

**The Copperbelt University**

**School of Mathematics and Natural Sciences**

**Computer Science Department**

**In conjunction with**

**Zambia ICT College,**

**Ndola**

**PROJECT TITLE : ZICT LIBRARY MANAGEMENT SYSTEM**

**NAME : BRIAN NKONDE**

**STUDENT ID : 1811171**

**COURSE : DIPLOMA IN INFORMATION TECHNOLOGY**

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**SUPERVISOR : MR TEDDY MWAPULE**

**ABSTRACT**

Library Management System is a web-based application developed for managing various activities in the Library . The aim of this research work was to develop a web-based system with a central database that manages records related to the library and allows students at Zambia ICT College to locate books online . The system designed will keep track of all the available books in the library . This particular project deals with the problems on managing a library and avoids the problems which occur when carried manually. Identification of the drawbacks of the existing system leads to the designing of computerized system that will be compatible to the existing system with the system which is more user friendly and more GUI oriented. We can improve the efficiency of the system, thus overcome the drawbacks of the existing system.

**DECLARATION**

I, **Nkonde Brian**  hereby declare that I carried out the work reported in this document to the best of my knowledge and belief, under the supervision of Mr. Mwapule. I declare that to the best of my knowledge, it contains no material previously published or written by another person.

**Signature** …………………….  **Date** ……………………

**Brian Nkonde (Author)**

**Signature** …………………….  **Date** ……………………...

**Mr . Teddy Mwapule (Supervisor)**

**DEDICATION**

This project is dedicated to my father Mr. Ben Nkonde and my family , who passed on a love of reading and respect of education. Without their huge support, it would not have been possible. And also, to my lovely friends, your inspiration, encouragement and support in diverse forms would always be remembered and cherished.

May God almight bless you all.

**ACKNOWLEDGEMENTS**

The Lord has been faithful in granting the strength, wisdom, knowledge and the courage needed throughout this period of study. I thank the Almighty God and Father above, for life and success of this study. I wish to show immense appreciation to my supervisor, Mr. Teddy Mwapule for allowing me work in my own way and for the guidance. My heartfelt gratitude goes to my Mother, siblings and loved ones for their support in diverse forms. My sincere appreciation goes to my good friends as well as my course mates.

**CHAPTER 1: MOTIVATION 8**

**CHAPTER 2 11**

**LITERATURE REVIEW 11**

**2.0 Introduction 11**

**This chapter looks at the literatures and studies that were conducted for the research that are relevant and similar to the present study. 11**

**CHAPTER 3: REQUIREMENT SPECIFICATION 14**

**CHAPTER 4: DESIGN SPECIFICATION 17**

4.1 Process Design 17

**Registration process** 18

**4.2.1 Student Module** 18

4.He can edit the details of the students. He can change their rooms, edit and delete the student records. 19

**4.2.3 Admin module** 19

**4.2.4 Allotment process** 20

**4.3 Database Design** 20

**Table 4.3.4 Administrator Login** 23

**Table 4.3.5allotment** 24

**CHAPTER 5: IMPLEMENTATION 27**

**5.1 Introduction 27**

**5.2 Interface Design 27**

5.2.1 Buttons, icons and their functions 27

5.2.2.2 User login screen 31

**Figure 5.3: User login screen 31**

5.2.2.3 User registration screen 32

**Figure 5.4: User registration screen 32**

5.2.2.4 Dashboard 33

**Figure 5.4: Dashboard 33**

5.2.2.5 Create student profile screen 34

**Figure 5.5: Create student profile screen 34**

5.2.2.6 Change password screen 35

**Figure 5.6: Change password screen 35**

5.2.2.7 Book hostel screen 36

**Figure 5.7: Hostel application screen 36**

5.2.2.8 Room details screen 37

**Figure 5.8: Room details screen 37**

5.2.2.10 User logout 38

**Figure 5.9: User logout 38**

5.3.1.1 Administrator login screen 39

**Figure 5..1.0: Administrator login screen 39**

5.2.1.2 Administrator profile screen 40

**Figure 5.1.2: Administrator profile screen 40**

5.3.1.3 Administrator dashboard screen 41

**Figure 5.1.2: Administrator dashboard screen 41**

5.1.9. Courses screen (add courses) 42

**Figure 5.1.3: Add courses screen 42**

5.3.1.5 Courses screen (manage courses) 43

5.3.1.6 Rooms (add rooms) 44

**Figure 5.1.5: Add rooms screen 44**

5.3.1. Rooms (manage rooms) 45

**Figure 5.1.6:Manage rooms screen 45**

4.3.1.8 Manage students screen 46

**Figure 5.1.7: Manage students screen 46**

**5.4 Summary** 47

**CHAPTER 6:SYSTEM TESTING AND RESULTS 48**

**6.1 Introduction 48**

**6.2 Testing methods 48**

6.2.1 Static testing 48

6.2.2 Dynamic testing 49

6.2.3 White box testing 49

6.2.4 Black-box testing 49

**6.3 Test cases 49**

6.3.1 General procedure 49

**Table 5.1: Test case for general procedure 50**

6.3.2 Test for success login 50

**5.3.3 Test for failed login** 51

6.3.5 Test case for add courses 53

6.6 Test case for delete courses 54

6.7 Test case for add room 55

6.8 Test case for manage room 56

**6.4 Conclusion** 57

**CHAPTER 7 CONCLUSION AND RECOMMENDATIONS 58**

**7.1 Introduction 58**

**7.2 Outcomes of the Study 58**

**7.3 Project Constraints 58**

**7.4 Future Works 59**

**7.5 Summary 59**

**CHAPTER 8 REFERENCES 60**

International Journal for Academic Development: Vol 4, No 2 61

CHAPTER ONE MOTIVATION

**1.0 Introduction**

Library Management System is an application which refers to library systems which are generally small or medium in size. It is used by librarian to manage the library using a computerized system where he/she can record various transactions like issue of books, return of books, addition of new books, addition of new students etc.Books and student maintenance modules are also included in this system which would keep track of the students using the library and also a detailed description about the books a library contains. With this computerized system there will be no loss of book record or member record which generally happens when a non computerized system is used.

