

A NEW INTERNET BASED COMMUNICATION FRAMEWORK FOR THE CIPA COMMUNITY

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ABSTRACT:

Because of the international attitude of the CIPA it is important to present the results, projects and information's in a modern and easy to use layout on the internet. Both, the members and the users, expect an easy to use, high performance system to place or to retrieve information's. According to this, the article tries to show up the benefits for the community by using a Content Management System (CMS) for their Internet presentation. By describing the main aspects from a common point of view on how to implement a CMS, we try to show up the advantages of such a system, especially for scientific workgroups. Furthermore we want to show up, that the limitations about using a CMS are more and more decreasing. Thus the decision for a CMS or against it could be decided under technical and organizational aspects without emotions. In the last part of the paper we will have a close look on what is necessary to bring a CMS to success. Especially the question how the organization of the community correspond with structure presented by the CMS and what changes in the organization might be necessary will be discussed.

1. BASICS

1.1 Definitions

Before discussing the opportunities a "Content Management System" (CMS) could offer, we first have to discuss what a CMS is. On the German website www.contentmanager.de it is defined as a "Software System for the administration of Web Content by offering controlled processes to generate content and elements based on a strict separation of content and structure (layout)."

Another common and very important aspect of a CMS is the strict separation of content and layout. The content could be a text, media file or something else. The layout is the frame in which these elements will be presented to the public. Often the layout is implemented by a HTML-Template and corresponding Cascading Style Sheets¹ (CSS). Thus the user of the system is enabled to place content of any kind into the website without keeping special HTML programming or formatting constructs in mind.

Because the CMS generates the different elements of a publication dynamically into the given layout the user can focus on the input of the content. This means the user can primarily concentrate on his intention and don't have to worry about the design or the formatting of the elements. Furthermore the system is responsible for the right presentation of content and the correct links to the different pages. Thus the systems generates the corresponding links and navigation structure. This is very worth full to avoid broken or blind links and the user

don't have to worry about binding his pages into the system or to bring up the navigation structure.

In this context we have also to define the different user groups of a CMS. First of all we have the user himself. The user of a CMS writes articles and place them into the CMS. To separate the user from the other involved people we would like to call him "author". Often you find a controlled process to place content into a CMS in that way that an author writes an article and another author (the "chief author") has to activate the article. The article goes online when the "chief author" gives the permission to activate the article. Furthermore we have the user group of Administrators. The persons of this user group are responsible for technical and general aspects of the system. Last but not least there is the visitor of the website. So we have the following user groups which build up the community:

| |
|------------------|
| Administrator(s) |
| Chief Author(s) |
| Authors |
| Visitors |

Depending on the status a user has and his membership in the different user groups a CMS has to offer different levels of access rights to the users. Most of the available CMS offers this feature.

The next question to answer is: "Why should a community use a CMS?" and "What are the advantages of CMS?"

1.2 Advantages of a CMS

To show up the advantages a CMS can offer let us have a look on a basic content lifecycle:

¹ For more information on Cascading Style Sheets visit <http://www.w3.org/Style/CSS/>

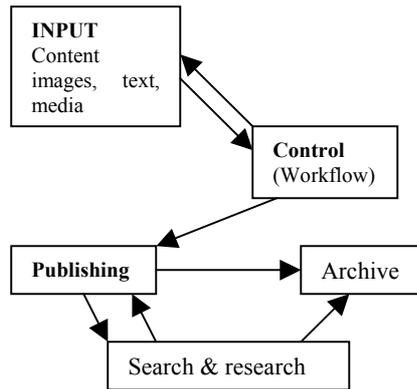


Fig. 1

As you can see in Figure 1 the content lifecycle has different stages. After writing the article and the check by the chief author the article goes online. Because nothing is forever after a period of time the article has to move into the archive and is substituted by a newer release. Sometimes we like to get information of latest and past articles or data. Thus we need a method to search and research for this kind of data.

