

**DEVELOPING AN ONLINE PUBLIC ACCESS CATALOGUE FOR OUR LADY OF
FATIMA SECONDARY SCHOOL LIBRARY NAKULABYE**

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**A PROJECT REPORT SUBMITTED TO THE DEPARTMENT OF LIBRARY AND
INFORMATION SCIENCE IN PARTIAL FULFILMENT OF THE REQUIREMENTS
FOR THE AWARD OF THE DEGREE OF BACHELOR OF LIBRARY AND
INFORMATION SCIENCE**

NOVEMBER 2022

DECLARATION

We declare that this project report entitled “Developing an Online Public Access Catalogue for Our Lady of Fatima secondary school library Nakulabye” is authentic and was entirely done by us in partial fulfilment for the award of degree of Bachelor of Library and Information science of Makerere University under supervision of Mr. Aloysius Ssenono Mwanje. All the content embodied in this project report is original and has never been submitted elsewhere for any academic award.



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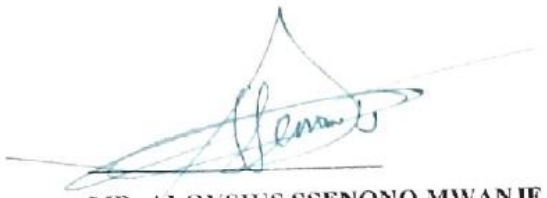
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APPROVAL

This is to certify that this project report entitled “Developing an Online Public Access Catalogue for Our Lady of Fatima secondary school library Nakulabye” is authentic and original work by Ssegawa Geoffrey and Birungi Docus who has submitted for evaluation in partial fulfilment for the attainment of the degree of Bachelors of Library and Information Science of Makerere University Kampala, under my supervision.



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08 / Nov / 2022
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ABSTRACT

The purpose of the project was to create an Online Public Access Catalogue (OPAC) for the library at Our Lady of Fatima Secondary School Nakulabye that would boost access to library resources by providing bibliographic descriptions of library materials accessible through use of electronic gadgets such as a computer. The study objectives were to; examine how accessibility of resources is done at Our Lady of Fatima Secondary School library, determine the challenges faced by Our Lady of Fatima secondary school library in ensuring accessibility of resources at Our Lady of Fatima Secondary School library, establish the requirements needed to develop an Online Public Access Catalogue at Our Lady of Fatima Secondary School library, and to develop an Online Public Access Catalogue for Our Lady of Fatima Secondary School library.

The study adopted a qualitative approach with case study design and data was collected through semi-structured interviews, observation and document review methods. Data was collected from a population sample of respondents that consisted of a librarian, teachers and students of Our Lady of Fatima secondary school library.

The study found out that Our Lady of Fatima Secondary School library had a shelflist that was used as a means of searching and retrieval of library resources, a record book used to register in the new books brought in the library and a register where details of users that borrowed resources were recorded manually. The study also found out that no form of technology was being used in Our Lady of Fatima secondary school Library.

The study concluded that the implementation of an Online Public Access Catalogue would ease the searching and retrieval of information materials from Our Lady of Fatima secondary school library, Nakulabye.

The study recommended the Our Lady of Fatima secondary school library should adapt the Online Public Access Catalogue to ease searching and retrieval of library resources.

CHAPTER ONE: INTRODUCTION

1.1 INTRODUCTION

This chapter presented the background to the study, problem statement, purpose of the project, objectives of the project, research question, project significance, project justification and project scope.

1.2 BACKGROUND TO THE STUDY

1.2.1 CONCEPTUAL BACKGROUND

Libraries since their establishment were set up to foster the dispensation of knowledge that is usually transcribed in books and other information materials such as journals, magazines and those that are in electronic media such as movies and microfilm. All these library holdings are mainly kept to facilitate user access and subsequent use of them. It is because of the above role that librarians decided to create and develop access catalogues. A catalogue is an organized compilation of bibliographic metadata that represents the holdings of a particular institution. The Library of Congress in its book *The Card Catalog: Books, Cards, and Literary Treasures* articulated that the card catalog was “a road map for navigating the wilderness of books” (p. 9). Catalogues are majorly created to simplify library users quests to accessing library resources. However, some scholars such as Clarke (2014) argue that library access catalogues have alternative functional purposes that pertain to serve library users beyond finding, selecting, identifying and obtaining library materials. Library access catalogues have passed through a series of historical developments from the primitive catalogs in ancient times to current next generational catalogs. Diao (2018) in his article *Evolution of Western library catalogs: The rising expectations of users* published at the City University of New York summarized the historical developments in library access catalogues into three stages which are; the agricultural catalogue stage, the industrial catalogue stage and the information catalogue stage.

The first libraries can be traced from approximately 3,000BC to 2,300BC this is backed by the Archeological findings in modern day Syria. Information would be stored on clay tiles and in some of the clay tiles excavated by Archeologists contain titles of literary works and these titles are believed to have been used to represent a whole literature work (Diao, 2018) this can be termed as the primitive agricultural catalogue. Other historical forms of library access catalogues include the

manuscript codex catalogue that existed in Greek and Roman libraries around the fifth century and the printed catalogue that came out as a result of industrialization and hence being classified under the industrial catalogue stage of library catalogues evolutions. Some of the initial industrial catalogues is Bodleian Library of Oxford University in England catalogue first printed in 1605. This later gave birth to the card catalogue which were characterized by the flexibility and huge convenience of usage to both librarians and users some of the initial card catalogues are the Harvard College Library card catalog that was made open to the public in 1861. However it is important to note that though the card catalogue was more flexible and convenient and as well served in more libraries globally compared to the initial versions, it had a number of shortcomings that later facilitated to the development of more advanced access catalogues in the information catalogue stage most notable being the OPAC.

OPAC is a bibliographic database of library materials designed to allow library patrons to search for books and other materials owned by a library or group of libraries without the assistance of a librarian. OPAC is the Online Public Access Catalogue or, in other words, the electronic library catalogue. It is an online database of all of the resources held in the library that enables patrons to search OPAC and locate books in the library. It lists the number of the items, whether they are in the library or out on loan, and their call number (igi-global.com, 2022). The Online Public Access Catalogue lists the bibliographical details of all the documents in a library or group of libraries and can be accessed at several locations all over the globe with the help of a computer system. (Kumar, et.al 2018). The Online Public Access Catalogue brought a change in the traditional cataloguing trends in libraries replacing the card or book catalogue. The latest trends steered by OPAC library allow a librarian to catalogue an item through entering data in a library integrated software. This data entered into the system is available for searching through the OPAC system in the standard format (Kumari, 2019) searching is mostly done by a search facility for any word of the title, author, keywords, subject, etc.

Vijayakumar, S & Manasa, S (2020) state that OPACs have been in existence for the last three decades and emerged in the late 1990's however Kumar et. al (2018) argues that the Online Public Access Catalogues (OPACs) were first introduced in the United Kingdom libraries in the early eighties and later introduced in many Indian libraries.

OPAC can have been categorised into three generations based on the evolutionary changes to incorporate novel features in data content, access point and user interface:

a) First generations OPACs: Phrase searching OPACs', as they are generally called, were in a way the machine-readable forms of conventional catalogues providing such access points as a class mark, author, title, subject as phrase and simple left to right phrase matching. Such systems had certain obvious drawbacks, for the probability of exact matching between search phrases with indexing terms was rather small: Much of the computer capabilities were wasted as the system worked like a card catalogue. It was not user-friendly as user/system interaction was quite limited.

b) Second-generation OPACs: OPACs at this stage are influenced by the commercial bibliographic database, second-generation OPACs have adopted many of their features like 'online help messages', 'alphabetical index displays' for searching search terms and using 'Boolean logic' for their combination and effective retrieval.

Despite the improvements, the second generation OPACs have made the first generation, as 'deficient tools' for effective subject searching, for the since they offer little or no help in translation of entry query terms into the vocabulary used in the catalogue.

c) Third-generation OPACs: The deficiencies in second generation OPAC were investigated and some of the remedies that emerged were incorporated into third generation OPACs to enhance their subject searching capability. These systems are enriched by the inclusion of additional controlled and uncontrolled access points. Queries are accepted as a 'natural language' statement eliminating the need for the user to know query formulation and search techniques. Some of the systems use partial match techniques instead of Boolean operators. The retrieved sets are sometimes ranked according to the query relevance. These catalogues ensure vastly improved search system interaction at every level of the search process.

Web-OPAC is a catalogue on the web or internet and users can search their required documents through it. Web-OPAC is also known as the next generation of OPAC. End users are capable of searching the required materials by connecting with Web-OPAC Universal Resource Locator (URL). earlier OPACs other than the Web-OPAC used to be connected through computer

terminals alone but now Web-OPACs are connected on the world wide web and can be accessed globally via the Internet.

OPACs form an integral part of the technologies that provide access to any of the information contained in the records of the library (Eserada & Okolo, 2019). Scholars such as Swaminathan (2017) state that OPAC is a device of change in today's libraries as it helps users search for library resources and to find out availability of desired documents in the library at any given point in time.

For any OPAC to perform and satisfy the desired needs it should have a number of enabling features (Eserada & Okolo, 2019) such features include providing the public with direct access to a library bibliographic database through the use of terminals that are searchable through a variety of access points greater than those available through card form catalogue. The OPAC should be searchable with a common command language, which may be transferred when the public moves from one library to another; information has to be retrieved from the local library field, and if not successful, locally retrieves information from other libraries' files; provides instructional help and display search result in readily understandable form; provides links, reference help, circulation files etc. and maybe access remote library's location; and multiple users can query the database simultaneously unlike the traditional catalogue box where users have to queue when they are searching for similar materials with same search option.

OPAC, as part of information technology, requires knowledge and skills for searching required documents or information. Infact, OPAC has revolutionised the way to access bibliographic information (Krishnappa & Kemparaju, 2021).

OPAC was developed as part of library automation and was designed to allow library patrons to search for materials quickly and easily without the help of a librarian. The creation of OPACs has led to extensive proactiveness of libraries in their resource access activities since OPACs facilitate use of more advanced ways of accessing and retrieving information resources in a library. Eserada & Okolo (2019) state that OPAC has brought a number of changes in the way of providing services offered to library users.

1.2.2 ORGANISATIONAL BACKGROUND

Our Lady of Fatima Secondary School is a catholic mission found in Nakulabye zone 7, Rubaga Division, Kampala city. It is a registered school with registration number PS/0/010 from the ministry of education and sports and a UNEB centre number U2379. It was established on 6th December 2001 and it is under the management of Kampala Archdiocese of the Roman catholic Church in uganda. On behalf of the Roman Catholic Church, the school is managed by Our Lady of Fatima Catholic parish in Nakulabye Kampala.. It is important to note that our lady of fatima secondary school is also aided by the government of Uganda through offering teachers that teach the students in the school and also paying fees for selected students through the universal secondary education(USE) programme.

According to Mr. Mulindwa Isaac, the computer laboratory technician who also acts as the librarian at Our Lady of Fatima secondary school, school management established Our Lady of Fatima secondary school library on 6th December 2001 with an aim of equipping learners with academic information needed to achieve academic excellence. Mr. Mulindwa further stated that the library currently serves a total of 340 students who are currently enrolled at the school in the different classes ranging from senior one to senior six. The library is also meant to be used by teachers and other staff of the school whose total currently stands at 28 people.

Our Lady of Fatima Secondary school library as of today the year 2022 has a collection of about 600 publications most of which are academic textbooks, non-book materials such as maps, all covering subjects taught based on the Ordinary and Advanced level curriculum in Uganda. Notable also about the library collection is the existence of the several academic pamphlets and past papers all aimed at equipping users with academic information that is needed to ensure academic excellence.

However with such a rich collection that the library holds, there exists a very big challenge in regards to access to the library resources. This is because for one to know about what the library has in stock in relation to a given subject, he/she has to physically access the library and show the students' or staff identity card and get granted access to the shelf list which usually emanates from the purchase list so as to see what the library has. Though this system of ensuring access has been

used since 2001 when the library was established it faces a number of challenges which in return limit access to library materials. For example, the shelflist provided comes in a single copy and henceforth can not be used concurrently by multiple users with divergent information needs at the same time. As a result of such challenges and the need to ensure improved and unlimited access to the library materials, this project intends to create an Online Public Access Catalogue (OPAC) that will be able to provide bibliographic description of the library materials. The OPAC accessibility will also not be limited to one's address as it is to the current mode of ensuring access at the library. The OPAC will also be accessed via electronic devices and hence will be able to accommodate multiple users at the same time and also offer users the chance to know what the library has in stock for them in response to a given subject without having to go to the shelves.

1.3 PROBLEM STATEMENT

Our Lady of Fatima Secondary School library is a relatively well stocked library that is challenged in regards to effective access of the library materials. This is because the library lacks any sort of library catalogue showing the bibliographic descriptions of items that are owned by the library. The in-existence of the library catalogue has for so long affected access to the library materials since users fail to go to the library because they lack the knowledge about what the library holds. Even those that go to the library, are frustrated by the shelflist that is provided to them so as to know what the library has and in the end some of them end up not coming back thus leaving most library items lie on the shelves unused.

The project therefore aimed at developing an OPAC for Our Lady of Fatima secondary school library. The OPAC will facilitate access to the library materials through providing users with bibliographic descriptions of the library materials so that users will get to know and understand which item can be of importance to them at a given time.

Through creating the OPAC, the access to library materials will be given a boost and in return there will be value for money that is used to buy materials that currently lie on shelves unused. Further still, with effective usage of the library materials, learners' grades will be improved and academic excellence will be achieved and indeed this is why the library was established.

1.4 PURPOSE OF THE PROJECT

The purpose of the project was to create an Online Public Access Catalogue (OPAC) for the library at Our Lady of Fatima Secondary School Nakulabye which will boost access to library resources by providing bibliographic descriptions of library materials that can be accessed through use of electronic gadgets such as a computer.

