ALUMNI PORTAL USING DRUPAL CMS

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ABSTRACT

The role of Alumni portal is providing an interface to connect alumni and under graduate students of Usha Mittal Institute of Technology (UMIT). One of the major issues in existing system is that there is no direct communication with alumni at UMIT. Hence, to connect our alumni with our institute and our fellow students, we have created one content management system (CMS). There are many CMS available in tech world such as Wordpress, Drupal, Joomla and many more. Being most secure among all CMS i.e.Drupal CMS is preferred for this project. The proposed framework supports an user interface to alumni at UMIT and provides interface to post blogs, videos, feedback, chat forum, job portal, chatbot. This interface will help under graduate students in placements and to launch their careers with alumina's support at UMIT.

Keywords: Alumni, Interface, CMS, Drupal, Framework, Chat forum

INTRODUCTION

Alumni are the best supporters and ambasaddors of any institute. They can guide our under graduate students about placements, industry needs, they can also help students to launch their careers. So keeping in mind the need of alumni management system, We have created Alumni Portal using Drupal CMS along with various functionalities.

The current alumni system of UMIT is not completely com-puterized. All the data is in excel sheets which is handled manually and have risk of mail spamming. As there is no communication between current and graduate students. Because of no interface provided, students lacks knowledge about current trends, needs of industries. After doing re-search of other university's alumni websites like Harvard university [4], IIT Kanpur [5], we have understood the im-portance of alumni portal and also got to know very unique features which should be present in every alumni website. Features like donor initiative chance, job portal for under-graduate students, highlighted events and news, blogs about current trends posted by alumni people.

CMS [6] is a software application that can be used to man-age the creation and modification of digital content. After learning about CMS, we have done research about which technology [7] is right for our website. After doing all the analysis we select drupal technology to build our alumni website. Drupal [10] is a open source CMS which is used to build simple to complex websites. With it's multilingual ca-pabilities (over 100 languages), enriched themes and modules, flexibility, security, scalability, easy content handling, responsive, durability, SEO friendliness (search engine optimization), easy upgradation, license free software, com-patible with all browsers and mobile friendliness makes it better than other CMS [8]. Using advanced version of Drupal

i.e.Drupal 8x, we have created alumni website named as "umitalumni.me". We have used multiple modules in sys-tem to increase it's functionality such as progressive web app (PWA), Responsive, Pathauto, Token, Ctool, Entity print, Webform, Devel, GTranslate, Simple login, Superfish etc. We have used Drupal8 parallax theme which is one of the best free themes, provides unique view, slideshow, classic color set and multiple features

METHODOLOGY

In this section, we had mentioned about methodology, implementation of drupal functionalities and experimental results of alumni portal.
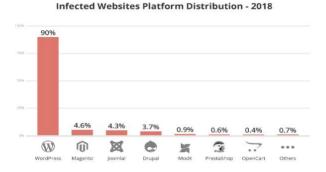
2.1. CMS platform

As we can see in fig.1, according to sucuri report of hacked website [9] and doing comparison between CMS [8], we found drupal is a right platform to build a website.

2.2. Development Server

At start, we have hosted our website on local server i.e.

WAMP(Windows, Apache, MySQL, PhpMyAdmin) server.

First we download WAMP server from sourceforge.net web-site. According to our computer system, we have selected 64 bit and php 7.2 version for the WAMP server. After downloading, we have install the server. First, we selected the language from choose your langauge dialog box. After that we accepted the license agreement. Then, we started doing setup, first we set the location of server in our system and start the installation process. After installing WAMP, we selected default browser to access our website as Google chrome from files. Then, we selected our default editor to edit our apache, php config files as Notepad++. And at last we completed the setup of WAMP server. After that, we copy the latest Drupal folder in WAMP server's www directory(/wamp/www/drupal-folder). After that, by using url as localhost/sitename we open our drupal installation page. Then we installed drupal by doing it's basic setup like choosing language, setup email address, site maintatinance and database settings. After that we open phpmyadmin page to login into backend and create our database in mysql with our website name. Then we started creating our webpages using drupal and extending it's fuctionalities.