By using the classic methods of hand written HTML Code you have to do the whole lifecycle on your own. This means you have to write, format and layout the article. You have to check the article. You have to place it into the system and create the right navigation. After a while you have to move the article into the archive and bring up the corresponding link (don't forget to delete the old one this will result in blind links!) and you have to program a search function. All this means that you have to be very familiar with techniques like HTML and web programming. For a website with a few users and a few pages this might be an efficient way, but when you plan to keep a website of a community up to date this will result in great waste of time and often in less professional presentations².

To show up the waste of time just imagine how long it takes to place an article into the website the "handmade" way. The process often looks like this: Rearrange and format a Word Document. Prepare the images or other elements for the web. Transfer all to the website server, generate the links. Then message from the author, please correct this part in the text or substitute this image by that one. And so on.

To avoid this the use of a CMS is the first step in the right direction. As discussed above all the necessary formatting and coordinating things will be done by the system. Thus the author can concentrate on what he wants to publish. Because the systems generates his article he don't have to worry about font sizes image qualities and the correct navigation. What he needs is a "login" and a basic knowledge of the functions to place content into the system, that is all. Because he can not break down the layout and the style of the website we get a way of "community identity" which is very important for the usability of the visitor's point of view. Furthermore the webmaster of the website can concentrate on "webmaster stuff" and not on placing badly prepared articles into the system. Last but not least, when the author likes to change something on his article he just logs in and change it. That's all.

² This doesn't mean that all "handmade" community sites present a bad style.

So, when the authors uses the CMS in that way, we get an website with up to date content and because of this with high interest levels for the visitors. Furthermore we are able to offer the visitors some services like a search function, an indexed search, downloads, print versions of the articles or text based versions of the articles. All this is possible without the work of the author. The system will automatically prepare the content in the appropriate manner. The visitors get the information they look for in the format they like and thus the website becomes more and more popular.

So, what are possible arguments against the use of a CMS and which CMS is the right one?

1.3 Further aspects

The market for CMS is a rapid growing one. Nearly for every purpose you find a CMS solution on the market. In the context of the CIPA and other primarily non-commercial Communities the costs for the software license is an important point to figure out the right CMS. By using a software which is available under "General Public License" (GPL) it is possible to use the benefits of a CMS in a cheap way. So the price of the software itself could not be the argument to deny the usage of such a system.

Furthermore it is important to check out the system requirements on the hosting server the software needs to function in a correct manner. CM-Systems which run under different circumstances from the view of the hosting server are a good choice, because you can select the provider by performance, independent from the operating system of the server.

Last but not least we have to keep in mind, that the chosen system sometimes needs some extra modules or components which should be also available under GPL and that there is an engaged community to bring on the software by fixing bugs and offer further information or documentation to the CMS.

To bring the website, managed by a CMS, to success, we have to look if there are limitations by using such a system. First of all there might be technical limitations. This means the systems doesn't offer the functionality we need or the system requires resources we can't offer. If there is a lack of functionality, we have to check if it is possible to easily adapt the system to requirements we need. Because we're using a GPL CMS it is more or less easy to build up or to adapt the functionality.

In most cases problems raises up because of the resources which are needed to run the system. But they can be easily solved. For example by choosing an adequate provider. More important is the compatibility of the system's interface and the website the system generates.

Whether we like it or we don't like it: Most users uses the Microsoft™ Internet Explorer Version 5 or higher. Nevertheless there are also users browsing the web with Netscape™ or Mozilla™ or other products. Thus we have to check out which techniques the users of the CMS and which techniques the visitors prefer. According to this there might be some limitations by using the interface to put stuff into the CMS or in the layout of the website as it appears on the PC of the visitor.

To avoid tremendous incompatibilities according to the preferred browser, we have to choose a design which will fit to the mainly used browsers by the community and the visitors. To get individual information's on this the log file and the web statistic is good point to start.

1.4 General usability aspects

As discussed before there might be some limitations. Most of them are easy to eliminate, just by switching to another provider or another browser. Keep in mind that most users of the internet uses more than one browser. More important in this context is the usability of the CMS. This means, the system should be easy to handle for the user and the administrator. Only if the user feels good by using the system the website and the community will grow and expand. Thus the CMS should offer an user interface that is easy to understand and to handle.

