With Special Reference To Opac, A Pinpointing Study Of Koha - Integrated Library Management Software

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Abstract
This paper focuses on a user-centered empirical examination of the Koha OPAC's usability. The library management requirements of every modern library can be satisfied by Koha automation software. Koha was chosen because it is user-friendly and open source software for this reason. Earlier, the NorthCap University (NCU) library used Libsys-10 software, but now it has successfully implemented Koha OSS for the NCU library. With a focus on OPAC, this paper will assist library professionals in effectively implementing and installing Koha in their libraries. Within a fairly short period of time, the author implemented and installed Koha software at the NorthCap University library under his supervision. As a result, the article analyzed the necessity and significance of library automation as well as the rationale behind choosing Koha library management.

Keywords: Open Source Software, OSS, ILMS, Library Automation, OPAC, NCU

INTRODUCTION

Koha is a web-based, customizable, and fully featured integrated library management system for libraries of all types and sizes. The user's interface OPAC and Web OPAC of Koha offer a responsive mobile-friendly design also.

KOHA, which means "gift" in Japanese, is the most widely used open source automation program for libraries in the world. The Horowhenua Library Trust founded the Koha library management software in 1999, and it is released under the General Public License (GNU). Koha has performed flawlessly for running the library. The main reason the libraries use KOHA instead of other software is that it is free and does not require a license agreement. With the assistance of knowledgeable specialists, library professionals can be implemented.

It has all the modules required for running comprehensive library software. It includes modules for circulation, Cataloguing, Acquisitions, Serials Control, Patron (User) management, reports, and many more. It supports open interoperability with other systems and provides a single platform for multiple content services for library users. Libraries can choose to use the content management facility within Koha or integrate with their full website. Koha is compatible with various international library standards, such as MARC21, UNIMARC, MARCXML, ISO 2709, Z39.50, SIP2, etc.

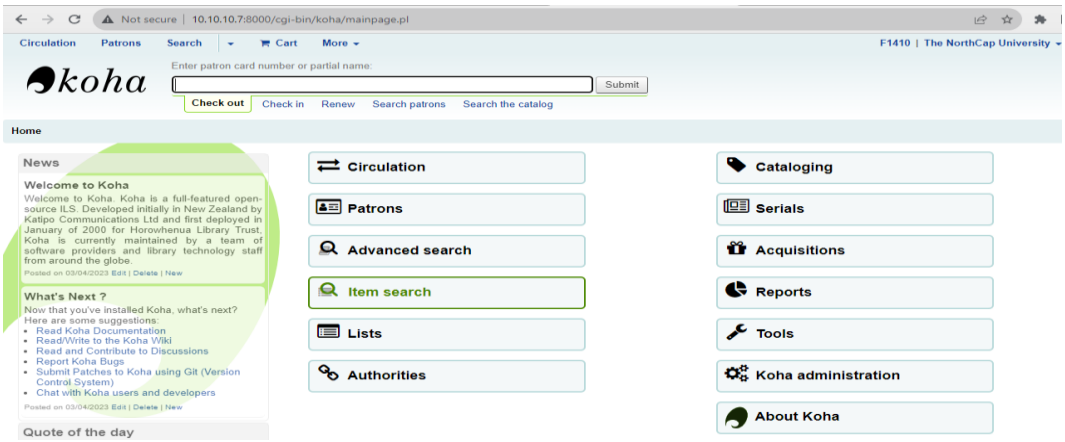

Image 1: Modules of the Koha

The modules of the Koha (OSS) open source software include circulation, acquisitions, advanced search, patrons, cataloguing, serials, authorities, reporting, barcode printing, administration, tools, notices, offline circulation for situations where internet access is unavailable, as well as several other features not found in other software.

