

Multilingual Content Management System using Drupal – A Case Study

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Abstract

This paper emphasizes the importance of having a true multilingual website and examines key issues in the process of constructing a successful multilingual site. This paper also explains a detailed strategy for creating a successful multilingual site and how a Content Management System (CMS) plays a significant role in creating multilingual websites. Presents step-by-step instructions for building a multilingual CMS for the S.O.A. University Library website using Drupal 7.39, an open source CMS. Also explains about the core modules and contributed modules of Drupal for implementation of multilingual features.

Keywords: Content Management System (CMS), Library Web Site, Multilingual Websites, Open Source Software, S.O.A. University

1. Introduction

Building a website has become easy as many open source Content Management Systems (CMS) and solutions are available for creation of websites. CMS help us to create and manage our content and community online. These are widely used by small businesses and hobbyists as also by big organizations and institutions. With the help of CMS, it is easy for a library to become more visible. Many libraries are using CMS to design their websites. A CMS is almost like a website in a box. It has everything needed to build and maintain a website. It also gives the full control over every aspect and content of the site. The number of Web users is increasing making it necessary for libraries also to have web presence. India is a multilingual country and there is a need to take this factor to reach these communities effectively⁹. This forced us to seriously consider our presence on the web with multilingual features. Our web site content structure becomes more multiplex when the content is in more than one natural language¹². A multilingual CMS will support provision of content regarding education, research and communicate with users more effectively and efficiently.

2. Scope and Objective of the Study

The main basic objectives of the study are:

- The creation of a multilingual library website at Siksha 'O' Anusnadhan University, Bhubaneswar with language switching options and translation support, and
- To present practical steps for building a multilingual website using Drupal and implementation of various modules of Drupal used in it.

3. Review of Literature

Gupta, V. (2006)⁷ explained how CMS play an important role in managing multilingual websites⁷. Hojtsy, G. and Hanák P. (2007)¹ in a project using Drupal to build a multilingual website explained the technical and cultural difficulties. Taylor, A. (2011)² explained the need for multilingual websites and web applications. Koutoumanos, A. and Protonotarios, V. (2012)⁵ presented a multilingual framework for web portals aiming to break down the

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language barrier and build a bridge between information seekers and the wealth of resources⁵. Chhatwani N, Gada T, Ganji V, Pathirapandi J, Tikku N, (2013)⁶ explained the language barrier among different internet users, so it is the time to build such a system which will overcome this barrier⁶.

4. Multilingual Content Management System using Drupal at SOA University

In view of the need and requirement of multilingual web sites, we felt that there is an immediate need to have a CMS at our University Library website on internet. Many open source CMS are available for creating multilingual websites. We chose Drupal, a very popular CMS distributed under the GNU General Public License, for the S.O.A University Library website. Drupal is one of the most powerful and feature rich CMS platform on the web⁸. The 7.39 version of Drupal, the latest stable release, was used. Additional modules of Drupal are required for multilingual language support¹. The following core modules and contributed modules of Drupal have been used for creation of our multilingual website.

4.1 Locale Module

The concept of a locale can be simplified down to just a language. In the context of Drupal language refers to the locale. When you create multilingual content in Drupal, you create content specific to a locale. Drupal's core locale module is used to manage the different locales in your system¹⁰. This module is the workhorse of Drupal's

multilingual capabilities. It handles the management and configuration of enabled languages, the mapping of user interface items from one language to another, and decides which content or user interface language is most appropriate for the current user. The module is disabled by default and needs to be enabled using the Modules Manager. The module is dependent on the Locale module. Enabling this module is only one step in the process of creating a multilingual site.

The main aim of this study is to create a library site with two Indian languages; we have chosen Hindi and Odia. The process is as below³:

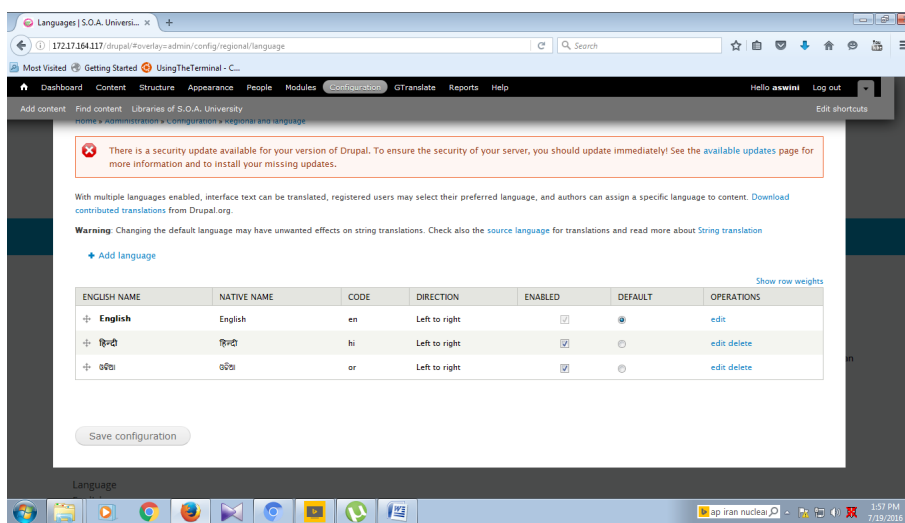
- Select configuration from the main admin menu,
- Click the language item in the Regional and Language section of the configuration page,
- Click the add language link at the top of the page,
- This page is divided to two parts – Predefined Language Section and Custom Language Section. From Predefined Language Section we select Hindi language and click add language button, and
- Odia language is not in the predefined language section and added via custom language section.

