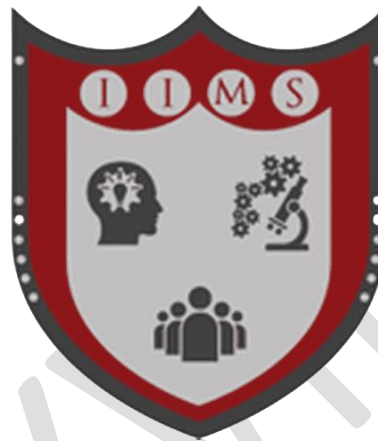# A Project Report

On

"BookVilla"

(Submitted in Partial Fulfilment of the Requirements for the Degree of

Bachelor of Computer Application)

Session 2019 – 2022

Bachelor Of Computer Application

Submitted To:

Head Of Department

Mr. VISHANT TYAGI

Project Co-ordinator

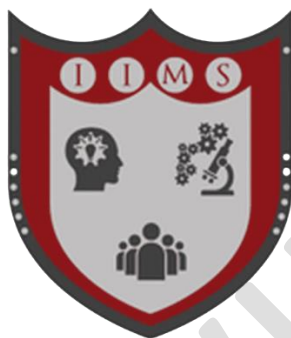**Mr. PIYUSH AGARWAL**

Submitted By:

Tushar Tomar

190918106069

INSTITUTE OF INFORMATICS & MANAGEMENT SCIENCES

Anuyogipuram , Garh Road , Meerut-250001

Affiliated to Chaudhary Charan Singh University, Garh Road, Meerut

CERTIFICATE

This is to certify that the work which is being presented in the project entitled **"BookVilla"** in partial fulfilment for the award of degree of **Bachelor of COMPUTER APPLICATION** submitted in the department of **BCA** at **INSTITUTE OF INFORMATICS & MANAGEMENT SCIENCE** affiliated to CHAUDHARY CHARAN SINGH UNIVERSITY (Meerut) is our own work carried out, under the guidance of Mr. Vishant Tyagi (Head of Department).

Tushar Tomar

190918106069

This is to certify that the above statements made by the candidates are correct to the best of my knowledge.

Head of Department:

Mr. Vishant Tyagi

ACKNOWLEDGEMENT

We take this opportunity to express my profound gratitude and deep regards to our guide **"Mr. Piyush Agarwal"** for his exemplary guidance, monitoring and constant encouragement throughout the course of this project named BookVilla. The blessing, help and guidance given by him time to time shall carry me a long way in the journey of life on which we are about to embark. We also take this opportunity to express a deep sense of gratitude to our honourable Head of the Department **"Mr.Vishant Tyagi"** for his valuable support, information and guidance which helped us in completing this task through various stages.

The most sincere thanks go to our parents for their constant encouragement at every step of our endeavour.

Project Team:

Tushar Tomar
190918106069

ML

MIDASLOGIX INFOTECH

CERTIFICATE

OF APPRECIATION

PROUDLY PRESENTED TO

Tushar Tomar

student of **B.C.A** from **Institute of Informatics and Management Science (IIMS)**, Meerut has successfully completed **2 months of Internship** from **MIDASLOGIX INFOTECH PVT. LTD.** Towards partial fulfilment of his Academic requirement. During this time, he has exhibit great interest and enthusiasm.

He has successfully completed the Training,

Technology : HTML, CSS, JavaScript and Bootstrap
Duration : 7 Sep 2021 to 7 Nov 2021

We value his contribution to MIDASLOGIX INFOTECH PVT. LTD.
We wish him a bright and successful career.

PIYUSH AGARWAL
(M.D.)

TABLE OF CONTENTS

Sr. No.

Online Library Management System

BY TUSHAR   TOMAR

Bachelor of Computer Application

Institute of Informatic and Management Science Meerut, Uttarpradesh, India

Abstract:

The objective is to develop a online library management system(BookVilla) based on HMTL, CSS, JAVASCRIPT and PHP, SQL in order to reduce the cost of management and make it convenient for the user. The web-based library management system includes the most popular components a common library management system has, administration, book seeker, leasing and e-mail. Besides it has more humanistic functions. The website will be tested on some of the functions. The website will be tested on some of the most popular browsers.

1.INTRODUCTION:

While seeking for a book in the university's library, students must check what category the book belongs to and check the books within this category one by one Student might keep the book for a long period; sometimes, remembering to renew the book before a specific date is not very easy; this loan period might exceed the time limit so that the students must pay for a fine and the fine could even be worth as much as to purchasing a second-hand book. Some university libraries have been trying to deal with those problems, BOOKVILLA library, for instance, allows students to search the book from the website and shows the bookshelf location but not the specific row and column and it will remind the student via E-mail, but it doesn't have its own E-mail system

-This thesis was produced by initiating some theoretical ideas from a project in the same field called Koha. Koha provided the method to reduce the cost of maintenance.