Because of the opportunity to manage different user rights it must also be possible to offer the user different interfaces with options concerning to their user rights. All this must be easily set up by the administrator of the system. Furthermore the administration of the CMS must be flexible enough to adapt changes in the structure or different requirements of the user groups. This leads to the question of organisational aspects of a CMS.

2. ORGANISATIONAL ASPECTS

2.1 Basics

In the context of the usability of a CMS it is important to check out the structure of the organization which plans to use a CMS. While in commercial organizations often a specialized group of employees or a team with good skills in HTML or other programming languages is responsible for the CMS, scientific communities are often not specialized on this. Sure there is a coordinator or an administrator for the web pages, but he has to put all the stuff together and adapt and edit it, so it will fit to the web design. This is one reason why you often find sides with so called "island solutions" where every user group has it's own layout which seldom fits to the layout of the whole community. Thus the website appears to the visitor as "mixed pickles". The click into the bookmark list is far away.

So, what is to do to give the community a professional closed look or the so called "community identity" as described above?

First of all we have to check the organization structure of the community and try to adapt this into the CMS. By doing this the organization, the responsibilities, the user groups and the sections will correspond with the layout of the website. Thus the user realizes the community structure just by a look on the navigation bar. So, it is possible for him to easy figure out which part of the organization is of special interest for him.

To achieve this goal sometimes the community has to rebuild her structure in some sections to bring up that closed look to the visitor.



Fig.2

In figure 2 you can see a screenshot of the structure from the CIPA website in the CMS. Especially in the section "Working groups" you see how the organizational structure is implemented 1:1 to the CMS. In the browser this looks as shown in figure 3.



Fig. 3

The great advantage of the corresponding structures takes place when there is for example a change in the organizational structure. Because what you see in figure 3 and 4 is automatically generated by the CMS, it is easy to adapt changes in the under laying organizational structure to the website. Just reorganize the page tree in the CMS so it fit's to the organizational structure!

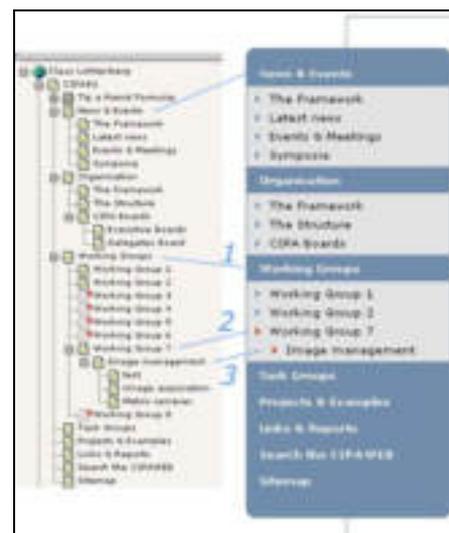


Fig. 4

2.2 Implementation

The implementation of a CMS under organisational aspects leads to the question how to organize the people who manage and fill up the CMS based website.

A good start is a group of 1 – 3 people with good skills in (X)HTML and knowledge about the CMS management tools. These people are the webmasters - and the administrators of the website. I recommend more than one administrator so it is possible to share the work. (For example answering questions from the users, setting up the CMS, etc.)

Next we have to build up user groups. Like the CIPA has done it before, it is a good idea to build groups in the CMS which correspond to the real organization structure.

These groups get access rights concerning to their section inside the page tree of the CMS. Thus when logged in, to place a new article into the CMS, the member of the group can only modify the content of the group page tree, see Fig. 5.



Fig. 5

Every group has a “CMS chairman³” who bundles the interests of the group concerning handling and adaptations of the CMS so it fits their needs. He is also responsible to check out the activity of the group members concerning their activities on the website. From time to time he checks out the actuality of the articles and remembers passive users to bring in content.

The group of CMS Chairmen stay in close contact to the administrators of the website. Together they look for solutions to possible problems or adaptations of the CMS. Furthermore it is recommended that this group will meet twice a year.