1.5 OBJECTIVES OF THE PROJECT

The objectives of this project were to;

1. Examine how accessibility of resources is done at Our Lady of Fatima Secondary School library.
2. Determine the challenges faced by Our Lady of Fatima secondary school library in ensuring accessibility of resources at Our Lady of Fatima Secondary School library.
3. Establish the requirements needed to develop an Online Public Access Catalogue at Our Lady of Fatima Secondary School library.
4. Develop an Online Public Access Catalogue for Our Lady of Fatima Secondary School library.

1.6 RESEARCH QUESTIONS

The project was guided by the following research questions;

1. How is accessibility of resources done at Our Lady of Fatima Secondary School library?
2. What challenges are faced in ensuring accessibility of resources at Our Lady of Fatima Secondary School library?
3. What requirements are needed to develop an effective OPAC at Our Lady of Fatima secondary school library?
4. Developing an OPAC for Our Lady of Fatima Secondary School library.

1.7 PROJECT SIGNIFICANCE

The primary beneficiary of this project are the students, teachers and other library users of Our Lady of Fatima secondary school Nakulabye. This is because the creation of an OPAC will make accessibility to library resources easy and timely. The project is also of great significance to;

Researchers that intend to create and study about the significance of Online Public Access Catalogues towards easing accessibility of library materials. The creation of the Online Public Access Catalogue at Our Lady of Fatima can be based on to judge whether OPACs provide solutions to accessibility challenges in libraries.

Students in higher institutions of learning majoring in information sciences such as librarians and records managers. Accessibility is a very key aspect in the information science sphere and hence every information scientist intends to maximise access to resources. The project allows students of higher learning to get to know how accessibility can be achieved through the creation and use of Online Public Access Catalogues.

Library systems developers will also find great significance in this project. This is because library systems are systems that require unusual requirements since a library has needs far from those required by other systems. So systems developers will look at the modules used to develop an OPAC and base on them to know what library systems requirements are.

Institutional librarians will also benefit from the project. Many institutions own libraries but however do not fund them appropriately and librarians face challenges in explaining to top managers how technical systems can be of use to the libraries and the entire institution. But with this project, librarians will have something to cite as proof of the need to have an OPAC in the library and how it benefits the library.

1.8 PROJECT JUSTIFICATION

Libraries all over the globe are set up to facilitate information accessibility and usability. However, to achieve this cardinal goal of information usability libraries ought to ensure that users can without any hurdle get to know what the library has in stock for them and how to access it. Our Lady of Fatima secondary school library which is the case study library for this project from the time of its establishment in December 2001 has failed to achieve maximum usage of library materials stocked and fully shelved. This is partially because the library lacks an extensive library catalogue that users can resort to when they need to know what the library has in stock on a given subject. The absence of the catalogue has therefore created an undesirable ignorance on the side of prospective

library users which demotivates them in regards to usage of the library as they do not understand how it can be important to them. To provide solution to this problem creation of an OPAC will be very key as it will solve the problem of users not having knowledge about what the library has in stock and henceforth the catalogue will attract more users to the library for they will be able to familiarise themselves with the collection.

1.9 PROJECT SCOPE

1.9.1 CONTENT SCOPE

The project focused on library catalogues offering special interest to developing an Online Public Access Catalogue

1.9.2 GEOGRAPHICAL SCOPE

The project took place at Our Lady of Fatima Secondary School library that is in Nakulabye zone 7, Nakulabye Parish, Rubaga Division, Kampala city .

1.9.3 TIME SCOPE

The project was carried out from August to October 2022

CHAPTER TWO: LITERATURE REVIEW

2.1 INTRODUCTION

Literature review is a survey of scholarly sources on a specific topic. It provides an overview of current knowledge, allowing you to identify relevant theories, methods, and gaps in the existing research. (McCombes, 2019).

In this chapter we reviewed related literature on Online Public Access Catalogues (OPAC) according to project objectives in order to establish a research gap.

2.2 OBJECTIVE ONE: TO EXAMINE HOW ACCESSIBILITY OF RESOURCES IS DONE TO OUR LADY OF FATIMA SECONDARY SCHOOL LIBRARY.

2.2.1. LIBRARY CATALOGUE

A library catalogue is a list of books and other graphic material in a library arranged according to a recognized order and containing specific items of bibliographical information for the purpose of identification and location of the material(s) catalogued. Junli Diao (2018) defines a catalogue as an organized compilation of bibliographic metadata that represents the holdings of a particular institution and/or resources accessible in a particular location. Catalogues have for centuries been an indispensable tool of access to resources in libraries. Catalogues exist in different types for example, Fernanda Campos (2020) in his article “the making of a catalogue in ancient libraries” believes that the large in-folio manuscript books presenting bibliographic records in alphabetical order is the first type of library catalogue to ever exist. Other types of catalogues include card catalogue, book catalogue and the computer-based Online Public Access Catalogue(OPAC) all these types are created to serve one cardinal role which is ensuring accessibility to resources.

2.2.2 CARD CATALOGUE

A card catalogue refers to a set of cards that are usually arranged in alphabetical order, each one giving information about an item in a collection, for example the author and title of a book, with information on where to find it(Cambridge dictionary, 2022).This type of catalogue is one of the oldest and is currently becoming rare due to the technological advancements. The card catalogue is formed by entries that are arranged on cards that are usually on a standard size of 12.5cm X 7.5cm these cards are later kept in card cabinets where users find them to get information about

resources in the library. A standardized card catalogue allows users to either promptly find the desired book or simply predict where similar books might be shelved. (Diao,2018)

Card catalogues were designed to clearly and precisely show users where individual books were located on the bookshelves, as well as the neighbouring books of the same or similar subject. This therefore explains why card catalogues, integrated alphabetized entries, formatted bibliographical descriptions, crossed references, coordinated subject headings and structured call numbers. Card catalogues existence in individual libraries from the time if their creation entirely depended on the librarians of that given library since Librarians were the sole designers and creators of the card catalogues.

2.2.2.1 COMPONENTS OF CARD CATALOGUE

The card catalogue in its wholesomeness has a number of entries all describing or capturing the bibliographic data of one item. All these entries are generated from the components described below;

AUTHOR

For every item described on the card Catalogue, the Author's name is recorded and is found at the top of every card catalog entry. In times where the item being described is not necessarily from an author, the name of the item creator such as a coprate body or organization is taken as the author and the name of the organization is takes the author space on the top of the entry.

TITLE

The item title for each item described in the card catalogue also forms a key component of the card catalogue. It is therefore given special emphasis on the second entry of each card catalogue. This is done to ensure that when a patron searches the described item by title, he/she can find it without necessarily having to know the authors' name.

SUBJECT

The subject of the item being described is another key component of the Card catalogues. Therefore for each of the entries, a section for the subject is left out at the bottom of each card to

accommodate the description of the major subjects discussed in the item. Entries for the subjects therefore will be arranged in a way that the subject being described in the subject added entry will be listed at the top of the card. for a subject to be considered one it has to be crosschecked from a specified subject list such as a seers list of subject headings.

DEWEY DECIMAL CLASSIFICATION NUMBER.

At the top right corner of each card, a Dewey Decimal classification number identifying the described item is captured. This is done to enable libraries to organize the resources in specified categories so as to ease access to the resources.

2.2.2.2 ADVANTAGES OF CARD CATALOGUE

The card catalogue does not require to much technology to browse and hence to make use of it the user just needs to have the ability to read.

The card catalogue can easily accommodate people with disability such as those who are visually impaired since print work can be embossed to ease reading through just feeling the text.

Catalogue cards are usually printed on some sort of relatively hard paper which makes them durable. The card catalogues cannot be destroyed by viruses or require electric power to be used.

Developing the card catalogue is easier compared to other forms such as OPAC since they can be developed in the individual libraries and does not require special expertise such as system development skills.

2.2.2.3 DISADVANTAGES OF CARD CATALOGUE

Card catalogues are stored in card cabins that usually stack or pile cards high on other cards this means if one is standing on a cabinet or drawer he/ she also obstructs the use of the card cabins below and above him. Multiple users are also not entertained for the same card catalogues hence creating delay of access.

Card catalogues are stored in relatively voluminous cabins which take a lot of floor space and hence are not sustainable for libraries in small environments.

Card catalogues do not provide much convenience if one is to use them for long hours. This is because the catalogue is browsed when the user is standing which can be tiresome if done for so long.

2.2.3 BOOK CATALOGUE

A book catalogue refers to the type of catalogue where entries for items in the collection of a library are printed and bound in a book form. A single page of the catalogue contains more than one entry.

2.2.3.1 ADVANTAGES OF BOOK CATALOGUE

The catalogue that comes in a book compilation is relatively smaller in size compared to the full catalogue in the card cabins. This therefore makes it easy to transport in when need arises.

Duplication of multiple copies is easy for the book catalogue since one can easily photocopy or rescan the book to make more copies.

Book catalogue is easy to use since it comes out in a familiar format(book) which many people are used to interacting with.

Multiple copies of the book catalogue can be created and therefore the catalogue can accommodate multiple users at the same time.

2.2.3.2 DISADVANTAGES OF BOOK CATALOGUE

The cost of printing the catalogue and subsequent binding is a bit high and hence this type of catalogue is not affordable for libraries with small funds.

The book catalogue is not flexible in regards to correcting errors or adding more entries as new items come into the library. Errors, or new entries can only be worked upon by printing out a new edition. This comes out to be costly and limiting the use of the catalogue.

The book catalogue comes out on a thin quality form of papers which are less durable since they can easily be torn while users flip from page to page this makes the catalogue require a lot of careful handling which is hard to find in library users.

2.2.4 ONLINE PUBLIC ACCESS CATALOGUE (OPAC)

OPAC stands for Online Public Access Catalogue, it is a computerised form of library catalogue which is available online. It has made searching and retrieval of bibliographic records easier and faster. Apart from searching, it offers other facilities such as online renewal and reservation; borrower status checking and so on. It also allows the user to request items from another library through inter-library loan service and to view their library registration details. It allows multidimensional searches providing as many as access points (i.e. author, title, subject, keywords) Gupta (2018) states that OPAC is characterized in four generations which are First generation OPAC, Second generation OPAC, Third Generation OPAC and Fourth Generation OPAC. He further discusses several features and functionalities through which search and access to resources is simplified by the current OPACs. These functionalities include; faceted navigation, relevance ranking, feedback, tag filtering and spellchecker.

2.2.4.1 ADVANTAGES OF ONLINE PUBLIC ACCESS CATALOGUE

OPAC reduce library patrons dependence on librarians knowledge to acquire information. This is because all the user information needs are satisfied by the system and hence little need to interact with the librarian. Gavitt(2019) states that the frequently asked questions tool (FAQs) helps users to find answers to the common answers that usually ask hence simplifying access.

OPAC especially the web based OPAC can be accessed from different devices thus offering room for simultaneous access and in the long run offering access services to multiple users at the same time.

Unlike other forms of catalogues, OPACs can not be stolen or vandalised by users since it is system based and users are generally not allowed to make alterations in the system

Additions to the catalogue can be made instantly made and accommodate without altering the entire catalogue.

2.2.4.2 DISADVANTAGES OF OPAC

Since OPACs are accessed on electronic devices, access can be limited when there is a power outage or blackout. To web-based OPAC interruptions in the internet connection via the web renders the OPAC to be absolute and non-functional.

Users require some sort of training or need to be computer literate so as to be able to use the catalogue. This is unfavourable to some people such as the blind that can not use the computers.

The OPAC system is quite expensive to put up and maintain and hence libraries with little funding may not be able to sustain the system.

2.3 OBJECTIVE TWO: TO DETERMINE THE CHALLENGES FACED BY OUR LADY OF FATIMA SECONDARY SCHOOL LIBRARY IN ENSURING ACCESSIBILITY OF RESOURCES AT OUR LADY OF FATIMA SECONDARY SCHOOL LIBRARY.

2.3.1. LACK OF PROPER KNOWLEDGE ON INFORMATION RETRIEVAL SKILLS.

Many library users have got information needs that can be satisfied by the library but the challenge towards the accessibility of the resources in the library is the lack of proper knowledge on information retrieval skills. Mahwasane and Mudzielwana (2016) state that many users have got information needs but cannot set out a query out of these needs and hence when one puts out a wrong query, he/she is bound to get wrong results. This in return challenges accessibility of resources in the library.

2.3.2 INSUFFICIENT USER EDUCATION.

Libraries most times fail to offer user education to the users and prospective users and this in return makes users unaware of what the library has in stock or even how to make use of the library. So with the lack of library user education, users are made unable to access the resources since they cannot know how to make use of the library.

2.3.3 LACK OF COMPUTER KNOWLEDGE AND USAGE SKILLS

Many libraries provide electronically accessible services which are acquired through subscription to journals. Other electronic resources accessible via the computers in the library include videos, movies and electronic manuscripts. However, the access to the electronic resources are challenged by the lack of computer usage skills since these resources are only accessed through the medium that they cannot make use of.

2.3.4 LIMITED LIBRARY READING SPACES.

Many libraries put much emphasis on stocking library shelves rather than availing reading spaces in the libraries which enable users to make use of the resources in the library. So with libraries that provide little room for reading spaces, accessibility to resources is greatly challenged since users see no reasons as to why they have to go to libraries and get frustrated by the congested reading spaces.

2.4 OBJECTIVE THREE: TO ESTABLISH THE REQUIREMENTS NEEDED TO DEVELOP AN ONLINE PUBLIC ACCESS CATALOGUE AT OUR LADY OF FATIMA SECONDARY SCHOOL LIBRARY.

2.4.1 SYSTEM STUDIES AND EVALUATION.

2.4.1.1 EXISTING ACCESSIBILITY SYSTEM.

To be able to develop a new and functional system the existing accessibility system(s) have got to be examined and studied first so as to be able to study the strength and weakness of the system(s). the strengths have to be capitalized on when created a new system and the weakness are studied so as to get rid of duplicating them in the new system.

