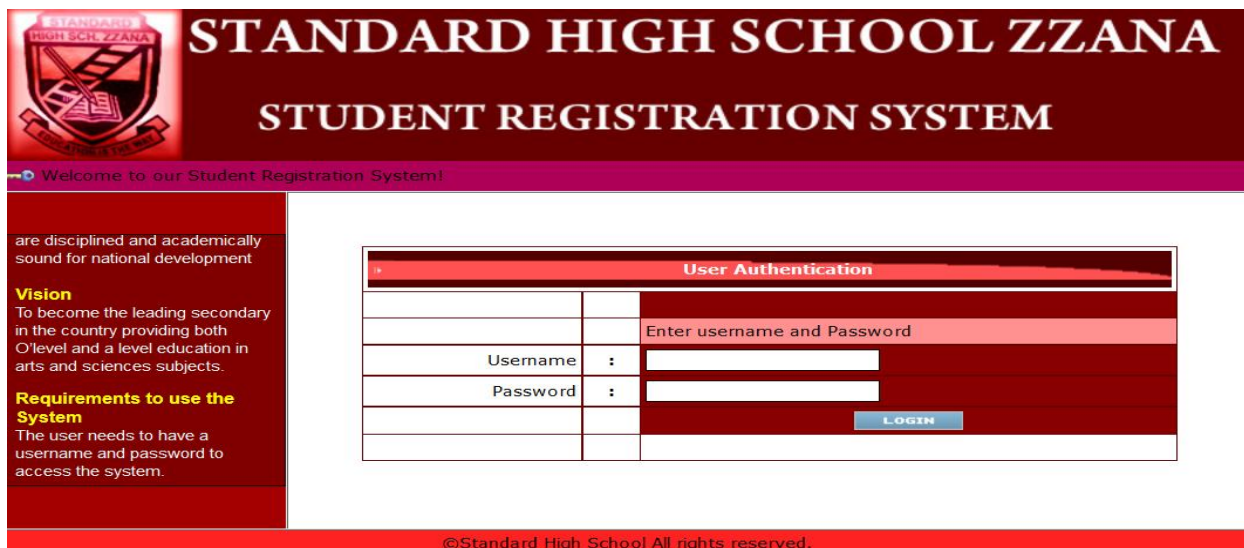
Figure 5.3: Login page

When a wrong password is entered the page below is displayed.

Headmaster Page

The Headmaster performs registering of staff members, checks for fees defaulters, students registered in the school, employee payment and can add new users to the system.

Figure 5.4: Headmaster page

Staff Entry details page

The information about staff is put down before they are allowed to begin teaching. Their records are stored in the database which can be viewed by the staff who can also delete them in case a staff member leaves the school.

Figure 5.5: Staff Records page

Staff Records Page

The entered records can be viewed in the appearance below.

Staff Records Report

SNO	Staff Name	Gender	Date of Birth	Class of Teaching	Joining Date	Nationality	Next of kin Name	Next of kin address	Next of kin contact	
SHZT1	mpanga moses	MALE	06-MAR-2013	S1A	06-MAR-2013	english	sumner	liverpool	123456789	DELETE
SHZT2	MR MUKIIBI WILLIAM	MALE	07-APR-1987	S2A	02-MAY-2005	UGANDAN	MISS NAKANJAKO BENA	ZANA - NYANAMA ROAD JAMBULA STAG	0775223344	DELETE
SHZT3	MISS BAGUMA DOREEN	FEMALE	04-JAN-1983	S3B	03-MAY-2006	UGANDAN	MR MUKASA BUULE	MAKINDYE - LUWAFU ZONE NAKINYUGU	0712334455	DELETE
SHZT4	MISS NALUBEGGA HAJARA	FEMALE	09-AUG-1991	S4A	11-JUN-2008	KENYAN	MISS NYAPENDI LINDA	KAWEMPE - KISOLO ZONE P.O BOX 12	0786456787	DELETE