The goal of this thesis was to design a website with PHP and MYSQL that support the additional functions listed below in addition to the basic functions which are to:

-Display specific location of books in search result

-Support second hand book shop

-Integrate E-mail service and Subscriptions

Modules:

1) Admin
2) Student

1)Admin:

Admin part will be developed into web-based technologies like HTML, CSS, JAVASCRIPT and will consist of following modules:

a) Security: in this module login facility will be provided to the admin. Only authorized person can access this admin panel.

b) Student management: in this module facility will be provided to check the number of registered Student to manage them.

c) Books Management: this will be useful to add new Books and manage them.

d) Notification: this module will be useful for sending the messages to the all Students to get their own status.

e) Category Report: in this module facility will be provided to create category of books.

2) Student:

The second part of project will be useful for the people who are having the authority of spending the amount allocated in budget plan of an event.
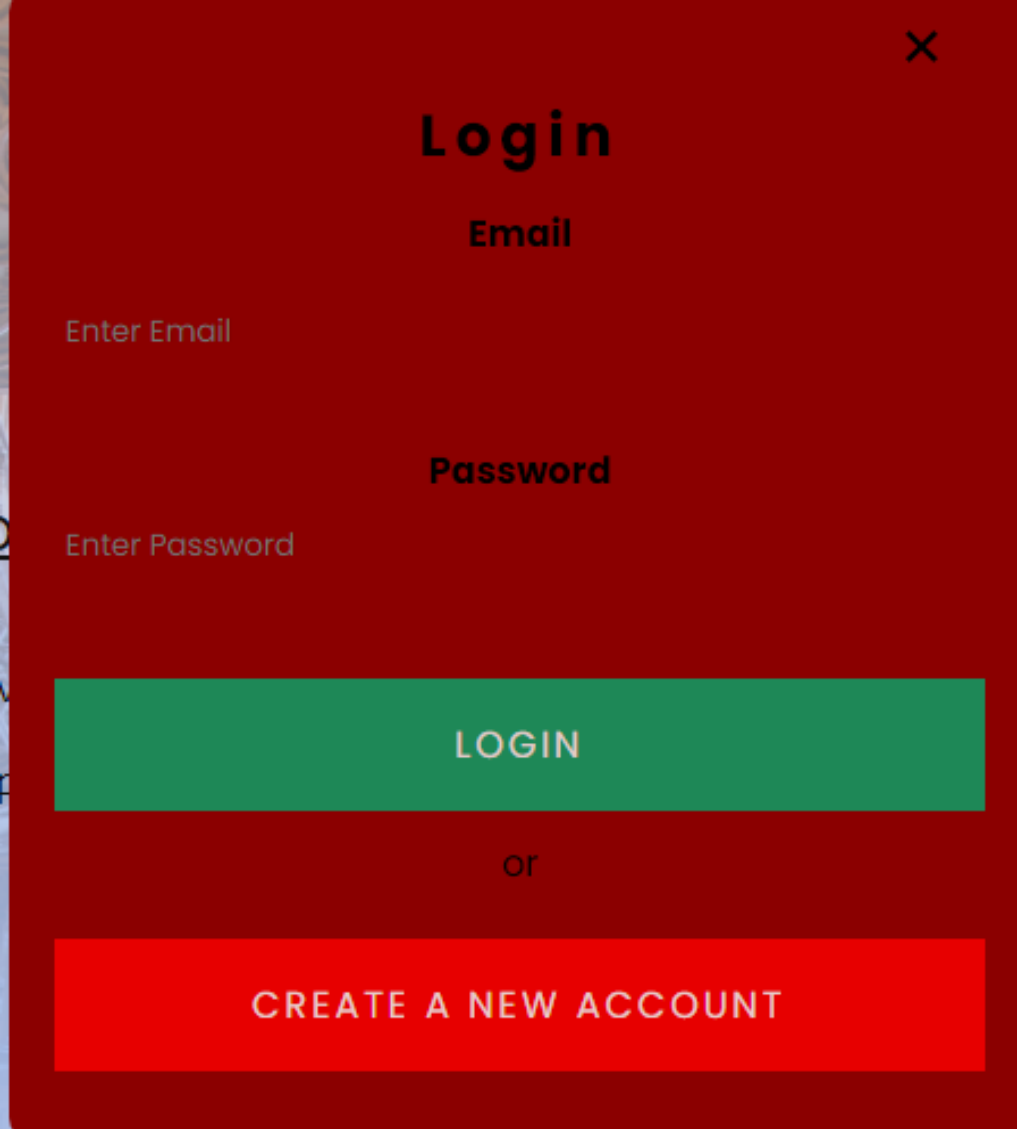Security: in this module facility is provided for login to the authorized user.
Registration: in this module facility is provided to perform registration activity for Student.
Dashboard: in this module facility is student can view issued book and book return date-time.
Notification: in this module facility is provided to check notification send by admin.

II.WORKING

LOGIN FORM

A)IDENTIFICATION OF NEED:

This is the most indispensable phase of the system which is to be developed, In this firstly we have mentioned our need which we want to develop. Here, the need and specification phase of system analysis is done to exactly find out the need

and the requirements by the Students in library, and hence all the requirements is collected by the Students.

B)PERLIMINARY INVESTIGATION:

To evaluate and to define the problem in hand quickly, the preliminary investigation is carried out, to see id it worthy of the following study and also it suggests some courses of actions if possible. Following steps are involved in the preliminary investigation:

- The Problem Understanding
- Determining the project boundaries and constraints
- Feasibility study
- Estimation of the time and cost.
- Documentation of preliminary Report.

