## Survey of Open Source Integrated Library System in Thai University Libraries in Bangkok and Pathumthani

by

**Pranee Kiriyanant** 

The Center for Southeast Asian Studies (CSEAS)

**Kyoto University** 

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## ABSTRACT

## SURVEY OF OPEN SOURCE INTEGRATED LIBRARY SYSTEM IN THAI UNIVERSITY LIBRARIES IN BANGKOK AND PATHUMTHANI

The objective of this study is to survey the movement towards the adoption of open source integrated library system of Thai university libraries in Bangkok and Pathumthani. The subjects of the study were 38 directors / administrators of Thai academic libraries in Bangkok and Pathumthani. The questionnaire for this study was uploaded online and the URL link was sent together with a request letter for participation via e-mail. Both closed and open-end questions were included in the questionnaire asking whether library automation was used in the respondents' organization, which integrated library system (ILS) products were used commercial / proprietary ILS, or library automation developed in-house by internal IT staff or by outsourcing, open source ILS developed by others and customizable to fit the organization's needs and so on. Questions about satisfaction, dissatisfaction of the ILS currently used, and the respondents' opinion of a change of ILS were asked. Their opinion about open source ILS was also asked – whether they knew open source ILS, whether they wanted to change to open source ILS and which open source ILS product they wanted to choose.

The survey found that majority respondents (93.1%) used library automation whereas minority (6.9%) did not use. From the respondents who currently used library automation, 59.3% used commercial / proprietary integrated library system (ILS). The commercial / proprietary ILSs most used were Millennium, Horizon and VTLS. This was followed by library automation developed in-house by internal IT staff or by outsourcing – OpenBiblio, Walai AutoLib, LM, Jindamanee, Digital Librarian and BU Cat. From the respondents who currently used library automation, 63% were satisfied whereas 37% were dissatisfied with the library automation system being used. When being questioned about a change of library automation, the number of respondents who wanted to change and who did not want to change was equal - that is 37% of the respondents who used library automation. Reasons to change the current ILS were as follows: "The software company wants to upgrade the current integrated library system, but the library does not want the new release"; "The current integrated library system has no further development"; "The library wants to expand the current integrated library system"; "The library wants to save budget and to be more self-sustaining"; "The software company stops providing maintenance"; "The system is not flexible and system problems are not dealt with promptly". Reasons for those (37%) who did not want to change the current ILS were as follows: "There will be difficulties in migrating to new system"; "The current ILS has continued development"; The current ILS is easy to use"; "The current ILS is quite stable, flexible and is continuously maintained"; and, "There will be high risk". The analysis of 29 responses received revealed that majority or 69% of respondents knew open source ILS, that 59.2% chose to adopt open source developed by others and customizable to fit the organization's needs when being questioned about a change of integrated library system, and that 55% thought they would select Koha open source ILS when they wanted to change library automation. In conclusion, the survey found that 59.2% of Thai university libraries in Bangkok and Pathumthani tended to move towards the adoption of open source integrated library system although they currently used commercial / proprietary ILS.

## บทคัดย่อ

ี แบบสำรวจระบบห้องสมุด โอเพนซอร์ซในห้องสมุดมหาวิทยาลัยของไทยที่ตั้งอยู่ในกรุงเทพมหานครและปทุมธานี (Survey of Open Source Integrated Library System in Thai University Libraries in Bangkok and Pathumthani)

วัตถุประสงค์ของการสึกษาคือการสำรวจแนวโน้มการใช้ระบบห้องสมุคโอเพนซอร์ซในห้องสมุคมหาวิทขาลัยของไทยที่ ตั้งอยู่ในกรุงเทพมหานครและปทุมธานี โดยสำรวจจากผู้อำนวยการ / ผู้บริหารห้องสมุคมหาวิทขาลัยในกรุงเทพมหานครและ ปทุมธานี 38 ท่าน ใช้แบบสอบถามออนไลน์ โดยส่งลิงค์ (URL link) ของแบบสอบถามไปพร้อมกับจคหมายขอความร่วมมือในการ ตอบแบบสอบถามทางอีเมล์ คำถามมีทั้งแบบปลายเปิด และ ปลายปิดซึ่งถามว่ามีการใช้ระบบห้องสมุคอัตโนมัติหรือไม่ ใช้ระบบ ห้องสมุคอัตโนมัติระบบไหน เช่น ใช้ระบบห้องสมุคอัตโนมัติเชิงพาณิชย์ ใช้ระบบห้องสมุคอัตโนมัติที่พัฒนาขึ้นเองโดยเจ้าหน้าที่ไอ ที่ของแผนกคอมพิวเตอร์ / จ้างคนมาช่วยพัฒนา หรือ ใช้ระบบห้องสมุคโอเพนซอร์ซที่มีผู้พัฒนาไว้แล้ว และนำมาพัฒนาให้เหมาะกับ กวามต้องการของหน่วยงาน รวมทั้งกำถามเกี่ยวกับความพึงพอใจ ความไม่พอใจระบบห้องสมุคอัตโนมัติที่ใช้อยู่ และความเห็นเรื่อง การแปลี่ยนระบบห้องสมุคอัตโนมัติ และสอบถามกวามเห็นเกี่ยวกับระบบห้องสมุคโอเพนซอร์ซว่าผู้ตอบแบบสอบถามรู้จักระบบ ห้องสมุคโอเพนซอร์ซหรือไม่ ผู้ตอบแบบสอบถามมีความต้องการจะเปลี่ยนไปใช้ระบบห้องสมุคโอเพนซอร์ซาร์อุไม่ ผู้ตอบ แบบสอบถามต้องการเลือกใจระบบห้องสมุคโอเพนซอร์ชระบบไหน

จากการสำรวจพบว่าผู้ตอบแบบสอบถามส่วนใหญ่ คิดเป็นร้อยละ 93.1 ใช้ระบบห้องสมุดอัตโนมัติอยู่ ในขณะที่ส่วน น้อย กิดเป็นร้อยละ 6.9 ไม่ใช้ระบบห้องสมคอัตโนมัติ ด้ใช้ระบบห้องสมคอัตโนมัติร้อยละ 59.3 ใช้ระบบห้องสมคอัตโนมัติ เชิงพาณิชย์ โดยที่ใช้มากคือ Millennium , Horizon และ VTLS รองลงมาคือระบบอัตโนมัติที่พัฒนาขึ้นเองโดย เจ้าหน้าที่ไอทีของแผนกคอมพิวเตอร์ / จ้างคนมาช่วยพัฒนา เช่น OpenBiblio, Walai AutoLib, LM. Jindamanee, Digital Librarian, BU Cat ผู้ใช้ระบบห้องสมุดอัตโนมัติ คิดเป็นร้อยละ 63 มีความพึงพอใจ ระบบห้องสมุคอัตโนมัติที่ใช้อยู่ ในขณะที่ผู้ใช้ร้อยละ 37 ไม่พอใจระบบห้องสมุคอัตโนมัติที่ใช้อยู่ เมื่อถามความคิดเห็นเรื่อง การเปลี่ยนระบบห้องสมุดอัต โนมัติจากผู้ตอบแบบสอบถามที่ใช้ระบบห้องสมุดอัต โนมัติอยู่ ้ ผ้ที่ต้องการเปลี่ยน และผ้ที่ไม่ต้องการ เปลี่ยนระบบห้องสมดอัตโนมัติ มีจำนวนเท่ากัน คิดเป็นร้อยละ 37 เหตุผลที่ต้องการเปลี่ยนมีดังนี้คือ "ระบบจะอัพเกรด และห้องสมุดไม่ต้องการระบบนั้น" ; "ระบบหยุดพัฒนา" ; "ต้องการขยายระบบ" ; " ประหยัดงบประมาณ และพึ่งพาตัวเองมากขึ้น" ; "บริษัทเลิกบำรุงรักษา" ; "ระบบไม่มีความยืดหยุ่น ไม่สามารถแก้ไขได้ทันที" เหตุผลที่ไม่ต้องการ ทั้งไม่เสียค่าใช้จ่าย" : "เพราะเป็นระบบที่เสถียรพอสมควร และยืดหย่นดี รวมทั้งมีคนดแลระบบอย่างต่อเนื่อง" : "มีความเสี่ยงสง" จากการวิเคราะห์ข้อมูลที่ได้รับจากผู้ตอบแบบสอบถาม 29 ท่าน พบว่า ส่วนใหญ่ คิดเป็นร้อยละ 69 รู้จักระบบห้องสมุดโอเพนซอร์ซ ร้อยละ 59.2 เลือกที่จะใช้ระบบห้องสมุดโอเพนซอร์ซที่มีผู้พัฒนาไว้แล้ว และนำมาพัฒนาให้เหมาะกับความต้องการของหน่วยงาน เมื่อถกถามความคิดเห็นเรื่องการเปลี่ยนระบบห้องสมดอัต โนมัติที่ใช้ และร้อยละ 55 คิดว่าจะเลือกใช้ระบบห้องสมุดโอเพน ซอร์ซ Koha เมื่อต้องการเปลี่ยนระบบห้องสมคอัตโนมัติ โดยสรป การสำรวจพบว่าร้อยละ 59.2 ของห้องสมคมหาวิทยาลัยของ ไทยในกรุงทพมหานกรและปทุมธานี มีแนวโน้มที่จะใช้ระบบห้องสมุดอัตโนมัติโอเพนซอร์ซ แม้ว่ากำลังใช้ระบบห้องสมุดอัตโนมัติ เชิงพาณิชย์อยู่ก็ตาม

## Chapter 1

## Introduction

## Background

"The open source movement has its roots in the 1970s and is continuing to grow in popularity" (Raymond, 1999; Williams, 2002 cited in Crawford, 2003?). "Open source, by definition, means that the source code is available. Open source software (OSS) is software with its source code available that may be used, copied, and distributed with or without modifications, and that may be offered either with or without a fee. If end-user makes any alterations to the software, he can either choose to keep those changes private or return them to the community so that they can potentially be added to the future releases" (Kenwood, 2001). The best known and used open source software are for example Apache, Linux, Mozilla, Open Office, and Apache is a web server program which runs as many as two-thirds of the web Perl. servers on the Internet (Netcraft, 2003 cited in Crawford, 2003?). Linux operating program is another popular program. It is invented by Linus Torvalds in 1991 and by 2001 has millions of users worldwide (Diamonds and Torvalds, 2001 cited in Crawford, 2003?). Mozilla is a web browser derived from Netscape. Open Office is an alternative to Microsoft's Office. Perl is a powerful programming language which is prevalent on the Internet.

"The open source movement started in the 1980s" (Poulter, 2010). Richard Stallman who resigned from MIT founded GNU project. Unix is an operating system, whose functionality he wanted to copy and build upon, but it required community effort. Wanting it to be a free software, he created a different kind of copyright licence, which he termed "copyleft". "Under the GNU general public licence, you are free to use and modify source code, but if you do modify code, then you must make that modification freely available to others. Stallman was not against selling software. You could sell GNU-licensed software, but could not sell any software from derived source code that was not freely available to others. To Stallman, free software should be free of restrictions, not necessarily free from cost" (Poulter, 2010). Milestones in the history of open source software are included in the conference paper of Kumar (2007).

- 1983 Richard Stallman formed GNU project
- 1985 Creation of Free Software Foundation
- 1991 Development of Linux kernel by Linus Torvalds
- 1998 Open Source Initiative (OSI) formed by Eric Raymond

Open source software has created new opportunities for libraries when most libraries face budget cuts and they cannot afford to maintain the proprietary integrated library system in use. Open source software compared to proprietary software is inexpensive, if it is not free. Many libraries have opted for open source solutions. Koha is one example of open source library solutions, which was initially developed in 1999 by Katipo Communications, Inc. and Horowhenua Library Trust. The developer has chosen to work with the Linux operating system, MySQL database program and programming language Perl for web integration and network tools (Crawford, 2003?). Keast (2011) described in an article on survey of Koha in Australian special libraries that "the Greater Western Area Health Service (GWAHS), New South Wales, Australia library service has five small libraries with which to service a very dispersed clientele". [...] By 2006, only one of the five libraries in GWAHS had a web catalogue. There was a general realization that the accessibility of the GWAHS library service would be greatly enhanced if a combined web presence could be established. GWAHS has had budgetary problems and had difficulty finding funds for the project. Similar financial constraints precluded upgrade of any existing systems to web versions. [...] The suggestion was made that transferring to an open-source system would resolve the problem of software cost while providing all the common modules. GWAHS successfully implemented Koha open source technology in an environment where information technology is basic and funds are limited. There are libraries switching to open source software for budgetary reasons.

"During the last decade there has been significant innovation in open source systems (OSSs) for integrated library management. Commercial library management systems (LMSs) have evolved to extend functionality from acquisition and circulation control to a range of other features integral to library operation, and to meet increasing demands for complementary functions, such as integration with learning management systems. Integrated LMSs are expected to deliver the full breadth of OPAC, circulation, serials management, external interfaces (especially Z39.50 compliance), web resources integration and statistical reporting" (Balnaves, 2008). Examples of widely used commercial products include Millennium from Innovative Interfaces, HORIZON from SirsiDynix, ALEPH and Voyager from Ex Libris (Sangsuree Vasupongayya et al., 2011). For more than two decades, companies have offered integrated library systems (ILS) under traditional closed source license arrangements (Breeding, 2009).

"Open source software is currently one of the options preferred by libraries, because of the facilities it offers for copying, modification and distribution, the absence of license restrictions and the possibility of interoperation with other applications" (Rodriguez-Gairin et al., 2008). Kumar (2007) has mentioned the following as popular open source software useful in libraries.

