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## TYPO3 Education Booster Box

Intellectual Output 4: Education Booster

Prepared by

Verein Business Angels, TYPO3 Association, HTL Rennweg Vienna, Liceul Tehnologic Grigore Moisil Braila

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# What is a CMS

VERSION	DATE	AUTHOR	CHANGE
V 0.1	15.8.2018	Gerhard Sturm	First draft
V 1.0	27.8.2018	Gerhard Sturm	Review

## Description

Introduction to the basic concept of a content management system (CMS).

## Goals

I can explain what a CMS is.

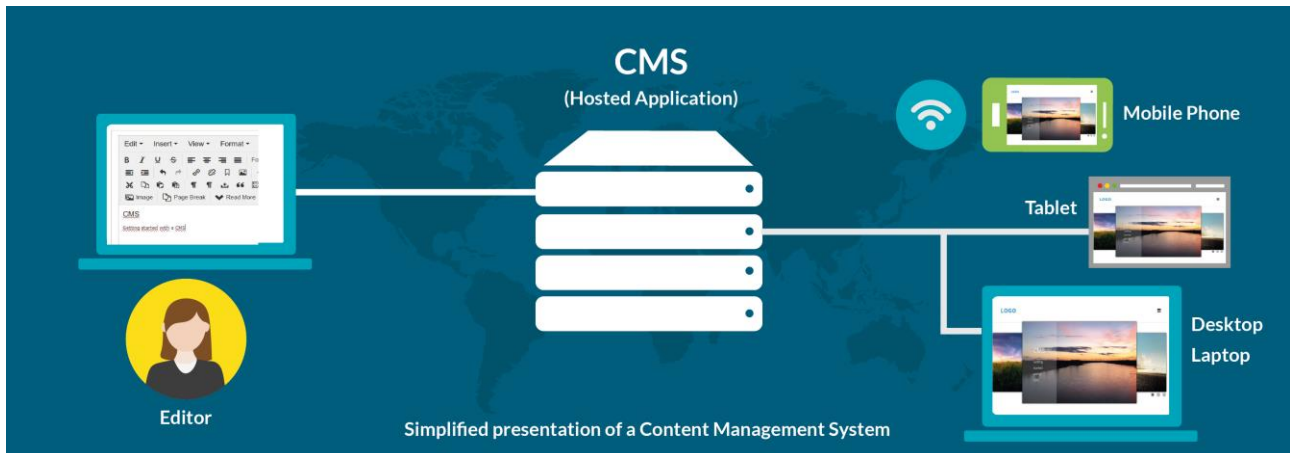
I can explain how content and design are separated in a CMS.

## 1 What is a Content Management System (CMS)?

Content has been managed for many years in the media industry. All the systems – from simple files to sophisticated audiovisual content in a broadcast environment – are labeled Content Management Systems (CMS). In the last decades Web Content Management Systems (WCMS or WCM) were getting more and more important and made it easier to maintain and organize the content of a website in an effective manner. We are now focussing on Web Content Management Systems.

A few years ago, the only way for you to develop a website, was to write all the HTML and CSS codes by hand. Imagine, your website is growing and you have 30 single HTML-pages (which is still a very small site). Now you recognize, that you have to change your site structure and you would like to modify your menu. This means not only that you need to know HTML and CSS, perhaps also Javascript or PHP, you also have to change every single HTML-page to update your menu on all pages.

A Content Management System will allow you to build your website without being an expert in HTML, CSS and Co. A CMS allows you to modify the menu on one single place and all your webpages are updated. Of course your website will contain images, videos, audio-content or forms to interact with your visitors. With a CMS you may create or modify your web pages in a way you know from editing text in Word or similar text editing programs.

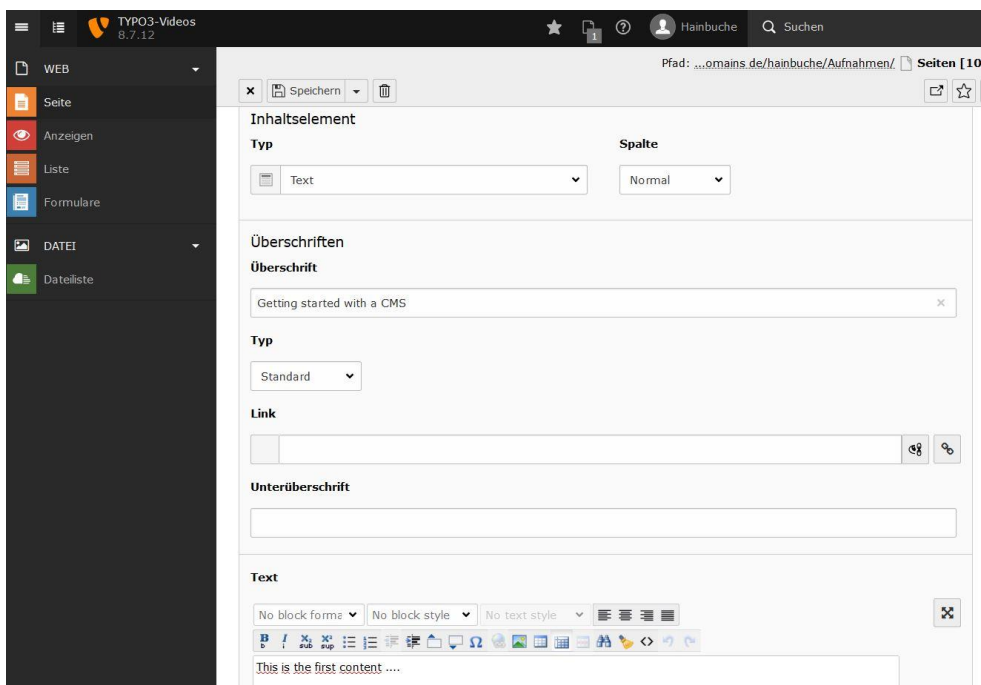


As you may enter content in a CMS without HTML/CSS-knowledge, the content and the presentation of the content (design) has to be separated. With the content management application (CMA) you are able to enter/modify/delete/organize your content. This part is also called backend (system) or admin panel. The content delivery application (CDA) is responsible for displaying your content to the visitors of your site.

## 1.1 CMA/CDA

The content management application (CMA) is a graphical user interface that allows a user to add, modify and remove content from a website. There are no skills of HTML or CSS necessary.

The following screenshot shows, how you can enter a Text element using the open source CMS TYPO3.



The content delivery application (CDA) compiles the information entered in the CMA and updates the website. The screenshot below shows how the entered content is being displayed to the visitors of the website.

# TYP03 Videos

Video-Projekt **Aufnahmen** Kontakt

## SEITENEIGENSCHAFTEN UND SEITENTYPEN

### AUFNAHMEN

- ♥ Grundlagen
- ♥ **Seiten**
- ♥ Inhalte
- ♥ RTE
- ♥ Ansichten
- ♥ Dateiliste
- ♥ Tipps
- ♥ Extensions

### GETTING STARTED WITH A CMS

This is the first content ....

