Summer Fellowship Report

On

FOSSEE Web development

Submitted by

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Under the guidance of

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Acknowledgment

I have taken all efforts in the development of the FOSSEE website. However, it would not have been possible without the kind support and help of my mentors and fellows. I would like to extend my sincere thanks to all of them.

The internship opportunity I had with FOSSEE was a great chance for learning and professional development. Therefore, I consider myself as a very lucky individual as I was provided with an opportunity to be a part of it. I am also grateful for having a chance to meet so many wonderful people and professionals who led me though this internship period.

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Chapter 1

Introduction

The existing FOSSEE website (fossee.in) uses Drupal7 CMS as backend which is based on PHP. It uses MySQL database server. The Drupal7 website employs many drupal modules one of which is FOSSEE Stats. My task was adding additional functionality to this module and fix some existing bugs.
FOSSEE develops and promotes a number of FOSS(free and open source software) eg: Scilab, OpenModelica, DWSIM etc. It has various projects and activities related to each FOSS eg: textbook companions, workshops, lab migrations etc. Some of these projects have been completed while some are in progress. Hence a webpage is required to show the statistics of each FOSS in each activity.
FOSSEE Stats module provides pages where various filters are available like FOSS type, event type, location of event, date etc. Users can apply any filter and statistics are shown using a pie chart as well as tabular format. Other than there are pages where any new event eg: tbc, workshop, lab migration etc can be added by users with necessary privileges.
Thus FOSSEE Stats module offers a way for general users to view any statistics related to any FOSSEE event and privileged users to add/edit any FOSSEE event details.
My next task was to migrate this module to work in Drupal8 which is the latest version of Drupal(as per July 2018).

Chapter 2

Work on Durpal7 website

2.1   Additional pages

2.1.1   Upload events through CSV

Earlier if any user had to upload any events data it had to be done by filling an event add form. Hence if the user had to upload data of many events each had to be uploaded individually which made the task tedious. A different page has been created to upload event data through a CSV(comma separated value) file. Now the user has to generate a csv file through any spreadsheet processing software in which many events data could be included in a table format.
After uploading this single file. The event details would be parsed at the server, validated and all events data would be inserted in the database.
For parsing csv files I have used a php library parsecsv-for-php
https://github.com/parsecsv/parsecsv-for-php which is free and opensource. It has been included inside the module itself and need not be installed separately when installing the module.

2.1.2   Event deletion prompt

Just going to the url: hosteventsdelete{id} deleted the the event with id = {id}, so I routed that url to a deletion prompt to prevent accidental deletion of events.

2.2   Additional features added

2.2.1   User Id field in workshop record

Added last_edited_by field in workshop table which stores user_id of last user who modified that workshops data.

2.2.2   Sorting option on events page

Two arrow buttons have been added in each header field. The up-arrow sorts the events in ascending order and down-arrow sorts in descending order of the header

field.

2.2.3 Dropdown menu in country, state, city, pincode fields of event add form

An ajax based dropdown menu has been added for the above fields, if we pick an option for state field it replaces the dropdown optoins of district field with that states districts. Similarly for district field pincode options are replaced, hence the user can easily choose the complete address of the event.
I have added a table ai_pincode in database to get each pincode, its corresponding postal office, district, state. This data has been taken from https://data.gov.in/resources/all-india-pincode-directory with usage type: non-commercial, purpose: academia.

2.2.4 Maximum upload size for all files

I have added a maximum upload size for all files and a form field in module settings for changing it. Each file upload is validated against this upload size.

2.2.5 Added animated gallery in eventsimages

A javascript animated gallery has been added in eventsimages so that if a user clicks on any image, a gallery pops up, with a left and right scroller in which all full size images of that event can be viewed.

2.2.6 Email notification feature

An email notification feature has been added. If any user adds or edits any data related to any event, an email is sent to the admin(bcc) and the user who made that change. The email of the admin to notify can be set through email field in module settings page. Drupal SMTP module has been used to implement this feature https://www.drupal.org/project/smtp.

2.3 Bug fixes

2.3.1 Fixed image upload issue in event add or edit form

Fixed incorrect folder paths in file upload and directory creation.

2.3.2 Fixed issue with spaces in image upload path

Added function to replace all spaces in file paths with _ or else they would result in broken image ¡img¿ tags.

2.3.3 Modified and fixed event add form

Fixed labels of date and time fields, Fixed add images fieldset to retain names of previously attached files after ajax call by using ajax commands. Added wvega-timepicker, a drop-down timepicker.

2.3.4 Added redirection after edit or delete workshop

If you give incorrect page arguments to parameters to editdelete form. You will be redirected to events/edit.

2.3.5 Fixed state, city illegal options

Changing state after choosing city caused a illegal option error. Fixed by adding #validated=TRUE in fields.

2.3.6 Fixed issue with image upload fields caused after validation failure

After validation failure form will not rebuilt, instead last built form will be returned which was improper, hence added a ajax command to both add and remove image buttons so that form is never rebuilt due to an ajax call.

2.3.7 Fixed poster upload

Similar bug as in events image upload path, fixed similarly.

2.4 Styling changes

2.4.1 Changed eventsview_details

Styling changes to make UI look good

2.4.2 Changed styling in events/testimonials

Font and styling changes

2.5 Database Schema changes

- Added field last_edited_by in workshop table.

- Added table ai_pincode with fields: pincode, officename, districtname, statename.

- Added field poster_folder in table postercampaign.

2.6 Dependencies introduced

2.6.1 wvega-timepicker

This timepicker has been added to give a javascript based dropdown timepicker. It can be installed by going to ¡yourdrupalhost¿adminconfigdatedate_popup.

Chapter 3

Migrating Drupal7 website to Drupal8

3.1 Major changes in Drupal8

Drupal8 follows OOP and everything is required to be in a designated file or a designated namespace. In Drupal8 there is no hook_menu so, instead a module.routing.yml file which routes all forms and page controllers to urls. Major built-in methods have been separated into different classes and namespaces. The database API and ajax API is also completely OOP based. All css and js files have to kept in separate files and declared as libraries in module.libraries.yml.

3.2 Issues with Chart module and its substitute

Drupal7 website used google charts module to show statistics in pie charts. However the Drupal8 version of the module was not working so I had to resort to create my own js file to call Google charts API and pass chart data through drupalsettings. Google charts API is free to use.
https://developers.google.com/chart/interactive/docs/gallery/piechart

3.3 Database schema changes

All the database schema changes done in drupal7 database have to be done in drupal8 database.

3.4 Dependencies introduced

Google visualization API. The js file https://www.gstatic.com/charts/loader.js has been declared in fossee_stats.libraries.yml and will be loaded from CDN on the client machine.

Reference

- https://github.com/parsecsv/parsecsv-for-php

- https://www.drupal.org/

- https://data.gov.in/resources/all-india-pincode-directory

- https://www.drupal.org/project/smtp

- https://www.gstatic.com/charts/loader.js

- https://www.drupal.org/project/charts