



EXPLORING NEW TEMPLATE IN CSIBER'S EXISTING JOOMLA WEBSITE

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ABSTRACT:

In this digital age every academic institution and business organization makes enormous investments in hosting and maintaining the website which plays a vital role in the success of an organization by making it reachable across wide geographical area. A carefully designed website reflects institute's best assets which in-turn helps in recruiting prospective students and staff. To stay in market there is a constant requirement for changing the look and feel and content of the website. Content Management System (CMS) has attained a unique position in the market place which enables quick development of website due to the availability of large number of readymade customizable templates. However exploration of a new template in deployed website poses a great challenge and is a complex task due to the differences among templates such as layout, table structure, styles etc., to name a few. In this paper, authors have reported various issues and corresponding solutions related to switching of template in a deployed Joomla website. Limitations and challenges of switching template are handled by directly manipulating backend database at the table and record level. Differences posed in the template layout are taken care of by exhaustive survey of folder structure and site structure of website, at the same time emphasizing on careful design of modules. Couples of limitations offered by free edition of the template are relaxed by diagnosing the code and making the adequate changes at the root level.

Keywords: Article, CMS, CSS, Extension, Module, MySQL, PHPMyAdmin, XAMPP

[1] INTRODUCTION

The need of the hour for any higher education institution is to have an effective, attractive and consistent web presence. Now-a-days most of the higher education institutions have hosted their websites which provide information to all of its stakeholders such as, current students and their parent, prospective students, faculty, alumni and campus recruiters. The website developers together with the management of the institute need to incorporate huge information in the website making it easy to explore. The effectiveness of the website depends on the website structure – arrangement and grouping of information and is of proper user navigation.

To fulfill the above mentioned requirements of the website and its contents by providing a facelift to the existing site, our attempt is to explore new templates in the existing Joomla website www.siberindia.edu.in of CSIBER Kolhapur, which is a renowned institute in

Western Maharashtra, India, offering professional education in Computer Application, Management, Environment Management and Social Work. Web is full of scintillating templates for all categories of websites few of which are suitable for educational domain. Also there is plethora of web designing tools available in the market which provides user friendly interface and automatic code generation to help an end user a fast development of website. Each tool has its own pros and cons. Among these CMS scores well and has gained highest market share in website development. CMS is a website application that makes it easy for non-technical users to add, edit, and share content. However exploring a new template in an existing website is a backbreaking task which involves, selection of suitable educational template, discovering and overcoming structural differences between the existing and selected template, importing the existing website data onto the new template and making changes to run time environment configuration.

[1.1] PROBLEM DEFINITION

Incorporating any changes in the deployed website demands thorough knowledge about the internal structure and the way the data is stored by CMS. Very less support is available which exactly reveal these aspects. There is a scarcity of skilled personnel in this area. Trial and error method is error prone and time consuming. To stay ahead in market there is a constant requirement for changing the look and feel and content of the website.

Recently authors have worked on replacing *jsn_epic_free* template in their existing website with the free edition of *jsn_pixel* template. The paper mainly targets the institutions and organizations interested in building the websites by offering a cost effective solution. To assist such category of website developers the authors have enlisted below the various challenges faced during the exploration of new template and have proposed solution in each case.

[2] STATE OF THE ART

Joomla is open source content management system software that enables to build websites easily and which keeps track of every piece of content of the website. Joomla is based on PHP and MySQL which enables developers to build powerful applications that anyone can use share and support [1]. Since September 2005 Joomla has released numerous of versions starting from Joomla 1.0 to Joomla 3.4 released in February 2015. Each versions having enhancement in security, Admin interface, user defined category hierarchy, improved migration tools, other Database support, and support to many new improved features like tagging, content versioning, composer integration etc. [2].

The Joomla extensions provide different functionality to the website with the following distinguished extensions: Components, Modules, Plug-in, Templates and Languages. Joomla Components are the main functional units of Joomla having two part an administrator part and site part. Site part use for rendering pages on website and administrator part provides functionality to configure and manage difference aspects of components [3]. Joomla Templates determines the style and layout of the site, Plug-ins are used to handle events that may be triggered on any part of Joomla module. Modules are place holders in a template arranged

around a component on a page. With the increasing indefinite number Joomla templates available online a few are suitable for education institute website to name a few JSN_Solid, JSN_Epic, JSN_Time, JSN_Decor, JSN_Gavic and JSN_Pixel etc. these templates are extensively and exclusively crafted for educational and online course portals providing responsive layouts, modern designs and several color options. To authors knowledge the research in this area is quite scarce, however quite a few references on Joomla are available online [4-6].

