



CLASS XII

RECORD OF PROJECT WORK IN

COMPUTER SCIENCE

Name : -------------------------------------------------------

Roll No : -----------------------------------------------------



Project Report submitted in fulfillment of Class XII

Syllabus Requirement By

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CERTIFICATE – TERM 1

This is to certify that this Project titled ------------------------------------------------------

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----------------------------------------------------Roll . No. -------------------------of class XII, Section \_\_\_\_\_\_\_ , during the academic year 2021 – 2022

Teacher in Charge Principal Examiner



Project Report submitted in fulfillment of Class XII

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CERTIFICATE – TERM 2

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Teacher in Charge Principal Examiner

# Acknowledgement

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# ABSTRACT

Library Management System is a system which maintains the information about the books present in the library, their authors, the members of the library to whom books are issued, library staff and all. This is very difficult to organize manually. Maintenance of all these information manually is a very complex task. Owing to the advancement of technology, organization of a Digital Library System is a need of the hour. The Digital Library Management has been designed to computerize and automate the operations performed over the information about the members, book issues and returns and all other operations. This computerization of the library helps in many instances of its maintenances. It reduces the workload of the management as most of the manual work done is reduced and automate through the Digital system.

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# 1. INTRODUCTION

* 1. PROJECT AIMS AND OBJECTIVES

The project aims and objectives that will be achieved after completion of this project are discussed in this subchapter.

The aims and objectives are as follows:

· Add items/ price to the store

· Remove items from the store

· Check the availability of items in the store,

· Clear the store data

· Admin login credentials

· Customer bill generation

* 1. BACKGROUND OF THE PROJECT

Digital 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 add new books and members. 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. All these modules will help the help librarian to manage the library in a convenient and efficient way as compared to the present manual system.

# 2. SYSTEM ANALYSIS

In this chapter, we will discuss and analyze about the developing process of Library Management System including software requirement specification (SRS) and comparison between existing and proposed system. The functional and non functional requirements are included in SRS part to provide complete description and overview of system requirement before the developing process is carried out. Besides that, existing vs proposed provides a view of how the proposed system will be more efficient than the existing one.

2.1 SOFTWARE REQUIREMENT SPECIFICATION

Library Management System is a computerized system which helps the user(librarian) to manage the daily activities in the library in an electronic format. It reduces the risk of paper work such as loss of registers, damage of registers and other time consuming activities in the library. It can help user to manage the transaction or record more effectively and in a time saving manner.

PROBLEM STATEMENT:

The problem occurred before having computerized system includes:

* Loss of registers

When computerized system is not implemented, records are always under the threat of mishandling. Sometimes due to some human error there may be a loss of records.

* Damaged records

When a computerized system is not there file is always lost due to some accident

like spilling of water by some member on records accidentally. Besides some

natural disaster like floods or fires may also damage the files.

* Difficult to search record

When there is no computerized system there is always a difficulty in searching of

records if the records are large in number.

* Space consuming

As the number of records become more, the space for physical storage of

records also increases if no computerized system is implemented.

* Cost consuming

As there is no computerized system, every year records/ registers will be

required, which will increase the cost for the management of library.

2.2 EXISTING Vs PROPOSED

Existing System:

Early days Libraries are managed manually. It required lot of time to record or to retrieve the details. The employees who have to record the details must perform their job very carefully. Even a small mistake would create a lot of problems. Security of information is very less. Report generations of all the information is very tough task. Maintenance of Library catalogue and arrangement of the books to the catalogue is very complex task. In addition to its maintenance of member details, issue dates and return dates etc. manually is a complex task.

Proposed System:

To solve the inconveniences as mentioned in the existing system, a Digital Library is proposed. The proposed system contains the following features.

· Get member information

· Get book details

· Check total books available

· Update both member and book details

· Produce member reports, book reports etc.