MINIMUM SYSTEM REQUIREMENTS FOR KOHA SOFTWARE

Minimum Hardware Requirement

▪ 1 Server with 64-bit processor (Xeon)
▪ Hard disk with 500 GB for 100000 records
▪ 16 GB RAM
▪ 1 TB HDD (External storage for backups)

Software Requirement

▪ Linux Operating System
▪ Ubuntu Operating System
▪ MYSQL Database
▪ Apache server
▪ Perl

Network Requirement

▪ High speed internet connection
▪ Public Ip or private Ip
▪ LAN CARD ▪ Internal DNS or External DNS
▪ Port 80 and 8080 should be opened in your firewall for TCP connection to allow OPAC and Staff interface of KOHA Library Management Software.

- Barcode reader
- Barcode printer

WEB-BASED INTERFACES

Koha's OPAC, circulation management, and self-checkout interfaces are based on standards-compliant World Wide Web technologies such as XHTML, CSS, and Javascript, thus making Koha a truly platform-independent solution.

KOHA OPAC

OPAC is the premier interface for libraries. One of the most well-known open-source ILSs is the Koha library management system. Customers use the public interface known as the Online Public Access Catalogue (OPAC) in Koha to browse and interact with the library's resources. Here is an explanation of the components you specified and how you can modify them:

1. **Header**:

- Typically contains the library's logo, name, and main navigation links.
- Customization: You can change the logo, background color; add new navigation links, etc. through CSS and possibly HTML tweaks.

2. **Left Navigation (Upper & Bottom)**:

- Might contain links to various parts of the OPAC, such as advanced search, user account, etc.
- Customization: You can add/remove links, change the style, or even embed widgets (e.g., events calendar). This would involve both HTML (for structure) and CSS (for styling).

3. **Main User Block**:

- This is the primary content area where search results, item details, user account info, and other dynamic content will appear.
- Customization: To change how search results appear, or how item details are displayed, you'd often edit the template files responsible for these displays, which are written in Template Toolkit language. Styling is done through CSS.

4. **Right Navigation**:

- This could be similar to the Left Navigation but might contain different links or widgets.
- Customization: Similar to the Left Navigation, you can use HTML to adjust the content and CSS to adjust the style. You might also utilize JavaScript to add interactive elements.

5. **Footer**:

- Contains copyright info, contact details, and sometimes additional links.
- Customization: Adjusting the footer's content and style is straightforward with some HTML and CSS tweaks.

6. **Using Java**:
- It seems there might be confusion here. Java is a programming language typically used for server-side applications or Android app development. JavaScript, on the other hand, is a client-side scripting language used in web development to make web pages interactive. It's likely you meant JavaScript. If so, JavaScript can be used to add interactivity, animations, or even fetch data asynchronously in the OPAC.

When customizing Koha's OPAC, it's essential to:
- **Backup** your current templates and CSS files.
- **Test changes** in a staging environment before applying them to the live system.
- Keep the **usability** in mind, ensuring that your customizations enhance rather than hinder the user experience.

Lastly, the Koha community is vibrant and supportive, so you can always reach out to mailing lists or forums for help or suggestions during customization.
Example:

Table 1. KOHA - Block Wise Partition of OPAC
Customizing the KOHA OPAC allows libraries to create a unique and user-centric experience. It's always essential to keep the user in mind when making changes, ensuring that the OPAC remains functional and intuitive to navigate. If you're not familiar with HTML, CSS, or JavaScript, consider collaborating with a web developer or seeking training to help make the most out of your KOHA OPAC customization. Here is the Figure under given below of OPAC Partition.

<table>
<tr><td colspan="3">Header (OPAC Top Header)</td></tr>
<tr><td>Upper Left Navigation (OPAC Nav)</td><td rowspan="2">Main User Block (OPAC Main User Block)</td><td rowspan="2">Right Navigation (OPAC Nav Right)</td></tr>
<tr><td>Buttom Left Navigation (OPAC Nav Buttom)</td></tr>
<tr><td colspan="3">Footer (OPAC credits)</td></tr>
</table>

Table 1. OPAC Partition

KOHA is Integrated Library System (ILS) open-source software, allows for customization of the Online Public Access Catalogue (OPAC) through a combination of languages and tools like JavaScript, HTML, and CSS. This helps libraries present a more user-friendly and aesthetically pleasing interface to their users.
If you're looking to start with customizing the OPAC top header, here's a basic step-by-step guide:

1. Access the KOHA Staff Client:
First, log into your KOHA Staff Client using the appropriate credentials.

2. Go to System Preferences:
Navigate to the system preferences section of the KOHA Staff Client.

3. OPAC Customization:
Look for preferences related to OPAC customization. Depending on your version, there might be a section dedicated to the OPAC appearance and customization.