3. HANDLING

3.1 Placing an article (Example)

First of all you have to login into the CMS Environment. So type www.cipa4u.net/typo3 into the link section of your browser and you'll see the login screen (Fig. 5).



Fig. 6

Just fill out the required fields and you will get into the system corresponding to your user level, see figure 7.

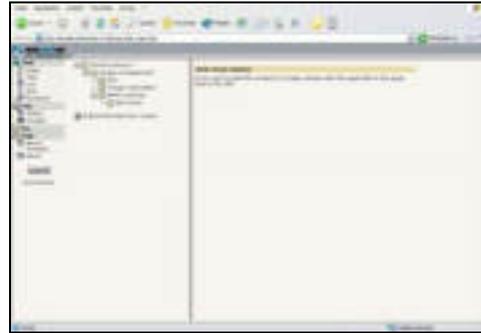


Fig. 7

Here by example you see the login for the Working Group 7 and their page tree node (main topic) and some added pages. When you click on the “Working Group 7” entry on the right side, a window as shown in figure 8 will appear.



Fig. 8

First of all we now have to decide which type of page we would like to generate. The system offers different types of a page. In the context of the CIPA the “advanced” page type and its features is the right one to choose, because it offers us keywords, abstracts and so on. Thus we have the ability to put general search throughout the whole website by keywords and abstracts. So, click the little pencil in the upper edit panel. (Figure 9)



Fig. 9

By clicking the “pencil”, the system offers you on the right side a window where you can select the page type. By default this is set to “standard” but as explained before we like to set it to “Advanced” to get the benefits of that type. (Figure 10)

³ Equal to the „chief author“

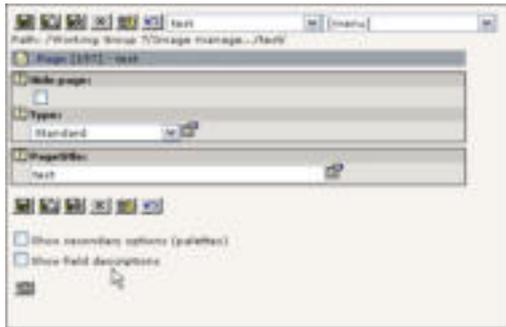


Fig. 10

So select from the flip box the entry “Advanced” and after a further inquiry which we confirm, we see the following window.(Figure 11)

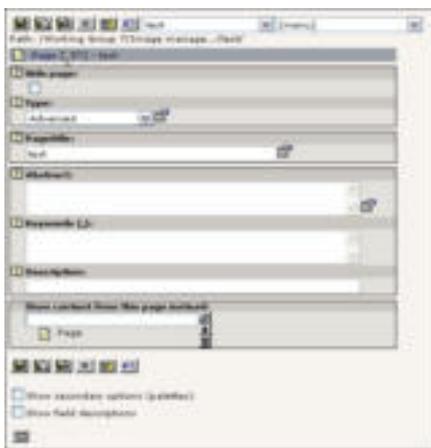


Fig. 11

Here we put content into the fields and then we click the “save and close” button . Thus our main page has been set up.

So what we need to do next is to put content into the main page itself and the sub pages. The steps for creating content are always the same. So when you’ve done it once there will be no more mystery to you. Now let us create content for the page called “Working Group 7”. The page has been probably set up as shown before and so we can put a little “life” into it.

To start just click on the page title in the page tree on the left side of the window. A screen as shown in figure 12 appears.



Fig. 12

By selecting the “Create page content” button the window to fill in the new content will be opened. (Figure 13)

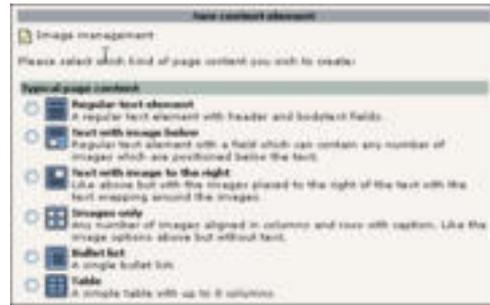


Fig. 13

Here you select the major type of content you’d like to place in the page. For example we select “Text with image to the right”. After selecting this content element we see the screen below (Figure 14). Here we place our content into the corresponding fields. The image will be automatically loaded up.