SOFTWARE DEVELOPMENT LIFE CYCLE

The "SYSTEM DEVELOPMENT LIFE CYCLE" was developed by U.S. department of justice. It has different steps for the development of software generally it is used for the development of software. SO we can say SDLC. It is also known as information system development or application development with the help of different steps in SDLC. We can develop the software's which fulfill the needs of customer with in the time and must be cheap in cost. It can work efficiently and effectively.

There are different activities in the SDLC and these activities are interrelated. The SDLC is Developing in a sequential order of different phases and these steps or phases may be change According to the requirement of the project. The steps of SDLC can be perform one by one,

In parallel manner or may be in the circular manner.

Different steps of SDLC are as follows-

1. Project identification and selction.

2. Project initiation & planning.

3. Requirement analysis.

4. Designing.

5. Coding.

6. Testing.

7. Implementation.

8. Maintenance.

1. **<u>Project identification and selection</u>**: - It is the first phase of SDLC in this the organization Identifies the requirement of a new system or the updated existing system. The information about the requirement is collected to consider the complete organization as a single unit. When request are collected, these are 3 main steps-

    (a) Request clarification.

    (b) Feasibility study.

    (c) Request approval.

2. **<u>Project initiation and planning</u>:-** This is the second phase of SDLC. There are two major activities are done in this phase which are-

(a) Formal investigation of the problem.

(b) Two find the reasons by the system should or should not be regular or updated.

<u>3.Requirement analysis</u>:- The main emphasis of requirement analysis phase is to identify What is needed from the system but it does not provide how the system will achieve the Goals. "In this phase different types of requirement collected, in most of the projects the Requirement analysis produces a document which describes all the requirements. These Documents are called SOFTWARE REQUIREMENT SPECIFICATION (S R S)", The Person which responsible for the requirement analysis is called system analysis.

4. <u>Designing</u> :- In this phase, the requirement gathered in the SRS document is used as an Input and software architecture that is used for implementing system development is derived.

5.<u>Coding</u> : In the designing phase we have decide the algorithms, flowcharts and all the other Details. In the coding phase we have to convert the design into actual

implemented process. We have to convert all the logics into programs by using a selected programming language. We develop all the modules individually and after testing all the modules will be integrated And after the integration the complete software will be install or implement. If the coding is Done in the proper manner and by the experienced employees then the testing and maintenance phase will be very much simple.

6. Testing : -The testing phase is used for the quality control during the software development. The main goal of testing is to find the errors of the software.

There are different types of testing –

  (a) Unit testing.
  (b) Integration testing or system testing.
  (c) Volume of load testing.
  (d) User acceptance testing.

7. Implementation :- We have developed all the modules of the software and tested them to Check the efficiency.

(1)Implementation of computerized system to replace the existing manual system.

(2)Implementation of the new computerized system in place of the existing computer system.

(3)Implementation of new software's to replace the existing software and the hardware is same.

8.Maintenance :- After the implementation the user have to work with the developed system.

(1)Maintenance is very much time consuming .

(2)There are very few tools are available through the maintenance.

(3)There is no standard method for the maintenance.

FEASIBILITY STUDY

Feasibility Study in software engineering is a study to evaluate feasibility of proposed project or system. Feasibility study is one of stage among important four stages of Software

Project management process. As name suggests feasibility study is the feasibility analysis or it is a measure of the software product in terms of how much beneficial product development will be for the organization in a practical point of view. Feasibility study is carried out based on many purposes to analyze whether software product will be right in terms of development, implantation, contribution of project to the organization etc.

Types of Feasibility Study:

The feasibility study mainly concentrates on below five mentioned areas. Among these Economic Feasibility Study is most important part of the feasibility analysis and Legal Feasibility Study is less considered feasibility analysis.

1. **Technical Feasibility –**
   In Technical Feasibility current resources both hardware software along with required technology are analyzed/assessed to develop project. This technical feasibility study gives report whether there exists correct required resources and technologies which will be used for project development. Along with this, feasibility study also analyzes technical skills and capabilities of technical team, existing technology can be used or not, maintenance and up-gradation is easy or not for chosen technology etc.

2. **Operational Feasibility –**
   In Operational Feasibility degree of providing service to requirements is analyzed along with how much easy product will be to operate and maintenance after deployment. Along with this other operational scopes are determining usability of product, Determining suggested solution by software development team is acceptable or not etc.

3. **Economic Feasibility –**
   In Economic Feasibility study cost and benefit of the project is analyzed. Means under this feasibility study a detail analysis is carried out what will be cost of the project for development which includes all required cost for final development like hardware and software resource required, design and development cost and operational cost and so on. After that it is analyzed whether project will be beneficial in terms of finance for organization or not.

4. **Legal Feasibility –**
   In Legal Feasibility study project is analyzed in legality point of view. This includes analyzing barriers of legal implementation of project, data protection acts or social media laws, project certificate, license, copyright etc. Overall it can be said that Legal Feasibility Study is study to know if proposed project conform legal and ethical requirements.

5. **Schedule Feasibility –**
   In Schedule Feasibility Study mainly timelines/deadlines is analyzed for proposed project which includes how many times teams will take to complete final project which has a great impact on the organization as purpose of project may fail if it can't be completed on time.

