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Customization and Embellishment of a Library Website using ABC Theme of Drupal: A Case Study

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Abstract

Objective: Customization and embellishment of the existing S.O.A. University library website on Drupal. **Methods/Statistical Analysis:** In this study, a layout design is created for existing university library website. As per the layout design, several free themes of Drupal 7 are tested and finally ABC theme is adopted and is compatible to the existing layout. **Findings:** Due to the availability of open source Content Management System (CMS), the library professionals are now making attempts in designing of websites for their institutes as well as libraries. Here, the authors tried to change the appearance of existing library website by applying five sliders for slideshow, used font awesome icons for social links, created four column blocks at footer region, two blocks at sidebar first region and three blocks at sidebar second region. The authors have also edited some of the program files of ABC theme such as theme-settings.php, page.tpl.php, style.css and slider.css for customization and embellishment of their Library Website at S.O.A. University **Application/Improvements:** This modified ABC theme of Drupal 7 presented in this paper can be applied and utilized by other researchers in this field.

Keywords: ABC Theme, Customization, Drupal, Embellishment, Library Website

1. Introduction

The main look of a website is most important factor to attract more users to search and use the information from the site. The rating of any website will depend on the data displayed and retrieved. One must pay attention in the display of content on each page of the site while designing a website. Each page on a website has several components. To control the information displayed on the website, one should add more fields to the content type. Make a list and kind of content to be displayed within the website before describing the content. The Content Management System (CMS) - Drupal categorizes its content by type and name. The website might have different types of content such as Blog, Story, Image, and Event. Hence, each type of content would have its own template to create and edit new content. The term "node" is used for the content in Drupal. A single web page may contain several nodes along with other pages of components. Drupal stores the data for each content node in several tables in the database¹. Drupal collects all relevant information from each of the database tables for display of content as a Snapshot, when a specific unit of content is requested1. Before building a new website using Drupal, one must carefully examine the content that will be entered in to the website. In case of a brand new website, step away from the theme for a bit and think about the content which is prepared for the website. In Drupal website without content is just like an uninflated balloon. After creation of some content one can install theme for building a website for display. The beautification of the site is possible by using the Theme of Drupal. In context of Drupal, the term "Theme" means a collection of interrelated files, which are responsible for the attracting through visual appearances of the website. Other CMS use different names for the same files that execute the same task as Drupal do. Mostly other CMS use the term as "template", while Drupal use "theme". Usually a theme contains many types of files commonly used for web design. These include style sheets, images, JavaScript, etc. Apart from that a theme may also con-

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tains some other files, whose extensions may not be so familiar i.e.* .tpl.php files. Generally in Drupal *.tpl.php files comes under the template folder of theme folder and works as PHP Template theme engine. A theme engine is a group of files and scripts that interact with the CMS core and execute the programming language used in the theme. Drupal also distribute some default themes such as basic, simple and ideal for new user as the starting point of theming effort.

Drupal provide four default themes such as Bartik, Garland, Seven and Stark. Drupal also distribute ready to use themes. In addition to the resources on the official Drupal site, there are several fan sites that provide themes both open source and commercial basis². Some themes of Drupal are also available from the community that are fairly generic in nature and easily fit to variety of usages. Some organizations are brand sensitive or personal style idiosyncratic, so they are developing their own theme.

2. Scope and Objectives

The main objectives of the study are to:

- (i) Customization and beautification of our S.O.A. University library website which runs on Drupal, an open source CMS.
- (ii) Embellishment of existing library website without changing of any data.

The study is confined to the library Website of S.O.A. University, Bhubaneswar, Odisha, India.

The theming in Drupal is very powerful; it works just like a skin for the website. Here author also explain about the usage of Fusion theme, one of the most popular base themes for Drupal³.

The book "Drupal 7 themes", explained the practical views of the element of a Drupal theme, configuration, PHP Template, customization of existing themes, creation of new theme, and extensions for themes⁴.

The practical aspects of Drupal themes, which includes theme basics, Zen themes, basics of templating, advanced templating, PHP Template, Java Scripts in themes, and rapid layout with panel are explored⁵.

The typical solution for creating and managing page layouts in Drupal through template files in the theme are explained. Here author explore details of using the layout module and porting the Drupal 7 Blue marine theme to Backdrop⁶.

3. Methodology

Before customization and embellishment, we examine many websites including educational websites, and then we have drawn the layout design in Figure 1. According to the layout design we tested some free themes of Drupal 7 and finally found the ABC theme, which is compatible to our layout after some modifications in ABC theme. Hence, we adopted the ABC theme for our existing website.

