

Review of advanced tools for creating web sites

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Abstract. Present article shows characteristic of advanced tools which are used to create and to manage web sites. Their short characteristic will be introduced and some of them will be presented closer. Tools, which will be mentioned are mostly CMS (Content Management System) systems, that is systems available from common internet web browsers. Tools that use WYSIWYG (What You See Is What You Get) editors will be also presented, so will be tools that are applications installed on users workstations. Article finishes with attempt to show directions of development of CMS systems and with short summary related to presented tools.

Key words. web sites, content management, CMS systems, WYSIWYG tools.

1 Introduction

Purpose of this article is to closer wide problem of tools for content publishing and management in Internet. General characteristic of this tools will be presented, such as their division. Examples of tools will be featured for showing their paid, professional versions and free systems which also offer variety of functions. Their main functionalities will be shown and attempt will occur to qualify described tools for miscellaneous tasks and to show for which people they are appropriate.

Second part of this article will be about creating author's own content management system.

2 Characteristic of tools for creating and managing web sites

This article will mostly look upon CMS systems as tools using to create and to manage web sites.

CMS system can be understood as set of web applications or one web application, which are operated in simple way by one person or more to create the web site from base and to its further managing. Significant thing is that human operators of systems do not have to be suitably qualified (e.g. as IT specialist or programmer). Graphical user interface of CMS systems are usually presented as web page (most of online systems).

The key of common CMS system is to separate content from its presentation. New informations added by system operator are being saved to data base. During handling a request of opening a web site (which is managed by some CMS system) appropriate content is being loaded from data base and presented using HTML code. CMS systems usually use graphical templates of web page layout. This helps in easy and non invasive (from web site engine and CMS point of view) changing an appearance of specific web page (graphical design and/or overall layout). CMS system should not force specific layout and ipso facto it should not restrict people responsible for graphics and layout.

Very often in addition, CMS systems have extra WYSIWYG editors (What You See Is What You Get). They make possible to write documents (e.g. news messages) like in word processor like MS Word or OpenOffice Writer. They are very helpful to users that are not familiar with programming of web sites. Although, their disadvantage is fact that they generate a littered code that is discordant with standards defined by W3C organisation. Such a code can be characterized by unused HTML tags occurrences (which load WWW server and web browsers unnecessarily), by using elements not supported by declared standard of main document, by wrong content styling etc.

As mentioned before, there also exist stationary tools, that are not run from web browser but are individual applications. The essence of that kind of tools is in WYSIWYG abbreviation. User not familiar with programming can smoothly create his own web site, using just computer mouse and keyboard and a bit of patience.

Imperfection of those tools is that creator of specific web site does not have full latitude during creation process and results of work are often discordant with working internet standards (it is very important matter which many people find not very important). As example let it be well-known WYSIWYG editor Front Page, made by Microsoft, which can generate code working properly only in browsers also made by Microsoft. However, it must be added that every WYSIWYG editor makes possible to work on source code level.

Still the biggest disadvantage of WYSIWYG applications is fact, that they do not allow to further web site management. That is the reason why that kind of tools is using by private persons rater than by companies in professional usage.

In follow-up article presents tools divided into online tools and offline. Among them are CMS systems run from web browser and stationary applications.

To sum up, it can be said that ideal tool for web site creation (and its further management) is such a tool that can provide freedom and ease of creator's work and do not hinder it at the same time and also is compatible with working standards of content publication in internet.

3 Tools review

Systems to internet web site maganement can be divide into online tools and offline tools.

This division is a consequence of selection in which moment graphical templates are added to the content and when the whole page is rendered.

3.1 Offline tools

This type of tools allow to prepare content, add templates and graphic themes before web site's final publication in the internet. Examples of those systems are tools such as Vignette CMS and Bricolage.

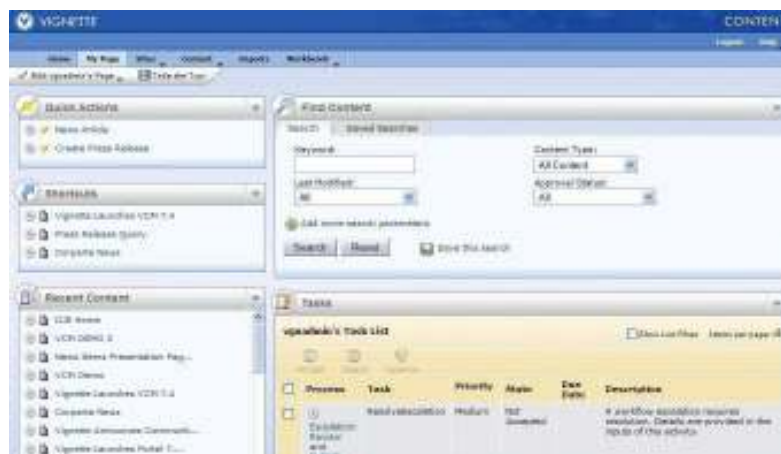
However, in case when this type of systems do not need any server to add templates in time of web site open request, they could exist as design-time tools as well (like mentioned before WYSIWYG editors). That kind of tool is Adobe Contribute application.

