

Plone in Government

Roberto Allende (rallende@menttes.com) – menttes <http://www.menttes.com>

Plone is a content administration system (CMS) that can be used as an extranet, intranet server, content publishing system, and groupware support environment. In this project, we present the tools that it provides, cases of usage in government institutions from different countries, solutions obtained with mechanisms that presently possesses and examples of Plone extensions.

Key words:

E-government, CMS, content management system, file administration and documents, resources administration, minutes administration, Plone, Zope, groupware.

Introduction

This Project is based in the experience that we obtained as Project coordinator and intranet and websites coordinator and developer, in Menttes, where Plone is used as a preestablished application that allows an outstanding level of reusage, being able to develop complex tools in a matter of days. This is particular oriented to the needs that a government organization may have in requirements and licences, since all shown software is free.

Plone

Plone is an administration system of open source contents. It is developed with the Python programming language on the Zope application server. Plone has been designed to be extensible. It can be used to build corporate web sites, news sites, extranet servers or intranet, publishing system and documents repository, groupware tool, e-commerce, etc.

Content Management System

A content administration system, (CMS) is a program to organize and facilitate document creation and other contents in a helpful manner. These can be used to store in a single repository technical manuals, sales guides, etc.

ZOPE

Zope is a web applications server oriented to objects developed in the Python language. Zope comes from Object Publishing Environment.

Zope publishes Python objects in the web, which are usually in a database oriented to objects called ZODB. Basic objects as documents, images, page templates, are available for the user to create and manage through the web. Special objects as wikis, blogs, photo gallery are provided as extra by third parties, called products.(3)

Python

Python is an interpreted programming language. Created by Guido Van Rossum in 1990, Python has a dynamic and automatic memory management. This is similar to Perl, Ruby, Scheme, Smalltalk, and Tcl.

Python is developed as an open source project by the non profit organizations. Python Software foundation and is available free of charge in the following web site: <http://www.python.org>. Python 2.4.3 was launched March 29th 2006. (4).

Plone parts

Right out of the factory, a Plone site includes:

- Different kinds of contents
- User administration tools
- Workflows
- Layouts and Templates, with look and feel predefined and able to personalize.
- Interface administration
- Style sheets
- Real time searcher
- Multilingual support.
- Security policies.

The main page is a plone site, so it has a heading, footage and a content area divided in three columns, left, center and right.

The heading has a logo image, information links, about standards, site map automatically generated, a contact form and search tool, within the site.

The middle column has different types of contents, this is where the user can add, edit and visualize the content.

The footage generally has icons which provide plone information, the authors, standards, etc.

Content types

Some of the contents provided by Plone are:

- **Document:** It presents statistic information to the user. This is the most common type and it is very similar to the typical web page.
- **News item:** This is a document that possesses special fields, as a date and it is shown automatically within the news tab of the site.
- **Links:** It is a burl link; it has a title field, description and burl, which can be an internal or external link.
- **Events:** An event to be carried out, as meetings, conferences, etc.
- **Folder:** Similar to a filing system, that is, a folder to store content and provide a mechanism to organize the same.
- **Files:** It allows to storage contents such as movies, sounds, texts, calculation sheet, compressed file, or any other thing that you may want to upload to the Plone site.
- **Smart folders:** Similar to the folders being different in that instead of storing contents in them it shows resulting contents from a search with a predefined criteria.(5)

Portlets

The left and tight columns contain a series of boxes that show information is a dynamic way; these boxes are called portlets and posses different functions.

Some of the portlets that posses a pole site are:

- **Calendar:** The calendar show the almanac of the present month. It generally outlines the present days and it is possible to show days in wish there are associated events.
- **Events:** When a user creates an event it appears created in the events porlet. The portlet of events can be configurated to show the upcoming events, within a time interval, etc.

- **Authentication:** if a user has not been authenticated, the authentication portlet appears, this is a form that contains two fields, and user, password and link to another form in case that the user needs to create a new account or has forgotten his password.
- **Navigation:** It shows a tree style directory of filing system with the sections within the site. When you click in a folder it shows its contents.
- **News:** similar to the events portlet, it shows the news that meet a given criteria. (6)

Portlets can be personalized and it is even possible to create new portlets.

Access to content

Each user that sails within a plone site can access a given content, depending of the user role and the state of the content. The content has one of the previously defined workflow states.

