

**SCHOOL INCOME EXPENSE RECORDS MANAGEMENT
SYSTEM**

CASE STUDY: BUKALASI SECONDARY SCHOOL

By

KITALE IVAN NANGOLI

REG: BU/UP/2020/0692

Kitaleivan@gmail.com

0757405157/0776386248

**DEPARTMENT OF COMPUTER
FACULTY OF SCIENCE AND EDUCATION**

**A PROJECT REPORT SUBMITTED TO THE FACULTY OF SCIENCE FOR THE
STUDY LEADING TO A PROJECT IN PARTIAL FULFILLMENT OF THE
REQUIREMENTS FOR THE AWARD OF THE DEGREE OF
BACHELOR OF SCIENCE AND EDUCATION IN COMPUTER**

SUPERVISOR

DR. LUKYAMUZI ANDREW

DEPARTMENT OF COMPUTER

FACULTY OF SCIENCE, BUSITEMA UNIVERSITY

JANUARY 202

Declaration

MITRIE WAB NANGEL Reg. No. Buluwala 202010692 do hereby declare that this

Project Report has been done by me.

sign.....[Signature].....Date.....23/Jan/2024.....

Approval

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

Sign:

[Signature].....Date.....23/Jan/2024.....

DR. LUKYAMUZI ANDREW.

Dedication

I wish to dedicate all those who have supported my endeavors for the completion of this project report.

First and foremost, I thank the almighty God who has always been the shield from the time I was born up to date. Furthermore, appreciation goes to My supportive parents Mr. Wamboyo Nathan and Ms. Seera Alice who have always been willing to finance my education up to this level despite of all the circumstances. Not only but also my brothers; Kitale Wilson, Wandukwa Peter, Wambete Rogers and my sisters; Kalenda Irene, Nasaka Slyvia, Nandoto Lornah and Khwaka Lydia who have always encouraged me in my studies, lastly All my relatives, close friends, classmates for their help and guidance during my project.

Acknowledgement

I wish to show my sincere gratitude to those who facilitated me in the completion of this project report, through provision of a supportive environment; I thank everyone especially the MR Nandala Milton the head teacher of Bukalasi secondary school and his Staff for sparing their time and their willingness to provide me with the necessary information that laid for the foundation to start my project in line with the school needs. My special regards go to my supervisor DR. Lukyamuzi Andrew for being my mentor with guidance during this project report. In the same way am thankful to the whole computer department members for being the light of my success toward the completion of this project. Above all I thank everyone for making my stay here worthwhile. I am forever grateful.

Contents

DECLARATION.....	ERROR! BOOKMARK NOT DEFINED.
APPROVAL	ERROR! BOOKMARK NOT DEFINED.
DEDICATION.....	III
ACKNOWLEDGEMENT.....	IV
LIST OF TABLES.....	VIII
LIST OF FIGURES.....	IX
LIST OF ABBREVIATIONS.....	X
ABSTRACT.....	XI
CHAPTER 1 : INTRODUCTION.	1
1.1 BACKGROUND OF THE STUDY.....	2
1.2 PROBLEM STATEMENT	3
1.3 GENERAL OBJECTIVE	3
1.3.1 Specific Objectives.....	3
1.4 SIGNIFICANCE OF THE STUDY.....	4
1.5 SCOPE OF THE STUDY	4
CHAPTER 2 : LITERATURE REVIEW	5
2.0 INTRODUCTION.....	5
2.1 RECORDS MANAGEMENT INFORMATION SYSTEM. (RMIS).....	6
2.1.1 Records.....	6
2.2 RECORDS MANAGEMENT. (RM)	6
2.3 NEEDS FOR THE DESIGN OF AN AUTOMATED INCOME EXPENSE RECORDS SYSTEM.....	7
2.4 DESIGNING OF AN INCOME EXPENSE RECORDS MANAGEMENT SYSTEM.....	7
2.5 THE ROLE OF ICT IN IMPROVING MANAGEMENT OF RECORDS.....	7
2.6 INCOME EXPENSE SYSTEMS.....	8
2.7 IN CONCLUSION	10
CHAPTER 3 : METHODOLOGY	11
3.1 INTRODUCTION	11
3.1.1 Area of study	11
3.1.2 Study population.....	11
3.1.3 Sample size	11
3.2 DATA COLLECTION TOOLS.....	11
3.2.1 Interviews	11
3.2.2 Questionnaires	12
3.2.3 Document Review	12
3.3 DATA ANALYSIS.....	12

3.4 SYSTEM ANALYSIS	12
3.5 SYSTEM DESIGN	13
3.5.1 Logical design.....	13
3.5.2 Physical design	13
3.5.3 Input.....	13
3.5.4 Output	13
3.6 SYSTEM TESTING AND VALIDATING	14
3.7 SYSTEM IMPLEMENTATION	14
CHAPTER 4 : SYSTEM ANALYSIS AND DESIGN.	15
4.1 INTRODUCTION	15
4.2 ANALYSIS OF THE EXISTING SYSTEM	15
4.2.1 Data flow Diagram of the current system.....	15
4.2.2 Weaknesses of the existing system.....	16
4.3 THE DESIGNED SYSTEM	16
4.3.1 User Requirements	17
4.3.2 System requirements.....	17
4.3.3 Minimum Hardware and Software Requirements	18
4.4 SYSTEM DESIGN	19
4.4.1 The context diagram of the new developed.....	19
4.4.2 Data flow Diagram of the new system	20
4.4.3 Use case diagram	21
4.4.4 Entity Relationship Diagram	22
CHAPTER 5 : PRESENTATION OF RESULT/FINDINGS	23
5.1 INTRODUCTION	23
5.2 SYSTEM FUNCTIONALITY	23
5.2.1 Login page	23
5.2.2 Home page.....	24
5.2.3 Dashboard.....	24
5.2.4 Income Management.	25
5.2.5 Expense Management.....	25
5.2.6 Reports.....	26
5.2.7 Category List	27
5.2.8 Settings page.....	27
CHAPTER 6 : DISCUSSIONS, CONCLUSION, FUTURE WORK AND RECOMMENDATIONS	28
6.0 INTRODUCTION.	28
6.1 DISCUSSIONS	28
6.2 CONCLUSION	28
6.3 FUTURE WORK	29
6.4 RECOMMENDATIONS	29

REFERENCES:	30
APPENDIX	31

List of Tables

Table 1: System user and their requirements.

Table 2: Hardware requirements.

Table 3: Software Requirements.

List of Figures

Figure 1: Data flow Diagram of the current system.

Figure 2 : The system Architecture.

Figure 3: The context diagram of the new developed system.

Figure 4: Data flow Diagram of the new system.

Figure 5: use case diagram of the new system.

Figure 6: Entity Relationship Diagram.

Figure 7: Screen shot for the Login page.

Figure 8: Screen shot for the Home page.

Figure 9: Screen shot for the Dashboard.

Figure 10: Screen shot for the Income Management.

Figure 11: Screen shot for the Expense Management.

Figure 12: Screen shot for the Expense report.

Figure 13: Screen shot for the Income report.

Figure 14: Screen shot for the Category List.

Figure 15: Screen shot for the Settings page.

List of Abbreviations

BSIEMS:	Bukalasi Secondary School Income and Expense Management System.
RMIS:	Records Management Information System.
RM:	Records Management.
SDLC:	System Development Life Cycle
ICT:	Information and communication technology
DFD:	Data Flow Diagram.
ERD:	Entity Relationship Diagram.
HTML:	Hypertext Makeup Language.
PHP:	Hypertext Preprocessor.
CSS:	Cascade style sheet.
FK:	Foreign Key.
PK:	Primary Key.
Id:	Identification.
RAM:	Random Accessing Memory

Abstract.

Income Expense Records management system is a software application that helps individuals, institutions and businesses to manage their records. The system can track expenses, income and generate reports, and provide alerts on the expenditure for appropriate planning. Income and expense records in schools play a crucial role in financial management and accountability.

These records provide valuable information about the financial health of educational institutions, allowing administrators to make informed decisions regarding budgeting, resource allocation, and planning for the future. Rather than using ledger books/paper sheets to keep income and expense data manually, Records are captured electronically into a database which makes it easier and manageable for retrieval.