**1.1 AIM**

The aim of the project is to develop a web-based application that will manage the Library activities at ZAMBIA ICT COLLEGE

**1.3 PROJECT OBJECTIVES**

The main objectives of the research include:

* Improvement in control and performance The system is developed to cope up with the current issues and problems of library .The system can add user, validate user and is also bug free.
* Save time Librarian is able to search record by using few clicks of mouse and few search keywords thus saving his valuable time.

**1.4 SCOPE OF THE PROJECT:**

The scope of this research work is centred on the development of hostel management system for Zambia ict college. This project which is web-based, automates the student’s library application process, allocates books to students, notifies students of their application status when they log onto the portal and also maintains the integrity of the information being processed by using password to limit access to only approved individuals.

**1**.**5 Problem Statement**

The problem occurred before having computerized system includes.

File lost When computerized system is not implemented file is always lost because of human environment.Some times due to some human error there may be a loss of records.

File damaged When a computerized system is not there file is always lost due to some accdent like spilling of water by some member on file accidentally.Besides some natural disaster like floods or fires may also damage the files

**1.6 Proposed System**

This project is aimed at developing a system for keeping records and showing information about the library. This system will help the library to be able to manage the affairs of the library quickly.

**1.7 Methodology**

Interviews According to (Gary Dessler 7**),** an interview is a procedure designed to obtain information from a person’s oral response to oral inquires and it can also be described as two-way conversations that the parties involve have some sort of objectives or goals to accomplish. So basically, we will have some kind of oral conversation with the Hostel Matron, students and others who have knowledge in relation to the study in order to have a detailed overview on how the manual system is run with regards to record keeping and other activities as well as its limitations.

**1.8 Technology**

**Programming languages**

* PHP
* HTML
* CSS

**Database**

* MY SQL

**Software requirements**

* WampServer

**Conclusion**

The main purpose of this proposal is to show the need and requirement of a library Management System. It is believed that this project will assist the library in managing some of the library activities.

**CHAPTER 2**

**LITERATURE REVIEW**

**2.0 Introduction**

This chapter looks at the literatures and studies that were conducted for the research that are relevant and similar to the present study.

**2.1 Related Works**

In an attempt to review existing literature on this innovation -library management system (Development of a library Management System| 3 Journal of Science and Engineering / Vol. 4 (2), 2014 software), I came across a few similar products that are in use in many colleges worldwide. Some of them are described below:

* **Library Allocation System for Lagos State University (LASU).**

A General Framework Design for e-library Allocation System was designed atLagos State University (LASU) 2013.The problem was that the number of students enrolling every year was always increasing which results in manual registration of books problems**. Pulvis C.L. (2014).** The specific objective was to study and demonstrates the general architecture of the e-Library Allocation System and to compose a set of online modules such as Staff Registration, Student Identification, Web Portal Administration, Student Allocation Generation and Report modules. The System analysis and methodology were object-oriented design. During the course of this project, they found that the system was able to demonstrate e-hostel allocation system and improved the prototype composition set of online modules such as staff registration, student identification, web portal administration, and student allocation generation and report, but the design of this study did not focus on students individual preferences and personal characteristics.

**CHAPTER 3: REQUIREMENT SPECIFICATION**

**3.0 Introduction**

The purpose of the software requirement specification is to write the functional user or system requirements that represent the characteristics of **library Management System.**

**3.1 Functional System Requirement (feature specification)**

This section gives a functional requirement that’s applicable to (Zictc library Management System). The sub modules in this phase are

* Library module
* Administrator module

The functionality of each module is as follows:

* **Administrator module:**

1. STUDENT MODULE

* Registration Module

This section provides a form to the students which can be filled by them and a copy of the filled page can be taken in the printed form.

**3.2 System Requirement Specification (Non-Functional)**

**SOFTWARE REQUIREMENT**

A major element in building a system is the section of compatible software since the software in the market is experiencing in geometric progression. Selected software should be acceptable by the firm and one user as well as it should be feasible for the system **GJ Delport. (2008).** This document gives a detailed description of the software requirement specification. The study of requirement specification is focused specially on the functioning of the system. It allows the developer or analyst to understand the system, function to be carried out the performance level to be obtained and corresponding interfaces to be established.

* The Minimum software requirements specification for developing this application are:
* OPERATING SYSTEM: Microsoft windows 7,8 and windows 10
* MY SQL will be used for database.
* Apache Server Language Used: PHP 5.3 or newer versions
* Database: My SQL 5.5 or newer
* User Interface: HTML, AJAX
* Web Browser: Mozilla, Chrome, Opera or Internet Explorer
* Software: XAMPP or WAMP Server Operating System:

**HARDWARE REQUIREMENTS**

The section of hardware configuration is an important task related to the software development. Insufficient random-access memory may affect adversely on the speed and efficiency of the entire system. The process should be powerful to handle the entire operations. The hard disk should have sufficient capacity to store the file and application.

* System memory Ram: 512 MB minimum.
* Cache size: 512 KB RAM: 512 MB (Minimum)
* Network card: Any card can provide a 100mbps speed
* Network connection: UTP or Coaxial cable connection
* Processor: Intel (R) Pentium IV or more
* Processor speed: 1.4 GHz Onwards
* Keyboard and mouse: for easy manipulation of graphical user interface (GUI).
* Hard disk: 40 GB or more. This is the minimum space required for the installation of Xamp Server to be successful and run efficiently and effectively
* Display: Mobile PC Display

**CHAPTER 4: DESIGN SPECIFICATION**

**4.0 Inroduction**

This chapter describes the act as the bridge between the requirement specification and the final solution for satisfying the requirements. It will provide views of the systems design in order to facilitate communication and understanding of the application

The design phase will outline the basic software architecture and the quality of the library management system.it will also outline the approach taken in developing the application and show the design of the database that will be used, the possible tables of database.