4. OPAC Header:
There should be a field where you can modify the OPAC top header. This is typically where you can input HTML, CSS, or JavaScript to customize the appearance and functionality of the header.

5. Customize the Header:
HTML: Allows you to structure the content of your header. E.g., adding logos, links, or other relevant content.
<img src="https://yourlibrarywebsite.com/logo.png" alt="Library Logo">
CSS: Used to style the header content. It affects elements like color, font size, positioning, etc.
Css <style> a {color: #333;text-decoration: none; } img {max-width: 100px;} </style>
JavaScript: Can provide interactivity or enhance the functionality of your header.
java script
<script> // Example: Add a click event to the logo document.querySelector("img").addEventListener("click", function() {alert("Welcome to our library!"); }); </script>

6. Save and Preview:
Once you've made your desired changes, save them. It's a good practice to preview the OPAC after each major change to ensure it displays and functions as expected.

7. Test:
Check the OPAC in different browsers (like Firefox, Chrome, Safari) and on different devices (smartphone tablet, desktop, laptop) to ensure compatibility.
By personalizing the KOHA OPAC, libraries may design a distinctive, user-focused experience. When making modifications, it's crucial to always keep the user in mind to maintain the OPAC's functionality and ease of use. To get the most out of your KOHA OPAC modification, consider working with a web developer if you are unfamiliar with HTML, CSS, or JavaScript, or consider taking training.

Place a Link on OPAC Top Header-
To ping the important links or useful links like subscribed journals' links / online paid e-Books links for this making some configuration in the background of KOHA software we can do in which file of the folder after configuring it will show on the OPAC top header. Under given below image and mark by the red line where we want to ping the Links. Here is an example of OPAC https://opac.ncuindia.edu/

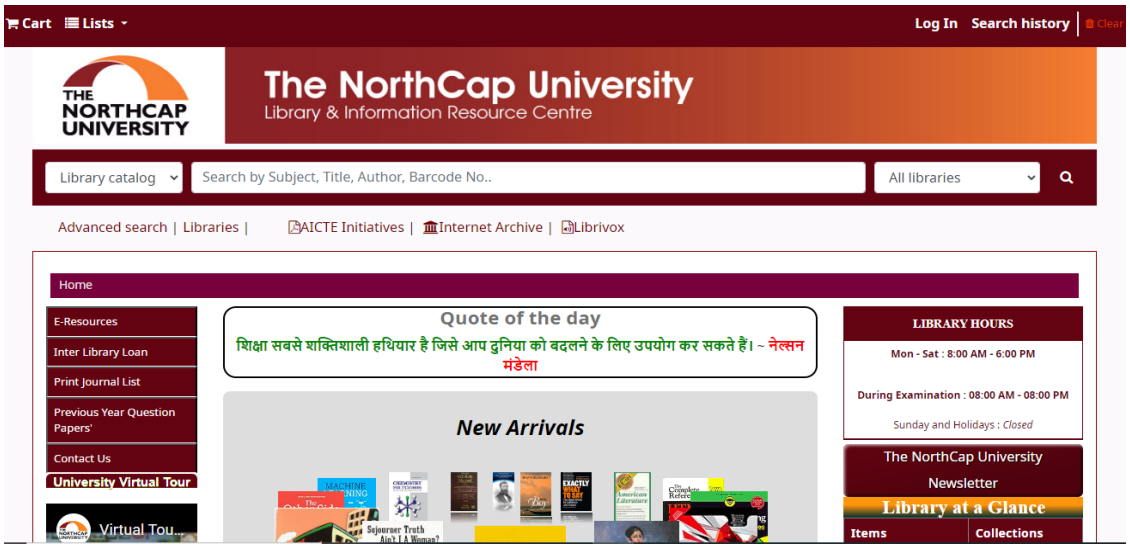

Image 2: The NorthCap University Web-OPAC

Configuration of OPAC top header follow the steps mentioned below to display a link with

