

1. Why a CMS:

Websites have gone from simple business card style static HTML to dynamic extensions of a company's image. A website is much more now than ever before. A website can be critical to attracting and keeping customers as well as it can be the business for a company.

The task of managing a website has grown in size as well, going from an IT supporter with flair for HTML managing a handful of pages to dozens or hundreds of non-IT practitioners adding, editing, deleting and arranging content on multiple domains simultaneously.

It is therefore no surprise that the demands for systems to manage the web content have grown, too. Today, content management systems (CMS's) can be as vital to a company's web strategy as the ERP system is to the internal running and management of the company itself.

2. What does a content management system do?

A typical CMS aims to help users manage information efficiently. The principle functions of most CMS applications include:

- a. storing
- b. indexing
- c. search and retrieval
- d. format management
- e. revision control
- f. access control
- g. publishing
- h. reporting

3. Popular web CMS features

A web content management system is typically capable of performing core CMS functions mentioned above. On top of this, however, web CMS may also include the following features:

- i. SEO-friendly URLs
- j. customizable templates to manage content presentation
- k. permission-based access control
- I. user and group functionality
- m. content organization structures
- n. content virtualization
- o. versioning and workflow management
- p. collaboration platform
- q. delegation between user groups
- r. language or user support

- s. integrated file managers
- t. integrated audit logs
- u. install and upgrade wizards
- v. compliance with website and accessibility standards

One of the most user-friendly CMS features is the WYSIWYG editor, or 'what you see is what you get' text-editing tool which works like Microsoft Word. This tool allows you to manipulate the webpage code without having to know the underlying programming language (HTML).

Beyond the creation and publishing of HTML content, you can also set up a CMS to:

- w. support your online marketing campaigns
- x. integrate with your customer relationship management system

4. Why Dee.CMS

Dee.CMS a content management system built for media companies, to provide easy deployment and pluginable system for news and TV sites, scalable and reliable system, it's focused on user experience, and offers precise control for designers and developers, built on Amazon Web Services AWS.

4.1. Features:

- A fast, attractive interface for editors
- o Configure content types front-end through layout engine
- Simple, configurable permissions
- Workflow support
- o Multi-site and multi-language support
- o Full template support and customizable templates

5. Purpose of this Document

This deliverable aims at providing sample methodology and models to carry out the Business Function Analysis required either for describing them "as is" (current model of organization and operation) or the "to be" (desired model).

6. Business Function Analysis Documents and Modules:

Document	Level	Modules
User Requirements		CMS features, Business Process
Detail Analysis Documentation		Class Diagram, Interface interaction design

7. Scope/Exclusions:

It is in the scope of this document to provide a brief description of the methodology and modelling of Business Functions.

8. Assumptions:

It is assumed that the readers of this document are familiar with CMS systems design and management. Adequate knowledge of designing Organization charts, Dataflow Diagrams, etc. is also assumed.

9. Users and Security:

ID	Actor	Actor Goals	Actor Goal Description
1	Editors	Write and edit post	
2	Editor in Chief		
3	Executive Editor		
4	Social media publisher	Publish the content into the social network	
6	Graphical designers	To define the template and initialize the pages	
7	Website administrator	To create and maintain the company sites, manage users and roles	
8	Administrator		

10. Work areas and Business Process:

The work areas of this chapter contain tasks that are used in the CMS on a regular basis. Most of the functional requirements will be in this chapter. All the processes are divide by category as showing below:

10.1. Use Case category:

ID	Business Process category	Frequency	Users
Cat - 01	Manage site structure	Rarely once set up	Website administrator
Cat - 02	Manage Layout	Rarely once set up	Website administrator, graphical designers
Cat - 03	Manage templates	many times, month	Website administrator, graphical designers
Cat - 04	Add/edit/delete content item	Daily	Administrators, editors and authors
Cat - 05	Review and approve content	many times, a day	Content editors
Cat - 06	Publish content	many times, a day	Content editors
Cat - 07	Manage media library	many times, a day	Administrator, Editors and Authors
Cat - 08			
Cat - 09	Workflow management	Rarely once set up	Website administrator