4.1 Process Design

Process design plays an important role in project development. In order to understand the working procedure, process design is necessary. Data Flow Diagram and System Flow chart are the tools used for process design. **(D. D. Babalola (2014).**

System Flow Chart is a graphical representation of the system showing the overall flow of control in processing at the job level; specifies what activities must be done to convert from a physical to logical model. **(systems design A. Muhammed Shiras 2012).**

Data Flow Diagram is the logical representation of the data flow of the project. **(David Peter 2009)** The DFD is drawn using various symbols. It has a source and a destination. The process is represented using circles and source and destination are represented using squares. The data flow is represented using arrows.

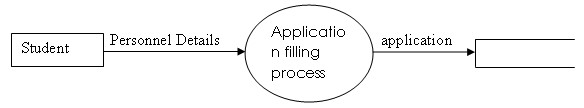
One reader can easily get the idea about the project through Data Flow Diagram.

**4.2 MODULAR DESCRIPTION**

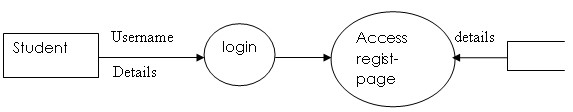
This section gives a brief description of the modules that the system will contain. The system consists of the following modules

* The administrator module

**Registration process**



**4.2.1 Student Module**

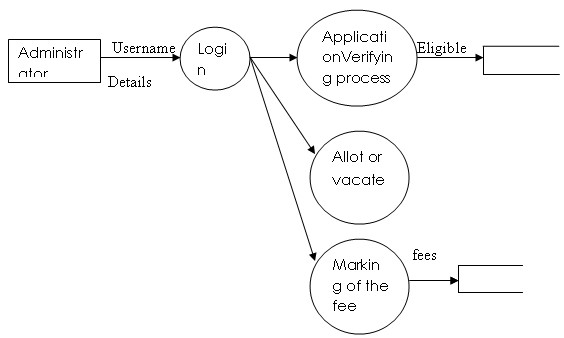


4.2.2 **Administrator**

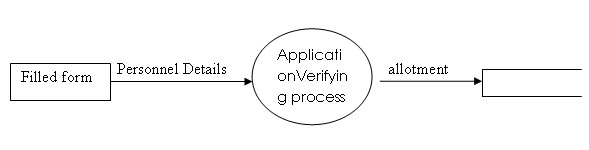
1. The Administrator can allot different students to the different books .

2.He can edit the details of the students. He can change their books , edit and delete the student records.

**4.2.3 Admin module**



**4.2.4 Allotment process**



**4.3 Database Design**

The data in the system has to be stored and retrieved from database. Designing the database is part of system design. Data elements and data structures to be stored have been identified at analysis stage. They are structured and put together to design the data storage and retrieval system.

A database is a collection of interrelated data stored with minimum redundancy to serve many users quickly and efficiently **(G.V Prashobh (2006).**

The general objective is to make database access easy, quick, inexpensive and flexible for the user. Relationships are established between the data items and unnecessary data items are removed. Normalization is done to get an internal consistency of data and to have minimum redundancy and maximum stability. This ensures minimizing data storage required, minimizing chances of data inconsistencies and optimizing for updates.

**Table 4.3.1 Registration**

Shows the field, datatypes and description of Registration table table

|  |  |  |
| --- | --- | --- |
| Field name | datatype | description |
| Fname | Varchar(15) | First Name of student |
| Lname | Varchar(15) | Last name of student |
| Stid | int | Uniquely identifies particular student |
| Room\_no | int | A room no given to a student |
| Stud\_type | Varchar(20) | Holds the student’s department |
| Start\_date | date | Holds the day a student’s reports |
| province | Varchar(20) | Holds the address/province of student |
| city | Varchar(20) | Holds the student’s guardians city of a student |

**Table 4.3.2 Student details**

Shows the field , datatypes and description of students table

|  |  |  |
| --- | --- | --- |
| Stid | int | Identifies particular student |
| Courseid | int | Uniquely identifies course of student |
| fname | Varchar(20) | Holds the name of the student |
| Lname | Varchar(20) |  |
| Rollno | int | Shows the roll of student’s room |
| DOB | date | Holds the date of birth of the student |
| Gaudian\_name | Varchar(20) | Holds name of students guidian or spornsor |
| gaudian\_realation | Varchar(15) | Hlds the relation of gaudian |
| Gender | int | Holds the gender of user |
| Contact\_no | int | Holds the contact number of student |
| Parents\_no | varchar | Holds the parents number |
| Permanent address | longtext | Address of students guadian |

**Table 4.3.3 Course**

Shows the field , datatypes and description of the table course

|  |  |  |
| --- | --- | --- |
| Course\_code | int | Uniquely identifies course of student |
| Course\_name | Varchar(20) | Type of course |
| No\_of\_year | int | Holds the year a student is in at school |
| department |  | Holds the department of the program a student is studying |

**Table 4.3.3 Fees**

|  |  |  |
| --- | --- | --- |
| Fee\_str\_id | int |  |
| Course\_id | int |  |
| Fee\_type | varchar |  |
| Cost | float |  |

**Table 4.3.4 Administrator Login**

Shows the field, datatypes and description of administration table

|  |  |  |
| --- | --- | --- |
| FIELD NAME | DATATYPE | DESCRIPTION |
| USERNAME | INT | Username of student |
| PASS | VARCHAR | Password of student |

**Table 4.3.5allotment**

|  |  |  |
| --- | --- | --- |
| FIELD | DATATYPE | DESCRIPTION |
| ROOM\_NO | INT | ROOM OF STUDENT |
| NAME | VARCHAR | NAME OF STUDENT |
| SEX | VARCHAR | SEX OF STUDENT |
| AGE | INT | AGE OF STUDENT |

Table 4.3.6 Vacating and editing

|  |  |  |
| --- | --- | --- |
| FIELD | DATATYPE | DESCRIPTION |
| ROOM\_NO | INT | ROOM NUMBER OF STUDENT |
| NAME | VARCHAR | NAME OF STUDENT |
| SEX | VARCHAR | SEX OF THE STUDENT |
| AGE | INT | AGE OF THE STUDENT |

**4.4 Security Design**

Security is the mechanism that protects the database and its database and its data against intentional or accidental threats. The database should be properly secured using appropriate controls.