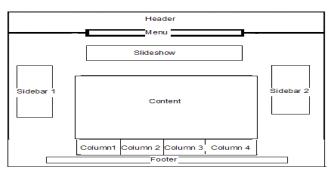


Figure 1. The layout design for our library website.

4. Strategies of Theming

To create templates for Drupal, one may use different strategies such as programming logic, structure of information, and the visual style of the displayed page. These are separated in to different types of files in the directory of the theme. These distinguished files of themes are as follows:

- .info file (includes regions and style sheet file names)
- Template.php (contains logic and decision making)
- .tpl.php (HTML markup is placed in to template files and pronunciation of this extension is "tipple-fip"
- .CSS (style definitions are placed)
- .js (JavaScript)

Theme also contains image files.

5. Finding of ABC Theme of Drupal

Apart from the default themes of Drupal, it also provides thousands of contributed themes which are freely available on the project site of Drupal. One can search

for themes at https://www.drupal.org/project/project_theme. Here filter facility is available to narrow down the search. One should select a theme according the version of Drupal is being used in website. Screenshot for searching of contributed theme from Drupal site and retrieving of ABC theme is shown Figure 2(a) and Figure 2(b).

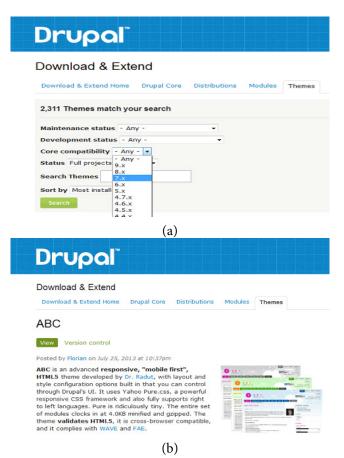


Figure 2. (a) and (b) Screenshot for searching and retrieving the contributed ABC theme from drupal.



Figure 3. The weekly project usage ABC theme.

The ABC theme was developed by Dr. Radut for Drupal 7 in October 2013. This theme is updated in regular intervals. The last modified version of the ABC theme was released on 7th May 2016. The statistics report shows that, it was downloaded 9810 times and 411 sites cur-

rently using this theme^Z. The ABC Themes usage during July 3, 2016 to August 7, 2016 is presented in the Table 1.

The Weekly project usage ABC Theme is shown in Figure 3.

The above statistics report collected from the official site of Drupal, which link is https://www.drupal.org/project/usage/abc?sort=desc&order=Release.

6. Installation of Themes

Themes can be installed both automatically and manually. In automatic installation, one can install from URL or download the theme from the internet to the local computer and install the theme from the Drupal admin system. Steps of installation are as follows and shown in Figure 4.

- After login as admin, select the appearance tab and click on install new theme
- Here you can find two options for installation i.e. install from URL and through upload the theme which is downloaded earlier.
- Finally, click the install button and the system will attempt to install the theme package.

Manual installation of theme requires the ability to move the files of theme from local computer to your Drupal server. Normally themes are available in zip and tar.gz file. Always unzip file of theme is kept on the Drupal server as manual installation process.



Figure 4. Steps of installation.

7. File Organization of ABC Theme

Custom and contributed themes available in the site's/sites/all/themes directory and the core themes are in the / themes directory are as shown in Figure 5.

Release	7 th Aug 2016	31st Jul 2016	24th Jul 2016	17 th Jul 2016	10 th Jul 2016	3 rd Jul 2016
7.x-4.x-dev	1	1	3	1	1	3
7.x-4.5	64	49	51	36	0	0
7.x-4.4	7	7	11	27	27	0
7.x-4.3	0	0	0	0	2	0
7.x-4.2	97	101	104	122	141	147
7.x-4.1	22	22	22	22	23	21
7.x-3.3	153	158	154	155	151	155
7.x-3.2	24	24	25	22	23	22
7.x-3.0	4	5	5	4	6	4
7.x-1.2	18	18	16	18	16	17
7.x-1.1	20	23	23	24	21	24
7.x-1.0	1	0	0	0	1	0

Table 1. Usage of ABC theme



Figure 5. File structure of ABC theme.

For the next steps, access the admin interface to your site via web browser and go to the appearance tab, you should find the new theme listed on the page. The theme manager provides a list of all installed themes on your site. Every installed theme has two links and set default for activating a theme to display on the site. Here we have enabled and set default the ABC theme for our S.O.A. University Library site. Screenshot of enabled theme is shown Figure 6.



Figure 6. Screenshot of enabled theme.

