Statistics Portal on Geography and Economy of Sagaing Division

Hnin Hnin War, Khin Than Kyi
Computer University (Kalay)
hninhninwar@gmail.com, khinthankyi@gmail.com

Abstract

Portals present information from diverse source in a unified way. These offer a way for enterprise to provide a consistent look and feel with access control and procedures for multiple applications. This paper proposes a portal concerned with Sagaing Division using Content management System (CMS). The proposed portal is created as two parts: user application and content management system which can update contents easily and efficiently. The information from this portal has been mainly provided for Geography and Economy of Sagaing Division. The objective of this paper is to promote reuse of information to access unlimited user from anywhere at anytime and users can make the best decision for their purposes without going to Sagaing Division. Users can view geographical information, local business and the population of each township and district of Sagaing Division.

Keywords: Portal, Content Management System (CMS), Client and Server

1. Introduction

World Wide Web technologies are evolving very quickly. It will continue to be the preeminent application on the Internet. It has been very successful in distributing information. It is very easy for people to navigate through a web site and retrieve the useful information. The WWW has become synonymous with the Internet. The Internet is the most popular and fastest growing area in computing and communication today. With the introduction of web portals, the web is the process of reinventing itself once again.

A Web Portal is a Web site that combines information from multiple, disparate sources, offering a unified interface with the goal of improving usability. The unified interface that the portal provides may access static content such as web pages and unstructured content such as documents. Portal has been held up as a mean to achieve better application integration and give a consistent user interface. A web portal provides many benefits to corporations that work with suppliers or vendors on a day-to-day basis. The portal provides functionality for streamlining the communication process with less chance of miscommunication of business critical information. The core of this functionality is based on a consistent approach to accessing IT applications through the portal to enable the business. In this paper, it is proposed a web portal concerned with Sagaing Division. User can view required geographical information, and query business information, size of population, resource distribution and landscape in Sagaing Division without going to that region. The web portal solution is a part of its supply chain custom solution suite of offerings by managing web pages. The development of portal system includes integrated content management system (CMS) which is a robust, easy-to-use web content manager built upon a flexible application framework. This system contains alerts, navigation tabs and icons, directories, graphics and links. It includes also advanced search capability and security by creating CMS. The objective of this paper is to study web portal and CMS, to promote reuse of information, to access unlimited user from anywhere at anytime and to make decision.

This paper is organized as follows. Section (2) presents briefly background of the Content Management System, Portal and Components of CMS. The Client and Server Architecture are described in Section (3). It is described the proposed portal System, implementation of portal system and Workflow of CMS User in section (4). Section (5) is stated the conclusion of the paper.

2. Background

A Web Portal provides many benefits to corporations that work with Suppliers or Vendors on a day-to-day basis [7]. It is a web site that collects information for group of users that have common interests [3]. The portal provides functionality for streamlining the communication process with less

chance of miscommunication of business critical information. The core of this functionality is based on a consistent approach to accessing IT applications through the portal to enable the business. This paper provides a web portal solution as part of its supply chain custom solution suite of offerings.

2.1. Portal

This section gives a brief overview of portals. It is noted that this description is essentially an account of portals in ideal terms – it should not be construed as necessarily advocating the use of portal technology in particular cases. Moreover, as against this notion of an ideal portal, it is acknowledged that many effective web sites exist (for example, www.google.com) which can reasonably be regarded as "portals" in practical terms but would fall somewhat short of the ideal described here. In general, the portal technologies (that is, portal server software) offered by leading vendors endeavor to (more or less) support the ideal implementation of a portal [5].

Portals provide a secure, single point of interaction with diverse information, business processes, and people, personalized to a user's needs and responsibilities". A good "analogy can be drawn between what portals add to individual web applications and what windows managers like Microsoft Windows add to operating systems like DOS. Both provide a consistent and uniform way to interact with application.

2.2. Content Management System (CMS)

The integrated Content Management System (CMS) is a robust, easy-to-use web content manager built upon a flexible application framework; this framework was developed by using inexpensive, open-source resources. It enables users to easily collaborate on creating and maintaining web site content, and provides the contractual relationships between the roles of web site developers, graphic designers, and managers, ensuring quality and integrity of content at all time [5].

A Web Content Management System (CMS) is a system implemented as a web application used for creating and managing (HTML documents and their associated images). A content management system facilitates content creation, content control, editing, and many essential web maintenance functions [6].

Every portal needs content management. CMS maintains web page content and separates the content from the presentation, storing content in a relational database using templates to display the content as desired. It is a tool for defining and maintaining a consistent look and feel throughout the portal [2].