Koha, PMB, PhpMyLibrary, OpenBiblio	<ul> <li>Library management systems</li> </ul>
Greenstone	<ul> <li>Digital library software</li> </ul>
Mambo, eZ publish , Plone	<ul> <li>Content Management System</li> </ul>
Moodle, Spaghettilearning, Claroline	- Courseware tools
Open Journal System	<ul> <li>Online journal publishing software</li> </ul>
Eprints, Dspace	<ul> <li>Institutional archiving software</li> </ul>

Most of the popular open source software suitable for library applications support Windows, Linux and Mac operating systems (Kumar, 2007).

The use of open source has grown rapidly and becomes a trend because of its low cost, flexibility, availability of source code and free redistribution. Due to the advantages of open source, small and medium size libraries are moving to open source library management systems for economic reasons. If they still use proprietary or commercial library software, they will have to pay license and or maintenance fees. Some of the best known open source library software products especially in the United States and Canada include Koha, Evergreen and OPALS. The open source software products have been improved by developers adding more features. So they are not only considered by small and medium libraries like schools and public libraries but also by academic libraries. From a search on Thai university libraries on the Internet, most university libraries use proprietary or commercial integrated library system and a few libraries use Koha. A survey has been conducted to find out why Thai university libraries use proprietary integrated library system and whether they will move to open source integrated library system.

## Objective

To survey whether there would be any movement towards the adoption of open source integrated library system in Thai university libraries in Bangkok and Pathumthani.

#### Methodology

The methodology adopted for this study is questionnaire survey conducted to find out what the directors of Thai academic libraries think about proprietary integrated library system and open source integrated library system. Questionnaires will be uploaded online and the URL link together with a request letter for participation will be sent via e-mail to directors / administrators of 38 Thai university libraries in Bangkok and Pathumthani. The results of the survey would be analyzed using percentile to draw conclusions.

## **Hypothesis**

Thai university libraries in Bangkok and Pathumthani tend to move to open source integrated library system.

### Output and outcome

The result of the survey will show which integrated library system Thai university libraries tend to opt for, and whether they are really aware of advantages and disadvantages of what they choose or will select. The study will help academic libraries to plan their library policy and budget accordingly.

## Term used in this survey

The term "integrated library system" or "library automation" refers to library management system.

## Chapter 2

## Literature review

This chapter reviews open source software; integrated library system; history of open source software including adoption of open source software in libraries and open source software use in Thailand; descriptions of open source software; advantages and disadvantages of open source software.

## 1) Open Source Software

According to the Open Source Initiative (OSI), an organization dedicated to promoting open source software, which was founded in February 1998 by Bruce Perens and Eric S. Raymond (Wikipedia, n.d.a), open source doesn't just mean access to the source code. The distribution terms of open-source software must comply with the following criteria extracted from Open Source Initiative (n.d.a) at this URL: <u>http://www.opensource.org/docs/osd</u>.

## 1. Free Redistribution

The license shall not restrict any party from selling or giving away the software as a component of an aggregate software distribution containing programs from several different sources. The license shall not require a royalty or other fee for such sale.

## 2. Source Code

The program must include source code, and must allow distribution in source code as well as compiled form. Where some form of a product is not distributed with source code, there must be a well-publicized means of obtaining the source code for no more than a reasonable reproduction cost preferably, downloading via the Internet without charge. The source code must be the preferred form in which a programmer would modify the program. Deliberately obfuscated source code is not allowed. Intermediate forms such as the output of a preprocessor or translator are not allowed.

## 3. Derived Works

The license must allow modifications and derived works, and must allow them to be distributed under the same terms as the license of the original software.

## 4. Integrity of the Author's Source Code

The license may restrict source-code from being distributed in modified form *only* if the license allows the distribution of "patch files" with the source code for the purpose of modifying the program at build time. The license must explicitly permit distribution of software built from modified source code. The license may require derived works to carry a different name or version number from the original software.

### 5. No Discrimination Against Persons or Groups

The license must not discriminate against any person or group of persons.

#### 6. No Discrimination Against Fields of Endeavor

The license must not restrict anyone from making use of the program in a specific field of endeavor. For example, it may not restrict the program from being used in a business, or from being used for genetic research.

### 7. Distribution of License

The rights attached to the program must apply to all to whom the program is redistributed without the need for execution of an additional license by those parties.

#### 8. License Must Not Be Specific to a Product

The rights attached to the program must not depend on the program's being part of a particular software distribution. If the program is extracted from that distribution and used or distributed within the terms of the program's license, all parties to whom the program is redistributed should have the same rights as those that are granted in conjunction with the original software distribution.

## 9. License Must Not Restrict Other Software

The license must not place restrictions on other software that is distributed along with the licensed software. For example, the license must not insist that all other programs distributed on the same medium must be open-source software.

## 10. License Must Be Technology-Neutral

No provision of the license may be predicated on any individual technology or style of interface.

Open source has been explained by many authors in their articles on the subject.

For Poulter (2010), "open source is known as open source software (OSS) or free OSS or free/libre OSS. The "source" in open source refers to source code. Source code is a computer file containing statements in a programming language, and those statements are intended to define the performance of a task [...] So, all software is produced from source code. [...] The difference of "open source" is that original source code files are made publicly available, typically via the internet or on some digital storage medium. The other type of source code files, those that are not publicly published, are known as "proprietary" (i.e. "closed source") and are kept private" (Poulter, 2010).

For Kenwood (2001), "open source, by definition, means that the source code is available. Open source software (OSS) is software with its source code available that may be used, copied and distributed with or without modifications, and that may be

offered either with or without a fee. If the end-user makes any alterations to the software, he can either choose to keep those changes private or return them to the community so that they can potentially be added to future releases" (Kenwood, 2001).

For Lee (2001), "open-source software (OSS) is software for which the source code is freely available for anyone to see and manipulate. There are various licensing models to which the OSS label has been applied, but the basic idea is that the software's "license may not restrict any party from selling or giving away the software as a component of an aggregate software distribution containing programs" and the working software must either be distributed along with its source code or have a "well-publicized means of downloading the source code, without charge, via the Internet." [...] This is contrasted with proprietary software, which is distributed as compiled object code or machine code, leaving the source code solely under the control of the individual software vendor" (Lee, 2001).

For Altman (2001), open source software (OSS) "provides broad rights to use, modify and distribute the software".

For Das (2007), "Open Source Software (OSS) is a marketing name for Free Software, coined in Feb 1998 as an attempt to overcome the confusion over the word "free" in the English language. Open Source refers to the fact that the source code of the software is open to and for the world to take, to modify and to reuse. [...] Being free to do these things means that the developer does not have to ask or pay for permission. The license must allow modifications and derived works, and must allow them to be distributed under the same terms as the license of the original software" (Das, 2007).

For Boss (2008), "the term "open source" refers to software that is free and that includes the original source code used to create it so that the users can modify it to make it work better for them. It also includes the right or redistribution; therefore, there may be both open source and proprietary products that are based on open source software" (Boss, 2008).

Rafiq and Ameen (2009) have defined open source software (OSS) as "computer software whose source code is available under a license that permits users to use, change and improve the software, and to redistribute it in modified or unmodified form".

Bretthauer (n.d.) has emphasized that "open source is not shareware, public domain software, freeware or software viewers and readers made freely available without access to source code. Shareware, whether or not one registers it and pay the registration fee, typically allows no access to the underlying source code. Unlike freeware and public domain software, open source software is copyrighted and distributed with license terms designed to ensure the source code will always be available. While a fee may be charged for the software's packaging, distribution or support, the complete package needed to create files is included, not simply a portion needed to view files created elsewhere" (Bretthauer, n.d.).

To summarize, open source software is software with its source code made available that may be used, copied, redistributed with or without modification, and with or without a fee charged.

## 2) Integrated Library System

Wikipedia (n.d.b) provides a general overview of what integrated library system is.

"An Integrated library system (ILS), also known as a library management system (LMS) is an enterprise resource planning system for a library, used to track items owned, orders made, bills paid, and patrons who have borrowed".

"An ILS usually comprises a relational database, software to interact with that database, and two graphical user interfaces (one for patrons, one for staff). Most ILSes 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)
- cataloging (classifying and indexing materials)
- circulation (lending materials to patrons and receiving them back)
- serials (tracking magazine and newspaper holdings)
- the OPAC (public interface for users)

Each patron and item has a unique ID in the database that allows the ILS to track its activity".

"In 1960s with the growth of computer technologies, *library automation* was born".

During 1970s-1980s, as a result of the improvements in computer storage and telecommunications, turnkey systems on microcomputers, known more commonly as *integrated library systems* (ILS) finally appeared.

With the growth of the Internet throughout the 1990s and into the 2000s, ILS begun allowing users to more actively engage with their libraries through OPACs and online web-based portals, where users could log into their library accounts to reserve or renew books as well as authenticate themselves for access to library-subscribed online databases (Wikipedia, n.d.b).

Caminita (2010) described an integrated library system (ILS) or library management system (LMS) as "a complex software package that automates facets of library services such as acquisition, circulation, cataloging, the OPAC etc. Most large library systems, both public and academic, use ILS to manage and implement library services. Small libraries and libraries in rural areas may still be using a non-automated workflow, still use card catalogs, still do "manual" checkout with checkout cards" (Caminita, 2010).

Müller (2011) has given a brief summary : "integrated library systems (ILS) are multifunction, adaptable software applications that allow libraries to manage, catalog and circulate their materials to patrons". He has also suggested that "in choosing ILS software, libraries must base their decision not only on the performance and efficiency of the system, but also on its fundamental flexibility to readily adapt to the future demands and needs of their patrons".

Riewe (2008) conducted a survey titled Survey of Open Source Integrated Library Systems in 2008 "to compare integrated library systems (ILS) costs and benefits, and to inform librarians about considerations when choosing between an open and a closed source ILS". The survey "was conducted among libraries that used the largest open source ILSs, Koha and Evergreen, and various proprietary ILSs. [...] The survey found that open source ILSs were more cost-effective than proprietary ILSs. Libraries using open source ILSs chose them mainly for affordability, and they cost less than proprietary ILSs. Although users of open source ILSs experienced difficulties with installation and incomplete documentation, they were modestly more satisfied than users of proprietary ILSs" (Riewe, 2008).

### 3) History of Open Source Software

#### 3.1 Origin of Open Source Software

"In late 1970s and early 1980s, two different groups were establishing the roots of the current open source software movement" (Gonzalez-Barahona, 2000). One is Richard Stallman who launched GNU Project and founded the Free Software Foundation. The other is the Computer Science Research Group (CSRG) of the University of California at Berkeley who improved the Unix system and built lots of applications which became" BSD UNIX"(Gonzalez-Barahona, 2000). In 1991, Linux operating system was developed by Linus Torvalds. In 1998, the term "Open Source" was invented and Open Source Initiative (OSI) was founded.

# **3.1.1 Richard Stallman, GNU, GNU General Public License (GNU GPL), and the Free Software Foundation**

Richard Stallman, formerly a programmer at the MIT Lab, resigned from MIT and "decided to create an operating system complete with all necessary software tools, such as editors, compilers, and utilities, and decided it should be UNIX compatible so that programmers could use it without having to learn a new operating system". He settled on GNU (pronounced "guh-NEW" in this case) as a name for this operating system, a recursive acronym for "GNU's Not UNIX" (Bretthauer, n.d.) In early 1985, he released the first piece which other programmers were interested in using, an editor call GNU Emacs. He made it available for free by anonymous FTP, but at that time access to the Internet was not very common. As alternate means of distributing the software, he offered to send people the package on tape for \$150 dollars. [...] People asked him "What do you mean it's free software if it costs \$ 150 dollars? His answer was " When I speak of free software, I am referring to freedom, not price" (Bretthauer, n.d.).

Stallman defines free software as possessing four essential freedoms: (Stallman, 1999 cited in Bretthauer, n.d.)

- You have the freedom to run the program, for any purpose.
- You have the freedom to modify the program to suit your needs. (To make this freedom effective in practice, you must have access to the source code, since making changes in a program without having the source code is exceedingly difficult).
- You have the freedom to redistribute copies, either gratis or for a fee.
- You have the freedom to distribute modified versions of the program, so that the community can benefit from your improvements. (Stallman, 1999 cited in Bretthauer, n.d.)

"With work on GNU progressing, Stallman needed a way to protect his work from being taken and used in proprietary packages. To ensure this protection, Stallman developed the general concept of copyleft. [...] (Bretthauer, n.d.). "To copyleft a program, we first state that it is copyrighted; then we add distribution terms, which are a legal instrument that gives everyone the rights to use, modify, and redistribute the program's code or *any program derived from it* but only if the distribution terms are unchanged. Thus, the code and the freedoms become legally inseparable. Proprietary software developers use copyright to take away the users' freedom; we use copyright to guarantee their freedom. That's why we reverse the name, changing "copyright" into "copyleft". The specific method Stallman used to copyleft GNU was a licensing agreement he developed called the GNU General Public License (GNU GPL). The first version was released in 1989" (Bretthauer, n.d.). The latest version is version 3 (GNU, n.d).

"To support the development of GNU, Stallman founded the Free Software Foundation in October 1985. It is a "tax-exempt charity that raises funds to promote the freedom to share and change software. And in the 1980's, one of the main things we did with our funds was to hire people to write parts of GNU. And essential programs, such as the shell and the C library were written this way, as well as parts of other program" (Stallman, 2001 cited in Bretthauer, n.d.). While the Free Software Foundation accepts donations, "most of its income has always come from sales – of copies of free software, and of other related services" (Stallman, 1999 cited in Bretthauer, n.d.).

# **3.1.2** Computer Science Research Group (CSRG) of the University of California at Berkeley, and, Berkeley Software Distribution or BSD

Bell Labs and the University of California at Berkeley collaborated to develop UNIX. By 1977, this collaboration resulted in two distinct branches of the development : the Bell Labs UNIX, and the Berkeley Software Distribution or BSD. BSD was shared with research universities around the world, provided they first purchased a source license from AT & T and with that obtained the full source code for both AT & T. This model encouraged others to view source code and contribute to it development (Bretthauer, n.d.). Bell Labs released its final version of UNIX in 1978. After that "all Unix releases from AT& T were managed by a different group that emphasized stable commercial releases. With the commercialization of Unix, the researchers at Bell Labs were no longer able to act as a clearing-house for the ongoing Unix research. Nevertheless, the research community continued to develop Unix. As a result, the Berkeley Computer Systems Research Group (CSRG) was formed to replace Bell Labs as an organization which could coordinate and produce research further Unix releases" (Bretthauer, n.d.)

