

**Masters Project Interim Report**

**Date**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Project Title** |  | | | |
| **Student Name** | R. B. T. De Zoysa | | | |
| **Registration No. & Index No.** |  | | | |
| **Supervisor’s Name** |  | | | |
| **Please Circle the appropriate** | **Masters Program** | | **Type** | |
| **MIT** | **MCS** | **Research** | **Implementation** |

|  |
| --- |
| **For Office Use ONLY** |
|  |
|  |

IT Based Tool for School Library Information Management

**R. B. T. De Zoysa**

**2015**

Contents

[Chapter 1 – Introduction - 1 -](#_Toc423852660)

[1.1 Purpose - 1 -](#_Toc423852661)

[1.2 Problem Domain - 1 -](#_Toc423852662)

[1.3 Motivation - 1 -](#_Toc423852663)

[1.4 Aims and Objectives - 1 -](#_Toc423852664)

[1.5 Scope - 1 -](#_Toc423852665)

[1.6 Document Structure - 2 -](#_Toc423852666)

[Chapter 2 – Background - 3 -](#_Toc423852667)

List of Abbreviations

|  |  |
| --- | --- |
| **Abbreviation** | **Definition** |
| LIMS | Library Information and Management System |
| UCSC | University of Colombo School of Computing |
| UI | User Interface |
| ERP | Enterprise Resource Planning |
| RFID | Radio Frequency Identification |
| GWT | Google Web Toolkit |
| OPAC | Online Public Access Catalog |
| GPL | General Public License |
| CSS | Cascade Style Sheet |

Chapter 1 – Introduction

1. Purpose

This document consist the overview of an IT based information system for library information management and highlights its objectives. In this chapter emphasis a brief idea about the problem and how IT helps to provide a suitable solution for overcome existing difficulties.

1. Problem Domain

Kotahena Central College is one of leading national school in Sri Lanka which was founded on 1918 by Mr. P. A. Evans and begun under the name of “Nil Veediya Government Mix School”. Recently Kotahena Central College has been upgrade to 1AB super school and “Mahindodaya” Technical laboratory was constructed with nearly 50 computers and new Multimedia equipments. Its currently serve around 1000 students in Colombo area including grade 6 to grade 13. And also there are nearly 75 teachers and non-academic staff members [1].

The school library contains more than 5000 titles and daily/ monthly publications all are available to refer for any student or staff member. Moreover to that they keep inventory of ministry of education’s publications and distribute those among academic staff and students in the school and get information of current inventory in each end of the academic year. All the tasks which perform manually by the library staff and keep records on books. Annually the library staffs is getting new releases/publications from publishers and based on those they prepare a requisition to buy new books which they need to spend considerable time to finalize it. Also there is no any systematic way to keep the track of financial information as well.

1. Motivation
2. Aims and Objectives

The proposed tool aims at several key objectives including the following.

1. Scope
2. Document Structure

Under this section of the document it is described the structure of rest of document and content of following chapter.

* Chapter 2 – Background

This chapter is explained in detail about existing system available in the internet and their content and behavior followed by a literary review.

* Chapter 3 – Design of the System

This chapter is discussed the methodology used in the system design and development and the various design diagrams of the proposed system. Also detail about existing processes following as library activities, the functional and non-functional requirements of the LIMS.

* Chapter 4 – Progress

This chapter is discussed actual progress of the project to date and the problems encountered during that time. It also includes a detailed plan of work for the rest of the project.

Chapter 2 – Background

1. Purpose

In this chapter is described the background information of this tool and the

1. Introduction

Integrated Library Management Systems [2] is a kind of information system [3] available in the today world. The term ‘Library Management’ is an important section of library & information science [4] stream which deals with the activities of resources planning in the library. By the evolution of computers and information era, professionals were tend to develop computerized solutions for library management to overcome the issues they faced. By today there are hundreds of thousands library management system solutions available in the internet which in free and open source as well as proprietary once [5]. Also some of applications are developed by individuals with their own processes as well.

1. Similar Existing Library Management Systems
2. Koha

“Koha”, free library system [6] is most popular and well known integrated library system available free to use. It has series of versions release from 1999 under GNU GPLv3 license and latest is version 3.20. Koha is a web based system developed using ‘Perl’ language and ‘MySQL’ database. It is supported most of the common functionalities in the library management like customizable catalog search, catalog reservation, borrowing management using cart, etc… [7].

