

IPGRI Online Communication Strategy

Technology Evaluation Report

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Introduction

Project background

IKONOS New Media, has been asked to facilitate the process of building the guidelines to define an Online Communication strategy for the IPGRI organization.

The consultation process started on the 21st of July 2004 with the first of three live meetings, each one followed by an online survey integrating and approving the outcome of each live exchange.

Introduction to the Technology Evaluation Report

This document, shortly named as “**the Technology Evaluation Report**”, constitutes the deliverable specified in the contract as:

- e. Alternative solutions time and cost estimates providing:
 - i. A report on alternative solution approaches, technologies and tools that are likely requirements for the cost-effective resolution of the most critical issues to be improved.
 - ii. References and estimated alternative cost and times for services and technologies that may need to be utilized in the following project phases.

The Technology Evaluation Report is part of a set of three documents:

1. The Action Plan
2. The Project Brief
3. The Technology Evaluation Report

The Technology Evaluation Report is intended to propose a set of technologies and services to fulfill all need highlighted in the Technology Brief section of the Project Brief document.

Source of Content and Reference

This report is based on information and data drawn from product fact-sheets, vendor's Web sites, publicly available reviews, commentary and any other information available online and offline to support the proposed choices.

When available, all sources are mentioned in the Reference section, at the end of each chapter.

Expected Use

The Technology Evaluation Report is for the IPGRI Staff members all. In particular for all those people directly involved in re-defining the Online Communication Strategy for the entire organization, including remote staff and offices operating abroad.

List of Areas requiring specific technology choices and support

The final Action Plan, includes the following steps/activities:

1. Define Project Brief
2. Comparative Analysis
3. Survey Audience
4. Analyze Server Logs
5. Information Architecture
6. Specify Usability & Accessibility Rules
7. Define Editorial Strategy / Team
8. Implement Editorial Strategy / Team
9. Define Publishing Workflow
10. Define CMS Specs
11. Select CMS
12. Design Interface & Identity
13. Implement CMS
14. Implement Interface
15. Test & Verify

Among them, **these are the items requiring the selection of appropriate technologies**, tools, and services:

1. Survey Audience
2. Analyze Server Logs
3. Information Architecture
4. Specify Usability & Accessibility Rules
5. Implement Editorial Strategy / Team
6. Define CMS Specs
7. Select CMS
8. Implement CMS
9. Test & Verify

The following list is derived from the previous one and should better outline the different types of technologies needed:

- a) CMS
- b) User Needs (Survey Audience, Analyze Server Logs)
- c) Exposure, Usability & Accessibility Rules
- d) User Participation
- e) Test & Verify
- f) E-Commerce
- g) Cross-Media Distribution
- h) Language Translation
- i) Conferencing tools

Additional Technology Evaluation Criteria

It might be out of the scope of this report to consider issues as asset management and specific policies for backup and security.

However best practices and principles regarding backup procedures and security policies are crucial and essential to the success of the entire IT to be implemented.

The aspect of security has been taken in strict consideration while selecting the technologies here proposed, in particular when suggesting the adoption of a Content Management System.

1. Content Management System (CMS)

1.1 Strategy

1.1.1 Adopting a Content Management System

The adoption of a Content Management System (CMS) require the execution of the following activities, outlined in the Action Plan:

- Define CMS Specs
- Select CMS
- Implement CMS

The completion of these activities will lead to the **resolution of the following critical issues** identified during the consultation process:

1. **Separating Content from Design**
Clear distinction between the content authoring/editing, overall design and look and feel, and IT infrastructure.
2. **Multimedia authoring capabilities**
Ability for authors to manage rich text formats and images
3. **Publishing Workflow**
Ability for authors and content editors to easily publish their content. Strong considerations for ease of use and time to publish.
4. **Compatibility**
Ability for all Internet users to access the IPGRI Web site content fully from any Internet browser. Support and implementation for official Web (W3C) standards.
5. **Usability and accessibility issues**
Ease of access to the site, performance, page load times, accessibility to users with slow access, ease of navigation, ease of finding information, accessibility compliance for handicapped users. Legibility of information, information design issues (quantitative data display), consistency of representation.
6. **Supporting an effective Content Organization**
The effective organization of content according to end user expectations, tasks, needs. Optimization of terminology and labeling. Restructuring and improvement of content categories and hierarchy of subdivision. Ability for readers to access content according to multiple organization viewpoints.
7. **Multiple Distribution Channels and formats**
Capability of creating content in one rich, categorized format which can be published in many different formats: online and offline.