The study was carried out at Bukalasi secondary school in Eastern region in Bududa district and finally came up with school income and expense records management system that aid management in automatic keeping of financial records of the school.

The major objective of the study was to develop Income Expense Records Management system. (IERMS) for Bukalasi Secondary School that would aid Management to automatically capture and manage daily expense and Income records with the specific objectives that's investigating and collecting requirements for the new system, design, implement and test the system.

Keywords- user account, add income, add expense, add category, filter data, view income and expense reports, print income and expense reports, delete/edit records.

CHAPTER 1 : INTRODUCTION.

Income Expense Records management system is a software application that helps individuals, organizations and businesses to manage their records. The system can track expenses, income and generate reports, and provide alerts on the expenditure for appropriate planning. Income and expense records in schools play a crucial role in financial management and accountability. These records provide valuable information about the financial health of educational institutions, allowing administrators to make informed decisions regarding budgeting, resource allocation, and planning for the future.(Ainsworth. , 2017)

Income Expense management software analyzes overall expenses, identifies cost-saving opportunities, and controls excessive spending. “Expense Tracker” is developed to manage the daily expenses in a more efficient and manageable way Thus by using this web based income expense records management system can benefit from ease access of information on the website, with a secure backend database system that manages records.

According to (Odden & Picus, 2008) .In this book, the authors discuss the various aspects of school finance, including budgeting, accounting, and financial management. They mention that in the past, schools used manual methods such as ledgers and journals to record their income and expenses.

For a Good Education system relies on good record keeping. Without accurate, comprehensive, up to date and accessible financial tracking details, the education system cannot keep an eye on their expenditure. Good records care also ensures the Education administration operates smoothly; unneeded records are transferred or destroyed regularly, keeping storage areas clear and accessible; and key records can be found quickly, thus saving time and resources utilization. Records also provide evidence of the school accountability for its actions and they form a key source of data for Educational research, statistical reports and school information, the school without these records cannot run effectively the activities so as to archive the expected goals.

Bukalasi Secondary School is a government Aided school located in Bududa district in the Eastern Region about 16KM East of the district. It is a day school which has both O and A Level with the total population enrollment of over 600 students and of which 575 students are in ordinary level and 25 students in Advanced level. It is found in Bukalasi ward in lutseshe constituency with the

following number of facilities that's Physical classrooms 9, number of laboratories 3 that is computer lab, chemistry lab, physics lab, 1 library. It started by the community members in the early of 1990s and later was taken by the government and It is protestants church founded school.

1.1 Background of the Study

The emergence of formal education systems and the need for financial accountability. Throughout the history, schools and other educational institutions have required effective management of their financial resources to ensure transparency, budget control, and efficient allocation of funds. In the past, income and expense records were often managed manually using paper-based systems. As technology advanced, computerized systems and software applications were developed to streamline the process and improve accuracy. This transition from manual to digital systems has had a profound impact on the management of financial records in schools. (Ainsworth. , 2017)

The importance of income and expense records management in schools can be seen in the development of accounting principles and practices. Accounting methodologies, such as double-entry bookkeeping, have been used for centuries to track income, expenses, and financial transactions. These principles have evolved over time and have been adapted to suit the specific needs of educational institutions.

Additionally, historical events and changes in educational policies have influenced the way income and expense records are managed in schools. For example, the introduction of government funding for education and the implementation of new regulations have increased the complexity of financial management in schools. Schools are now required to maintain accurate and detailed records to comply with legal and regulatory requirements. (Janackovic, 2020)

Moreover, because tracking sheets are manually recorded and also prone to errors. This traditional method that involves the use of sheets of paper or books in tracking of expenses gives inappropriate results for the planning of the future and the tracking sheets or books can get lost or fade if kept long time hence there is need to develop computer based system that would eliminate all this trouble spots in managing income and expenses thus Income Expense records management system is the needed solution which the best practice to work with.

1.2 Problem Statement

In everyday life, money plays an important role. Educational organizations that cannot manage their expenses cannot successfully lead to fulfill their goals. In the current world where mobile phones and laptops have become a part of living.

The problem facing Bukalasi Secondary School generally keep track of all their financial status through the traditional use of pen and paper method and this lead to the miss match of their expenditures and may even miss some bills. Moreover, because tracking sheets are manually recorded and also prone to errors. The traditional method that involves the use of sheets of paper or books in tracking of income and expenses gives inappropriate results in planning for the future and in addition the tracking sheets can get lost or fade if kept for long time. Tracking of income and expense manually is time consuming and it makes it difficult to track the financial status of the school throughout the month or the year as well as the term and thus inappropriate planning. Bukalasi Secondary School in their daily life try to maintain their financial standards, in order to save money and use it for further activities. Therefore in order to simplify their work and help them to save money and track their expenses and income as a result of rapid development of costs and expenses that calls for the system that will try to help the School to save and streamline their financial status thus there is need to develop computer based system that would eliminate all this trouble spots in managing expenses and income hence school Income Expense records management system is the needed solution which is the best practice to work within at Bukalasi Secondary School in Bududa district.

1.3 General Objective

To develop Income Expense Records Management system for Bukalasi Secondary School that would aid Management to automate, capture and manage daily expense and Income records.

1.3.1 Specific Objectives

The purposes of Incomes Expense Records management system to automate the process of tracking Income and Expenses in the daily life situation, with the following objectives:

- i. To investigate and collect the requirements necessary for designing of an Automated Income Expense Records Management System.
- ii. To Design an Automated Income Expense Records Management System.

- iii. To Implement the designed system.
- iv. To Test and validate the effectiveness of the designed system.

1.4 Significance of the Study.

The significance of this project aims at generating the following outcomes;

- ✓ Income and expense records management system allows Bukalasi secondary school to track and record their financial transactions accurately, enables clear understanding of their financial situations and make informed decision regarding budgeting, resource allocation, financial planning, time and cost saving.
- ✓ Income and expense records management system can be used by all schools who has the same needs to gain access of similar benefits for effective financial management.
- ✓ Income and expense records management system will valuably contribute for long term research.

1.5 Scope of the Study

The scope of a school income expense record management system encompasses various aspects related to the financial management of educational institutions. This system is designed to efficiently and accurately record, track, and manage the income and expenses of a school. It plays a crucial role in ensuring transparency, accountability, and effective financial decision-making within the school. The study was carried out at Bukalasi Secondary School located in the East of Bududa district, Bukalasi sub-county in Bukalasi word. The project started from July of 2023 to late January of 2024 and covers the following areas which include;

Income Management: This aspect involves recording and managing all sources of income for the school, such as tuition fees, donations, grants, and other revenue streams.

Expense Management: The system facilitates the recording and tracking of all expenses incurred by the school, including salaries, utilities, supplies, maintenance costs, and other operational expenses.

Financial Reporting: The system generates accurate financial reports that provide a clear overview of the school's financial health. These reports may include income and expense statements

User-Friendly Interfaces: The system have an intuitive and user-friendly interface that is easy to navigate for both administrators and staff members. This ensures that users can quickly input and retrieve financial data without requiring extensive training.

CHAPTER 2 : LITERATURE REVIEW

2.0 INTRODUCTION.

Expense tracking records management systems are essential tools for individuals and institutions to effectively monitor and manage their expenses. These systems provide a centralized platform for recording, categorizing, and analyzing financial transactions, enabling users to gain insights into their spending patterns and make informed financial decisions. In this literature review explore the topic of expense tracking records management systems by citing various authors who have contributed to the understanding and development of these systems.

According to (Doe, 2015) article focuses on the significance of expense tracking in personal finance management. He emphasizes the role of expense tracking records management systems in helping individuals gain control over their finances and achieve their financial goals. The article discusses the benefits of using such systems, including improved budgeting, identification of unnecessary expenses, and increased savings. Doe also provides practical tips for implementing an effective expense tracking system.

Also (Smith, 2017) research paper delves into the design considerations for expense tracking records management systems specifically tailored for small businesses. The article highlights the unique challenges faced by small businesses in managing their expenses and proposes a framework for developing an efficient system. Smith discusses the importance of customization options, integration with accounting software, and user-friendly interfaces in ensuring the usability and effectiveness of such systems. The paper also presents case studies of successful implementations in small businesses.

