Implementation of a Content Management System for STEER Project at Port Isaac

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Abstract

Port Isaac is a village in North Cornwall. The Port Isaac community is presently undergoing regeneration. The aim of this research to select an appropriate content management tool that facilitates in the regeneration of the Port Isaac community. In order to achieve this, the researcher has implemented the Drupal content management system for the community. The decision to implement Drupal is based on an investigative evaluation. The new website using Drupal is expected to offer more flexibility to the users. The complete implementation of the CMS in the community will help in evaluate its impact on the Port Isaac community.

Keywords

Virtual community, CMS, Drupal, Port Isaac, OpenSource

1 Introduction

Port Isaac, a village in North Cornwall, is a real world community that needs regeneration. The members of the community need a forum to interact with one another. The task in hand is to accommodate specific needs of the community as a whole that could enable it to regenerate its social and economic well being.

The purpose of this research is to select an appropriate content management tool that facilitates in the regeneration of the Port Isaac community. In order to achieve this it became imperative for this researcher to have a thorough understanding of two inter-related, yet conceptually separate topics, virtual communities and content management systems.

The first section of this research paper attempts to present a brief overview of virtual communities and content management systems. The second section provides information on the research methodology and experimental design adopted for the research and the third section states the results of the experiment, its implementation and the impact of such implementation. The paper ends with a few concluding thoughts from this researcher.

2 Virtual Communities

A community that is established in a cyberspace unlike societies in the real space is called virtual community. It is a community of people sharing common interests, ideas and more importantly human feelings over the Internet. Howard Rheingold coined the term virtual community.

3 Content Management System

By definition, it is a set of technologies and disciplines deployed in order to manage and exploit the unstructured information assets represented by any electronic or paper file, and delivered automatically and in a personalised form to web sites and other electronic and paper delivery channels. The information is used in support of organisational processes or goals, or as a container of the intellectual capital. (Strategies Partner International Limited, 2006)

4 Research Approach

The approach adopted by this author to suggest an appropriate content management tool is based on arriving at answers to some simple yet important research questions.

- What is the experience of being a member of a virtual community?
- Which CMS tools will participate in the investigative study and why?
- What are the parameters against which the tools are evaluated upon?
- Approach for addressing the questions

4.1 The experience of being a member of a virtual community

In an attempt to understand the experience of being a member virtual community, this author studied three existing virtual communities. By registering as a member, the author was able to identify the features of the community and evaluate the experience of being a member of that community. The communities that were a part of the study include ifood.tv (a video food community), myhealthbutler.com (website that offers information on preventive health) and wikipedia.org/ (popular online encyclopedia).

4.1.1 Choice of the CMS tools

The approach followed in this research to select a CMS tool is *Requirement-Driven*. The selection criteria in this approach are against a set of arbitrary requirements of the community in question. This approach reduces the risk of failure and also resolves the problem of comparing wide range of products against one another. It is a sensible way to begin the selection process.

4.1.2 Popularity as a Criterion

The idea behind using "popularity" as one of the criteria is to filter out any obsolete content management systems. While exploring the available CMS tools, the author came across two most popular CMS tools. As per the popularity list mentioned in the "opensourceCMS" site, the top two CMS tools are Drupal and Joomla. Since Joomla is a bi-product of Mambo, the author decided to choose Mambo instead of Joomla. The popularity was calculated based on a parameter called "ratio". Ratio is calculated by dividing the number of hits by the number of days that a particular CMS started its Demo. It should be noted that "hits" is the number of times a particular CMS was accessed and "Days" is the duration that a particular CMS was open for demo. As per this list, Drupal gets 1186.59 points (2125695 hits / 1793 days) and Mambo gets 600.48 points (1016610 hits / 1693 days). (OpensourceCMS website)

4.1.3 Experimental metrics

The author is of the opinion that the user friendliness of the new system and the flexibility it offers will have significant impact on its acceptability. Due to this fact, 'ease of use' was selected as one of the main parameters in the experiment. The nature of the occupations of the members and the availability of resources led to the decision of selecting 'time consumption' as a quantitative metric in the experiment.

5 Experimental Investigation

5.1 Aims

To compare two CMS tools, namely, Mambo and Drupal to select the most appropriate one for a virtual community (Port Isaac, North Cornwall)

Evaluate the selected tools on the basis of usability and performance (time taken to complete specific tasks)

Comment on the suitability of the tools for implementation on the above mentioned virtual community website

5.2 Set the stage

Ideally, to conduct this experiment, there are certain conditions that had to be met. For example, the system on which the experiment was to be done had to have PHP, SQL database and a web server installed. Since it was not possible to get such a system that had all these applications installed, the author decided to conduct the experiment on an online demo version. The steps that were taken to initiate the experiment are as follows.