10.2. Use Case list:

ID	Use case ID	Use case Name	Use case Description
	Manage site structure Cat - 01		
1	UC-001	Create site	
2	UC-002	Maintain user rights and responsibilities	
3	UC-003	Edit Site	
4	UC-004	Remove site	Remove site consisting of one or more pages
5	UC-005	Add Page	
6	UC-006	Remove Page	
7	UC-007	Edit page	
8	UC-008	Brows Sites	
Manage Layout Cat - 02			
9	UC-009	List layout	
10	UC-010	Add layout	
	UC-011	Edit layout	
	UC-012	Undo layout	
	UC-013	Save layout	
	UC-014	Delete layout	
14	UC-015	Duplicate layout	
Manage templates Cat - 03			
13	UC-016	List Template	
2	UC-018	Add Template	

ID	Use case ID	Use case Name	Use case Description		
3	UC-019	Edit template	-		
4	UC-020	Undo change			
5	UC-021	Save template			
6	UC-022	Copy template			
7	UC-023	Delete template			
8	UC-024	Replace template			
		Add/edit/delete content item B	PC-2		
9	UC-025	Find content item			
10	UC-026	Edit page/Content	Create page based on template		
11	BP - 11	Search in media library	Search among media files in media library		
12	BP - 12	Insert a media fil	Insert a media fil on the page		
13	BP - 13	Upload a media	Upload a media file and set meta data		
14	BP - 14	Add/change meta data	such as: responsible person, creation date		
15	BP - 15	Delete content			
16	BP - 16	Save content	Save content for later resumption (without being published or sent for approval)		
17	BP - 17	Send for approval	Manual be email, phone or by automated workflow functionality		
18	BP - 18	Receive feedback	Receive feedback from approval/editor		
19	BP - 19	Review before publishing	Review before publishing		
20	BP - 20	Undo change	Roll back to earlier versions or undo in editor		
21			see the		
	Review and approve content BPC-3				
22	BP - 22	Receive notification for review			
23	BP - 23	View right content			
24	BP - 24	Correct content			
25	BP - 25	Reject content			
26	BP - 26	Notify user about the action	Notify user about the action (publish or reject)		
		Publish content BPC-4			
27	BP - 27	Set publish date and time			
28	BP - 28	Set un-publish/expiry date and time			
29	BP - 29	Save published content item			
30	BP - 30	Publish to staging server			
31	31 BP - 31 Publish to production server				
		Manage media library BPC-	5		
32	BP - 32	Locate media file on local Pc			
33	BP - 33	Upload media file to media library			
34	BP - 34	Set meta data			

ID	Use case ID	Use case Name	Use case Description
35	BP - 35	Search among media file in the media library	
36	BP - 36	Show which pages refer to media file	
37	BP - 37	Delete media file	
		Workflow management BPC-	7
43	BP - 43	Send email	
44	BP - 44	Post review	
45	BP - 45	Publish	
46	BP - 46	Facebook publishes	
47	BP - 47	YouTube publishes	
48	BP - 48	Tweeter publishes	
49	BP - 49	Sent notification	
50	BP - 50	Save post in DB	
51	BP - 51	Save draft	
52	BP - 52	Retrieve post data by (user, clients, date)	
53	BP - 53	Retrieve draft data	
54	BP - 54	Approve publish	

10.2.1. Manage templates BPC-1:

10.2.1.1. Overview:

Using templates is a way to control the layout and a tool to create a uniform appearance of all the pages that make up the site, no matter who updates them. A CMS is often set up in a way, that forces the users to use the templates, and therefore it is important, that there are enough templates to provide flexible presentation of content while keeping the number low enough to retain the overview of available templates and when to use which template.

10.2.1.2. Process List

1. List Template UC-001:

Use case ID	UC-001	Use case name	List Template
Sub use case ID	-	Sub-Use Case Name	- logging, create page, edit page
Actor	Graphical designer	Frequency	Many times, month
Use case description	To show all the template available related to specific site to linked page with the selected template		
Precondition	 User login as a Graphical designer Web Site created One or more Template created 		

Il the templates must be showing to the user related to the website selected 1. User logging to the CMS (sub-use case)
1 User logging to the CMS (sub-use case)
 Choose the site for add or edit its page User browses to create/edit page. (sub-use case) User request to show all templates System show all the template
 4. There is no template related to the site selected. - User is informed to there is no template and give him link to create new template. Continue from 4.
it can be difficult to distinguish between the layout of templates, if they only are entified by name lution example: Instead of choosing among the templates from their names only, it might be sier to overview and choose the right template, if they are represented by small ugh models of their layout for instance
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2. Add Template **BP - 2**:

Use case ID	UC-002	Use case name	Add Template
Sub use case ID	-	Sub-Use Case Name	- logging, create page, edit page
Actor	Graphical designer	Frequency	Many times, month
Use case description	Allow user to add template	to the site was selecte	d
Precondition	 User login as a Graphical designer Web Site is created 		
Post Condition	Template added to the site		
Main Scenario	 User logging to the CMS (sub-use case) Choose the site to add template 4. 		
Alternative Scenarios	-		
Note			

Process ID	BP - 2
Overview	

Process Owner	
Problem	
Solution example	
Process Status	
Process Concept	
Initiation Criteria	
Average Processing Time	
Frequency	
Special Requirements	

2. Edit template **BP - 3**:

o Overview:

Process ID	BP - 3
Overview	
Process Owner	
Problem	
Solution example	
Process Status	
Process Concept	
Initiation Criteria	
Average Processing Time	
Frequency	
Special Requirements	

- o Process Diagram
- 3. Undo change **BP 4**:
 - Overview

Process ID	BP - 4
Overview	
Process Owner	
Problem	
Solution example	
Process Status	
Process Concept	
Initiation Criteria	
Average Processing Time	
Frequency	
Special Requirements	



- o Process Diagram
- 4. Save template **BP 5**:
 - o Overview

Process ID	BP - 5
Overview	
Process Owner	
Problem	
Solution example	
Process Status	
Process Concept	
Initiation Criteria	
Average Processing Time	
Frequency	
Special Requirements	

- o Process Diagram
- 2. Copy template **BP 6**:
 - o Overview

Process ID	BP - 6
Overview	
Process Owner	
Problem	
Solution example	
Process Status	
Process Concept	
Initiation Criteria	
Average Processing Time	
Frequency	
Special Requirements	

- o Process Diagram
- 5. Delete template **BP 7**:

o Overview:

Process ID	BP - 7
Overview	
Process Owner	
Problem	P1: Template is in use. If a template is being used by pages, the system should prevent that it is deleted. P2: User cannot see which template are in use before trying to delete them. There many exist numerous template in the CMS, and some of them may even be exact copies of other, meant to be changed in some way. It has to be clear which are in use and which are not.
Solution example	S1: Block deletion and list pages using this template option to select a replacement template to be applied to all pages using this template S2: List template with indication of whether it is in use.
Process Status	
Process Concept	
Initiation Criteria	
Average Processing Time	
Frequency	
Special Requirements	

- o Process Diagram
- 6. Replace template **BP 8**:
 - o Overview

Process ID	BP - 8
Overview	
Process Owner	
Problem	P1: User can only replace the template one page at the time. Sites can have thousands of pages, and changes to the general layout on only parts of the site do occur. It should be possible to replace the template of many pages all at one.
Solution example	S1 : Replace template of several pages all at once. For instance, by replacing the template from a certain site-node and below or by marking the pages, in a model of the site tree structure, and replace with another template all at once.
Process Status	
Process Concept	
Initiation Criteria	
Average Processing Time	
Frequency	
Special Requirements	



10.2.2. Add/edit/delte content item BPC-2:

10.2.2.1. Overview:

Add, edit and delete content are basic functionalities in every CMS, and every CMS will contain the functionality. The interesting things are therefore the problems that users have

experienced when adding, editing or deleting content. These problems are explained below because these are problems that are handled differently, if at all, in different systems.

Most pages will include media files, most often images, to liven up the page and aid the readability.