Print Document

Export

Back to main page

Figure 5.6: Staff Records view page

Fees Payment Form
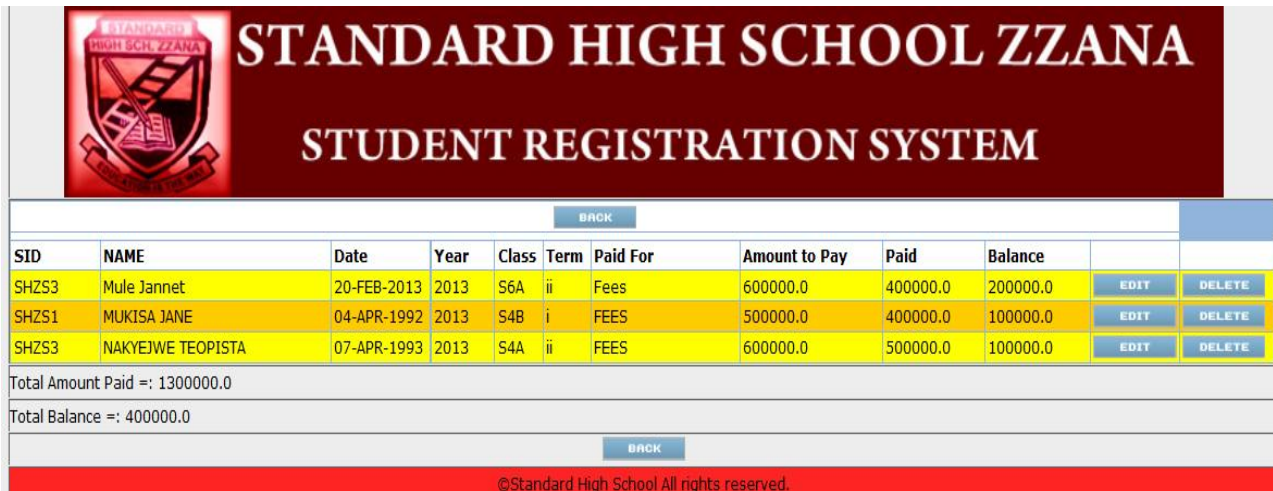
Payments made by a student are recorded by the bursar in the form displayed below.

Figure 5.7: Fees payment page

Fees View Page

The bursar can view the fees payments made by students in all classes or in a particular class.

SID	NAME	Date	Year	Class	Term	Paid For	Amount to Pay	Paid	Balance		
SHZS3	Mule Jannet	20-FEB-2013	2013	S6A	ii	Fees	600000.0	400000.0	200000.0	EDIT	DELETE
SHZS1	MUKISA JANE	04-APR-1992	2013	S4B	i	FEES	500000.0	400000.0	100000.0	EDIT	DELETE
SHZS3	NAKYEJWE TEOPISTA	07-APR-1993	2013	S4A	ii	FEES	600000.0	500000.0	100000.0	EDIT	DELETE
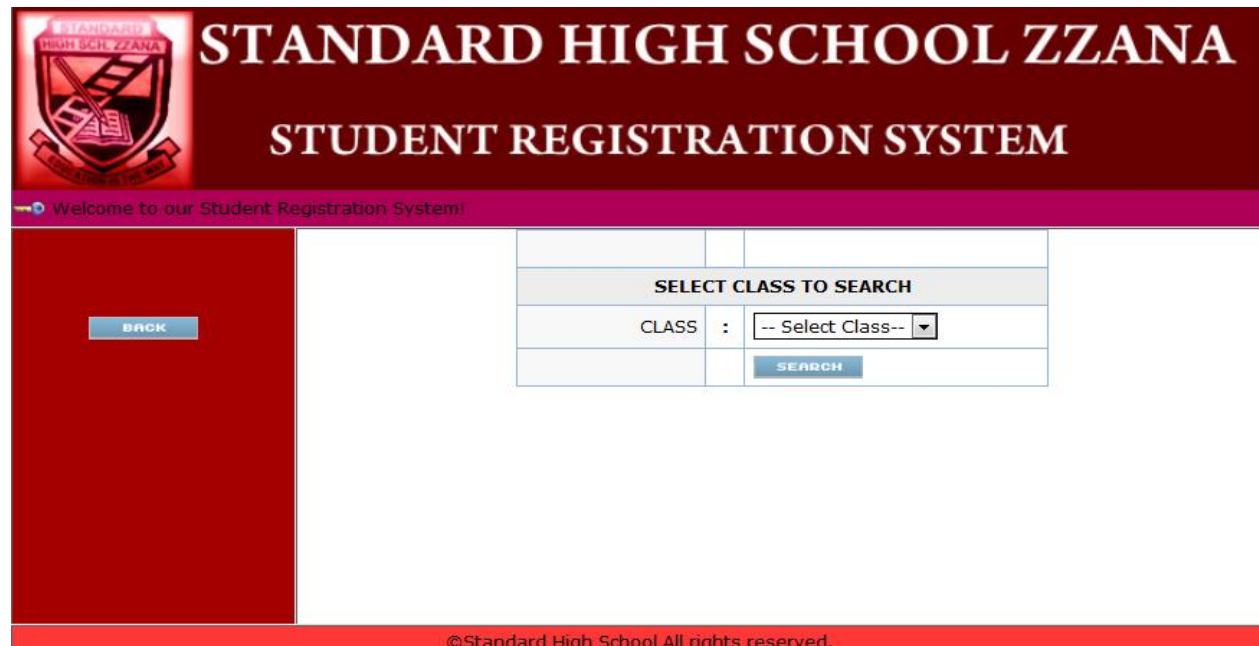
Total Amount Paid =: 1300000.0