### LISTENMODUL

Das Listenmodul ist sehr leistungsfähig und vielseitig nutzbar. Schauen Sie einfach das TYP03-Video an!

## 1.2 Common Components of a CMS/WCMS

Features can vary widely amongst the various CMS offerings. Most of the systems offer the following core functions:

- **Management of your content**  
A CMS offers you the possibility to enter content, modify or delete content. It means also organizing data types, storing data in a data repository or a database (see CMA).
- **Distribution and publishing of your content**  
Once the content is entered, you usually need to publish it. An important feature for many authors or editors is the preview-function, which allows you to see, how the content looks after publishing. If the content has been published, it has to be compiled (content+design=webpage) and distributed to your visitors. State of the art systems display the content according the size of the target screen, which means that the web page looks different on a desktop and on a mobile phone (responsive design).
- **Indexing, search and retrieval**  
Your website needs to be searchable. It allows your users to quickly find what they were looking for. It makes your users lives easier. It should be possible to search within text-fields as well as within downloadable pdf-files and it should allow users to search by attributes such as publication dates, keywords or author.
- **User Management**  
If your website is growing, you probably need some help for entering and organizing all the content. Or imagine the website of international companies with thousands of employees in different countries with various languages. In such an environment content management will be done by a lot of employees. Thus, you will need to control publishing, and to grant access to specific parts of your website.
- **Analytics and Reports**  
After some time your website is online, you may want to know, which articles are liked mostly or what phrases or keywords the users use in your search bar, how are they interacting with your content or which devices they use. Gathering information about how your site is used is crucial to refine your content strategy.
- **Templates/Themes**  
We noticed, that a CMS separates the content from the design. The design part is represented by templates or themes. With a template/theme you may change the look of a site all at once. Even if your site has thousands of pages, you can change the look of all your pages with just a few clicks. The

separation of content and design allows also specialization. While the web designers take care of the look of your site, the authors or editors may concentrate on the content.

- SEO-Tools (Search Engine Optimization)  
Having a great website is useless if the users cannot find it. Therefore, your website need to be “friendly” to the search engines of Google and Co. A CMS should support you in preparing your site with the appropriate information for the search engine bots and to create search engine friendly URLs.

### 1.3 Content Types

The content of your website consists of hundreds or thousands of different elements:

- Text
- Images or graphics
- Videos
- Audio
- Files
- etc.

Content elements are structured. Let`s take some contact information. Each contact data consists of a predefined set of fields: Name, address, email, telephone number, etc. These structured elements are called content types. They define sets of default fields for editors to add content on a CMS. Other examples of content types are:

- Article: headline, sub-headline, text, images, author, creation date, publishing date, language, category...
- Download: file, file name, description, size of the file, file-type, access rights ...
- Product: name, price, description, size, weight, colour, packaging unit, shipping costs ...

## Tags

Introduction, CMS

## Glossary

Admin panel	see Backend (system)
Backend (system)	Graphical User Interface which allows Editors to enter/modify/delete/organise the web content.
CDA	Content Delivery Application, part of a CMS that delivers a webpage (created or modified within the CMA) to the user
CMA	Content Management Application, part of a CMS that allows a user to add, modify or delete content
CMS	Content Management System
compile	here: transformation of computer code and content elements (text, images...) to a HTML-page, which can be displayed to the users
Content type	A Content Type is a pre-defined collection of data fields.

Database	A usually large collection of <b>data</b> organized especially for rapid search and retrieval
Data repository	Partitioning of data, where partitioned data types are stored together
Responsive Design	Technology that makes web pages look well on a variety of devices and screen sizes. The goal of responsive design is to build web pages that detect the visitor's screen size and orientation and change the layout accordingly.
Search engine bot	Small computer program that systematically browses the World Wide Web, typically for the purpose of building the databases of Google, Bing and Co.
Search engine friendly URL (SEF)	A search engine friendly URL is a web address that is easy to read and includes words that describe the content of the webpage.
SEO (Search Engine Optimization)	Techniques used to increase the amount of visitors to a website by obtaining a high-ranking placement in the search results page of Google, Bing and Co.
Template	Predesigned resource that shows the structure for the comprehensive layout and display features of any website.
Theme	see Template
WCM	Web Content Management System (see also WCMS)
WCMS	Web Content Management System (see also WCM)

## Image Credits

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## Extensions and Plugins

VERSION	DATE	AUTHOR	CHANGE
V 0.1	22.8.2018	Gerhard Sturm	First draft
V 1.0	27.8.2018	Gerhard Sturm	Review

### Description

Introduction to the extension of the functionality of Content Management Systems.

### Goals

I can explain what an extension of a CMS is.

## 1 Extensions and Plugins

The core functionality of a CMS is not able to cover all the different needs. Thus, a lot of Content Management Systems open their system to suppliers of extensions. With this modular concept, it is possible to concentrate on the core functionality while specific needs are covered by external partners.

The installation and integration of such extensions are usually easy and can be done quickly. After you have installed the core system for your CMS, you can install your choice of extensions. Some extensions are free, some have to be paid. The commercial partners often offer a subscription for 6 months or a year. During this subscription-period you get all the updates of the extensions free.

The number of extensions vary strong between the Content Management Systems (22.8.2018):

- WordPress 56.150
- Drupal 41.316
- Joomla 7.970
- TYPO3 (7LTS) 1.300

For the website owner, it is important that there are no issues with installed extensions when the core system needs updating. It is therefore important to check whether the manufacturer of an extension is serious and has received appropriate reviews. Otherwise, you can quickly experience nasty surprises.

### Tags

Introduction, Extensions, Plugins

## Glossary

Extension

An extension of a CMS extends the functionality of the system. There are different names in use: Module, Extension, Add-on, Plugin, Component.

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# User Management

VERSION	DATE	AUTHOR	CHANGE
V 0.1	17.8.2018	Gerhard Sturm	First draft
V 1.0	27.8.2018	Gerhard Sturm	Review

## Description

Introduction to the principles of handling users and their access rights.

## Goals

- I can explain what user management means and why it is necessary.
- I can explain the basic concepts of granting access rights to users.
- I can explain the difference between Frontend and Backend Users.
- I know some basics to avoid security problems.
- I know what a usergroup is and how I can use it in a CMS.

## 1 User Management

The user management of a CMS distinguishes two different types of users, the visitors of your website (frontend) and the persons, who enter the content (backend users).

In the front-end, you may allow a guest/visitor to see all your blog posts, but some specific downloads or a special area of your site you may offer only to users who pay for it. In a company or organization, there is often a public area and an area with restricted access for employees or members (intranet). In WordPress this role is called subscriber, in Joomla it's a guest and with TYPO3 the groups may be created according your own needs. A Role defines a set of tasks a user assigned to the role is allowed to perform.