According to (Johnson, 2019) article explores the integration of artificial intelligence (AI) technologies in expense tracking records management systems. The paper discusses how AI can enhance the accuracy and efficiency of expense categorization, automate data entry, and provide intelligent insights into spending patterns. Johnson also addresses the potential challenges and ethical considerations associated with AI implementation in these systems. The article provides a comprehensive overview of the current state of AI in expense tracking records management systems and offers insights into future developments.

2.1 Records Management Information System. (RMIS)

2.1.1 Records

A record is "information created, received, and maintained as evidence by a person or organization in furtherance of legal obligations or in the transaction of business."

According to the International Committee on Archives (CIA) and Electronic Records, particular information that is generated, gathered, or received during the planning, execution, or conclusion of an action and that contains enough content, context, or structure to serve as proof or evidence of that activity.

Although a paper is frequently firmly associated with the idea of a record, a record can also be a tangible item or digital data that is valuable to an organization. Birth certificates, x-rays from the hospital, office documents, database and application data, and e-mail are only a few instances of records.

2.2 Records Management. (RM)

Records Management is the practice of identifying, classifying, archiving, and preserving. Records management activities include the creation, receipt, Maintenance, use and disposal of records. In this context, a record is content that documents a business transaction. Documentation may exist in contracts, memos, paper files, electronic files, reports, emails, videos, instant message logs or database records. Paper records may be stored in physical boxes on premises or at a storage facility. Digital records may be stored on storage media in-house or in the cloud. The goal of records management is to help an organization keep the necessary documentations accessible for both business operations and compliance audits.

According to (Gunnlaugsdottir, (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.

2.3 Needs for the design of an automated income expense records System

Schools generate income from various sources, and it is essential to record and track each revenue stream separately. This calls for a comprehensive understanding of the financial inflows and facilitates for effective financial planning. (Odden & Picus, 2008)

The process of designing an automated income expense records system requires careful consideration of various needs such as accuracy, ease of use, data security, flexibility, reporting and analysis capabilities, integration with other systems, scalability, and audit trail functionality.

2.4 Designing of an Income Expense Records Management System

School income Expense Tracking Records Management system needs these criteria;

The system provides complete and accurate tracking of income and expenditure data and make provision for maintaining records.

The system includes Security and Access Control such as financial data and protects unauthorized access. The system has robust security measures in place, including user authentication.

The system provides Reporting and Analysis that is the system generate various financial reports, such as income statements, cash flow statements, and budget variance reports. These reports provide a clear overview of the school's financial health and help in making informed decisions.

Additionally, the system allows for custom reporting and analysis based on specific requirements A daily log is generated and maintained by the system that include sufficient information to ascertain when and by who is to enter data, change, or delete data.

2.5 The Role of ICT in improving management of records.

ICTs have revolutionized the record keeping landscape. They are transforming record keeping from its seemingly dusty back office to a clean front office. Where these technologies are used well, the speed and efficiency in record retrieval and access have improved tremendously. This improved access is essential in promoting transparency and arguably bolstering organizational governance. Communication between members of an organization and between the organization and members of the general public has improved due to the use of modern technology.

Organizations are able to interact with their stakeholders including getting rapid feedback through the use of these technologies. Of even greater significance, digital technologies create digital records, which must be managed if they are to survive and be accessible through time. Digital records may be born digital, that is created using computer technology, or they may have been converted into digital form from their original format such as scans of paper documents.

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.

According to (Laudon, 2020) discussed the role of IT in improving record management is significant and multifaceted. IT systems and technologies enable organizations to efficiently store, process and access large volume of data.

There can be many disadvantages of using a manual accounting system. Accounting, for any business, can be a complex undertaking. A manual accounting system requires you to understand the accounting process in a way that may be unnecessary with a computerized accounting system. This can be an advantage or a disadvantage, depending on the person doing the book keeping; often, a specially trained professional is needed to ensure that accounting is done properly. Unraveling the complexity of your financial records by hand may be time consuming. Since it takes time to generate reports according to (Prados J, 2005)

However, there are several advantages to computerization, including:

- ✓ Efficient data storage and retrieval.
- ✓ Enhance data accuracy and integrity.
- ✓ Streamline workflow and processes.
- ✓ Improved data analysis and reporting
- ✓ Enhance security and compliance.

2.6 Income Expense systems

According to Charles E. Ballou et al. emphasize the importance of adhering to legal requirements when maintaining income and expense records in schools. They highlight that accurate record-keeping is crucial for complying with state laws, federal regulations (such as the U.S. Internal

Revenue Code), and generally accepted accounting principles (GAAP) or international financial reporting standards (IFRS).

Since computers started to be used in schools, numerous researchers have conducted numerous studies to find ways to make it easier to track Income and Expense using the existing technology. According (P. Thanapal, 2014) proposed an expense tracker to prevent having to calculate income and expenses, as well as to remind someone to keep their expenses in track and also to add some details on how much money comes from other people and what expenses or payments the user have to make on a given date or month, User have categories in the expenditure tracker such as add expense, monthly expenses, add new expense, see categories of spending, export expenses in a date range, remove export files, and view expenses by category. How in their system they did not include in provision for generating the report (S. Chandini, T. P., D. Ranjith 2019)also proposed an expense tracker that will maintain all the expenses record of users and manage them efficiently. The user can choose an expense category and provide additional information such as a photo, a location, and the amount of the expense, among other things. This will save the information to the local database. The user can examine and sort expenses on a weekly, monthly, or annual basis. By utilizing this, they reduced the quantity of manual calculations for their expenses and maintain track of their spending. The user can enter his income to compute his total daily expenses, and the data will be saved for each individual user. This tracker could be useful for people who frequently go on trips or to the theatre with their buddies. This tracker made it easier for them to disburse the bill.

(Y. Anitha, S. Gomathi 2016) proposed "Income and Expense Tracker System designed to overcome the limitations of the current manual income and expense tracking system. This system aims to minimize manual calculations and improve accuracy and efficiency by automating the process of income and expense tracking. The proposed system requires users to register and obtain an ID, which is used to maintain individual records of income and expenses.

2.7 In conclusion

Tracking expenses on a daily basis is important for both saving money and setting financial goals. By monitoring where the school money is going each term, it becomes easier to identify areas where the school can cut back and make compromises to save more money. The school income expense tracker project developed is more efficient tool in the market, as it eliminates the need for manual calculation of income and expense data each month. The project effectively keeps away from the manual figuring for trying not to ascertain the pay and cost each month. It's a user-friendly application.

The School Income Expense Records Management system includes various modules, each of which is developed in efficiently and attractively to display relevant information.

The system eliminates sticky note, spreadsheet and ledger book that cause confusions, data inconsistency problems. With this system the school can manage their expenses more effectively. The addition certain features to the system can make it more useful to the school to keep track of the financial status which are not included in the literature I have viewed. Some of the extra features like notification feature is enabled in case when the expenses cross over the income generated by the user to warn him or her about the situation. Additional feature of Expense and income prediction helps to better plan of the management and also making summary report is included in the system.

CHAPTER 3 : METHODOLOGY

3.1 INTRODUCTION

This section involves the steps, procedures and techniques that are used to collect, store, analyze and Present information. A formal method of system development and system development life cycle (SDLC) are used in the design and construction of the system.

3.1.1 Area of study

The study was conducted at Bukalasi Secondary School in Bukalasi Sub County in Bududa district in the Eastern Region.

3.1.2 Study population

The study population comprised of Administration staff of Bukalasi secondary school

3.1.3 Sample size

A suitable sample frame from the target population was chosen; a sample size of 3 administrative staff and 5 staff teachers) where selected and then divided into two (2) non repeating groups (strata) and the researcher was able to use this sample. The individuals chosen where subjected to data collection tools like questionnaires and interviews.

3.2 Data collection tools

The following tools where employed to gather and collect the necessary data requirements for the design of the system.

3.2.1 Interviews

The researcher conducted face-to- face interviews with the stake holders. An interview schedule was drawn and guiding questions where prepared as tools to collect data. The interviews were conducted on the strata formed, that is; administrators. With this method, a researcher was able to achieve objective (i) which was to investigate and collect the requirements necessary for designing

of an Automated Income Expense Records Management System. The Interview method is chosen because it's reliable, accurate and gives satisfactory results.