Plone user roles

There are two types of roles in Plone, global and local. A global role has effect in a whole Plone site, whereas a local one covers certain folders. Each user has at least one role, and standard member role, although users can have more than a role.

The manager role

The highest role that a user can obtain and it is a global one. It has the highest privileges within Plone and it can perform tasks such as:

- Add and modify users
- Assign or remove local roles to users.
- Publish, reject or modify all contents
- Modify templates, and other elements of the Plone installations.

The member role

One of the standard elements the Plone provides is the easy way to subscribe to a plone site. Since the Plone sites are community oriented, when someone joins a Plone site, the new user has a member role. A member has his own space within Plone to create, modify and keep his own contents.

A manager can upgrade users with simple member role to additional levels.

Workflow

A workflow provides a local way to administer content within a Plone site. It initially possesses two workflows, the workflow in itself and the folders workflow.

Workflow in itself, establishes the states and transitions for each type of content except the folders that has its own workflow.

A state is the information about a kind of content in a moment in particular. Examples of states are public, private, pending and draft. A transition is an action that modifies the state.

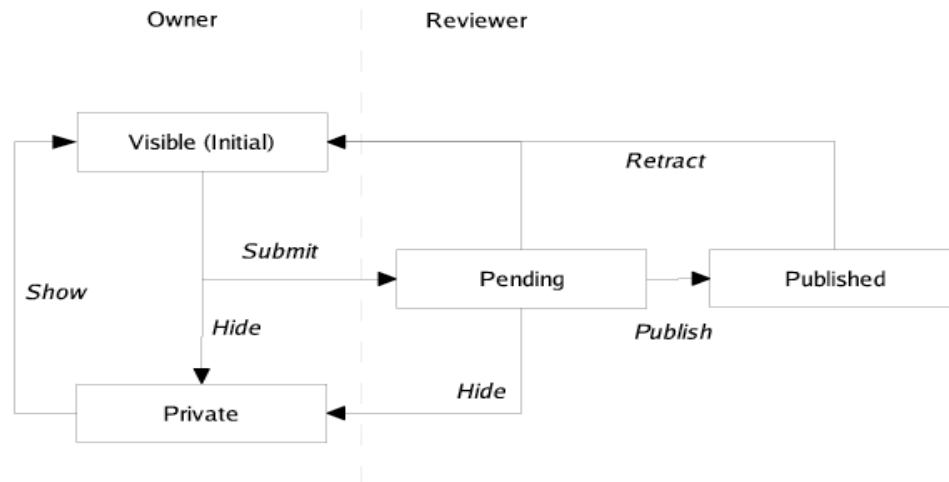


Figure 1: Default workflow

Workflow and roles limit the visibility of content during its existence, for example:

A member adds content in its work space. Such a user is the owner of the content.

Another member that has the role of reviewing the content. (Reviewer) in this particular folder, checks the content, as the name states.

The reviewer publishes the content, and it becomes visible to all.

In detail, the status have the following meaning:

- **Private:** The content in this state, is accessible exclusively by the owner, this content is removed from the search index so it doesn't accidentally appear as a search result.
- **Retract:** When the reviewer decides not to publish and keep content under consideration. In this case publishing is not allowed and it remains visible for its owner.
- **Reject:** the reviewer rejects the content to be published and remains visible for its owner. (6)

Having described the most important elements of a Plone site in itself, there are different uses to other products or extended to obtain complete solutions.

Plone as a portal

Problem description

Having a tool to publish information in internet with publish access and or restricted. Maximise reusage, developing on a pre made web application. Support for different kinds of contents.

Plone: The solution

A Plone site in itself can provide all the necessary mechanisms to satisfy these requirements. In this kind of cases, using Plone requires:

- Reusage of the kind of contents provided by Plone
- Reusage and configuration of security mechanisms and visibility. Create users and configurate roles.

- Look and feel personalizations, editing style pages and templates provided by Plone.

In case you need new functions or types of special contents, you may require:

- Evaluate and reuse products by third parties
- Developing own products,

These tasks may take more or less effort depending on the complexity of what one wishes to develop.

Examples

Portal site of the Chamber of deputies of Brazil.