2.3. Components of CMS

The major components of CMS are the data repository, user interface, workflow scheme, editorial tools, and output utilities. They allow writers to work in one way in one environment (or several), creating or updating content. Editors may use different tools to interact with what the writers submit, and keep track of who're doing what; and the final edited content, managed in the same repository, can be output in a variety of configurations in different ways each of which might have different combinations of content formatted in different ways, but all which draw from the same database [4].

Content Management is the heart of a portal [2]. Therefore, CMS Portal is a door to a central location of multiple bits and pieces of information—the data and images needed to make accessible to the employees (both on-site and off-site), vendors, the media, and whoever else desired to access the system.

3. Client/Server Architecture

Networked computer can be categorized as either a client or a server. The Client requests services and data from the server and the server responds to client requests. Client/Server applications were developed to access large database, and incorporate the rules used to manipulate the data with the user interface into the Client application. Clients do not communicate directly with the database, but through the application tier. They reduce the number of database connections and the load on the database server.

The central feature of Client/Server architecture is the allocation of application level tasks between Clients and Server. A web server is software that serves web page in response to requests from web browsers. The Server's task is to process as many requests for data storage and retrieval as possible. The Server enables many clients to share access to the same database and the use of a high-performance computer system to manage the database.

A web application is a collection of web page that interacts with the user, to each other and with various resources on a web server, including database. The application server works with server-side resources such as database.

One major advantage of Client/Server model is that allows multiple users to access the same application data and to update from one computer that make available to all computers that have access to the server.

4. Proposed Portal System

4.1. Sagaing Division Portal Architecture

This paper is proposed to describe a Portal of Sagaing Division. The following diagram implements the proposed system and outlines the interface of user and system.

The development of this portal system has three tiers. They are user interface tier, application tier, and data services tier. *The user interface tier* is on a client machine and a browser provides the user interface. *The application tier* is on a Web server that handles all requests for data by communicating with the data services tier. *The data services tier* provides access to data, which is stored in backend databases server.

The user interface tier has included information web pages for application user and administration user who creates web pages. The second tier and third tier work for Application module or Content Management System. This system is implemented as system design and system implementation.

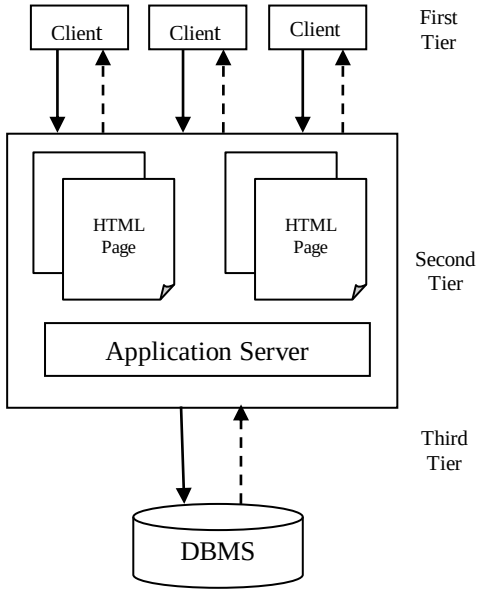

Figure 1. Portal System Architecture

4.2. System Design

Since the portal is a gateway to securely and consistently accessing information applications. The integration module handles the details for portal users to access the information and business applications.

Application integration – The portal is the home site from where business applications will be launched for the portal user. The primary tasks of this integration are to manage launching the applications in a secure manner and seamlessly handle inactivity timeouts and logouts.

Single Sign On – The portal needs to implement a seamless single login to all applications launched by the portal. This requirement can become difficult where a login has to seamlessly traverse multiple domains. This solution includes the technology for handling such complexities.

Portlet Integration – Portlets are key components to portals. The use of portlets is a standard approach to capitalize on reusable business logic.

This system is designed by content management system. It enables both specialists and non-technical users to create, edit, manage, publish and distribute a variety of content (text, graphics, video, etc.) After all, with enough links, and especially a link to a search engine, any home can give user access to much of web.

Users may view geographical information that supports on decision making by clicking graphical text links of Sagaing Division map. They can also query the required information, size of population, resources distribution and landscape in Sagaing Division.