8. Configuring a Theme

Drupal provides an interface from which one can access the configuration settings applicable to the site themes. Theme configuration settings are accessed from the theme manager. To access the theme manager, log in to admin system and select the appearance option on the admin menu. It will show the enabled theme of the site. For the global setting, one can click the setting tab at the top right of theme manager or by clicking the setting link of specific theme's description for configuration.

Global theme configuration manager impacts all the themes on the site. In global theme configuration, it controls mainly three areas of the page such as -

- Toggle Display (contains a set of options that can be turned on or off, which includes – logo, site name and site slogan, shortcut icon, main and secondary menu, user pictures in posts, user verification status in comments, and user's pictures in comment.)
- Logo image settings (allows to select logo for the site but this section depends on the toggle display section. If the logo checkbox is selected, then the administrator can put logo for the site.)
- Shortcut icon settings (this section allows to select an icon that will appear in the address bar. Like logo section, this section also depends on the toggle display section.)

In Specific Theme configuration, each active theme has its own configuration settings page. Each theme in the theme manager can be accessed by clicking the setting link. The options available for control the display will vary from theme to theme, depending on the features that the theme provides. Here we have selected ABC theme for our Siksha 'O' Anusandhan University Libraries website.

9. ABC Theme Configuration

Typically, the global theme configuration manager and the specific theme configuration manager are near to similar. But only the difference is functionality, which is unique to that particular theme. In the case of the ABC theme, the difference is the Pure Grid Settings, Layout Settings, Search Engine Optimization Settings, Slideshow, Social Links, and Theme Development Settings.

9.1 Pure Grid Setting

The features of pure grid settings are as follows⁷:

- · Layout with fluid or fixed width
- Responsive or Non-responsive layout
- Responsive CSS files served from Yahoo CDN or locally
- Feature to choose the blocks visible on mobile devices
- Customizable width for first and second sidebars

The setting of pure grid which we have made is shown Figure 7.

9.2 Layout Settings

This setting covers background settings, title settings, block settings, and menu settings. Where, Background set-

ting covers the setting of background image, colors, with static or fixed position. Title settings also supplies five colors (pink, green, orange, blue and grey) for site name and node title. Block settings which contain six block title color setting and themed blocks for user regions and sidebars. Inbuilt multi level drop down menu with right, center or left positioned settings are provided by the menu settings. Duplicate the main menu at the bottom of the page is its special feature. It provides nine colors for menu items including different colors for first and last items. Lastly layout settings allocates three types of font size setting, choose a layout with or without page icons, rounded corners as a option, login/register links, breadcrumb - display or not. By using these layout settings, here we have made some changes in color of title, block and menu. Final settings are shown in Figures 8 and Figure 9.

9.3 Slideshow

By default it provides three sliders for slideshow. It also provides two options to show slideshow on the front page

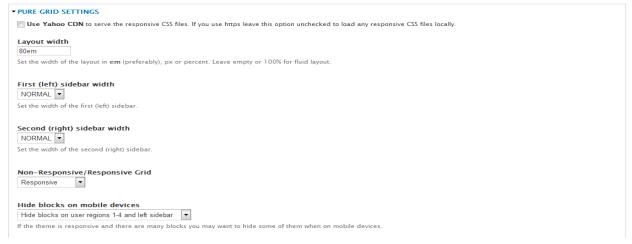


Figure 7. Setting of pure grid.

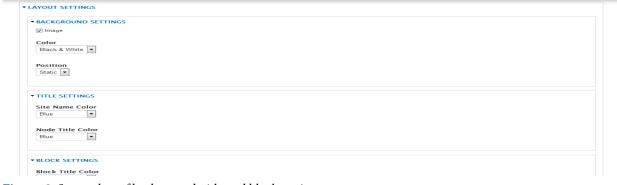


Figure 8. Screenshot of background, title and block settings.

or on all pages. We have changed by default three sliders to five sliders as per our requirement. For this, we add some program in slider.php file of templates file folder, theme-settings.php file and add some image of our university in slidering image folder of _custom file folder