2.4.1.2 PROJECT PROPOSED SYSTEM.

The proposed system for Our Lady of Fatima secondary school library, Nakulabye is an Online Public Access system (OPAC). Online Public Access Catalogue is an electronic public open database that captures bibliographic data for items that are part of a collection of a given library. This version of a catalogue allows users to make desired searches based on features and specifications such as by title, author or subject.

2.4.1.3 PROPOSED SYSTEM REQUIREMENTS

System requirements refer to the specifications any system has got to have so as to be able to serve the desired system goals. To ensure that the proposed system will be functional and indeed able to improve access to resources at Our Lady of Fatima secondary school library it should have the requirements described below;

Table 1: OPAC system requirements.

Functional	Non Functional	Software	Hardware
Resource management	Security	Server for running the system	Memory
Searching the catalogue	Usability	Local host for hosting the system	Disc
Information retrieval		PhP MY admin	Processor
Offering feedback		Staff-Client connections	Display
Locating resources			Flash disk drive, laptop (touchpad and mouse)

Source:Kicwinyrwoth, D. G. (2019)

2.5 OBJECTIVE FOUR: TO DEVELOP AN ONLINE PUBLIC ACCESS CATALOGUE FOR OUR LADY OF FATIMA SECONDARY SCHOOL LIBRARY.

2.5.1 SYSTEM MODELLING.

System modelling refers to the process of developing abstract models of a computer system, with each model presenting a different view or perspective of the system under development. System modelling is based on representing a system using graphical notation. The graphical notations are meant to represent what the final system is meant to look like in the end. The graphical notations used in system modelling originates from the various existing modelling languages such as the Unified Modelling Language (UML), Process weaver, and conversation builder.

The purpose of system modelling is to support the solution architecting efforts and to support getting the right specifications and designs so as to achieve the desired system goals.(Muller,2021)

2.5.1.1 USE CASE MODELLING.

A Use Case Model describes the proposed functionality of a new system. A Use Case represents a discrete unit of interaction between a user (human or machine) and the system.(Sparx systems.com, 2022) In other words the model describes how users will interact with the system with respect to their various capacities. In this case for example,administrators are allowed to manipulate data yet users are only granted access to the already uploaded data but without the right to manipulate it.

2.5.1.2 BEHAVIOUR MODELLING.

In software engineering where system modelling originates from, behaviour modelling involves describing the overall behaviour of the system and there are two types of behavioural models that are used to describe the system behaviour, one is data processing model and another is state machine models. Data processing models are also known as DFD (Data Flow Diagram) which is used to show how data is processed as it moves through the system. State machine model is also known as State diagram which is used to show how the system will react with external events.(Educba.com, 2022) This modelling describes how the system will interact with the various actors that use it.

2.5.2 SYSTEM DESIGN

According to IGI global, system design refers to the processes of the architecture, components, modules, interfaces, and data for a system to satisfy specified requirements. At this stage the system designer or creator will specify with great detail all that the system will do and how it will do it.

2.5.2.1 INPUT DESIGN.

The input design is the link between the information system and the user. It comprises the developing specifications and procedures for data and those steps are necessary to put transaction data into a usable form for processing. The design of input focuses on controlling the amount of

input required , controlling the errors, avoiding delays and extra steps and ensuring that the process remains simple and understandable .The input is designed in such a way so that it provides security and ease of use while retaining privacy. At this step the system designer focuses on issues such as how data has to be arranged and coded, the dialogue that guides the operating personnel on how to make input and the methods for preparing input validations and steps to follow when errors occur.(Scribd.com, 2022)

2.5.2.2 OUTPUT DESIGN

Every system has to serve and meet its user needs and inquiries and this can only be achieved through being able to access quality and timely outputs from system-user interactions. The design of output is the most important task of any system. During output design, developers identify the type of outputs needed, and consider the necessary output controls and prototype report layouts.(tutorialspoint.com, 2022)

2.5.2.2.1 OBJECTIVES OF OUTPUT DESIGN

The objectives of input design are;

1. To develop output design that serves the intended purpose and eliminates the production of unwanted output.
2. To develop the output design that meets the end users requirements.
3. To deliver the appropriate quantity of output.
4. To form the output in appropriate format and direct it rightly to the user that had made the request for such information.
5. To make the output available on time for making good decisions.

2.5.2.3 DATABASE DESIGN.

Database design is essential because a properly designed database provides you with access to up-to-date, accurate information. A correct database design also enables you to achieve your goals while working with a database.(microsoft.com, 2022) It is at the database design stage that the database designer analyses the system requirements, organises data into tables, specifies the primary keys and analyses relationships and finally normalises and standardises the

tables.(lucidchart.com, 20222). The database designer determines the type of Data that will be stored and how the data elements will interrelate with each other.

2.5.2.3.1 CHARACTERISTICS OF A WELL-STRUCTURED DATABASE

1. Saves disk space by eliminating redundant data.
2. Maintains data accuracy and integrity.
3. Provides access to the data in useful ways.

2.5.2.4 ARCHITECTURAL DESIGN

Architectural design is the process of defining a collection of hardware and software components and their interfaces to establish the framework for the development of a computer system. This framework is established by examining the software requirements document and designing a model for providing implementation details. These details are used to specify the components of the system along with their inputs, outputs, functions, and the interaction between them.(ecomputer notes.com, 2022)

2.5.2.5 NAVIGATION DESIGN

Navigation design is a design process that utilises hyperlinks to organise information on a website so that site visitors can navigate, or find, the information they are looking for. Navigation can be text-based or image-based.(study.com, 2022) It is the type of design that defines how users will be able to move from one point of the web page to the other.it is aimed at ensuring that users do not get lost and frustrated while on the page but rather get directions on how to use it.

2.5.3 SYSTEM IMPLEMENTATION

Systems implementation is the process of defining how the information system should be built ,ensuring that the information system is fully operational and ensuring that the information system meets quality standards(uky.edu, 2022) The major purpose of System implementation is making the new system available to a prepared set of users so as to test its usability.

2.5.4 SYSTEM MAINTENANCE

System maintenance is to the processes of monitoring, evaluating, and modifying existing information systems to make required or desirable improvements. (ecomputernotes.com, 2022) For any system to run without troubles maintenance has to be done regularly and procedures need to be taken to ensure that the system does not fail or develop errors with time.

System maintenance is an ongoing activity, which covers a wide variety of activities, including removing program and design errors, updating documentation and test data and updating user support. System maintenance is generally categorised into three classes, which are:

- a) Corrective Maintenance which involves removing errors in a program, which might exist in the system due to faulty design or wrong assumptions.
- b) Adaptive Maintenance: is one that involves changing program functions to enable the information system to satisfy the information needs of the user.
- c) Perfective Maintenance: Perfective maintenance means adding new features or modifying the existing features to enhance the performance of the information system(system perfection). This type of maintenance is undertaken to respond to the user's additional needs.

2.6 RESEARCH GAP

The literature reviewed showed how Online Public Access Catalogues can be developed, improved and used as a tool for fostering and improving access to information in libraries. However, basing on the available literature reviewed, there has not been any study on creating an Online Public Access Catalogue for Our Lady of Fatima secondary school Library, Nakulabye. This study therefore dealt with the said research gap by designing an Online Public Access Catalogue for the library.

CHAPTER THREE: METHODOLOGY

3.1 INTRODUCTION

This chapter presented the research design, area of study, population, sampling, data collection methods, data collection instruments, data analysis, data presentation, data quality control, the research procedure, ethical issues and project limitations.

3.2 RESEARCH DESIGN

Research design refers to a plan that provides the underlying structure to integrate all elements of a study so that the results are credible, free from bias, and maximally generalizable. (Dannels, 2018) it is the framework of research methods and techniques chosen by a researcher. In regards to this project a case study research design was used because it allows narrowing down a very broad field of research into one easily researchable topic. Research followed a qualitative research approach because of being more flexible and inductive towards the project goal of developing an effective OPAC based on the feedback and results obtained through the research process. Qualitative research was also the ideal approach for it involves collecting and analysing non-numerical data (e.g., text, video, or audio) to understand concepts, opinions, or experiences (Pritha, Bhandari, 2020). This is because based on the project an OPAC to be developed has to have prospective user ideas other than just duplicating other OPACs created and used in other libraries.

3.3 AREA OF STUDY

3.3.1 CONCEPTUAL AREA

Conceptually, the project was limited to studying Online Public Access Catalogues.

3.3.2 GEOGRAPHICAL AREA

The research was carried out at Our Lady of Fatima secondary school library in Nakulabye zone7, Rubaga division, Kampala City.

3.4 POPULATION

A research population is a well-defined collection of individuals or objects known to have similar characteristics. Bhandari (2020), defines a population as an entire group that you want to draw conclusions about in the study. In this project the population was the students and staff of Our Lady

of Fatima secondary school who are the library users. Basing on the information acquired from the teachers and students' enrollment register acquired from the Head teachers' office, the total number of students and teachers combined currently stood at 368 giving a total study population of 368 respondents. However, the target population was 24 respondents comprising teachers and students of Our Lady of Fatima secondary school, Nakulabye.

3.5 SAMPLING

Sampling means selecting the group that you will actually collect data from in your research. A sample is a subset of individuals from a larger population.

3.5.1 SAMPLING TECHNIQUES

Throughout the entire research, the sample was obtained by purposeful and convenience sampling techniques. This was because convenience sampling was not costly since respondents out of their will decided to participate in the project. Purposeful sampling on the other hand simplified getting in-depth information since the researchers identified the right audience and selected them to take part in the study.

3.5.2 SAMPLE SIZE

In order to select a sample size Slovin's formula will be used as stated below:

$n = N / (1 + Ne^2)$ Where: n = Number of samples required, N = Total number of students and staff at Our Lady of Fatima secondary school Nakulabye e = Error tolerance (level).

For purposes of accuracy we set at 20% giving us error tolerance level of 0.20 and from the formular we needed 24 respondents.

Table 2: Respondent composition

Category of respondents	Size in numbers	Percentage number(%)
Students	18	75
Teachers	5	21
Library staff	1	4
Total	24	100

Source: Primary data

3.6 DATA COLLECTION METHODS

Data collection methods refer to the ways through which a researcher gathers specific information to be used to proffer solutions to relevant questions (formplu.us, 2022). These methods are used with an intention of finding out all there is to a particular subject matter. For purposes of data collection the following methods were used;

3.6.1 OBSERVATION METHOD.

Observation refers to the data collection method through which a researcher collects data by monitoring the study population through closely looking at how they behave towards a given phenomenon. Data was collected through undisguised observation where the researcher was physically in the library to see how the study population accessed the library resources. Observation was chosen for this study because data collected through this method is a result of the accounts of first-hand and real-world events in the study area since researchers focus on the behaviour of the study population towards the specified study objectives.

3.6.2 INTERVIEW METHOD.

Interview is a method research data collection that a researcher uses to obtain data by means of asking research questions to respondents that are part of the study population. Data was collected through having individual face to face interviews by the researcher and the respondents where the researchers asked questions and recorded in writing the respondents' responses. Interviews were chosen for this study for they had the possibility to enable researchers gain quick responses to the study questions since through interviews the respondents offer answers to research questions in real time.

3.6.3 DOCUMENT REVIEW METHOD.

Document review is the systematic procedure of evaluating documents connected to a given study. Data will be collected through the systematic evaluation, and interpretation of internal certified documents and other literary evaluated documents in order gain understanding and develop knowledge about the study area basing on the literature that was published before the study. Document review was chosen to provide un biased research results since the documents to be reviewed were created before the study hence being un influenced by the researcher.

3.7 DATA COLLECTION INSTRUMENTS

Data collection instruments are the tools or devices a researcher uses to administer a given data collection method an aim of collecting research data. The instruments are meant to facilitate effective capturing of all the required data relating to the study objectives. Below is how the various data collection tools were structured for purposes of ensuring that the tools are on point and will satisfy the project objectives:

3.7.1 OBSERVATION GUIDE.

Observation refers to the active acquisition of information through critical monitoring of the study population by use of the researchers' eye. Observation was used to collect primary data relating to how users access library resources. The population was observed in an undisguised way through sitting in the library and observing how users accessed resources. To ensure data validity, an observation checklist was used so as to be able to stick to making observations on salient features that are in line with the project objectives. The observation guide for this study is found in Appendix 1.

3.7.2 INTERVIEW GUIDE

Interviews are a means of collecting data through which a researcher collects data by asking respondents questions while noting down the responses. For this study, face to face interviews were used to collect primary data from respondents. Interviews were semi-structured and questions were divided into sections derived from the each of the project objectives. Semi- structured interviews provided more room for flexibility in relation to adding more questions and seeking for clarity on the responses given by the respondents which ensures data validity. An interview guide for this study can be found in Appendix 2.

3.7.3 DOCUMENT REVIEW GUIDE

Document review refers to the means of collecting data through reviewing existing documents or literature. For this project, both internal and external documents were reviewed to offer secondary data. Data validity was ensured by means of only reviewing documents that had been evaluated and considered to be authoritative, updated and with valid data. Research data that was collected through reviewing existing documents was guided by a document review guide that preset the

documents to be reviewed and how they impacted on the study objectives. A document review guide used in this study is found in Appendix 3.

3.8 DATA ANALYSIS AND PRESENTATION

3.8.1 DATA ANALYSIS

The Data that was collected was analysed based on an inductive approach of thematic analysis basing on how the respondents gave their answers and how they presented them.

3.8.2 DATA PRESENTATION

In the entire report of this project, research findings and all data collected was be presented by textual presentation in a Ms.word document. This is because all data collected was contextual and hence presenting it will required elaborate interpretation and explanation. Presentation of data through textual presentation also aimed at helping readers to understand the content of research.

3.9 DATA QUALITY CONTROL

Data quality control refers to the set of efforts put in place to ensure the quality and accuracy of data being collected by the researcher using the methodologies chosen for a particular study. All the data collected has to remain accurate and of good quality and remain appropriate towards fulfilling project objectives.