Total Balance =: 400000.0

Figure 5.8: Fees View page

Search for Fees payment or defaulters in a particular Class

The bursar checks payments and defaults by selecting a particular class for checking.

Staff Page

The staff performs registration of Students and also checking their views.
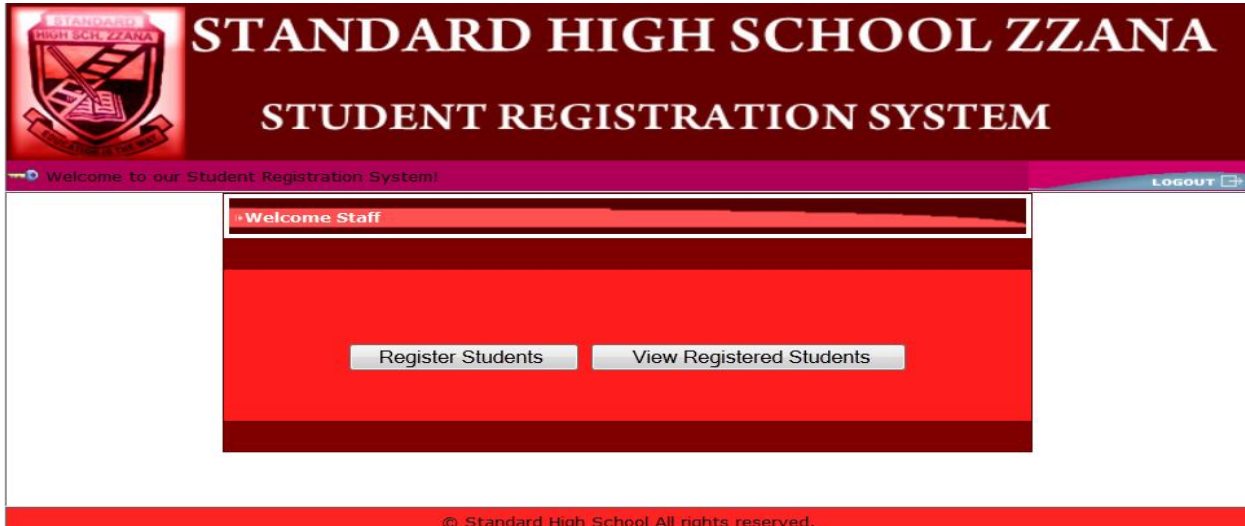
Figure 5.9: Staff Home page

Students Entry Form

The students' details are recorded in the format above

Figure 5.10: Student Record page

Student Record View Page

The records registered by DOS or any staff member can be viewed as below

Figure 5.11: Student Record View page

Bursar Form

The bursar performs financial billings of records at the school like staff payments for salary and allowances, payments of school dues by students, sending fees defaulters back home and also reporting all payments by exporting in excel sheet.

Figure 5.12: Bursar page

Chapter Six
Conclusions and Recommendations

6.1 Introduction

This section presents a conclusion to the project report highlighting in the summary the results and any recommendations from the project and way forward after its development.

6.2 Conclusion

The manual system used by the school was so inefficient, data retrieval was tedious a lot of misplacement within the records. Updates and correction of records was very time consuming, there was wear and tear of the different files and papers kept raising researcher's attention to identify a basic integrated computer based information system to solve the above problems and avoid misunderstanding and complaints from the stake holders the information system included proposing a data flow diagram to show how information should flow within the school and an integrated database was needed to help proper storage of the information within the school.

System objectives and their level of accomplishment

	Objective	Level of Completion
1	To clearly analyze the current system used by Standard High School- Zana to manage its data records.	This objective was highly achieved
2	To establish the requirements necessary for designing a computerized database system for Standard High School Zana.	Requirements were well established and the system was developed.
3	To design a student registration system for Standard High School Zana	A conceptual and technical design for the system was designed.
4	To develop a student registration system for Standard High School Zana	A computerized web based student registration system was developed using mysql, PHP, HTML, java scripts.