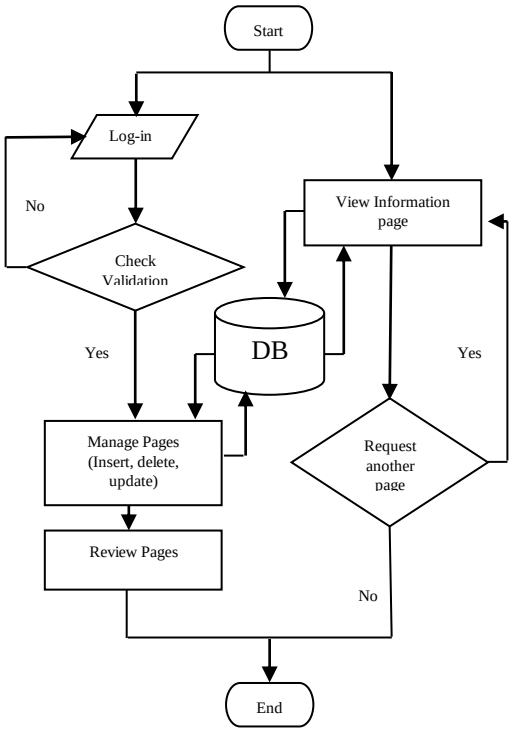

Figure 2. Portal User System Design

The application users can be classified as two kinds. They are anonymous users and administration users to external application. Figure 2 depicts system design including the two kinds of user: *Anonymous users and the management user.*

Anonymous users have all the facilities to access and navigate the content of the Portal. They can also view and know growth and population, Local business and Geographical information of each township in Sagaing Division Portal.

The management users can do the same as anonymous users. But they can manage the webpage contents between authoring and publishing.

4.2.1. Responsibilities of Administration User

The administration users (CMS user) have responsibilities for creating, deleting, updating and managing HTML content on Portal Pages. Moreover, CMS users can only create web content within the managed and authorized environment. They are separated into five roles to handle content development: Author, Editor, Approver, Deplorer and Administrator. Except the System Administrator, the portal staff works as hierarchical structure. This part includes a Single Sign On for each role for security and a web service for portal information.

Single Sign On – The portal utilizes a mechanism to pass authentication credentials to external applications accessed by the portal.

Portal Web Service – The portal web service Provides to demand access for portal user and application information to portal applications.

The following figure 3 shows the account login page. CMS users enter from log-in page with User Name and Password. The System validates their name and password based on their roles. If CMS Users pass the validation, they can manage to Insert, Delete and Update the pages stored Database. These users can review the modified pages or new pages. In addition, the system allows CMS Users to create new contents and store them in the Database. So, the System interacts with Database.

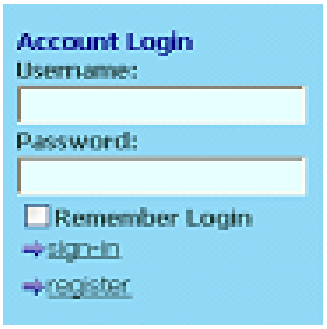

Figure 3. Account Login Page

4.3. Workflow of CMS User

A workflow is a set of tasks performed in a sequential or parallel manner by more than one person, with a goal of reaching a common objective.

Figure 4 shows a pretty standard and straightforward workflow used by Web sites to create content: author, editor, approver and deploy.

This workflow makes the very big assumptions that the author knows what content should be on the site.

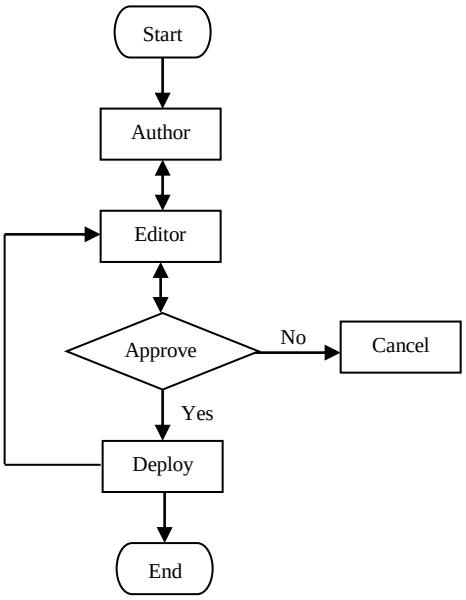

Figure 4. Workflow of Management

This workflow would probably work well for a small editorial staff with good internal communications. The role, in the middle of the workflow, is the safety value of the workflow; not only does this role have the option of returning content to the editor for rework, but it also has the powerful option of shelving the content altogether.

The work of CMS user by individual role can be implemented as:

Author: responsible for creating and posting new content and can view content list. If the staff dislikes

this content, they can delete and update. If they like that content, they can submit and send it to Editor.

Editor: responsible for turning the content message and the style of delivery, and for editing the content which receives from Authors. Moreover, they can send back it with the note to Authors. If Editors like that content, they must send it to Approver to get the Approver's desire.