3.9.1 DATA VALIDITY

Data validity refers the degree to which data or the results of a study are correct and in this study data validity was ensured by means of ensuring that all the data collection tools followed a specified guide to ensure that all questions asked, observations made and documents were reviewed were in line with the project objectives so that all the data that was collected is purposeful and on point. All this was done to check and ensure the integrity, accuracy and structure of data.

3.9.2 DATA RELIABILITY

Data reliability refers to the degree to which a research method used produces stable and consistent results. Throughout the entire project we assessed data reliability by the test-retest technique.

3.10 RESEARCH PROCEDURE

The research procedure began with selecting the project research topic title that we submitted to the project supervisor for guidance. After confirmation from the supervisor that the submitted title was worth being carried out as a project, we submitted it to the project coordinator who subsequently submitted it to the department for approval. Chapters 1, 2 and 3 that form the project proposal were submitted to the supervisor for guidance and suggesting the necessary corrections. After obtaining approval to continue with collecting data in the field at the case study library. The collected data was analysed and presented in a project report that was submitted for evaluation.

3.11 ETHICAL ISSUES

To ensure ethical issues in research are respected the strides below were taken into consideration; Confidentiality and anonymity of respondents was respected by the researchers by avoiding asking personal data in the questions set in the focus group discussions and questionnaires. Names, age, class or other data that might show who the respondent was were not asked.

Consent from individual respondents of the research questions asked through the interviews was sought before any interview session began. Individuals who declined to take part in the research were not forced to.

Before engaging respondents in project related interviews, permission from the relevant school authorities was sought and acquired before the members of the research population are engaged.

The respondents were briefed about the project and given ample time that they needed before responding to questions during the interviews. Interviews also got scheduled in the time that was favourable and acceptable by the respondents.

3.12 PROJECT LIMITATIONS

The project anticipated to meet the following challenges:

1. Lack of ample time to catalogue all resources of the library and capture the data into the system. The library has got multiple resources that can not be catalogued in the time stipulated

for the project. This was be handled by offering administrative rights to the OPAC to the school authorities so as to ensure that all resources are captured into the OPAC.

2. A huge percentage of respondents from which data will be collected will be students who might lack knowledge about catalogues or be familiar with the OPAC. This was tackled by giving a brief background about the OPACs to the respondents before interviewing them so as to ensure that they have knowledge about the topic at hand.

CHAPTER FOUR: ANALYSIS, PRESENTATION AND DISCUSSION OF FINDINGS

4.1 INTRODUCTION

This chapter presented, analyzes and discusses the study findings. The purpose of the project was to create an Online Public Access Catalogue for Our Lady of Fatima secondary school library, Nakulabye so as to boost access to library resources by providing bibliographic descriptions of library materials that can be accessed through use of electronic gadgets such as a computer. Data was presented in text, tables and charts according to the project objectives.

4.2 RESPONSE RATE

Basing on the Slovincs' formula used to determine the sample size from the entire population at Our Lady of Fatima secondary school, 24 respondents were selected to participate in the research procedure. On the said required sample, we managed to get responses from 21 people which is 87.5% of the desired response.

Research response rate is further summarized in the table below;

Table 3: Response rate

Category	Expected response	Actual response	Response Percentage (%)
Students	18	18	75
Staff	6	3	25
Total	24	21	100

Source: Field Data, 2022

The majority of respondents were students who formed 75% of the respondents and represented by 18 respondents. The expected number of staff respondents was not achieved majorly because by the time research was carried out at Our Lady of Fatima secondary school library the most teachers were attending a teachers' seminar. Only 3 staff respondents of the total 6 respondents were able to offer responses throughout the study.

4.3 OBJECTIVE ONE: TO EXAMINE HOW ACCESSIBILITY OF RESOURCES IS DONE AT OUR LADY OF FATIMA SECONDARY SCHOOL LIBRARY.

This objective aimed at examining how accessibility of resources is done at Our Lady of Fatima secondary school library. The researchers aimed at acquiring responses majorly from students of Our Lady of Fatima secondary school library for they are the cardinal patrons of the library to

whom accessibility of resources should be granted and data was collected through interview and observation methods. 21 respondents offered responses through the interview giving a response rate of 88%. Data collected regarding this objective is presented below;

4.3.1 WHAT RESOURCES DO YOU HAVE IN OUR LADY OF FATIMA SECONDARY SCHOOL LIBRARY?

Researchers used this question to be able to find out the various types of resources in Our Lady of Fatima Secondary school library. Data was collected through interview and 21 respondents were able to offer their responses putting the response rate at 100% of the total number of respondents. Data showing resources in Our Lady of Fatima secondary school library is presented in the table below;

Table 4: Resources in Our Lady of Fatima secondary school library.

Library resource	Number of respondents	Percentage (%)
Text books	13	61.9%
Academic Past papers	15	71.4%
Pamphlets	15	71.4%
News papers	8	38.09%

Source: Field Data, 2022

Table 4.2 above shows data collected from interviewing the library users at Our Lady of Fatima secondary school. 13 respondents forming 61.9% of the respondents mentioned the availability of text books, 15 respondents making 71.4% of the total respondents mentioned the availability of academic past papers and pamphlets, whereas 8 respondents (38.09%) stated that there are newspaper resources in the library. The data above was confirmed when the researchers checked the library shelves in order to observe the resources available on the shelves and indeed the resources mentioned by the respondents were observed to be on the shelves and more that were not mentioned were also observed. These were church music notes, catechist and evangelistic publications and students' academic results from national examinations.

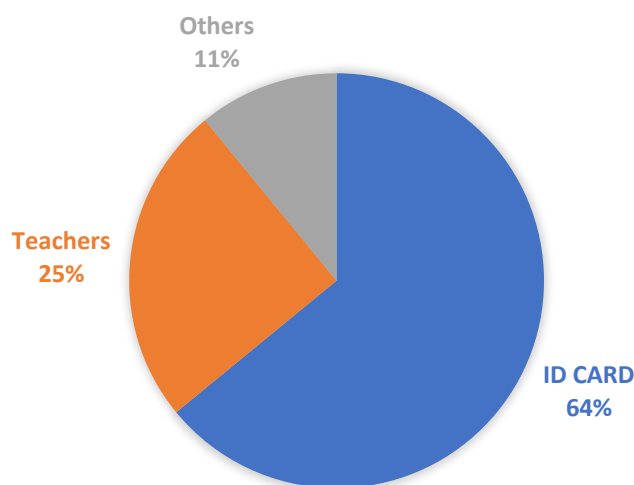
4.3.2 HOW DO USERS GET ACCESS TO RESOURCES IN THE LIBRARY?

Researches asked this question in the interview so as to be able to find out the ways through which the users get access to resources in the library. Data was collected through interviews and 20

respondents offered responses to this question giving a response rate of 95% of the total study respondents. Data collected is summarized in the figure below;

Figure 1: Showing means of access to library resources.

MEANS OF ACCESS TO LIBRARY RESOURCES



Source: Field Data, 2022

Data shown in Figure 4.1 shows that 13 (64%) of the respondents get access to resources in the library through showing a valid student Identity card so as to confirm whether they are students or staff of Our Lady of Fatima secondary school. One respondent in response to this question stated that “I go to the library, show my school ID and I ask for the resources I want to read.” 5 respondents forming 25% of the respondents stated that one can access resources from the library through recommendation from a teacher. This is mostly done when multiple copies are needed to be picked from the library to be taken to facilitate learning in class. Other means of access to library resources in the library given by 2 respondents forming 11% of the respondents included asking a fellow student with an ID to borrow on their behalf, and making sure you are known by the library attendant so as to be able to get access without being asked to present the student ID.

4.3.3 TECHNOLOGY INVOLVED IN ENSURING ACCESS TO LIBRARY RESOURCES.

This question was asked to find out if there is any form of technology involved in ensuring access to resources in Our Lady of Fatima secondary school library. 21 respondents forming 100% of the

total number respondents gave responses to this question through the interview sessions held by the researchers. The data collected is seen in the table below;

Table 5: Showing if there is technology involved in ensuring access to library resources

Response	Number of respondents	Percentage (%)
Yes	0	0%
No	21	100%
Total	21	100%

Source: Field Data, 2022

Table 4.3 above indicated how the respondents offered their responses to the question in the interview. All the 21 respondents stated that there is no technology used in ensuring access to resources in the library. One of the respondents stated that “Everything done in the library is done manually which is at times very tiresome but there is nothing else to do at the moment.”

Researchers also observed how resources were borrowed out of the library and returned, assigning item numbers, classifying and all the other library activities being done manually through recording down in a record book.

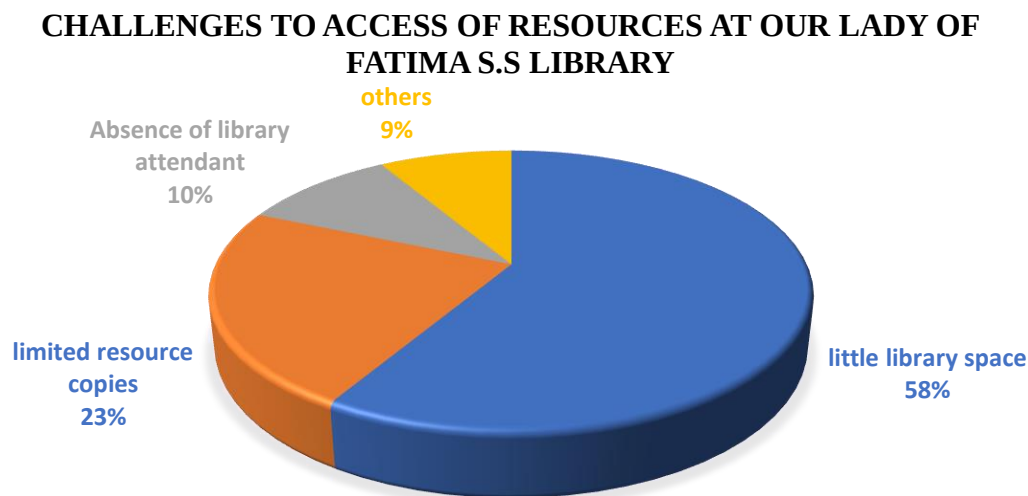
4.4 OBJECTIVE TWO: TO DETERMINE THE CHALLENGES FACED BY OUR LADY OF FATIMA SECONDARY SCHOOL LIBRARY IN ENSURING ACCESSIBILITY OF RESOURCES AT OUR LADY OF FATIMA SECONDARY SCHOOL LIBRARY

This objective aimed at establishing whether accessibility to resources at Our Lady of Fatima secondary school Library faces any challenges. A total of 21 respondents forming 87.5% of the desired response rate offered their responses to the researchers. The responses were acquired through semi-structured interview questions asked by the researchers in various interview sessions held with respondents and the data collected is presented in below;

4.4.1 CHALLENGES FACING ACCESSIBILITY OF RESOURCES AT OUR LADY OF FATIMA SECONDARY SCHOOL LIBRARY

Researchers asked this question with an aim of finding out the challenges facing accessibility of resources in Our Lady of Fatima secondary school library. 21 respondents giving a response rate of 100% offered responses and the data collected is summarized in the figure below;

Figure 2: Showing challenges to access of library resources



Source: Field source,2022

Figure 4.2 above presents the challenges that the respondents face in their quest to access resources in the library at Our Lady of Fatima secondary school library. 12 respondents mentioned Little library space in the library as a challenge which totaled to 58% of the respondents. 4 respondents stated that they have been challenged by the library's lack of enough resource copies in the library which is 23%. 10% of the respondents are challenged by the absence of a permanent library attendant. Other challenges included the long procedures followed to borrow a resource from the library mentioned by 3% of the respondents and unfavourable library time table mentioned by 6% of the respondents.

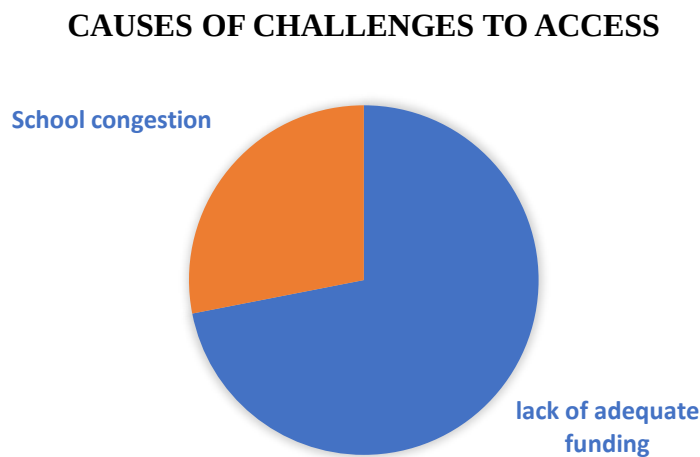
While observing the library, researchers were able to notice that the library is in a very congested room that is further still shared with the school computer laboratory. Researchers found this a challenge since the existence of a computer class in the library puts a stop to the access of resources the library reading spaces. The library space is also too small whereby not more than 20 library users can occupy the reading spaces at ago. Most resources in the library do not exceed 10 copies yet the library is meant to serve more than 300 users which means each copy has to serve 30 users. This defies S.R Ranganathans' law of library science that states that every reader should have his/her book. The library usage rules at Our Lady of Fatima secondary school were examined through document review and it was found that they challenge the access to resources since they

put too much limit to the time the library opens. The library is always closed on Sundays and only opens for personal reading from 08:00AM to 06:00PM on condition that there is no computer class lessons on going.

4.4.2 POSSIBLE CAUSES OF THE CHALLENGES TO RESOURCE ACCESSIBILITY

10 respondents offered responses to the questions which gave a response rate of 48% of the total respondents in the objective. Data collected from the respondents in response to this question is shown in the figure below;

Figure 3: Showing possible causes of challenges to access of library resources.