8. News Aggregation and publishing

Ability to gather news and articles from external, relevant sources and to republish them in a niche Web site, vertically targeted to specific topics and focuses.

9. Subscription mechanisms

Capability for end users to subscribe to content updates in different methods of delivery: email for newsletter and news, syndication formats like RSS and ATOM for pulling fresh content automatically.

10. Collaborative journalism

Capability to allow end-users to contribute with original news stories, articles, links and pointer to resources.

1.1.2 What is a CMS?

A CMS is a Content Management System, a set of software tools and services to manage the creation, editing, maintenance and publication of different types of content with various output formats.

A content management system (CMS) supports the creation, management, distribution, publishing, and discovery of corporate information.

It covers the complete lifecycle of the pages on your site, from providing simple tools to create the content, through to publishing, and finally to archiving. This is typically (but not always) done via a web-based interface that works much like Word does.

It also provides the ability to manage the structure of the site, the appearance of the published pages, and the navigation provided to the users. The CMS automates menial tasks, such as applying the same page layout and appearance across the site. Menus and other navigation are also automatically produced.

Along with the many other administrative tools, this leaves authors to concentrate on the content, and not on the technology.

Benefits of adopting a CMS

A content management system makes life much easier in many ways:

- Authors are no longer dependent on the web designers making changes for them.
- Changes can be made any time they are needed, day or night.
- All the technical details are simply handled by the CMS, allowing anyone to manage and update the site.
- Multiple staff can keep the site up to date, instead of being restricted to just one person. The CMS will track who is doing what, avoiding potential confusion.
- It can even ensure that each staff person can only update the sections of the site they are responsible for.
- The CMS ensures that all the pages are consistent in design, and will build all the menus and other navigation automatically.

1.1.3 How to select a CMS

The adoption of a CMS requires the definition of the accessibility, usability and technical specifications and requirements.

The single most important activity is to identify your business goals and requirements. This process must involve all relevant stakeholders.

Requirements definition

The requirements definition is crucial in helping the selection process, driving a decision based more on actual identified needs rather than on the technological pressure.

Assumptions

- current publishing systems will be replaced by the new CMS
- CMS will manage both the intranet and internet website
- CMS will be enterprise-wide.

A wide range of content will be published using the CMS. This can be characterized as:

- simple pages
- complex pages, with specific layout and presentation
- dynamic information sourced from databases, etc
- training materials
- online manuals (policy & procedures, HR, etc)
- general business documents
- thousands of pages in total
- extensive linking between pages.

Requirements

- Content creation
- Content management
- Publishing
- Presentation
- Contract & business

This list covers the full lifecycle of a content management system, from initially creating the content, through to delivering it to end-users.

1.1.4 Content creation requirements

This is the functionality required by the authors (content creators) using the CMS. Without an effective authoring process, use of the CMS will wither and fail within a year of implementation.

Key requirements:

Integrated authoring environment

The CMS must provide a seamless and powerful environment for content creators. This ensures that authors have easy access to the full range of features provided by the CMS.

Separation of content and presentation

It is not possible to publish to multiple formats without a strict separation of content and presentation.

Authoring must be style-based, with all formatting applied during publishing.

Multi-user authoring

The CMS will have many simultaneous users. Features such as record locking ensure that clashing changes are prevented.

Single-sourcing (content re-use)

A single page (or even paragraph) will often be used in different contexts, or delivered to different user groups.

This is a prerequisite to managing different platforms (intranet, internet) from the same content source.