After addition of these two languages we enabled them retaining English language as default.

Screenshot of the language list by using locale module is shown below:

4.2 The Content Translation Module

The Content translation module depends upon the Locale module and provides tools in the Drupal user interface for managing localized content¹¹. When this module is enabled, new user interface items become available for



Screenshot 1. Language list under configuration tab.

creating and monitoring translated versions of Drupal content nodes. This module also adds more setting of multilingual support and translation management. After addition of two more languages, multilingual content creation can be enabled; first enable the content translation module, and then configure one or more content types to support multilingual content.

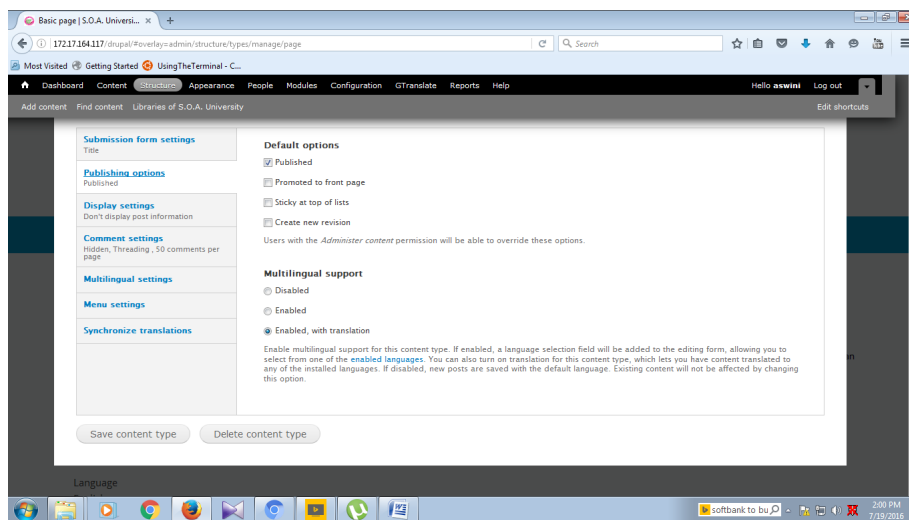
4.3 Multilingual Support

After going to Home >> Administration >> Structure >> Content types “Multilingual support” options will appear in the “publishing options” field set of each content type. *Disable* and *Enable* switching options are provided by the

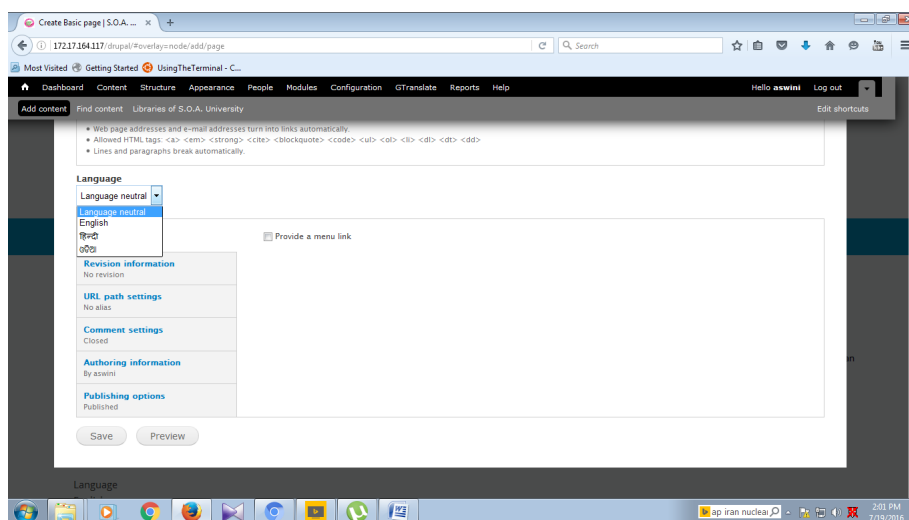
locale module of Drupal while the content translation module provides the enables translation option as shown in Screenshot 2.