SOFTWARE AND HARDWARE REQIREMENT

HARDWARE	CONFIGURATRION
Processor	Intel core i3-9300(minimum)
RAM	16GB (minimum)
Hard Disk	500GB (minimum)
Monitor	Dell Built-in display (minimum)

SOFTWARE	CONFIGURATION
OS	Window 10
Technology	Web technologies
IDE	Visual Studio Code

SYSTEM DESIGN

Systems design is the process of defining the architecture, product design, modules, interfaces, and data for a system to satisfy specified requirements. Systems design could be seen as the application of systems theory to product development. There is some overlap with the disciplines of systems analysis, systems architecture and systems engineering.

Architectural design

The architectural design of a system emphasizes the design of the system architecture that describes the structure, behaviour and more views of that system and analysis.

Logical design

The logical design of a system pertains to an abstract representation of the data flows, inputs and outputs of the system. This is often conducted via modelling, using an over-abstract (and sometimes graphical) model of the actual system. In the context of systems, designs are included. Logical design includes entity-relationship diagrams (ER diagrams).

Physical design

The physical design relates to the actual input and output processes of the system. This is explained in terms of how data is input into a system, how it is verified/authenticated, how it is processed, and how it is displayed. In physical design, the following requirements about the system are decided.

1. Input requirement,
2. Output requirements,
3. Storage requirements,
4. Processing requirements,
5. System control and backup or recovery.

Put another way, the physical portion of system design can generally be broken down into three sub-tasks:

1. User Interface Design
2. Data Design

3. Process Design

User Interface Design is concerned with how users add information to the system and with how the system presents information back to them. Data Design is concerned with how the data is represented and stored within the system. Finally, Process Design is concerned with how data moves through the system, and with how and where it is validated, secured and/or transformed as it flows into, through and out of the system. At the end of the system design phase, documentation describing the three sub-tasks is produced and made available for use in the next phase.

Physical design, in this context, does not refer to the tangible physical design of an information system. To use an analogy, a personal computer's physical design involves input via a keyboard, processing within the CPU, and output via a monitor, printer, etc. It would not concern the actual layout of the tangible hardware, which for a PC would be a monitor, CPU, motherboard, hard drive, modems, video/graphics cards, USB slots, etc. It involves a detailed design of a user and a product database structure processor and a control processor. The H/S personal specification is developed for the proposed system.

DATA FLOW DIAGRAM:

In an Information system, the flow of the data around the system is graphically represented by the data flow diagram. A graphical tool used to describe and analyze the moment of data through a system manual or automated including the process, stores of the data and delays in the system. Data flow diagram the central too and the basis from which other components are developed. DFDs are the model of the proposed system. They clearly show the requirements on which the new system should be built. Later during the design activity this is taken as the basis for drawing the system's Structure charts. The various components of DFDs are:
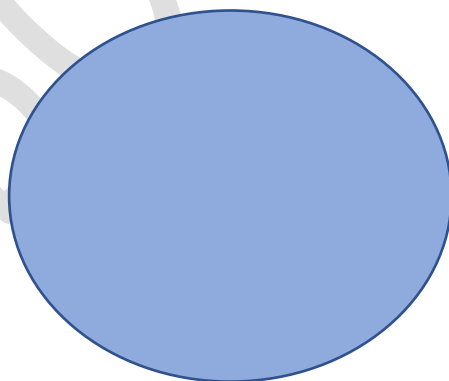
Dataflow:

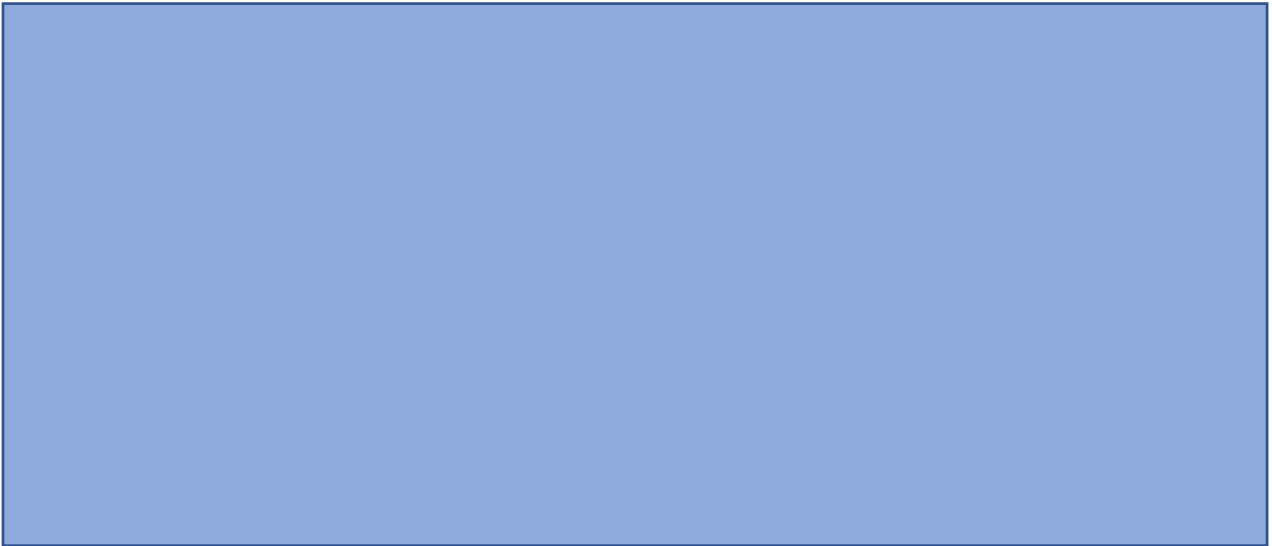Data movement form the source to destination is shown by the arrows.