Each user is provided with a unique password that gains access to the system when a user enters login details, the system will have to compare the details with those in the database.

**CHAPTER 5: IMPLEMENTATION**

**5.1 Introduction**

In this chapter, the main focus is on the system implementation phase of the system development process. Generally, system implementation is the phase where the realization of an application, or execution of a plan, idea, model, design, specification, standard, algorithm, or policy. This chapter discusses about the software product that is being implemented using the plan.

**5.2 Interface Design**

Interface design is the process of designing the interface by considering various aspects such as the method of accepting user input and produce output. Interface is considered to be one of the most crucial parts in developing a system. Therefore, it is important that the interface is designed in a way that it eases user to accomplish their task by interacting with the system efficiently and effectively.

In Zict library Management System, the interfaces were designed for two (2) types of user, which are the students and the administrator. The following diagrams illustrate in detailed every step involved in the system.

5.2.1 Buttons, icons and their functions

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Name of the button/icon | Graphical representation of the  button/icon | | Functions | | |
| Login |  | |  Login into the system | | |
| Register |  | |  Register new  user | | |
| Update |  | |  Update user  profile | | |
| Cancel |  | |  Cancel the information | | |
| Change password |  | |  Change user password | | |
| Close |  | |  User can  close the document | | |
|  | |  | |  | that show the results |
| Forgot password | |  | |  | User can click to get the old password |
| Delete | |  | |  | Delete the data |
| Edit | |  | |  | Edit student’s data |
| Learn more | |  | |  | Get more information about hostel |
| Menu | |  | |  | Navigate to home, hostel info, register and facilities |
| Search | |  | |  | Search rooms number |

Table 5.1: Buttons, icons and their functions



figure 5.2 shows the homepage for the user and the administrator. In this screen, the user and administrator can sign in into the Zict for hostel application. Users also can view the images and video in hostel info and facilities pages.

5.2.2.2 User login screen

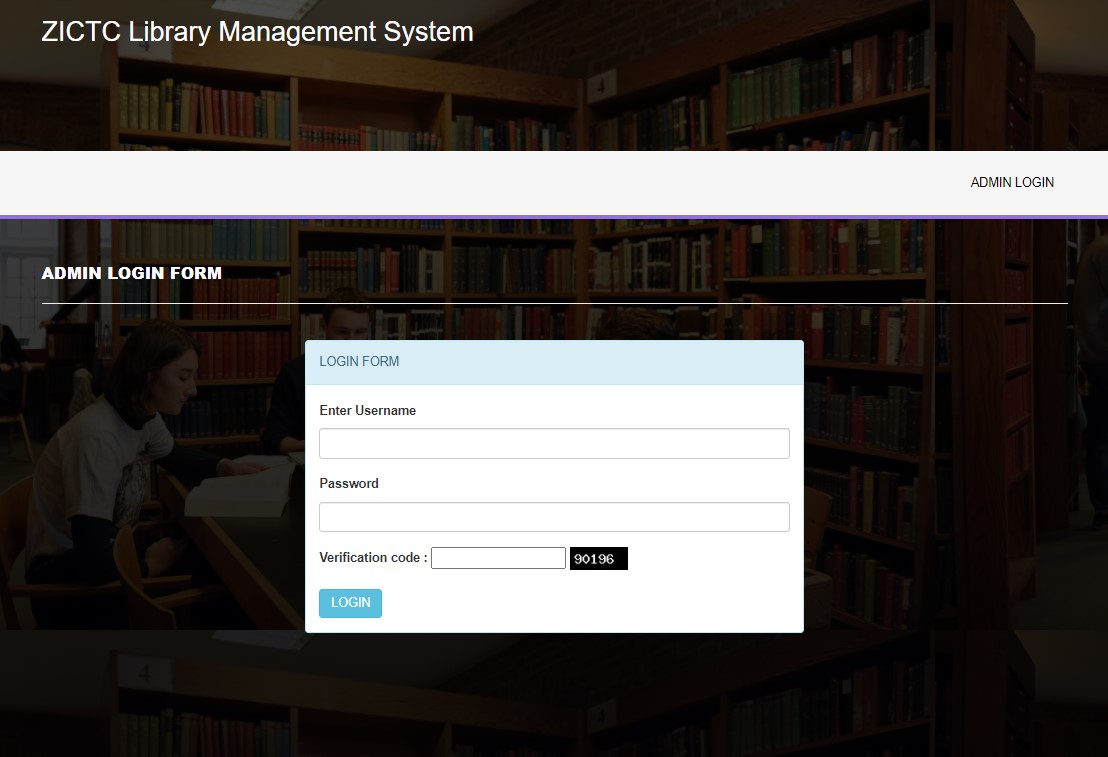


Figure 5.3: User login screen

Figure 5.3 shows the login screen for user. In this screen, user key in their email and password in order to get access into the system. However, if the user is still new and does not have any account yet, the user is required to click on the register icon “User

Registration” in order to enter the application process.