After that select the Content option and click on add content as basic page, where, a new drop-down field on the content creation form will open that allows one to select the language in which the content will be written⁴. The drop down languages will show the English as well as Hindi and Odia (Screenshot 3).

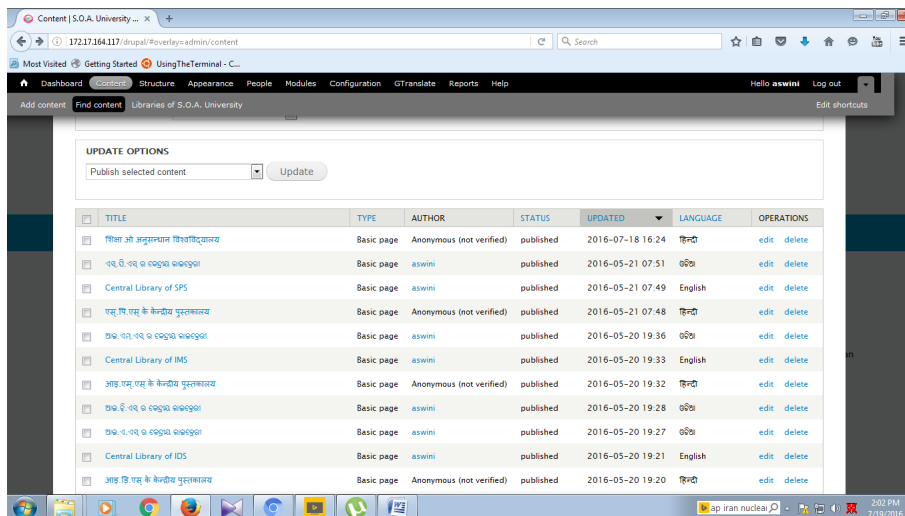
After creation of a few basic pages in different languages, one can observe that the administration for content at Administration >> Content has changed to display the language of the post⁴ (Screenshot 4).



Screenshot 2. Content translation.



Screenshot 3. Language selection.



Screenshot 4. Content created with English, Hindi and Odia languages.

4.4 Multilingual Support with Translation

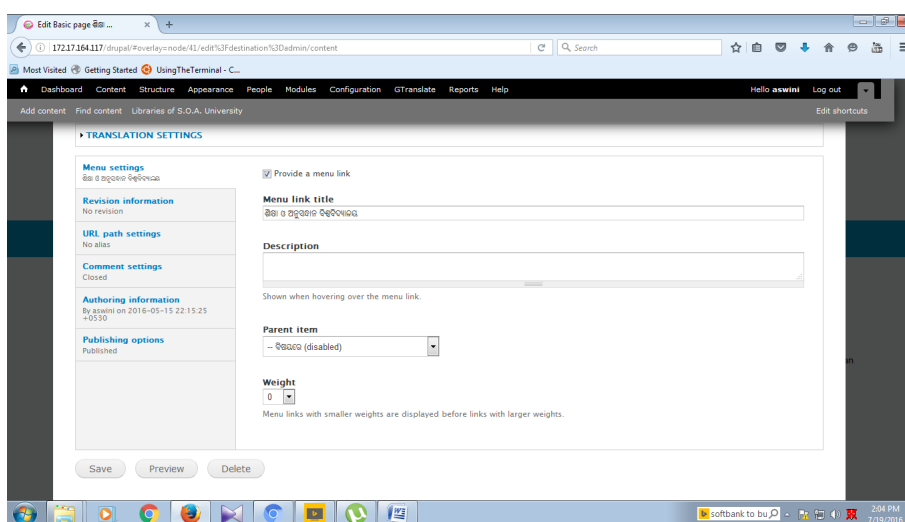
The core content translation module of Drupal provides a set of translation features. After adding a language content item, this feature can be used to expand the default content, adding translated versions of the content for each of the enabled languages in the following manner:

- After login as administrator, select content from the main menu,
- If required, use the filter mechanism to detect the multilingual content item in the content list, which you have made earlier³,
- Click on the content item; edit and translate tabs are visible, and