The screenshot shows the 'Registration' tab in the TYPO3 User Management interface. It is organized into three main sections: 'Used fields', 'Required fields', and 'Unique fields'. Each section contains a 'Selected' list and an 'Items' list. In the 'Used fields' section, the selected items are 'username', 'password', 'email', and '--submit--'. The 'Required fields' section has 'username', 'password', and 'email' selected. The 'Unique fields' section has 'username' and 'password' selected. The 'Items' lists provide a pool of available fields to be added to the respective categories.

Screenshot: User Management of Frontend Users with the CMS TYPO3

More important as the frontend users are the backend users, as they may modify your website. Thus security is very important for a CMS. In addition, Content Management Systems are some of the most common targets of hacking on the Internet today. To avoid problems, some basic principles have to be considered:

- Use a strong password: see <https://www.symantec.com/connect/articles/simplest-security-guide-better-password-practices>
- Have a firewall in place: see <https://www.incapsula.com/blog/cms-security-tips.html>
- Make regular backups of your CMS
- Keep your system up to date: if a security hole has been found, it may be fixed by installing the latest patches
- Get a SSL-certificate: the https protocol is set up and allows secure connections from the web server to the web browsers of your visitors.

In the backend most of the CMS have several roles/groups implemented or they offer a possibility to set up roles and/or user groups. The names are different and also the responsibilities associated to the roles. A contributor may create, post and update content, including words and images, but only content assigned to them. An Editor may have the ability and responsibility to review and publish content (=making it visible to the public). Below you can see the predefined roles for backend users of some popular Content Management Systems:

- Drupal: Contributor, Editor, Site Administrator
- Joomla: Author, Editor, Publisher, Manager, Administrator, Super User
- TYPO3: Simple Editor, Advanced Editor, Admin
- WordPress: Contributor, Author, Editor, Administrator, Super Admin

People ⊕ Tech News Now LIST PERMISSIONS

[Home](#) > [Administration](#)

[+ Add user](#)

SHOW ONLY USERS WHERE

role  Filter

permission

status

UPDATE OPTIONS

Update

<input type="checkbox"/>	USERNAME	STATUS	ROLES	MEMBER FOR	LAST ACCESS	OPERATIONS
<input type="checkbox"/>	Mary Marcus	active	• Author	6 days 11 min	5 days 9 hours ago	<a href="#">edit</a>
<input type="checkbox"/>	James Jason	active	• Author	6 days 12 min	5 days 9 hours ago	<a href="#">edit</a>
<input type="checkbox"/>	Diane Diller	active	• Author	6 days 13 min	5 days 9 hours ago	<a href="#">edit</a>
<input type="checkbox"/>	Mark Mission	active	• Author	6 days 14 min	5 days 9 hours ago	<a href="#">edit</a>
<input type="checkbox"/>	admin	active	• administrator	6 days 21 hours	5 min 21 sec ago	<a href="#">edit</a>

Screenshot: User Management with the CMS Drupal

But what if you wanted to modify the permissions of an existing user role? Most CMS offers the possibility to modify the predefined user groups/roles. If you have specific needs in defining your access levels, please check whether the CMS you choose is able to modify the predefined groups.

After creating a new user, you usually have to assign that user to a group/role. By doing this the user inherits all the rights from the user group/role. Special care should be taken to the admin/site admin/super admin-groups. As these users have far-reaching access rights and possibilities within a CMS, there should be only one or very few users, associated with these groups. Take also care, not to use the standard name for an admin account (like "admin"), as this makes it much easier to hack the account.

## Tags

Introduction, User management

## Glossary

Backend User	User, who is using the Graphical User Interface (GUI) of a CMS to enter, modify or organise the content of a site
Frontend User	visitor/guest of a website
Group/User Group	a group of users with the same access rights and responsibilities
Intranet	Internal network of an organization/company based on internet technology
publish content	put content online, make content visible to the public
Role	defines a set of tasks a user is allowed to perform

## Image Credits

- Frontend User Configuration TYPO3:  
[https://docs.typo3.org/typo3cms/extensions/datamints\\_feuser/FrontendUserManagement/Introduction/Screenshots/Index.html](https://docs.typo3.org/typo3cms/extensions/datamints_feuser/FrontendUserManagement/Introduction/Screenshots/Index.html)
- User Management Drupal: [https://www.drupal.org/files/admin\\_people\\_users\\_author\\_role\\_2.PNG](https://www.drupal.org/files/admin_people_users_author_role_2.PNG)

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# Caching

VERSION	DATE	AUTHOR	CHANGE
V 0.1	24.8.2018	Gerhard Sturm	First draft
V 1.0	27.8.2018	Gerhard Sturm	Review

## Description

Introduction to the principles caching.

## Goals

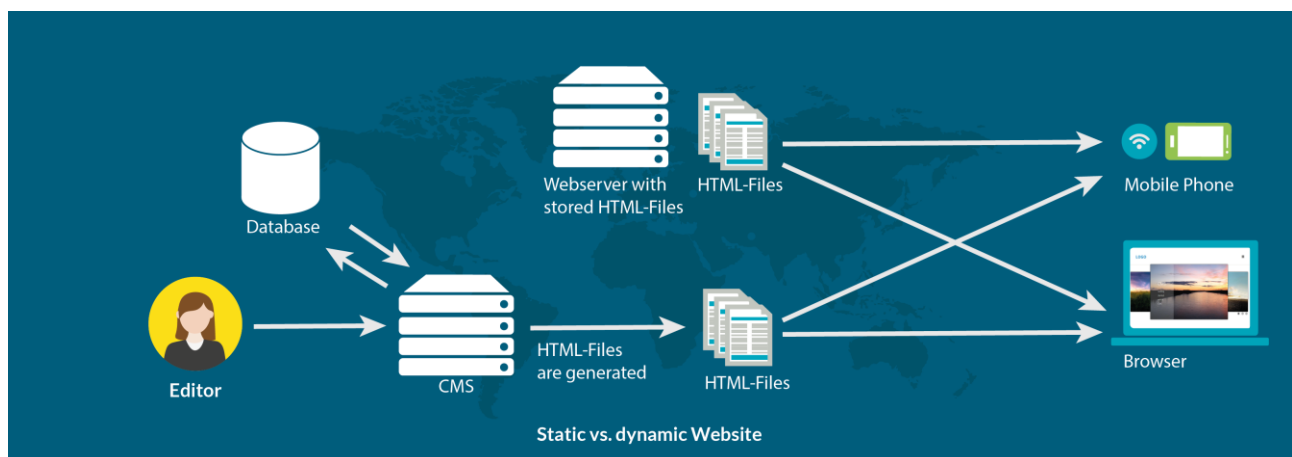
I can explain what caching means.

I can explain the advantages of caching.

## 1 Caching

53% of users stop when the loading time is more than 3 seconds. Consequently, since July 9, 2018, Google has been including the load times of (mobile) websites in the ranking factors. But even with the visitors, the mood worsens with every delay and productivity drops.<sup>1</sup>

With the help of caching, valuable time can be saved especially when using content management systems. While static sites can deliver the web pages directly via the web server, the so-called dynamic web sites must first generate the HTML pages. Several database queries can be necessary before an HTML page can be delivered to a browser or to a mobile phone. If a lot of users access the website at the same time, the response time can increase significantly.



