A Major Project Proposal Report on

e-Library Management System

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Submitted by:

Jenish Maharjan 15419

Prabesh Pandey 15428

Ayush Dahal 15412

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Department of Information Technology

NEPAL COLLEGE OF INFORMATION TECHNOLOGY

Balkumari, Lalitpur, Nepal

ABSTRACT

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

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1. INTRODUCTION

The project titled e-library Management System is a library management software for monitoring and controlling the transactions in a library. The project e-Library Management System is developed in ASP.NET Core, which mainly focuses on basic operations in a library like adding new member, new books, and updating new information, searching books and members to borrow and return books. It reduces the risk of paper work such as file lost, file damaged and time consuming. It can help user to manage the transaction or record more effectively and timesaving.

e-library Management System is a web application, designed to help users maintain and organize library. Our website is easy to use for both beginners and advanced users. It features a familiar and well thought-out, an attractive user interface. In this system the library management becomes more efficient & easier to handle with its reliable system components.

The software Library Management System has four main modules.

1. Insertion to Database Module - User friendly input screen.

2. Extracting from Database module -Attractive Output Screen.

3. Report Generation module -borrowed book list & Available book list.

4. Search Facility system - search for books and members.

2. 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 accident like spilling of water by some member on file 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:
  After the number of records become large the space for physical storage of file and records also increases if no computerized system is implemented.

- Cost consuming:
  As there is no computerized system each record paper will be needed which will increase the cost for the management of library.

3. OBJECTIVES

The aim of the project is to prepare a web based system for e-library management system and its objectives are:

- Maintaining stock : This is a very important feature of all library software. With the help of library system we can maintain the stocks such as books more efficiently. With the help of this feature our manual works have reduced to a great extent. This feature can also be termed as cataloging**.** This feature also helps in editing or deleting the data, if required.
- Classification of stocks : The stocks can be delegated per writer name, distribution, classification, cost , area of book.
- Search : The LMS gives search choice to the user to search for the books they need.
- Fine count : LMS keeps reputation of every single stock. LMS naturally computes due dated of each obtained book and ascertain fine as needs be.
- Manages the information of Members, author , publisher.
- Manages books, book inventory, issues.

4. SCOPE AND IMPORTANCE

The project product to be produced is a Library Management System which will automate the major library operations.

- The first subsystem is the registration of the users to the system to keep track of authorized users to the system.
- The second subsystem is the registration of new books into the library management system to know when new books are brought into the library.
- The third subsystem is a borrower and return of books which is the major area needed by the user.
- There are three end users for the Library Management System. The end users are the admin, users and members.

5. LITERATURE REVIEW

5.1 Introduction

The e-Library Management System is a Library Management website for monitoring and controlling the transactions in a library (Ashutosh and Ashish., 2012). e-Library Management System supports the general requirement of the library. Before the advent of computer in modern age there are different methods of keeping records in the library. Records are kept in the library on shelves and each shelf are labelled in an alphabetical or numerical order, in which the categories of books available are arranged on different position on the shelves and as well are recorded on the library manuscript and when any book is to be referenced the manuscript is being referred to, to know the position of such different researchers have carried out various approach on an automated library management system in which this project is as well all about.

The first library management system to be reviewed is the KOHA library management system. Since the original implementation in1999, KOHA functionality has been adopted by thousands of libraries worldwide, each adding features and functions, deepening the capability of the system. With the 3.0 release in 2005, and the integration of the powerful Zebra indexing engine, KOHA became a viable, scalable solution for libraries of all kinds. Lib Lime KOHA is built on this foundation. With its advanced feature set, Lib Lime KOHA is the most functionally advanced open source Integrated Library System in the market today. The major setback of this Library Management System is that it is a web based and as a result it is not security conscious because hackers could have the database hacked and access or modify the information of such user.
Another Library Management System is the Capital's library software with the following
Benefits Increases support available for staff and users in any modern library service,
provides efficiency, innovative system that's saves library time and improves the user experience.
A library management system usually comprises a relational database, software to interact with that database, and two graphical user interfaces(one for users, one for staff). Most integrated library systems, separate software functions into discrete programs called modules, each of them integrated with a unified interface.
Examples of modules might include:

- Acquisitions (ordering, receiving, and invoicing materials)