5.2.2.4 Dashboard

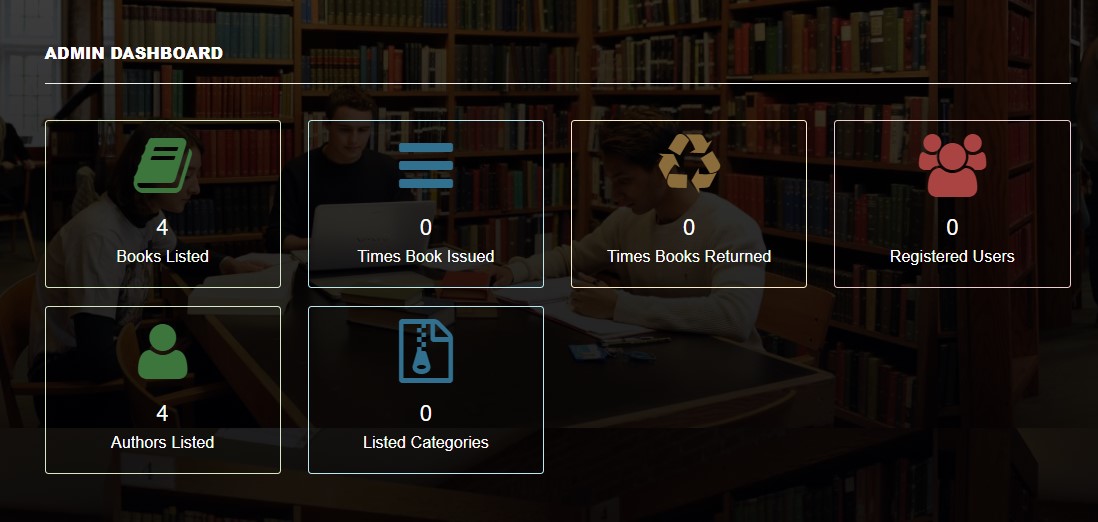


Figure 5.4: Dashboard

The figure 5.4 shows the dashboard page. In this dashboard, it contains two detail about my profile and my room.

5.2.2.6 Change password screen

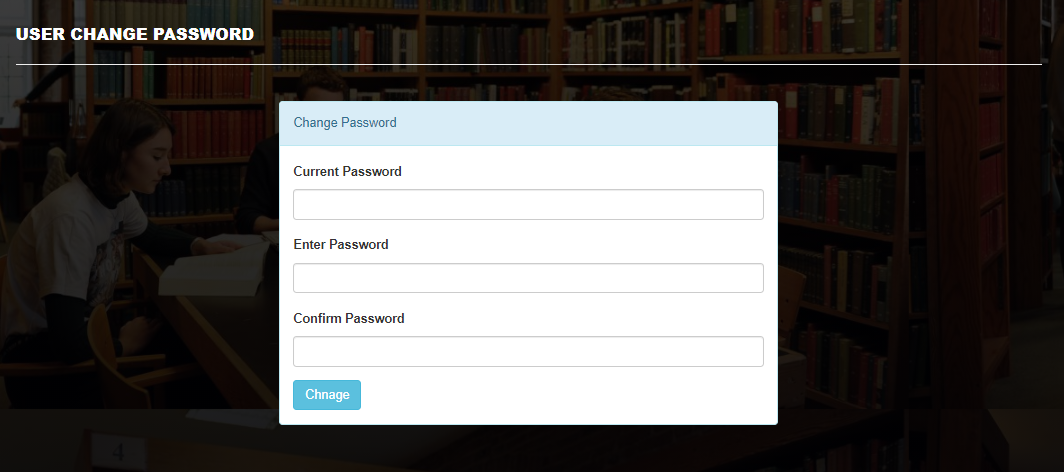


Figure 5.6: Change password screen

Figure 5.6 shows the change password screen. The user can update their password and clicking the change password button.

Figure 5.9: User logout

If the user decided to logout from the system, the user needs to click account button in left side and click again at logout button. Once user clicks on it, the user ends their session and logged out from the system.

5.1.9. Book screen (add courses)

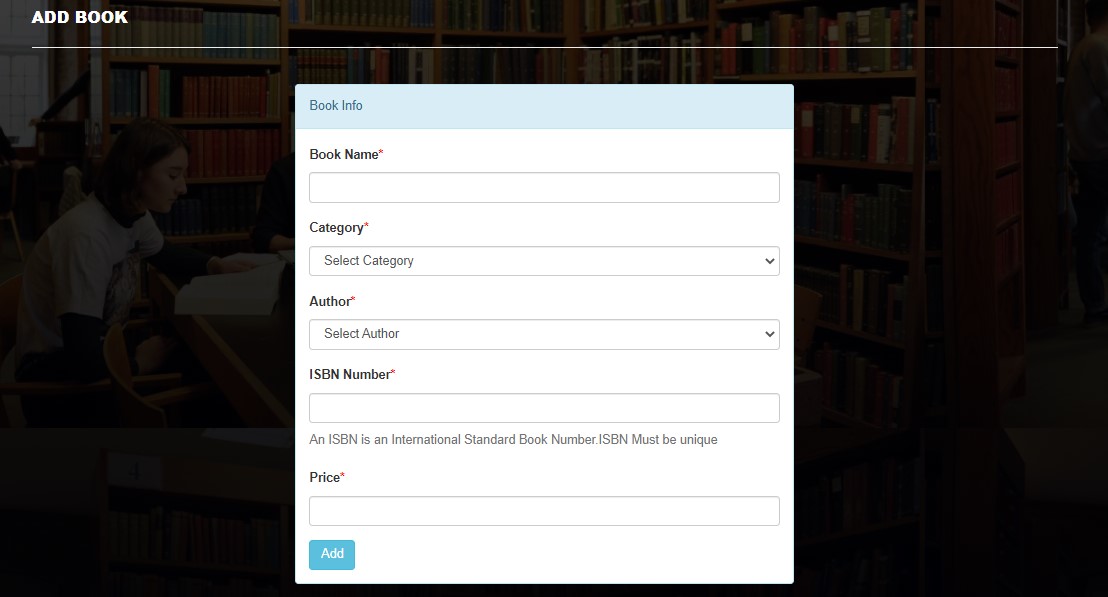


Figure 5.1.3: Add courses screen

When the administrator clicks ‘Courses’ button, there are two (2) drop down which is add courses and manage courses. In add courses screen in figure 4.15, the administrator able add course by filling up course details.