KOHA
1. Prepare link in the HTML codes
Faculty Publication
Following command apply by open the terminal.
sudo gedit usr/share/koha/opac/htdocs/opac-tmpl/bootstrap/en/includes/masthead.inc
OR
sudo chmod -R 777 usr/share/koha/opac/htdocs/opac-tmpl/bootstrap/en/includes/masthead.inc

In the path (masthead.inc) is the file which will get the includes folder and (chmod -R 777) is to give the permission directly to changes in the file. Image of the file will be shown like this.

Image 3: Masthead.inc

After the Line No. 82 we can paste the HTML link. Check the changes now by refreshing OPAC it will seem like this way under given below image.

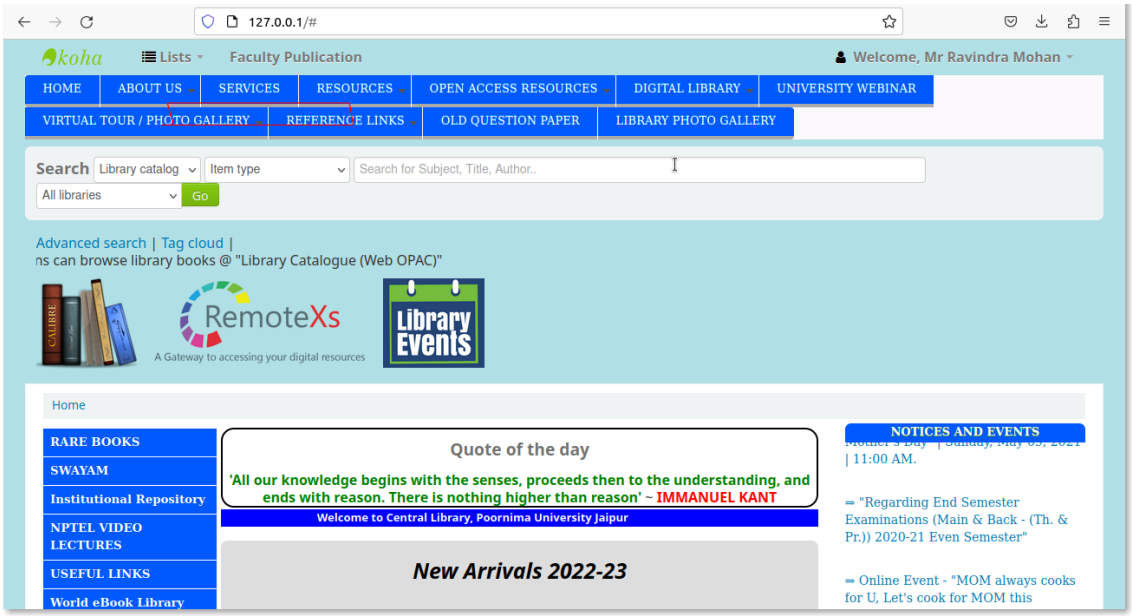

Image 4: Top Header Link with Red Border

3. Floating Share Button of Social Media

To show the Social Media buttons on the KOHA-OPAC it's an amazing. We can choose the Buttons various types in horizontal and vertical fixed locations, and customizable for OPAC.

3.1. Vertical Share Button

For the vertical bar copy the link and paste in the opac main user block which we will find the Global System Preference and save the page.

```
<div class="a2a_kit a2a_kit_size_32 a2a_floating_style a2a_vertical_style" style="left:0px; top:150px;">
<a class="a2a_button_facebook"></a>
<a class="a2a_button_twitter"></a>
<a class="a2a_button_pinterest"></a>
<a class="a2a_dd" href="https://www.addtoany.com/share"></a>
</div>
<script async src="https://static.addtoany.com/menu/page.js"></script>
```