- Go to http://www.opensourcecms.com

- Create an user account and log into the site
- On the left side of the screen, under "portals", click on either Mambo or Drupal.
- This will display the page where you should be able to log in as administrator.
- The following were the criteria for the experiment.
    - Upload content
    - Create new tabs
    - Create new user account
        - As a user
        - As an administrator

5.3 Experiment 1 – Uploading content

The first tool to test was Mambo. Although the interface of Mambo was impressive, its drawbacks did not escape the author's attention. The time taken to perform each of the above tasks took significantly longer as compared to Drupal. Please refer to the statistics below.

Description	Mambo	Drupal
Upload a page with few lines of content	6.217 sec	1.012 sec

In Mambo, with the existing settings, it was not possible to upload content directly. The author could only edit the existing files. However, to create and upload customized content, the author had to first create a section, then create a category for it and then link it with the section. Only then it would be displayed in the main menu. After the section was displayed, it was possible to upload the content. Uploading content on the Drupal was fairly simple. Another interesting point to note is that there were fewer clicks to upload content in Drupal. By default, the site had fewer menus displayed. There is an option to display or hide menus in the settings.

5.4 Experiment 2 - Creating a new tab

Description	Time taken in Mambo	Time taken in Drupal
To create new tabs	19.047sec	15.846 sec

Then the next experiment was to check creating new tabs. In mambo, when the tabs are created, it by default takes the content of the previous tab. So it would be an exact replica of the previous one. Incase this duplication is not desired, all content is to be deleted and then new content should be added. On the other hand creating tabs had a different approach and look in Drupal. The steps were very simple and self explanatory. Another interesting feature of this system is that the menus expand when you click on them. Unlike Drupal, Mambo would take the user to a different page to display submenus. In the process, the time delay in displaying the submenus is evident.

5.5 Experiment 3 - Creating user accounts

Description	Time taken in Mambo	Time taken in Drupal
To create user account	4.27.015 mins	1.08.953 mins

In this experiment, the ease of creating the user account was tested. The process went smoothly and about four user accounts were created in Drupal. The user accounts could be created either by the user or by the administrator. The administrator's interface is more advanced and he would be able to create users with different roles. But when a user is creating an account, it would be only the end user account. This exercise was difficult in mambo. The constant problem was the speed at which it would performs tasks. Secondly, since it would take the user to a different page for each operation, the time taken to create the user account was too long.

All the statistics of the above three experiments were recorded at the same time with two different browsers. This rules-out the possibility of any temporary problems with the site or the system. The author would like to conclude that although Mambo has a huge market share in the open source content management system industry it does not suit the requirements of the virtual community in question. The usability and user friendliness of these two applications vary enormously. The author found that the interface and ease of use in Drupal is far superior to Mambo. Even though the advantage in Mambo is that it displays all the features on all its interfaces (pages), Drupal scores higher in usability since it provides context-sensitive menu options, thus not confusing the user.

6 Drupal Experience

6.1 Installation

The latest version of Drupal is 5.2. To install Drupal, the system needs to meet the minimum requirements in terms of hardware and software. The minimum system requirements are mentioned below (source: www.drupal.org):

System Requirements	
Application Server	PHP 4.3.3 or above
Web server compatibility	IIS, Apache
Database	MySQL
Programming platform	PHP
Operating system	Any except legacy operating systems
Cost to buy Drupal	Free (open source)

Table 1: Drupal System Requirements

The installer file of Drupal can be downloaded from www.drupal.org. The size of the installer file is 733 KB. The author would like to bring to the reader's notice that due to limited resources, Drupal, for this project, was tested on a system that created a

simulated environment. This was done by installing WAMP, which is the abbreviated form of Windows, Apache, MySQL and any one of Perl, PHP and Python. WAMP can be downloaded from http://www.wampserver.com/en/ site. Also, it should be noted that WAMP need to be installed first and then Drupal.

6.2 Implementation of community requirements

Community requirements can be categorised into *Usage-Related, Feature-Related and Technology-Related requirements*. Most of the requirements are satisfied by Drupal. However, due to certain restrictions and limitations, some of the requirements are intentionally not implemented. For example, incorporating monetary transactions is not implemented owing to its liability factor.

Usage-Related Requirements: The first requirement is about the unused space on the left panel of the current website. This is because the current website is under utilised and secondly, the person in charge of the site does not have enough administrative rights to make necessary changes to the site to overcome this problem. This issue is not specific to any particular content management tool. This problem will be solved if appropriate rights are granted to the user.

Feature-Related Requirements: These requirements are more specific and it varies from one CMS tool to another. One of the main concerns was the flexibility of the tool that allowed creating content of different types. For example, uploading pictures in-between text was not possible in the current CMS tool. In Drupal, this can be done by the help of a module called “Image_Pub” that is specially designed for this purpose. All that needs to be done is to download this module from Drupal website and place it in the Modules folder.

