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Website Report

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Title: Website Report

Executive Summary:

This report marks the first steps taken within the QUALOSS project's dissemination strategy. The particular focus of this report is on the important role that the world wide web has to play within this project. The report describes how the web performs two distinct, yet equally crucial, functions within the project:

• Dissemination

Within QUALOSS various Open Source tools have been used in order to manage the content of the project's website. The web is crucial as a major point of contact for QUALOSS from people outside the project.

• Collaboration

The web has been utilised within QUALOSS as a platform for distributed collaborative with other FLOSS quality projects which ran concurrently with QUALOSS, notably, SQO-OSS and FLOSSMETRICS. This report is largely based upon the SQO-OSS project website report [1], as both projects endeavoured to share experience and make use of the same technology.

TABLE OF CONTENTS

1. Introduction

The QUALOSS project website has been developed as a crucial element of the project's dissemination activities. This report provides an outline of the QUALOSS project's website design and implementation.

Beyond simply being a vehicle for project dissemination, web-based tools have also been used as the central technology for the collaboration between QUALOSS and the project's partners.

These tools are described here:

• Section 2: Public Website

This section describes the implementation of the QUALOSS project website and the decisions that were made in that process. This section also describes the steps being taken to monitor usage of the QUALOSS website.

• Section 3: Project Collaboration

This section describes the use of the web in order to collaborate dissemination activities with other EC-funded projects investigating FLOSS quality.

2. Public Website

This section describes the QUALOSS website (available at http://www.qualoss.eu) and all of the decisions that were made in finalising its implementation. In section 2.1 the website's requirements are defined and mapped to either maintainer or user requirements. Section 2.2 describes the implementation of the website and describes the decisions that were made in order to ensure the final website met the defined requirements. Finally, section 2.3 describes the role of the website within the greater dissemination strategy.

2.1 Requirements

2.1.1 Functional

The functional requirements of a computerised system are those requirements which specify the specific behaviours that system must display. In the building of a website for the QUALOSS project it was important to ensure that not only the project's own requirements were met, but also the potential expectations of end users of the website. The major functional requirements, both from the project's and end users' perspectives, are described below.

Content Management

A content management system (CMS) forms a crucial element in the maintenance of a constantly evolving web presence. CMS are normally designed to simplify complex tasks and automate tedious tasks. A suitable CMS was desirable within the QUALOSS project in order to minimise effort in the continued maintenance of the site after deployment. The

selection of CMS can be critical because, in itself, the CMS can satisfy many of the other functional requirements.

Document Storage

The website needs to provide storage for the QUALOSS project's publicly-viewable, finalised documents and deliverables. This functionality is an important element within the overall dissemination plan by allowing the storage and distribution on reports, deliverables, journal articles, conference papers etc. where appropriate. This is often a standard feature of a CMS.

News

The primary purpose of QUALOSS website is for the wide dissemination of QUALOSS information and news. Proper handling of news items is, therefore, a crucial requirement of the CMS. The CMS is required to allow the creation of news items which can be placed into a specially created RSS (or similar) feed so that followers of the QUALOSS project can get up-to-date information on the project.

2.2 Non-Functional

Coding Standards It is intended that the QUALOSS project web site shall conform to eXtensible HyperText Markup Language (XHTML) 1.0 Strict [2] and to Cascading Style Sheet (CSS) [3] coding standards. These powerful standards allow the semantics of a web site to be completely separated from its rendering instructions, simplifying implementation, strengthening cross-browser support and, crucially, aiding to improve accessibility. While XHTML ensures that a website has meaning, not just content, CSS ensures the site displays correctly in the browser.

XHTML 1.0 Strict As HTML has developed over time its purpose was allowed to extend to include rendering code. Furthermore, development of web sites became an activity that many non-technical users engaged in, leading to sites developed in ignorance of HTML semantics. A classic example being the use of tables to arrange site layout rather than to describe tabulated data.

XHTML has been designed to bring the power and flexibility of extensible mark-up to the HTML standard, allowing to simplify and minimise document content description. As a result XHTML is particularly useful for displaying web-based content on a variety of hardware platforms: mobile phones, Personal Digital Assistants (PDAs) or television.

By conforming to the XHTML standard in its web site, the QUALOSS project is committing itself to ensuring that messages channelled through our web presence are made as widely available as possible.

CSS CSS is the mechanism, used in conjunction with XHTML, allowing the web developer to control the appearance of their web site. It provides control over layout as well as styling of all elements of a web page.

CSS, in allowing the rendering details to be separated from the page semantics, makes it easier for users of screen readers and text-only browsers to read the content of web pages.

By conforming with the CSS standard the QUALOSS project is ensuring that the rendering of the web site shall be consistent across all major browsers supporting CSS.

Accessibility Standards Conformance with coding standards is not, in itself, sufficient to ensuring that accessibility standards are met. With this in mind, the World Wide Web Consortium (W3C) created the Web Accessibility Initiative (WAI) to ensure that the correct application of coding standards was coupled with consideration for accessibility.