3.2. Horizontal Share Button

Same process as written in the vertical share button but in the horizontal codes is changes.

```
<div class="a2a_kit a2a_kit_size_32 a2a_floating_style a2a_default_style" style="bottom:0px; right:0px;">
<a class="a2a_button_facebook"></a>
<a class="a2a_button_twitter"></a>
<a class="a2a_button_pinterest"></a>
 <a class="a2a_dd" href="https://www.addtoany.com/share"></a>
```

<script async src="https://static.addtoany.com/menu/page.js"></script>

4. Creating Web Page

Using templates to generate static pages is a common approach in web development. It allows for consistency in design and can be an efficient way to manage and deploy content without the overhead of a full CMS.
Given your requirement, here's a simple outline for a system where librarians can generate pages from a template:

1. **Design a Template**: This will be your base structure. It could be an HTML page with placeholders for dynamic content.
2. **Backend Script**:

- A script (Python, PHP, Node.js, etc.) that accepts input from a form.
- The script would replace the placeholders in the template with the actual content submitted through the form.
- Once the page is generated, it can be saved as a new static HTML page.

3. **Frontend Form**:

- Create a form where librarians can input the content they want.
- This form can include fields for the page title, main content, images, and any other relevant fields.

4. **Hosting and Routing**:

- Once a new page is created, it should be accessible via a URL.
- Implement routing logic to direct users to the right page.

5. **Editing and Deletion**:

- It's likely that librarians will need to edit or delete pages. Consider implementing a mechanism where pages can be modified or deleted.

6. **Security**:

- Ensure that only authorized users can create, edit, or delete pages.
- Use input validation and sanitation to prevent issues like SQL injection or Cross-site Scripting (XSS) attacks.

7. Edit **Pages.pl** file Open Applications > Accessories > Terminal or by the short cut key ctrl+alt+T and gave the command by

sudo su
cd /usr/share/koha/opac/cgi-bin/opac
copy file opac-main.pl and rename into pages.pl by command
cp opac-main.pl pages.pl

After than open file b using command in the terminal. In this you can use gedit/vim/leafpad/nano/atom these called a text editor
sudo gedit /usr/share/koha/opac/cgi-bin/opac/pages.pl

Image 5: pages.pl

Search Approximately Line No. 39
template_name => "opac-main.tmpl",
replace “opac-main.tmpl” to “pages.tt” or uncomment the line by using # and paste under given line
template_name => "pages.tt",
After find the Next code Approximately Line 106 to 112
$template->param(
koha_news => @all_koha_news,
news_lang => $news_lang,
branchcode => $homebranch,
display_daily_quote => C4::Context->preference ('QuoteOfTheDay'),
daily_quote => $quote,);
Add this code after this code.
my $page = "page_" . $input->param('p'); # go for "p" value in URL and do the concatenation
my $preference = C4::Context->preference($page); # Go for preference
$template->{VARS}->{'page_test'} = $preference; # pass variable to template pages.tt
Save the file and gave the command in the terminal for user permission of pages.pl file.
chmod 755 pages.pl

8. Editing 'bootstrap' theme template
Edit pages.tt file Open Applications > Accessories > Terminal or by the short cut key ctrl+alt+T and gave the command by
sudo su
cd /usr/share/koha/opac/htdocs/opac-tmpl/bootstrap/en/modules
by this command we entir in the mudules file after this gave this command
cp opac-main.tt pages.tt
this command for copy the opac-main.tt and make duplicate copy and rename into pages.tt.
After than open the pages.tt file by the command prompt using test editor
Image 5: sudo gedit /usr/share/koha/opac/htdocs/opac-tmpl/bootstrap/en/modules/pages.tt

Image 6. pages.tt

Find the code it Approximately seems on Line 158 in my page code is
[% IF (OpacMainUserBlock) %] [% OpacMainUserBlock %] [% END %]
Replace this code instead of above code by under given below code and save file.
[% IF (page_test) %] [% page_test %] [% END %]