Metadata creation

Capturing metadata (creator, subject, keywords, etc) is critical when managing a large content repository.

This also includes keyword indexes, subject taxonomies and topic maps.

Powerful linking

Authors will create many cross-links between pages, and these must be stable against restructuring.

Non-technical authoring

Authors must not be required to use HTML (or other technical knowledge) when creating pages.

Ease of use & efficiency

For a CMS to be successful, it must be easy to create and maintain content.

1.1.5 Content management requirements

The core of most CMS solutions is a central repository, supported by a range of tools for manipulating and managing the content.

Key requirements include:

Version control & archiving

Strict version control is necessary for legal accountability, backup and disaster recovery. A simple but powerful interface must be provided for these features.

Workflow

Decentralized content creation relies heavily on a powerful workflow model, that can be easily customized, and is resilient against organizational change.

Security

Adequate security levels and audit trails must be in place to protect the integrity of the content.

Integration with external systems

A CMS is typically only one of a number of systems used to present information on the intranet or website.

An enterprise-wide CMS will only be successful if it can be cleanly integrated with existing business systems.

The mechanisms for achieving this must be fully documented, and based on open or industry standards.

Reporting

The CMS must provide an extensive range of reports, for both users and administrators. Ideally, the system should pro-actively report on any issues that arise. Support for customized reporting is also desirable.

1.1.6 Publishing requirements

The publishing engine takes the content stored in the repository, and generates the final pages. While this may be a dynamic or batch process, the same basic requirements apply.

Key requirements include:

Style sheets

Final appearance is controlled through the use of style sheets. This provides flexibility and expandability.

Page templates

Overall page layout is specified via page templates. Ideally, a non-technical interface should be provided for managing this.

Extensibility

It must be simple to integrate code "snippets" (or equivalent) to provide additional publishing functionality. The CMS must support a process of "continual improvement" in interface design.

Support for multiple formats

The CMS must publish to multiple formats, such as: HTML (web), printed, PDF, hand-held (WAP), and more.

It should be possible to add support for additional formats, which will be necessary as new standards evolve.

In order to achieve high quality in every format, it is critical that the content be separated from presentation at the time of authoring. This allows distinct style sheets to be used for each output.

Personalization

Different information is presented based on either user profiles, or metadata in the source content. This is typically required for large "portal" websites.

Usage statistics

The CMS must allow comprehensive usage statistics to be gathered, including: most popular pages, daily usage, and search engine usage.

This information allows the success of the site to be tracked, and any usability issues identified.

1.1.7 Presentation requirements

The published pages must meet certain standards if they are to be of value to your users. It is important to specify these requirements if you are asking the vendor to design the appearance and layout of the web pages.

Key requirements include:

Usability

This covers aspects such as ease of use and efficiency. Usability can be assured by conducting tests on the prototype designs with real users.

Usability heuristics (guidelines) must also be followed.

Accessibility

The CMS must conform to standards such as the W3C Web Accessibility Initiative (WAI).

Cross browser support

The pages must be viewable in all major web browsers (Internet Explorer, Netscape, Opera, etc). Specify which browser versions are to be supported.

Limited client-side functionality

You may wish to limit which client-side technologies (Java, JavaScript, Flash, etc) are required to view the site. This is more important for a website than an intranet.

Speed

Page size must be limited to ensure that load times are acceptable for users. Specify the typical user access methods (LAN, modem, cable, etc).

Valid HTML

All pages must conform to the current HTML specification. This ensures maximum compatibility across browsers and platforms.

Effective navigation

Users must be provided with consistent, comprehensive and usable navigation aids.

Metadata

All pages must provide sufficient metadata to allow effective indexing and searching. This should conform to a standard such as Dublin Core.

1.1.8 Contract & business requirements

Project management and business requirements must also be satisfied in a CMS project.

Key requirements include:

Training

The vendor must list the training materials that exist for the CMS, and the training services that they can provide.

Documentation

The CMS must be supported by adequate documentation: for users, administrators and developers.

Warranty

The warranty period provided, once the software has been purchased.