<sup>1</sup> Quelle: <https://blog.searchmetrics.com/de/2018/07/10/google-speed-update/>

Caching is storing data temporarily, which is particularly useful in database or CM systems. It tries to load as little content as possible from the database. Without loss of quality, the loading time should be optimized by caching.

Technologically, the following options are available:

- **Page Cache:** Here, static files are generated, simulating a static website. If a document is changed by an editor, the static file is also regenerated and stored. The generated pages can be stored in the main memory or in the file system, whereby the main memory is much faster.
- **Browser Caching:** This technique attempts to cache as many files as possible through the browser on the local client. If graphics or pages are "cached" by the browser, for example, when reloading an HTML page, the graphics are loaded directly from the browser cache and do not have to be reloaded from the server. The browser cache can be done via CMS caching extensions or through settings in the .htaccess file. The refresh interval should be set accordingly (eg 30 days).
- **Database Caching:** This is a server-side technique that allows data to be temporarily stored in a database. This saves calculation-time, but you still need to access the database. With complex calculations in the queries, this can nevertheless improve the response time.
- When users access a website worldwide, a content delivery network (CDN) can increase access speed. A CDN provides cached copies of web content (videos, web pages, images ...) all over the world. To reduce response times, the CDN uses the nearest location to the customer.

Advantages of caching:

- Shortening the response time and thereby improving the user experience
- **Reduce Backend System Costs:** Reducing the number of requests to the database server can save hardware costs.
- **Foreseeable performance:** the number of database queries can be predicted more easily and thus more easily adapted to the volume of users.

Disadvantages of caching

- Information is no longer retrieved live. Depending on the setting of the cache parameters, page content may be outdated. This can be remedied by setting the expiration date appropriately or manually clearing the cache.
- Not all content can be cached: personalized information (shopping cart, individual calendars, personalized content) must be reloaded on every call. This means that, on the one hand, the CMS must be able to set these exceptions and, on the other hand, a site admin must also exclude these sites from caching.

## Tags

Introduction, Caching, Performance

## Glossary

Ranking faktor	criteria applied by search engines when evaluating web pages in order to compile the rankings of their search results
Page Cache	temporary stored data to increase the HTML-page to the client
Browser Cache	temporary stored data at the client
Content Delivery Network (CDN)	geographically distributed network of proxy servers and their data centers

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## Publishing and Workflows

VERSION	DATE	AUTHOR	CHANGE
V 0.1	17.8.2018	Gerhard Sturm	First draft
V 1.0	27.8.2018	Gerhard Sturm	Review

### Description

Introduction to the principles of publishing content.

### Goals

I can explain what publishing means.

I can explain the possibilities common Content Management Systems offers for publishing.

## 1 Publishing content

To publish content means to make the content available to people. It is the final step in the work with a CMS (from working in your CMS to saving to your web server) and the page being live on a development or production server.

The Publish action may be available for:

- Articles, blog entries, pages
- Content items like contact information, events, project information, products ...
- Images, documents or other files
- Folders
- Sites
- Extensions like modules, widgets, plugins
- Templates

When you have entered all your content and the site development has tested successfully functionality and design you need to publish the whole site. This is the moment where people can see your website for the first time. Smaller sites will mostly publish directly while sites with sensible content or a bigger audience will use a staging environment, before publishing it on the production-server.





Some Content Management Systems offer also some useful options for publishing. You may set a “Start Publishing”-date and “Finish Publishing”-date. With this option you are able to schedule your publishing which may be quite useful for some situations. Imagine you have entered an event which takes place on June 15. The day after the information about the event is getting useless and it is better to take it offline. With such a scheduling-function you do not have to take care, that the content will be set offline. On the other hand, you made an announcement that some information will be available at a certain date. With the scheduling-options you may finish your announcement as soon you have all the details and set the appropriate date. The content will be published automatically at the date/time you have set. Some systems also allow to set/modify the creation date, which may be useful if the article order has been set by creation date.



As the organization gets bigger the requirements for publishing also gets more sophisticated. If you have several content producers you may want to check the articles before putting them online. With a workflow established within your Content Management System you will get a notice, that there are new articles to be checked and published. In a more collaborative process, there will be a picture editor who is responsible to find or create appropriate images or graphics for an article. Or you have a multilingual site and each content item has to be translated into several other languages. In this case you may have several steps from the creation till publishing. The possibility of defining workflows within your Content Management System helps you to keep your work efficient and more comfortable than using various technical systems.

As content may be published, it can also be unpublished. The content will not be deleted, it will just be taken offline.

## Tags

Introduction, Publishing, Workflow

## Glossary

Production server

to publish content

A server to deploy and host live websites. The site should have undergone extensive development and testing before.  
put content online, make content visible to the public

Staging server	A server that is used to test a website in a production-similar environment before being set live
Workflow	Sequence the content creation process through which a content item passes from initiation to completion. Each workflow contains states, possible transitions and item conditions.
States	States can be regarded as steps within a workflow.

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# Search Engine Optimization with a CMS

VERSION	DATE	AUTHOR	CHANGE
V 0.1	24.8.2018	Gerhard Sturm	First draft
V 1.0	27.8.2018	Gerhard Sturm	Review

## Description

Introduction to the search engine optimization with a Content Management System

## Goals

I can explain what SEO is.

I can explain the main issues for SEO with a CMS.

## 1 Search Engine Optimization

If you have now brought your own content into the web with the help of a CMS and the site looks good by using a professional template, you are still not done yet. Finally, your website is intended to attract visitors to the website in order to present services or to sell products. So we would be on the subject of search engine optimization or the interaction of a CMS and search engines. Search Engine Optimization is about helping search engines like Google, Bing etc. understand your content.<sup>1</sup>

Current content management systems support the editors in preparing the content for the search engines. But still, the optimization has to be done by an editorial member and is not done automatically by the CMS or any extension. Search engine optimization is subject to very complex and rapid changes, which is why one must presuppose a more intensive study of the subject.

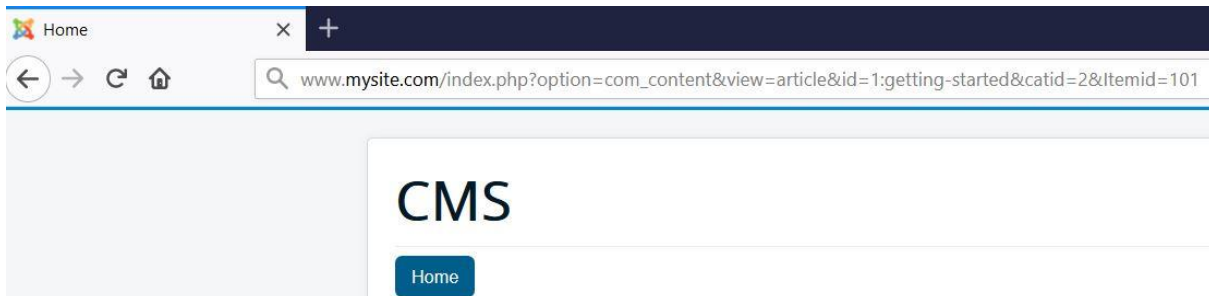
What support do current content management systems offer in search engine optimization?