3.2.2 Questionnaires

Questionnaires was designed basing on the sample size and then distributed to respective individuals i.e. in the chosen sample for answering. With the responses made in line with interview.

This is to collect requirements for the design of a new system. This method is chosen because it gives more detailed and context related information, it permits collection of information on facts and it permits tests of the reliability of the responses because questions are logically set.

3.2.3 Document Review

A number of documents are reviewed including tracking books for budgets, expenses so as to discover where improvement is necessary. This method was chosen because of its Inexpensiveness whereby the data was already there, it permits examination of trends over the past and there are few biases about information.

3.3 Data analysis

After the interviews was carried out together with questionnaires and interview guides, the data collected from the field was entered in an Analysis tool (excel) and thereafter coding was done to represent descriptive data in terms of numbers.

After data is coded and errors corrected, analysis was done. Thereafter, conclusions and system specifications are made based on the outcome of data analysis.

3.4 System analysis

At this stage the following tools where employed to analyze the system. Data Flow Diagrams (DFDs) was used in modeling of information in the proposed system and showing the movement of information from one point to another. Additionally, under DFDs, the Context Diagram was also used to show the system under consideration as a single high-level process and then the

relationship that the system has with other external entities (systems, organizational groups, external data stores).

Entity Relationship Diagrams (ERDs) was used to show the relationships between different entities and their associated attributes in the system.

3.5 System Design

The system was designed basing on windows environment. Microsoft visual basic 2005 was used to design the user interfaces (front end) and a database for storing data there after a logical connection was established. The design used the following languages such as HTML, PHP, CSS, Java script and bootstrap. At the same time test plan was prepared, test plan describes the various tests which was carried out on the system after completion of development thus achieving objective (ii) which is to design a new computerized system. System design was done in two different levels, that is, logical and physical designs.

3.5.1 Logical design

This pertains to an abstract representation of the data flows; model of the actual system. Under the logical design, sequence diagrams where used to show the interactions between the users and system.

3.5.2 Physical design

The physical design relates to the actual input and output processes of the system. This was laid down in terms of how data is input into the system, how it is verified /authenticated, processed, and how it is displayed as output.

3.5.3 Input

At this stage, system interface (data entry user input) forms and database was designed using visual basic 2005 and thereafter a logical connection was made.

3.5.4 Output

Systems out puts are in form of structured data like reports that are retrieved from the system database basing on the criteria set.

3.6 System Testing and Validating

Testing was carried out at each phase to identify errors and keep track of the changes made to the system.

This was done after system design where Code generation conversion of the design into machine readable form. A researcher was able to achieve objective (iv)

3.7 System Implementation

System implementation was achieved using visual basic 2005 for data entry interfaces and database. After a successful testing and validation, if the system designed has made the set requirements then it was recommended for implementation. A researcher was able to achieve objective (iii)

CHAPTER 4 : SYSTEM ANALYSIS AND DESIGN.

4.1 Introduction

This chapter presents the analysis, design of the new system, data flow, processing and output in the new computerized management system.

4.2 Analysis of The Existing System

At Bukalasi secondary school every costs are recorded in the ledger book or paper sheets every time the school spends. This is usually done in the bursar`s office thereafter those records are kept. Manual computation is sometimes done to establish the frequency of how the school maintain its finances but, in most case, the whole exercise does not hold much bearing on the financial standards of the school.

4.2.1 Data flow Diagram of the current system

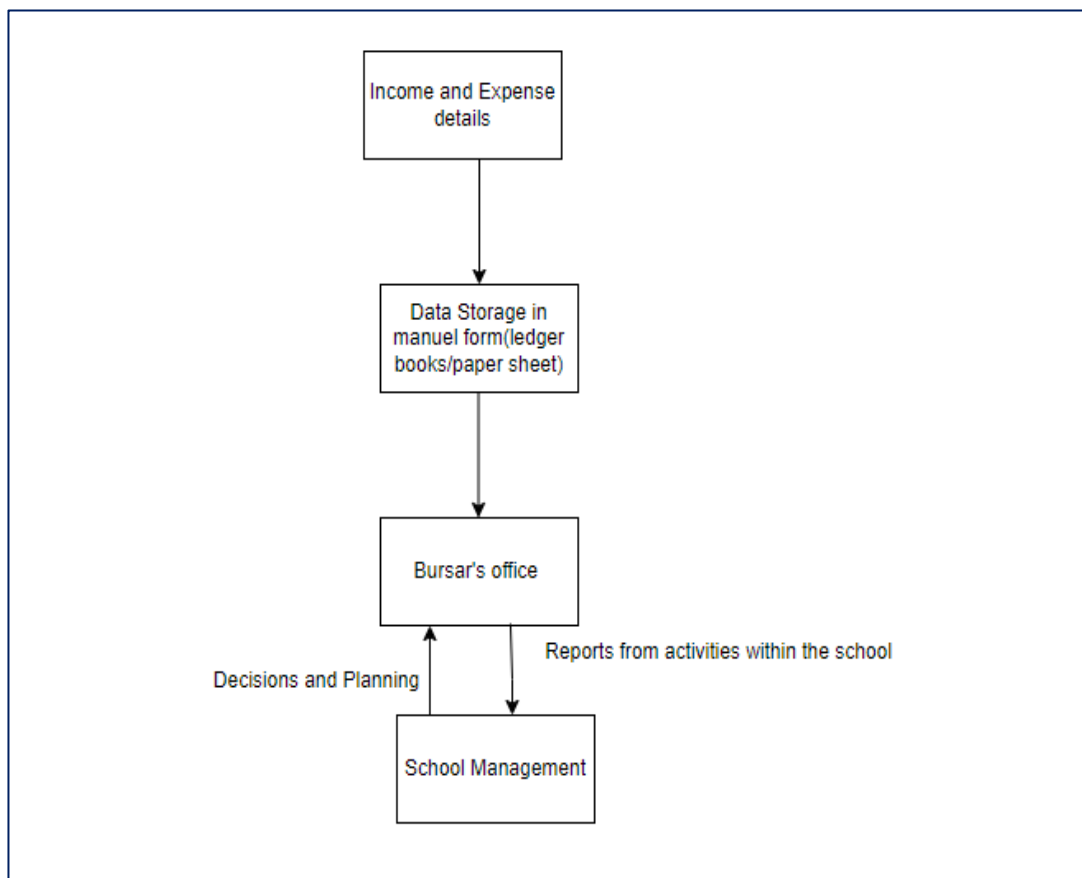


Figure 3: Data flow Diagram of the current system

4.2.2 Weaknesses of the existing system.

- The paper files or ledger books occupy a lot of space as more of financial records are kept, more space becomes required and searching data from the files or ledger books is difficult and constant usage of those files or ledger books wears them out hence loss of the important data.
- There is much time and labor wasted in recording every expense and income that is allocated on a particular activity within the school.
- Generation of the overall reports is tedious because of the information stored in different ledger books or paper sheets in the files. Hence filtering out the required information in order to come up with the final reports is extremely hard.
- The existing manual system is insecure because an unauthorized person may locate a file or a ledger book and can make out modification on the data without permission.
- In the current manual system, it is hard to back up copies of data in case of natural hazards like fire break down, floods, and earthquake. This may result in complete loss of important information.

4.3 The designed system

- The designed system is a computerized system where all information about school income and expense records are captured and stored electronically in a computer.
- It eliminates any paper work, any activity to be done on the stored information like modification, retrieval and generation of reports is automatically done. The main difference between the old system and the new computerized system is that data capturing and processing is computerized and that computers are used instead of papers and ledger books
- It requires less storage space.
- Filtering of the required information for purpose of financial analysis is much easier
- It is also much more efficient since it can generate and prints reports within minimum time and with minimal errors.

4.3.1 User Requirements

The staffs in charge of managing finances of the school are the primary users of the system. Each user is required to have the username and password that is verified first before gaining access into the system. Depending on their level of privileges, they perform different activities as follows:

Administrator users (adds records, views all the information, makes modification, deletes records, prints the report and views all the reports, managing user accounts).