Maintenance agreements

The vendor must outline their preferred support arrangements, including service level agreements and upgrade processes.

Resources required

The hardware, software and operating systems required by the CMS.

Skills required

What skills and knowledge will be required within your organization to customize and maintain the CMS?

Cost

Both the fixed costs for the CMS, and the per-user ("per-seat") costs. The latter is generally more significant for a large organization.

Scalability

The load levels that the CMS supports, and the additional resources (hardware & software) required for increased usage.

IT constraints

Specify any pre-existing hardware or software that the CMS must interface with, or run on. This includes specific operating systems, databases or web servers.

Reference sites

The vendor must supply a number of sites where the software has been successfully implemented. These must match the characteristics of your organization.

1.1.9 Alternative CMS approaches

There are two main approaches available in the CMS selection:

1. Selecting and using an existing CMS
2. Putting together several technology components to satisfy the various needs identified under the CMS category

Selecting and using an existing CMS

While there are a lot of existing Content Management Systems to choose from, a deeper analysis would be required to establish if all requirements are met.

This solution can be expensive

Aggregating the most appropriate technologies

A vast amount of open-source CMS platforms are available and ready to be evaluated at almost no cost. While they could satisfy some of the key requirements identified it would be possible to integrate the main software tools with extensions, modules, plug-ins or even stand-alone software to complement the needed functionalities.

1.1.10 Reference and Decision Support Material

A huge body of knowledge is available online and offline to help the CMS decision process.

We selected the best, most exhaustive and up to date resources available.

Online Web sites and resources

The CMS Matrix – The Content Management Comparison Tool

<http://www.cmsmatrix.org/>

A community service to everyone interested in looking for a means to manage web site content. Here you can **discuss, rate, and compare the various systems available on the market today.**

Using an interactive form is possible to compare up to 10 CMS tools.

The narrowing feature of the search functionality

<http://www.cmsmatrix.org/matrix?func=search&wid=2>

allows to search for a specific requirement among the 4 major categories available: security, support, built-in applications and generic features.

The discussion forum

<http://www.cmsmatrix.org/discussion>

allows to get specific feedback on each CMS tool.

Open Source CMS

<http://www.opensourcecms.com/>

A reference and discussion site for open source CMS platform with the goal of giving opportunity to "try out" some of the best PHP / MySQL based free and open source software systems. A place to try out different open source content management systems (even with administrator access) without having to install them.

The CMS Matrix offers a number of categories to better locate the type of CMS needed. In our case we should look more in the CMS – Portals and CMS – Blogs rather than in the e-Commerce, Groupware, Forums, E-Learning, Miscellaneous, Wiki or Lite.

Open Source Content Management Systems: An Argumentative Approach

<http://michelinakis.gr/Dimitris/cms/oscms-report.pdf>

This report evaluates seven open source CMS products. The comparison is based on eight categories as seen from a business perspective. These categories are: applications, data repository, deployment, integration, revision control, user interface, user management and workflow. Each category is scored from 0 to 10 points and the overall score is determined based on the average of all categories.

The comparison clearly shows how most CMS products require further development prior to being used within a commercial environment. The few CMS products which are ready for commercial deployment contain an inherent design flaw. This flaw refers to the inefficient management of large-scale user databases.

A scientific approach-based report giving a good insight on the status of the most popular open source CMS tools. It's a very good background document to support the CMS decision process.

CMS Watch

<http://www.cmswatch.com/>

CMS Watch is an **independent source of information**, analysis, and reports about web content management solutions.

CMSInfo

<http://www.cmsinfo.org/index.php3>

A community **news portal** with specific sections of each of the most popular CMS.

Open Source Content Management System List

<http://www.la-grange.net/cms>

Another list of CMS tools which can be sorted by various criteria.