Approver: responsible for confirming and canceling the contents which have been sent by Editors. If this content is submitted, they must send it to the Deplorer.

Deplorer: take the content and place it into the website's repository. Moreover, they can remove the contents that have on the site. If the content information has removed incorrectly, it is to be stored in a repository to take again.

Administrator: responsible for managing access permissions to folders and files that are usually accomplished by assigning access rights to user groups or roles. Administrator may also assist and support users in various ways and create new CMS users assigning a role to a new user, providing access rights and perhaps the level of interaction of the system.

4.4. System Implementation

In this section, user application layer is the portal of a Sagaing Division. Figure 5 is presented as an example to show Portal's information into three parts: Growth and Population, Local business and Geometric information. The geographical information can be presented succinctly and clearly in the form of a map.

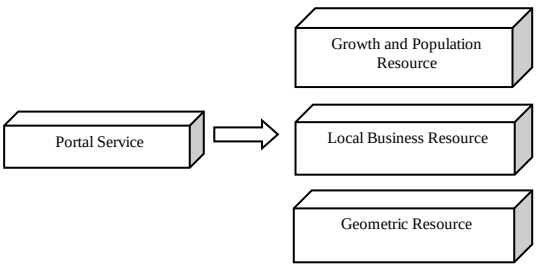

Figure 5. Portal Service Access

Growth and Population Resource: This part presents the information of each district and all townships which express the population and the constitution. These information of Sagaing Township are depicted in Figure 6.

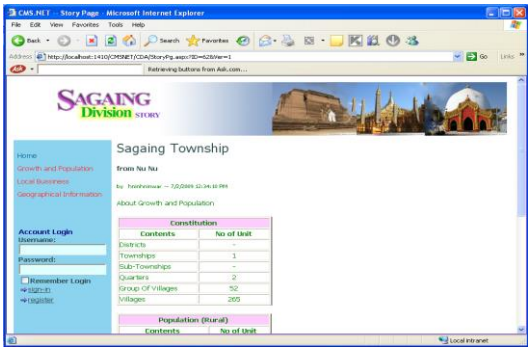

Figure 6. Implementation of Growth and Population of Sagaing Township

Local Business Resource: It describes the livestock, the use of energy and the agricultures of each township of Sagaing Division. Figure 7 illustrates the example of local business of Monywa District.

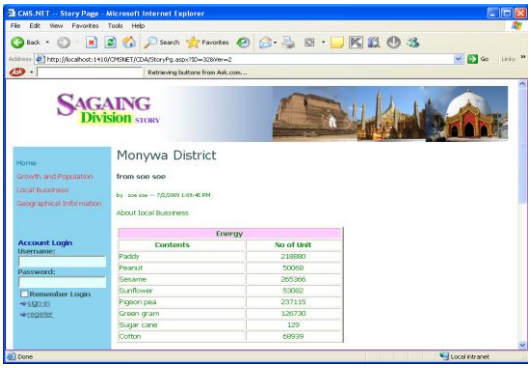

Figure 7. Implementation of Local Business of Monywa District

Geometric Resource: It defines location of each district or township of Sagaing Division with shapes and also displays its area and height. The following Figure 8 implements geometrical information of Kathar District.

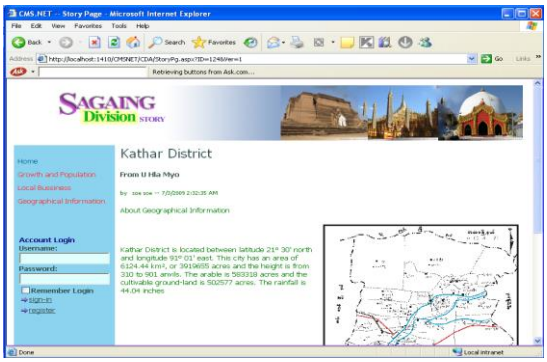

Figure8. Implementation of Geometrical Information of Kathar District

5. Conclusion

The information and technology are becoming highly in uses. They make the portals grant and incorporate to all websites. Portals are relatively common across manufacturing organizations with a large supply base.

This paper proposes a portal which presents information of Sagaing Division. The portal is designed by geography and economy of Sagaing Division in which web contents integrated by developing content management system. A user can know all information of Sagaing Division and make decision for the Business.

The key goal of the system access is not only to create the application and content but also process content management and integration. So the system is the easy interface for creating and editing and to generate the pages dynamically from the repository of content component. Then, it is to provide the capability of global web site update access. The portal is sufficiently well developed to make the conversion of a traditional web portal without the fear of having to re-engineer the web portal again in the future.

6. References

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