of ABC theme. The slider.php file manages the number of slideshows to occur in the website. We add two slideshows i.e. slide 4 and slide 5 by adding few programs in slider.php based on the original program written in slider. php.

```
$slide2_head = check_plain(theme_get_setting('slide2_head'));
$slide2_deao = filter_xss_admin(theme_get_setting('slide2_deao'));
$slide3_uin = check_plain(theme_get_setting('slide2_uin'));
$slide3_img = check_plain(theme_get_setting('slide3_image_uin'));
$slide3_imd = check_plain(theme_get_setting('slide3_image_uin'));
$sli
     dif:

($slide2_alt == ""):

$slide2_alt = "slide 2";
                       vucco- entry-container">
v class="entry-header"><div class="entry-title"><a href="<?php print url($slidei_url); ?>"><?php print $slidei_head; ?></a></div></div>
v class="entry-numary"><?php print $slidei_deac; ?></div>
v class="entry-numary"><?php print $slidei_deac; ?></div>
v class="entry-numary"><?php print $slidei_deac; ?></div>
           np ) else ( ?>
img src="<?php print base_path() . drupal_get_path('theme', 'abc') . '/_custom/sliderimg/slide-1.jpg';
              div>
ref="<?php print url($slide2_url); ?>">
if($slide2_img != '') ( ?>
; src=""<?php print $slide2_img; ?>" class="slide-im"
                src="""src = "spin print spin spin spin print base_path() . drupal_get_path('theme', 'abc') . '/_custom/sliderimg/slide-2.jpg'; 7>" class="slide-img"
           g stor"(7php print base_path() . drupal_get_path('theme', 'abo') . '/_oustom/sliderimg/slide-3.jpg'; ?>" class="slide"
   g src="{php print $slided_imp; }?" class="slide-image" alt=""php print $slided_alt; }?" />/ />
g src="*(php print base_path() drupal_get_path('sheem', 'abo') , /_custom/slidediemp/slided-alt; }?" class="slide-image" alt=""qppp print base_path() drupal_get_path('sheem', 'abo') , /_custom/slidediemp/slided-alt;
           uv class="entry-container">
duv class="entry-header">cduv class="entry-title"><a href="<7php print url(fslide5_url); 7>"><7php print fslide5_head; 7></a></div>
duv class="entry-aummary"><7php print fslide5_desc; 7></div>
duv class="entry-aummary"><7php print fslide5_desc; 7></div>
                 b) clse (?>
b) clse (?>
by src="<?php print base_path() . drupal_get_path('theme', 'abc') . '/_custom/sliderimg/slide-5.jpg'; ?>" class="slide-im
```

slider.php

After adding some programs for extra two slides for slideshow and keeping these two images (slide-4.jgp and slide-5. jpg) of our university at sliderimg folder, it started slideshow in the main page of our library website but name of these two slides lying vacant, because some programs yet to be inserted in the theme-settings.php file. The path of this file is sites\all\themes\abc. The theme setting covers all about themes, which we have stated earlier from logo setting to theme development settings. But here we have added some programs under the slideshow portion of theme-settings.php file, which are shown below.

```
$form['tnt container']['slideshow']['slide4'] = array(
  '#type' => 'fieldset'.
  '#title' => t('Slide 4')
  '#collapsible' => TRUE,
  '#collapsed' => TRUE,
$form['tnt container']['slideshow']['slide4']['slide4 head'] = array(
  '#tvpe' => 'textfield'.
  '#title' => t('Slide Headline'),
  '#default_value' => theme_get_setting('slide4_head'),
$form['tnt container']['slideshow']['slide4']['slide4 image url'] = array
  '#tvpe' => 'textfield',
  '#title' => t('Image URL'),
  '#default value' => theme get setting('slide4 image url'),
$form['tnt container']['slideshow']['slide4']['slide4 desc'] = array(
  '#type' => 'textarea',
  '#title' => t('Slide Description'),
  '#default_value' => theme_get_setting('slide4_desc'),
$form['tnt_container']['slideshow']['slide4']['slide4_url'] = array(
  '#title' => t('Slide URL'),
  '#default_value' => theme_get_setting('slide4_url'),
 $form['tnt_container']['slideshow']['slide4']['slide4_alt'] = array(
   '#type' => 'textfield',
   '#title' => t('Image Alt Text'),
  '#default_value' => theme_get_setting('slide4_alt'),
$form['tnt container']['slideshow']['slide5'] = arrav(
  '#type' => 'fieldset',
  '#title' => t('Slide 5'),
  '#collapsible' => TRUE,
  '#collapsed' => TRUE,
$form['tnt_container']['slideshow']['slide5']['slide5_head'] = array(
  '#type' => 'textfield',
  '#title' => t('Slide Headline'),
  '#default value' => theme get setting('slide5 head'),
$form['tnt container']['slideshow']['slide5']['slide5 image url'] = array(
  '#tvpe' => 'textfield'.
  '#title' => t('Image URL')
  '#default_value' => theme_get_setting('slide5_image_url'),
$form['tnt container']['slideshow']['slide5']['slide5 desc'] = array(
  '#type' => 'textarea',
  '#title' => t('Slide Description'),
  '#default_value' => theme_get_setting('slide5_desc'),
$form['tnt_container']['slideshow']['slide5']['slide5_url'] = array(
  '#type' => 'textfield'
  '#title' => t('Slide URL'),
  '#default_value' => theme_get_setting('slide5_url'),
$form['tnt container']['slideshow']['slide5']['slide5 alt'] = array(
 '#type' => 'textfield',
  '#title' => t('Image Alt Text'),
  '#default_value' => theme_get_setting('slide5_alt'),
$form['tnt container']['slideshow']['slideimage'] = array(
  '#markup' => t('<sup>To change the Slide images you can replace slide-1.jpg, slide-2.jpg, slide-3.jpg, slide-4.jpg and slide-5.jpg in _custom/sliderimg fol
```