Processs:

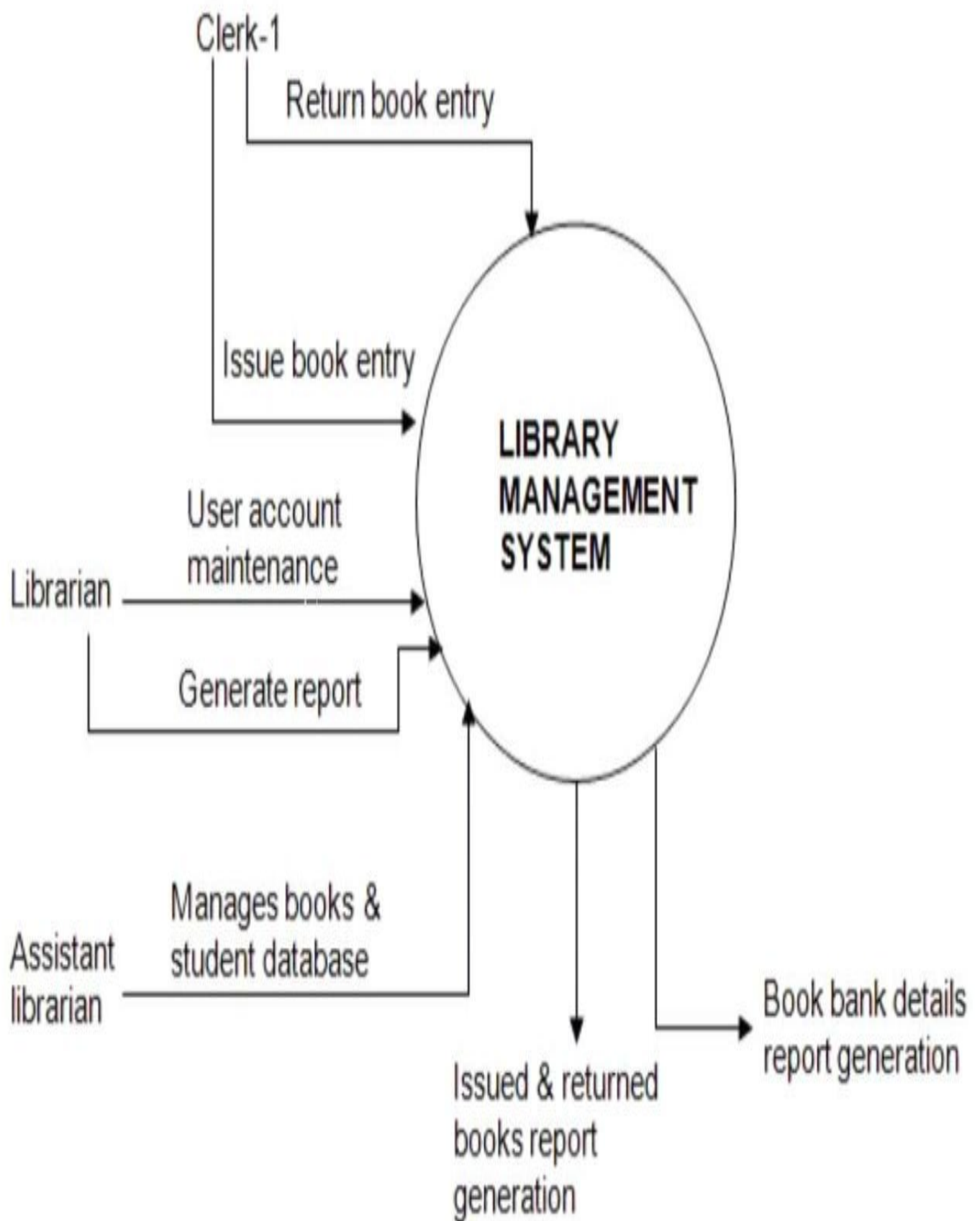The various activities and the actions performed on the data is represented through circle..
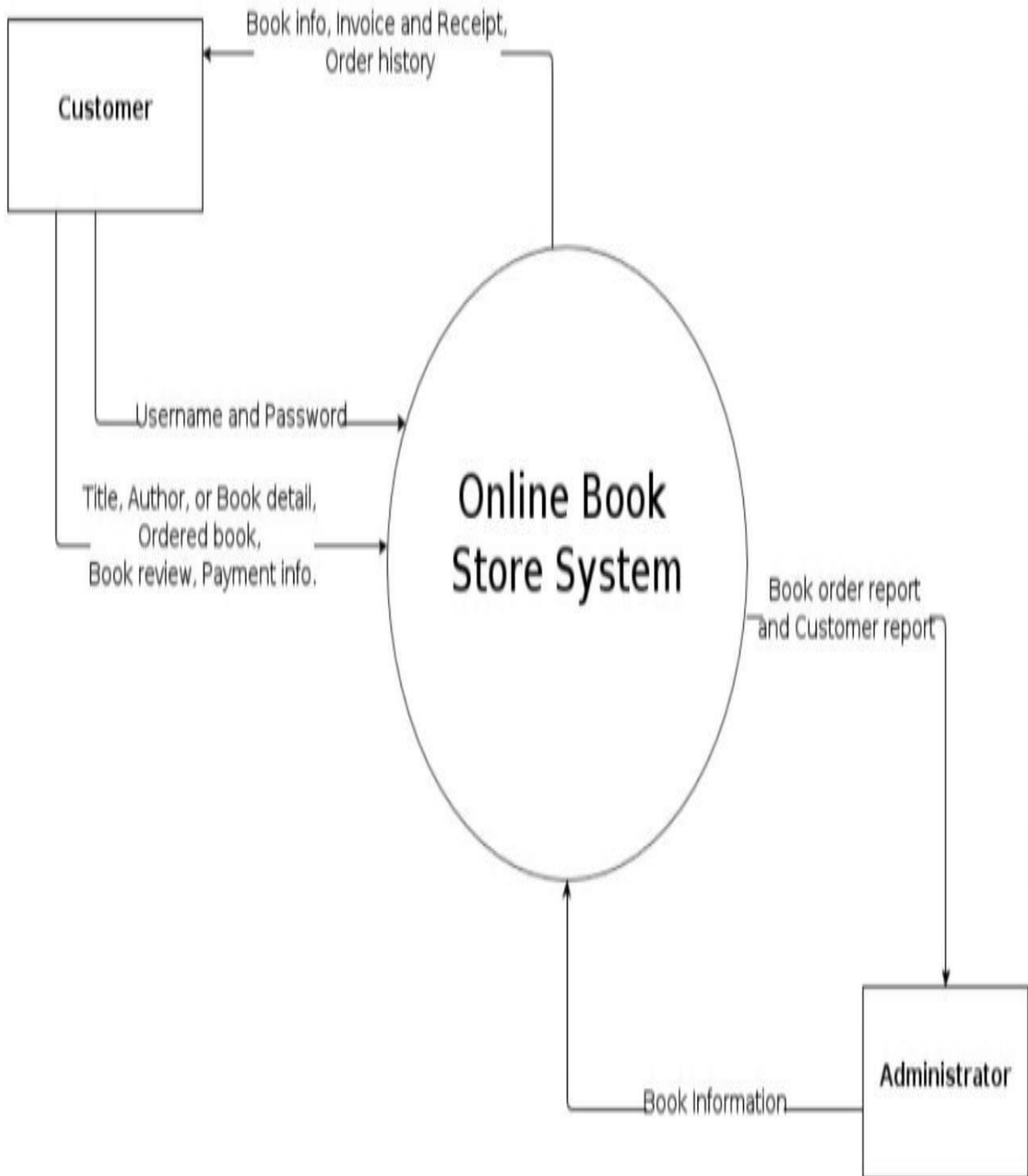
Entities:

External sources or information of the data is represented by rectangle

2.FIRST LEVEL DATA FLOW DIAGRAM:

Book info, Invoice and Receipt,
Order history

Customer

Username and Password

Title, Author, or Book detail,
Ordered book,
Book review, Payment info.

Online Book Store System

Book order report
and Customer report

Administrator

Book Information

E-R DIAGRAM:

An E-R model is an abstract way to describe a database Describing a database usually starts with a relational database, which stores data in tables. Some of the data in these tables point to data in other tables - for instance, your entry in the database could point to several entries for each of the phone numbers that are yours. The ER model would say that you are an entity, and each phone number is an entity, and the relationship between you and the phone numbers is 'has a phone number'. Diagrams created to design these entities and relationships are called entity–relationship diagrams or ER diagrams. Entity Relationships are three kinds:
1. One-One
2. One-Many
3. Many-Many
1.One-One :
One instance of an entity
(A) is associated with one other instance of another entity
(B) For example, in a database of Student each Student name
(A) is associated with only one social security number

2. One-Many:
One instance of an entity
(A) is associated with zero, one or many instances of another entity
(B)but for one instance of entity B there is only one instance of entity A. For example, for a college with all students purchasing in one library , the Library name
(C)A is associated with many different Students

3. Many-Many:
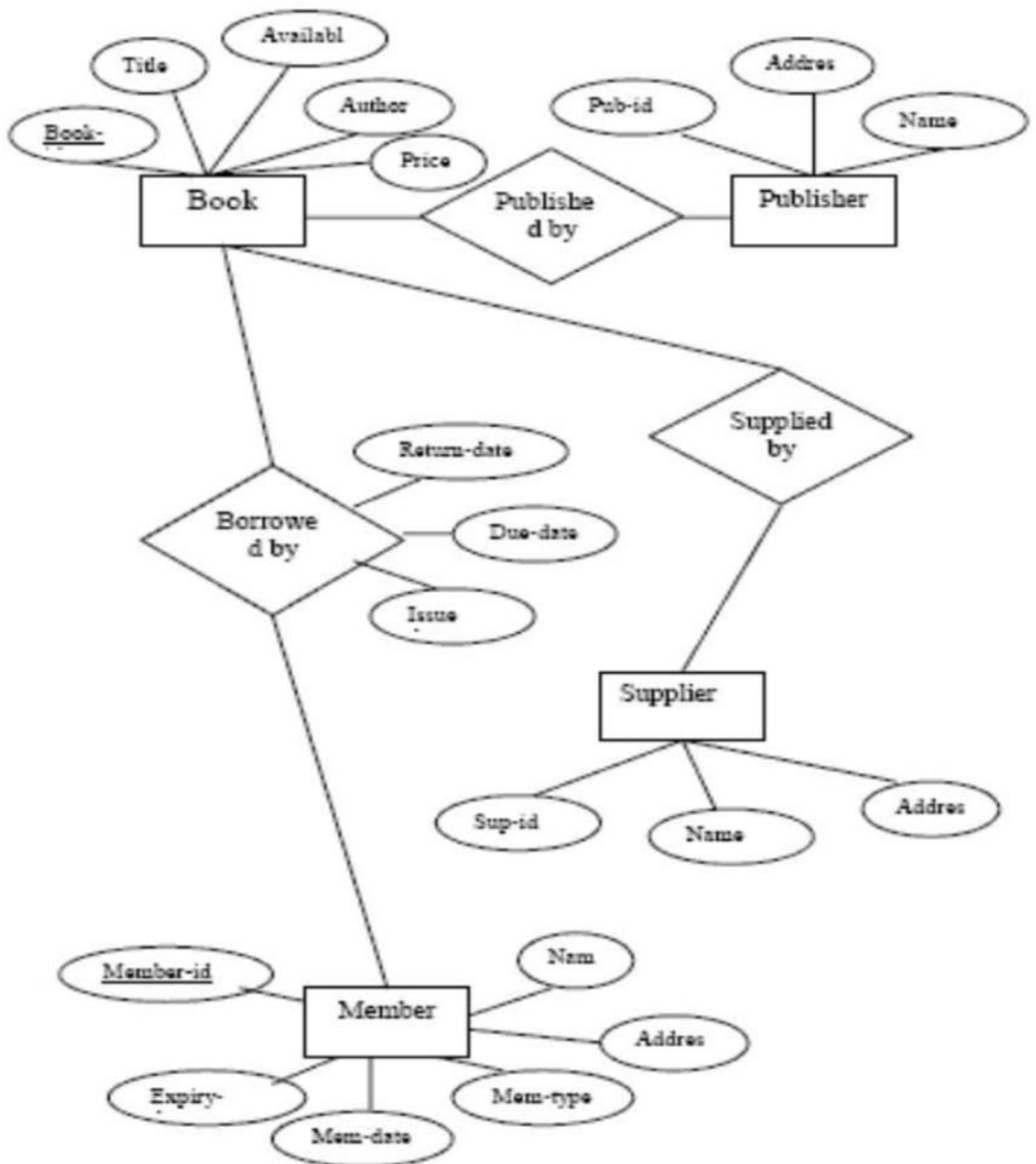One instance of an entity
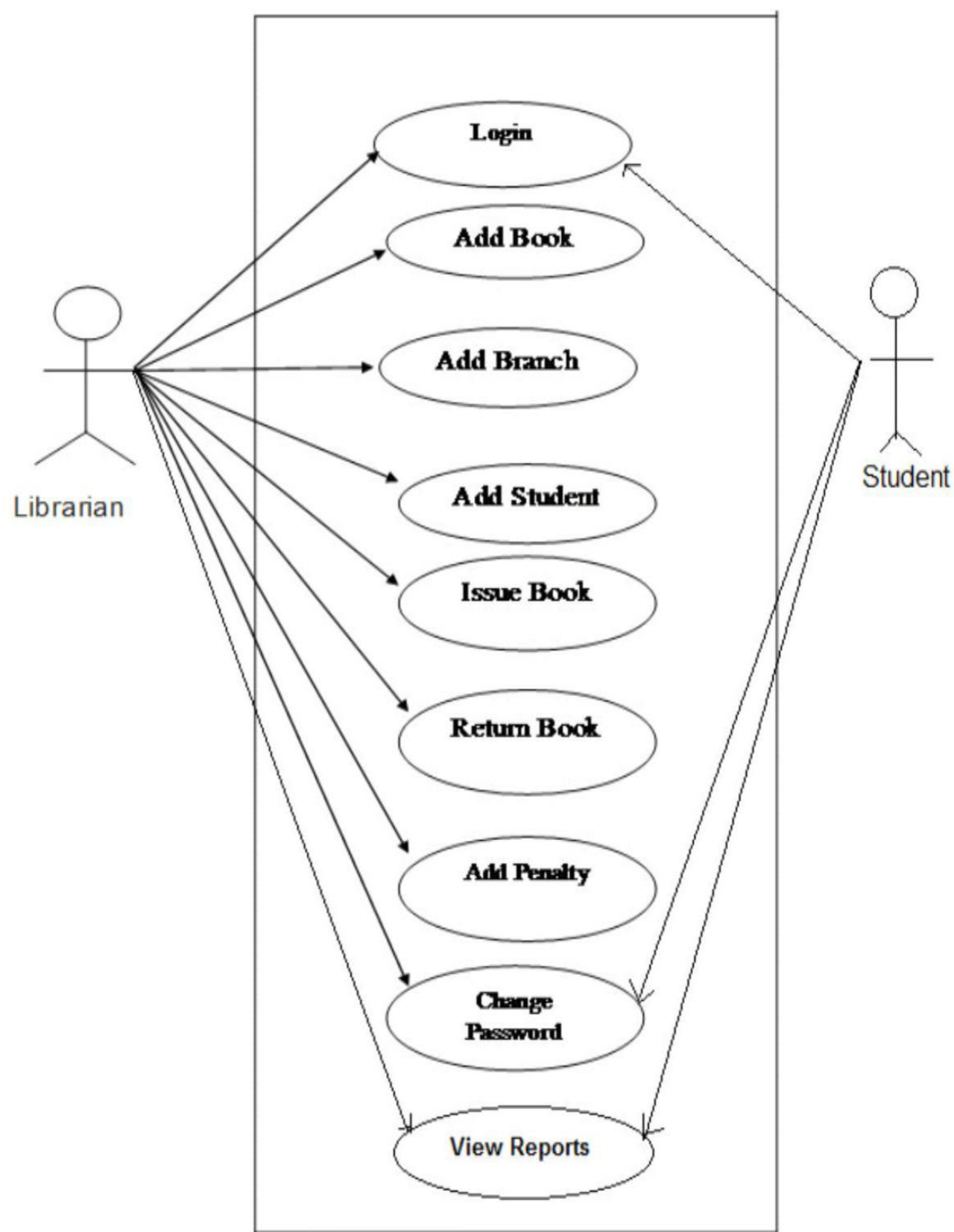(A) is associated with one, zero or many instances of another entity
(B), and one instance of entity B is associated with one, zero or many instances of entity A. For example, in library which all of students can purchase many books , each instance of an student