Limited users (Prints the reports, view all the information, and view reports)

The table summery the system users and responsibilities of the designed system

System users	summery	requirements
Administrator user	Has all the privileges into the system	adds records, views all the information, makes modification, deletes records, prints the report and views all the reports, managing user accounts
Limited users	Has some privileges	Prints the reports, view all the information, and view reports

Table 2: System user and their requirements.

4.3.2 System requirements

These requirements are classified as functional and non-functional requirements.

a) Functional requirements

These are specific functions or tasks or behaviors the system must support. They include the following: -

- The system should allow the management of income and expense of finances within the school and store a particular detail of the activities
- It should enable management to view and search a particular information within a short time

- It should authenticate users
- Ability for the user to update and save information about the school financial status. Therefore, the system shall have the ability to permanently save data into the database.
- The system shall be able to generate necessary reports on income and expense of the school.

b) Non-functional requirement

The system should be able to authenticate user and provide for different levels of access to avoid unauthorized access. In other words, it should retrieve information very fast.

The system should be adaptable by users to learn and use with dynamic access of information by both skilled and unskilled users.

The system should be cost effective with more less effect on its implementation and maintenance.

The system should be portable and light in order not to affect the throughput.

4.3.3 Minimum Hardware and Software Requirements

Hardware requirement

Hardware	Minimum system requirement
Processor	Intel Pentium, Intel Celeron
Cycle speed	100Mz
Display monitor	1366 X 768
Memory/RAM	1GB RAM
Hard disk space	110GB

Table 2: Hardware requirements

Software Requirements

Software	Minimum Software Requirements
Operating system	Windows 2010/7
Database Management System	MSQL

Table 3: Software Requirements

4.4 System Design

System design provides the detailed overview of how the system will meet the information requirements established in the system analysis. From the study it was found out that it is necessary to create a central database that contains information about all processes of school income and expense records so as to keep track of the financial status of the school activities. The users of the system will browse bssieme.com into the web browser so as to access the login page which allows the user feed in the correct credinetials to be authenticated to access the system. The users can now perform their task depending on their level of privileges into the system and information is stored in the central database as shown in the system architecture below.

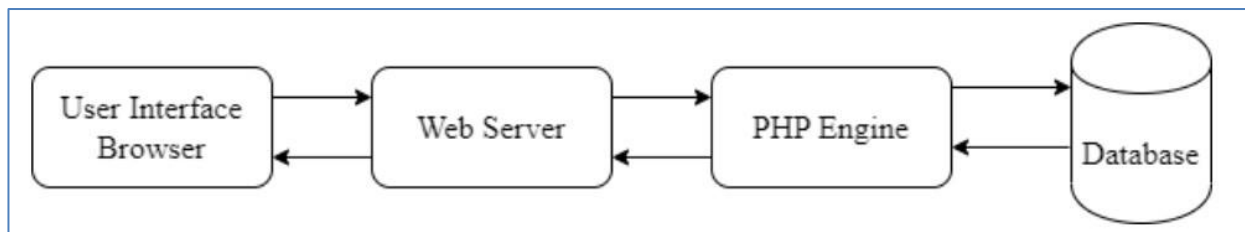


Figure 4 : The system architecture.

4.4.1 The context diagram of the new developed system

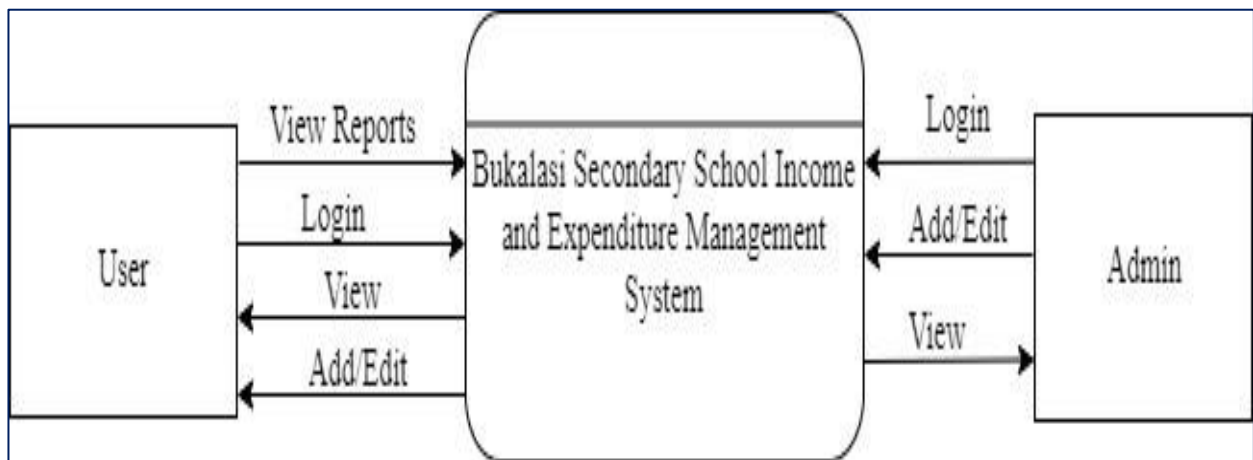


Figure 3: The context diagram of the new developed system

4.4.2 Data flow Diagram of the new system

In this area, Each process is explained briefly that is inputs conditions, output and data stores associated with each process. The functionality of the system is based on the processes as illustrated below.

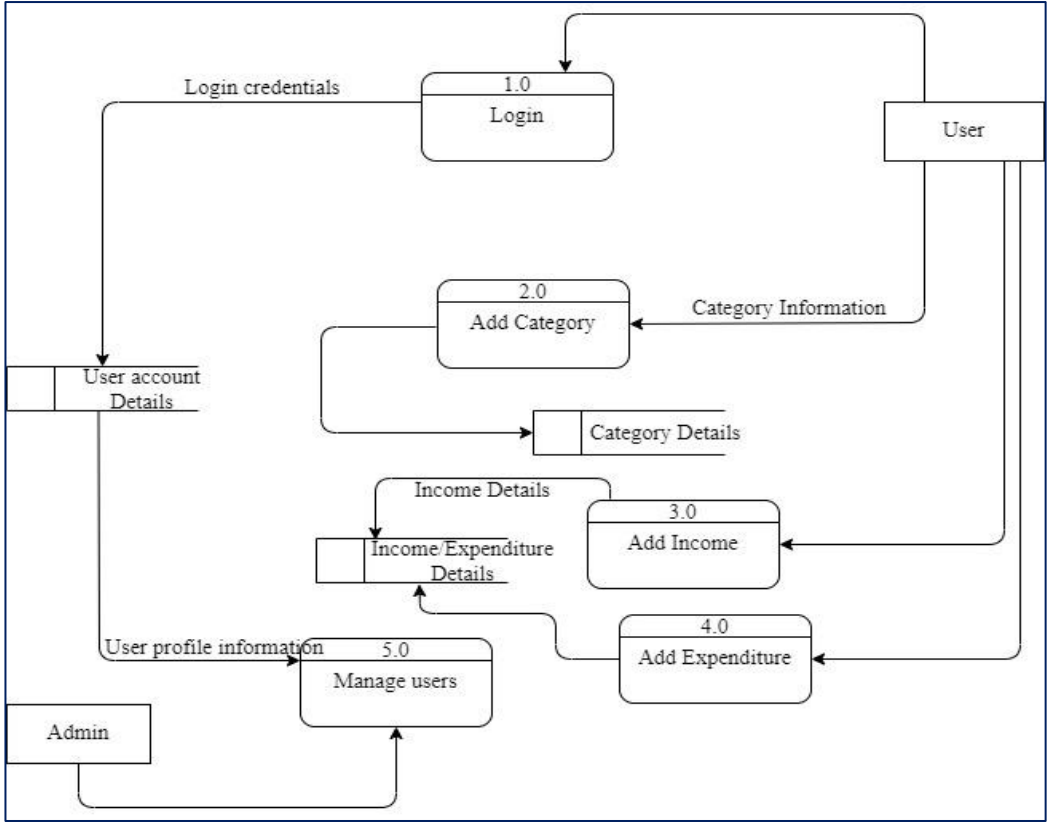


Figure 4: Data flow Diagram of the new system

4.4.3 Use case diagram

The use case diagram of the new system shows the major actors of the system that is a user who have access into the system if authorized, the ADMIN who have full privilege on a system