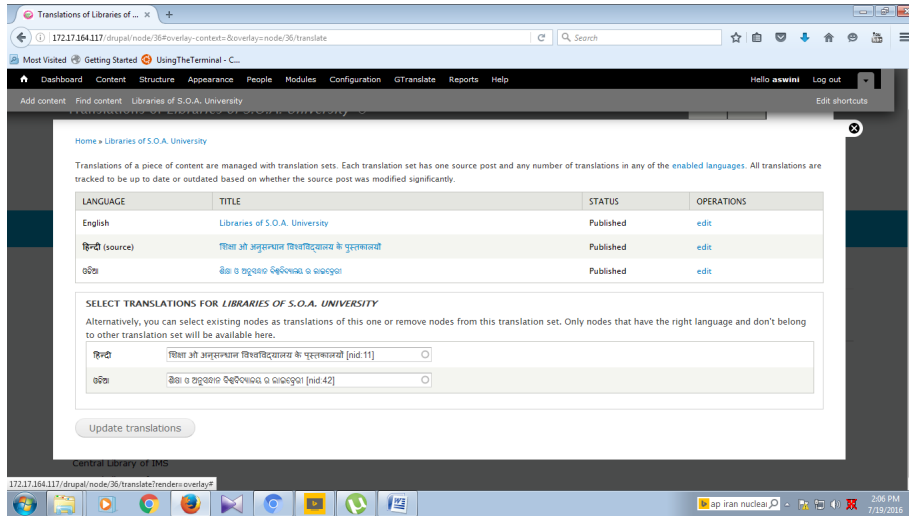
- Click on the translate tab, the translation set for the content item is displayed.

The below Screenshot 5 and 6 are basic pages created in Hindi and Odia languages.

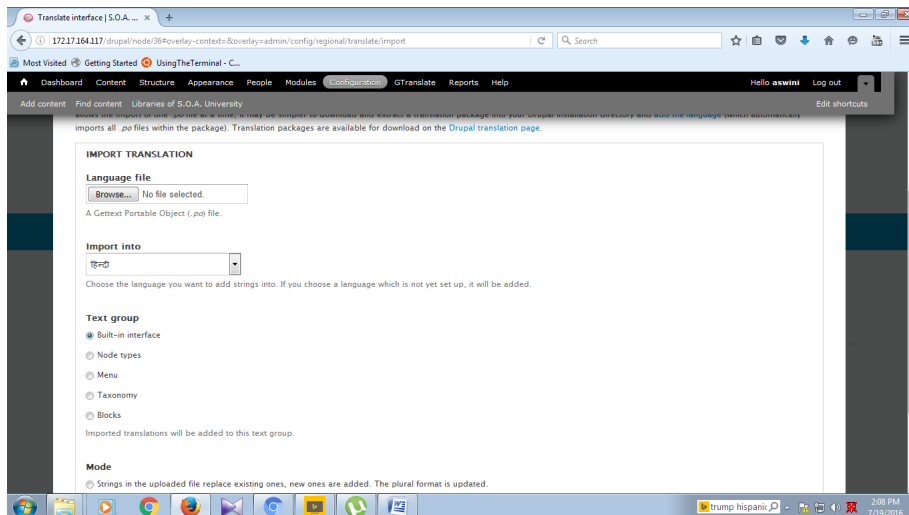
We import Drupal core translation of Hindi and Odia language at translate interface of configuration menu. These Hindi and Odia language translation can be downloaded by using this link <https://localize.drupal.org/download>. Import of Hindi and Odia languages are shown in the Screenshot 7 and 8.



Screenshot 5. Translated to Odia.



Screenshot 6. One basic page translated to Hindi and Odia languages.



Screenshot 7. Import of Hindi translation.



Screenshot 8. Import of Odia translation.

5. Contributed Modules to Add More Features to the CMS

We have taken some contributed modules such as: Internationalization (i18n) Module, Indic Script and GTranslate Module to accommodate more multilingual features to Drupal¹¹.

5.1 Internationalization (i18n) Module Package

Some important features provided by the Internationalization package are:

- A proper multilingual menu system,
- Multilingual blocks, and
- Multilingual taxonomy.

Sub-modules of the i18n package are:

- Block Languages,
- Contact Translation,
- Field Translation,
- Menu Translation,
- Multilingual Content,
- Multilingual Forum,
- Multilingual Select,
- Path Translation,
- String Translation,
- Synchronize translations,
- Taxonomy Translation,
- Translation Redirect, and
- Variable Translation.

In Drupal internationalization features are those that enable localization. In other words, the Drupal core system has been internationalized, so one can perform localization of the content management by the system. Here, we used Internationalization (i18n) for variable translation, menu translation and block languages.

