How OpenCms is used in the Italian Public Administration

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How OpenCms is used in the Italian Public Administration

1. Introducing this speech
2. Who is Engineering
3. The Public Administration requirements
4. The solutions we provided
5. Coming next
6. Questions & answers
How OpenCms is used in the Italian Public Administration

1. Introducing this speech
2. **Who is Engineering**
3. The Public Administration requirements
4. The solutions we provided
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Who is Engineering

Company profile

An Information and Communication Technology Company

Engineering was born in 1980 in Padova and now is a holding of 15 companies that serves Public & Health Administration, Finance, Industries, Telecommunications & Media, Energy & Utilities, Managed operations and Business Consulting.

36 company headquarters in Italy and 4 in the world

About 6500 employees

Internal ICT school for employees and customers formation

CMMI, ISO and PCI-DSS working methodology standards compliant
A great propension to Open Source
Cooperation in many Open Source projects and communities all around the world, such as:

- OW2 Consortium (http://www.ow2.org/)
- Eclipse Solution (http://www.eclipse.org/)
- SpagoWorld (http://www.spagoworld.org/)
- Italian Competence Center for Open Source (http://www.ccos.it/)
- Qualipso – floss (http://www.qualipso.org/)
- Networked European Software and Services Initiative (http://www.nessi-europe.com/)
Who is Engineering

Engineering and OpenCms

Some project numbers

About 20 web sites realized

Both internet and intranet web sites developed for several administrations, such as:

- Department of Treasury (http://www.dt.tesoro.it/it/)
- Consob (http://www.consob.it/)
- Corte dei Conti (http://www.corteconti.it/)
- Italian National Observatory for Tourism (http://www.ontit.it/)

18 custom modules developed

Usually, each project requires a workgroup with at least 7 / 10 members (both for editorial and development activities)

About 10000 documents treated for accessibility and profiled on each site

Professional OpenCms solution provider (http://www.opencms.org/)
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The Public Administration requirements

Introduction

Requirements classification

__ Infrastructural requirements

__ Laws requirements

__ Functional requirements

__ Utility requirements
The Public Administration requirements

Infrastructural requirements

**Distributed architecture**
- Fault tolerance
- SOA architecture services

**Easy administration**
- International localization and multilingual sites management
- Content versioning
- Content import/export
- Backup
- Integrated user management and permissions Identity Management System (LDAP and SSO) adopted by the Italian Public Administration
- Job scheduling system
- Caching system to increase performance (ability to define the static part of site to enhance performance)
- Action tracing and auditing report
The Public Administration requirements

Laws requirements

Accessibility and usability history from WCAG 1.0 to Law Stanca and more…

- 1999 - W3C WCAG 1.0: first approach to web accessibility and usability in 14 points guidelines

- 2004 / 2005 - Law Stanca: more restrictive law based on 22 points guidelines, anticipating WCAG 2.0

- 2008 - W3C WCAG 2.0: more extended approach with about 200 development techniques grouped in 12 point guidelines

- 2010 - Law Stanca update: an experts pool began the study to improve with WCAG 2.0 guidelines
The Public Administration requirements

Laws requirements

Accessibility - Easy content check accordingly with the law Stanca

- Create accessible pages and templates

- Provide support to check content accessibility

- Contents accessibility check during editing and in each stage, also inside workflow process

- Ability to search not accessible contents
The Public Administration requirements

Functional requirements

Easy to customize as government need
- Possibility to easily extend the solution with custom modules by each Administration
- Workflow Authorization to publish contents
- Multi-site managing with a single installation
- XML template for site development

Web 1.0 and Web 2.0 features
- Mailing list
- RSS feed
- FAQ
- Wiki
- Forum
- Blog
The Public Administration requirements

Utility requirements

Easy to use

- Content navigation like Window folders (Virtual File System - VFS)
- Google ®-Like Searching
- Multilingual Word-like document editor (WYSIWYG)
- Sophisticated searches of content, attributes, item types, categories and taxonomies
- Possibility of massive changes on the documents content with automatic matching on the site (eg. modified link or deleted documents)
- On-Line Help
- Work environment can be easily used by web browser (no installation required on client)
- Content versioning (ability to restore a previous content version)
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The solutions we provided

Introduction

Used approach

- Software reuse
- Existing software improvement and customization
- New software development

Note:
At the moment, presented solutions are not released as open source software. But the Italian Public Administration is evaluating this possibility accordingly with current laws for next future. Actually, no defined times and terms are available about this.
Fully dynamic cluster solution