1.1.11 Reference: Articles and Reviews

- **Content reuse in practice**
http://www.steptwo.com.au/papers/kmc_contentreuse/index.html
While content reuse may be a goal of many CMS projects, it is often complex to implement in practice.
- **CMS: A working definition**
http://www.steptwo.com.au/papers/kmc_what/index.html
- **Why every small website needs a content management system**
http://www.steptwo.com.au/papers/cmb_needcms/index.html
- **How to evaluate a content management system**
http://www.steptwo.com.au/papers/kmc_evaluate/index.html
- **Requirements-focused selection**
http://www.steptwo.com.au/papers/cmb_requirements/index.html
- **How to select a CMS**
http://www.agimo.gov.au/practice/delivery/checklists/select_cms
This checklist is intended to be used by those staff in an organization who have been given the responsibility to determine CMS requirements and evaluate products. The information within this checklist may also be relevant to Chief Information Officers, Information Management steering groups and other senior managers. The checklist focuses on non-technical issues.
- **What are the goals of a CMS?**
http://www.steptwo.com.au/papers/kmc_goals/index.html
August KM Column: Content management systems should be made to meet specific business goals. Without a clear vision of these goals, it is impossible to track the success of the project, or ensure that the benefits are maximized.
- **Centralized or decentralized authoring?**
http://www.steptwo.com.au/papers/kmc_decentralised/index.html
April KM Column: There is no 'correct' answer to this question. To get the best business outcomes, you must understand the strengths and weaknesses of both approaches.
- **Standards Compliant CMS's and Blogging Tools**
http://www.andybudd.com/archives/2004/07/standards_compliant_cmss_and_blogging_tools/index.php
- **Which CMS???**
http://www.cmsinfo.org/article.php3?story_id=98
Informal and “relaxed” discussion thread on how to select a CMS.
- **Calling for Blog Publishing Platform Reviewers**
http://www.businessblogconsulting.com/2004/08/calling_for_blo.html

- **Drupal Blog Publishing Platform Review**
http://www.businessblogconsulting.com/2004/09/drupal_blog_pub.html
- **GreyMatter Blog Publishing Platform Review**
http://www.businessblogconsulting.com/2004/09/greymatter_blog.html
- **WordPress Blog Publishing Platform Review**
http://www.businessblogconsulting.com/2004/09/wordpress_blog_.html
- **Open-source content management systems**
http://www.steptwo.com.au/papers/kmc_opensource/index.html
February 2004 KM Column: Open-source CMS has now matured to the point where it should be considered alongside commercial products, but is not without its weaknesses and issues.
- **Implementing a Content Management System**
http://www.agimo.gov.au/practice/delivery/checklists/implement_cms
This checklist is intended to be used by those staff in agencies who have been given the responsibility to implement a CMS. The information within this checklist may also be relevant to Chief Information Officers, Information Management Steering Groups and other senior managers. This checklist focuses on non-technical issues.
- **Content Management Systems on Debian GNU/Linux**
<http://www.ngogeeks.com/node/view/1>
A number of Content Management Systems (CMS) were setup and evaluated using Debian GNU/Linux as the platform. The CMSs were all open source with a focus on those that were written in PHP, but also included 2 written in Perl, OpenACS written in Tcl and Plone which is built on CMF, a Zope based web application framework. Zope is written in python.

1.2 Recommendations: Selection Criteria

Based on all results gathered during the consultation process here are some recommendations on the possible candidates to become the CMS to adopt.

Knowing perfectly that the perfection is not of this Earth we have, however, a good set of specific criteria to use in the CMS selection emerged both from the final consultation process outcome and by the careful analysis of the extra research done during the composition of this Technology Evaluation Report.

The ideal CMS candidate for IPGRI:

- should allow and support the separation of content from design
- should be capable of creating multiple output formats starting from a single originating content source
- should allow the implementation and the support of the future publishing workflow
- should be compatible with XML to allow future compatibility, extensibility and capability of being integrated with/in other software tools
- should be secure and safe in terms of spam prevention and privacy protection
- should allow the possible e-commerce needs which could arise when the potential of publications sales will increase
- should be largely adopted by major international entities and institutions
- should have a large user base easily accessible in public discussion forums with the aim of easily obtaining support
- should have an active community of third-party developers producing add-ons, plug-ins, patches and fixes

1.3 Recommended Tools

1.3.1 Mambo

<http://www.mamboserver.com/>

Licensing: free, open source.

source:

<http://mamboserver.com/>

by Miro International Pty Ltd.