In May, 1999, the WAI published version 1.0 of the Web Content Accessibility Guidelines (WCAG 1.0). To ensure that dissemination through the QUALOSS web site meets as large a possible audience, the QUALOSS web site shall be assessed against these guidelines. It is intended that the QUALOSS website shall meet, at least, priority one of these guidelines and therefore receive “A” rating. Ultimately it is hoped to reach “AA” rating; a standard which the guidelines say web developers “should” meet.

2.3 Implementation

2.3.1 Considerations of the CMS

In choosing the right CMS for the QualOSS website we identified a number of desirable characteristics and ordered them by tier; Tier 1 were required, Tier 2 were preferred. These considerations are shown in Table 1, in no particular order.

Tier 1	Tier 2
1: Meet functional and non-functional requirements	1: Flexible / Customisable
2: Supportable within QUALOSS	2: Commercial / online support
3: FLOSS License	3: Predominantly EU-based development team
4: Runs on FLOSS stack	4: High Performance
5: Secure	5: Ease of administration

Table 1: Tiered Characteristics

Meet functional and non-functional requirements For the website to completely fulfil its role within the greater dissemination strategy it must meet as many of the defined requirements as possible. In order to save time and effort, CMS products which supported these requirements in their standard configurations were given higher consideration.

Supportable within QUALOSS As the QUALOSS consortium is responsible for the building and maintenance of the website, it is important that the chosen CMS matches the project's in-house skill set.

FLOSS License As part of the QUALOSS dissemination strategy it is crucial that the project is accepted by the FLOSS community. With this in mind the QUALOSS website is built using FLOSS to establish credibility within the community and to showcase a successful example of FLOSS.

Runs on FLOSS Stack Similar to the previous consideration, it was important that the website could be served by FLOSS stack (eg. Linux, Apache, MySQL, Python).

Secure As with all web-based systems, security is of particular importance within the QUALOSS website. The chosen CMS must allow for easy integration into a secure environment. This will help ensure that malicious attacks the site do not take place.

Flexible / Customisable As is described later in this report, there has been particular consideration given to creating a QUALOSS brand with regards to the website. It is important that the chosen CMS is flexible enough to allow that brand to be applied to the website and also provide the required functionality.

Commercial / online support CMS can be particularly complicated systems to administer. Commercial (or preferably free, online support) for the chosen CMS was important to ensure that the developers and administer of the website had support if they ever needed it.

Predominantly EU-based Development Team As an EC-funded project it was desired to use a CMS that is not only an exemplar of Open Source technology, but is also driven by the EU community. This is a subtle but important means of showing support for European development of Open Source software.

High Performance It is hoped that the QUALOSS website will be a hight-traffic site. It is therefore important that the CMS is capable of handling large volumes of traffic without placing too much strain on the underlying hardware.

Ease of Administration The vast majority of the website development took place well in advance of the launch. However, it is important that the content can be updated on a regular basis. The CMS interface has to be as simple as possible to allow all administrators of the site to update content quickly.

2.4 Evaluated CMS

- **Drupal [4]**

Drupal2 is a free, Open Source modular framework, content management system and blogging engine which was originally written by Belgium-based Dries Buytaert as a bulletin board system. Today, it is used by many high-traffic websites, including The Onion, Spread Firefox, Ourmedia, KernelTrap, and the Defective by Design campaign. Written in PHP and using MySQL as a backend, Drupal is known for it high performance.

With a good security record and easy-to-use management tools Drupal is an excellent package. Where is falls down however, is its flexibility - previous attempts at basic customisation have been less than satisfactory.

- **Plone [5]**

Plone3 is a free, Open Source content management system built on top of the Python application server Zope and its accompanying Zope Content Management Framework. Plone is free software and is designed to be extensible. It can be used as an intranet or extranet server, document publishing system, and groupware tool for collaboration between separately located entities. Plone is released under the GNU General Public License. Plone also has legal backing from the experts at Software Freedom Law Center. Project team members are based throughout the world including EU, US/Canada and Brazil. Plone has a reputation as a highly powerful but complex platform. Despite this, Plone is written in Python, a more powerful scripting language than PHP. Consequently Plone has attracted a huge following worldwide and has established strong commercial and community support networks. However, Plone is resource intensive and needs a very capable hosting platform.

- **Typo3 [6]**

TYPO3 is a free, Open Source content management system written with PHP and MySQL. It has become one of the leading content management systems (CMS) on the web and in intranets. Initially authored by Kasper Skåhøj, it is available for free and licensed under the GNU General Public License. Typo3 is an EU-based project. TYPO3 has an excellent community reputation and is known as an “enterprise- class” CMS. It has a very active development team and a loyal following in the EU. However, the complexity of its Administration interface and customisation tools are not to its credit.

For the purposes of the QUALOSS project, Plone was chosen as the suitable CMS. Plone was chosen because it was deemed to meet all of the, mandatory, Tier 1 requirements. In addition most of the Tier 2 requirements were met.