"In the early 1980's, the CSRG made several significant additions to Unix, the key among these was the addition of ARPANet protocols (TCP/IP). [...] For several years, TCP/IP was only available using BSD. [...] In June 1989, the first freelydistributable source code from Berkeley was released as Networking Release 1" (Bretthauer, n.d.). Expanded release which included more BSD code was produced. CSRG released the BSD source code they had as Networking Release 2 with the same terms as Networking Release 1. Another CSRG member, Bill Jolitz incorporated his own files with the Networking Release 2 distribution and released 386BSD (Bretthauer, n.d.). 386BSD "quickly became appreciated within the BSD and Unix communities. It included not a kernel, but also many utilities, making a complete operating system" (Gonzalez-Barahona, 2000).

## 3.1.3 Linux Operating System

During 1991-1992, not only Bill Jolitz released 386BSD, but also Linus Torvalds, a Finnish student of computer science at University of Helsinki in Finland implemented the first version of Linux kernel. "Linux is a Unix-like operating system (OS). Its kernel (the core portion of an OS) uses no code from proprietary sources and draws heavily from code developed by the GNU project" (Lee, 2001). In October 1991, Linux kernel version 0.02 was released. Later, thousands of developers all over the world have contributed to the development of Linux.

Gonzalez-Barahona (2000) has remarked that "during the 1990s, many open source projects have produced a good quantity of useful and high-quality software. Some of them are Apache (widely used as a WWW server), Perl (an interpreted language with lots of libraries), [...] Mozilla (the free software project funded by Netscape to build a WWW browser), etc. [...] The software being produced by these projects dispels the common myth that open source software is mainly focused on server and developer-oriented systems" (Gonzalez-Barahona, 2000).

Gonzalez-Barahona (2000) has also remarked that in the late 1990s open source software, like open source systems based on GNU/Linux or \*BSD were gaining public acceptance, and have become a real alternative to proprietary systems.

#### 3.1.4 The term "Open Source", and Open Source Initiative (OSI)

"The "open source" label was invented at a strategy session held on February 3<sup>rd</sup>, 1998 in Palo Alto, California. The people present included Todd Anderson, Chris Peterson (of the Foresight Institute), John "maddog" Hall and Larry Augustin (both of Linux International). [...] The conferees decided it was time to dump the moralizing and confrontational attitude that had been associated with "free software" in the past and sell the idea strictly on the same pragmatic, business-case grounds that had motivated Netscape. They brainstormed about tactics and new label. "Open Source", contributed by Chris Peterson, was the best thing they came up with" (Open Source Initiative, n.d.b) (from this URL: <u>http://www.opensource.org/history</u>).

Open Source Initiative (OSI) was founded in late February 1998 by Eric Raymond and Bruce Perens. Raymond was president from its founding until 2005. OSI is a non-profit corporation with global scope formed to educate about and advocate for the benefits of open source and to build bridges among different constituencies in the open source community. [...] One of our most important activities is as a standards body, maintaining the Open Source Definition for the good of the community. The Open Source Initiative Approved License trademark and program creates a nexus of trust around which developers, users, corporations and governments can organize open source cooperation (Open Source Initiative, n.d.c) (from this URL: <a href="http://www.opensource.org">http://www.opensource.org</a>).

## 3.2 Adoption of Open Source Software in Libraries

In 1960s, the library automation was born. Software customized for libraries was supplied by companies. The companies supplied library management system or integrated library system under traditional closed-source license arrangements for more than two decades (Breeding, 2009).

It is undeniable that open source software has created opportunities for libraries whose budget shrinks and for small libraries that cannot afford to purchase proprietary library automation system. Due to budget constraints, the maintenance and upgrade of existing proprietary library management system / integrated library system will not be possible. Budget is not the only reason that makes libraries adopt and change library management system to open source software. Keast (2010) found from the survey conducted in February 2010 that dissatisfaction with previous systems could result in a change of system used. In order to ascertain the reasons why libraries made the shift to Koha, Keast (2010) conducted an internet-based survey of Australian Koha libraries in February 2010, an expanded version of an earlier survey conducted in June 2009 (when several of the respondents had only recently gone live). The survey was forwarded to all Australian Koha libraries that could be traced. The response rate was 21/45 or 46.67 per cent. The respondents were health and medical libraries (71 percent) and other specials (29 per cent). The respondents included clients of both major support companies, and seven in-house installations. There was little difference in responses between any of these groups. The survey found two main reasons for changing to an open source system: dissatisfaction with previous systems, especially the lack of flexibility in achieving customisations; and, budgetary difficulties (Keast, 2010).

Apart from budget and dissatisfaction, "strategic reasons" given by Poulter, (2010) can make libraries adopt open source software. Poulter (2010) explained that the development of the internet has created a public information landscape which has isolated libraries by passing their aging commercial systems and undercut the value of their services. Rather than pay for the maintenance of existing systems and functions,

by adopting OSS [open source software] resources money could be directed into research and development of better library systems and services, to try to win a secure place and a bright future for libraries in the new networked world (Poulter, 2010).

One more thing that make libraries decide to adopt or shift to open source software is their perception. The study of Muhammad Rafiq in 2009 shows that the libraries' perception towards open source software adoption is positive. From the article written by Payne and Singh (2010), Rafiq's study examines Library Information Science [LIS] perceptions within the context of public vs private institutions, between that of academic, public, and special libraries, and of developing and developed countries. Rafiq's analysis of the data provides compelling insights into the response to OSS [open source software] by LIS professionals of international localities, including India, Pakistan, the United States, Canada, the United Kingdom, and Australia. The study represented an analysis of 370 contributed responses from 48 countries. According to Rafiq: (Payne and Singh, 2010)

"The overall results suggested that respondents had positive perceptions towards OSS adopton in libraries [...]. Nonetheless, OSS adoption in libraries is still in infancy. This is an interesting revelation that [the LIS] community had positive perceptions to OSS but adoption is still at [the] beginning. Hence, the findings necessitate the need [for] further enquiry to unfold the factors that are hindering the adoption of OSS in libraries on a wider scale" (Rafiq, 2009 cited in Payne and Singh, 2010).

Some statistical reports can also support the adoption of open source software. Krishnamurthy, of the Indian Statistical Institute in Bangalore, released a paper in 2008 which trends the OSS movement in DL [Digital Library] environments. [...]. Krishnamurthy reports that over 700 repositories participate in open access; the Koha ILS [Integrated Library System] alone is used in over one hundred institutions internationally, and E-Prints, an OSS application for document management, is employed by over 200 repository institutions (Payne and Singh, 2010).

Open source software used in libraries can be categorized by functionality as software for integrated library systems (ILS) or library management system (LMS) and as software for digital library. The software for ILS includes for example Koha, Evergreen, OPALS, OpenBiblio, NewGenLib, PMB, PhpMyLibrary, Senayan. The one for digital library includes, for instance, DSpace, Greenstone, Eprints, Fedora. Descriptions of these open source software products can be seen in Section 4 of Chapter 2 of this survey report.

## 3.3 Open Source Software Use in Thailand

The adoption of open source software technologies is a "worldwide phenomenon" as called by Krishnamurthy (Payne and Singh, 2010) and there cannot

be any computer user today who, albeit unknowingly, has not used some OSS, because of its ubiquity (Poulter, 2010). Without OSS, today's networked environment would not be possible (Poulter, 2010). As for Thailand, some quantitative data from National Statistical Office (2009), Key Statistics of Thailand 2009 at this URL link: http://service.nso.go.th/nso/nsopublish/download/keyStat52/Key52 T.pdf show that open source software is used. The percentage of open source software usage in establishments in 2008 was 26.13%. From the statistics, open source software is not much used. Promotion of open source software use has been one of the government policies. Ministry of Information and Communication Technology (ICT) and several government agencies namely, Software Industry Promotion Agency (SIPA), National Electronic and Computer Technology Centre (NECTEC) have been encouraging, and driving the open source software. For instance, SIPA, in February 2005, was driving Linux adoption in government agencies, schools, and universities and in November 2008 has developed Thailand's first open-source software-development roadmap to transform the country into a leading open-source development centre by 2011. The agency has allocated a budget of about US\$1.5 million a year to encourage opensource software development and achieve its roadmap goals (CSIS Center for Strategic and International Studies, 2010).

In this section, only open source software for library will be focused. It includes open source software for integrated library system products. The open source software use will be considered from the record of registered users. However, there may be users who use the software, but their name is not included in the users' list of the open source, for example Agriculture Knowledge Centre Online Library, Kasetsart University whose URL link for OPAC is at: <u>http://158.108.80.10:8000/cgibin/koha/opac-main.pl</u> (2012). The library uses Koha, but the name is not listed in KohaUser at <u>http://wiki.koha-community.org/wiki/KohaUsers/SoutheastAsia</u>. The summary of organizations will be listed under each open source software product.

3.3.1 Open source software for integrated library system (ILS) products

3.3.1.1 Koha

There are seven organizations in Thailand implementing Koha (six from the registered KohaUsers/SoutheastAsia, plus one non registered user)

- Four academic libraries implemented Koha. They are as follows:

: Asian Institute of Technology (AIT), School of Management (SOM)

: Christian University of Thailand, Bangkok Institute of Theology

: Kasetsart University, Agriculture Knowledge Centre Online Library whose URL link for OPAC is at: <u>http://158.108.80.10:8000/cgi-bin/koha/opac-main.pl</u>.

: Thammasat University Libraries whose ULR link for OPAC is at: <u>http://library.engr.tu.ac.th</u>.

-One government agency library implemented Koha. It is as follows:

: National Science & Technology Development Agency (NSTDA) whose URL link for OPAC for NSTDA Online Library at STKS is at: <u>http://library.stks.or.th</u>

-Two K12 international schools installed Koha. They are as follows:

- : Shrewsbury International School
- : Rose Marie Academy

**Summary of Koha users in Thailand extracted from KohaUsers/SoutheastAsia** (Koha, n.d.) at this URL Link : (<u>http://wiki.koha-community.org/wiki/KohaUsers/SoutheastAsia</u> plus one non registered user can be seen in the appendix of this survey.

# Brief descriptions of the implementation of Koha in some Thai academic and government agency libraries.

## 1. Kasetsart University

Three Kasetsart University's departments – Agriculture Knowledge Centre, Central Library, and NAiST-Lab of Department of Computer Engineering, Faculty of Engineering have collaborated to study and implement Koha 2 (version 2) for the management of resources of Agriculture Knowledge Center since 2005 (B.E.2548). The Koha library system has been developed and called Jindamanee library system. This system has been aimed at serving as a model for other libraries in Thailand. Jindamanee library system can support Thai language. In 2010 (B.E.2553), Kasetsart University Central Library launched Jindamanee library project and installed Koha 3 (version 3) in order to manage library services for general books. The Library also planned to develop Jindamanee library system as an alternative to the commercial/proprietary integrated library system currently used. Details (text in Thai) Jindamanee library system can be found from this URL link: of http://jindamanee.lib.ku.ac.th/jindamanee/ (มหาวิทยาลัยเกษตรศาตร์, 2011).

2. National Science & Technology Development Agency (NSTDA) at Science & Technology Knowledge Service (STKS)

On 3 September 2008 (B.E.2551), Science & Technology Knowledge Service (STKS) of the National Science & Technology Development Agency (NSTDA) launched the first Koha open source integrated library system which was developed in conjunction with the use of 2D Barcode (two-dimensional barcode) for library circulation system under the name NSTDA Online Library.

Formerly, the bibliography database was built on Access and circulation system on Lotus Notes. The two separate systems were not related. Thus, the status of the materials on loan could not be checked. The implementation of open source Koha is believed to help manage all the library services, i.e. bibliographic records, circulation, membership including acquisition. STKS has integrated the library database of STKS, journal content database and Thai thesis database into the Koha automation system and these databases can work well. Thanks to the implementation of Koha, STKS can use 2D Barcode in the development of circulation system. The 2D Barcode can be used for medium and small libraries whose collection is small, number of daily checkin and checkout is not large, library staff are limited, allocated budget is not enough to purchase commercial/proprietary integrated library system, but they are ready to develop a library automation system. More details (text in Thai) can be found from this URL link: <u>http://www.nstda.or.th/nstda-knowledge/475-koha</u> (สำนักงานพัฒนาวิทยาศาสตร์และ เทคโนโลยีแห่งชาติ, 2009).

## 3.3.1.2 OpenBiblio

OpenBiblio is an easy to use, automated library system written in PHP containing OPAC, circulation, cataloging, and staff administration functionality (<u>http://obiblio.sourceforge.net/</u>: 2012). Science & Technology Knowledge Service (STKS), of the National Science & Technology Development Agency (NSTDA) in cooperation with Opendream has developed OpenBiblio to support Thai language and added more features. The revised version is called OpenBiblio Hotrai (אום און (הנועוֹעאָלָא, 2010) (from this URL link: <a href="http://opendream.co.th/blog/2010/12/opendream-stks-nstda-thai-openbiblio-hotri">http://opendream.co.th/blog/2010/12/opendream-stks-nstda-thai-openbiblio-hotri</a>: 2012). Following are selected 4 academic, school and government libraries that use OpenBiblio and the website URL links are still available (<a href="http://stks.or.th/wiki/doku.php?id=openbiblio:start">http://stks.or.th/wiki/doku.php?id=openbiblio:start</a> : 2012).