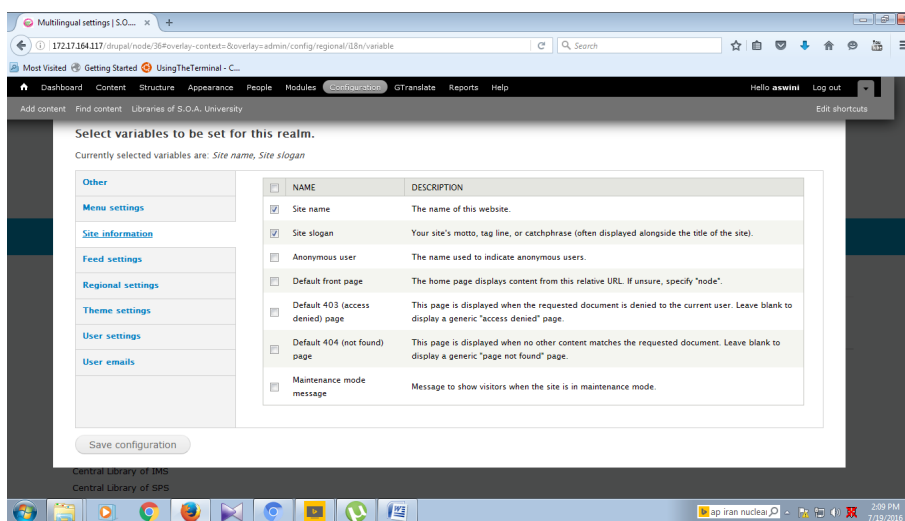
5.1.1 Variable Translation

It allows translating text and settings that are kept as variables in Drupal. The said variables cover text such as site name along with site slogan including default 404 page and default front page. The variable translation module directly depends on the variable module. After enabling variable translation module from the i18n package, go for configuration using following steps.

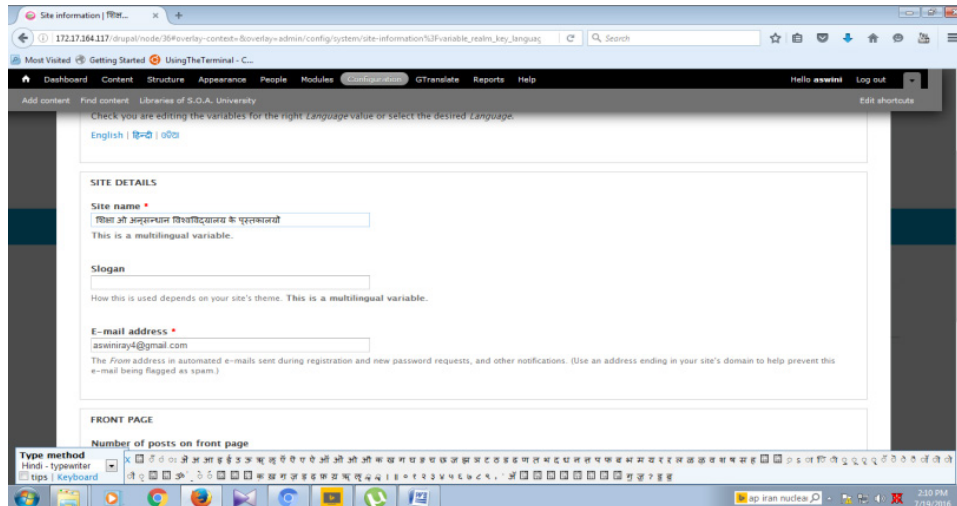
- Login as Administrator, then go to Configuration > Regional and Language > Multilingual Settings,
- Click on the variables tab,
- Select the variables that will be multilingual, and
- Click on save configuration button.

The selection of site information at variable tab is shown in the Screenshot 9.

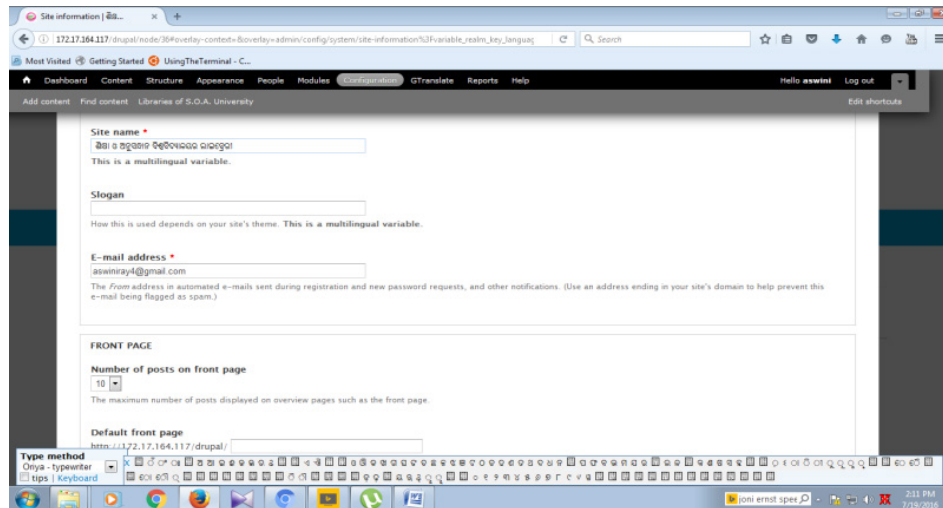
Once configured, it will be marked as “these are multilingual variable” when you go to the site information at system of configuration tab. A language switcher link will appear at the top that has multilingual variables. The translation of site name in Hindi and Odia languages are shown in Screenshots 10 and 11.