In next chapters mentioned tools will be presented closer.

3.1.1 Vignette CMS

Vignette is very advanced system, which in fact is set of various tools that are responsible for many tasks. In context of this article, the most interesting one is Content Management. This is main component of Vignette Web Experience Platform tool. Its usage is to create, to manage and to publish content.

Vignette tool is designed in a certain way so that every user could without any problems create and publish every type of content, like simple one and like more complex. Vignette CMS supports also specialized roles. This means that Vignette is a perfect tool for people who take care of different steps of web site creating, such as persons responsible for content, visual appearance, persons who accept certain stuff and others. Significant characteristic of this system is that despite of rich functionality, it can be adapted to a specific person due to its high configurability [1].



Picture 1. Vignette CMS

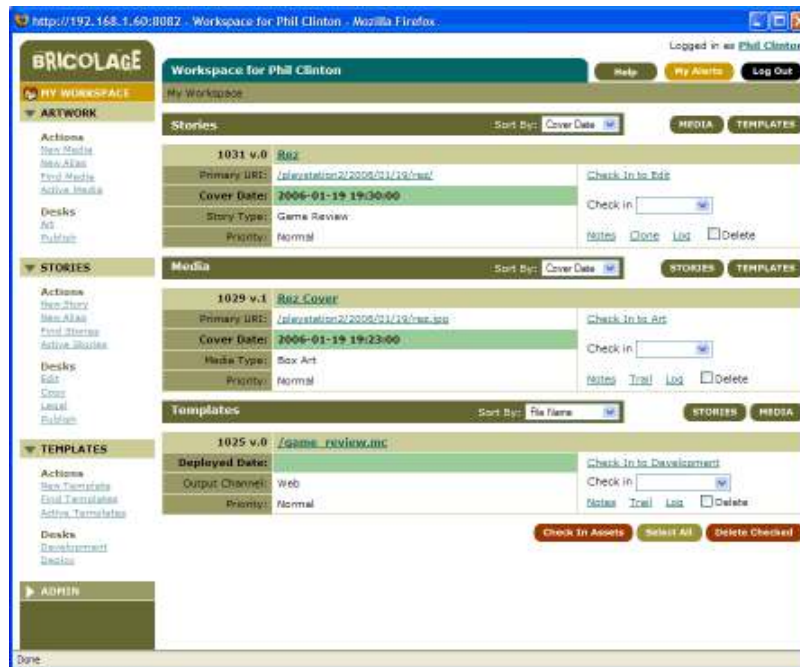
Vignette is mostly used by big companies like Lexmark, Nokia or Fox. Vignette technologies was also used in official web site of 2004 Olympic Games in Athens.

Picture 1 presents view at system user main page.

3.1.2 Bricolage

Bricolage system is an example of Enterprise Content Management (ECM) system, that is system that runs in scale of whole organisation. As free of charge and having opened source product, it is compared to very expensive tools which offer similar scope of service. Its assumption is to make complicated operations of creating, managing and publishing of wide range of each organisation fundamental content easier [2].

Characteristic feature of this content management system is fact, that it is capable to serve many remote web sites, that is such type of web sites that are located on different server than this system itself. Bricolage can also be easily configured so its particular modules are available only for appropriate persons [2].



Picture 2. Bricolage

Bricolage system is used by many web sites, such as Macworld (for Mac computers users) or World Health Organisation.

On picture 2 workspace of person who use Bricolage system is presented.