Problem: Copy-pasting to the CMS editor does not automatically upload picture to media library

The fact that media files have to be uploaded to the server to be visible to the public on a website, is an abstraction that some new or rare users of CMS's forget. A user writes some

content in a Word document, inserts some pictures and tries to copy and paste text as well as pictures into the CMS editor. This is an intuitive thing to do, but usually CMS's cannot handle the pictures this way. The ideal solution would be a CMS that could handle this, and automatically upload the picture to the media library and change the reference in the text from the local pc to the media library on the server. Another way of handling the problem could be a message telling the user to upload the picture to the media library, if a picture is pasted into the editor

10.2.2.2. Processes List:

7. Find content item **BP - 9**:

OverView:

Process ID	BP - 9
Overview	
Process Owner	
Problem	P1: Content item can be difficult to find
Solution example	S1 : Option to mark unpublished page with appropriate icon or color
Process Status	
Process Concept	
Initiation Criteria	
Average Processing Time	
Frequency	
Special Requirements	



8. Edit page/Content **BP - 10:**

Overview

Dungang TD	BP - 10
Process ID	BP - 10
Overview	
Process Owner	
Problem	P1: CMS Editor show only little part of the page P2: Someone edits a page he should not edit
Solution example	S1: CMS editor should be able to show the entire page and not only the box that begin edited and have preview functionS2: Permissions should be set up so that only relevant pages are visible to and editable by a user
Process Status	
Process Concept	
Initiation Criteria	
Average Processing Time	
Frequency	
Special Requirements	

Process Diagram

9. Search in media library **BP - 11:**

Overview

Process ID	BP - 11
Overview	
Process Owner	
Problem	
Solution example	
Process Status	
Process Concept	
Initiation Criteria	
Average Processing Time	
Frequency	
Special Requirements	

Process Diagram

10. Insert a media file **BP - 12:**

Overview

Process ID	BP - 12
Overview	
Process Owner	
Problem	P1: Copy-pasting from word to CMS editor dos not automatically upload picture to media library
Solution example	S1: CMS editor, that automatically upload media file, when copied into the editor and prompts the user for meta data. Or Message, that tells the user to remember to upload a picture.
Process Status	
Process Concept	
Initiation Criteria	
Average Processing Time	
Frequency	
Special Requirements	

Process Diagram

11. Upload a media file **BP - 13:**

Overview

Process ID	BP - 13
Overview	
Process Owner	
Problem	P1: User overwrite file used on pages with an unsuitable image
Solution example	S1: Giving a warning that the file is in used and block the overwrite
Process Status	
Process Concept	
Initiation Criteria	
Average Processing Time	
Frequency	
Special Requirements	

Process Diagram

12. Add/change meta data **BP - 14:**



Process ID	BP - 14
Overview	
Process Owner	
Problem	
Solution example	S1: Some of the values could have default values set automatically e.g. creation data and responsible person
Process Status	
Process Concept	
Initiation Criteria	
Average Processing Time	
Frequency	
Special Requirements	

13. Delete content **BP - 15:**

Overview

Process ID	BP - 15
Overview	
Process Owner	
Problem	P1: Delete page has sub-pages in tree
	P2: Delete page is linked from other pages.
Solution example	S1: Warning about consequences when trying to delete the
	page or block the deletion
	S2: Block deletion and show list of referencing pages.
Process Status	
Process Concept	
Initiation Criteria	
Average Processing Time	
Frequency	
Special Requirements	

Process Diagram

14. Save content **BP - 16:**

Overview

Process ID	BP - 16
Overview	Save content for later resumption (without being published or sent for approval)
Process Owner	
Problem	
Solution example	
Process Status	
Process Concept	
Initiation Criteria	
Average Processing Time	
Frequency	
Special Requirements	

15. Send for approval **BP – 17:**

Overview

Process ID	BP - 17
Overview	
Process Owner	
Problem	
Solution example	S:1 Manual be email, phone or by automated workflow functionality
Process Status	
Process Concept	
Initiation Criteria	
Average Processing Time	
Frequency	
Special Requirements	

Process Diagram

16. Receive feedback **BP - 18:**

Overview

Process ID	BP - 18
Overview	
Process Owner	
Problem	

Solution example	S1: Manual be email, phone or by automated workflow functionality
Process Status	
Process Concept	
Initiation Criteria	
Average Processing Time	
Frequency	
Special Requirements	

17. Review before publishing **BP - 19:**

Overview

Process ID	BP - 19
Overview	
Process Owner	
Problem	P1: preview doesn't look exactly as the page dose, when saved
Solution example	Publish to staging server with browsing as if it was published. Preview only selected page in frontend design as if it was published
Process Status	
Process Concept	
Initiation Criteria	
Average Processing Time	
Frequency	
Special Requirements	

Process Diagram

18. Undo change **BP - 20**:

Overview

Process ID	BP - 20
Overview	
Process Owner	
Problem	
Solution example	Roll back to earlier versions
•	Or undo in editor