:Library of Bureau of Academic Affairs and Educational Standards, Office of the Basic Education Commission, Ministry of Education (ห้องสมุดสำนักวิชาการและ มาตรฐานการศึกษา สำนักงานคณะกรรมการการศึกษาขั้นพื้นฐาน กระทรวงศึกษาธิการ) URL Link at http://lib.obec.go.th/elib/opac/.

:Library Automation for Community, Central Library, King Mongkut's University of Technology North Bangkok (ระบบห้องสมุดอัตโนมัติเพื่อชุมชน สำนักหอสมุดกลาง มหาวิทยาลัย เทคโนโลยีพระจอมเกล้าพระนครเหนือ) URL Link at http://iug.lib.kmutnb.ac.th/OpenBiblio/opac/index.php

:Library, Phetchaburi Vocational College (งานวิทยบริการและห้องสมุด วิทยาลัย อาชีวศึกษาเพชรบุรี) URL Link at <u>http://library.pbpvc.ac.th/openbib/opac/index.php</u>

:Library, Horwang School (หนังสือยืมเรียน โรงเรียนหอวัง) URL Link at <u>http://library.horwang.ac.th/b4s/opac/index.php</u>

## 3.3.1.3 Senayan

Senayan is an open source integrated library system product from Indonesia. It is built on PHP and MySQL by Arie Nugraha. Senayan has been developed to support Thai language by Mr. Prasithichai Lertrattanakhehakan (นายประสิทธิชัย เลิศรัตนเก หกาล). More details about the features of Senayan are described in Section 4.1 of Chapter 2 of this survey report. This open source product is now used as software for digital library by Thai National Library Chonburi (หอสมุดแห่งชาติชลบุรี) whose webpage can be viewed at this URL Link: http://www.natlibchon.com/elibrary/index.php (2012).

## 4 Descriptions of Open Source Software

## 4.1 Brief descriptions of integrated library system (ILS) products

Boss (2008) has described about open source integrated library system products to "help a library reduce the number of options it wishes to consider". Following (Item 4.1.1– Item 4.1.12) are twelve brief descriptions of the open source integrated library system products which have been extracted from Boss' paper (Boss, 2008) whereas \_ Item 4.1.13 **OPALS** has been referred to its website (http://www.mediaflex.net/showcase.jsp?n=OPALS%99&product\_number=F05800\_ also referred to website at 2012). Item 4.1.14 – Senayan is its http://slims.web.id/web/ (2012).

**4.1.1 Avanti MicroLCS** was begun in 1998 as an integrated library system for small libraries of all types, but there was little development activity until 2004. Peter Schlumpf, its developer, appeared to be working on it alone. As of early 2008, cataloging and patron access catalog modules were in general release. A circulation module had been in development for at least two years, but no release date had been set. MARC is supported. The database is limited to 128,000 titles and 256,000 items. The software is written in Java and will run on Windows and Linux. It includes its own database manager. The source code and documentation are not available online because the developer is not seeking the participation of others. Both open source and commercial (i.e., supported) versions were available as of late 2008. There is a fee for the commercial version. There was an online demo available at that time. No library is known to be using it. While Java would normally make the product moderately scalable, the database management system limits the product to use by small libraries. More information is available at <u>www.avantilibrarysystems.com/(Boss, 2008)</u>.

**4.1.2 Emilda** is being developed by CompanyCube (formerly Realnode Ltd), a Finish software company that obtained grant funds to create an open source integrated library system in 2000. The initial system was designed with the assistance of several school libraries. It did not conform to standards and used PHP as the programming language. The current product, which does conform to standards,

including MARC and Z39.50, was begun in 2003. It is XML-based and can be run under any operating system. The circulation and patron access catalog modules were introduced in general release on June 29, 2005. No other modules appeared to be in development in 2008. It uses the Zebra Server from Indexdata as a backend server. The source code and documentation are available online in English. There is also an online demo. The product is available under the GNU General Public License. It was in use at 14 Finish school libraries in early 2008. The product is highly scalable because XML can be ported to virtually any other language. More information is available at www.emilda.org/ (Boss, 2008).

**4.1.3 GNUTeca** is an integrated library system developed in Brazil for academic and special libraries. Cataloging, circulation, and patron access catalog modules were in general release as of early 2008. The programming languages are Perl and PHP. The operating systems include all versions of Microsoft Windows and Linux. MARC is supported. Source code and documentation are available online in Portuguese, Spanish, and English under the GNU General Public License. Several Brazilian school libraries were using the product as of 2008. The product is not very scalable because of the use of Perl and PHP, therefore, users who must support more than 50 concurrent users should proceed with caution. More information is available at <u>www.gnuteca.org.br/</u> (Boss, 2008)

**4.1.4 Evergreen** is an integrated library system for public libraries developed by the Georgia Public Library Service for use by the Georgia Library PINES Program, a consortium of 252 public libraries in that state. The languages are Perl and, to a lesser extent, C. The operating system is Linux and the DBMS is PostgreSQL. The server technology is Apache. The staff client user interface is written in Mozilla XUL (XML and JavaScript). The patron access catalog can be accessed by any Web browser.

Work was begun in 2004 and by early 2007 several public libraries in Georgia were using the system for cataloging, circulation (including offline circulation), and patron access catalog applications. The development of an acquisitions module was begun in 2007 in a collaborative effort between the Georgia Public Library Service and the University of Windsor in Canada. There were also plans to begin development of a serials control module in 2007. As of late 2008, neither of these modules was yet in general release, but the number of development partners had increased significantly so that general release of these modules was projected for Release 2.0 in 2009. The source code and documentation are available online to anyone under the GNU General Public License. The combination of C and Perl makes Evergreen highly scalable and. therefore, suitable for large libraries and consortia. Evergreen has been selected by a number of libraries and consortia, including the University of Windsor, Laurentian University, McMaster University, Kent County (MD) Public Library, Grand Rapids Public Library, Michigan Library Consortium, Mayfield Memorial (IN) Public Library, Indiana Open Source ILS Initiative, and British Columbia's SITKA. Not all had gone live by late 2008. Information about Evergreen is available at www.open-ils.org/. Equinox (http://www.esilibrary.com), a for-profit company launched by several of the people

who worked on the Georgia Pines project in 2007, actively markets and supports Evergreen, including software development, configuration and installation, file migration, training, trouble desk support, and hosting service (Boss, 2008).

4.1.5 Koha (http://koha.org) was developed in New Zealand beginning in 2000 by Katipo Communications Ltd. under contract with the Horowhenua Library Trust. LibLime (http://liblime.com), a U.S. company that has been providing support for Koha since early 2005, purchased the Koha Division of Katipo Communications in February of 2007. LibLime is wholly owned by the holding company MetaVora, Inc., which is wholly owned by the four principals in LibLime. In addition to the development and maintenance work by LibLime, there are volunteers in several other countries contributing to the open source software, and several other companies providing support services. The acquisitions, cataloging, circulation, and patron access catalog modules were in general release as of early 2008. However, acquisitions and serials control were substantially less complete than the other modules. MARC is supported. The programming language is Perl. Linux is the preferred operating system and the DBMS is MySQL. The source code and documentation are available online under the GNU General Public License. There is also an online demo. More than 200 libraries around the world were believed to be using it as of early 2008, approximately one-third of them in North America, many of them supported by LibLime. The vast majority are small school, special, or public libraries.

Koha is available for free download from the Koha Web site or from one of the companies that supports the open source software. These companies, including LibLime in North America, do not charge for the software, but do charge for consulting, programming, file migration, training, technical support, and the hosting services they provide.

The use of Perl as the sole programming language limits Koha's scalability. For that reason, a variant known as Koha Zoom was developed by LibLime as a commercial version for mid-size and large libraries. It utilizes Index Data's Zebra, an indexing and searching tool. In addition to overcoming the scalability problems in Koha, Zebra includes support for true Boolean search expressions and relevance-ranked free-text queries. The first user was the Nelsonville Public Library in 2006, a library with a collection of 350,000 items in its seven branches and an annual circulation of 600,000. It had previously used Koha, but needed the more robust Koha Zoom.

The Koha Zoom software will run under either Linux or Windows. It supports not only MARC, but also XML and Z39.50. It also features federated searching. Koha Zoom Basic consists of installation and documentation media, training materials, and 30 days installation and configuration support. Optional services include programming, data migration, training, trouble desk support. Koha Zoom Appliance comes as a tower or rack-mounted server with pre-installed Linux and applications software, documentation and training materials, and the same optional services as Koha Zoom Basic. Koha zoom. Hosted is a fully hosted ASP solution. It includes nightly back-up.

Koha Zoom has attracted a number of mid-size to large libraries, including the Howard County (MD) Library and the Santa Cruz (CA) Public Library. Consortia that have selected Koha Zoom include ICAN, WALDO, and the MassCat Consortium,

The original Koha is now called Koha Classic to differentiate it from Koha Zoom.

Additional information about the open source Koha product and instructions for downloading the software is available at <u>http://koha.org/</u>; additional information about LibLime's support for Koha and its commercial offering Koha ZOOM is available at <u>http://liblime.com/</u> (Boss, 2008).

Learning Access ILS is offered by the Learning Access Institute, a non-4.1.6 profit organization in Seattle, to small public libraries. The product, which was originally developed by the Technology Resource Foundation, was previously known as OpenBook. It is loosely based on the original work done in New Zealand by Katipo Communications Ltd. Cataloging, serials cataloging, circulation, and patron access catalog modules were available in general release as of early 2008. Planning for an acquisitions module was announced in 2007, but none was available as of mid 2008. MARC is supported. as are Z39.50 and Unicode. The programming languages are Perl and PHP. SQL is the database management system. The preferred operating system is Linux, but the software can be ported to Windows. There is also a turnkey version for Apple MAC Mini known as aVista. There is an online demo, but the product is not available for download. Two small public libraries were using the product as of early 2007. There was no response to an inquiry about additional users in late 2008. The reliance on Perl does not make the product highly scalable. Users who must support more than 50 concurrent users should proceed with caution. The Institute offers project implementation assistance and on-site training. More information is available at <u>www.learningaccess.org/</u> (Boss, 2008).

**4.1.7 NewGenLib** was developed by Verus Solutions Pvt Ltd and the Kesavian Institute of Information and Knowledge Management in India beginning in 2005. It became an open source product under the GNU GPL License in January of 2008. The modules include acquisitions, serials management, cataloging, circulation, and a patron access catalog. It uses Java and a back-end database based on open source PostgreSQL. It conforms to MARC 21 and Unicode. It can be installed on Windows or Linux. As of mid 2008, more than 120 libraries in Asia had downloaded the software, but there was no information about how many of the libraries were actually using the software. Information is available at <u>http://www.verussolutions.biz/</u> (Boss, 2008).

**4.1.8 OpenBiblio**, which is being developed by a small number of people, has been an off and on again project. Development activity peaked in 2006-2007 with release 0.6.0. Version 0.7.1 has been released on 18 March 2012. This version 0.7.1. is recommended for new installs and for updating older versions of OpenBiblio, including all versions from openbiblio.de. The product includes cataloging, circulation, and patron access catalog modules. The programming languages are PHP and LAMP,

and the operating system is Linux. UNIMARC is supported. There is an online demo and software can be downloaded. There is no reliable scalability information for LAMP. The most important changes offered by Version 0.7.1 (<u>http://obiblio.sourceforge.net</u> : 2012) are:

- Updated to be compatible with MySQL 5.5.
- Updated for PHP 5.3.x deprecated features.
- Updated for PHP 5.4.0 backward incompatible changes.
- Fixes for bugs in OpenBiblio features.
- New and changed features: Check In shows hyperlinked member name (with Days Late and outstanding Account Balance), Override Due Date, Renew All, Offline Circulation, Bibliography Checkout History, Custom Copy Fields, Copy Barcode Number validation less restrictive and optional, new search types Call Number and Keyword, OPAC search and view exclude nonpublic fields, new parameters for reports Copy Search and Popular Bibliographies, new reports, new layouts for media labels and member cards.

More information is available at <u>http://obiblio.sourceforge.net/</u> (Boss, 2008).

**4.1.9 PhpMyLibrary** began in the Philippines in 2001 as the hobby of a single developer. The target is small academic and special libraries. While the software may be downloaded, the development is highly centralized like Avanti, with the ultimate control of the source code in the hands of the project's founder. Documentation is minimal. There is an online demo. The cataloging, circulation, and patron access catalog modules were in general release as of 2008. A serials control module was nearing completion. SUSMARC is supported. The operating system is Linux or Windows, and any SQL database system may be used. The programming language is PHP. The software is available under the GNU. Free Documentation License. Scalability is limited. More information is available at <u>http://sourceforge.net/projects/mylibrary/</u> (Boss, 2008).

**4.1.10 PMB (PhpMyBibli)** is an open source ILS based on a product originally developed by a public library in France in 2002. It is now maintained by PMB Services, a French company. The modules available as of mid 2008 were acquisitions, cataloging, circulation, patron access catalog, and selective dissemination of information service. The most recent release as of mid 2008 appears to be 3.0, released in the first quarter of 2007. The latest version for 2012 (<u>http://www.sigb.net/download/index.php</u> : 2012) is Version 3.5.0. PMB supports UNIMARC and Z39.50. The product is available in English as well as French, but not all of the documentation has been translated. It was initially available under the GNU General Public License, but it is currently licensed under CECILL, a French equivalent. It is written using the PHP programming language. Scalability is limited. It can be installed on Windows or Linux. A hosted solution is available at <u>www.sigb.net/</u> (Boss, 2008).

4.1.11 PYTHEAS was originally developed in 1999 by a librarian at the University of Arizona. After he abandoned the project, a systems librarian at the University of Windsor continued the programming. Only the circulation and patron access catalog modules were available in early 2007. The programming languages are Java and XML. The source code is available for downloading and there is a demo. The product is in the public domain. Documentation is limited. The product is highly scalable. More information available ic at [Note: http://web2.uwindsor.ca/library/leddy/people/art/pytheas/ The Windsor University Library has been working with the Georgia Public Library Service on the development of an open source equisitions module since early 2007, but no release had been issued as of late 2008] (Boss, 2008).