5.3.1.5 Books screen (manage courses)

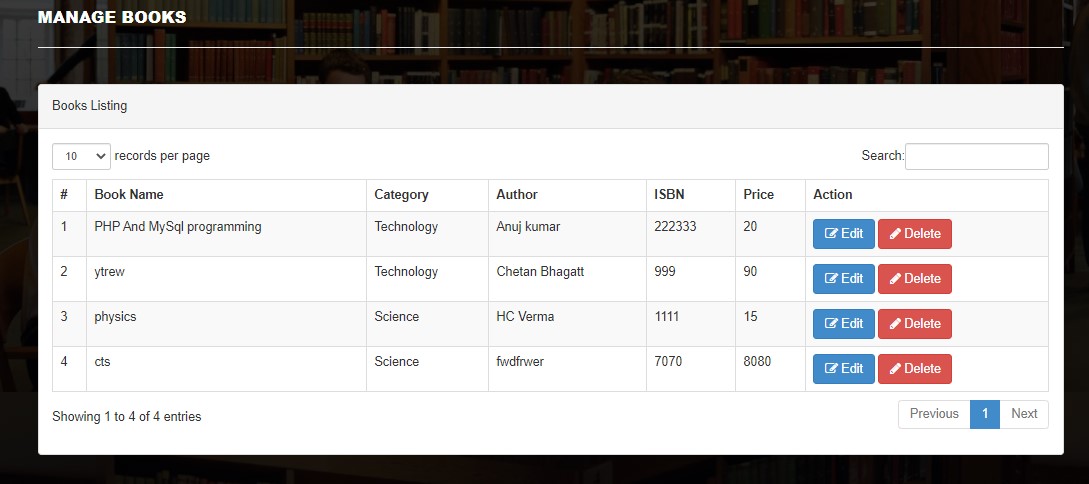


Figure 5.1.4: Manage courses screen

Figure 5.1.4 shows manage courses screen. There is a list of courses detail that be added previously at add courses screen. When the administrator clicks pending tab in action table, the administrator able to edit the course details while when the

administrator clicks ‘x’ icon, the data about the course will deleted.

5.3.1.6 Category (add Category)

**5.4 Summary**

This chapter focus primarily on the system implementation phase of the system development process. One of the main concerns of the implementation phase is the interface design. Therefore, it is important that the interface is designed in a way that it eases user to accomplish their task by interacting with the system efficiently and effectively. A well-designed interface possesses the ability to attract and change user’s perception towards a system. In this project, the system interfaces were designed by considering various HCI design elements as to promote the better interaction of user and the system.

**CHAPTER 6: SYSTEM TESTING AND RESULTS**

**6.1 Introduction**

Software testing is a process, to evaluate the functionality of a software application with an intent to find whether the developed software met the specified requirements or not and to identify the defects to ensure that the product is defect free in order to produce the quality product.

In this chapter, the software testing is focused in detailed with screenshots of the interfaces and some explanations on the testing performed and the outcomes. Apart from that, various type of testing that being conducted on the software product is also being discussed in this chapter along with its outcome.

**6.2 Testing methods**

6.2.1 Static testing

Static testing is a software testing method that involves examination of the program's code and its associated documentation but does not require the program be executed. Static testing may be conducted manually or through the use of various software testing tools. Specific types of static software testing include code analysis, inspection, code reviews and walkthroughs.

6.2.2 Dynamic testing

Dynamic testing is when you are working with the actual system by providing an input and comparing the actual behaviour of the application to the expected behaviour. In other words, working with the system with the intent of finding errors.

6.2.3 White box testing

White Box Testing is a software testing method in which the internal structure/ design is known to the tester. The main aim of White Box testing is to check on how

System is performing based on the code. It is mainly performed by the Developers or White Box Testers who has knowledge on the programming.

6.2.4 Black-box testing

Black Box Testing is a method of testing in which the internal structure/ code/design is not known to the tester. The main aim of this testing to verify the functionality of the system under test and this type of testing requires to execute the complete test suite and is mainly performed by the Testers, and there is no need of any programming knowledge.

**6.3 Test cases**

The following are the sample of test cases used in the software testing procedure for the Visual Hostel Allocation System.

6.3.1 General procedure

|  |  |  |
| --- | --- | --- |
|  | Step | Procedure |
| 1. |  | Go to [http://localhost/hostel/a](http://localhost/hostel/)dmin/login.  php |
| 2. |  | Input the following details: Email : admin@gmail.com  Password : 12345 |
| 3. |  | Click on the login button |

Table 5.1: Test case for general procedure

6.3.2 Test for success login

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Test for success login | |  |  |
| Step | **Procedure** | **Expected result** | **Outcome** | **Comments** |
| 1. | Go to [http://localhost/ HYPERLINK "http://localhost/hostel/"](http://localhost/hostel/)  [hostel/ HYPERLINK "http://localhost/hostel/"](http://localhost/hostel/) admin/login.php | Login page is loaded | Success | - |
| 2. | Input the following details :  Email : admin@gmail.com  Password : 12345 |  |  |  |
| 3. | Click on the login button | Administrator dashboard is  loaded | Success | **-** |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Post-test procedure |  |  |
| 1. | Click on the logout link | Administrator logged out from the system | Success | - |

Table 6.2: Test case for success login

**5.3.3 Test for failed login**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Test for success login | |  |  |
| Step | **Procedure** | **Expected result** | **Outcome** | **Comment**  **s** |
| 1. | Go to [http://localhost/ HYPERLINK "http://localhost/hostel/" HYPERLINK "http://localhost/hostel/"hostel/ HYPERLINK "http://localhost/hostel/"](http://localhost/hostel/) admin/login.php | Login page is loaded | Success | - |
| 2. | Input the following details :  Email :  admin@gmail.com  Password : 123 |  |  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Post-test procedure |  |  |

Table 6.3: Test case for failed login

**6.3.4 Test case for view and delete student**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Test for view and delete student |  |  |  |
| Step | **Procedure** | **Expected result** | **Outcome** | **Comments** |
| 1. | Begins with general procedure | Administrator successfully login | Success | - |
| 2. | Select ‘manage  students’ button | A pop up confirmation message ‘Data deleted’ is appear | Success |  |
| 3. | Click OK on the pop up confirmation message | The selected student is deleted | Success | **-** |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Post-test procedure |  |  |
| 1. | Click on the logout  link | Administrator logged out from the system | Success | - |