Source: Field Data, 2022

Figure 4.3 above presented how the respondents responded to what could be the possible causes of the challenges to accessibility of resources in the library. 6 respondents stated lack of adequate funding as the cause to the challenges facing accessibility to resources in the library which forms 60%, and 4 respondents stated that the challenges are caused by the congestion at the school as a whole. A respondent while explaining the congestion at school stated that the even in the classroom students sit in a congested way and there is no building that is un utilized or not used to full capacity. This means that if the library is to be expanded, new buildings need to be constructed first.

4.4.3 POSSIBLE SOLUTIONS TO THE CHALLENGES

All the 10 respondents that gave responses in regards to the possible causes of the challenges to access of resources in the library offered response to this question. Data as collected is in the table below;

Table 6: Showing possible solutions to the challenges.

Possible solution	Number of respondents	Percentage response (%)
Increase in funding	6	60%
Revision of library opening hours	3	30%
Not sure	1	10%

Table 4.4 above shows how the respondents offered the possible solutions to the challenges facing accessibility of resources in Our Lady of Fatima secondary school library. 6 respondents (60%) of the respondents called for an increase in funding from the school administration. One of the respondents said that *“if the school administration increases on the money for buying books in the library, then copies of books would be enough for all of us and we would use the library without being frustrated.”* 30% called for revision of the library opening hours so as to be able to accommodate more users into the library whereas 5% of the respondents offered no responses to the question.

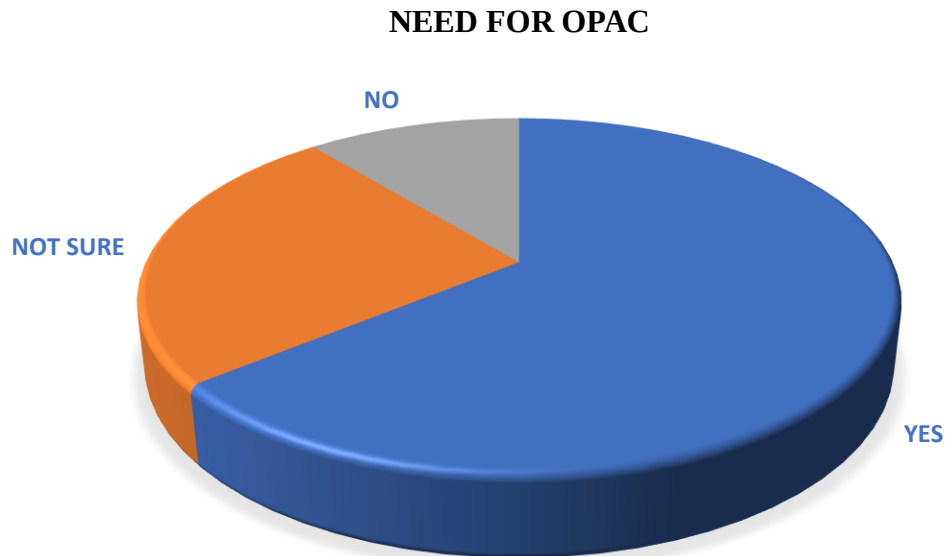
4.5 OBJECTIVE THREE: TO ESTABLISH THE REQUIREMENTS NEEDED TO DEVELOP AN ONLINE PUBLIC ACCESS CATALOGUE AT OUR LADY OF FATIMA SECONDARY SCHOOL LIBRARY.

This Objective aimed at establishing the requirements needed to develop of an Online Public Access Catalogue system for Our Lady of Fatima secondary school library. To collect data, researchers used the interview method and a response rate of 95% was got from a total of 20 respondents that answered questions relating to this objective. The data that was collected from respondents is discussed below;

4.5.1 THE NEED TO HAVE OPAC AT OUR LADY OF FATIMA SECONDARY SCHOOL LIBRARY.

Researchers asked this interview question so as to be able to know if the OPAC will be welcomed by the users at Our Lady of Fatima secondary school. 20 respondents responded to this question and the responses are summarized in the figure below;

Figure 4: Showing respondents need for the OPAC



Source: Field Data,2022

Figure 4.4 above shown how the respondents answered the question relating to the need of having OPAC at Our Lady of Fatima secondary school. 17 respondents forming 86% of the total number of respondents welcomed the idea of developing an OPAC for Our Lady of Fatima secondary school and stated that it is highly needed in the library to foster speedy search and retrieval of library items. However, 1 respondent forming 5% of the total respondents to this question did not support the idea of having an OPAC Our Lady of Fatima secondary school library saying that the reasons limiting the access to resources in the library are so many to be solved by the OPAC. 2 respondents forming 10% were un decisive and not sure whether the school should have the OPAC.

4.5.2 WHAT SHOULD THE OPAC DO?

Respondents were asked this question with an aim of finding out what exactly the respondents want the OPAC to do for them. While moderating the interview researchers asked respondents to

provide much responses as much as they can so as to capture more respondents' expectations as much as possible. The responses from respondents are summarized in the table below;

Table 7: What the OPAC should do for the respondents.

Expectation	Number of respondents	Percentage (%)
Search items	14	70
Retrieve items	16	80
Find item description	13	65
Others	9	45

Source: Field Data, 2022

Table 4.5 indicates how the 20 respondents offered their responses. 14 respondents said that the OPAC should enable them search items through entering a search item such as a book title or subject. 16 respondents need an OPAC that can retrieve items where they can log in to the system, and see all the items in the library. 13 respondents stated that they want the OPAC to enable them access item descriptions. One respondent while asking to have OPAC offer item description stated that at times they find hard time knowing what an item is about but if they could find out what the item is about it would simplify making choices about what item to make use of at a given time. 9 respondents offered other respondents such as OPAC enabling them to access electronic documents, providing room for booking items and to be able to ask questions to the librarians.

4.5.3FEATURES OF THE OPAC.

Respondents were asked about the features to be included in the OPAC. This question was asked so as to give the researchers an understanding of the respondents' features of the OPAC.20 respondents offered responses to the question and data is presented in the table below;

Table 8: Showing respondents desired OPAC features.

Desired Feature	Respondents	Percentage
Search tool	13	65%
Home page	4	20%
No Response	3	15%

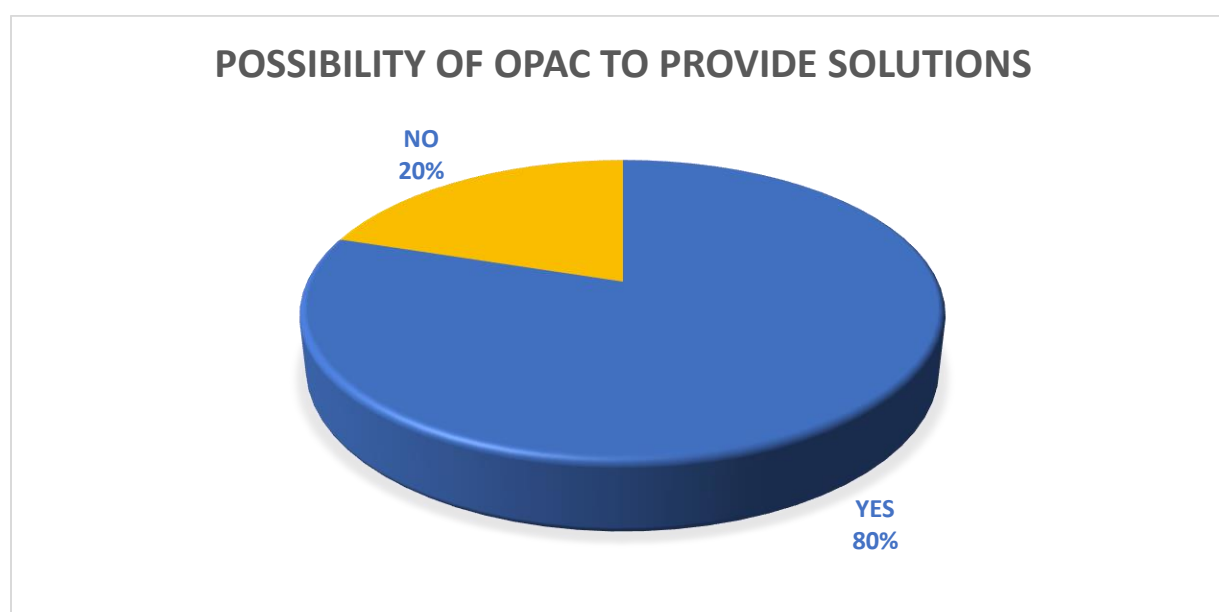
Table 4.6 indicates responses from users of Our Lady of Fatima secondary school library where 13 respondents called for a search feature, 4 respondents called for inclusion of a home page and

3 respondents did not respond to this question. This means that there is a big number of prospective system users that understand what features the system should have.

4.5.4 POSSIBILITY OF OPAC TO PROVIDE SOLUTIONS TO ACCESS CHALLENGES.

Respondents were asked this question to able to find out whether they have a positive mind towards establishing an OPAC as a stride towards solving challenges facing access to resources in Our Lady of Fatima secondary school library. The data collected from the 20 respondents regarding this question is presented in the figure below;

Figure 5: Showing OPAC possibility to offer solutions to access challenges.



Source: Field Data, 2022

Figure 4.4 above indicates that 16 respondents (80%) of the respondents believed that OPAC would provide solutions to the challenges facing accessibility of resources. However, 4 respondents which is 20% stated that though the OPAC would improve access to resources, some challenges were far from being solved by the OPAC such as the limited number of copies and absence of a fulltime librarian. A respondent stated that *“It will be good to have the OPAC in our library but I do not think all the challenges will be solved by the system for example the library lacks a fulltime librarian. Now who will monitor and update the system?”*

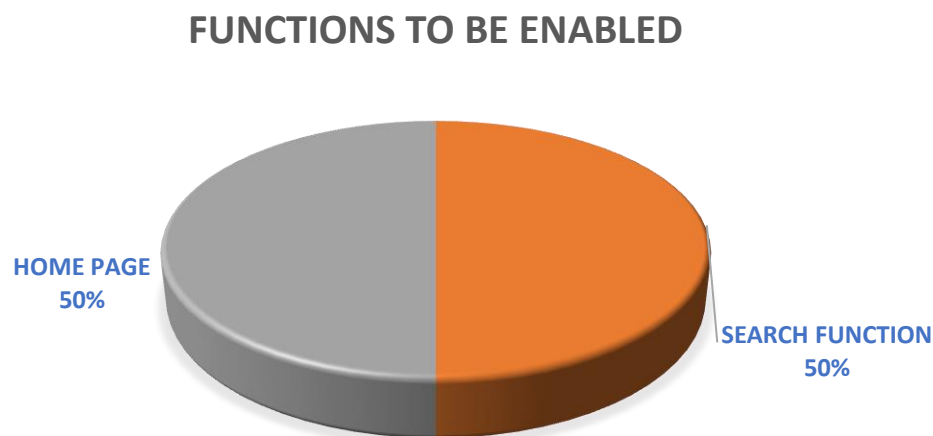
4.6 OBJECTIVE FOUR: TO DEVELOP AN ONLINE PUBLIC ACCESS CATALOGUE FOR OUR LADY OF FATIMA SECONDARY SCHOOL LIBRARY.

The aim of this objective was to find out the extent of the desire to have the Online Public Access catalogue system and the level of preparedness of the respondents to accept to use the system. The response rate in this section was 87% since of the 24 expected respondents 21 responded to the questions. The method of data collection in this section was interview method and the data that was collected regarding this objective is presented below;

4.6.1 FUNCTIONS TO BE ENABLED IN THE OPAC

Respondents were asked this question to able to find out the functions to be enabled in the OPAC as a stride towards solving challenges facing access to resources in Our Lady of Fatima secondary school library. Data was collected from the 20 respondents through interviews and data is presented in the figure below;

Figure 6: Showing functions to be enabled in the OPAC.



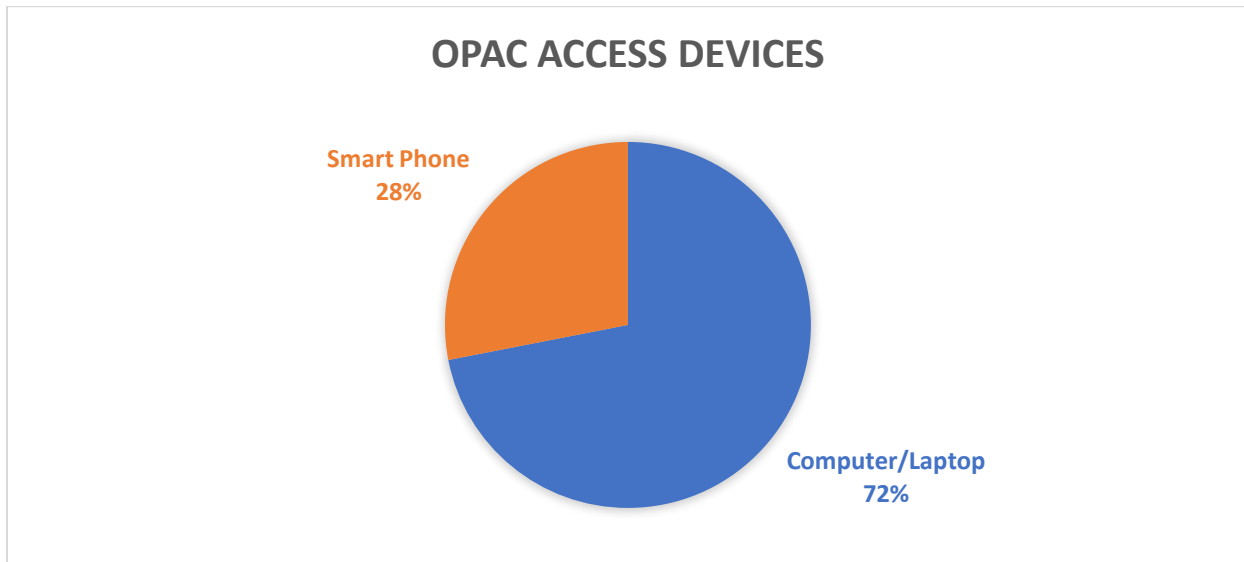
Source: Field Data, 2022

Figure 4.5 indicates that 10 respondents wanted a home page so as to offer them directions on how to use the system. A user stated that the home page should be in a language that is easily understandable.