theme-settings.php

The above portion of programs are inserted for the new slides i.e. slide 4 and slide 5 to give slide name, slide description and slide URL at ABC theme setting under appearance tab.

9.4 Social Links

It provides options to select social links for the website at the bottom of the page. Here we completely changed the default social link appear in the webpage and we wrote a new program for the better appearance of social link on left side of the webpage. To achieve the result we added some program on page.tpl.php file and on style.css document of templates file folder and css file folder respectively. The following programs are added on the page.tpl.php file at above the header region.

For our website we have just added some social links such as twitter, face book, LinkedIn, Google+ and YouTube. One can add more social links by using this above programs.

In style.css we have edited and added some CSS properties for setting of color, size, and margin along with rotation property for the social icons.

style.css

Main and secondary menus position		
Center -		
✓ Show Dropdown		
▼ MENU ITEM COLORS		
First item		
Green		
Menu items		
Green ▼		
Last item		
Green ▼		
Rollover		
Orange -		
Stange		
Tertiary menu items color		
Blue ▼		

Figure 9. Screenshot of menu setting.

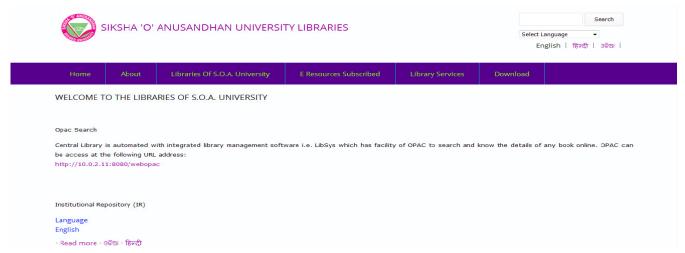


Figure 10. Screenshot of previous look of the website.

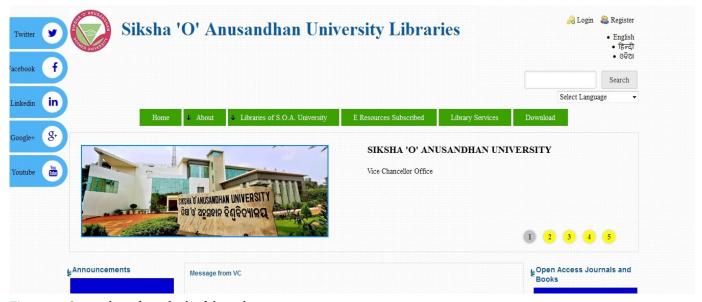


Figure 11. Screenshot of new look of the website.



Figure 12. Screenshot of new look of the website.

9.5 Theme Development Settings

During the theme development, it allows to rebuild theme registry for each page. Also provides site ID body class, which is useful in a multisite environment⁴. We never changed the theme development settings for our library website.

10. The New Look of S.O.A University Library Website

Figure 10 shows the previous look of the website of S.O.A. university library without using the ABC theme.

The screenshot of S.O.A. university library website after using the ABC theme is shown Figure 11 and Figure 12.

11. Conclusion

The main objective of selecting the ABC theme in this paper is to beautify and make it attractive of our S.O.A University library website. By using this, we have tried to change the appearance of our library website in comparison to the previous one. Here, we have put five sliders for the slideshow and used font awesome icons for social links for better impression of our site. We have also made an attempt to create four column blocks at footer region, two blocks at sidebar first region and three blocks at sidebar second region. For better customization, we have

also thoroughly studied the advanced steps of setting and some program files of the ABC theme for editing such as theme-settings.php, page.tpl.php, slider.php, style.css and slider.css. Finally, the authors have achieved their goal of customization and beautification of S.O.A University library website by using the ABC theme of Drupal.

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