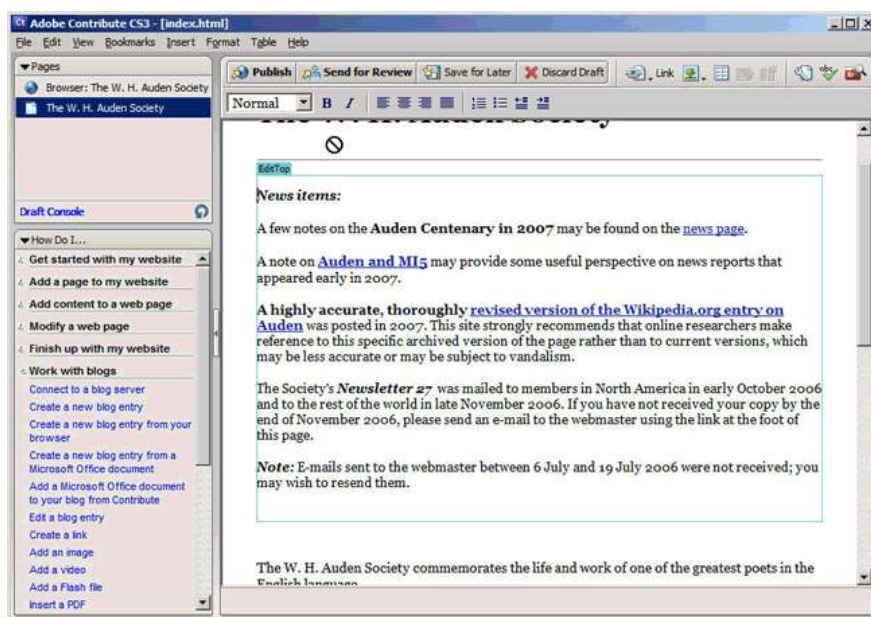
3.1.3 Adobe Contribute

Being released earlier by Macromedia company, now by Adobe, Contribute application is advanced tool that is aimed to use mainly in companies and

organisations, where web site, its content in fact, is maintained by many persons (editors). Similarity to systems described above is highly visible.

Adobe Contribute lets its users work simultaneously at one web site. Of course this program ensures mechanisms of controlling data access and preventing from specific pages versions conflicts. Whole system is managed by administrator who can assign appropriate permission to appropriate users [3].

Important feature of this tool is fact, that is does not allow regular user to work on page source code level. It requires preparing some template on which further operations will be executed. Contribute cooperates on this field with other Adobe product, that is Dreamweaver, which also is an editor and creator of web pages.



Picture 3. Adobe Contribute

Adobe Contribute is the kind of tool that is appropriate more to management then creating web site from scratch. However, it provides lot of interesting functions and practical applications, so it could be quite interesting solution for companies that do not need big, complex web sites.

General appearance of Adobe Contribute application with opened document is shown on picture 3.

3.2 Online tools

This branch of tools for internet creating web sites division is characterized by applying templates of content presentation to this content in moment of requesting

specific web site page. This process is placed on appropriate web server and is initiated by engine of specific web site. The generated HTML code is its result. This type of tools are mostly internet applications with interface in the form of web page. Those applications have various functionality which mostly exist as separate modules. The wholeness is available from internet web browser after typing specific URL address.

This approach guarantees using a tool on any operating system without any problems. It can be said that by talking about CMS systems it is talking exactly about online tools available from internet web browser level.

Those systems are very popular because of their simplicity of usage, their wide choice which allow to select appropriate tool to specific applications and because of fact that mostly those systems are free of charge, opened source projects. This results in so called communities gathered around major projects. Those communities ensure support in case of problems (free of charge and often not worse than paid, professional ones) and provide new plugins, extensions and modules which add new functionalities to the specific system.

Two popular CMS systems will be presented. Those systems allow users to build simple home pages but also more complex web sites. Those will be Joomla! and Drupal.

3.2.1 Joomla!

Joomla! was released for the first time in year 2005 as for of Mambo system and started to be popular rapidly. Reason of this popularity is in the name of this tool. Joomla comes from Suahili word that means “all together”.

This is one of the most popular CMS systems because of fact, that it is free of charge product. System provides rich functionality yet in its standard version. Functions such as RSS feeds, news engines, blog engines, search engines, multilanguage versions of specific web site and so on.

Joomla! is build in modular way and directed to simplicity of extensions creating and integrating them with base system. Extensions could be classified to so called plugins, components and modules. Plugins provide new possibilites to existing and running system (system means base version with possible additional components). Those can be, for example, improvements in adding links to other documents during writing some text. Components add totally new functions such as creating backups of web site, translating engines, mechanisms that improve site indexing by search engines (like Google) etc. Modules make web site administrator be able to add new elements to web pages such us calendar or photo gallery.

Joomla! is a perfect solution for those people or smaller companies, who want to build and maintain professional internet web site and want to do it cheap. System guarantees many possibilities and simplicity of its usage, which helps to reduce web site maintain (and creation) costs significantly. In the internet free page templates, unofficial addons and any kind of help are available.