4.6.2 ELECTRONIC DEVICES TO USE WHILE ACCESSING THE OPAC.

A question was asked to study Respondents to find out the devices that they have access to and can be able to access the OPAC through these devices. Only two responses were offered and the data collected is presented in the figure below;

Figure 7: Showing devices to use while accessing OPAC.



Source: Field Data, 2022

Figure 4.6 indicates the devices through which the respondents want to access the OPAC where a huge majority of 14 respondents want to access the OPAC from the computers in the school library since they are not allowed to own other electronic devices while at school. However, 6 respondents stated they are day scholars and hence reside at home so they would need OPAC on the web to be able to access it remotely using smartphones and tablets.

CHAPTER FIVE: PRESENTATION OF AN ONLINE PUBLIC ACCESS CATALOGUE

5.1 INTRODUCTION

This chapter presented the Online Public Access Catalogue System. OPAC will be used to simplify search and retrieval of library resources with an aim of improving accessibility of resources in Our Lady of Fatima secondary school library, Nakulabye.

5.2 SYSTEM REQUIREMENTS

For efficient system running below are the requirements needed;

The system administrator who is responsible for maintaining and updating the OPAC.

Trained system users.

The system should be searchable.

A system search should be able to offer results retrieved from the system.

5.2.1 HARDWARE AND SOFTWARE REQUIREMENTS

Memory, Disc, Processor, Display, Flash drive, Computer, Xampp server, Local host, MYSQL database.

5.3 SYSTEM FEATURES

Below are the services that the system is meant to offer and how it should respond to the various system interactions;

The System stores correct information about all resources in the library.

The system has interfaces for entering and viewing data.

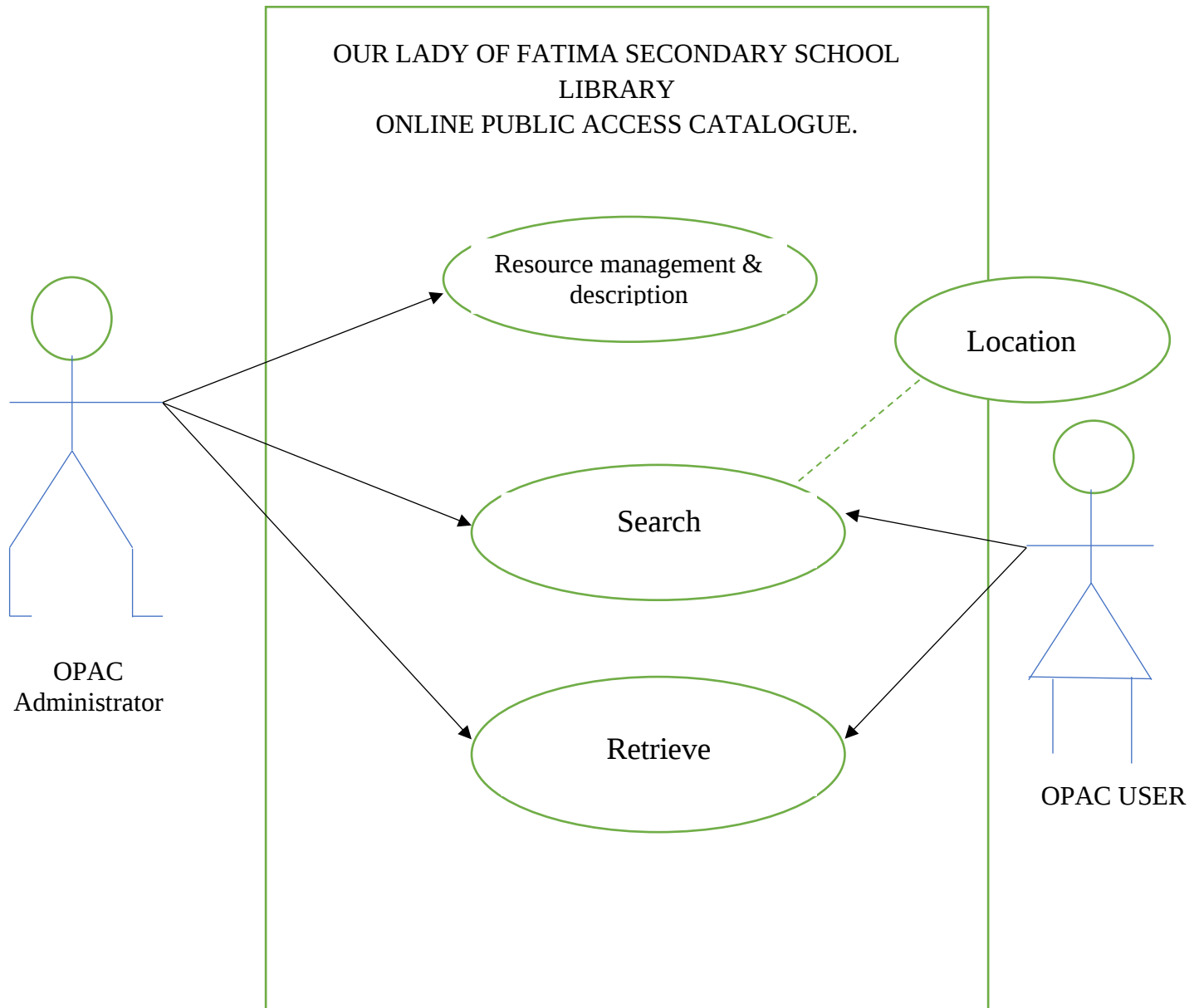
The system accepts searching resources stored in the system.

The system locates resources and offers feedback to the user.

5.4 SYSTEM DESIGNS

5.4.1 USE CASE DESIGN DIAGRAM

FIGURE 5.1 SHOWING USE CASE ANALYSIS DIAGRAM

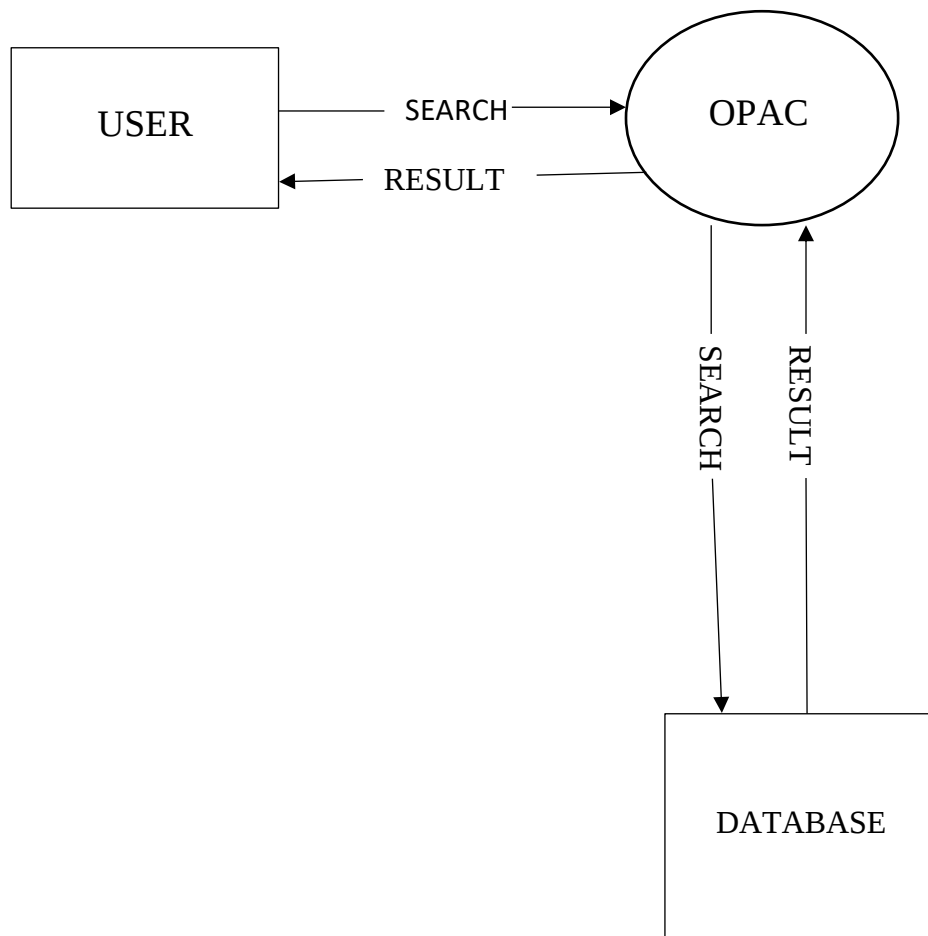


Source: Field Data, 2022

5.4.2 DATA FLOW DIAGRAM FOR OUR LADY OF FATIMA SECONDARY SCHOOL LIBRARY OPAC.

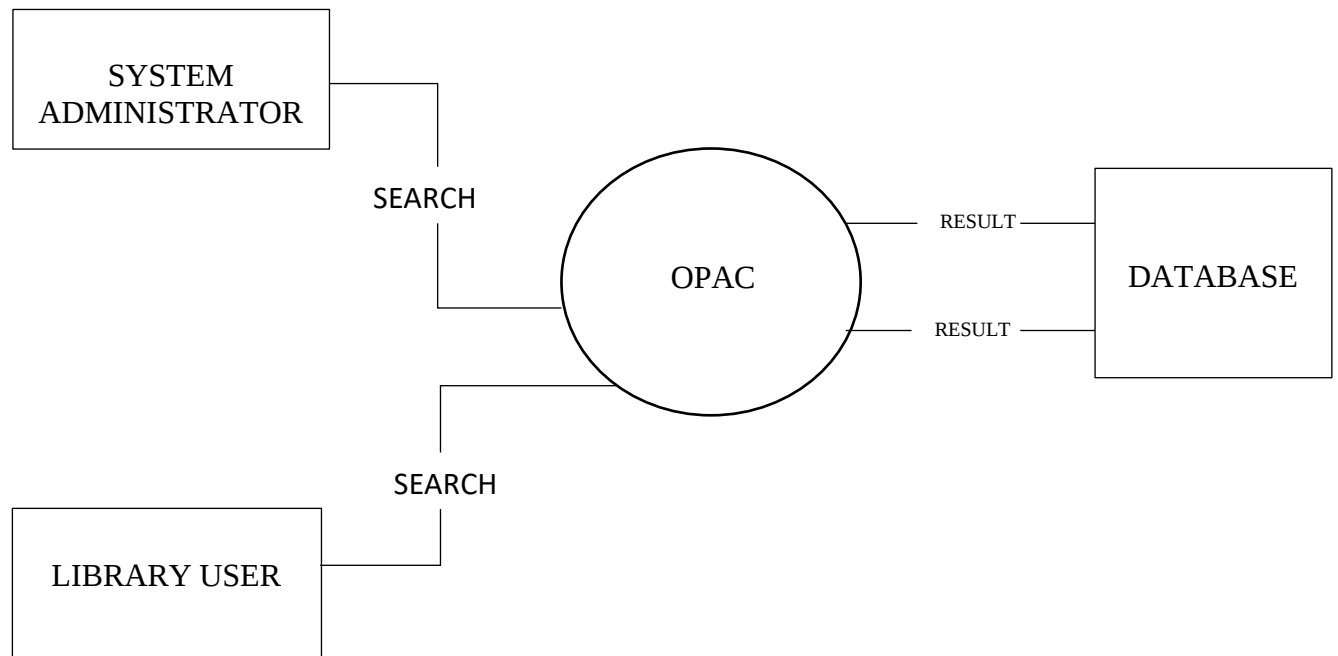
Below is how information flows through the OPAC system. The diagram shows how the various system users interact with the system to satisfy their needs.

FIGURE 5.2 SHOWING CONTEXT LEVEL DIAGRAM.