### 1.1 SEO friendly URLs

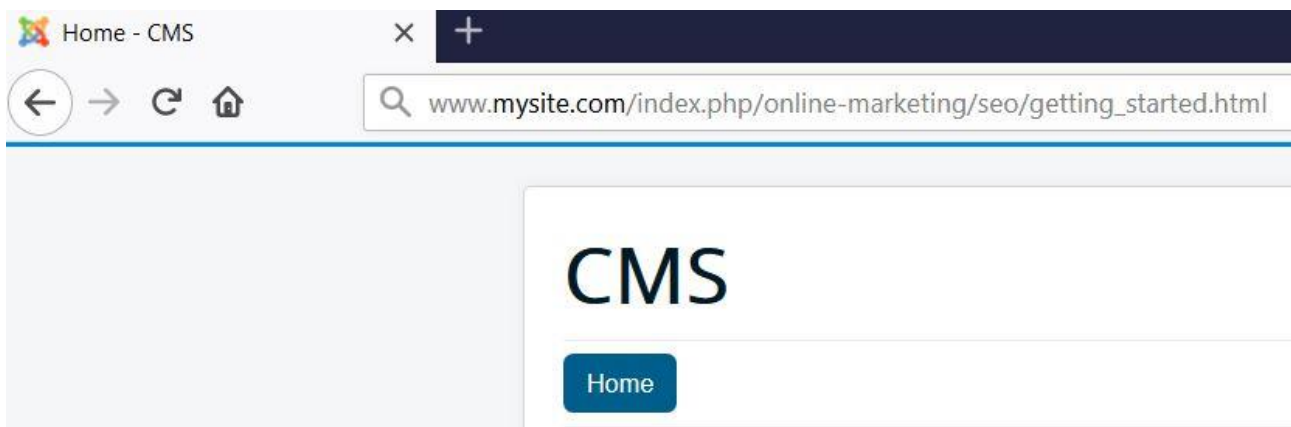
A CMS typically returns URLs with cryptic letter-number combinations (e.g., [www.mysite.com/index.php?view=article&id=1&getting-started&catid=2&itemid=101](http://www.mysite.com/index.php?view=article&id=1&getting-started&catid=2&itemid=101)). In order to be able to operate SEO in a reasonable manner, speaking URLs (e.g. [www.mysite.php/online-marketing/seo/seo-whitepaper.html](http://www.mysite.php/online-marketing/seo/seo-whitepaper.html)), and reasonable virtual path structures in the URL tree (/online-marketing/seo in this example) including editing options compelling nowadays.

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<sup>1</sup> see some references below (Links)



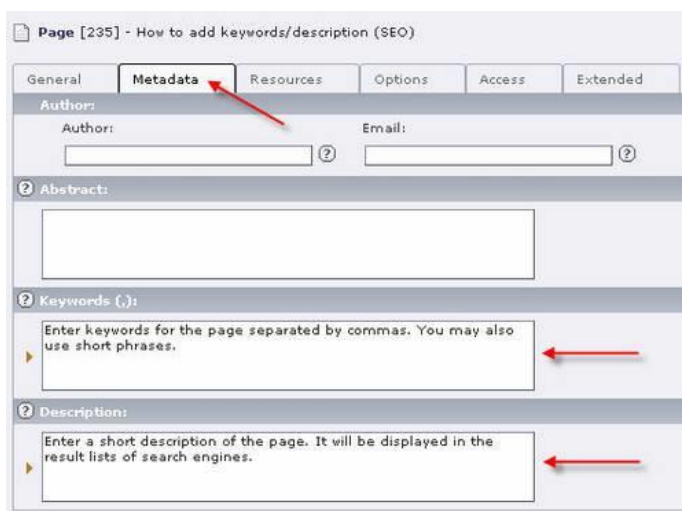
Screenshot: Standard-URL in a CMS



Screenshot: Search-Engine-Friendly-URL in a CMS

## 1.2 Editing possibility of the meta-information

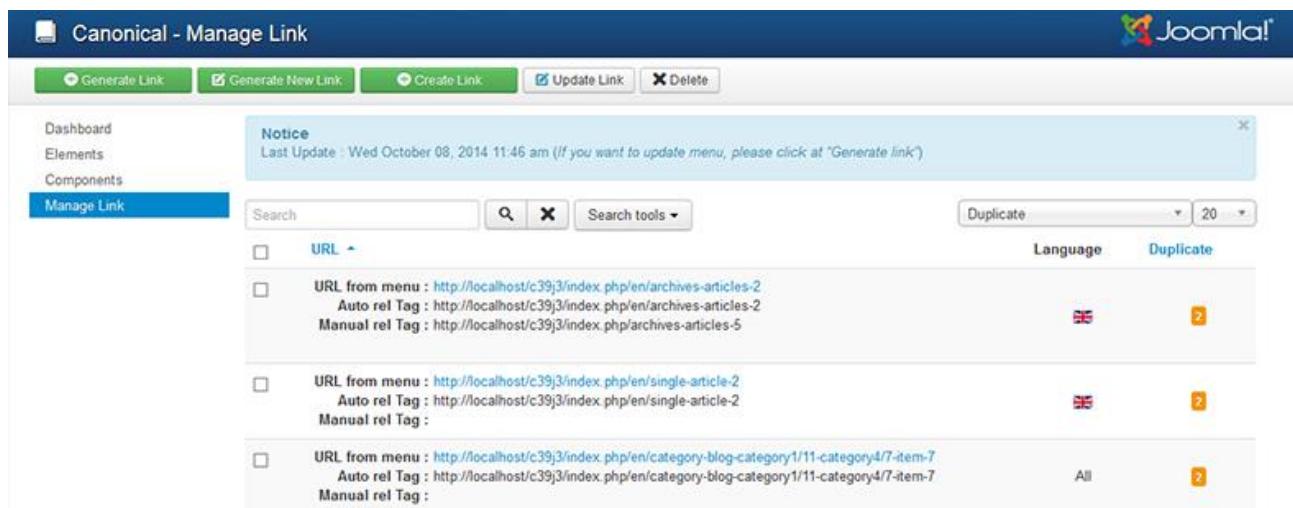
A CMS must be able to edit the meta-information per page. Certain automatisms, such as the automatic filling of the title tag with the heading of the article is good as a fallback, yet this information must be configurable and editable.



Screenshot: TYPO3 - How to add keywords/description

### 1.3 Preventing Duplicate Content

This is a problem with some CMS systems. Due to programming or architectural deficiencies, some CMS allow access to the same page via different URLs (duplicate content). This "duplicate content" worsens the PageRank.



