

Primetime Portal

Case study of a content management system



By Thomas Ferris Nicolaisen
thomafni@ifi.uio.no

Web content management (CM) systems have been around for a while. Any website that has been updated more than a handful times has probably grown some sort of CM system to make the updating process easier. This document describes the CM system being developed and delivered by Primetime, a company located in Oslo, Norway.

Upon studying the aspects of knowledge management (KM), it occurred to me (as it has occurred to many others) that typical KM features such as personalized spaces, weblogs, search engines and forums are often implemented in advanced web CM system. Tony Byrne touches upon the fact that CM vendors are quickly absorbing the key features of KM by the end of [this article](#)¹. I am mentioning this because I will describe certain elements of the Primetime Portal CM system that are not originally CM features.

Background

Eight years ago, there was a Norwegian company called Inn. Its contracts mainly consisted of graphical design, layout and more recently, web-design projects. As the new millennium approached, the web-design part of the company's activity grew, as was the trend at that time. At this point,

the management hired java-developers to create a CMS called Primetime Portal (not portlet-related). It would be re-used in the different contracts to fulfill the clients' need for usability in the process of controlling the content of the web sites.

The everyday work done by the company was, very simply put, a two step process. First, there were the developers programming, deploying and hosting the client's web application, with all its logic and functionality. Then the designers took over, decorating and outlaying the web pages produced by the application.

The management at Inn decided to extract the development part of the staff into a sub-company called Primetime while the designer remained in the parenting company. Primetime today continues to maintain and develop versions of their CM system. It is important to note that the Primetime Portal is only intended for Inn's clients. It is not sold as a product on its own, like many other CMS-solutions are.

I was recently employed at Primetime for assisting the development of the coming third version of Primetime Portal, at the same time pulling my experiences into my master thesis for the university as a case study of KM systems. This document is one of the initial memos that will eventually be compiled into the thesis (it is scheduled to be completed by the summer of 2006).

The modules

Primetime Portal is a framework containing various modules which take the key roles of typical CM or KM features. There is roughly one module for each functionality, and they are listed below.

¹ http://www.cmswatch.com/Features/OpinionWatch/FeaturedOpinion/?feature_id=53

Publishing

Includes a user-friendly content WYSIWYG² editor that loads through a java applet (you don't need to install the editor on your local machine). Composing, editing, publishing and management otherwise of the application is done through this applet, as is the administration of the other modules. The result usually being increased content on the clients website, content can also be published through mailing lists and raw xml feeds.

File archive

This module captures the role of Digital Asset Management. This module allows the content system to store and share documents and media files among its users. This also includes an image manager for using pictures inside published articles.

Search engine

One of the most important features of a KM system, the search engine can search both the database and the file archive. The intelligence of a search engine increases by the work which is put into configuring it because there are a lot of context related parameters which must be sorted out. The engine must accord with language(s), information location (where the searchable information is stored), possibilities for spidering (tracking content by URLs, like Google does) and security (should secret files be search-accessible). Even upon installation of the search engine, it will need hours of manual tuning to fit the context.

Forum

Also known as bulletin board, the forum is the oldest form of community communication on the Internet right after mail- and news groups. Primetime's solution here is pretty straight forward and simple to use, as most of the clients are not too concerned with this kind of communication. Hopefully they will grow to

like it like the rest of the Internet community has. I argue that the forum is another one of the most important features of a KM system, experiencing that each time I face a challenge while programming, the solution is very often found searching through a forum.

Survey

Handing out questionnaires at the front door of a web site is happening more and more often ("Take five minutes to fill in this form, and help us improve this-site.com!"). Another variant are simple polls with one single question with a few options. Primetime offers both of these.

Shopping

Several of Primetime's clients run web-shops. The shopping articles need to be frequently updated with new prices, and new articles have to be added. This administration is done easily through the applet.

Here are some future modules that will enforce Primetime Portal's role as a KM/CM system:

Document life-cycle control

In a newspaper, an article passes through several hands before going into print. The journalist writes it, the spell checker goes over it, the editor approves it and the layout-guy places it into the paper model. The same quality assurance procedure should be implementable in a digital publishing environment.

Weblog

Like the forum, a blog is a simple implementation, and these days they have grown incredibly popular. Weblogs are a must in every CM/KM solution like Primetime Portal.

Version control

Having several authors working on the same document can create chaos and loss

² What You See Is What You Get

of content when putting together their changes. A version control system implemented in the file archive would do much to assist this process the same way version control does in most programming environments today.

Document rights

In the document life-cycle described above, you might need different rights for different documents. An author should be entitled the only write-access to his own work in most cases, but there should also be a censorship present, an editor approval, and so on. Different readers should be able to read documents differently, depending on classification and membership.

Business syndication

Several of Inn's clients need to publish numbers and figures onto their websites. Primetime has delivered solutions that produce graphical presentation of numeric values before, but the module has not been purely reusable in other projects. This module would feature the client freely punching in fresh figures through excel documents or comma separated values and sending them in either through the applet or on e-mail. The application would then parse the content into [SVG³](#) and generate images onto the website.

Example of implementation

The hypothetical company Nathalie's Carpets (NC) has recently increased in size and the activity is flourishing. They have an old website years out of date, and now they want the website to reflect their new profile. They contact Inn and get a proposal with some abstract details of how the solution will be. They like the proposal, and agree to have an initial meeting to discuss a contract and more specific requirement.

The meeting includes Nathalie the CEO, her advisers, Inn's designers with sketches

of the envisioned website and Primetime developers. Nathalie explains that she is satisfied with the proposed functionality, but she also wants an additional feature for on-line-carpet design where her customers can design their own carpets on-line and have them produced and delivered by NC. The meeting produces the following set of requirements:

- Website hosted at Primetime, along with details about storage space, up-time and so on.
- Content management. This requirement will be met by Primetime Portal straight out of the box, including the publishing core module.
- On-line file archive where NC's employees can store computer documents. Standard module.
- Search engine. The standard module will be modified to search pdf-documents about carpet design in the file archive. A list of [carpeting lingo terms⁴](#) and their synonyms is added to a virtual dictionary and linked to respective pages, so searching for "loom" will yield the same results as searching for "carpet" even though the former word is not used throughout the website.
- Forum, where anyone can participate and discuss carpeting related issues. Standard module.
- Web-shop, where NC standard carpets can be ordered for a reasonable price.
- Carpet designer. This advanced and interactive module will have to be custom-made by Primetime's developers. The solution will be an animated flash program which can be updated by NC's employees with new carpet materials, patterns and colors.

³ <http://www.w3.org/TR/SVG/>
(XML presentation of vector graphics)

⁴ http://www.flooringcollege.com/carpet_terms.html

Having agreed on the requirements, Primetime goes on to set up the web application and website. This takes only a few minutes, and all the standard modules are immediately up and running. Afterwards they start designing the custom made module, having promised to complete it within a month. The designers proceed to digitalize their ideas onto the website, regularly checking in with NC's to let them have a fair say in the graphics and layout of the website.

The design profile is completed in three weeks, and www.nathaliescarpets.com is launched, the carpet designers is installed one week later. NC's web-editors get a two-

hour briefing on how to manage the site, update the web-shop, moderate the forum and administer the users. Until the next time NC needs new features on their website, they manage their website without the help of Primetime or Inn. NC now use their own CM system and have a very stylish website, without having hired an expensive web-designer or programmer.

About the author

Thomas Ferris Nicolaisen is currently studying for his master's degree at the Department of Informatics at the University of Oslo. His studies evolve primarily around software engineering, project management and knowledge management. He also part-times as a software developer for Primetime.