Process Status	
Process Concept	
Initiation Criteria	
Average Processing Time	
Frequency	
Special Requirements	

19. Publish **BP - 21:**

Overview

Process ID	BP - 21
Overview	
Process Owner	
Problem	
Solution example	
Process Status	
Process Concept	
Initiation Criteria	
Average Processing Time	
Frequency	
Special Requirements	

Process Diagram

10.2.3. Review and approve content:

10.2.3.1. Overviow:

Publish content has been separated as a long subtask to C.2 to give a better overview of the process. The subtasks can be called a workflow, which supports and enforces publishing restrictions.

10.2.3.2. Process list

- 20. Receive notification for review **BP 22**
- 21. View right content **BP 23**

Overview:

Process ID	BP - 23
Overview	
Process Owner	
Problem	P1: content can be difficult to fined
Solution example	- Link in notification email. - Search functionality. - List of unpublished content item.
Process Status	
Process Concept	
Initiation Criteria	
Average Processing Time	
Frequency	
Special Requirements	

- 22. Correct content BP 24
- 23. Publish BP 25
- 24. Reject content BP 26
- 25. Notify user about the action **BP 27**

10.2.4. Publish:

10.2.4.1. Overviow:

10.2.4.2. Process list

- 26. Set publish date and time BP 28
- 27. Set un-publish/expiry date and time BP 29
- 28. Save published content item BP 30
- 29. Publish to staging server **BP 31**
- 30. Publish to production server **BP 32**

10.2.5. Manage media library:

10.2.5.1. Overviow:

All websites need at least a few hand-typed pages with text, images and links to other pages or websites. Most CMS's have a repository for media files – images, video files, Word and PDF documents etc. - that can be inserted on a page. This is a basic requirement that must be present, although the specific functionality can vary.

10.2.5.2. Process list

31. Locate media file on local Pc BP - 32



Process ID	BP - 32
Overview	Browse functionality
Process Owner	
Problem	
Solution example	
Process Status	
Process Concept	
Initiation Criteria	
Average Processing Time	
Frequency	
Special Requirements	

32. Upload media file **BP – 33**:

overview

Process ID	BP - 33
Overview	
Process Owner	
Problem	P1: Uploading many files to media library, since they have to set meta data for each file
Solution example	
Process Status	
Process Concept	
Initiation Criteria	
Average Processing Time	
Frequency	
Special Requirements	

Process diagram

- 33. Set meta data BP 34
- 34. Search among media file **BP 35**
- 35. Sow related pages **BP 36**
- 36. Delete media file **BP 37**

overview

Process ID	BP - 37
Overview	
Process Owner	

Problem	P1: There are references to the media file from pages that will either link to a non-existing file
Solution example	Block deletion and list pages using file allow user to replace the file with another one
Process Status	
Process Concept	
Initiation Criteria	
Average Processing Time	
Frequency	
Special Requirements	

10.2.6. Manage site structure

10.2.6.1. OverView

10.2.6.2. Process list:

37. Create site **BP - 38**

overview

Process diagram

38. Maintain user rights and responsibilities **BP - 39**

overview

Process diagram

39. Edit page **BP - 40**

overview

Process diagram

40. Remove site **BP - 41**

overview

Process ID	BP - 41
Overview	
Process Owner	
Problem	P1: Pages are referenced of one or more pages
Solution example	Block deletion and list referencing pages
Process Status	
Process Concept	

<u>r</u>	
Initiation Criteria	
Average Processing Time	
Frequency	
Special Requirements	

41. Move page **BP - 42**

overview

Process diagram

10.2.7. Workflow management

10.2.7.1. Overviow:

10.2.7.2. Process List

11. System integration with external systems:

12. Class Diagram:

13. Interface Interaction Design:

14. Technical IT architecture:

Like many computer programs, Dee.CMS requires certain hardware and software specifications in order to install and run. These are basic requirements, though, so you may want to use our recommended suggestions to improve performance. The following list of requirements and recommendations apply to Dee.CMS.

- Operating System: Windows and OS X
- Hardware: Multi-Core processor, 4GB Ram or more and 100 GB HD
- Application Server: Apache Tomcat 8+
- Client Browser: chrome, safari and Firefox