“LibLime Koha” [8], [9] is a functionality advanced version of Koha, which is developed based on Koha 3.0 version.

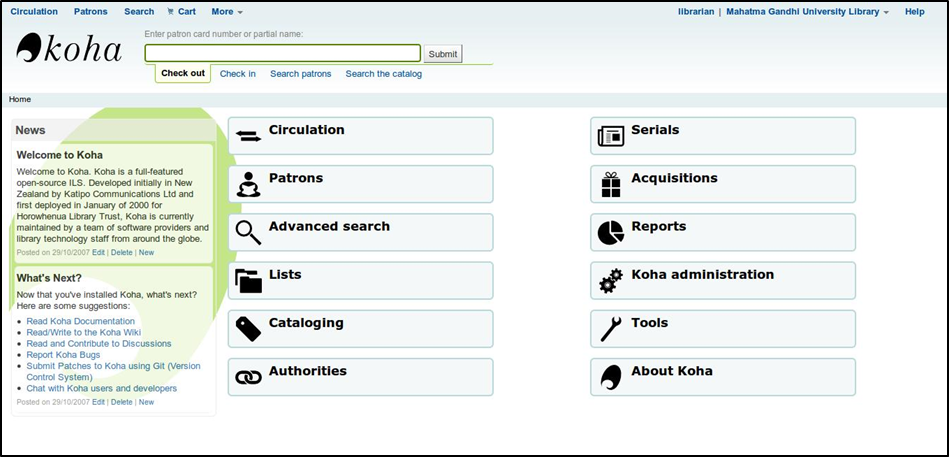


Figure 1 – Home page of Koha Library Management System

1. Pusthaka

“Pusthaka” [10], [11],[12] is another popular open source library management system available in GitHub which is developed by Mr. Nalaka Jayasena [13]. This is a web based solution which is developed using ‘PHP’, ‘JavaScript’ and ‘HTML’ with backend supported by ‘MySQL’ database. Pusthaka is released under GNU GPLv3. This has almost all the core functionalities of the library including advance search facility, user logins, book lending and returning tracking, library inventory management, etc… The significant drawbacks of this solution are lack of having finance related activities tracking option such as fine calculation, book prior reservations, etc.... Also the user interfaces are implemented using pretty ordinary UI elements and components which are not feel comfortable to end users. However the UCSC library is used this library management system for their library [14] to keep the track of their library activities.