[3] STRUCTURAL DESIGN

Three basic levels of Joomla Shine templates exist: Free, Pro Standard and Pro Unlimited. As one moves up the ladder from free to pro unlimited, more features and support become available. A Free template provides bug-fix only support; meanwhile, the Pro Standard and Pro Unlimited templates, serve every need of customers from 03 to 12 months, including domain support.

[4] PARTIAL FOLDER STRUCTURE OF JOOMLA

To work with Joomla confidently and in order to incorporate new functionality it is essential to understand Joomla directory structure. On extraction of Joomla package on the target machine, under web folder of XAMPP\htdocs some pre defined folders, files and directories are automatically created as shown in figure 1.

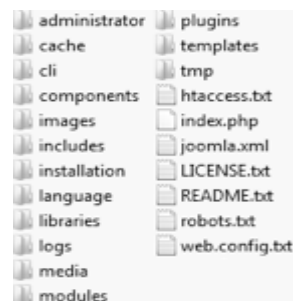


Figure 1: Joomla Folder Structure

[4.1] OVERVIEW OF JOOMLA FOLDER STRUCTURE

- **Root Folder:** This folder contains index.php file that runs Joomla installer and detect settings in the configuration.php file to execute main Joomla engine.
- **Administrator Folder:** This folder contains all files of Joomla administrator web interface (components, templates, modules, plug-ins, etc).
- **Cache Folder:** This folder holds Joomla cache files. To accelerate performance, Joomla will cache popular pages requested in this directory.
- **Components Folder:** This folder holds all Joomla components, except those for administrator interface.

- **Images Folder:** This folder holds images used for extensions. It contains all images used by the administrator interface as well as images that have been uploaded to present with article content.
- **Includes Folder:** This folder contains core files of Joomla and PHP execution files that automate inclusion of content.
- **Installation Folder:** This folder contains files needed for Joomla installation, which are automatically deleted after installation of Joomla.
- **Language Folder:** This folder holds all language files. Joomla stores translations in a simple INI-based file format.
- **Libraries Folder:** This folder holds entire Joomla system and third-party libraries used in the website.
- **Logs:** In this folder Joomla stores its log files.
- **Media Folder:** This is the default folder to store media files. It may contain files related with user interfaces, such as: JavaScript libraries, flash files, etc.
- **Modules Folder:** This folder contains all installed front-end modules. It holds the modules available for display by a template.
- **Plug-ins Folder:** It contains all plug-ins files which work at a lower level than components.
- **Templates Folder:** This folder has all frontend template files. Name of each template subfolder must match the template installed on to Joomla.
- **Temp Folder:** This folder stores temporary files and cookies that are used by the administrator and user interface of Joomla.

[5] PARTIAL WEB SITE STRUCTURE

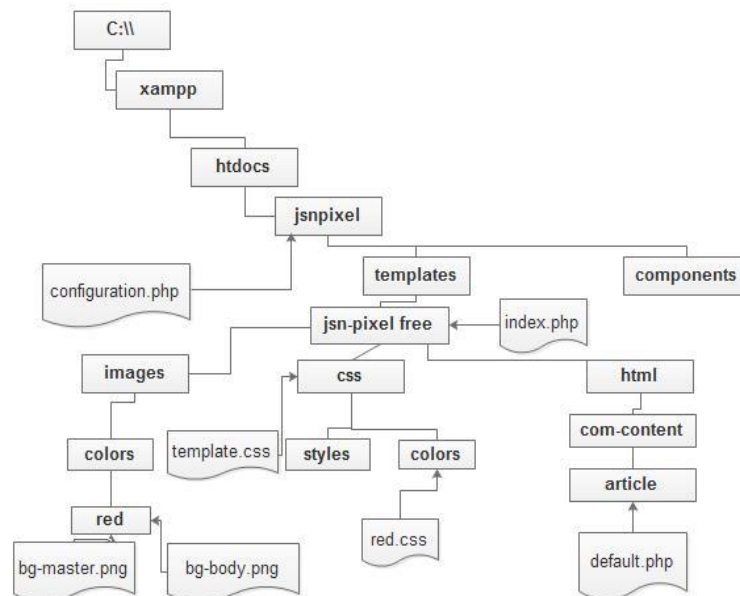


Figure 2: Partial Website Structure

The partial website folder structure is shown in figure 2 describing some of the important files and folders which are required to be modified to perform customization