**4.1.12 WEBLIS** is a Web-based integrated library system developed by the Institute for Computer and Information Engineering of Poland with support from UNESCO. It is based on the earlier CDS/ISIS product funded by UNESCO. The cataloging, circulation, and patron access catalog modules were in general release as of 2008. The programming languages are not identified, but the DBMS is WWW-ISIS. The source code and documentation are available online in English. They are in the public domain. An online demo can be viewed before downloading the software from <a href="http://www.unesco.org/isis/files/weblis.zip">http://www.unesco.org/isis/files/weblis.zip</a>. The product was in use by a number of special libraries as of mid 2008 (Boss, 2008).

## 4.1.13 OPALS

# (<u>http://www.mediaflex.net/showcase.jsp?n=OPALS%99&product\_number=F05800</u> : 2012)

OPALS Open-source Automated Library System is a powerful cooperatively developed, Web-based, open source program. This alternative technology provides Internet access to information databases, library collections and digital archives. Many school, college, research, business, religious and library union catalogs (that provide ILL services) use OPALS. There is no need to install software or purchase expensive computer hardware or software licenses to implement this powerful, turnkey Internet accessible system. The "total cost of ownership" of this standards-based, Web-based, feature rich software is demonstrably and undeniably sustainable.

The company can host and maintain OPALS on our servers or work with the customer's staff to install and support it at customer's site. Experienced programmers and technical support staff update and maintain the program, giving this open source initiative a responsive support framework that is essential for institutions that serve the public. "Perceptions 2010: An International Survey of Library Automation" published by "Library Technology Guides" lists OPALS among the top two ILS programs for system, company and customer support satisfaction.

The best way to determine whether OPALS is a good fit for customer's library is to experience it in the familiar context of the customer's library's data. The company's staff can set up an evaluation site into which the company can upload the customer's library's MARC bibliographic records. In most cases, these sites are ready for customer to evaluate within 24 hours. During the evaluation period, customer will be able to try all of the system's features and have access to OPALS support staff (<u>http://www.mediaflex.net/showcase.jsp?n=OPALS%99&product\_number=F05800</u> : 2012).

## 4.1.14 Senayan

SLIMS (Senayan Library Management System) is an open source Library Management System. It is built on open source technology like PHP and MySQL. SLIMS provides many features such as Bibliography database, Circulation, Membership and many more that will help "automating" library tasks. This project was sponsored by Pusat Informasi dan Humas Kemdikbud and licensed under GPL v3 (http://slims.web.id/web/ : 2012). Senayan is developed by Arie Nugraha and received Indonesia ICT Award 2009 as the Winner in the Category of OSS (http://www.senayan.kru-ple.com/ : 2012).

## Features

As a complete Library Managements System, SENAYAN has many features that will help library and librarian to do their job done easily and quickly. Below some features provided by SENAYAN (http://slims.web.id/web/?q=features : 2012):

- Online Public Access Catalog (OPAC) with thumbnail document image support (can be used for book cover), Simple Search and Advanced Search mode
- Documents record detail in XML format
- Bibliographic/catalog database management with book cover image support
- Document items database management
- Master Files management to manage document referential data such as GMD, Collection Types, Publishers, Authors, Locations, Authors and Suppliers
- Circulation support with following sub-features :
  - -Loan and Return transaction
  - -Collections reservation
  - -Quick return
  - -Configurable and flexible Loan Rules
  - -Membership management
  - Stock Taking module to help Stock Op name process in library
  - Reporting and Statistics

System modules with following sub-features :

 Global system configuration
 Modules management
 Application Users and Groups management
 Holiday settings
 Barcodes generator utility
 Database backup utility

Senayan Open Source Library Management System has been developed to support Thai language by Mr. Prasithichai Lertrattanakhehakan (นายประสิทธิชัย เดิศรัตนเดหกาด). The revised version of Senayan is now used as open source software for digital library by Thai National Library Chonburi (หอสมุดแห่งชาติชลบุรี) whose webpage can be viewed at this URL Link: http://www.natlibchon.com/elibrary/index.php.

## 5 Advantage and Disadvantage of Open Source Software

**5.1** Perceived advantages of open source software (Boss, 2008)

Open source software is considered alternative to proprietary software because of its advantages. Boss (2008) has indicated the perceived advantages of open source software. Following are extracted from Boss' paper.

- Ability to tailor to fit local needs
- No restriction on use
- Perceived low costs

**5.2** Potential disadvantages of open source software (Boss, 2008)

Boss (2008) has mentioned the disadvantages of open source software. Following are extracted from Boss' paper.

- Unanticipated costs
- Lack of coordination
- Inadequate training, documentation and technical support

- Lack of participation
- Lack of guarantees and remedies
- Scalability and speed

From literature search, Riewe (2008) conducted a survey on open source integrated library system to compare integrated library system (ILS) costs and benefits. Breeding (2012a) has presented statistical results derived from the survey conducted "Perceptions 2011: An International Survey of Library Automation" and one of top survey findings is that 566 libraries indicated that they are considering migrating to a new ILS. Innovative Interfaces Sierra was mentioned most frequently as a replacement candidate (88), followed by Evergreen (87). Also, from Library Technology Guides (Breeding, 2012b), the lib-web-cats (library web sites and catalogs) – A directory of libraries throughout the world, lists 44 libraries in Thailand. 31 out of 44 libraries use proprietary library software. The remaining 13 organizations use Koha (3), Winisis (1), locally developed software (1 unnamed product, 3 ALIST – Automated Library System for Thai Higher Education Institutes developed by Thai university: Prince of Songkla University) and unknown products (5).

It is found from the lib-web-cats that some libraries in Thailand use open source software, but in this survey, only 38 academic libraries from both government and private universities in Bangkok and Pathumthani will be studied to find out whether they tend to move to open source or not.

## **Chapter 3**

## **Research Method**

The main purpose of this study is to survey the movement towards the adoption of open source integrated library system (ILS) of Thai university libraries in Bangkok and Pathumthani.

The study further aims at answering the following research questions :

- 1. Is library automation used in Thai university libraries?
- 2. Which integrated library systems are used in Thai university libraries?
- 3. Are Thai university libraries satisfied with the library automation currently used?
- 4. Do Thai university libraries want to change the library automation currently used?
- 5. Do Thai university libraries know open source integrated library system (ILS)?
- 6. What are the reasons that make Thai university libraries switch to open source ILS?

#### **Research Methods and Design**

A survey has been conducted to find out what directors / administrators of Thai academic libraries think about proprietary integrated library system and open source integrated library system and why they choose and do not select the mentioned integrated library systems. Questionnaires were made available online and the URL link for the questionnaires together with a request for participation letter was sent via e-mail to directors / administrators of 38 Thai government and private university libraries in Bangkok and Pathumthani.

## Participants

The study sample consisted of directors / administrators of 38 Thai government and private university libraries in Bangkok and Pathumthani. For the Thai university libraries that have several campuses, only the main campus or campus situated in Bangkok and Pathumthani has been selected as study sample. Out of 38 academic libraries, 21 were government university libraries and 17 were private university libraries. List of participants can be seen in the appendix of this survey.

## Materials/Instruments

The researcher of this survey has reviewed literature about open source software – trends and adoption of open source software useful for libraries and integrated library system survey and research from publications, online databases, websites and Internet. Questionnaire was designed and uploaded on Google Documents. URL link for the online

questionnaire together with a request for participation letter was sent via e-mail to 38 directors / administrators of university libraries in Bangkok and Pathumthani. Copy of a request for participation letter plus English translation copy, copy of the questionnaire in Thai plus English translation copy are attached in the appendix of this survey.

The instrument consists of both closed and open-ended questions. The questionnaire comprises demographic information of the respondents and questions about library automation, proprietary integrated library system, open source integrated library system including opinion on its adoption. There are 11 questions (8 main questions plus 3 questions on demographic) as follows.

- 1. Is library automation currently used in your organization?
- 2. Are you satisfied with the integrated library system currently used, in terms of efficiency, maintenance and cost of maintenance, etc.?
- 3. Do you intend to change the integrated library system or not?
- 4. If you want to change the integrated library system (ILS), what ILS do you plan to use?
- 5. Do you know open source integrated library system, e.g. Koha, Evergreen, OPALS and others?
- 6. Whether or not you are familiar with open source integrated library system (ILS), please indicate the reasons that make you decide to use open source ILS.
- 7. If you plan to adopt open source integrated library system, which product will you select?
- 8. In which library services you think open source integrated library system can make easier?
- 9. Respondents are questioned about the name of their library.
- 10. Respondents are questioned about their academic qualifications.
- 11. Respondents are questioned about their Field of Study.

#### **Data Collection and Analysis**

The researcher gathered information by sending via e-mail a request letter for participation which included URL link for online questionnaire uploaded on Google Documents to 38 directors / administrators of both Thai government and private university libraries. The data was collected from October 2011 to March 2012. During this period, the researcher followed up and sent reminders. A total of 29 responses (76.3%) were received.

#### **Data Analysis**

Collected data were analyzed using descriptive statistics, frequency distribution and percentile. The analysis of 11 questions which consisted of both closed and open-end questions was presented by summary statistics table and description of the figures in the table. The data was tallied and analyzed. The percentage was calculated using the formula:

p= (f ÷n) x 100
p= percentage
f= frequency
n= number of answer from questionnaire

## Chapter 4

## Results

The questionnaire of online survey of Open Source Integrated Library System in Thai University Libraries in Bangkok and Pathumthani, whose URL link was sent to 38 library directors / administrators received 29 responses which represent 76.3%.

The analysis of demographic information of the received responses revealed that 2 respondents (6.9%) got bachelor degree, that 21 respondents (72.4%) got master degree and that 6 respondents (20.7%) got doctoral degree.

Most – 13 respondents (44.8%) graduated in library and information science. 5 respondents (17.2%) graduated in engineering, 3 respondents (10.3%) in IT (Information Technology), 2 respondents (6.9%) each in educational management and computer science respectively, 1 respondent (3.4%) each in agriculture, educational technology, business management, environmental management respectively.

As for questions about library automation, commercial / proprietary and open source integrated library systems whose received responses were analyzed by tallying and calculated, the results were presented in summary statistics tables in which frequency distribution and percent were shown as follows.

Library automation	Frequency	Percentage
Use	27	93.1
Not use	2	6.9
Total	29	100

Table 1 Frequency and percentage of libraries using or	r not using library automation
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It is shown that the majority of libraries - 27 out of 29 respondents representing 93.1% used library automation, and that 2 respondents making up 6.9% did not use library automation.

Library automation system	Frequency	Percentage
Commercial / proprietary	16	59.3
integrated library system,		
e.g. Innopac, Millennium,		
VTLS, Horizon, TINLIB,		
Dynix, Voyager		
Library automation	7	25.9
developed in-house by		
internal IT staff or by		
outsourcing		
Open source integrated	0	0
library system developed		
by others		
Others	3	11.1
Unknown	1	3.7
Total	27	100

#### Table 2 Frequency and percentage of library automation system being used

From Table 2, commercial/proprietary integrated library system was much used by 16 libraries (59.3%), library automation system developed in house by internal IT staff or by outsourcing used by 7 libraries (25.9%), other library automation system used by 3 libraries (11.1%), unknown product used by 1 library (3.7%).

Commercial / proprietary ILS	Frequency	Percentage
Millonnium	2	10.75
willennium	3	18.75
Horizon	3	18.75
VTLS	3	18.75
Innopac	1	6.25
Liberty	1	6.25
Magic library	1	6.25
Navasan	1	6.25
Elib	1	6.25
Unknown	2	12.5
Total	16	100

 
 Table 3
 Frequency and percentage of commercial / proprietary integrated library system (ILS) products currently used

From 16 libraries that used commercial / proprietary integrated library system (ILS), analysis of responses showed that each of the following ILS – Millennium, Horizon, VTLS was used by 3 libraries (18.75%) equally whereas each of the following ILS – Innopac, Liberty, Magic Library, Navasan, Elib was used by 1 library (6.25%). Unknown product was used by 2 libraries (12.5%)

## Table 4 Frequency and percentage of library automation developed in-house by internal staff or by outsourcing

Library automation developed in-house by	Frequency	Percentage
internal staff or by		
outsourcing		
Open Biblio	1	14.29
Walaiautolib	1	14.29
LM	1	14.29
Jindamanee	1	14.29
Digital Librarian	1	14.29
BU Cat	1	14.29
Unknown	1	14.29
Total	7	100

From Table 4, for 7 libraries that had library automation developed in-house by internal staff or by outsourcing, each library representing 14.29% used one library automation system developed in-house, namely Open Biblio, Walaiautolib, LM, Jindamanee, Digital Librarian, BU Cat. There was one library (14.29%) did not indicate name of the library automation developed in-house.

# Table 5 Frequency and percentage of satisfaction of integrated library system currently used

Satisfaction of integrated	Frequency	Percentage	
library system currently used			
Satisfied	17	63	
Not satisfied	10	37	
Total	27	100	

Out of 27 respondents who used integrated library system (ILS), 17 respondents representing 63% were satisfied with the ILS currently used and 10 respondents accounting for 37% were not satisfied with the current ILS.

Reasons of satisfaction of	Yes		No		Total	
integrated library system	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
currently used						
Easy to use	11	64.7	6	35.3	17	100
Annual maintenance is not	5	29.4	12	70.6	17	100
costly and affordable						
No additional charge when the	3	17.6	14	82.4	17	100
library needs to upgrade upon						
availability of new release						
System problems have been	8	47	9	53	17	100
resolved promptly by the						
software company						
The system is flexible and	12	70.6	5	29.4	17	100
additional functions can be						
added as required by the library						

## Table 6 Frequency and percentage of reasons of satisfaction of ILS currently used

The reasons that made libraries satisfied with the ILS currently used were "The system is flexible and additional functions can be added as required by the Library" given by 12 respondents (70.6%), "Easy to use" given by 11 respondents (64.7%), "System problems have been resolved promptly by the software company" given by 8 respondents (47%), "Annual maintenance is not costly and affordable" given by 5 respondents (29.4%), "No additional charge when the library needs to upgrade upon availability of new release" given by 3 respondents (17.6%).