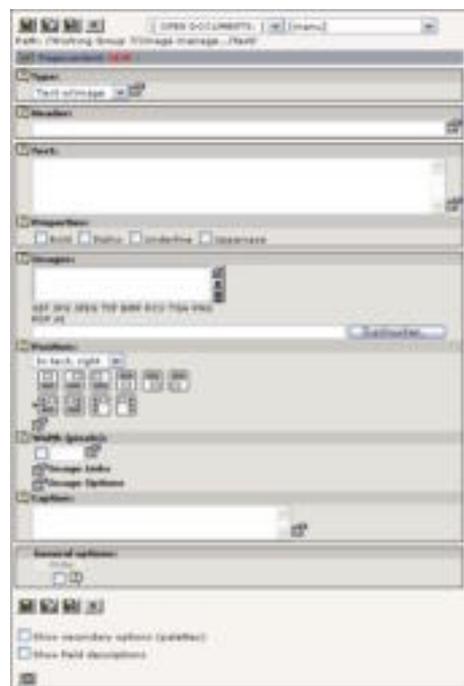


Fig. 14

A great advantage is that you can also decide which size the image should have just by entering the “width” of the image. Furthermore you can put a caption to the image and other different options. When everything is done submit your input by clicking the save and preview - or the save and close button. The formatting, the general layout and the appropriate placement will all be done by the system, so you don’t have to worry about these things.

Let the page tree grow...

Last but not least I’d like to explain how you can create a new page into or inside your page tree. Because you can not destroy the system in general there will be no risk of using the old fashioned “try and error” method. So the next steps are just an advice to create new pages and content.

Select the page tree node where you would like to place your new page. For example we want to put a page with the title

“test” into the “Working Group 7” tree. We click with the left mouse button on the icon in front of the entry and a pop-up menu appears as shown in figure 13.

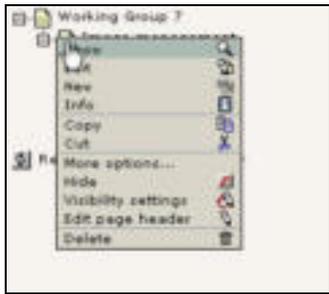


Fig. 15

Here you select “New” and on the right side a window as shown in figure 16 appears.



Fig. 16

The systems noticed that you would like to put a new page to the tree node “Working Group 7” and now it ask you, if you would like to place more content to the existing page or if you would like to create a new page inside the “Working Group 7”. We decide to create a new page and click on the appropriate topic. Because we are new with the system we select the wizard to give us a helping hand. (Figure



Fig. 17

The wizard shows us where we can place the page. Before the other “Image management” node or after it. In this example we decide to put it behind the “Image management” node. A click on the light grey arrow and it’s done. Right after that the procedure to put in content as describe above starts up and we can fill up our new page with content. The navigation update (the corresponding link in the menu) will be automatically generated by the system, thus you don’t have to waste time thinking about “linking”.

4. CONCLUSION

There are much more topics to discuss before selecting and setting up a CMS. Bringing them all forward would exceed this paper.

The topics discussed in this paper should show that using a CMS to generate a website can offer a lot of advantages. For the community and their visitors. Especially the websites of scientific communities often seem to be a bit confusing to the visitor because they are made from scratch. This is not necessary. By using a CMS the community can easily bring up a closed look to the website. Furthermore often the engagement of the members placing content into the website raise up, because now the author don’t need a good knowledge of a web programming language. He just places his content into the system which is as easy as an editor and – that’s it.

If your interested in the prototype of the CIPA CMS you are welcome to visit www.cipa4u.net. If you would like to test how easy it is to handle, login under: www.cipa4u.net/typo3
 User: cipatest
 Password: cipa2003