- Cataloguing(classifying and indexing materials)
- Circulation (lending materials to patrons and receiving them back)
- Serials(tracking magazine and newspaper holdings)

5.2 Development of e-Library Management System

e-library management system is a system for a library resource planning, used to access the documents held, orders. Sometime, a phrase like library integrated system is employed, especially in the UK. Cynthia Lopta defines the integrated system as an automated system in which all the functional modules share the same bibliographic database. Integration as a concept is most usually found in biblioteconomy. It became a landmark over 20 years ago, and it has grown into an almost synonym for integrated system. Sometimes, integrated refers to a system in which the library functions are processed in a main bibliographic file. By the mid to late 2000s, library management system vendors not only the number of services offered but also their prices leading to some dissatisfaction among many smaller libraries. At the same time open source Integrated Library System was in its early stages of testing. Some libraries began to such open source integrated library system as KOHA and Evergreen. Most reasons noted from these were to avoid vendor lock in, license fees and participate in software development. The much needed freedom from vendors also allowed libraries to prioritize need according to urgency, as opposed to what their vendor can offer. Recently, libraries which have moved to open source integrated library system have found that vendors are now more likely to provide quality service in order to continue a partnership since they are no longer having the power of owing the Integrated Library System software and tying down libraries to strict contracts. This has been the case with the SC LENDS consortium. Following the success of Evergreen for the Georgia PINES library consortium, the South Carolina States Library along with some local public libraries formed the SCLENDS consortium in order to share resources and to take advantage of the open source nature of the Evergreen Integrated Library System to meet their specific needs. By October 2011, just two years after SC LENDS began operations, thirteen public library systems across 15 counties had already joined the consortium in addition to the south Caroline State Library. Librarytechnology.org does an annual survey of over 1,500 libraries and noted in 2008, 2 % of those who surveyed use the Integrated Library System, in 2009 the number increased to 8%and in 2010(most recent year

available) 12% of the libraries polled had adopted open source Library Management System. Library project system that offers many flexible and convenient features, allowing librarians and library users to maximize time and efficiency. Library system gives all the detailed information about students, staffs and books, it will track the books available in the library and the books that have been issued to the library users (students). It shows popular books among the students. It will provide book lost in the library. It keeps records of the supplier and the book binders.

5.3 Features of library management

- Manage Book and Member Record.
- Library Management eases the everyday tasks of big Libraries, where the No. of transactions exceed several thousands in number.
- Provide Multi User environment: Library management software gives facility of multi user environment. Multiple users can login at the same time in the Library management software.
- Help the librarian in reporting on the various operations of the library.
- Increase the rate at which Tasks are completed accurately.

6. METHODOLOGY

6.1 Architecture

It is a system software based on Neural Network Algorithm using MATLAB.

6.2 Model

6.2.1 Incremental Model

The framework we will be using for developing this project is Incremental Model. This model combines linear sequential model with the iterative prototype model. New functionalities will be added as each increment is developed. The phases of linear sequential model are: Analysis, Design, Coding and Testing. The software repeatedly passes through these phase in iteration and an increment is delivered with progressive changes.