- **JSN-Pixel:** Jsn-Pixel is the new template installed to be replaced by the existing template.
- **Configuration.php :** In this file the JConfig class defines the following fields
 - host,
 - user,
 - password,
 - db and
 - db prefix.which need to be synchronized corresponding data entered during template installation.
- **Components:** This folder shows all the default components of Joomla and any new components installed will be added to it.
- **Templates:** This folder lists all the installed templates.
- **JSN-Pixel free:** This folder contains following sub folders and files:
 - images,
 - html,
 - css and index.php.
- **Images:** This folder shows subfolder *colors* with inner folder *red* containing *bg-body.png* and *bg-master.png* images which define the website background and footer section color respectively. These images could be changed to define new color to the website template
- **Cascading Style Sheet (css):** This folder shows subfolder *colors* containing *red.css* file which defines different styles and background color applicable to different sections of the template. The color of the menu, sub menu and tree menu can be changed by assigning appropriate hexadecimal color value.
- **template.css:** This file defines the different text, heading, link, list and layout styles
- **index.php:** This file defines the skeleton of the website which each page of Joomla uses to display the content from the database.
- **html:** default.php present in inner folders of html defines the different features of article which can be enabled or disabled by setting appropriate Boolean value

[6] CONTROL FLOW LOGIC

The control flow logic is shown in the figure 3.