Screenshot: Extension for the CMS Joomla to manage duplicate content

### 1.4 Automatic generation of sitemap and robots.txt

The purpose of robots.txt is to exclude CMS-internal files and directories for search engine robots, since they are only necessary for their own operations, but have nothing to do with search engine indexes. The Sitemap.xml serves to list all published page URLs. This way, the corresponding pages are found better. Importantly, these sitemaps are always up to date, e.g. if an article was deleted (placed offline).

The screenshot shows the 'General - Yoast SEO' settings page in a WordPress dashboard. The left sidebar contains a menu with options like Dashboard, Posts, Media, Pages, Comments, Appearance, Plugins, Users, Tools, and Settings. The 'SEO' section is expanded, showing sub-options: General, Search Appearance, Search Console, Social, Tools, Premium, and Redirects. The 'General' sub-option is selected. The main content area has tabs for 'Dashboard', 'Features', and 'Webmaster tools'. The 'Features' tab is active, displaying a list of features with toggle switches. The 'XML Sitemaps' feature is highlighted with a red rectangular box, and a green circular icon with a white checkmark is placed next to its 'On' toggle. Other features shown include SEO analysis, Readability analysis, Cornerstone content, Text link counter, Insights, Link suggestions, Ryte integration, Admin bar menu, and Security. A 'Save changes' button is at the bottom.

Screenshot: Extension for the CMS WordPress to support SEO; highlighted: switch for generating XML Sitemaps

## 1.5 SEO Tools

They are often installed as extension to the CMS. SEO add-ons consist of page speed tools, keyword management tools, rich snippet tools, automated SEO-tagging or events structured data among others.

Regardless of the SEO tools and the possibilities within the content management systems in the field of on-page optimization, above all high-quality content is of importance. The content should not be copied but has been written specifically for the target group and ideally the user should get the best results for every request without having to adjust the search several times.

Great SEO doesn't begin with content; it begins with selecting the right CMS for that content.<sup>2</sup>

## Tags

SEO, Extension

## Glossary

Canonical URL

The term "canonical" is used with duplicated content. If you have a single page accessible by multiple URLs, or different pages with similar content, the search engines see these as duplicate versions of the same page. With a canonical link element, which can be inserted into the <head>-section of a web page, you can tell the search engines, that multiple pages should be considered as one. A canonical URL is the URL that you want visitors to see. Process of looking for new or updated web pages by a Crawler. Automated software that crawls (fetches) pages from the web and indexes them.

Crawl

Crawler

Duplicate Content

Content that appears on the internet in more than one place. Duplicate content can lead to penalties of search engines such as Google and Bing.

Index

Search engines like Google stores all web pages that they know about in their index. The index entry for each page describes the content and location (URL) of that page.

Meta Information

Meta information are *HTML* attributes that provide concise information about the specific webpage like description, author, keywords etc. The metadata can be used by browsers (how to display content or reload page), search engines (keywords), or other web services.

SEO

Search engine optimization: helping search engines like Google, Bing etc. understand your content

Search-Engine-Friendly-URL (SEF)

Human-readable or clean *URLs*. They make sense to both humans and search engines and do not contain cryptic characters

<sup>2</sup> see: <https://www.klipfolio.com/blog/seo-content-management-system>

Sitemap	A list of all relevant HTML-Pages of a web site; for use by search engines and other crawlers, there is a structured format, the XML Sitemap
Speaking URL	see Search-Engine-Friendly-URL

## Image Credits

- Canonical URL: <https://www.cmsplugin.com/products/components/4-canonical-url>
- Meta-Information: TYPO3-Support: How to add keywords/description: <http://www.typo3support.com/more-answers/how-to-add-keywordsdescription-seo/>
- Sitemap: <https://yoast.com/what-is-an-xml-sitemap-and-why-should-you-have-one/>

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# Templates

VERSION	DATE	AUTHOR	CHANGE
V 0.1	20.8.2018	Gerhard Sturm	First draft
V 1.0	27.8.2018	Gerhard Sturm	Review

## Description

Introduction to the concept of templates in a CMS.

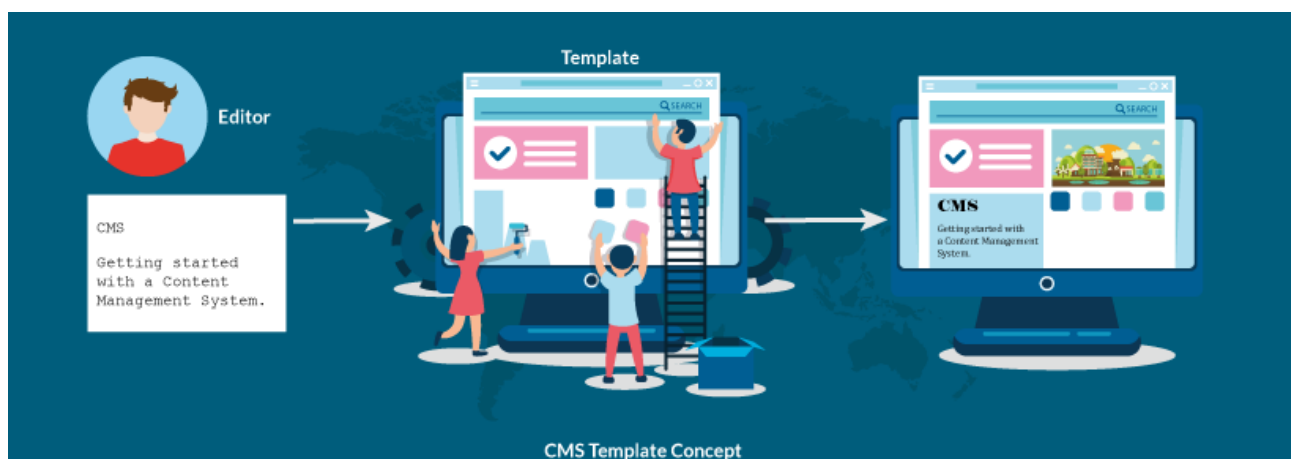
## Goals

I can explain what a template is.

I can explain the advantages of a template.

## 1 Templates

It was already mentioned that one characteristic of a CMS is the separation of content and design. As the content is entered in the admin panel of a CMS, the design comes from templates or themes. A template is a set of files which offers you the design of a web page. The template is pre-formatted in some way. For example, you might use a template in Microsoft Word that is formatted as a business letter. It is similar with a Content Management System. Usually you enter plain text in your admin panel of your CMS. You have a default template assigned to your website which “creates” the design of your site. Some CMS allow also to associate a second template to one specific page, but usually you assign the template to all pages of a site. The template defines where your content is placed, which font in which size will be chosen for your headline and for your continuous text. It defines the size of your images, the colours, etc. Some templates may also add some functionality to your system.



Using a template for a CMS has numerous advantages:

- Separation of content and design: complete separation of content and presentation, especially when CSS is used for layout.