Table 6.4: Test case for view and delete student

6.3.5 Test case for add courses

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Test for add courses |  |  |  |
| Step | **Procedure** | **Expected result** | **Outcome** | **Comments** |
| 1. | Begins with general  procedure | Administrator successfully login | Success | - |
| 2. | Select ‘courses’ button  and click ‘add courses’ | A form to add course appear | Success |  |
| 3. | Fill the form and click add course | The new course added | Success | **-** |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Post-test procedure |  |  |
| 1. | Click on the logout link | Administrator logged out from the system | Success | - |

6.6 Test case for delete courses

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Test for view and delete courses |  |  |  |
| Step | **Procedure** | **Expected result** | **Outcome** | **Comments** |
| 1. | Begins with general  procedure | Administrator successfully login | Success | - |
| 2. | Select ‘courses’ button and click ‘manage courses’ | A list of courses  appear | Success |  |
| 3. | Click delete and pending icon | The courses deleted when click delete icon and the form to edit course will be appear when click on pending  icon | Success | **-** |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Post-test procedure |  |  |
| 1. | Click on the logout link | Administrator logged out from the system | Success | - |

6.7 Test case for add room

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Test for add room |  |  |  |
| Step | **Procedure** | **Expected result** | **Outcome** | **Comments** |
| 1. | Begins with general  procedure | Administrator successfully login | Success | - |
| 2. | Select ‘rooms’ button and click ‘add room’ | The form for adding room  appear | Success |  |
| 3. | Fill the form and click create room | A pop up ‘room has been added  successfully’ | Success | **-** |

6.8 Test case for manage room

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Test for add room |  |  |  |
| Step | **Procedure** | **Expected result** | **Outcome** | **Comments** |
| 1. | Begins with general  procedure | Administrator successfully login | Success | - |
| 2. | Select ‘rooms’ button  and click ‘manage room’ | The list of room  info appear | Success |  |
| 3. | Click the delete icon | A pop up ‘data deleted’ | Success | **-** |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | Post-test procedure |  |  |
| 1. | Click on the logout link | Administrator logged out from the system | Success | - |

**6.4 Conclusion**

As a conclusion, in this chapter the software testing procedure were carried out with various samples of test cases to test the system’s outcome with the expected results. Based on the testing carried out, the results shows that the ZICT library Management System has passed in the entire test conducted using the test cases as it successfully showed the exact output as being expected.

**CHAPTER 7 CONCLUSION AND RECOMMENDATIONS**

**7.1 Introduction**

This chapter discusses the overall conclusion from carrying out the study, the outcomes and the constraints of VHAS. The outcomes is the functional prototype of ZHAS that implements various HCI elements as proposed while constraints are anything that prevents the system from achieving its goal and objectives.

**7.2 Outcomes of the Study**

ZICT library Managment System is the outcome from the project work t to be used by students and the administrator of Zambia ICT College hostel management. Through this system, the librerian will able to , edit and view their information and get the results of their applications automatically.

**7.3 Project Constraints**

There are several problems and limitations that occurred throughout the development of the system. The problems and limitations are:

* Visual library Allocation System was developed only for female students in

Tembila Campus.

* This system has to improve the security of web-based system.

**7.4 Future Works**

ZICT library Management System can be improved for a better application.

This could be accomplished by adding secure gateway feature to ease student’s workload. Moreover, this system could also be enhanced by upgrading the feature via the implementation as a mobile application software. Mobile application software is a computer program designed to run on smartphones and other mobile devices. As the usage of smart phone and other mobile devices has become increasingly prevalent, the popularity of mobile application software has continued to rise in demand.

**7.5 Summary**

ZICT library management System is a user-friendly web-based application that eases students’ workload by applying the hostel, update their information, view the profile, automatically get results and also can print the data. The administrator and the hostel management staffs are able to manage student’s information and applications. ZHMS also provides a good user interaction experience by implementing HCI design and guideline in its interface design. Hence, it is anticipated that the results from this project work could be useful for Zambia ict college to ease their daily workload and tasks.

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**CHAPTER NINE: PROJECT PROPOSAL**

**1.0 INTRODUCTION**

Nowadays all the business are shifting to computer based system. the purpose of having a computer based system is it helps to increase the market share and its very easy for customers to use . its also increase the demand among the customer . This project is concerned with developing a Library Management System . .

**1.1 AIM**

The aim of the project is to develop a web-based application that will manage the library activities at ZAMBIA ICT COLLEGE

**1.3 PROJECT OBJECTIVES**

The main objectives of the research include:

* Identify and model the requirements specification to develop the system.
* Design and develop a central database system that will serve as library database, which will contain the records in the library .

**1.4 SCOPE OF THE PROJECT:**

The scope of this research work is centred on the development of hostel management system for Zambia ict college. This project which is web-based, automates the student’s library application process, allocates books to students, notifies students of their application status when they log onto the portal and also maintains the integrity of the information being processed by using password to limit access to only approved individuals.

**1**.**5 Problem Statement**

In the current system records of students such as students name and number, room allocated to the student, in and out of student all these records are recorded by the hostel matron in a book. The data which is stored on paper may be lost stolen or destroyed due to natural calamity like fire and water.

**1.6 Proposed System**

This project is aimed at developing a system for keeping records and showing information about the library. This system will help the librariab to be able to manage the affairs of the library quickly.

**1.7 Methodology**

Interviews According to (Gary Dessler 7**),** an interview is a procedure designed to obtain information from a person’s oral response to oral inquires and it can also be described as two-way conversations that the parties involve have some sort of objectives or goals to accomplish. So basically, we will have some kind of oral conversation with the Hostel Matron, students and others who have knowledge in relation to the study in order to have a detailed overview on how the manual system is run with regards to record keeping and other activities as well as its limitations.

