

DOCMA: Web-based Document Management Tool for systems and projects

The Documentation Management Tool (DOCMA) allows the control of the document's life cycle in projects and constitutes an efficient communication tool. It can be customized for each client and it is distributed in English.

DOCMA stores, classifies and manages all the documents of an organisation or project, as well as to make it available to all authorised users. The tool is especially suited when several institutions and/or companies collaborate in a multi-discipline, complex project in a geographically distributed environment. As the project evolves, a number of documents is generated and stored in the diverse work centres, with different versions, written and reviewed by several individuals; this wealth of documents gets unmanageable very fast and the need for a specific computer-aided tool becomes essential. There are additional issues, such as the different permissions for accessing or modifying documents that each person has, or how to enforce the defined workflows (conception, elaboration, reviews, approval, obsolete documents, etc) during the document's lifetime.

The functionality can be divided into the following areas:

- ❖ Documentation archive (electronic library):
 - Get a read-only copy of a document.
 - Classify and arrange the documents into projects.
 - Document search based on several criteria: by project, authors, title, code, keywords, etc.
 - Controlled access to projects and documents, according to the users privileges.
- ❖ Document lifecycle management:
 - Create a new document; assign properties to the document, such as the authors, authorised readers, kind of document, etc.
 - Controlled access to the document for modification.
 - Controlled document review and approval.
 - Keep all the involved users informed (via e-mail and internal notifications) about the document status, during the whole lifecycle: document creation, approval, new issues of the document, authorised users alterations, etc.
- ❖ System administration:
 - Project administration: define new projects; set or modify their properties; end a project or removal the project.
 - User administration: define new users; set their attributes and permissions in connection with each project; remove users.
 - Database administration: data backup or restore.
 - Import documents from an external database

The main features of the Document Management Tool are described below:

- User management: a form is provided for creating new users, as well as for modifying the properties of the already existing users. Users may be also marked as no longer belonging to the organisation or removed completely from the system.
- Project management: a form is provided for defining new projects, as well as for modifying the properties of the already existing ones. The project management involves editing the project properties (list of the users authorised by default to see the project documents, list of project managers, etc); project finalisation (the documents associated to the project will no longer be modified, so they can be frozen); remove a project with the system; restore the project.
- Document management: a form is provided for creating new documents, modifying the properties of already existing documents (in particular, defining the authorized users to each document), and managing each document's lifecycle. The lifecycle includes checking the document out (for editing it), checking the document in (to store a new draft or official version in the system), follow up the document review (formal documents have to undergo a review process, during which DOCMA sends notifications to the involved people and allows the users to enter comments), and finally, accept in the system the approved version of the document. Additional actions are: to remove a document from the system or to declare it obsolete.
- Controlled access to projects and documents: DOCMA provides controlled access to all projects and documents in the system, according to the permissions assigned to each user. At project level, a properly authorised user can visualise all the information relative to a project and also search projects according to several criteria (people associated to a project, project properties). Regarding documents, a user can make queries to the database for searching this documents according to several criteria (title, authors, keywords, etc), visualize the documents to which the user has been authorized and get an electronic copy of those document or have them sent automatically to an e-mail address.
- Notification management (Warnings): a list is provided for visualising and handling the notifications that the users may receive from the system. The Tool includes a set of predefined notifications, both internal and external (via e-mail through SMTP protocol), that are generated automatically whenever a relevant event takes place. For instance: when a document changes its state, when a new project is created, when a new user is registered, when a user is associated to a project, etc.
- System administration: DOCMA provides the functionality to perform system backups and restores.
- Importing documents: DOCMA allows importing a set of external documents (the aim is to facilitate the migration of the documents contained in a previous database to DOCMA).

Advantages

DOCMA user interface is made by Web forms. This means that anyone having Internet access may access to a project's documentation, just getting an account in the system and the suitable permissions. The main advantage is that there is no need to install any specific software on the client computers; the web browser is enough. Similarly, the user does not need to access the e-mail, as the notifications are managed by the Tool and made available to the user via the Web-based interface. The information is stored internally using a public relational database.

The main advantage for a company or centre that uses DOCMA is to save, even within a short time scale, of human and economical resources, as well as to get an immediate improvement of internal communication among the different members involved in a project. The tool allows the simultaneous control of the documentation and documentation flow of several projects and systems with a considerable saving of working time and personnel in the day to day work. The tool allows the users accessing to all the documentation and the documentation production flow, according to their permissions and their participation in different projects.

Customisation of the Document Management Tool

DOCMA is designed according to the best practices gained during years of experience in a number of engineering projects. The concept representing the projects, documents and users is designed as general enough as for accommodating without modifications the needs of very different companies or organisations. This status is the Basic DOCMA application. In addition, several steps of customisation can be implemented.

Standard Customisation Package:

This allows a better fitting to the customer needs. This option has been quoted separately as *Standard Customisation Package* and it is recommended for those customers who already have some established standards for codes, documentation, etc. but do not need a very complex application. The standard customisation package includes:

- ⇒ Logo and customer's name
- ⇒ The coding convention for documents
- ⇒ The coding convention for projects

Every time a new project or document is created, the Tool shall generate a code automatically; the user may accept or modify such code, but still the system shall check that the code is consistent, and does not conflict with other already existing codes.

- ⇒ Text customization of existing notifications.

Specific Customisation:

Nevertheless, the structure of the Tool is flexible enough to allow an organisation customise the information that it needs to maintain and the degree of automatic interaction that the Tool provides. Therefore each customer can choose the changes and the application can be customized according to specific needs. In this case, a specific quotation will be given in a case-by-case basis according to the customer's requirements and the engineering effort needed to accomplish that.

Some examples of items to be customised:

- ⇒ The properties of a project
- ⇒ The properties of a user
- ⇒ The properties of a document.
- ⇒ The permissions list and implementation according to the privilege structure agreed with the customer. A particular quotation will be given according to the complexity of the permission schema.
- ⇒ Notifications management