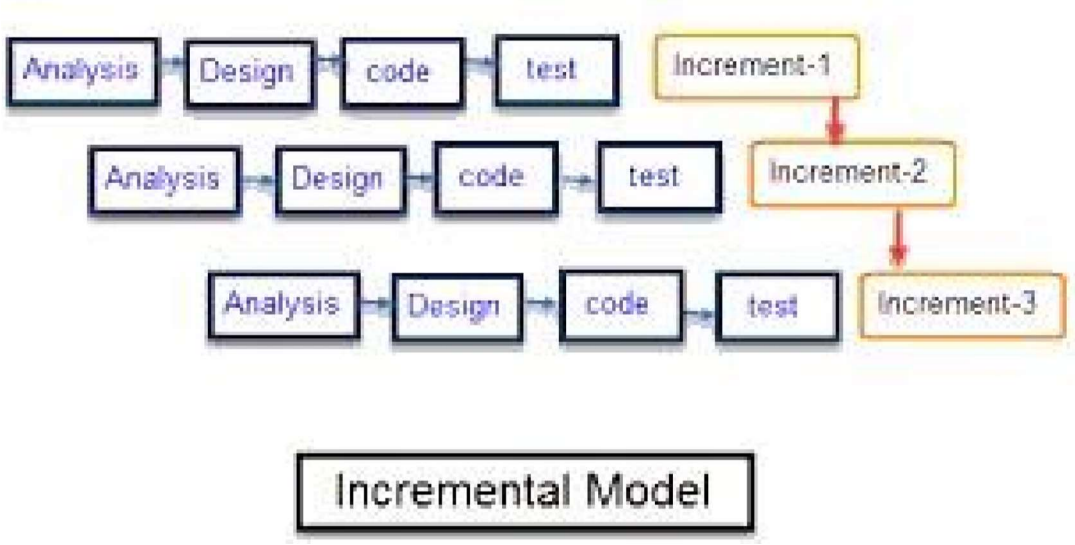

Figure 1: Incremental Model

6.2.1.1 Analysis Phase

In this phase, analysis will be performed in order to find out the requirements of the system. The outcome of this phase is a SRS which is an acronym for “System Requirement Specifications”.

6.2.1.2 Design phase

In this phase, the System Requirement Specification is translated into the system's design. Here, Entity Relationship Diagram, Use Case Diagram, Flowcharts will be developed.

6.2.1.3 Coding Phase

In this phase, coding will be done according to the design and a working system will be developed by the end of this process.

6.2.1.4 Testing Phase

In this phase, the system will be tested. With each testing, a list of changes to the system developed, is suggested and the changes will be applied to the software and the software would be delivered as a successive increment until a satisfying system will achieved.

7. TOOLS AND TECHNIQUE

The tools used for documentation, designing and developing UI/UX, testing are listed below in table:

- Visual Studio:

  Microsoft Visual Studio is an integrated development environment from Microsoft. It is used to develop computer programs, as well as websites, web apps, web services and mobile apps. Visual Studio uses Microsoft software development platforms such as Windows API, Windows Forms ,Windows Presentation Foundation. It can produce both native and managed code.

- ASP.NET Core
- HTML, CSS, bootstrap(for designing)
- Microsoft SQL Server Management Studio(for database)
- E-draw Max 7.9 & Rational Rose(Design Gantt chart and other diagram)
- Web Browser(Application Testing)

8. DELIVERABLES

At the end of this project, it will deliver the following:

- This website will provide a computerized version of library management system which will benefit the members as well as the staff of the library.
- It makes entire process online where members can search books, staff can generate reports and do book transactions.
- It also has a facility for member login where student can login and can see status of books issued as well request for book or give some suggestions.
- It has a facility of admin login where admin can add book inventory, author and producer details and manages members.

9. TASK AND TIME SCHEDULE

9.1 Gantt Chart

The project schedules will be performed as per the requirements and time constraints involved. Numerous informal conversations with the user which had assisted a lot in the development are not included in the chart. The figure below provides a better understanding of the tasks and time division.