*Load Balancer (Hardware):* requests routing to the front-end web server;

*Front-end layer:* consists of two or more Apache web servers configured for balancing and redirecting to the application servers;

*Application layer:* made of two Tomcat Application Servers on which instances of OpenCms were installed;

Clustering was made by Alkacon OCEE Cluster Package;

*DB layer:* made with a clustered DBMS.
The solutions we provided

Infrastructural requirements

Static cluster solution

Load Balancer Hardware: requests routing to the front-end web server;

Front-end layer: consists of two or more Apache web servers;

Application layer: made of one or more Tomcat Application Servers on which instances of OpenCms are installed and where sites are statically exported;

Clustering was made by Alkacon OCEE Cluster Package;

DB layer: made with a clustered DBMS.
The solutions we provided

Infrastructural requirements

Provided modules

__LDAP__

to allow connection to OpenCms Workplace using an LDAP repository for user authentication

__Single Sign-On__

with the same goal of LDAP, but integrating the Italian Public Administration SSO system

__UserTracing__

allows to trace external users activity, all informations were stored into a DB

__Auditing__

a module for workplace activity tracing and reporting, all informations were stored into a DB, an administration view tool allows to filter these informations and to generate a report into Excel format
The solutions we provided

Laws and utility requirements

Provided modules

- XHTML Converter
- Convert into HTML or PDF from MS Office
- W3C validation
- Template choose
- PDF Protection
The solutions we provided

Laws and utility requirements

XHTML Converter: how it works
The solutions we provided

Laws and utility requirements

Provided modules

- Custom properties
- Advanced resource profiling system
- Fully customizable fields with mandatory and validation criteria
- Single XML configuration file
- Multi-site support
The solutions we provided

Laws and utility requirements

Provided modules

Advanced Search

Extends the search capabilities natively offered by OpenCms adding the ability to use the W3C validation status, the workflow state and the defined custom properties, as additional criteria to perform searches.
The solutions we provided

Functional requirements

Provided modules

XMLBundle Reader

Based on a single XML file

Default values block

Many site customization blocks

Multilanguage support

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The solutions we provided

Functional requirements

Users Manager module

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</table>
The solutions we provided

Functional requirements

Users Manager module: how it works

OpenCms

OpenCms Module

UsersManager Default Class

UsersManager LDAP Class

UsersManager SSO Class

UsersManager TextFile Class

UsersManager ... Class

Implements

UsersManager Interface

Default Repository

LDAP

SSO

Text files
The solutions we provided

Functional requirements

Users Manager module: data schema

- USER
- GROUP
- ROLE
- PERMISSION

- SITE

- SERVICE

- CATEGORY

- EXTRA INFORMATION
The solutions we provided

Functional requirements

Provided modules

__jBPM Workflow__
The module integrates Open Source jBPM workflow engine (Business Process Management) developed and distributed by JBOSS. It allows you to create custom editorial processes to manage the approval cycle of content between the different roles of the process. I must say that, in this case, we customized a module already available inside OpenCms community. More effectively, we added some functionalities for folder association to a workflow process, a user active tasks list (called MyTasks) and an online contents revoke utility for unpublishing resources

__RSS Feed__

__Events Calendar__
The solutions we provided

Functional requirements

Provided modules

**Mailing List**
Allows to set one or more mailing list service instances for sending newsletters to registered users. The newsletter is generated automatically with the latest changes made to the specific content folder related to mailing list instance, it can be also edited by the editorial staff (in the workplace), also email sending is only granted to authorized users.

**FAQ**
Allows, to authorized users, to publish independently some FAQ (Frequently Asked Questions) and provide all function for reading and research. The FAQ can be generated for different areas of the site.
The solutions we provided

Functional requirements

Provided modules

--- Wiki
   Allows you to manage site sections as a Wiki. Users registered to this service can enter or modify content in the normal site browsing.

--- Forum
   Allows you to easily integrate the Forum service within the sites.

These services are fully customizable in look and feel, labels and use the authentication provided by the UsersManager Module to determine who has rights to use the features of the services.
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Coming next

Next developing features

Web 2.0 requirements

**Blog module**
This module was designed like forum and has the same architecture with UsersManager module dependency

New features

**New workflow engine module**
this will be a simple engine, with only 3 workflow steps (not customizable); it offers the same extensions we already made for JBPM module, that are MyTasks and Revoke content features

**Upgrade to latest OpenCms version 7.5.4**
with all existing custom modules migration
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