2.3 SYSTEM SPECIFICATIONS

HARDWARE SPECIFICATIONS

The following is the hardware specification of the system on which the software has been developed:-

Operating System : Windows 7 /10 or linux os

Windows 10 is used as the operating system as it is stable and supports more features and is more user friendly.

Machine : Pentium Dual Core Processor 2.6 GHz or above,

2 GB RAM or above ,

500 GB Hard Disk or above

We used Intel core i5 2nd generation based system, it is fast than other processors and provide reliable and stable performance and we can run our pc for longtime. By using this processor, we can keep on developing our project without any worries. 4gb RAM is used as it will provide fast reading and writing capabilities and will support in processing.

SOFTWARE SPECIFICATIONS

Front End Used : PYTHON 3.8.0 or above

Backend Used : data files and mysql

# 3. SYSTEM DESIGN

3.1 DATA FILE / TABLE DESIGN

Add descriptions on each files, to give a better understanding of your data files

Data Files Design

To be decided

CATEGORY.DAT

CATEGORY\_ID

CATEGORYNAME

MEMBER.DAT

MEM\_ID

MEMNAME

SEX

ADDRESS

PHONE

PUBLISHER.DAT

PUBLISHER\_ID

PUBNAME

ISSUED.DAT

BOOK\_ID

MEM\_ID

ISSUEDATE

3.2 MENU STRUCTURE

MEMBER

ADD MEMBER

MODIFY MEMBER

DELETE MEMBER

LIST MEMBERS

BOOK

ADD BOOK

MODIFY BOOK

DELETE BOOK

LIST BOOKS

ISSUE/RETURN

ISSUE A BOOK

RETURN A BOOK

CATEGORY

ADD CATEGORY

LIST CATEGORY

PUBLISHER

ADD PUBLISHER

LIST PUBLISHER

EXIT

3.3 DATA FLOW DIAGRAMS

PUBLISHER MANAGEMENT

BOOK MANAGEMENT

ISSUE

RETURN OPERATIONS

CATEGORY MANAGEMENT

MEMBER MANAGEMENT

BOOK MANAGEMENT

2

MODIFY BOOK

1

ADD BOOK

3

DELETE BOOK

4

LIST BOOKS

BOOK.DAT

3

DELETE MEMBER

MEMBER MANAGEMENT

2

MODIFY MEMBER

1

ADD MEMBER

4

LIST MEMBER

MEBER.DAT

BOOK.DAT

MEBER.DAT

RETURN BOOK

ISSUE BOOK

ISSUE

RETURN OPERATIONS

# 4. SYSTEM IMPLEMENTATION

4.1 SOURCE CODE AND MODULE DESCRIPTION

MEMBER

This module is meant for …………………………………………………………………………

1. ADD MEMBER

The ADD MEMBER function………………………..

1. MODIFY MEMBER
2. DELETE MEMBER
3. LIST MEMBERS

4.2 SCREEN SHOTS

# 5. SYSTEM TESTING

Software Testing is an empirical investigation conducted to provide stakeholders with information about the quality of the product, with respect to the context in which it is intended to operate. Software Testing also provides an objective, independent view of the software to allow the management to appreciate and understand the risks during the implementation of the software.

The aim of the system testing process was to determine all defects in our project. The program was subjected to a series of trial operations with test inputs and various observations were made and based on these observations, changes were made and again tested for better results. Our Project went through two levels of testing

1.Unit testing 2. Integration testing

5.1 UNIT TESTING

Unit testing was undertaken when a module has been created and successfully reviewed. In order to test a single module, we need to provide a complete working environment.

5.2 INTEGRATION TESTING

After integrating the entire modules developed, we performed various checks by providing different set of test input. The primary objective is to test all the modules in order to ensure that no errors are occurring when one module invokes the other module.

# 6. CONCLUSION

The software for library is found to be working efficiently. The software appears very flexible since it is menu driven with user-friendly screens. No Formal programming knowledge is required for the user. Also, the user is not burdened with data storing and data retrieval procedures as both are done internally.

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