## Table 7 Frequency and percentage of reasons of dissatisfaction with ILS currently used

Reasons of dissatisfaction with ILS	Y	es	١	10	Тс	otal
currently used	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Annual maintenance is costly.	7	70	3	30	10	100
There is additional charge if the	8	80	2	20	10	100
library needs upgrading when new						
release is available. If the library						
does not want to upgrade, the						
software company will not provide						
maintenance for the old						
integrated library system.						
System problems have not been	7	70	3	30	10	100
dealt with promptly by the						
software company.						
The integrated library system is	10	100	0	0	10	100
not flexible – additional functions						
cannot be added as required by						
the library.						

From Table 7, the main reason of dissatisfaction with the integrated library system currently used was "The integrated library system is not flexible – additional functions cannot be added as required by the library" given by 10 respondents which represent 100%. Other reasons were "There is additional charge if the library needs upgrading when new release is available. If the library does not want to upgrade, the software company will not provide maintenance for the old integrated library system" given by 8 respondents (80%), "Annual maintenance is costly" and "System problems have not been dealt with promptly by the software company" - each of the reason given by 7 respondents (70%).

Table 8 Frequency and percentage of op	pinion as to whether respondents wanted to change
the library automation currently	y used or not

Opinion	Frequency	Percentage
Want to change	10	37
Do not want to change	10	37
Want to have a trial on a new	7	26
system		
Total	27	100

Table 8 shows that the number of respondents who wanted to change and who did not want to change the library automation currently used was equal - 10 respondents, accounting for 37% and that other 7 respondents making up 26% wanted to have a trial on a new system.

Table 9 Frequency an	d percentage of	f reasons to change	integrated libra	ry system	(ILS)
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Opinion	Frequency Percen	Percentage
The software company wants to upgrade the current ILS, but the library does not want new	1	10
release.		
The current integrated library system has no further development.	1	10
The library wants to expand the current integrated library system.	1	10
The library wants to save budget and to be more self-sustaining.	1	10
The software company stops providing maintenance.	1	10
The system is not flexible and the system problems are not dealt with promptly.	1	10
No additional opinion given	4	40
Total	10	100

From Table 9, there were additional reasons given by respondents why they wanted to change the current integrated library system (ILS) – "The software company wants to upgrade the current ILS, but the library does not want new release", "The current ILS has no further development", "The library wants to expand the current ILS", "The library wants to save budget and to be more self-sustaining", "The software company stops providing maintenance", "The system is not flexible and the system problems are not dealt with promptly". Each of these reasons was given by each respondent which represented 10% equally whereas others 4 respondents (40%) did not give any additional opinion.

Opinion	Frequency	Percentage
There will be difficulties in	1	10
migrating to new system.		
The current ILS has continued	1	10
development.		
The current ILS is easy to use.	1	10
The current ILS is quite stable,	1	10
flexible and is continuously		
maintained.		
There will be high risk.	1	10
No opinion given	5	50
Total	10	100

### Table 10 Frequency and percentage of reasons not to change integrated library system (ILS)

From Table 10, respondents who did not want to change the library automation currently used gave the following reasons – "There will be difficulties in migrating to new system", "The current ILS has continued development", "The current ILS is easy to use", "The current ILS is quite stable, flexible and is continuously maintained", and "There will be high risk". Each of these reasons was given by each respondent which represented 10% equally whereas other 5 respondents accounting for 50% did not give any opinion.

Table 11 Frequency and percentage of reasons	to have a trial on a new integrated library
system	

Opinion	Frequency	Percentage
To increase efficiency to	1	14.3
support library service		
To have a better ILS , to save	1	14.3
costs, and to reduce workload		
of system maintenance		
To try a better thing	1	14.3
To have an integrated library	1	14.3
system that meets library use		
and has complete range of		
functions		
No opinion given	3	42.8
Total	7	100

From Table 11, respondents gave their opinion on a trial of a new integrated library system as follows: "To increase efficiency to support support library service", "To have a better ILS, to save costs, and to reduce workload of system maintenance", "To try a better thing", "To have an integrated library system that meets library use" Each opinion was given by each respondent representing 14.3% equally. Other 3 respondents (42.8%) did not give any opinion.

# Table 12 Frequency and percentage of respondents'choice: what they would choose to do when being questioned about a change of integrated library system (ILS)

Respondent's choice	Frequency	Percentage
To purchase another	5	18.5
commercial /proprietary ILS		
To have library automation	2	7.5
developed in-house by		
internal IT staff or by		
outsourcing		
To adopt open source ILS	16	59.2
developed by others and		
customize to fit the		
organization's needs		
No opinion given	4	14.8
Total	27	100

From Table 12, when being questioned about a change of integrated library system (ILS), majority of respondents who currently used library automation – 16 respondents representing 59.2% chose "To adopt open source ILS developed by others and customize to fit the organization's needs" whereas others - 5 respondents accounting for 18.5% opted "To purchase another commercial / proprietary ILS", and 2 respondents making up 7.5% " To have

library automation developed in-house by internal IT staff or by outsourcing". Total 4 respondents constituting 14.8% did not give any opinion.

Opinion	Frequency	Percentage
Know open source ILS	20	69
-Having open source ILS (s) on trial	2	0
-Used to have open source ILS (s) on trial	1	0
Do not know open source ILS	9	31
Total	29	100

# Table 13 Frequency and percentage of knowledge of open source integrated library system (ILS)

Out of 29 respondents, 20 respondents (69%) knew open source ILS and 2 out 20 respondents were having open source ILS on trial whereas 1 out 20 respondents used to have open source on trial. However, 9 out 29 respondents did not know open source ILS.

## Table 14 Frequency and percentage of open source integrated library system (ILS) products known by respondents

Open source ILS products known by	Frequency	Percentage
respondents		
Koha	16	55.17
Evergreen	1	3.44
PMB	1	3.44
OpenBiblio	3	10.34
Openserv	1	3.44
Walai AutoLib*	1	3.44
Senayan	1	3.44
Unknown	5	17.24
Total	29	100

\*Walai AutoLib is an integrated library system (ILS) developed locally by a Thai university -Walailuck University with sponsor from Office of the Higher Education Commission.

Table 14 revealed that majority – 16 respondents (55.17%) knew Koha open source ILS whereas 3 respondents (10.34%) knew OpenBiblio. The following open source ILS products – Evergreen, PMB, Openserv, Walai AutoLib, Senayan were known equally by minority of respondent – one respondent (3.44%). Five respondents (17.24%) did not specify open source ILS products' name.

# Table 15 Frequency and percentage of open source integrated library system (ILS) currently on trial

Open source ILS currently on trial	Frequency	Percentage
Koha	2	66.7
VuFind *	1	33.3
Total	3	100

\*VuFind is an open source library resource portal.

From Table 15, out of 3 respondents – 2 respondents representing 66.7% were having Koha open source ILS on trial whereas one respondent accounting for 33.3% was having VuFind, an open source library resource portal on trial.

## Table 16Frequency and percentage of open source integrated library system being given a<br/>trial

Open source ILS being given a trial	Frequency	Percentage
Koha	1	100
Total	1	100

From Table 16, one respondent representing 100% used to have Koha open source integrated library system on trial.

## Table 17 Frequency and percentage of reasons to make respondents decide to adopt open source integrated library system (ILS)

Reasons to make respondents	Yes		No		Total	
decide to adopt open source ILS	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
No software license fee	22	75.9	7	24.1	29	100
Ability to customize to fit the	26	89.7	3	10.3	29	100
organization's needs						
No maintenance fee – internal IT	16	55.2	13	44.8	29	100
staff can maintain the system						
Availability of source code	22	75.9	7	24.1	29	100
Ability to redistribute	15	51.7	14	48.2	29	100

Main reason that made majority respondents - 26 respondents (89.7%) decide to adopt open source ILS was "Ability to customize to fit the organization's needs". Other reasons were "No software license fee", and, "Availability of source code". The number of respondents who gave these two reasons was equal – 22 respondents (75.9%). "No maintenance fee – internal IT staff can maintain the system" was given by 16 respondents (55.2%), whereas "Ability to redistribute" by 15 respondents (51.7%).

Open source ILS products to	Frequency	Percentage
be opted by respondents		
Koha	16	55
Evergreen	3	10
OPALS	2	7
Others (e.g. Senayan; ILS developed with sponsor from Office of the Higher Education Commission; Any ILS providing functionality required with Chinese language support; Not yet make any decision, lack of	6	21
information; Not sure )		
No opinion given	2	7
Total	29	100

## Table 18 Frequency and percentage of open source integrated library system (ILS) productsto be opted by respondents

The principle open source ILS product that majority – 16 respondents (55%) would opt was Koha open source integrated library system. Evergreen would be selected by 3 respondents (10%) whereas OPALS by 2 respondents (7%). Others , such as Senayan; ILS developed with sponsor from Office of the Higher Education Commission; Any ILS providing functionality required with Chinese language support; Not yet make any decision, lack of information; Not sure, were given by 6 respondents (21%). No opinion was given by 2 respondents (7%).

Library services that open source	Y	'es	N	0	То	tal
ILS can help manage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Online catalogue searching	27	93	2	7	29	100
(OPAC)						
Cataloguing	20	69	9	31	29	100
Serials management	19	65.5	10	34.5	29	100
Acquisition	20	69	9	31	29	100
Circulation	24	82.8	5	17.2	29	100

# Table 19 Frequency and percentage of library services that open source integrated librarysystem (ILS) can help manage

From Table 19, majority – 27 respondents (93%) thought that open source ILS could help manage "Online catalogue searching (OPAC)". This was followed by "Circulation" (82.8%), "Cataloguing", and, "Acquisition" equally (69%) and "Serials management" (65.5%).

## Chapter 5

## Conclusion

The objective of Survey of Open Source Integrated Library System in Thai University Libraries in Bangkok and Pathumthani is to survey the movement towards the adoption of open source integrated library system of Thai university libraries in Bangkok and Pathum Thani. Data has been collected from a sample of 38 directors / administrators of both Thai government and private university libraries in Bangkok and Pathumthani. The questionnaire was uploaded online and the ULR link was sent the subjects of study. Total 29 received responses were analyzed using descriptive statistics, frequency distribution and percentile and presented by summary statistics table. The questionnaire was designed to gather information about demographic, library automation currently used and open source integrated library system.

#### 1<sup>st</sup> Part : Demographic information

Respondents representing 72.4% got a master degree and majority graduated in library and information science (44.8%).

## 2<sup>nd</sup> Part : Respondents' opinion about library automation currently used

Out of 29 responses, majority – 27 respondents or 93.1% used library automation in their organization and 2 respondents or 6.9% did not use library automation. From 27 respondents that used library automation, 59.3% used commercial / proprietary integrated library systems, namely Millennium, Horizon and VTLS - each of which was used equally by 3 respondents (18.75%), whereas 25.9% used library automation developed in-house by internal IT staff or by outsourcing as follows: OpenBiblio, Walaiautolib, LM, Jindamanee, Digital Librarian, BU Cat.

As for satisfaction of integrated library system (ILS) currently used, most respondents (63%) were satisfied with the ILS currently used for the following reasons respectively: "The system is flexible and additional functions can be added as required by the library" (70.6%); "Easy to use" (64.7%); "System problems have been resolved promptly by the software company" (47%); "Annual maintenance is not costly and affordable" (29.4%); "No additional charge when the library needs to upgrade upon availability of new release" (17.6%).

However, 37% of respondents were dissatisfied with the integrated library system (ILS) currently used for the following reasons : "The integrated library system is not flexible – additional functions cannot be added as required by the library" (100%); "There is additional charge if the library needs upgrading when new release is available. If the library does not want to upgrade, the software company will not provide maintenance for the old integrated library system" (80%); "Annual maintenance is costly" (70%); and, "System problems have not been dealt with promptly by the software company" (70%).

When being asked about a change of the integrated library system (ILS) currently used, number of respondents who wanted to change and who did not want to change was equal, that is 37% whereas 26% of respondents would like to have a trial. The reasons for those (37% of respondents) who wanted to change the ILS currently used were as follows: "The software company wants to upgrade the current integrated library system, but the library does not want new release"; "The current integrated library system has no further development"; "The library wants to expand the current integrated library system"; "The library wants to save budget and to be more self-sustaining"; "The software company stops providing maintenance"; "The system is not flexible and system problems are not dealt with promptly". The number of respondents who gave each reason was equal (10%).

As for 37% of respondents who did not want to change integrated library system currently used gave the following reasons: "There will be difficulties in migrating to new system"; "The current ILS has continued development"; The current ILS is easy to use"; The current ILS is quite stable, flexible and is continuously maintained"; and, "There will be high risk".

Another 26% of respondents who would like to have a trial on a new integrated library system gave the following reasons: "To increase efficiency to support library service"; "To have a better ILS, to save costs, and to reduce workload of system maintenance"; "To try a better thing"; "To have an integrated library system that meets library use and has complete range of functions".

From the study of 27 respondents who currently used library automation, the analysis found that when being questioned about a change of integrated library system (ILS), most

respondents representing 59.2% chose "To adopt open source ILS developed by others and customizable to fit the organization's needs".

## <u>3<sup>rd</sup> Part : Respondents' opinion about open source integrated library system</u>

The survey found that majority (69%) of 29 respondents knew open source integrated library system. Two respondents currently had open source integrated library system on trial and one respondent used to have a trial. The open source integrated library system that most respondents knew was Koha which was currently on trial and was given a trial by some respondents.