In <http://www.camara.gov.br> you may access to the official portal site of the chamber of deputies of Brazil. It is implemented in Plone and it is an institutional site that includes three languages, Spanish, English and Portuguese. The purpose of the site is to create an integrated environment that optimizes the image of the institution, organizes its knowledge base and provides services to all citizens (7). It is therefore organized in sections. These are:

- Institutional information
- History and information about the building, cultural agenda, members of the chamber, Political parties, functions description, how laws are passed, member list of the authorities of each department and secretariat, curriculum of one of the authorities, etc.
- Chamber's agenda
Order of the day of each one of the commissions, regular sessions.
- Transparency
Trip schedule of the deputies, domestic and abroad, list of contracts and bids made by the chamber, budget administration, including expense reports.
- Project laws and other proposals.
Search for law projects and other proposals, complete text of laws in pdf format, information about each project including author, present state, description, proposal history, ts.
- Commissions
List of permanent and temporary commissions, order of the day, files, meeting audio samples.
- Libraries
Digital library of the chamber, access to complete text to studies and reports about Brazil. These include subjects such as public administration, agricultural and nutritional policies, political science, technological policies, Civil, penal and family law, etc.
- Bids and Contests
List of contests for vacancies in the chamber, electronic purchase form.

The site also integrates contents implemented by other applications as for example. Multimedia elements with audio and video of the sessions.

Another government sites of Brazil

These sites are also implemented in Plone:

Ministério do Desenvolvimento Social
<http://www.mds.gov.br>

Procuradoria da República no Distrito Federal
<http://www.prdf.mpf.gov.br>

Portal do Comitê Técnico de Implementação de Software Livre no Governo Federal.
<https://www.softwarelivre.gov.br>

CommunesPlone

The Union of Villages and Communities of Balonia, southern Belgium, sponsor the CommunesPles project. To obtain a free choice of suppliers of IT services, developing themselves in a cooperative way, applications and websites for their own use and of their citizens.

The project reuses Zope /Plone and it extends it generating tools such as a document administration module for internet documents, a business directory and communal sites such as:

Sambreville
<http://www.sambreville.be>

Seneffe
<http://www.seneffe.be>

Anderlues
<http://www.anderlues.be>

There are other tools being developed at present including a certification module.
Other sites

This is a short list of portal sites from different government organizations located in other countries:

Ciudad de Berna
<http://www.bern.ch>

State Procurement Office - Official Site for the State of Hawaii
<http://www.hawaii.gov/spo>

Programa e-government in New Zealand
<http://www.e.govt.nz>

The Earth Science Data Systems Standards Process - NASA
<http://spg.gsfc.nasa.gov>

Asia-Pacific Development Information Programme - ONU
<http://apollo.apdip.net/egov-init>

Ministry of Women's Affairs - New Zealand
<http://www.mwa.govt.nz/>

Plone as extranet and Internet

Problem description

In this section the words extranet and internet are used to describe the central deposits of shared data, developed to be accessible through internet only to authorized users from different task teams. Also, and extranet can include small applications to administer or manage certain specific data.

Just as an example, we will deal necessary aspects to develop the extranet of a small government organization that has three areas. A, B, and C. Each one of them is made up of a number or different members. The extranet may have.

- A Document replacement for each area
- An application to handle files
- An application to administer of minutes

In the issue of security, it is wished for the extranet to have restricted access, in the way that only the members of each area can have access to the information of each site. Also in the document repository, each area must have a section accessible only to members or the area and another by members of any other one.

The handling of files and the administration of minutes must be visible by any member of the organization.

Solution: Plone and Third party products

Using the type of content folders, a necessary structure can be given to the site. Once the structure has been created, you must define users and access levels.

As previously stated, Plone already provides tools for handling roles, groups and privacy. In case these are not enough, there third party products such as TeamSpace which adds functions, as types of contents to organize users and restrict access. Once created, users will use standard types of Plone contents in the documents repository folder. To handle files, an issue tracker can be used like Poi and in the case of minutes, the College product of CommunesPlone.

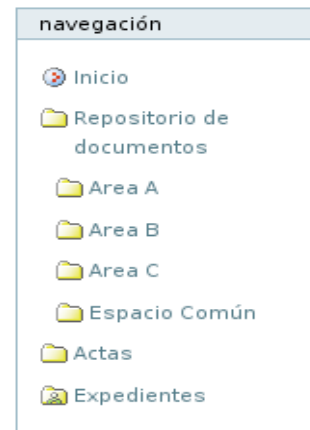


Figure 2: extranet navigation model

TeamSpace

The TeamSpace product is part of a developer's tool which allows you to represent the structure of an organization, using Plone, grouping and issuing privileges to specific users. It uses content types for that purpose, such as:

- Team
Represents a team, department or, task group, etc.
- TeamMembership
It represents a person involved in a TeamSpace team.
- Team Space
A Folder where a tem member, (team) has privileges to create and handle content. This is used as a job space for support which can be available for the public or accessible for

the members of the team.