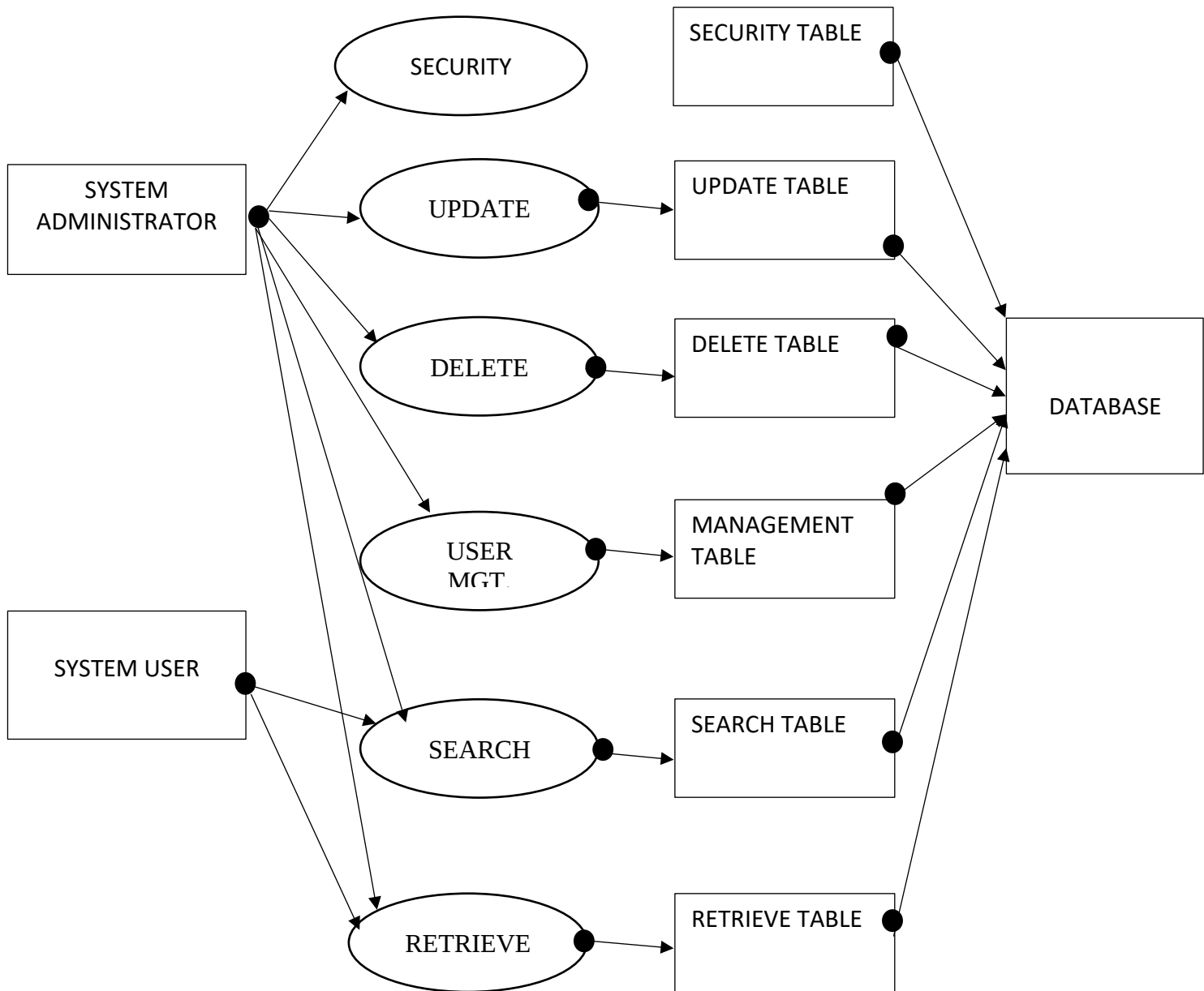
Source: Primary Data, 2022

FIGURE 5. 3: SHOWING LEVEL 1



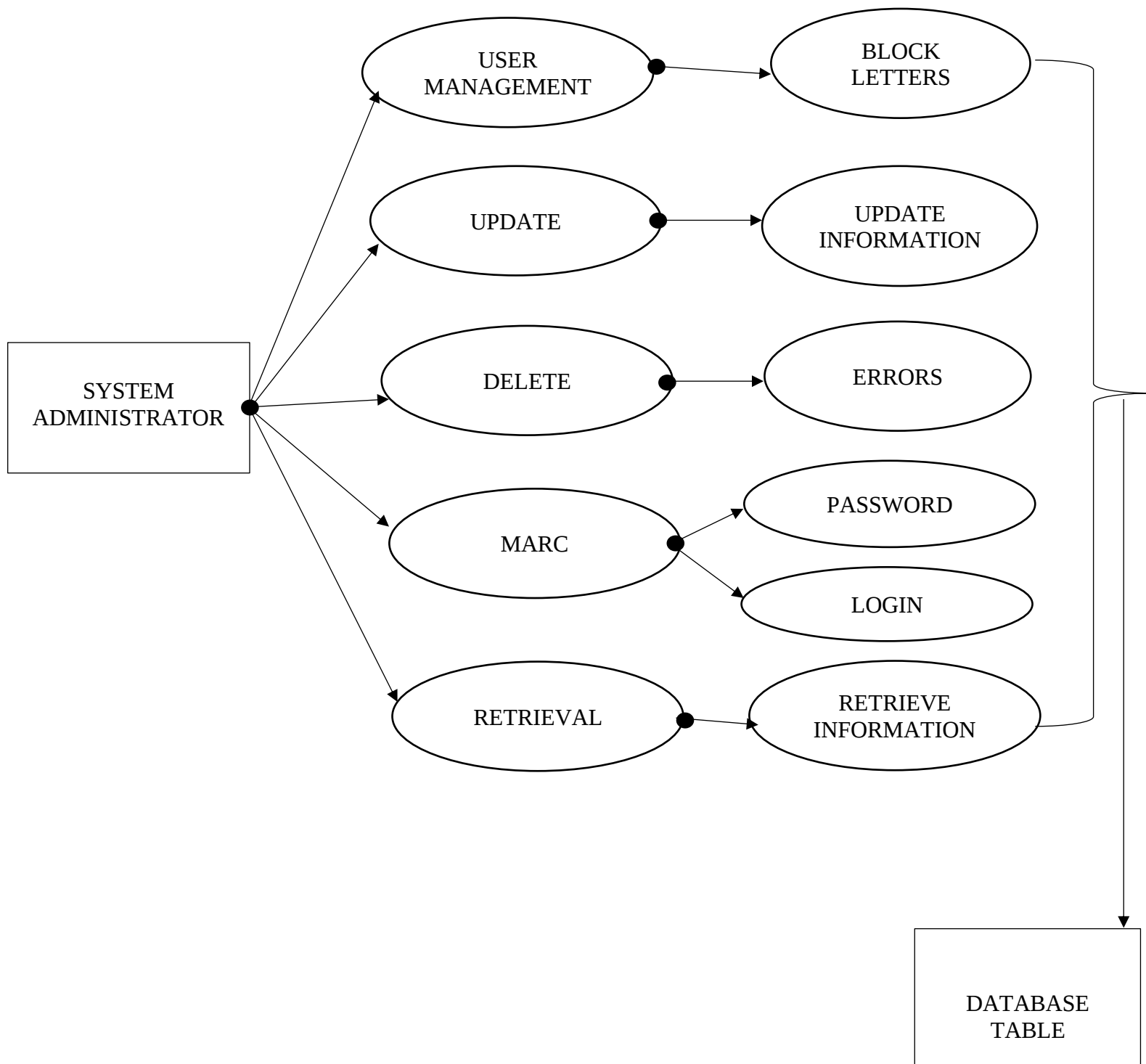
Source: Primary Data, 2022

FIGURE 5. 4: SHOWING LEVEL 1.1



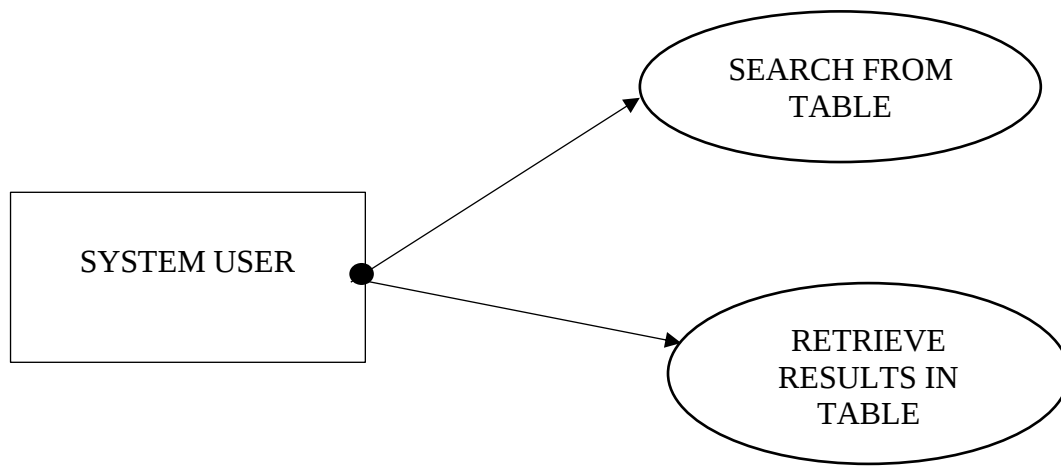
Source: Primary Data, 2022

FIGURE 5. 5: SHOWING LEVEL 1.2



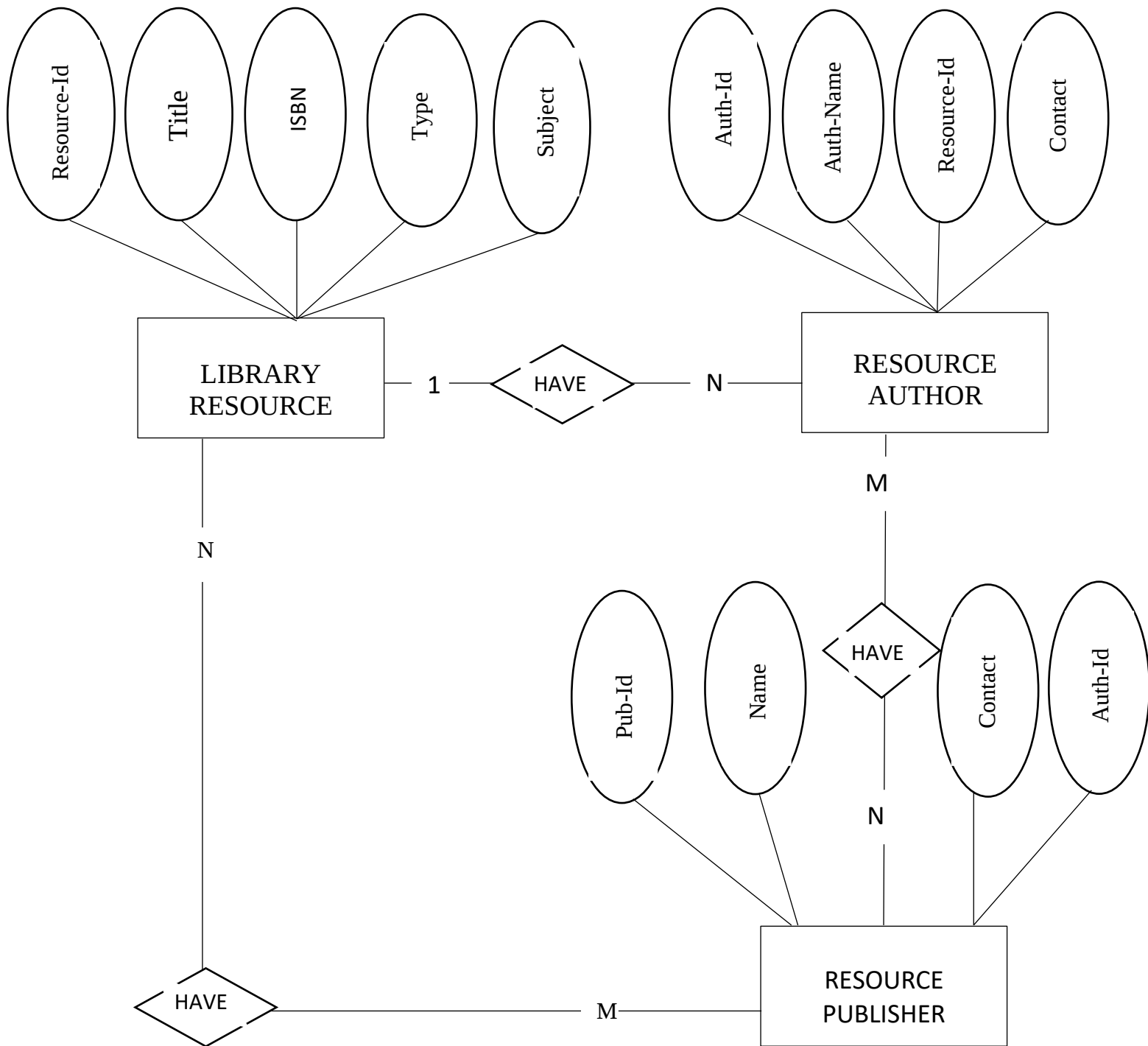
Source: Primary Data, 2022

FIGURE 5.6: SHOWING LEVEL 1.2



Source: Primary Data, 2022

FIGURE 5: SHOWING ENTITY RELATIONSHIP DIAGRAM FOR OUR LADY OF FATIMA SECONDARY SCHOOL LIBRARY OPAC.



Source: Primary Data,2022

Figure 5.7 shows the Entity Relationship Diagram that explains occurrences of one entity that may relate to a single occurrence of an associated entity.

A library resource may have many Resource Authors.

Many Publishers may have many Authors.

Many library resources may have many Publishers

E.R DIAGRAM ATTRIBUTES FOR OUR LADY OF FATIMA SECONDARY SCHOOL LIBRARY.

Library resource: Resource Id, Title, ISBN, Type, Subject

Author: Auth-Id, Auth-Name, Resource-Id, Contact

Publisher: Pub-Id, Name, Contact, Auth-Id

5.5 DATABASE DESIGN

The database design comes from decomposing the Entity Relationship Diagram into relation tables described below;

Table 9: Showing database design

Library Resources

Column	Data Type	Null	Default	Comments
Resource Id	Int (10)	No		
Title	Varchar (220)	No		Searchable item title
ISBN	Int (15)	No		
Type	Varchar (30)	No		Format of the resource.
Subject(s)	Varchar (250)	No		Subjects the resource relates to.