Last updated: 24 September 2004

Mambo is a business-oriented open source content management system written in PHP and uses the MySQL database. Initially developed by Miro International, Mambo can be hosted on Linux, Unix, Windows and Macintosh OS X servers - in fact as long as it runs PHP and MySQL, it can run Mambo. Mambo is the perfect solution for developers and novice users alike who demand a simple yet elegant way to deploy professional websites rapidly.

Features highlight

There is an excellent article on “How to evaluate a Content Management System”

http://www.steptwo.com.au/papers/kmc_evaluate/

that covers the features of a good content management system in great detail.

The goal of the Mambo project is to meet most of the requirements highlighted in the above article. As each day in development goes by we are getting nearer and nearer, while at the same time building a solid core which can be extended by third party developers. In the hands of a custom developer, this makes Mambo a powerful platform for a wide variety of Internet applications that go far above and beyond the simple creation of content.

Is Mambo for Me?

source:

http://mamboserver.com/Mambo_Knowledge_Base/What_is_Mambo?/Is_Mambo_for_me?/

Is Mambo for Me?

by Miro International Pty Ltd.

Last updated: 26 August 2004

- Is there a healthy development team (to support the core framework)?
- Is there a healthy developer community (to provide custom add-ons, templates, etc)?
- Is there a healthy user community (to provide help and support and to provide the momentum for continued development)?

Mambo has all three. To help you compare various systems, look at the following:

- Check that **releases are recent and timely**, that downloads any not years old (have a look at <http://mamboforge.net/projects/mambo/>)
- Check that **there are quality community sites** supporting custom development and news (have a look at mamboforge.net or work through the results of a web search for 'Mambo CMS').
- Check that **there are support forums** or other communication networks to allow users to get help and share ideas (have a look at forum.mamboserver.com).

Web Sites done with Mambo:

- Demo site of Mambo
<http://mambo.mamboforge.net/demo>

Feature List

source:

http://mamboSERVER.com/Mambo_Knowledge_Base/What_is_Mambo?/Features/

What is Mambo

by Miro International Pty Ltd.

Last updated: 19 August 2004

- Source code is **completely free**.
- **A large and healthy user and developer community.**
- **Provides a basic level of content approval for registered users.**
- Online help.
- Page caching mechanism to improve performance on busy sites.
- Media (images, documents) upload and management.
- Content display scheduling.
- **Content syndication (RSS).**
- **Search engine friendly (SEF) URL's.**
- **Internationalization (interface translation).**
- Content macro language.
- **Advanced and separate system administration system.**
- Advanced package/add-on/template deployment system.
- **Simple but powerful template system**
- **Hierarchical user access groups.**
- Basic visitor statistics.
- **Multiple WYSIWYG content editor support.**
- Simple polls.
- Content voting/rating system

Developers Community

<http://mamboforge.net/>

MamboForge.net has been established as a development and distribution environment for the community to further expand the Mambo project and **to host components, templates, plug-ins, modules and anything related to Mambo.**

1.3.2 Drupal

<http://www.drupal.org/>

Licensing: free, open source.

An open source content management platform. Equipped with a powerful blend of features, Drupal can support a variety of websites ranging from personal weblogs to large community-driven websites.