In addition to meeting many of the requirements of the QUALOSS project Plone was also deemed to be the best option due to Zea Partners’ membership of the QUALOSS consortium; many of Zea Partners’ members are actively involved with developing and supporting the Plone technology.

2.5 Design and Layout

Whilst the QUALOSS project website was required to be visually appealing, it was also important that the site achieved its primary aim of dissemination. The primary layout design can be seen in Figure 1.

This layout was chosen as it promotes static content through its menu, whilst dynamic updating of news content also occurs on the homepage. The layout is subdivided into the following categories:

- **About**

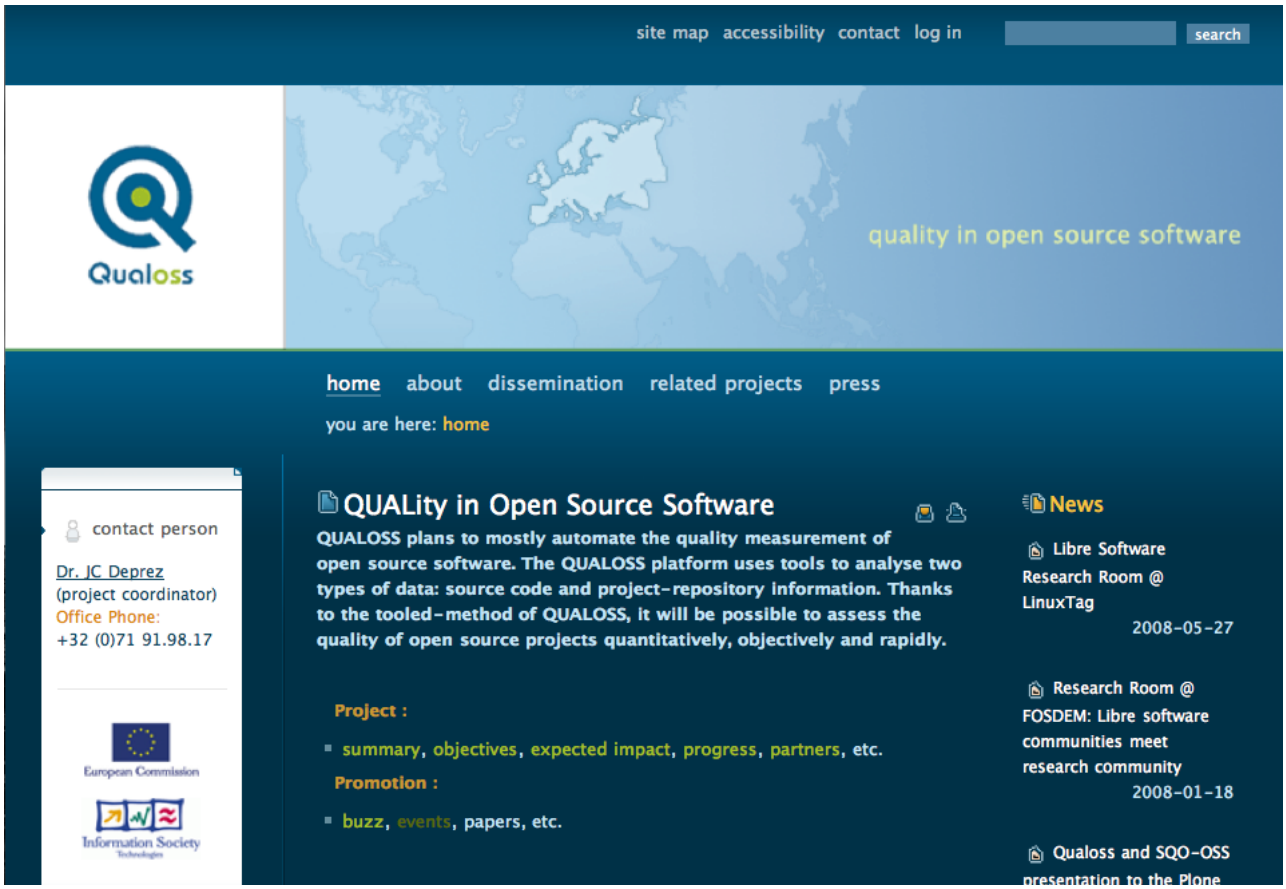
This section of the website provides details about the projects, its aims and the partners participating in the consortium.

- **Dissemination**

This section of the website keeps an archive of all the news items which have been published through the website's homepage.

- **Related Projects**

This section of the website keeps a record of other EC-funded research initiatives which are investigating FLOSS and issues of software quality.



3. Collaboration

As part of the project's dissemination work, the QUALOSS consortium forged relationships with other EC-funded projects involved with FLOSS and quality assessment. In particular, joint dissemination activities were forged with SQO-OSS and FLOSSMETRICS.

As part of this joint outreach a joint online dissemination portal was created. This was a simple website which aggregated all of the news from the three projects as well as providing basic, static information on each.

4. References

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4. Drupal Community Website: http://www.drupal.org
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6. Typo3 Community Website: http://www.typo3.com