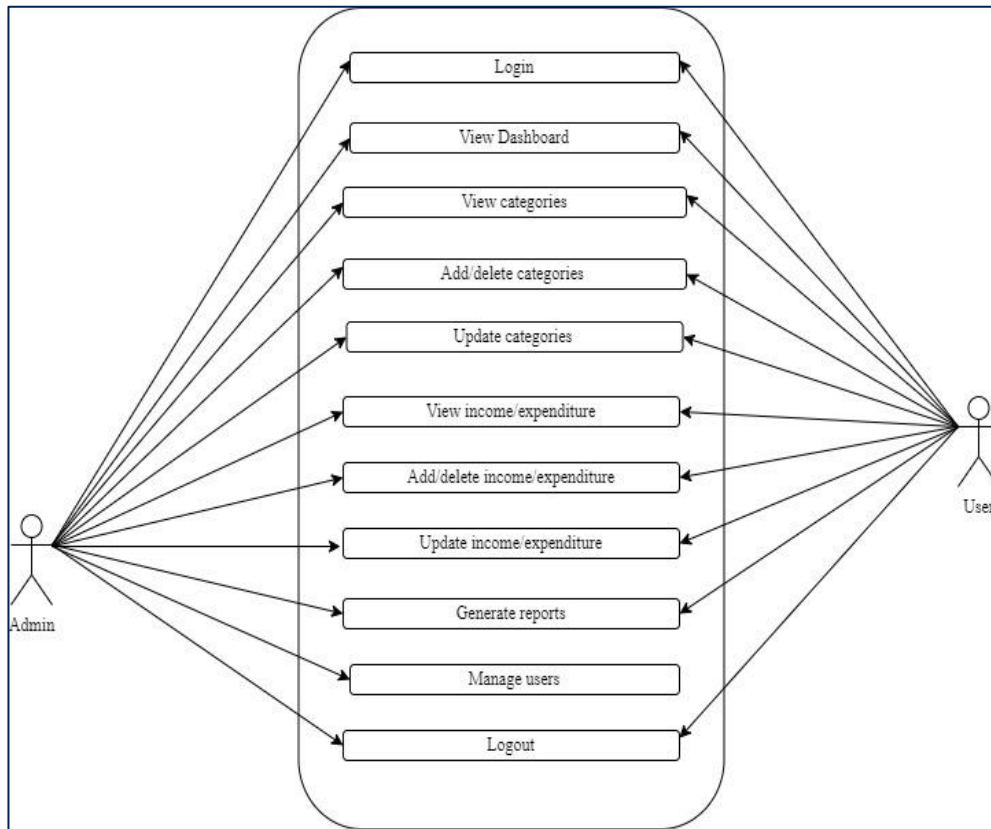


Figure 5: use case diagram of the new system

4.4.4 Entity Relationship Diagram

This section shows how the entities are associated with each other.

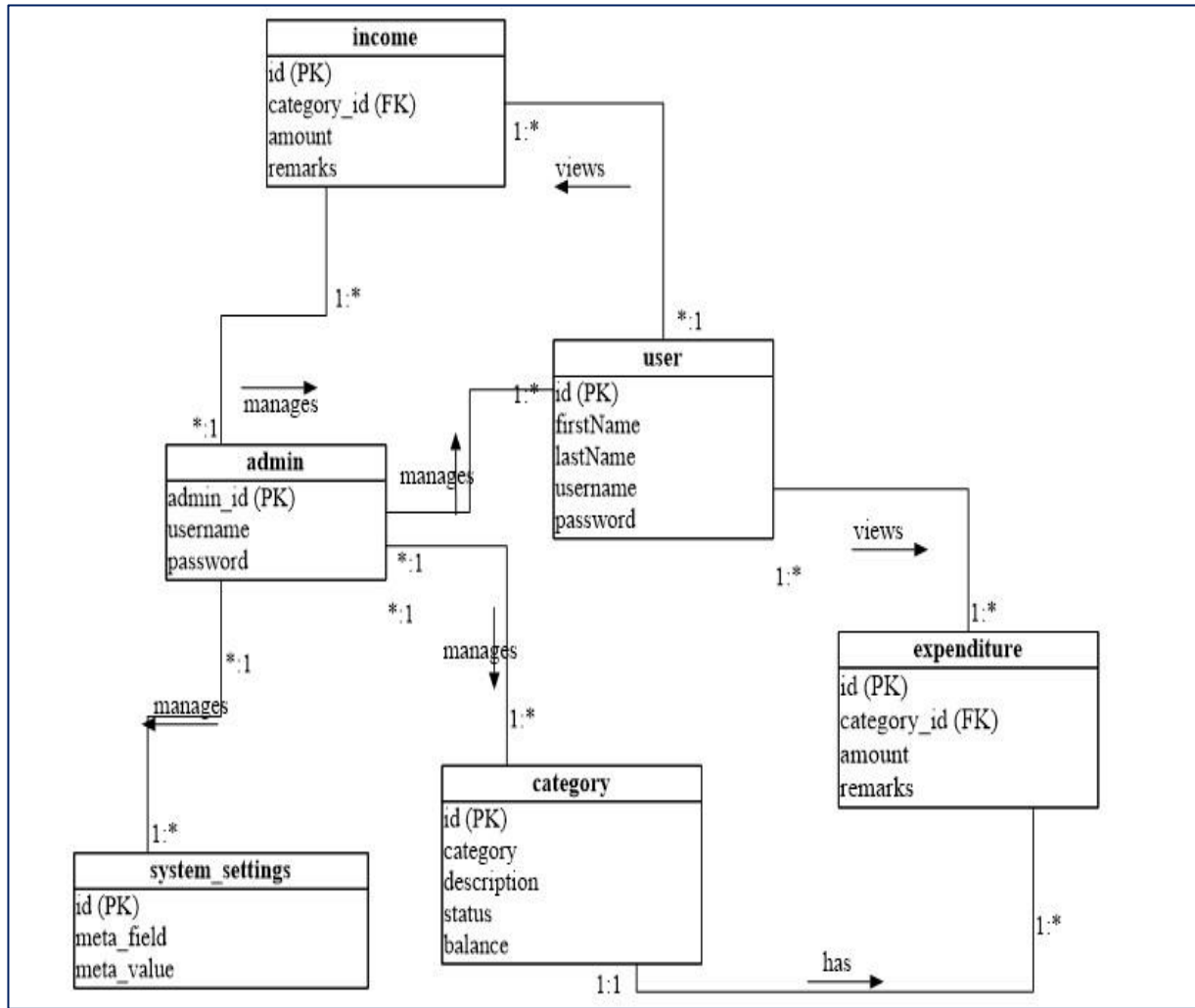


Figure 6: Entity Relationship diagram of the new system

CHAPTER 5 : PRESENTATION OF RESULTS/FINDINGS

5.1 INTRODUCTION

The system was designed basing on windows environment. Microsoft visual basic 2005 was used to design the user interfaces (front end) while MSQL was used to design a database for storing data and thereafter logical connection was established.

5.2 System functionality.

5.2.1 Login page

This is the first form that comes when a program is launched. It's purposely meant for security and authentication reasons.

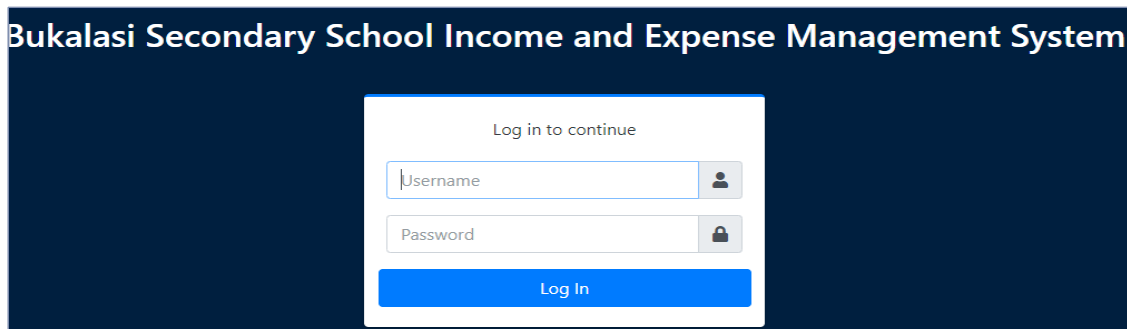


Figure 7: Screen shot for the Login page

Enter the username together with the correct password and the click the login button to gain access. If the details supplied are correct the home page is displayed and if the details are not correct, then the user is denied access in the system and message” incorrect username or password” is displayed.