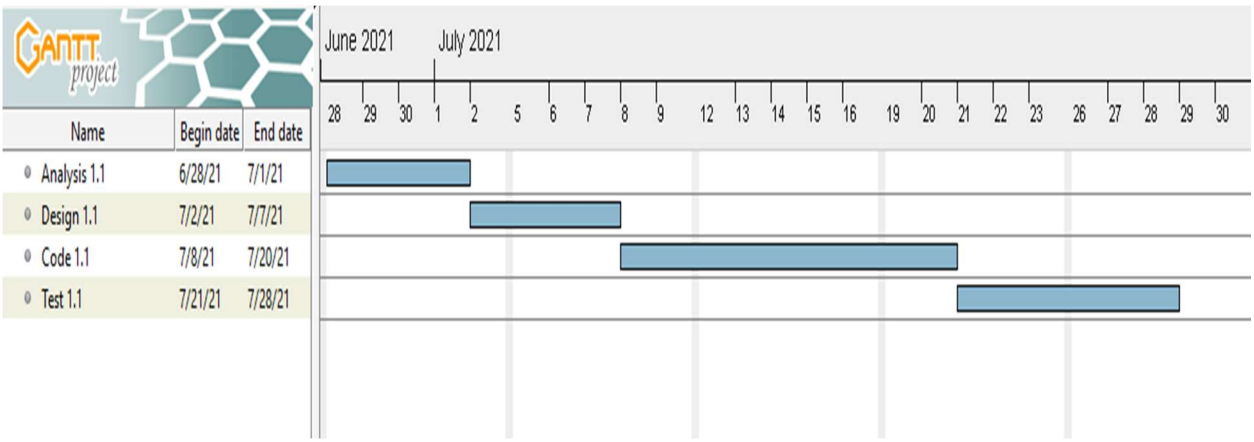

Figure 1 : First Increment

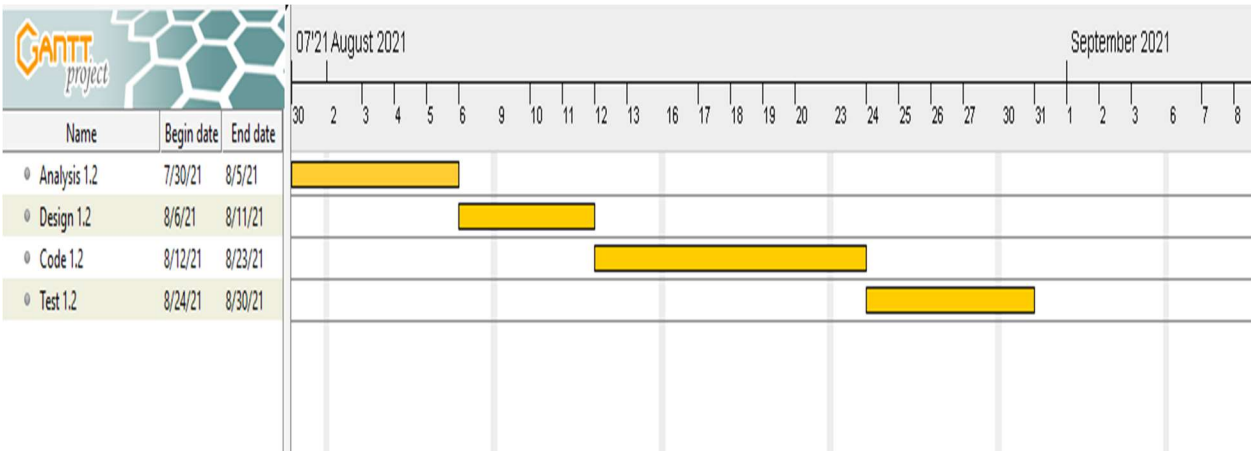

Figure 2 : Second Increment

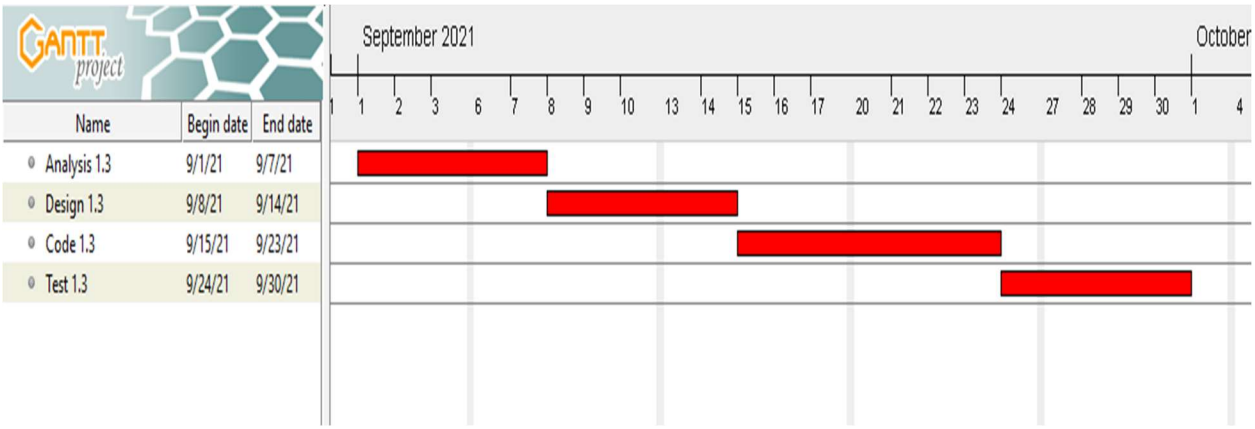

Figure 3 : Third Increment

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