Screenshot 9. Site information selection.



Screenshot 10. Site name translated to Hindi.



Screenshot 11. Site name translated to Odia.

Here we have selected site name and site slogan but we do not have any slogan for our S.O.A. University libraries. So, only site name is translated from default language English to Hindi and Odia.

5.1.2 Menu Translation

With Drupal core module menu translation can't be done. This module is part of the i18n package, which authorizes users to select a translation mode for each menu using the following steps:

- After login go to the Structure > Menus > Main Menu,
- Click on edit menu,
- In translation mode you will find three options such as – no multilingual options for menu items, translate and localize and fixed language. You have to choose

- 'translate' and localize and click on save button, and
- By using translate tab on right hand corner user can translate menus.

5.1.3 Block Languages

This module is a part of the i18n package which accommodates users to configure languages of each block. When configuring a block, the settings for visibility of each language are provided under the languages tab of visibility setting. The languages tab also provides a setting for block translatable. When block translatable is selected, a *translate* tab will open for that block. The body of the block cannot support HTML content, so its text format should be changed to plain text to translate.

6. Indic Script

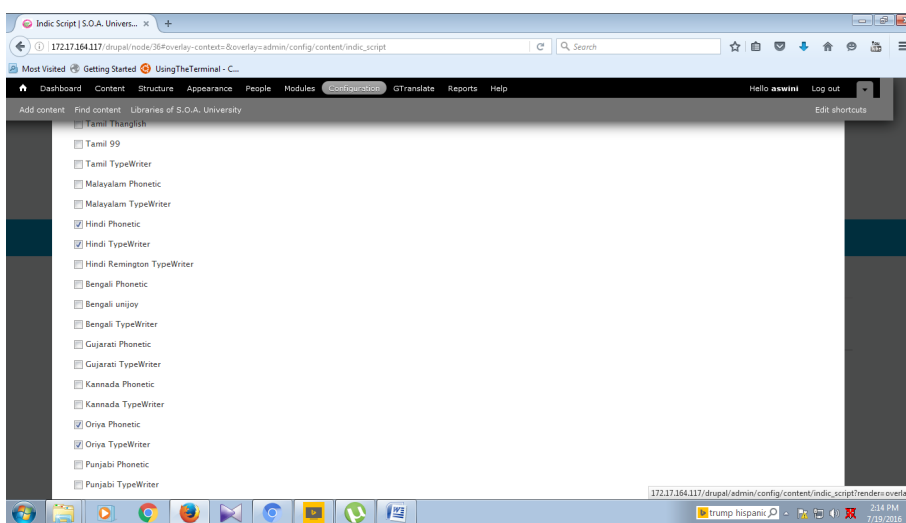
Indic Script module enables transliteration input method for Indian languages in text fields and text area fields and enables content creation in Indian languages within Drupal without installing any additional software. Indic Script module supports type writing along with phonetic typing of following languages:

- Bengali,
- Gujarati,
- Hindi,
- Kannada,
- Malayalam,

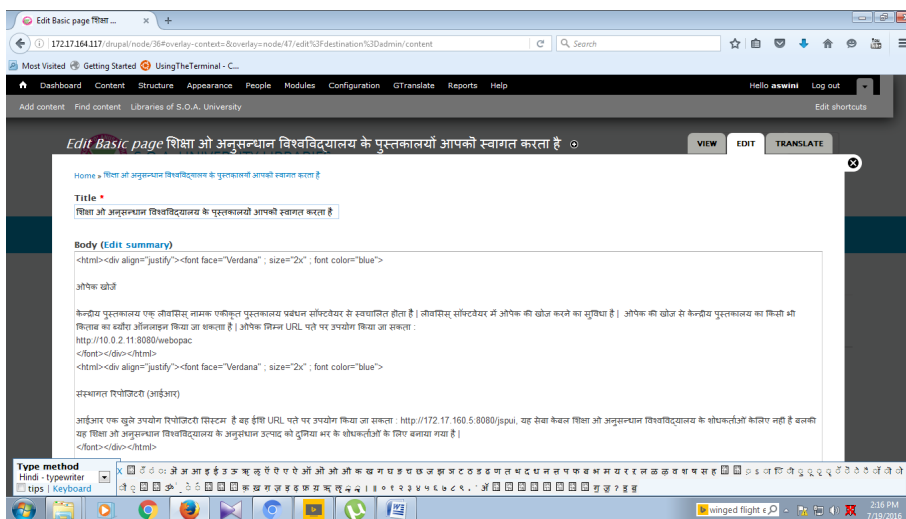
- Odia,
- Punjabi,
- Tamil, and
- Telugu.