Author

Column	Data Type	Null	Default	Comments
Author Id	Int (10)	No		
Author name	Varchar (30)	No		Name of item Author
Resource Id	Int (10)	No		
Contact	Int (18)	No		

Publisher

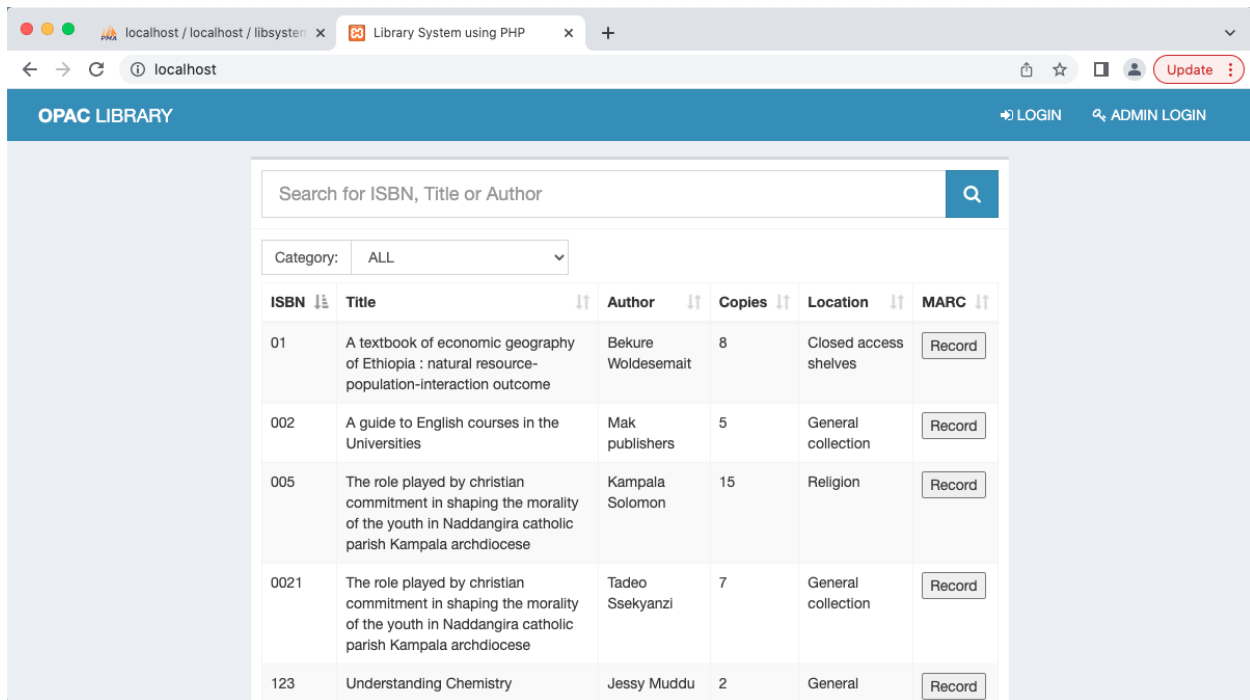
Column	Data Type	Null	Default	Comments
Publisher Id	Int (10)	No		
Name	Varchar (40)	No		Searchable publishers name
Contact	Int (18)	No		
Author Id	Int (18)	No		

5.6 SYSTEM INTERFACE

SCREENSHOTS FOR THE PROPOSED OPAC FOR OUR LADY OF FATIMA SS LIBRARY, NAKULABYE

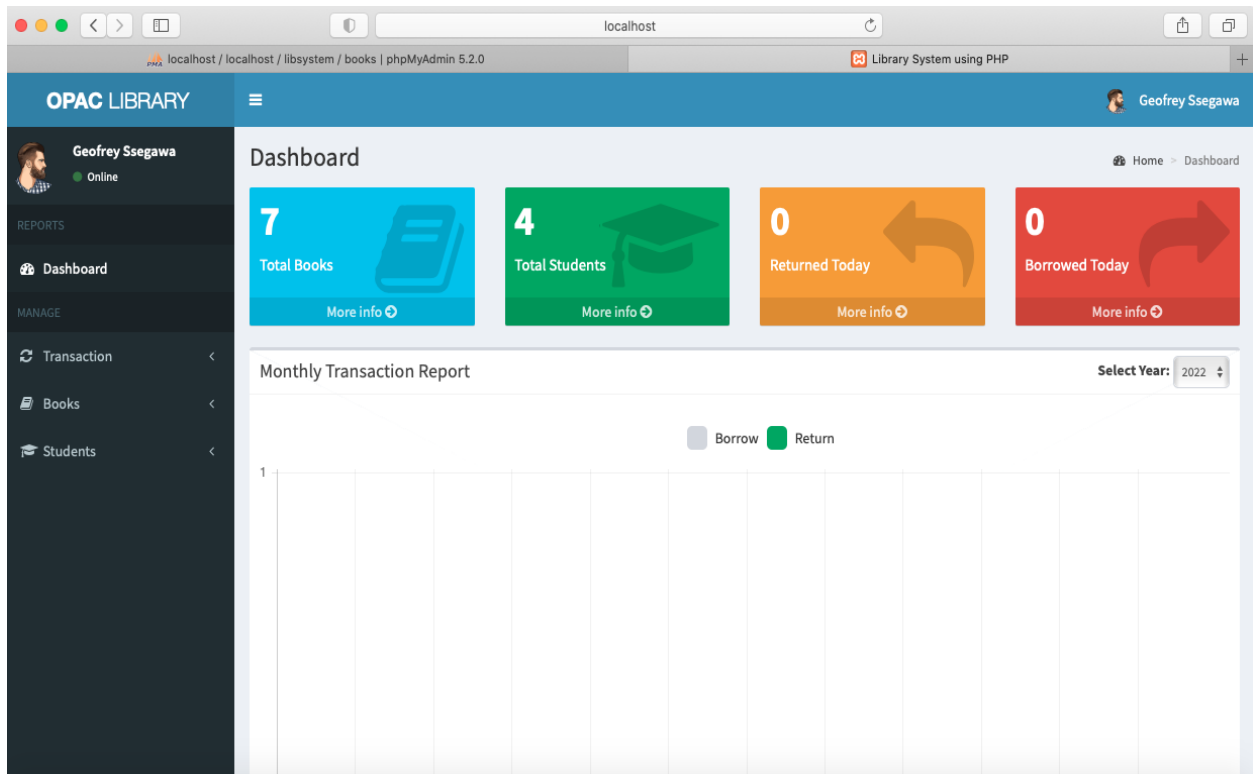
5.6.1 HOME PAGE

Below is a screenshot of the system home page where users interact with the system to make searches and get required responses



5.6.2 ADMINISTRATION DASHBOARD

After logging into the system the administrator is able to see the items captured in the system, total number of students and the availability of the items. The administrator can also delete items from the system.



5.6.3 DETAILED ITEM LIST

The system administrator views all the items on the system and can update delete or add as seen below;

The screenshot shows the LibrarySystem Book List page. A green success message at the top states 'Success! Book updated successfully'. Below this is a '+ New' button and a 'Category' dropdown set to 'ALL'. The table displays 6 entries with columns for Category, ISBN, Title, Author, Publisher, Status, and Tools. The 'Tools' column contains 'Edit' and 'Delete' buttons for each entry. The bottom of the page shows 'Showing 1 to 6 of 6 entries' and pagination controls.

Category	ISBN	Title	Author	Publisher	Status	Tools
Biology	123	O level Biology simplified	Birungi Docus	Mak publishing co.Ltd	available	Edit Delete
Computer studies	0021	database design	Scott Meyers	Hoobstank Publishers	borrowed	Edit Delete
Computer studies	002	Introduction to MS Access	Gerald Ssekasamba	Seka pub	available	Edit Delete
English	555	Prose and poetry	Fred Kavuma	Wavah Publishers	borrowed	Edit Delete
History	01	East African History	Moses Lutwama	Jacobs Publisher	borrowed	Edit Delete
History	005	Understanding the New Testament	Rev.Musooke Isaac	Fountain Publishers	borrowed	Edit Delete

5.7 SYSTEM IMPLEMENTATION

The Software to be used to implement the OPAC System at Our Lady of Fatima Secondary School Library included Xampp server for running the system, Local host for the hosting the system and MYSQL Database for managing the database.

5.8 SYSTEM MAINTENANCE

For the smooth and effective running of the Online Public Access Catalogue it should be monitored regularly and its performance tested. The software used to run the system should be updated regularly to avoid any system failures. The Hardware hosting the system should be protected from dangers of electric shock and dust. All these maintenance strides should be regular and timely.

CHAPTER SIX: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

6.1 INTRODUCTION

This chapter presents the study findings, conclusions and study recommendations

6.2 SUMMARY

The purpose of the project was to create an Online Public Access Catalogue (OPAC) for the library at Our Lady of Fatima Secondary School Nakulabye which will boost access to library resources by providing bibliographic descriptions of library materials that can be accessed through use of electronic gadgets such as a computer. The objectives of this project were to examine how accessibility of resources is done at Our Lady of Fatima Secondary School library, to determine the challenges faced by Our Lady of Fatima secondary school library in ensuring accessibility of resources at Our Lady of Fatima Secondary School library, to establish the requirements needed to develop an Online Public Access Catalogue at Our Lady of Fatima Secondary School library and to develop an Online Public Access Catalogue for Our Lady of Fatima Secondary School library.

Observation, Semi-structured interviews, and document review were the methods of data collection used in the project. The study adopted a qualitative approach with case study design. Data was collected from a sample of 21 respondents consisting of a librarian, teacher and students. The study found out that Our Lady of Fatima Secondary School library uses a shelf list for searching and retrieval of resources, an accession register and a record book were used to register in the new books brought in the library and also register details of users borrowing library resources. This means of ensuring accessibility has a number of challenges which can be solved by the OPAC and therefore the study concluded that the implementation of an OPAC would help ease the searching and retrieval of information materials from the library hence recommending that the school should adapt to the new OPAC to ease searching of books.

6.3. PROJECT FINDINGS

The study found out that;

Our Lady of Fatima Secondary School Nakulabye uses a shelf list as a tool for searching and retrieval of resources.

A register is used to register new library items added to the library collection of for Our Lady of Fatima Secondary School Nakulabye.

The library has not ventured into automation of any library activities and everything is still done manually.

The users of the library at for Our Lady of Fatima Secondary School Nakulabye welcomed the idea of developing an OPAC for the library and anticipate it to enable searching of materials, locate resources and retrieve the information they need.

6.4. CONCLUSION

The study concluded that;

The OPAC if introduced at Our Lady of Fatima Secondary School library, Nakulabye will improve access to resources in the library through enabling searching, locating and retrieving of resources from the library.

Researchers basin on the observation of the availability of functioning computers in the library concluded that the library had the necessary hardware needed to operate OPAC at for Our Lady of Fatima Secondary School Nakulabye.

OPAC had better chances of succeeding as a means of ensuring accessibility to resources since many of the research respondent accepted to have it developed. And hence would make use of it if availed.

6.5. RECOMMENDATIONS

The study recommended that;

Our Lady of Fatima Secondary School library, Nakulabye should OPAC in order to improve searching and retrieving of resources from the library.

There should be training and orientation to librarian and students prior to the establishment and usage of the system in the library.

School management should work out a plan of expanding the library reading spaces so as to improve access and usage of resources found at for Our Lady of Fatima Secondary School library, Nakulabye.

6.6 AREAS OF FURTHER RESEARCH

This study recommends further research on;

- I. Developing a library user manual for utilization of library materials for Our Lady of Fatima Secondary School library, Nakulabye.
- II. Designing an online circulation and resource tracking system for Our Lady of Fatima Secondary School library, Nakulabye.
- III. Developing a current awareness system for Our Lady of Fatima Secondary School library, Nakulabye.
- IV. Designing a library classification scheme for for Our Lady of Fatima Secondary School library, Nakulabye.

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APPENDICES
APPENDIX 1: OBSERVATION GUIDE.

Observation of the library users behavior will be guided by the guide below;

OBJECTIVE	OBSERVATION
1. To Examine how accessibility of resources is done at Our Lady of Fatima Secondary School library.	Technology used for resource accessibility.
2. To Determine the challenges faced by Our Lady of Fatima secondary school library in ensuring accessibility of resources at Our Lady of Fatima Secondary School library.	Challenges users face in accessing library resources How users solve accessibility challenges
3. To Establish the requirements needed to develop an Online Public Access Catalogue at Our Lady of Fatima Secondary School library.	What are the most common ways through which users access resources? Can the available technology facilitate the use of OPAC in the library?
4. To Develop an Online Public Access Catalogue for Our Lady of Fatima Secondary School library.	Which available devices can facilitate the use of the OPAC? How can the system be maintained?

APPENDIX 2: INTERVIEW GUIDE.

Dear respondent,

We are Ssegawa Geoffrey and Birungi Docus students of Makerere university at East African School of library and information science(EASLIS) pursuing a Bachelor's degree in Library and Information Science. We are undertaking a project on Developing an Online Public Access Catalogue (OPAC) for Our Lady of Fatima Secondary School Library, Nakulabye. The study is in partial fulfilment of the requirements for the award of the degree of Bachelor of Library and Information Science (BLIS) at Makerere University. The responses you give in this interview will only be used for academic purposes and kept confidential.

Section A: How is accessibility of resources done at Our Lady of Fatima Secondary School Library

1.What resources do you have at Our Lady of Fatima Secondary school library?

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2 How do library users get access to resources in the library?

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3 Is there any technology involved in ensuring access to library resources?

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Section B: Challenges faced by Our Lady of Fatima secondary school library in ensuring accessibility to resources.

1 What challenges do you face in regards to accessibility of library resources at Our Lady of Fatima Secondary school Library?

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What are the possible causes of the challenges faced in ensuring effective access to resources?

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3 How do you think these challenges can be solved?

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Section C: Establishing the requirements needed to develop an Online Public Access Catalogue at Our Lady of Fatima Secondary School library.

1 Do you think there is need for having an OPAC for Our Lady of Fatima Secondary School Library?

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2 What should the online public access catalogue system do for you?

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3 What features do you want in the designed Online Public Access Catalogue system for your library?

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4 Do you think developing an OPAC will provide solutions to challenges relating to information access in your library?

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Section D: Developing an Online Public Access Catalogue at Our Lady of Fatima Secondary School library.

1 What functions do you want enabled in the designed Online Public Access Catalogue?

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2 Which electronic devices do you expect to use when accessing the Online Public Access Catalogue?

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APPENDIX 3: DOCUMENT REVIEW GUIDE.

The following documents are to be reviewed so as to be able to develop an effective OPAC.

Document	Area of specification	Period
Library usage guiding rules	Ways of ensuring accessibility to resources. What are the acceptable technologies to be used in the library	Our Lady of Fatima secondary school Library Rules 2022
OPAC research reports	The need to develop OPACs for school Libraries. Students interaction and user traits relating to OPACs	Reports published from 2018 to 2022
Our lady of Fatima secondary school Library documents	Trace the way students use the resources in the library.	Library shelf list 2022. Accession register 2022.
Database and Computer systems development books	How to develop Online Public Access Catalogue systems	System design and development books published from 2018 to 2022.