However, when being questioned about the reasons for the adoption of open source integrated library system, most respondents gave the following reasons - "Ability to customize to fit the organization's needs (89.7%); "No software license fee" (75.9%); "Availability of source code" (75.9%); "No maintenance fee – internal IT staff can maintain the system" (55.2%); and, "Ability to redistribute" (51.7%) respectively.

Moreover, most respondents representing 55% thought they would select Koha open source integrated library system when they wanted to change library automation. Also, the respondents thought that open source integrated library would be useful for online catalogue searching (OPAC), circulation, cataloguing, acquisition and serials management respectively.

From the summary of the above results, the survey found that most (59.2%) of Thai university libraries in Bangkok and Pathumthani tended to move towards the adoption of open source integrated library system even though they currently used commercial / proprietary integrated library system and some of them were satisfied whereas some were dissatisfied with the current ILS which had some limitations in terms of costs and use. From the survey, most respondents (55.17%) knew Koha open source integrated library system and and 55% of respondents wanted to opt for Koha when they wanted to change integrate library system. In conclusion, the result of the survey support the researcher's hypothesis that Thai university libraries in Bangkok and Pathumthani tend to move to open source integrated library system.

#### <u>Limitations</u>

#### Sample of population and responses received

The number of selected sample (38 university libraries) seems small, but it represents 100% of the population. Every Thai university in Bangkok and Pathumthani, both government and private has been selected for this survey. However, for the universities that have several campuses, only main campus or campus in Bangkok and Pathumthani has been selected. The request for participation was sent to 38 Thai university libraries , but responses received were 29 (76.3%) even after at least 6 times follow-up reminders by e-mail. The result of the survey might not reflect reality since the number of responses was not 100%.

### Suggestions for future research

This survey is limited to Bangokok and Pathumthani. A movement toward the adoption of open source integrated library of all Thai university libraries should be surveyed. The survey should also include questions about the university and or library's policy of open source software. The survey can be conducted separately for each type of library: university libraries, college libraries, school libraries and public libraries.

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## Appendix A

เรียน ผู้อำนวยการ / ท่านผู้บริหารห้องสมุด.....

เรื่อง ขอความอนุเคราะห์ตอบแบบสอบถามเกี่ยวกับระบบห้องสมุดโอเพนซอร์ซ

ดิฉันชื่อนางสาวปราณี กิริยานันท์ ทำงานอยู่ที่ห้องสมุดสถาบันเทคโนโลยีแห่งเอเซีย (Asian Institute of Technology – AIT) ในตำแหน่งผู้ประสานงานห้องสมุด ดิฉันได้รับทุนทำวิจัย (fellowship) ในประเทศญี่ปุ่น จากศูนย์ Center for Southeast Asian Studies ของมหาวิทยาลัยเกียวโต (Kyoto University) เป็นระยะเวลา หกเดือน (มกราคม - มิถุนายน พุทธศักราช ๒๕๕๕)

งานวิจัยนี้เป็นเรื่องโอเพนซอร์ซ (Open Source) ซอฟต์แวร์โอเพนซอร์ซเป็นที่รู้จักกันดีในวงการไอทีและ คอมพิวเตอร์ได้แก่ Linux, Apache, Mozilla, Perle, Firefox, OpenOffice นอกจากนั้นโอเพนซอร์ซยังมี บทบาทในงานห้องสมุด ซึ่งระบบห้องสมุดที่พัฒนาจากโอเพนซอร์ซได้แก่ Koha, Evergreen, OPALS และอื่นๆ ในต่างประเทศโดยเฉพาะประเทศสหรัฐอเมริกา ห้องสมุดขนาดเล็กและขนาดกลางเช่นห้องสมุดโรงเรียน ห้องสมุด ประชาชน มักเลือกที่จะใช้ระบบห้องสมุดโอเพนซอร์ซแทนที่จะซื้อระบบห้องสมุดอัตโนมัติเชิงพาณิชย์เพราะไม่ต้อง เสียค่าลิขสิทธิ์ หรือที่เคยซื้อระบบห้องสมุดอัตโนมัติเชิงพาณิชย์ก็มีแนวโน้มที่จะเปลี่ยนมาใช้ระบบห้องสมุดโอเพน ซอร์ซ สำหรับห้องสมุดขนาดใหญ่เช่นห้องสมุดมหาวิทยาลัยได้มีการเปลี่ยนมาใช้ระบบห้องสมุดโอเพนซอร์ซมาก ขึ้นเนื่องจากระบบห้องสมุดโอเพนซอร์ซได้มีการพัฒนาและปรับปรุงอย่างต่อเนื่อง ข้อดีของซอฟต์แวร์โอเพนซอร์ ซเช่นราคาต่ำ มีความยืดหยุ่น มีซอร์ซโด้ด (source code) พร้อม สามารถนำไปพัฒนาต่อและแจกจ่ายได้ ทำให้ ห้องสมุดมีแนวโน้มที่จะเปลี่ยนระบบห้องสมุดที่ใช้อยู่ จึงน่าสนใจที่จะสำรวจว่าห้องสมุดมหาวิทยาลัยของไทยมี ความสนใจและมีแนวโน้มที่จะเปลี่ยนไปใช้ระบบห้องสมุดโอเพนซอร์ซหรือไม่

ดิฉันใคร่ขอความอนุเคราะห์จากท่านผู้อำนวยการสำนักหอสมุด/ท่านผู้บริหารห้องสมุดช่วยกรุณาตอบ แบบสอบถามที่URLนี้:

https://docs.google.com/spreadsheet/viewform?formkey=dFQyLVg1RWhybDdhaXRtekdQaTh0S1E6MQ ท่าน สามารถคลิกที่ลิงค์นี้เพื่อไปนำสู่แบบสอบถาม และเมื่อตอบคำถามเสร็จแล้ว สามารถส่งข้อมูลโดยคลิกที่ปุ่ม "ส่ง" ซึ่งอยู่ที่ด้านล่างของแบบสอบถามได้ทันทีขอความกรุณาส่งข้อมูลกลับภายใน วันที่......

ขอขอบพระคุณอย่างสูง

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โทรศัพท์ 02-524-5856 อีเมล์: <u>pranek@ait.ac.th</u>

## **Appendix B**

Dear : Director / Administrator of .....

Subject : Request for participation in a survey on open source integrated library system

My name is Pranee Kiriyanant. I have been working at the Asian Institute of Technology (AIT) as Library Coordinator. I have received a research fellowship from the Center for Southeast Asian Studies, Kyoto University to do a research for six months (January–June 2012).

This research is about open source. Open source software is well-known in IT and computer circles. Examples of open source software include Linux, Apache, Mozilla, Perle, Firefox, OpenOffice. Moreover, open source has played an important role in library automation where integrated library systems developed from open source include Koha, Evergreen, OPALS, etc. In foreign countries, especially in the United States of America, small- and medium-size libraries, for example school and public libraries tend to select open source integrated library systems as alternative to proprietary/commercial integrated library system because of no copyright charge. The libraries which used to purchase and use proprietary integrated library system tend to move to open source integrated library systems. As for more complex and larger-size libraries such as academic libraries, more of them have moved to open source integrated library, as it has been developed and improved with new releases. The advantages of open source software, including low cost, flexibility, availability of source code, redevelopment and redistribution, have attracted libraries to change their existing library automation. It will be interesting to conduct a survey to find out if Thai university libraries are interested in and likely to move to open source integrated library system.

I should therefore be grateful for your kind help in responding to the questionnaire at this URL link:

https://docs.google.com/spreadsheet/viewform?formkey=dFQyLVg1RWhybDdhaXRtekdQaTh0S1E6MQ. You can click on the link to open the questionnaire and, after completing, click on the "Send" button at the bottom of the screen to submit the questionnaire. You are requested to return your feedback by .....

Thank you very much.

Sincerely,

Ms. Pranee Kiriyanant

Tel. 02-524-5856 E-mail: <u>pranek@ait.ac.th</u>

## Appendix C

แบบสำรวจระบบห้องสมุดโอเพนซอร์ซในห้องสมุดมหาวิทยาลัยของไทยที่ตั้งอยู่ในกรุงเทพมหานคร และปทุมชานี (Survey of Open Source Integrated Library System in Thai University Libraries in Bangkok and Pathumthani)

(โปรดทำเครื่องหมาย √ หน้าข้อที่เลือก)

\*จำเป็น

1) ขณะนี้ห้องสมุดของท่านใช้ระบบห้องสมุดอัตโนมัติ (library automation) หรือไม่ \* ระบบอัตโนมัติกือระบบการจัดการห้องสมุดที่ใช้ซอพต์แวร์คอมพิวเตอร์ช่วยในการจัดการงานบริการ ห้องสมุดเช่นงานยืมคืน งานจัดหมู่และทำบัตรรายการ งานสืบค้นข้อมูลออนไลน์ เป็นต้น

🗖 1.1 ใช้ระบบห้องสมุดอัตโนมัติ

1.2 ไม่ใช้ระบบห้องสมุดอัตโนมัติ (ถ้าท่านตอบว่าไม่ใช้ กรุณาข้ามไปตอบตั้งแต่ข้อ 5)

1.1 ระบบอัตโนมัติที่ท่านใช้คือ

sะบบห้องสมุดอัตโนมัติเชิงพาณิชย์ ตัวอย่างระบบห้องสมุดเชิงพาณิชย์เช่น Innopac,

Millennium, VTLS, Horizon, TINLib, Dynix, Voyager (กรุณาตอบข้อ 1.1.1)

ระบบห้องสมุดอัต โนมัติที่พัฒนาขึ้นเอง โดยเจ้าหน้าที่ไอทีของแผนกคอมพิวเตอร์ หรือจ้างคนมา ช่วยพัฒนา (กรุณาตอบข้อ 1.1.2)

🗖 ใช้ระบบห้องสมุคโอเพนซอร์ซที่มีผู้พัฒนาไว้แล้ว (กรุณาตอบข้อ 1.1.3)

🗖 อื่นๆ:

1.1.1 โปรคระบุชื่อระบบห้องสมุคอัตโนมัติเชิงพาณิชย์ที่ท่านใช้อยู่

1.1.2 โปรคระบุชื่อระบบห้องสมุดอัตโนมัติที่ท่านพัฒนาขึ้นมาเอง

1.1.3 โปรคระบุชื่อระบบห้องสมุคโอเพนซอร์ซที่มีผู้พัฒนาไว้แล้วซึ่งท่านใช้อยู่

 ท่านพอใจกับระบบห้องสมุดอัตโนมัติที่ใช้อยู่หรือไม่ เช่นในด้านประสิทธิภาพ การบำรุงรักษา ค่าใช้จ่ายในการบำรุงรักษา และอื่นๆ (โปรดทำเครื่องหมาย√หน้าข้อที่เลือก)

🗖 พอใจระบบที่ใช้อยู่ (ถ้าท่านตอบว่าพอใจ กรุณาตอบ ข้อ2.1)

- 🗖 ไม่พอใจระบบที่ใช้อยู่ (ถ้าท่านตอบว่าไม่พอใจกรุณาตอบ ข้อ2.2)
- 2.1 ท่านพอใจกับระบบห้องสมุดอัตโนมัติที่ใช้อยู่เพราะ (สามารถตอบได้มากกว่าหนึ่งข้อ)
- 🗖 ใช้งานง่าย
- 🗖 ค่าใช้จ่ายในการบำรุงรักษารายปีไม่มาก ห้องสมุดสามารถจ่ายได้
- 🗖 ไม่มีค่าใช้จ่ายเพิ่ม เมื่อห้องสมุดจำเป็นต้องอัพเกรคเพราะมีฉบับปรับปรุงใหม่
- 🗖 เวลาระบบมีปัญหา ได้รับการแก้ไขทันที่จากบริษัท
- 🗖 ระบบมีความยืดหยุ่น สามารถเพิ่มเติมให้ตรงกับความต้องการของห้องสมุด
- 🗖 อื่นๆ:
- 2.2 ท่านไม่พอใจระบบห้องสมุดอัตโนมัติที่ใช้อยู่เพราะ (สามารถตอบได้มากกว่าหนึ่งข้อ)
- 🗖 ค่าใช้จ่ายในการบำรุงรักษารายปีสูง
- มีค่าใช้จ่ายเพิ่ม ถ้าห้องสมุดจำเป็นต้องอัพเกรดเมื่อมีฉบับปรับปรุงใหม่ และถ้าห้องสมุดไม่ ต้องการอัพเกรด บริษัทกี่จะไม่มีบริการบำรุงรักษาสำหรับห้องสมุดที่ใช้ระบบเก่า
- 🗖 เวลาระบบมีปัญหา ไม่ได้รับการแก้ไขทันที่จากบริษัท
- 🗖 ระบบไม่มีความยืดหยุ่น ไม่สามารถเพิ่มเติมให้ตรงกับความต้องการของห้องสมุด
- 🗖 อื่นๆ:

3) ท่านมีความคิดที่จะเปลี่ยนระบบห้องสมุดอัตโนมัติหรือไม่ (โปรดทำเกรื่องหมาย√หน้าข้อที่เลือก)

- 🗖 คิดจะเปลี่ยน (กรุณาตอบข้อ 3.1)
- 🗖 ใม่คิดจะเปลี่ยน (กรุณาตอบข้อ 3.2)
- 🗖 อยากลองเปลี่ยน (กรุณาตอบข้อ 3.3)
- 3.1 โปรคระบุเหตุผลที่คิดจะเปลี่ยนระบบห้องสมุดอัตโนมัติ
- 3.2 โปรคระบุเหตุผลที่ไม่คิดจะเปลี่ยนระบบห้องสมุดอัตโนมัติ
- 3.3 โปรคระบุเหตุผลที่อยากลองเปลี่ยนระบบห้องสมุคอัตโนมัติ
- 4) ถ้าท่านกิดจะเปลี่ยนระบบอัต โนมัติสำหรับห้องสมุด ท่านจะเปลี่ยนไปใช้อะไร
- 🗖 ซื้อระบบห้องสมุดอัตโนมัติเชิงพาณิชย์ของอีกบริษัทหนึ่ง
- 🗖 พัฒนาระบบขึ้นเองโดยเจ้าหน้าที่ไอที หรือจ้างคนมาช่วยพัฒนา