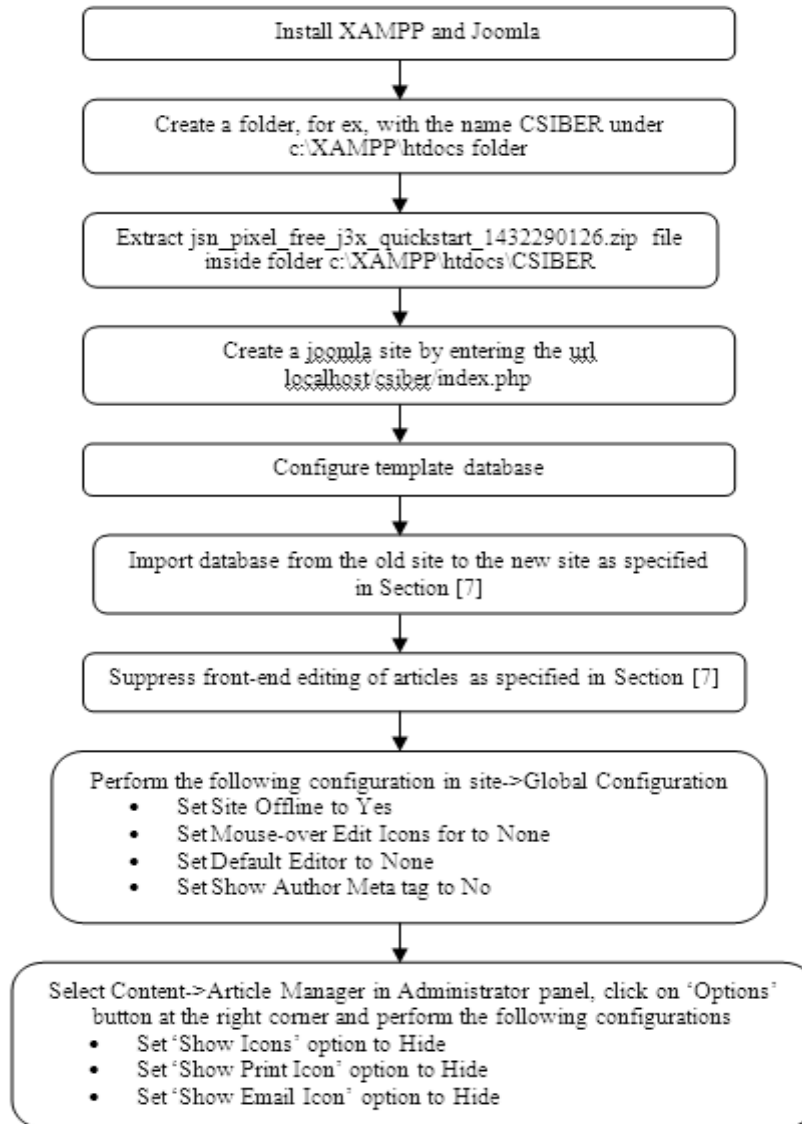


Figure 3: Control Flow Logic

[7] CHALLENGES FACED AND SOLUTIONS PROPOSED IN EXPLORING A NEW TEMPLATE IN EXISTING JOOMLA SITE

1. **Problem:** The database cannot be imported directly from the old site to the new site due to the structural changes existing between the two templates and to prevent over writing of template related data inserted in the database during template installation.

Solution: The Table 1 depicts the minimum changes required in the target database along with the level at which the changes are desirable for the error free launching of website. During template database installation *_siber* is selected as table prefix.

Table Name	Level of Change	Description
siber_menu	Table	The entire table containing menu related information is required to be inserted in the target database
Siber_content	Table	The entire table containing article related information is required to be inserted in the target database
Siber_imageshow_images	Table	The entire table containing image show related information is required to be inserted in the target database
Siber_imageshow_showlist	Record	The rows pertaining to the image showlist information of new site are required to be inserted in Siber_imageshow_showlist table of target database while keeping old data intact
Siber_modules	Record	The rows pertaining to the module related information of new site are required to be inserted in siber_modules table of target database while keeping old data intact

Table 1. Minimal changes required in the target database

2. **Problem:** In the XAMPP control pane, **phpMyAdmin** has the default size limitation of 2MB.

Solution: Hence in order to overcome this limitation temporarily and to import database exceeding this value the following command can be issued directly from **mysql** command prompt

```
mysql -u <username> -p<password> <database name> <<sql dump file name>
```

3. **Problem:** It is required to Replace of existing logo with the new logo

Solution: By default Joomla looks for logo with the name *logo.png* in the folder, C:\xampp\htdocs\jsn_pixel\images\. Hence in order to replace the logo with the new one overwrite the old with the new one in the specified location.

4. **Problem :** Color of a main menu needs to be changed

Solution : For changing the color of Footer create an image with the name bg-master.png and place it in the folder

```
C:\xampp\htdocs\jsn_pixel\templates\jsn_pixel_free\images\colors\red
```

For changing the color of a menu, edit menu styles in red.css file located in the folder C:\xampp\htdocs\jsn_pixel\templates\jsn_pixel_free\css\colors.

For example, for changing the color from red to blue, incorporate the following changes. The place holder for new color are encircled.

```
div.jsn-modulecontainer ul.menu-mainmenu ul,
```

```
#jsn-menu div.display-dropdown.jsn-modulecontainer .jsn-modulecontent {  
background-color:#3399FF;  
  
/* ----- HOVER STATE ----- */  
div.jsn-modulecontainer ul.menu-mainmenu ul li:hover > a {  
background-color:#007CF9;  
}  
div.jsn-modulecontainer ul.menu-mainmenu > li:hover > a,  
#jsn-menu .jsn-modulecontainer[class*="display-"] .jsn-modulecontainer_inner:hover  
h3.jsn-moduletitle {  
background-color:#3399FF;  
}  
/* ----- ACTIVE STATE ----- */  
div.jsn-modulecontainer ul.menu-mainmenu li.active a {  
background-color:#3399FF;
```

To automate the whole process, authors have created a batch file as shown below:

Format of red.bat

```
cd\  
cd C:\xampp\htdocs\jsn_pixel\templates\jsn_pixel_free\css\colors  
rename red.css red2.css  
rename red1.css red.css  
cd..  
rename template.css template2.css  
rename template1.css template.css  
cd..  
cd images\colors\red  
rename bg-master.png bg-master2.png  
rename bg-master1.png bg-master.png  
cd\  

```

5. **Problem:** formatting features of the website needs to be changed

Solution: All the formatting related style sheet rules are stored in css files which are located under *templates/<template_name>/css* with respect to root folder

Example: In order to change background color of a menu of *jsn_pixel_free* template, the file *red.css* under the folder

C:\xampp\htdocs\jsn_pixel\templates\jsn_pixel_free\css\colors

is modified as shown below:

In order to change font related formatting of *jsn_pixel_free* template, the file *template.css* under the folder

C:\xampp\htdocs\jsn_pixel\templates\jsn_pixel_free\css

is modified as shown below:

6. Problem: Free edition of jsn_pixel template allows only three image showlists of which one is utilized for home page slide show. Website needs multiple image showlists for the display of category of images.