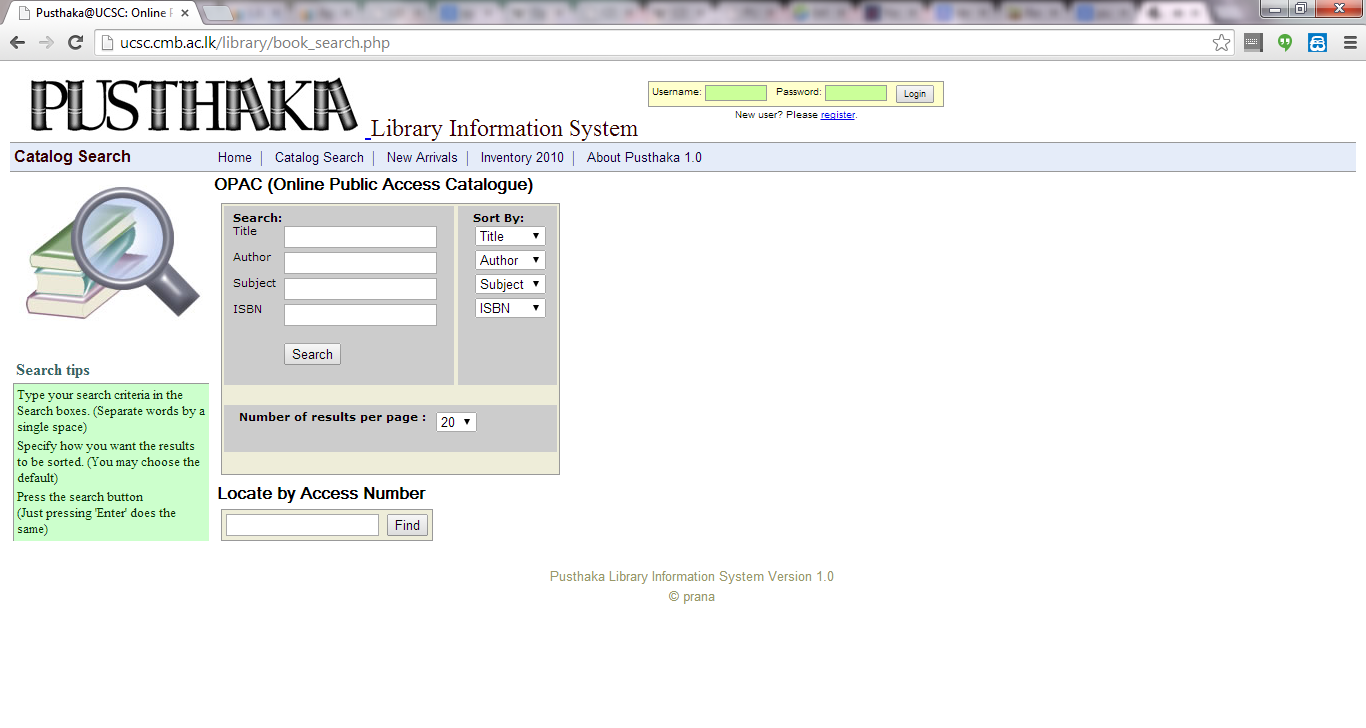


Figure 2 - Pusthaka Library Information System in UCSC Library

1. LIBSYS

“LIBSYS Ltd.”, [15] a popular commercial software development company based on India which is providing automated library management solution for various institutions around the world. It develops a comprehensive series of library management systems [16] suite for different type of libraries and their usage.

* LSEase [17], [18] – The most affordable solution of the LIBSYS product range with basic modules and functionalities of library automation.
* LSAcademia [19] – A comprehensive ERP solution for large scale libraries which helps to integrate with different administrative departments to ensure the information flows among them smoothly. This has a high number of core modules as well as the support modules such as Admission management, Student and Academic staff management, fee management, hostel management, etc. This allows to sharing information among all stakeholders in the libaray like students, staffs, parents, etc. and has different interfacing with email, SMS, Payment gateways and RFID.
* LIBSYS7 [20], [21] – This solution is support to next generation library automation activities which supports an end to end manageability of library operations. This has rich UIs based on GWT with multitasking features. This version is fully compatible with Unicode, RSS feeds and integration with Google Books, Book Finder, etc. and supports OPAC [22].
* LSDigital [23] – A complete digital resource management solution provided by LIBSYS to manage the digital resources of a library. This is supported to different document formats like PDF, Word docs, etc.

1. NewGenLib

“NewGenLib” [24], [25] is another popular open source library management system available which is developed by bunch of developers in Verus Solutions (Pvt.) Ltd., in India. NewGenLib is developed under GNU General Public License and current stable release is 3.0.4 R2 that released on 4th March 2013. This solution is a standalone solution which is developed using Java and Java based frameworks like Spring [26] and Hibernate [27].