Web sites done with Drupal:

- **Development Seed**
<http://www.developmentseed.net/>
Development Seed provides organizations with technological guidance and support, from designing an effective Internet strategy to building and deploying the website.
- **Spread Firefox**
<http://www.spreadfirefox.com/community/>
Drupal users will immediately see that this initiative is built on top of Drupal. In fact is built on top of *CivicSpace*, a distribution and service built with Drupal software and aimed at grassroots campaigning on internet.
- **Very extensive list of Web sites using Drupal**
<http://drupal.org/sites>

Drupal Key Features

source:

<http://drupal.org/features>

Last updated: 31 October 2002

- **Personalization**
A robust personalization environment is at the core of Drupal. Both the content and the presentation can be individualized based on user-defined preferences.
- **Templating**
Drupal's theme system separates content from presentation allowing you to control the look and feel of your Drupal site. Templates are created from standard HTML and PHP coding meaning that you don't have to learn a proprietary templating language.
- **Version control**
Drupal's version control system tracks the details of content updates including who changed it, what was changed, the date and time of changes made to your content and more. Version control features provide an option to keep a comment log and enables you to roll-back content to an earlier version.
- **User authentication**
Users can register and authenticate locally or using an external authentication source like Jabber, Blogger, LiveJournal or another Drupal website. For use on an intranet, Drupal can integrate with an LDAP server.
- **Searching**
All content in Drupal is fully indexed and searchable at all times.
- **Content syndication**
Drupal exports your site's content in RDF/RSS format for others to gather. This lets anyone with a "News Aggregator" such as NetNewsWire or Radio UserLand browse your Drupal site from the comfort of their desktop.
- **News aggregator**
Drupal has a powerful built-in News Aggregator for reading and blogging news from other sites. The News Aggregator caches articles to your MySQL database and it's caching time is user configurable.
- **Multi platform**
Apache or IIS, Unix / Linux / BSD / Solaris / Windows / Mac OS X support - Drupal was designed from the start to be multi-platform. Not only can you use it with either Apache or Microsoft IIS but we also have Drupal running on Linux, BSD, Solaris, Windows, and Mac OS X platforms.
- **Database independence**
While many of our users run Drupal with MySQL, we knew that MySQL wasn't the solution for everyone. Drupal is built on top of a database abstraction layer that enables you to use Drupal with MySQL, PostgreSQL, Microsoft SQL Server, and other SQL databases.

- **Multi-language**
Drupal is designed to meet the requirements of an international audience and provides a full framework to create a multi-lingual website, blog, content management system or community application. All text can be translated using a graphical user interface, by importing existing translations, or by integrating with other translation tools such as the GNU gettext.
- **Administration and analysis**
- **Analysis, Tracking and Statistics**
Drupal can print browser-based reports with information about referrals, content popularity and how visitors navigate your site.
- **Logging and Reporting**
All important activities and system events are captured in an event log to be reviewed by an administrator at a later time.
- **Web based administration**
Drupal can be administered entirely using a web browser, making it possible to access it from around the world and requires no additional software to be installed on your computer.

Developers' base

source:

<http://drupal.org/project/releases>

by Miro International Pty Ltd.

Last updated: 24 September 2004

The Drupal community has contributed many modules which provide functionality like taxonomy display, jabber authentication, private messages, bookmarks, etc.

Drupal Reference Articles

Drupal in the Non-Profit Arena

source:

<http://www.developmentseed.com/blog/?q=node/view/60>

by yrret.

Published: 18 July 2004

With the advent of the Content Management Systems (CMS) on the internet today, Non-Profit organizations have a better chance than ever to present a professional and well organized image to the public, as well as building a central location for supporters of the group or cause to share experiences and opinions.

Although the options seem daunting when one starts to explore this bustling field of options,

Drupal stands out as a best choice for Non-Profit Organizations (NPOs).

*Here are some of the key features of Drupal as it **relates to the Non-Profit arena.***