Infected Websites Platform Distribution - 2018

(a)   Infected websites platform distribution by Sucuri [9]
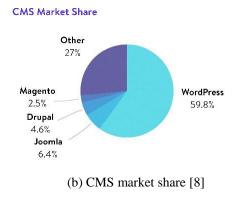
CMS Market Share

(b) CMS market share [8]

Figure 1: Analysis of different CMS [9]

2.3. Digital Ocean platform

To build the alumni website first we had bought droplet from digital ocean platform for 350 INR/ per month. Well, DigitalOcean is a cloud infrastructure provider which basically provides cloud services that help to deploy and scale applications that run simultaneously on multiple computers [11]. First, we have created account on Digital ocean platform. After login into account, we have created that droplet named as 'umitalumni'. Digital Ocean provides ubuntu distribution to make LAMP stack, moodles etc even on windows and MAC machines.

2.4. LAMP installation

Well, being most used and most flexible server we chose to switch to LAMP from WAMP. We have created LAMP server [12]using droplet of digital ocean. This droplet pro-vides hosting too i.e. It provides unique IP address which we used as host. But before creating server we had bought domain name from GoDaddy.com named as umitalumni.me for 293 INR. After buying that domain, we have entered url's of digitalocean.com, so it will give access to host the website without any technical issues. After buying domain name, we add that domain to our droplet for hosting pur-pose. Then, we have installed LAMP server i.e. Linux, Apache, MySQL, PhpMyAdmin on my machine. As men-tioned before, we didn't need to dual boot our windows ma-chine with ubuntu, Digital ocean provides the distribution we wanted like ubuntu(16,18), freebird etc. After that, to install Apache, MySQL and PhpMyAdmin we had follow some commands which is listed in this article [12]. First, we installed Apache 2.0 and configured the firewall. Then we checked the status of apache it is running or not. It showed the default page of Ubuntu. After testing the apache service, we installed MySQL. After installing that, we go for instal-lation of MySQL security to secure our database. Then we instaled PHP, after that installation of PhpMyAdmin will take place. After installing this, we have created MySQL user. We can create it later too, but it is good if we create it now so it will not take much time while setup.

When we login to our PhpMyAdmin page it shows our hostname with default PhpMyAdmin name which is not secure. Anyone can hack our server if our hostname is known. So to avoid this problem, we secured our PhpMyAdmin page by changing it's name which is not known to other people. Then we installed zip/unzip file to extract or archieve the files. Sometimes files get corrrupt or misplaced while transferring from one location to another. So, to prevent our files we zipped the file before uploading somewhere and then transfer it by unzipping the folder, so no file will get corrupt. After installing zip/unzip file, we have enabled the .htaccess which will give the access of http to our website. We setup url of our website as
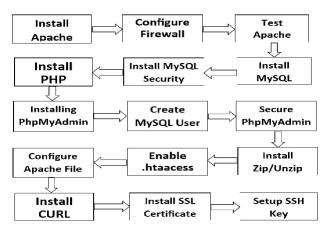
Figure 2: Block Diagram for LAMP Installation

'https://www.umitalumni.me'. We can keep www directory or sim-ply discard it, it's completely our choice. After that we configured our apache file to see it's actively running or not. After that we installed CURL, which will make our website more secure and disable the versions of LAMP we have used from other users. After that we installed SSL certificate on our server to make our website SSL certified. We don't have to pay to anything for that it's completely free. Now, the last process of Lamp server, that is setting up SSH key. This step is optional though, but we will recommend do not skip this. Because SSH key gives more secure au-thentication than one time password. So, It's better to setup the SSH key. For setting up the key we had used PuTTY as we are on windows machine. The steps are listed below about key generation. Hence, our lamp server is installed