- **Consistency and clarity:** Using a template means also, that all your content items look the same. You have a consistent look of your site. This is especially important, when you have a lot of contributors entering content for your site or if your contributors do not know HTML and CSS.
- **Redesign:** A new template, and hence a completely new look at a web site can be applied instantly. This can even have different locations/positioning of content as well as other colors and graphics. Usually you do not have to change your content, the new look is defined by a new template.
- **Time saving:** An editor does not have to take care of the design of his content which saves a lot of time.
- **Specialization:** Everybody does what he/she can do best. The designers take care of the look and feel of your site, the editors enter the content.
- **Customer satisfaction:** the professional look and feel of your website helps you to increase your customer satisfaction.

A CMS is usually able to handle several templates which allow a switch to another design with the same content. It is even possible, that a user may choose from several designs/templates.

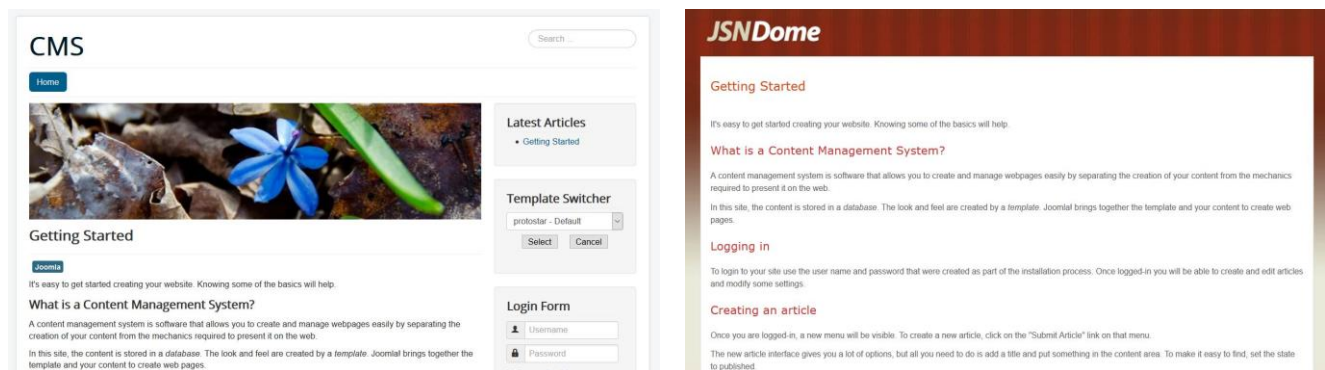


Illustration: The same content with two different templates which can be chosen by the user by one click (Template Switcher on the right column in the left image)

Some CMS allow the installation of new templates by uploading a zip-file while other CMS expect an uploaded and unpacked file on a specific place on your webserver. Usually you need also to publish the template or to set the template as default template.

The term “template” is also used for predefined content items in the content creation process. Some systems allow the usage of templates to easily and quickly enter content items. These (content) templates are custom html files that contain content for inserting into articles.

## Tags

Introduction, Templates

## Glossary

Template

1) a set of files which offer you the design of a webpage; the term template is used by TYPO3 and Joomla

2) a custom html file that contains content for inserting into articles; the template should help to quickly add a specific content which is often used

Theme

see template, Theme is used by Drupal and Wordpress

## Image Credits

- Icon vector designed by Freepik, composition Gerhard Sturm

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## Content Editing

VERSION	DATE	AUTHOR	CHANGE
V 0.1	23.8.2018	Gerhard Sturm	First draft
V 1.0	27.8.2018	Gerhard Sturm	Review

## Description

Introduction to the possibilities of content editing.

## Goals

I can explain the difference between a simple text editor and a WYSIWYG-editor.

I know what frontend editing means.

## 1 Content Editing

### 1.1 Text-Editor

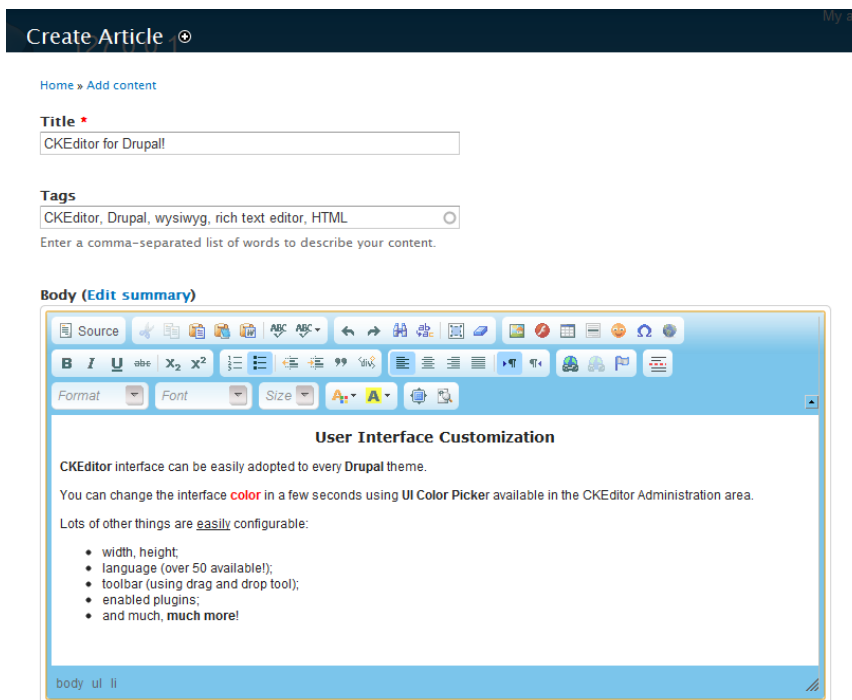
While a simple text editor allows you to capture and edit text, you cannot do much more with it. Alone the input of the HTML tags is very tedious, because there is no support from the editor (color coding, automatic closing of a tag, indentations ...). Entering a link or an image is hard, as you should know all the details (url, file name...). Should the CMS of your choice only provide a simple text editor, it is recommended to install a WYSIWYG editor.

The screenshot shows the Joomla! 'Articles: Edit' interface. At the top, there's a dark blue header with the Joomla! logo and title. Below it is a toolbar with buttons: Save, Save & Close, Save & New, Save as Copy, Versions, Close, and Help. The main form has a 'Title \*' field with 'Getting Started' and an 'Alias' field with 'getting-started'. Below these are tabs: Content, Images and Links, Options, Publishing, Configure Edit Screen, and Permissions. The 'Content' tab is active, showing a text area with placeholder text. On the right, there's a 'Status' dropdown set to 'Published', a 'Category \*' dropdown set to 'Uncategorised', a 'Featured' toggle set to 'No', and an 'Access' dropdown set to 'Public'.