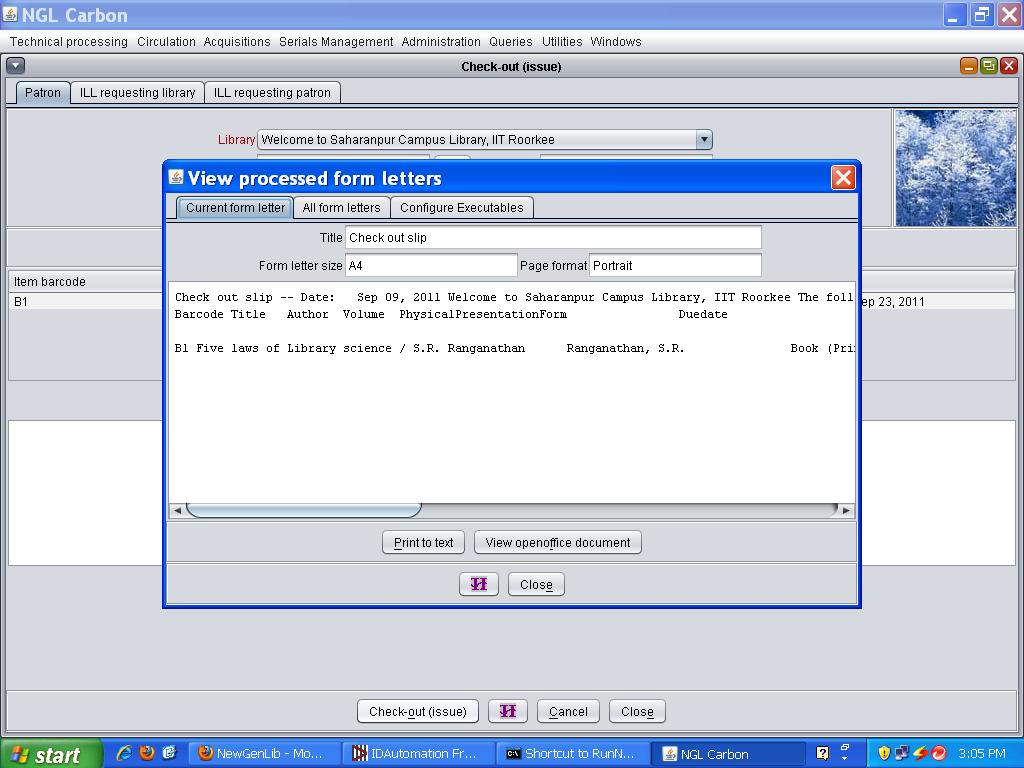


Figure 3 - NewGenLib system

NewGenLib has almost covered the entire core functionalities of a library with new features like OPAC, RSS feeds, SMS for proof of transaction, email integration and Android mobile and tablet capability. Also this has attractive reporting functionality to generate and send various reports. Since this is a standalone solution only one user can use this system at any time.

1. OpenBibilo

“OpenBiblio” [28], [29] is a free and open source library management system available in the internet which distribute under GNU GPL. This is one of a popular library system among small and rural libraries worldwide.

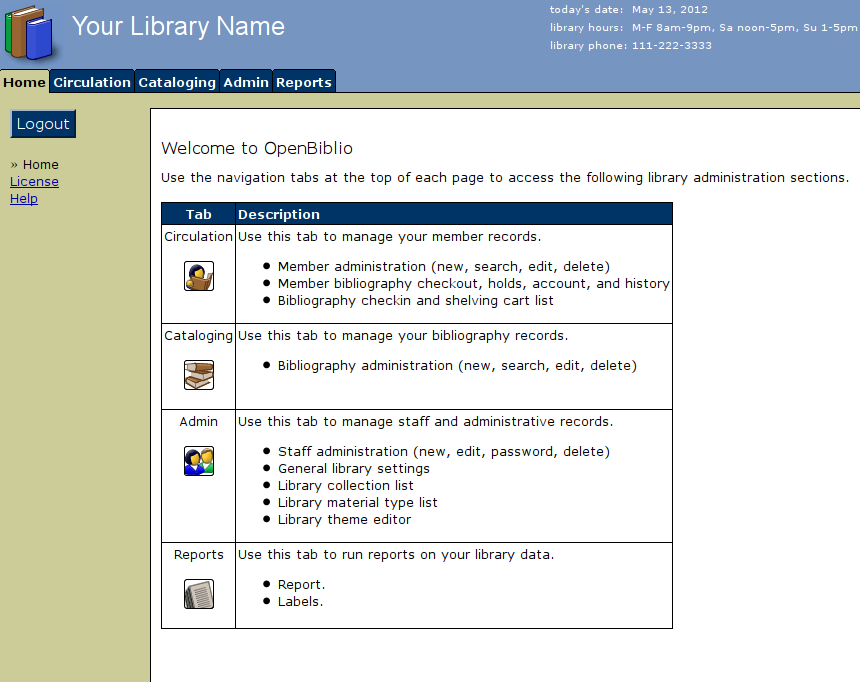


Figure 4 - Main screen of OpenBiblio

OpenBiblio is developed using PHP and HTML with MySQL backend database and the latest version 0.7.1 is released on 2012. OpenBiblio is provided all the essentials functionalities for a small scale library and some new features like OAPC, circulations, cataloging, fine calculation and management and report generation. The UI aspect of this application is not quite good as it uses only very basic HTML UI component in the entire application which the end user doesn’t get any real feeling on that.