5.2.2 Home page.

This is the page/ window that appears after successful login. On it there are different tabs that is dash board, income management, expense management, Reports such as income report, expense report, Maintenance such as category list and system settings.



Figure 8: Screen shot for the Home page.

5.2.3 Dashboard

This is the page that provides a summary on the current overall income, today`s income entries, today`s income expense, Total categories and the current income in each category.

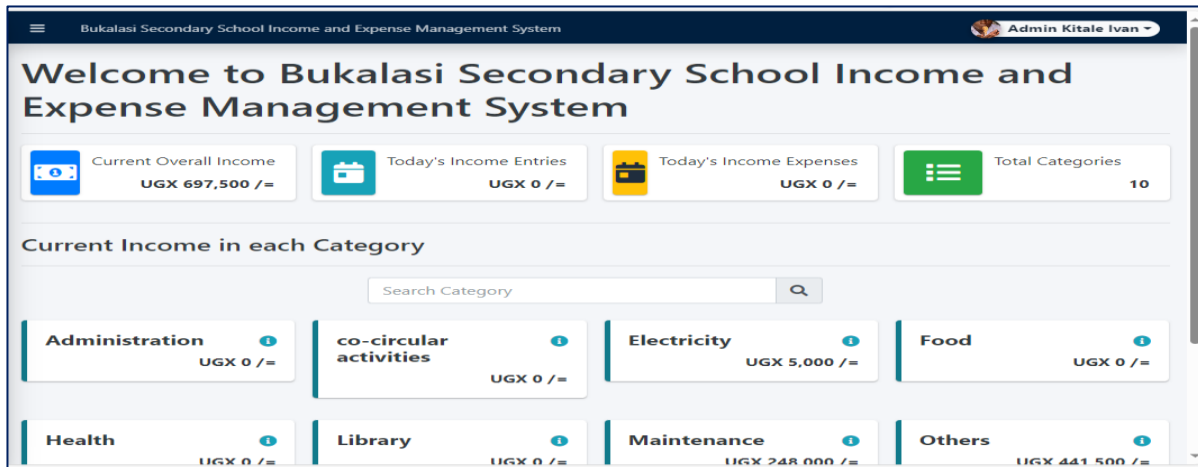


Figure 9: Screen shot for the Dashboard

5.2.4 Income Management.

This form is displayed after clicking on the income management. On it has option for adding new income that the user is allowed to fill before saving in the system.

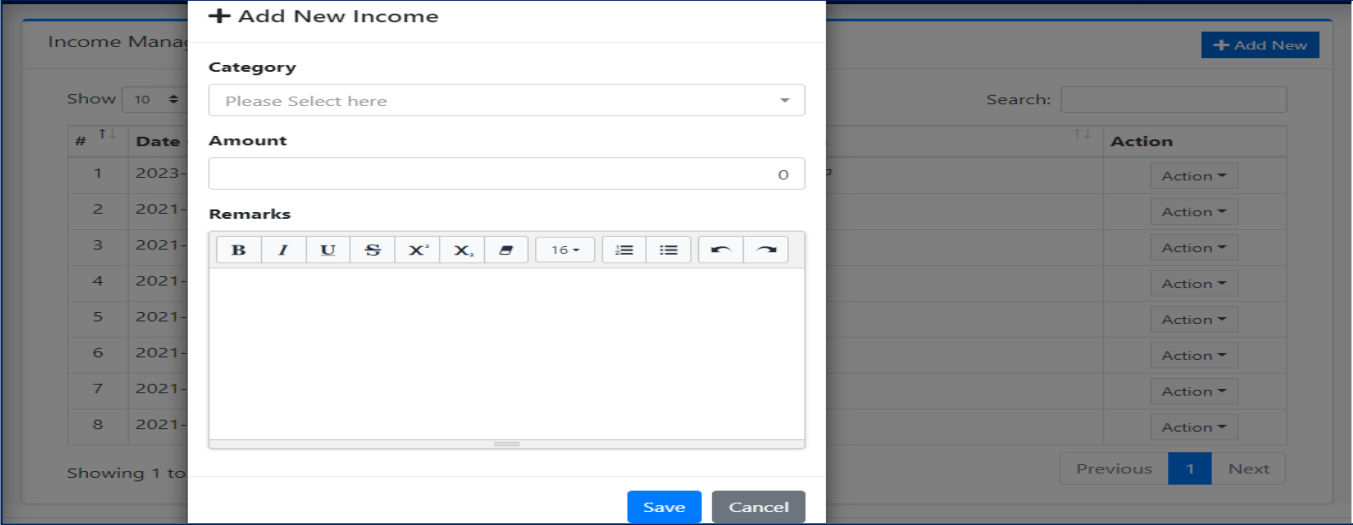


Figure 10: Screen shot for the Income Management.

5.2.5 Expense Management

This form is displayed after clicking on the expense management. On it has an option of adding new expense that the user is allowed to fill before saving in the system.

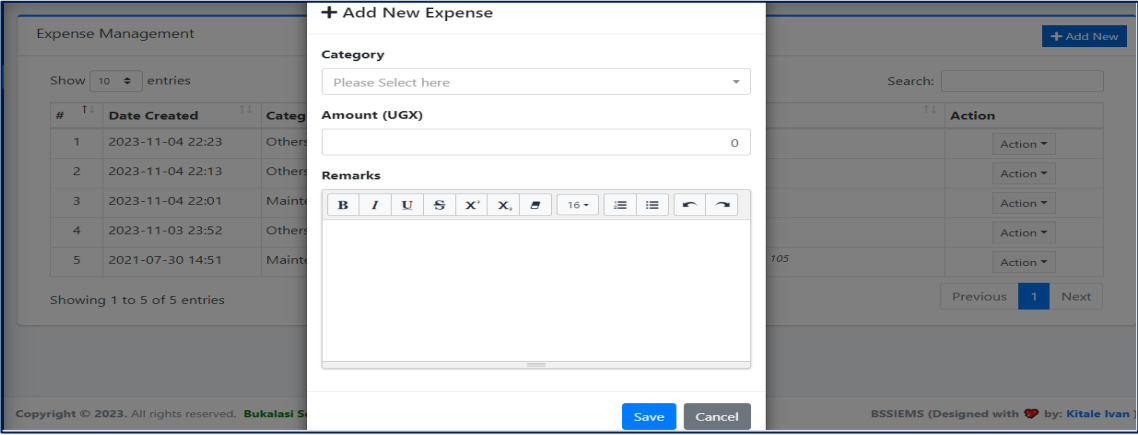


Figure 11: Screen shot for the Expense Management

5.2.6 Reports

This form is displayed after clicking on either income report or expense report. On it has options such as filtering that enable the user to select the required data, Printing option that allows the user to produce a hardcopy of the information.

Expense report

Expense Report

Date Start: 11/28/2023 Date End: 12/05/2023 Filter Print

**Bukalasi Secondary School Income and Expense Management System
Expense Report**

Date Between Nov 28, 2023 and Dec 05, 2023

#	Entry DateTime	Category	Amount	Remarks
1	Dec 05, 2023	Food	UGX 350,000 /=	3 sacks of posh
2	Dec 05, 2023	Maintenance	UGX 128,000 /=	Buying of chemicals
Total			UGX 478,000 /=	

Figure 12: Screen shot for the Expense report

Income report

Income Report

Date Start: 11/28/2023 Date End: 12/05/2023 Filter Print

**Bukalasi Secondary School Income and Expense Management System
Income Report**

Date Between Nov 28, 2023 and Dec 05, 2023

#	Entry Date/Time	Category	Amount	Remarks
1	Dec 05, 2023	co-circular activities	UGX 1,500,000 /=	football
2	Dec 05, 2023	Food	UGX 1,000,000 /=	9 sacks of posh
Total			UGX 2,500,000 /=	

Figure 13: Screen shot for the Income report

5.2.7 Category List

This is displayed after clicking on the category list and it contains different categories and their descriptions. On it has an option of creating new category that is filled before saving is done.