ใช้ระบบห้องสมุด โอเพนซอร์ซที่มีผู้พัฒนาไว้แล้ว และนำมาพัฒนาให้เหมาะกับความต้องการ ของหน่วยงาน

5) ท่านรู้จักระบบห้องสมุคโอเพนซอร์ซ (Open Source Integrated Library System) หรือไม่ ตัวอย่าง ระบบห้องสมุคโอเพนซอร์ซ ได้แก่ Koha, Evergreen, OPALS และอื่นๆ (ตอบได้มากกว่าหนึ่งข้อ)

- รู้จักระบบห้องสมุดโอเพนซอร์ซ (กรุณาตอบข้อ 5.1)
- 🗖 กำลังทคลองใช้ (กรุณาตอบข้อ 5.2)
- 🗖 เคยทคลองใช้ (กรุณาตอบข้อ 5.3)
- 🗖 ไม่รู้จักระบบห้องสมุคโอเพนซอร์ซ
- 5.1 โปรคระบุระบบห้องสมุคโอเพนซอร์ซที่รู้จัก
- 5.2 โปรคระบุระบบห้องสมุคโอเพนซอร์ซที่กำลังทคลองใช้
- 5.3 โปรคระบุระบบห้องสมุคโอเพนซอร์ซที่เคยทคลองใช้

 ไม่ว่าท่านจะรู้จักระบบห้องสมุดโอเพนซอร์ซหรือไม่ เหตุผลที่จะช่วยให้ท่านตัดสินนำมาใช้ (ตอบ ได้มากกว่าหนึ่งข้อ)

- 🗖 ไม่เสียค่าลิขสิทธ์ในการซื้อระบบ
- 🗖 สามารถนำมาพัฒนาให้เหมาะกับความต้องการของหน่วยงาน
- 🗖 ไม่เสียค่าบำรุงรักษา เจ้าหน้าที่ไอทีสามารถดูแลเองได้
- 🗖 มีซอร์ซโค้ด (source code) มาพร้อม
- 🗖 สามารถนำไปเผยแพร่ได้
- □ อื่นๆ:
- 7) ถ้าท่านกิดจะใช้ระบบห้องสมุดโอเพนซอร์ซ ท่านจะเถือกใช้ผลิตภัณฑ์ตัวไหน
- □ Koha
- Evergreen
- OPALS
- 🗖 อื่นๆ:

8) ท่านกิดว่าระบบห้องสมุค โอเพนซอร์ซสามารถช่วยในงานอะไรได้บ้าง (ตอบได้มากกว่าหนึ่งข้อ)

- การสืบค้นออนไลน์ (OPAC)
- งานจัดหมู่และทำบัตรรายการ (Cataloguing)
- งานวารสารและสิ่งพิมพ์ต่อเนื่อง (Serials)
- งานจัดหา (Acquisitions)
- งานยืมคืน (Circulation)
- 🗖 อื่นๆ:

9. ข้อมูลทั่วไป : ชื่อห้องสมุคที่ให้ข้อมูล

- 10. ข้อมูลทั่วไป : วุฒิการศึกษาของผู้ให้ข้อมูล
- 🗖 ปริญญาตรี
- 🗖 ปริญญาโท
- 🗖 ปริญญาเอก
- 11. ข้อมูลทั่วไป : โปรคระบุสาขาวิชาที่จบการศึกษา

## Link :

E6MQ

## **Appendix D**

## Survey of Open Source Integrated Library System in Thai University Libraries in Bangkok and Pathumthani

\* Required

1) Is library automation currently used in your organization? \*

Library automation refers to a library management system in which complex software package is used to manage library services such as circulation, cataloguing, and online searching.

 $\Box$  1.1 Library automation is used.

 $\Box$  1.2 Library automation is not used. (If it is not used, then please skip to question no. 5.)

1.1 Please indicate the library automation used in your library.

Commercial/proprietary integrated library system, e.g. Innopac, Millennium, VTLS, Horizon,

TINLib, Dynix, Voyager, etc. (Please answer question no.1.1.1.)

□ Library automation system developed in-house by internal IT staff or by outsourcing

(Please answer question no.1.1.2.)

□ Open source integrated library system developed by others (Please answer question no.1.1.3.)

 $\Box$  Others :

.....

1.1.1 Please indicate the commercial/proprietary integrated library system currently used.

.....

1.1.2 Please indicate the in-house library automation system developed by your organization.

.....

1.1.3 Please indicate the open source integrated library system currently used by your library.

.....

2) Are you satisfied with the integrated library system currently used, in terms of efficiency, maintenance and cost of maintenance, etc. (Please tick.)

 $\Box$  Satisfied with the integrated library system currently used (Please answer question no. 2.1)

 $\Box$  Not satisfied with the integrated library system currently used (Please answer question no. 2.2)

2.1 You are satisfied with the current integrated library system for the following reason(s). (You can have more than one reasons.)

 $\Box$  Easy to use

 $\Box$  Annual maintenance is not costly and affordable.

 $\Box$  No additional charge when the library needs to upgrade upon availability of a new release.

 $\Box$  System problems have been resolved promptly by the software company.

 $\Box$  The system is flexible and additional functions can be added as required by the library.

 $\Box$  Others :

.....

2.2 You are not satisfied with the integrated library system currently used for the following reason(s). (You can have more than one reasons.)

 $\Box$  Annual maintenance is costly.

□ There is additional charge if the library needs upgrading when a new release is available. If the library does not want to upgrade, the company will not provide maintenance for the old integrated library system.

□ System problems have not been dealt with promptly by the software company.

 $\Box$  The integrated library system is not flexible – additional functions cannot be added as required by the library.

 $\Box$  Others :

.....

- 3) Do you intend to change the integrated library system or not? (Please tick.)
- $\Box$  Yes, I do. (Please answer question no. 3.1.)
- $\Box$  No, I don't. (Please answer question no. 3.2.)
- $\Box$  Yes, I want to have a trial. (Please answer question no.3.3.)
- 3.1 Please give reason(s) why you want to change the system.

.....

3.2 Please give reason(s) why you do not want to change the system.

.....

3.3 Please give reason(s) why you want to have a trial.

.....

4) If you want to change the integrated library system (ILS), what ILS do you plan to use?

□ Purchase another commercial/proprietary integrated library system

 $\hfill\square$  Have IT staff or others develop an in-house library management system

 $\Box$  Adopt an open source integrated library system developed by others and customize it to fit the library's needs

5) Do you know open source integrated library systems, e.g. Koha, Evergreen, OPALS and others? (You can have more than one answers.)

 $\Box$  Yes, I do. (Please answer question no. 5.1.)

 $\Box$  Open source integrated library system is currently on trial at our organization. (Please answer question no. 5.2.)

□ Our organization used to have open source integrated library system(s) on trial.

 $\Box$  No, I do not know open source integrated library systems.

5.1 Please indicate the open source integrated library system(s) you know.

.....

5.2 Please indicate the open source integrated library system currently on trial.

.....

5.3 Please indicate the open source integrated library system(s) you have given a trial.

.....

6) Whether or not you are familiar with open source integrated library system (ILS), please indicate, from the following, the reasons that make you decide to use open source ILS. (You can have more than one answers.)

- $\Box$  No charge for software license fees
- □ Customizable to the organization's needs
- $\Box$  No maintenance costs -- can be maintained by the organization's IT staff.
- $\Box$  Source code is available.
- $\Box$  Ability to be redistributed
- $\Box$  Others :

.....

7) If you plan to adopt open source integrated library system, which of the following product will you select?

- □ Koha
- □ Evergreen
- $\Box$  OPALS
- $\Box$  Others (Please indicate.)

.....

8) In which of the following library services you think open source integrated library system can make easier?

- □ Online library catalogue searching (OPAC)
- $\Box$  Cataloguing
- □ Serials management
- $\Box$  Acquisitions
- $\Box$  Circulation
- $\Box$  Others

9) General information: Name of the respondent library

- 10) General information: Academic qualifications of respondent
- $\Box$  Bachelor's degree
- $\Box$  Master's degree
- □ Doctoral degree
- 11) General information: Field of Study of respondent.....

Link:

https://docs.google.com/spreadsheet/viewform?formkey=dFQyLVg1RWhybDdhaXRtekdQaTh 0S1E6MQ

## Appendix E

Government University Libraries				
Name of University	Library in English	Library in Thai		
Bansomdejchaopraya Rajabhat University	Office of Academic Resources and Information Technology	สำนักวิทยบริการและเทคโนโลยีสารสนเทศ		
Chandrakasem Rajabhat University	Academic Resource and Information Technology	สำนักวิทยบริการและเทคโนโลยีสารสนเทศ		
Chulalongkorn University	Academic Resource Center	ศูนย์วิทยทรัพยากร		
Kasetsart University	Kasetsart University Library	สำนักหอสมุด		
King Mongkut's Institute of Technology Ladkrabang	King Mongkut's Institute of Technology Ladkrabang Central Library	สำนักหอสมุดกลาง		
King Mongkut's University of Technology North Bangkok	The Central Library of King Mongkut's University of Technology North Bangkok	หอสมุดกลาง		
King Mongkut's University of Technology Thonburi	The Library of King Mongkut's University of Technology Thonburi	สำนักหอสมุด		
Mahidol University	Mahidol University Library and Knowledge Center	หอสมุดและคลังความรู้ มหาวิทยาลัยมหิดล		
National Institute of Development Administration (NIDA)	NIDA Library and Information Center	สำนักบรรณสารการพัฒนา		
Phranakorn Rajabhat University	Center of Academic Resources and Information Technology	สำนักวิทยบริการและเทคโนโลยีสารสนเทศ		
Rajamangala University of Technology Krungthep	Center of Academic Resources and Information Technology	สำนักวิทยบริการและเทคโนโลยีสารสนเทส		
Rajamangala University of Technology Pranakorn	Center of Academic Resources and Information Technology	สำนักวิทยบริการและเทคโนโลยีสารสนเทศ		
Rajamangala University of Technology Suvarnbhumi	Center of Academic Resources and Information Technology	สำนักวิทยบริการและเทคโน โลยีสารสนเทศ		
Rajamangala University of Technology Thanyaburi	Center of Academic Resources and Information Technology	สำนักวิทยบริการและเทคโนโลยีสารสนเทศ		
Ramkamhaeng University	Ramkamhaeng University Library	สำนักหอสมุดกลาง		
Silpakorn University	Silpakorn University Central Library	สำนักหอสมุดกลาง		
Srinakharinwirot University	Srinakharinwirot University Central Library	สำนักหอสมุดกลาง		
Suan Dusit Rajabhat University	Office of Academic Resources and Information Technology	สำนักวิทยบริการและเทคโนโลยีสารสนเทศ		
Suan Sunandha Rajabhat University	Academic Resources Center and Information Technology	สำนักวิทยบริการและเทคโนโลยีสารสนเทศ		
Thammasat University	Thammasat University Library	สำนักหอสมุด		
Valaya Alongkorn Rajabhat University	Academic Resources Center and Information Technology	สำนักวิทขบริการและเทคโนโลยีสารสนเทศ		

## Appendix F

Private University Libraries				
Name of University	Library in English	Library in Thai		
Assumption University	Assumption University Library	-		
Bangkok University	Bangkok University Library	สำนักหอสมุด		
Dhurakij Pundit University	Dhurakij Pundit University Library	ศูนย์สนเทศและหอสมุด		
Eastern Asia University	Eastern Asia University Central Library	สำนักหอสมุดกลาง		
Huachiew Chalermprakiet University	Huachiew Chalermprakiet University Library	ศูนข์บรรณสารสนเทศ		
Kasem Bundit University	Academic Resources Center	สำนักบรรณสาร (วิทยาเขตพัฒนาการ)		
Krirk University	Krirk University Library	สำนักหอสมุด		
Mahanakorn University of Technology	Library of Mahanakorn University of Technology	สำนักหอสมุด		
Rajapark Institute	Rajapark Institute Library	ห้องสมุคสถาบันรัชต์ภากย์		
Rangsit University	Rangsit University Library	สำนักหอสมุด		
Rattana Bundit Central Library	Rattana Bundit University Central Library	หอสมุดกลาง		
Saint John University	Saint John University Library	สำนักหอสมุด		
Siam University	Siam University Central Library	สำนักหอสมุด มหาวิทยาลัยสยาม		
South-East Asia University	South-East Asia University Central Library	สำนักหอสมุดกลาง		
Sripatum University	Sripatum University Library	สำนักหอสมุด		
Thonburi University	Library and Information Technology Center	สำนักหอสมุดและสารสนเทศ		
University of the Thai Chamber of Commerce	University of the Thai Chamber of Commerce Central Library	สำนักหอสมุดกลาง		

## Appendix G

Koha Users in Thailand				
Library Name	Library Type	Notes		
Asian Institute of Technology, School of Management (SOM) Library; http://opac.lib.som.ait.ac.th	Academic	Koha 3.0 installed on Ubuntu server		
Christian University of Thailand, Bangkok Institute of Theology	Academic	Koha 3.0 installed on Ubuntu server		
Kasetsart University, Agriculture Knowledge Centre Online Library ; http://158.108.80.10:8000/cgi-bin/koha/opac- main pl	Academic	Installed		
Thammasat University Libraries; http://library.engr.tu.ac.th	Academic	Installed		
NSTDA Online Library at STKS (National Science & Technology Development Agency) ; http://library.stks.or.th	Government agency	Thai version		
Rose Marie Academy	K12	Installed Installed, in process of		
Shrewsbury International School	K12	cataloging		