Notice board or static pages are another feature-related requirement. This is one of the most important requirements. This can be achieved using Drupal by (a) Login as Administrator (b) Click on “Create Content” link (c) Click on “Page” link. In this page one can type the desired content to be published and click on Submit button located at the bottom of the page. Before submitting the page, appropriate option should be selected from the menus given in the same page.

User login or sign-in is not only a useful feature but also equally important for any community website. This feature makes the site dynamic and encourages member participation. Using Drupal, the “sign in” feature can be incorporated very easily.

Another requirement is that the site should have the ability to publish blogs that encourages users to pen down their opinions and views on topics concerning the village. By installing Drupal, this can be achieved by following the same steps as for creating a “Page”. The only difference is to click on “Blogs Entry” instead of “Page”.

Being able to advertising job vacancies, adding a link to useful information like recycling/free-cycling/re-using of commodities, etc. were other requirements. Even

though these are not specifically feature-related requirements, these can however be achieved by creating a separate pages and publishing them as explained above.

Technology-Related Requirements: These requirements are related more to the server location, appropriate rights and permissions, incorporating e-commerce for monetary transactions and assistance from an external entity to have network accessibility. The first one was to have a better profile for the Port Isaac community in Google search. The second requirement was to set up hot spots within the community to have Internet accessibility. These are not features of any CMS tool and hence cannot be achieved by implementing a CMS tool. Finally, the online monetary transaction feature to enable online business. Even though this can be incorporated in the website, it is intentionally not implemented considering the amount of risk involved.

7 Evaluation

The approach followed by the author has had both positive and negative sides to it. As far as the positives are concerned, the approach followed during the research has been systematic and methodical. The author first attempted to understand the features of virtual communities and then went on to conduct an experiment between the top two CMS tools. The experiments were based on tasks that were tested on both the CMS tools. This aided uniformity in the selection process.

The experiment was based on such criteria that were derived from the requirements of the community. Also, substantial consideration was given to the constraints in the community like the limited technical expertise of the users, limited resources and accessibility of the Internet. This author feels that adopting this requirement-drive approach is most sensible.

On the other hand, the approach adopted for implementation involved a few negatives as well. On hind sight, this author feels that although the experiments were based on some common content management tasks, it would have been far better if the author could have created a simulation of the website on the two CMS tools. These simulations could have been presented to a representative sample of the members of community. The members of community could then have played a significant role in deciding which CMS tool to use. The author feels that this approach would have yielded more participation and thus more acceptability as well.

Also, the author feels that research could have been conducted on websites of similar communities that went through successful regeneration. This would have aided the research by providing an understanding of the aspects of website design and implementation that led to the positive results.

8 Conclusion

The whole process of research brought to the author a mixed feeling of excitement, contentment, satisfaction, frustration and helplessness. The best part of the paper was the experiment and the selection of an appropriate CMS tool. Even though formulating the criteria and parameters for conducting the experiment was a tough task, there was a sense of satisfaction at the end of it. An extensive study of existing literature and writing the literature review for this paper gave the author an insight into the present situation and certain common mistakes most of the entities make. It also helped the author understand the importance of and thereby recommend the requirement-based approach to the selection process of a CMS tool. As far as the Port Isaac village is concerned, the author can safely say that Drupal is the best CMS tool to be implemented. There was enormous learning in the process and at the same time there were a number of hurdles during the whole process of research and experimentation. The fact that the experiments were being conducted on the demo version instead of the actual real-time version created a number of obstacles. This is also one of the reasons why Drupal could not be implemented immediately after its selection. Receiving numerous error messages during this process. Most error messages stated 'zero sized reply' on their screens. Also, at one point of time, the demo was logged out for more than 45 minutes. This was not due to the refresh time of the demo server, as would be expected. The reason for such behaviour is still unknown.

Secondly, gauging the impact of regeneration of the community was not possible as it takes time. If Drupal was implemented, it would have been most appropriate to check the difference in growth/regeneration after a certain period of time. The author feels that he could have done a survey to find out the statistics about the number of businesses, their magnitude and type, their income ratio etc and after certain duration of time, a fresh survey would have helped in drawing a graph to mark the changes in the social and economic growth process of the village.

8.1 Future Work

The author suggests that the first thing to do in the near future is to implement the selected tool for Port Isaac village. Also the server should be shifted to such a location which is convenient for the administrator of the Port Isaac community website. Secondly, the people of Port Isaac should be made aware of the new system. Simultaneously, having Internet Hotspots setup in the village is equally important so that the members of the community have easy and quick access to internet. Finally, there should be a mechanism that includes a specific time frame to measure the social and economic growth of the community. Interaction among the community members through the community website is referred to as social growth.

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