Table 7 objectives and level of accomplishment

6.3 Limitations

During the research, the following constraints were encountered and these include;

i.   Limited resources such as computers, storage devices like flash disks, software as wamp server these resources where limited and accessing them was quite hard

ii.   Limited time to complete the project this made the researcher strive to beat the dead line for the project estimated time.

iii.   The skill to design a systematic database using MYSQL was a little technical and also adopting to use PHP scripting language

6.4 Recommendations

The researcher found that the existing system was manual that all recording procedures were done manually hence the need for a computerized system that would help the school manage its records well. A computerized interface was developed using PHP scripting language, the researcher further recommended the integration of other database management technologies that enable mass storage of information. Training should be got or out sourced from competent firms dealing in lines of business.

A computer based information system was developed for the management to run their day to day activities. The implemented system helped solve the problems of information inconsistencies and loss. The researcher recommends that the system to be developed under web based platform to enable better communication between the school and parents. This can be achieved through developing a database while incorporating the latest internetworking technologies for instance local area networks.

After implementation the researcher discovered that the school did not have backup system and database securities hence recommending that there be development of backup security system to enable automatic back up of data by the backup set system set in place.

The backup system could be developed using modern backup and data recovery systems to avoid loss of data.

Antivirus should be in place to detect and often eliminate computer viruses from corrupting the information system.

Power stabilizing systems should be set up so that there would not be unnecessary loss of information in case of power insurgencies.

The researcher also recommended uses of modems to enable the school have internet access so that the school's information base is expanded.

The researcher recommended that the new system should be tested alongside other existing system to ensure that it runs smoothly to meet the purpose for which the users required it in case of no errors than system should be implemented.

6.5 Future researches:

1 How the system can further be improved in future

2. How the implemented information system has influenced the customer or user satisfaction.

3. The management of records on web based plat forms by organizations.

4. Staff collaboration and communication using technology

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Appendix

Appendix i Questionnaire

Questionnaire

Dear sir / madam,

I Luwandagga Bright a student of Makerere University business school, Department of Business Computing and Information Technology, carrying out a project on Student Registration system of schools would like to find out more about technology practices used in the Standard High School Zana. This project will be submitted to Makerere University Business School and will go a long way in improving and the management of the school works and administration. You are kindly requested to respond to the questionnaire and information provided will be treated with confidentiality and will only be used for the purpose of this project.

Put a tick in a box that corresponds with the answer of your choice and fill the blanks where applicable.

Gender

Male ☐   Female ☐

1. Will the Automated Student RegistrationSystem help you any where?

☐ Yes   ☐ No   ☐ Not applicable

2. How do you find the existing Student RegistrationSystem at the school?

☐ Good   ☐ Very good

☐ Bad   ☐ Not sure

4. Will it benefit the staff, of Standard High School Zana, students and parents?

☐ Yes   ☐ No   ☐ Not applicable

5. Is the file based (Manual) system of any problem?

☐ Yes   ☐ No   ☐ Not Applicable

6. Comment on the existing system

....

....

6. Comment on the newly designed system

....

....

Thank you so much for taking your time to fill this questionnaire.

Appendix ii: Interview

Interview Questions

1. Name of Respondent?

2. Position in the school?

3. How do you manage record handling in the different administration areas of Standard High School?

4. How do you find the current system of Record Management?

5. What problems do you face in the current system of Record Management?

6. How would you like to be helped in the improvement of Record Management?

7. Will the new system be of any importance to the school?

8. How do you like the system to operate to solve the Problems Addressed?

Appendix iii: Project Budget

A table showing the expenditures incurred in the process of doing the project.

Project Budget (in Ug shillings)

Transport to see Supervisor	100,000
Flash disk	50,000
External HDD	200,000
Printing	100,000
Typing	50,000
Binding	20,000
Stationary	30,000
Airtime	100,000
Allowances	300,000
Others	278,000
Total	1,228,000

Appendix iv: Work Plan

Task	Period				Outcome
	June	July	August	September	
Project Proposal	**2 weeks**				Proposal
Data collection	**1 week**				Information
Data Analysis of requirements		**1 week**			User Requirements
System Design		**2 weeks**			Design
System Implementation			**3 weeks**		Implementation
System Testing			**1 week**		Implementation
Project Report Submission				**1 week**	Report