Solution: Additional records containing values pertaining to showlist are added to the table *siber_imageshow_showlist*.

7. Problem: Structure of table does not match for *siber_modules*.

Solution: *siber_modules* table of jsn_pixel_free template database contains an additional column of integer type. To suppress error message for being popped up, insert a static value of '0' in the location of the second field.

8. Problem: Promo image is displayed above image gallery for the newly added showlist
Solution: set category ID and article ID of article containing reference to newly added showlist as shown below:

catid=79&Itemid=545

this suppresses promo image being displayed and image gallery is displayed at the position of promo image.

9. Problem: Edit module option of front end needs to be removed.

Solution: In the administrator panel, select Site->Global configuration
In the site tab set the option 'Mouse over Edit Icons for' to a value null.

10. Problem: author, print, mail options of Article need to be removed.

Solution: select Contents->Article Manager in the administrator panel and click on 'options' button. Set the options as depicted below.

Show Author	<input type="checkbox"/> Show <input checked="" type="checkbox"/> Hide
Show Icons	<input type="checkbox"/> Show <input checked="" type="checkbox"/> Hide
Show Print Icon	<input type="checkbox"/> Show <input checked="" type="checkbox"/> Hide
Show Email Icon	<input type="checkbox"/> Show <input checked="" type="checkbox"/> Hide
Show Hits	<input type="checkbox"/> Show <input checked="" type="checkbox"/> Hide
Show Unauthorised Links	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

11. Problem : Edit icon is displayed for all article which needs to be removed

Solution: To remove *edit* icon for all articles, browse to the folder
C:\xampp\htdocs\jsn_pixel\templates\jsn_pixel_free\html\com_content\article
And edit the file *default.php* as shown below:
\$canEdit = false;

12. Problem: 'see other template' on frontend is required to be removed

Solution: Navigate to Extensions->module manager in administrator panel
Unpublish the module 'See other templates'.

13. Problem: 'Developed by...' is required to be updated

Solution: Browse to the file in *index.php* in the folder
C:\xampp\htdocs\jsn_pixel\templates\jsn_pixel_free and make the necessary changes

14. Problem:HTML <iframe> tag is not supported in default editor

Solution: In *site->global configuration*, on menu option of administrator panel, open *site* tab and set *default editor* to *none*

15. Problem:Videos are blocked.

Solution: It may be due to several reasons depending upon the security framework adopted by the organization. However few common causes resulting in blocking of videos are enlisted below in the order of increasing priority.

- Quick Heal security
- Quick Heal Firewall security
- Windows Firewall security
- Host file configuration

Quick Heal parental control is one of the engineers ways that not only ensures internet safety but regulates the way it is used. It offers first level of security control.

Quick Heal Firewall provides first hand defence against malicious softwares by proactively controlling how program behaves and interacts on a target machine by preventing security bridges.

Windows Firewall security offers security at OS level.

Host file located in *C:\\Windows\\System32\\drivers\\etc* may contain entries for video blocking.

[7] WEBSITE HOME PAGE SCREENSHOT





[6] CONCLUSION

Joomla file system and template database containing over 100 tables, pose very complicated structure and require a thorough understanding of internal structure of each of these in order to carry out any minor modification. Also switching to a new template in an existing site is extremely tedious and time consuming task. Further if the site is already deployed, these issues become very critical and risky to incorporate. Hence to be on safer side it is always recommended to carry out the requisite changes in mirror copy of the local site. In this paper authors have successfully explored the installation of the new template in existing CSIBER Joomla website by carrying out the parallel changes on the local site. During their technical research various issues related to switching of template in Joomla website have been resolved and the corresponding solutions are proposed. The structure of the template database and Joomla folder structure have been explored. The minimum requisite changes in template database and Joomla file system for successful launching of the site have been reported. Various configurations related to articles, modules, extensions have been emphasized.

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