After installation of Indic Script module, configure it at Content Authoring of Configuration menu by choosing languages and typing methods as required. The selection of Hindi and Odia typewriters from Indic script module is shown in Screenshot 12.

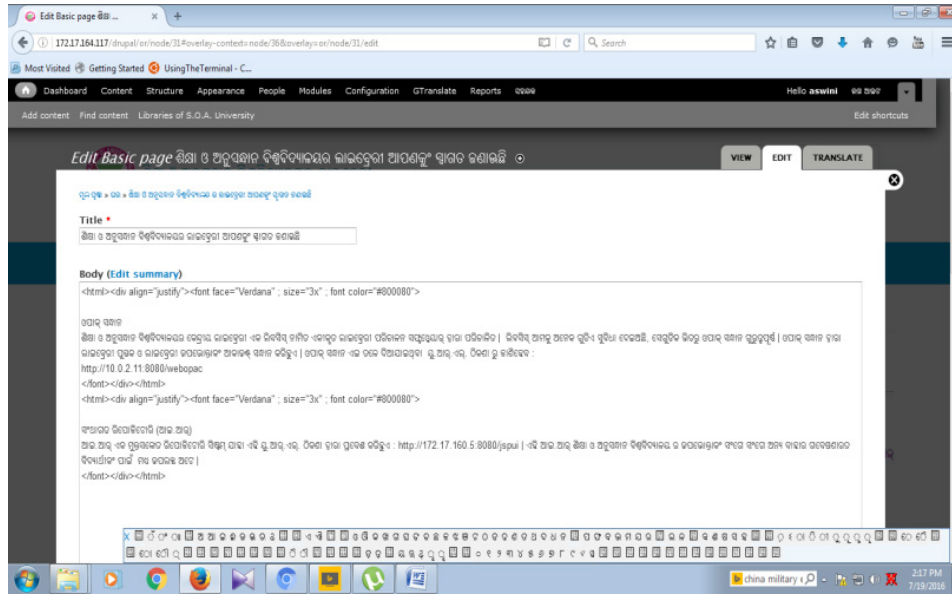
Screenshots 13 and 14 are the Odia and Hindi language typing through Indic Script.



Screenshot 12. Selection of Hindi and Odia typewriter from Indic Script module.



Screenshot 13. Hindi typing using Indic Script.



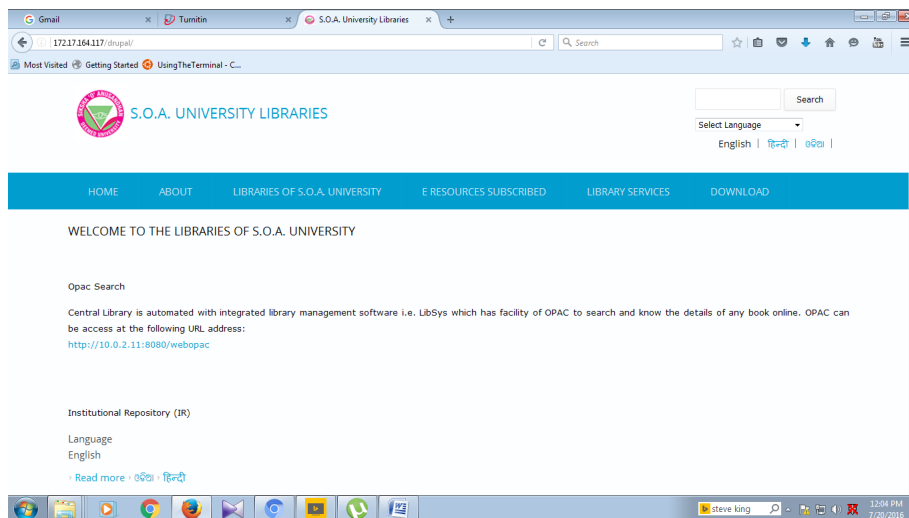
Screenshot 14. Odia typing using Indic Script.