Pseudo code

The Login code shows the authentication procedures that blocks the unauthorized persons using PHP scripting language

```php
<?php

session_start();

$_SESSION['id']=session_id();

$_SESSION['username']=$username;

$errorMessage = ";

if (isset($_POST["username"]) && isset($_POST["password"])) {

        // check if the username and password combination is correct

        //and exists in the database

        $username = $_POST["username"];

   $password = $_POST["password"];


//        session_register("userId");


        $eaconn = @mysql_connect("localhost","root","")

                                                or die("Could not connect to the database!");

        $eadb = @mysql_select_db("arms", $eaconn) or die ("Failed to find User name/password,Please contact
the administrator!");


        //create query to check n c if staff exists

        $finduser = "SELECT * FROM users

                                WHERE username = '$username'
```

```php
                                     AND password = '$password'";

        $result = @mysql_query($finduser, $eaconn)

                            or die ("User Login failed!" .mysql_error());




                    if (@mysql_num_rows($result) == 1) {

                                    // the username and password match,

                                    //open apporiate pages

                                    $row = mysql_fetch_array($result);

                                    if ($row["usertype"] == "Administrator"){

                                            // set the session

                                            $_SESSION['Administrator_is_logged_in'] = true;

                                            // after login we move to the main page

                                            header('Location: admin.php');

                                            exit;

                                    }



                        elseif($row["usertype"] == "Bursar"){

                                    // set the session



?>
```

Code for Inserting records in the database

```php
<?php
```

```php
          $host="localhost"; // Host name

$username="root"; // Mysql username

$password=""; // Mysql password

$db_name="arms"; // Database name

$tbl_name="fees"; // Table name



// Connect to server and select database.

mysql_connect("$host", "$username", "$password")or die("cannot connect");

mysql_select_db("$db_name")or die("cannot select DB");



// select record from mysql

$sql="SELECT * FROM $tbl_name";

$result=mysql_query($sql);



        <?php

$num=1;



while($rows=mysql_fetch_array($result)){

$num++;



// Use modulus by 2 in $num value and set the value of "$bg" if result equal 0 or not.

if(($num%2)!=0){

$bg="#FFCC00";

}else{
```

```php
$bg="#FFFF00";

}

?>


    <td ><?php echo $rows['sid']; ?></td>

    <td><?php echo $rows['name']; ?></td>

    <td><?php echo $rows['dat']; ?></td>

    <td ><?php echo $rows['year']; ?></td>

    <td ><?php echo $rows['class']; ?></td>

    <td ><?php echo $rows['term']; ?></td>

    <td ><?php echo $rows['payf']; ?></td>

    <td ><?php echo $rows['amount']; ?></td>

    <td ><?php echo $rows['balance']; ?></td>

    <td><a    href="pedit.php?sid=<?php   echo   $rows['sid'];   ?>"><img   src="images/buttons/button_edit.gif"
border="0"></a></td>

    <td><a   href="pdelete.php?sid=<?php   echo   $rows['sid'];   ?>"><img   src="images/buttons/button_delete.gif"
border="0"></a></td>

    </tr>

        <?php



// close while loop

}



// close connection;

mysql_close();
```

```
?>

    </table>     </td>

  </tr>

  <tr>

    <td height="22"><?php

$host="localhost"; // Host name

$username="root"; // Mysql username

$password=""; // Mysql password

$db_name="arms"; // Database name


// Connect to server and select database.

mysql_connect("$host", "$username", "$password")or die("cannot connect");

mysql_select_db("$db_name")or die("cannot select DB");


$man = "SELECT  SUM(amount) FROM fees ";


$result = mysql_query($man) or die(mysql_error());


// Print out result

while($row = mysql_fetch_array($result)){

        echo "Total Amount Paid =: ". $row['SUM(amount)'];

        echo "<br />";
```

```php
}?></td>

  </tr>

  <tr>

    <td height="22"><?php

$host="localhost"; // Host name

$username="root"; // Mysql username

$password=""; // Mysql password

$db_name="arms"; // Database name


// Connect to server and select database.

mysql_connect("$host", "$username", "$password")or die("cannot connect");

mysql_select_db("$db_name")or die("cannot select DB");


$man = "SELECT  SUM(balance) FROM fees ";

$result = mysql_query($man) or die(mysql_error());


// Print out result

while($row = mysql_fetch_array($result)){

        echo "Total Balance =: ". $row['SUM(balance)'];

        echo "<br />";

}?>
```