Note- In the oldest version 19.11 you find like this but in the latest version KOHA from 20.11 there is some changes. But we change same as like 19.11
After than again open the next file by using command in the terminal

sudo gedit /etc/koha/apache-shared.conf
open file apache-shared.conf

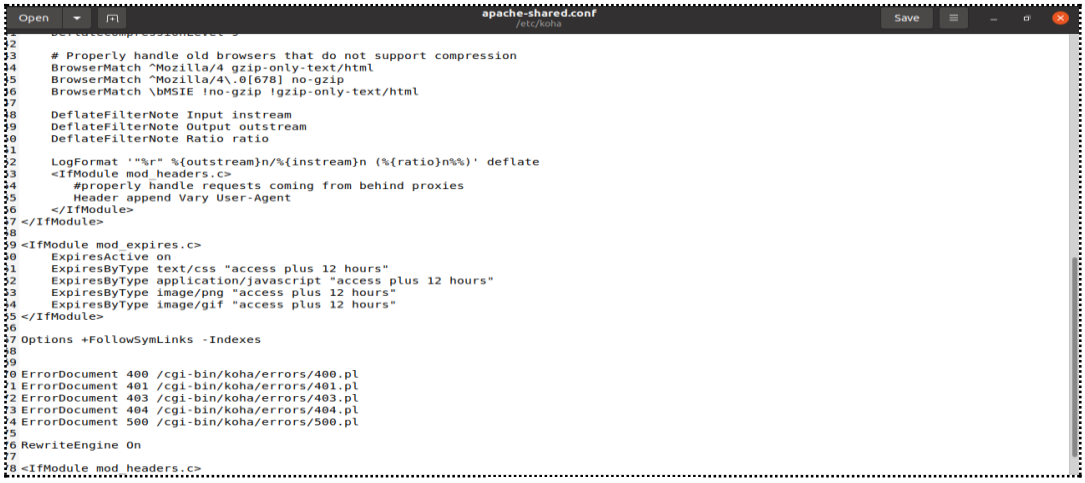

Image 7: Apache-shared.conf

Approximately Line 57 paste add this line and save the file and close.

ScriptAlias /pages.pl "/usr/share/koha/opac/cgi-bin/opac/pages.pl"
After than restart Apache
Comman command is
sudo service apace2 restart
but in this case we must use this command for shown web page on Koha opac
/etc/init.d/apache2 restart

9. Plugin

A "Plugin" in the context of websites and content management systems (CMS), typically refers to a carousel slider that displays various plugins, images, content, or other elements in a rotating or sliding manner. These carousels can be used for various purposes, including showcasing featured content, products, testimonials, and more. Carousels enable website administrators to showcase their most important or latest content prominently. This can be particularly useful for e-commerce sites to highlight best-selling or new products.

Step 1- Open the file koha-conf.xml in the terminal by using gedit or nano editor
sudo gedit /etc/koha/sites/library/koha-conf.xml

In the xml file Change
<enable_plugins>0<enable_plugins>
to
<enable_plugins>1</enable_plugins>
Remove **"0"** instead of **"1"**
Step 2- Restart your webserver & reboot using the command –

sudo service apache 2 restart sudo reboot

SUGGESTIONS

- Do not install a new version of Koha because it may have bugs.
- Keep a daily backup regularly and save it on the pen drive as well.
- The computer system should have the latest configuration, and memory and space should be more than the requirements for the smooth functioning of the library.

CONCLUSION

Koha is the best open-source library management software. It was first developed in New Zealand and is now used in more than 15,000 libraries around the globe. Most universities in Delhi, NCR, are using Koha OSS library management software. Since they are available for free and may be deployed online, open-source software is economical. The best web-enabled library management software is available as open source, and it is called Koha. We may customize the OPAC design to meet user needs and consider library requirements. Open source software comes with core functional modules, such as circulation, online catalogue, and cataloguing, with the option of setting up limiting parameters, whereas most library automation software offers the same module for all types of libraries while ignoring the aspects of library collection, users, and services. Therefore, Koha might be a capable, affordable, and useful solution for libraries, which make up a sizable portion of knowledge-driven economies worldwide. Finally, a library's particular needs will determine which ILS to use.

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