Given a team, a member can be active or inactive, and can though have different roles, therefore privileges, within the job environment of a team.

Poi

Poi is an issues or topics administrator for Plone. Within a software developing team, an issue tracker allows its members to do follow ups of generally big and small tasks, requests, improvements and anything circulating within an open source project. An issue tracker is a tool to manage issues, this is to check and list issues, check state (open, done, or cancelled), to add them and modify them.

The main Poi page allows to sail the issued by state, area, among others. To conduct searches of issues. Load new issues.

When a new issue is loaded, you must fill in with title, description, area, responsible party and you may optionally add files, etc.

Once an issue has been loaded, it can be approved or rejected. To document changes, add new files, change the responsible party and once resolved, change status to Closed.

You may optionally enable mail notification, in a way that changes in the issued can be reported to a mail list. This is especially useful to keep a whole work team up to date about the progress of a project.

Poi configuration in the case of a government organization only requires defining the three areas in the moment the issue tracker and the mail list configuration are created.

College

This product provides for a set of content types for schools` administration. One of them is for the handling of agendas oriented to assemblies. The order of the day allows to manage meeting composition, defining the agenda to be dealt with and as they are discusses, changes are being documented.

Once the meeting has ended you may print the minute with all the agenda and decisions for each point, given that the products possesses a PDF document generator that generates an easily printable minute of the meeting.

Installing College involves adding new types of contents. Then, when it is desired to add an agenda, all you have to do is go to the created folder to store those contents and users will do likewise to another Plone content.

Acknowledgements

This work could never had been possible without the support and help of Marcelo Baldi of the Proposition project for the use of Open Technologies in Government, Federico Heinz of FSLA, Pablo Ambrosio and Emanuel Sartor from Menttes, Paul Everitt and specially to Xavier Heymans, both member of Zea Partners.

References

1. Plone (content management system)
Wikipedia - [http://en.wikipedia.org/wiki/Plone_\(content_management_system\)](http://en.wikipedia.org/wiki/Plone_(content_management_system))
2. Content management system
Wikipedia - http://en.wikipedia.org/wiki/Content_management_system
3. Zope
Wikipedia - <http://en.wikipedia.org/wiki/Zope>
4. Python programming language
Wikipedia - http://en.wikipedia.org/wiki/Python_programming_language
5. Using topics and Smart Folders
Peter Shute - Plone.org - <http://plone.org/documentation/how-to/using-topics>
6. Plone Fast Track: The Basics of Building a Content Management System with Plone
Julie C Meloni - Sams 2005
7. CommunesPlone project – Walloon Communes jointly opt for Open Source Software
IDABC - Open Source Observatory <http://ec.europa.eu/idabc/en/document/5617/469>
8. Knowledge Management in the Brazilian Parliament: The Role of the Centre for Documentation and Information
Ana Lúcia Mendes, Andréa Perna y Lúcia Regina Pires Soares, Brazil.
http://sdi.bcn.cl/ifla_es/Documentos/FINALPaperVers_343o_Ing.pdf
9. The definitive Guide of Plone
Andy McKay - Apress 2004
10. CommunesPlone Project
<http://www.communesplone.be> – código fuente: svn.communesplone.be
11. CommunesPlone: quand des communes font avancer leur informatique dans la même direction <http://www.uvcw.be/articles/3,325,39,39,1296.htm>
12. Extranet
Wikipedia - <http://en.wikipedia.org/wiki/Extranet>
13. Collaboration With Archetypes
Rob Miller - Plone Conference 2004
14. Samplex: A Sample Extranet
Rob Miller - Plone Symposium 2005
15. Why Plone? An Intranet Point of View
Alexander Limi - Plone.org - <http://plone.org/about/old/articles/plone-intranet>
16. Issue tracking system
Wikipedia - http://en.wikipedia.org/wiki/Issue_tracking_system
17. Proyecto Proposición para el uso de Tecnologías Abiertas en el Estado
<http://www.proposicion.org.ar>