#	Date Created	Category	Description	Status	Action
1	2023-12-04 19:32	co-circular activities	deals with students fitness	Active	Action
2	2023-11-05 00:01	Transport	Deals with the transportation of students to...	Active	Action
3	2023-11-04 23:14	Administration	Deals with the administrative roles and...	Active	Action
4	2023-11-04 23:11	Library	Concerned with library books and other...	Active	Action
5	2023-11-04 23:10	Health	This category covers the health of students,...	Active	Action
6	2023-11-04 23:09	Food	Dealing with all food supplies and tea escort.	Active	Action
7	2021-07-30 09:23	Others	All other undefined categories are under thi...	Active	Action
8	2021-07-30 09:23	Water	This category covers the water usage of the...	Active	Action
9	2021-07-30 09:22	Electricity	This category is for the usage of all electricit...	Active	Action
10	2021-07-30 09:21	Maintenance	Maintenance costs deal with repairs and...	Active	Action

Figure 14: Screen shot for the Category List

5.2.8 Settings page

This form contains the system information and it is displayed after clicking on the setting. On it has a browser option that allows the user change the system logs or picture before updating is done.

System Information

System Name
Bukalasi Secondary School Income and Expense Management System

System Short Name
BSSIEMS

System Logo
Choose file Browse

Update

Figure 15: Screen shot for the Settings page

CHAPTER 6 : DISCUSSIONS, CONCLUSION, FUTURE WORK AND RECOMMENDATIONS

6.0 Introduction.

This chapter looks at a summary of the findings, conclusion and recommendations of the study on designing the school income and expense records management system.

6.1 Discussions

The major call for this project was to design income and expense records management system that would help in the data capture for efficient management financial records in schools. For the new system developed needs full time internet connection so as to allow the schools administrators access the financial records instantly at anywhere.

This new system created needs to improvise with a stand by generator to guarantee full time accessibility to the system or solar panels due to some schools are from rural areas where electricity is not accessible at allow full time for the use of the system.

The new designed system requires the users to have the knowledge of computer and this call for training in schools of how the system is being used for proper management of financial records.

6.2 Conclusion

This study was undertaken to find ways of improving financial management at Bukalasi secondary school. Basing on the findings and analysis, school income and expense records management system (SIEMS) is a venture worth to invest in. Once put into consideration and embraced, there are a lot of achievements and benefits that can be realized there in this system. The school management will benefit from it. For stance the management will no longer struggle to generate reports and also search for particular information hence saving time and making the work easy.

6.3 Future Work

As a result of time being a contributing factor towards this project, a researcher was not able to come up with a comprehensive school income and expense records management system that could capture all the features and other functionalities that is necessary for the schools. Therefore, this calls for another researcher who might be interested in developing the same system to look at these areas to be added into the system that's,

- i. School bank account number.
- ii. Graphical interpretation of income and expense data.
- iii. Password recovery feature.

6.4 Recommendations

A more outstanding study to exploit maximum benefits of the new advanced technology in the education sector is highly recommended. This may be able to identify more gaps and therefore improves the system more than this study has been able too. There is need to have full time internet connection so as can be accessed at any time, proper system administration, frequent update of utility software like antivirus, improvising of a stand by generator to guarantee full time accessibility to the system and also security should be ensured. Also, schools should improve their computer storage capacity as the data stored increases.

References:

- Ainsworth, R. (2017). *Accounting and Financial Management for I.T. Professionals*. Springer.
- Doe, J. (2015). "The Importance of Expense Tracking in Personal Finance Management." *Journal of Financial Planning*, 28(22), 45-52.
- Gunnlaugsdottir, J. (2008). *International Journal of Information Management*. Volume 28(Issue 4), 293-304.
- Janackovic, G., & Varga, D. (2020). *Accounting and Information Systems in Education*. In *Handbook of Research on Accounting and Financial Studies*. (IGI Global.), 587-606.
- Johnson, D. (2019). "The Role of Artificial Intelligence in Expense Tracking Records Management Systems." *Journal of Information Systems*. 35(34), 112-128.
- Laudon, K. C., and Laudon, J.P (2020). *Management Information Systems: Managing the Digital Firm*. Pearson.
- Odden, A. R., & Picus, L. (2008). *School finance: A policy perspective*: McGraw-Hill.
- P. Thanapal, M. Y. P., T. P. Lokesh Raj and J. Satheesh Kumar (2014). "Income and Expense Tracker," *Indian Journal of Science and Technology*, . Vol 8(S2),.
- Prados J, P. G., Lattuca L. (2005). *Quality Assurance of Engineering Education Through Accreditation: The Impact of Engineering Criteria 2000 and Its Global Influence*. *Journal of Engineering Education*. 94(91):165–184.
- Richard, L. (2004). *Understanding Evolution of Information Systems by Applying the General Definition of Information* . In *proceedings of 26th International Conference on Information Technology Interfaces (ITI)* ISBN 953-96769-96769-96761.
- S. Chandini, T. P., D. Ranjith, V. J. Mohammed Akram, M. S. Vani, V. Rajyalakshmi, . (2019). "Online Income and Expense Tracker", *International Research Journal of Engineering and Technology (IRJET)*,. Volume: 06(Issue: 3,).
- Smith, J. (2017). "Designing an Expense Tracking Records Management System for Small Businesses." *International Journal of Business Management*, . 42(43), 78-92.
- Y. Anitha, R. R., S. Gomathi, . (2016). "Easy App for Expenses Manager Using Android," *International Journals of Computer Techniques*,. Volume: 3(Issue: 2).

APPENDIX

QUESTIONNAIRE

INTRODUCTION

I Kitale Ivan Nangoli am doing a research on the current system of managing income and expenditure records in Bukalasi secondary school so as to evaluate the effectiveness and efficiency. Am requesting you kindly to answer appropriately as the results will be used to design a better and convenient system that will improve and easy records management of income and expense in Bukalasi secondary school in Bududa district.

Instructions:

1. Tick where necessary, fill in the space provided where appropriate.

SECTION A

STAFF/ADMINISTRATORS.

Bio Data.

GENDER

Male Female

Indicate age

18-25

25-30

30-35

40-45

45 and above

Marital status

Married Single

EDUCATIONAL LEVEL

PhD Master Bachelor Diploma

1. How long have you been stayed on this school?

1-5 years, 6-10 years, above 10 years

2. Which type of the system is being used for storing the financial records in this school?

Computerized Manual (ledger books or file and papers sheet

3. What do you think about the system being mentioned above, is it easy to use?

Yes No

4. If yes, how do you find this system

Very Good Good Normal bad

5. I you satisfied with how this system how it works? Agree Disagree

6. Is system the simple to use? Agree Disagree

7. Do think the school can effectively complete their work in time with the use of this system?

Agree Disagree

SECTION B

Outline the advantage(s) with the use of this system (if any):

- I.
- II.
- III.
- IV.

Outline the disadvantage(s) with the use of this system (if any):

- I.
- II.
- III.
- IV.

THANKS FOR YOUR POSITIVE RESPONSE, BE BLESSED YOU

Interview

This interview questions are designed in line with the school income and expense records management system whose major purpose is to support the remote data capture for efficient tracking of income and expense records in the school

Background information.

Time started.....time ended.....

Location.....

Interviewee name.....

Title.....

Interviewer name.....

- 1. How long have you been working in this school?
.....
...
- 2. What is the system being used in the financial management of keeping the records in the school?
.....
...
- 3. How do you collect income and expense data of different activities within the school?
.....
...
- 4. How do you analyze this data after collecting?
.....
..
- 5. What are the sources of data input into this system?
.....
..
- 6. In which format does the report being generated?
.....

Thanks for your the positive response.