7. GTranslate Module

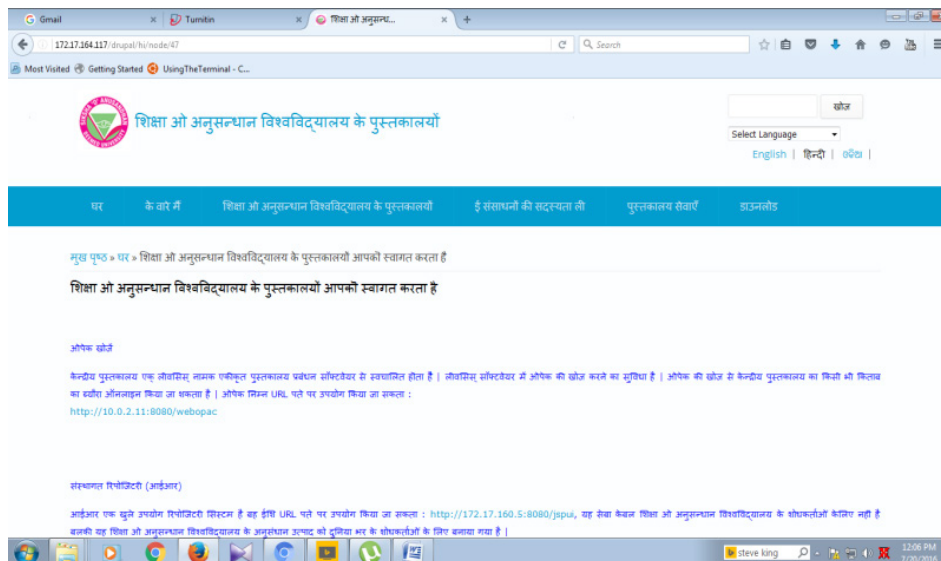
Apart from the above modules, for our university library website we have also installed a GTranslate module. This module uses Google power to translate a Drupal website. It contains 104 languages including 9 regional languages of India such as Bengali, Gujarati, Hindi, Kannada, Malayalam, Marathi, Punjabi, Tamil and Telugu.

GTranslate module not covers Odia language. Here we have used Indic script for typing of Odia language. In this project except for Hindi and Odia languages we depend on GTranslate for other languages.

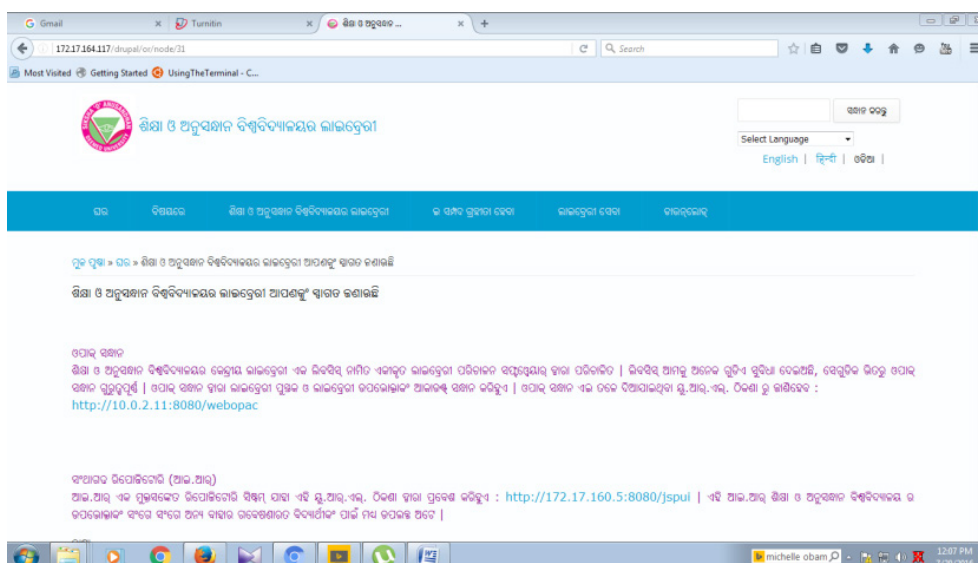
The completed Library site of SOA University in English, Hindi and Odia languages are shown in Screenshots 15-17.



Screenshot 15. English language.



Screenshot 16. Hindi language.



Screenshot 17. Odia language.

8. Findings and Conclusion

Now-a-days multilingual websites and web applications have become important, as our world is becoming more internationalized². Due to the improvements in open source CMS it is much easier to establish multilingual websites. Multilingual websites will have a very wide range of features to meet different needs and requirements. These can also be updated and improved as and when required. In this paper, we have examined the special requirements of multilingual websites and presented technical difficulties and some existing best practices using Drupal 7. We also documented different plans derived from the requirements identified and presented implementations

for the specific needs of our library¹. The scope is restricted to selecting some of the available solutions for deeper examination; therefore out of 13 sub-modules of Internationalization (i18n) contributed modules, 3 sub-modules have been tested and implemented and the rest 10 sub-modules will be studied in another paper.

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