Picture 4. Joomla!

On picture 4 administrator main panel of Joomla! system is visible.

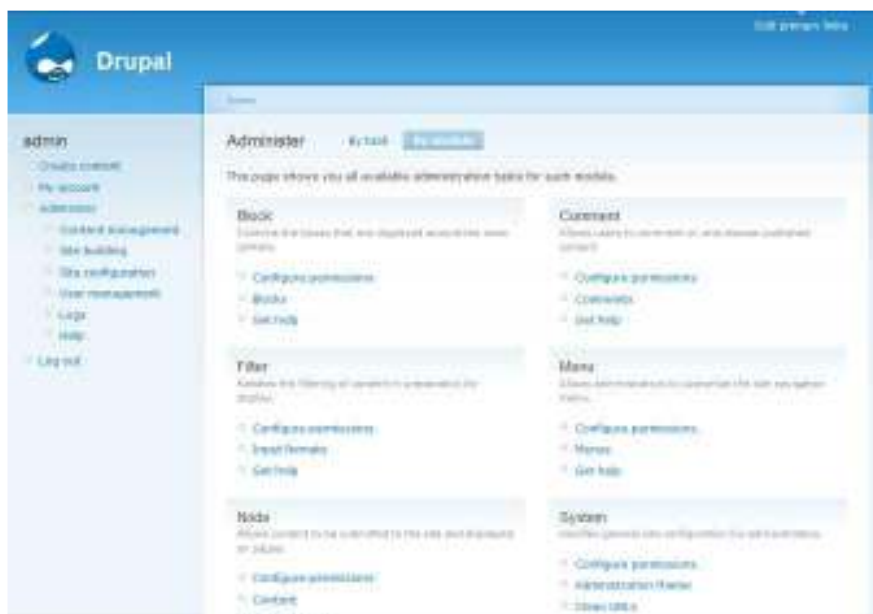
3.2.2 Drupal

Just like Joomla!, Drupal is free of charge content management system that is built in modular way. In its standard version it contains functionality as other CMS systems have. That are elements such as those to manage user accounts, to manage RSS feeds, adding blogging systems to the specific web site, message boards and mechanisms to create or a typical internet version of business card or community web site.

However, main power is in community gathered around this system. Drupal is built in specific way, so everybody could change its core engine and functionality by adding his own modules.

Thing that distinguish Drupal from other systems is taxonomy system (shortly: classification methods) which helps to categorize web site contents by special keywords so those contents could be accessed and searched much easier. Drupal, despite the fact of being CMS system, provides rich programming interface, which allow to extend its CMS system functionality.

In november 2007, creator of Drupal system Dries Buytaert announced beginning of Acquia [4], that is company which target is to put Drupal system into corporational environment.



Picture 5. Drupal

Web sites of Universal Music or NASA Academy of Program / Project and Engineering Leadership are based on Drupal CMS system.

System administration panel is shown on picture 5.

4 Development directions of tools for web sites creating

Tools described in this article could be used by various people or companies and to many different purposes. Purpose means what type of web site and exactly for what specific subject wants to start.

Offline tools are paid tools, directed straight to corporate users (especially Vignette and Bricolage). They offer rich functionality but are not a good choice for individual users. Situation is different with Adobe Contribute. While being directed to companies it could be also used by individual persons. This application offers less functions to manage a web site than tools mentioned before.

When it is about online tools, there were presented their classical examples. They are free of charge, they provide freedom of action on internet web site, but are less advanced than offline tools. But it does not mean that they are worse. All depend on user and aim. web sites that are progressing, which are administrate by people that are open-minded, that appreciate flexibility and help from community, should be powered by free solutions. Although bigger companies or corporations, that might be afraid of such solutions, should minimize the risk and buy expensive professional tools.

However, it can be affirmed that future of the market of tools to creating and managing web sites are online tools. Free and opened for almost every kind of user and paid solutions for mor demandings customer.

Online tools, as advanced internet applications head to maximize simplification of internet web site life process supervision. From its design and creation to its publishing and administration. They will offer more and more interesting solutions, simplifications, and they will be more and more advanced at the same time.

Today, if someone wants to start fully working internet web site he just need to choose appropriate engine, graphic template and spend few minutes over configuration

Tomorrow it could be that instead of choosing prepared templates or spending hours over programming and styling web pages, user will dynamically (during adding or managing contents) add to yet existing and running web site suitable elements or modules and set them freely.

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