(A) has multiple students
(B) associated with it.

E-R DIAGRAM:

Login

Add Book

Add Branch

Add Student

Issue Book

Return Book

Add Penalty

Change
Password

View Reports

Librarian

Student

TESTING

The testing phase of the software development lifecycle (SDLC) is where you focus on investigation and discovery. During the **testing phase**, developers find out whether their code and programming work according to customer requirements. And while it's not possible to solve all the failures you might find during the testing phase, it is possible to use the results from this phase to reduce the number of errors within the software program.

Before testing can begin, the project team develops a **test plan**. The test plan includes the types of testing you'll be using, resources for testing, how the software will be tested, who should be the testers during each phase, and **test scripts**, which are instructions each tester uses to test the software. Test scripts ensure consistency while testing.

There are several types of testing during the test phase, including quality assurance testing (QA), system integration testing (SIT), and user acceptance testing (UAT).

Types of Testing in SDLC

Testing phases are some of the most important components of the Software Development Life Cycle. These processes have to be executed in a methodical approach to ensure that all requirements are met. Software testers usually break down software testing in four main phases, which are System Testing, Integration Testing, Acceptance Testing, and Unit Testing.

Unit Testing

Unit testing is performed on smaller components of the software, which testers can term as a single unit. These units can be as small as individual functions, code components and even classes, or large as single features of the software.

Usually, it is the smallest testable component of the software that the testers can compile load and execute. Unit testing ensures that each unit of the software is functioning as it should.

Integration Testing

In integration testing, testers combine different software modules at once test these modules collectively. This kind of testing ensures that the collective system follows the correct data flow. These tests are necessary to make sure that the integrated system is prepared for system testing.

System Testing

System testing is the procedure where collective systems in integrated testing are combined further into a single integrated system. Here testers evaluate the functional requirements of the project once more and also see whether the system follows compliance according to the given requirements.

Besides that, testers can also evaluate how overall components interact with each other. Therefore, they can perform specific testing procedures such as performance, load, reliability and security testing on the integrated system.

User Acceptance Testing

In user acceptance testing, customers use components of the software to see if it meets their requirements. They can ask the development team to make further enhancements in the product if it is needed. This final interaction with end-users and stakeholders can ensure that all the agreed-upon requirements are a part of the product.

FUTUREISTIC SCOPE:

THE SCOPE OF ONNLINE LIBRARY MANAGEMENT SYSTEM INCLUDES:

-Create distinct product users based on their roles and permissions

- Authenticate users at their login.
-Provide the list of books the users can borrow.
- Facility to reserve books that are available.
- A status page for all users to view books reserved by them.
-Facility to cancel the reservation for a book made earlier.
- An interface to view and edit the own profile.
-Provide method for adjusting account settings such as passwords.
- Mechanism to reset the password in case user forgets it and also providing interface to add or delete books to staffs.

CONCULUSION

We Are from a online library called BookVilla can manage and provide the Books for students and book readers(comics as well as study material) easily and in a minimum time and also can send notifications to the students. Book Status can be tracked. and different reports will be prepared.

REFERENCES:

[1] http:www.w3schools.com/

[2]www.pdfdrive.com

[3]https://thescriptlab.com

[4]http://airandompicture.