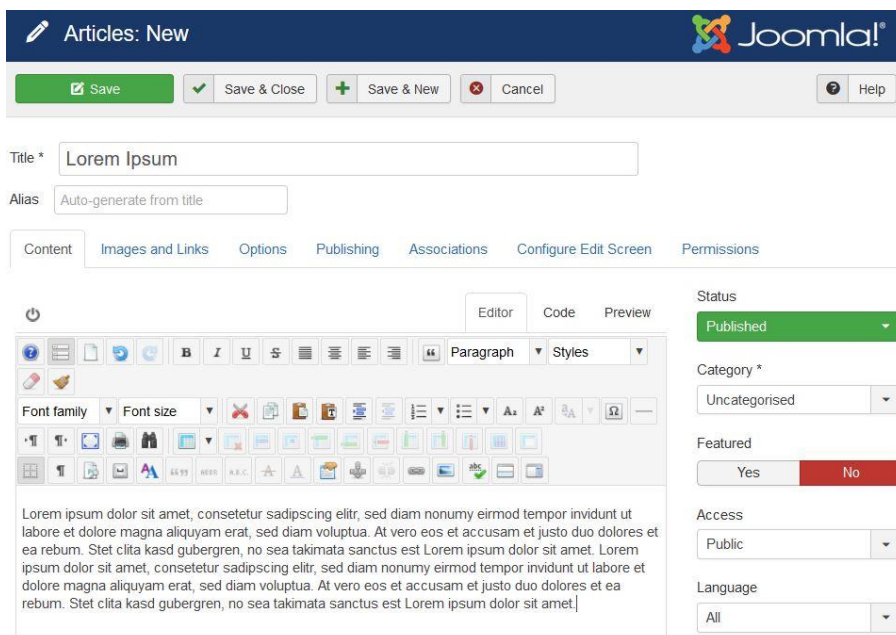
Screenshot: Simple Text-Editor in Joomla

## 1.2 WYSIWYG-Editor

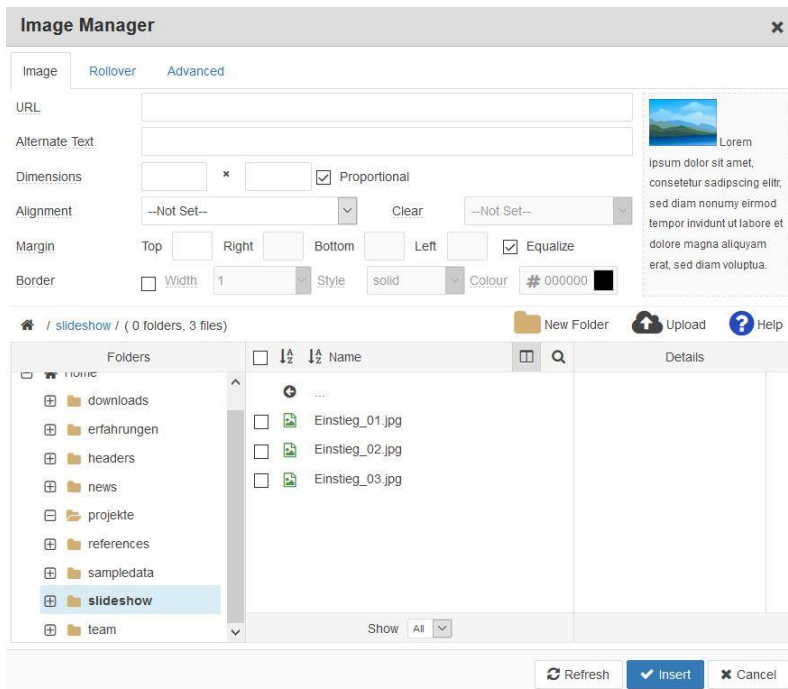
Meanwhile, almost all content management systems offer so-called WYSIWYG editors for content editing. A WYSIWYG editor works much like a standard word processor and offers a variety of useful features. This supports the editors, for example, in the creation of links, the integration of images or tables, the formatting of text (if desired and permitted) or the assignment of CSS classes.



Screenshot: WYSIWYG-Editor CK-Editor for Drupal (also used in TYPO3)



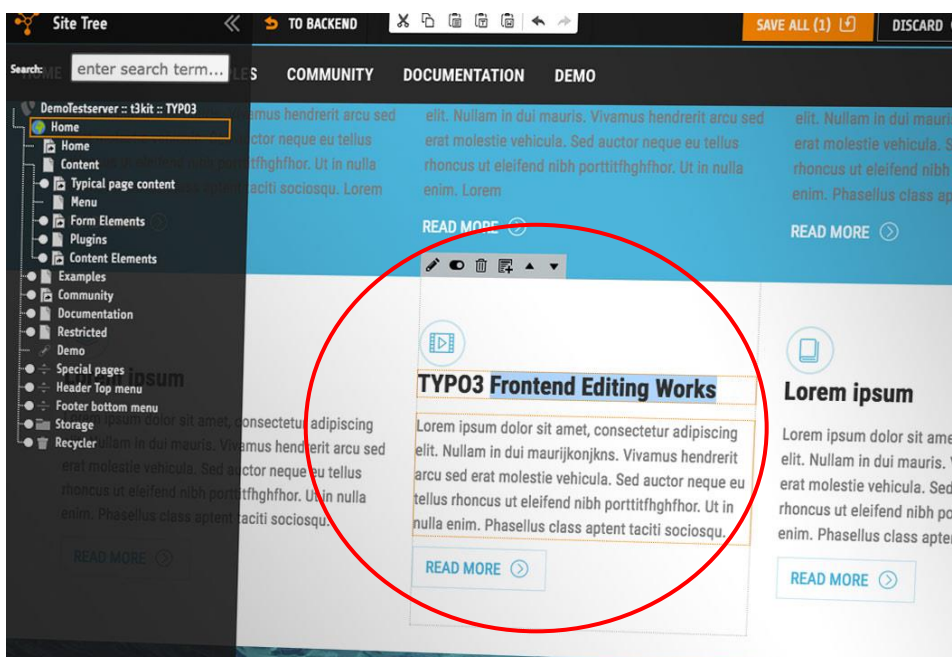
Screenshot: WYSIWYG-Editor JCE for Joomla



Screenshot: Image-Manager within the JCE-Editor for Joomla

### 1.3 Frontend Editor

Some systems also allow editing directly in the frontend. According to the rights, the editor gets a simple WYSIWYG editor after the login with the text elements and can thus directly edit the finished website and see the results immediately.



Screenshot: Frontend-Editing with TYPO3

## Tags

Introduction, Editor, WYSIWYG

## Glossary

WYSIWYG-Editor

"What You See Is What You Get,"

A WYSIWYG-editor shows what Web pages will look. This means that an editor can move text and images around the page to make it appear exactly how he or she wants before publishing the page on the Web. When the page is published, it should appear nearly the same on the Web as the way it looked in the editor.

Frontend Editing

Editing of the final webpage with an additional small WYSIWYG-Editor displayed.

## Image Credits

- CK Editor for Drupal: <https://ckeditor.com/blog/CKEditor-for-Drupal-Released/>
- Front End Editing with TYPO3: <https://typo3.org/article/status-of-the-frontend-editor/>

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