**1.8 Technology**

**Programming languages**

* PHP
* HTML
* CSS

**Database**

* MY SQL

**Software requirements**

* WampServer

The proposed system will be developed according to the project schedule shown in figure 1

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Events** | **Months** | | | | | | | | | | | | | | | | | | | | | | | |
| **JULY** | | | | **AUG** | | | **SEP** | | | | **OCT** | | | | **NOV** | | | | **DEC** | | | | |
| **Weeks** | | | | **Weeks** | | | **Weeks** | | | | **Weeks** | | | | **Weeks** | | | | **Weeks** | | | | |
| 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| Project Proposal |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Literature Review |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Requirement Specification |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Design Specification |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| System Coding |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| System and Unit Testing |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | Slack  Time |  |  |  |
| Report Writing |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Documentation |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

*Figure 1: Gantt chart for the project – HOSTEL MANAGEMENT*

**Conclusion**

The main purpose of this proposal is to show the need and requirement of a library Management System. It is believed that this project will assist the librarian in managing some of the library activities.

**APPENDIX: SELECTED SOURCE CODE**

* **INTRODUCTION**

This section of chapter will give the selected source code of the project.

**1.1 User Login page**

**<?php**

**session\_start();**

**include('includes/config.php');**

**if(isset($\_POST['login']))**

**{**

**$email=$\_POST['email'];**

**$password=$\_POST['password'];**

**$stmt=$mysqli->prepare("SELECT email,password,id FROM userregistration WHERE email=? and password=? ");**

**$stmt->bind\_param('ss',$email,$password);**

**$stmt->execute();**

**$stmt -> bind\_result($email,$password,$id);**

**$rs=$stmt->fetch();**

**$stmt->close();**

**$\_SESSION['id']=$id;**

**$\_SESSION['login']=$email;**

**$uip=$\_SERVER['REMOTE\_ADDR'];**

**$ldate=date('d/m/Y h:i:s', time());**

**if($rs)**

**{**

**$uid=$\_SESSION['id'];**

**$uemail=$\_SESSION['login'];**

**$ip=$\_SERVER['REMOTE\_ADDR'];**

**$geopluginURL='http://www.geoplugin.net/php.gp?ip='.$ip;**

**$addrDetailsArr = unserialize(file\_get\_contents($geopluginURL));**

**$city = $addrDetailsArr['geoplugin\_city'];**

**$country = $addrDetailsArr['geoplugin\_countryName'];**

**$log="insert into userLog(userId,userEmail,userIp,city,country) values('$uid','$uemail','$ip','$city','$country')";**

**$mysqli->query($log);**

**if($log)**

**{**

**header("location:dashboard.php");**

**}**

**}**

**else**

**{**

**echo "<script>alert('Invalid Username/Email or password');</script>";**

**}**

**}**

**?>**

**<!doctype html>**

**<html lang="en" class="no-js">**

**<head>**

**<meta charset="UTF-8">**

**<meta http-equiv="X-UA-Compatible" content="IE=edge">**

**<meta name="viewport" content="width=device-width, initial-scale=1, minimum-scale=1, maximum-scale=1">**

**<meta name="description" content="">**

**<meta name="author" content="">**

**<meta name="theme-color" content="#3e454c">**

**<title>Student Hostel Registration</title>**

**<link rel="stylesheet" href="css/font-awesome.min.css">**

**<link rel="stylesheet" href="css/bootstrap.min.css">**

**<link rel="stylesheet" href="css/dataTables.bootstrap.min.css">>**

**<link rel="stylesheet" href="css/bootstrap-social.css">**

**<link rel="stylesheet" href="css/bootstrap-select.css">**

**<link rel="stylesheet" href="css/fileinput.min.css">**

**<link rel="stylesheet" href="css/awesome-bootstrap-checkbox.css">**

**<link rel="stylesheet" href="css/style.css">**

**<script type="text/javascript" src="js/jquery-1.11.3-jquery.min.js"></script>**

**<script type="text/javascript" src="js/validation.min.js"></script>**

**<script type="text/javascript" src="http://code.jquery.com/jquery.min.js"></script>**

**<script type="text/javascript">**

**function valid()**

**{**

**if(document.registration.password.value!= document.registration.cpassword.value)**

**{**

**alert("Password and Re-Type Password Field do not match !!");**

**document.registration.cpassword.focus();**

**return false;**

**}**

**return true;**

**}**

**</script>**

**</head>**

**<body>**

**<?php include('includes/header.php');?>**

**<div class="ts-main-content">**

**<?php include('includes/sidebar.php');?>**

**<div class="content-wrapper">**

**<div class="container-fluid">**

**<div class="row">**

**<div class="col-md-12">**

**<h2 class="page-title">Student Login </h2>**

**<div class="row">**

**<div class="col-md-6 col-md-offset-3">**

**<div class="well row pt-2x pb-3x bk-light">**

**<div class="col-md-8 col-md-offset-2">**

**<form action="" class="mt" method="post">**

**<label for="" class="text-uppercase text-sm">Email</label>**

**<input type="text" placeholder="Email" name="email" class="form-control mb">**

**<label for="" class="text-uppercase text-sm">Password</label>**

**<input type="password" placeholder="Password" name="password" class="form-control mb">**

**<input type="submit" name="login" class="btn btn-primary btn-block" value="login" >**

**</form>**

**</div>**

**</div>**

**<div class="text-center text-light">**

**<a href="forgot-password.php" class="text-light">Forgot password?</a>**

**</div>**

**</div>**

**</div>**

**</div>**

**</div>**

**</div>**

**</div>**

**</div>**

**</div>**

**</div>**

**</div>**

**<script src="js/jquery.min.js"></script>**

**<script src="js/bootstrap-select.min.js"></script>**

**<script src="js/bootstrap.min.js"></script>**

**<script src="js/jquery.dataTables.min.js"></script>**

**<script src="js/dataTables.bootstrap.min.js"></script>**

**<script src="js/Chart.min.js"></script>**

**<script src="js/fileinput.js"></script>**

**<script src="js/chartData.js"></script>**

**<script src="js/main.js"></script>**

**</body>**

**</html>**