2.5. Filezilla FTP

After LAMP installation, we have downloaded and installed Filezilla ftp client. Filezilla ftp client provides the interface where we can connect our server to your website. It's basically file transfer protocol which helps to upload, transfer files from local server to the host server. After installing Filezilla, we hosted our site on it. For that we had uploaded our ssh key into ftp client. As we were using windows we have to use PuTTY configuration to generate your SSH key. Using PuTTY keygen, we generated the key and saved it in local folder. Then, we uploaded that key file in ftp client. After that we created new site of our hostname which connect our site to the server. Hence, we have connected our website to the server.
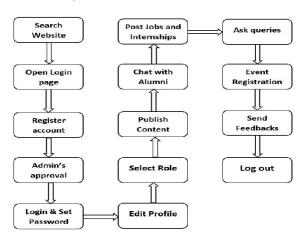

Figure 3: Flowchart of Alumni system

2.6. Drupal Installation

After that we have downloaded Drupal,s latest version(8.8.1) from drupal.org [10]. After downloading it, we named it as html and zip it. Then, we opened our ftp client, so we can connect it to the server and unzip that drupal folder into /var/www directory. After successfully uploading the folder, we go to our browser i.e. Google chrome and searched for our website. Then we got the drupal's installation page on searching our website. Then, we installed the Drupal and setup our site maintenance account. And after all the setup, our drupal website is ready to do the further functionalities. Hence, we have hosted our website using Drupal technology and Digital ocean platform.
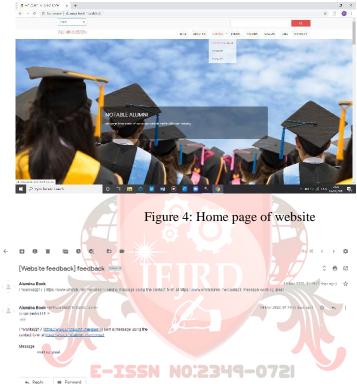

Figure 4: Home page of website

Figure 5: Mail notification of feedback form submitted by user

2.7. Implementation of Drupal's functionalities

There are three user roles in website, 1)admin 2)student and 3)alumni. Admin will be responsible for creating new accounts. S/he have to ensure that graduating students are shifted into the alumni module. Admin have to get notified about any complaints or feedbacks from users. Admin also have to browse the site to ensure that there is no wrong content is posted. Students can browse through the site and access alumni information. They can chat with the alumni via system. But they have to seek admin approval before posting anything on the site. Alumni will be able to access other alumni information. They are able to view all their contact information and location. Alumni can post any in-formation, such as blogs, their achievements, experience, job vacancies. They can update and maintain their own information. Then, we have added SMTP module for mail-ing purpose. Using smtp module, admin can mail notices, surveys to users also users can send feedback via mails. We have also added webform module, which provides form creation, submission, entity print pdf fucntionalities. We can download the pdf of details we have filled in the form. Also, using geolocation module, we can track the event locations via google map.

CONCLUSION

This alumni system will be available for general use through the web interface. The visitor can look at the list of gradu-ates according to year of graduation or a field of study. The visitor can also look at alumni profiles if there is no privacy setup done by alumni. By default, a visitor can only see name and surname of an alumni, year of graduation and field of study. Information entered by alumni can be used as an input for creating their curriculum vitae in pdf format, which is provided automatically on submitting the details. An alumni can also use this system for the building of her virtual web identity on the internet. Alumni can link their social media accounts to their profile. Due to online alumni system, it becomes easier for institute to be in touch with their alumni and maintain information accurateness. The system also saves valuable time and reduces the huge paper work of staff.

Before using Drupal CMS, working of drupal should known to the developer. Without any prior knowledge about Drupal, it's bit difficult to work with it. But, due to it's modular approach and load balancing feature this website can extend further for University's alumni website as well. With Drupal's load balancing functionality, we can work with large databases without any difficulty.

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