- 1. Drupal itself is driven by a **mature developer community** that is focused on providing a great piece of software that is free. Although there are a lot of free options out there, few have the **large well-organized development team.***
- 2. **Drupal is fast and secure.** Some popular systems out there suffer from security problems, and the negative impact of being hacked or having a web site defaced is a big risk for most NPOs.*
- 3. **Drupal is a strong publishing environment.** One of the main purposes of the Non-Profit website is to communicate effectively not only to it's members but to potential members and supporters. **Drupal allows stories to be developed over time, reviewed and moderated by a group before it is published to a larger audience.** It also allows sophisticated control over what appears on the "Front" page of a site, and how long it stays there. It doesn't have to be a simple stream of running entries.*
- 4. The profile module in Drupal is an **extremely flexible community-building feature.** Custom fields are easy to create, and custom "Member Lists" are built in. For example "Members in your area" or "Community Leaders".*
- 5. The personal blog feature also **allows members to have a stake in the community;** personal blogs can even be published to the front page.*
- 6. **Drupal's commenting system makes it easy for groups to share opinions and experiences easily.** It is also possible to publish stories or sections that have no commenting. (i.e., an about page, or a contact page)*
- 7. **Drupal supports search engine friendly URLs** so other people can find you, and help give your organization a voice that will be heard.*

1.3.3 Typo3

<http://typo3.com/>

Licensing: free, open source.

TYPO3 is a free Open Source content management system for enterprise purposes on the web and in intranets. It offers full flexibility and extendibility while featuring an accomplished set of ready-made interfaces, functions and modules.

Among the other major feature there are some relevant highlights:

- **Abundant documentation**
Detailed documentation including multimedia visualizations covers all levels of the product, in particular the important technical issues.
- **Worldwide community**
Large worldwide community - always help to get online.
- **Professional consultancies**
Local consultancy groups and partners network.
- **Fast and intuitive interface**
The fast backend interface works in any modern web browser, is highly streamlined and fully customizable for any extensions. Reuse of components and consistency of concepts within makes the TYPO3 backend easy to navigate and understand.
- **Content Management:**
All kinds of content types are to be added through easy to understand forms. No technical limit to the amount of items accommodated by the content structure per site, per category or per page.
- **Multilanguage**
Different language versions can be inserted and maintained on a per-page basis instead of having to create separate page trees.
- **Large developer community**
TYPO3 has a large worldwide community of developers with clients from all types of business branches securing its continual development of any additional modern requirements of a CMS.
- **Multiple sites**
TYPO3's core architecture has been designed to handle an unlimited number of independent websites or projects within the same system. Corporate solutions with Internet, intranets, extranets, and subdivisions can be handled in the same system. Multiple smaller websites served by an ISP can also share the same database. This is both extremely useful and an efficient way to lower maintenance costs.
- **Indexed search engine**
Indexed full text search in TYPO3 pages and external media files like TXT,

HTML, MS Word and PDF-files. Includes advanced options for searching only parts of a website and intelligent relevance rated display of results.

- **TypoScript template engine.**
All pages are template-driven with advanced scripting capabilities to allow delivering of customized content according to different user profiles.
- **Editing of static files**
*TYPO3 mainly manages content from the database. However, **TYPO3 can also be configured to edit static HTML-files with the inherent WYSIWYG capabilities.** Thus even special static pages can be managed through the intuitive editor.*
- **Open architecture.**
*TYPO3 offers a flexible and open structure; **it is based on open standards and programmed in the most popular web scripting language (PHP4) available.***
- **Expandable on all levels.**
*TYPO3 can be extended on many levels. Not only does the architecture allow you to perform data processing with your own PHP-scripts, classes and functions but **it also allows you to seamlessly integrate your own or third party backend modules, website plug-ins, database tables etc.***
- **Plug-ins**
***Many default plug-ins are available** such as forums, calendars, guestbooks, sitemaps, banner-controls, email-forms, polls, ratings, FAQs, glossaries, news, and online shop systems. The list of user contributed "install-in-one-click" plug-in is growing daily in the online extension repository.*
- **Import**
MS Word documents - or other rich text content from client applications or the web - can easily be imported by simple copy-paste.
- **Minimal training needed**
WYSIWYG editing, front-end editing, table and form wizards, automatic image handling, generation of graphics on-the-fly - these features make any average PC user an effective content author in seconds.
- **Permission control.**
Access control of pages is available on user, owner and group scheme (similar to UNIX). Additional security provided by locking users to certain nodes in the page tree.
- **Protected areas**
*Provide intranets, extranets and password protected sections of the website. Utilize security features such as **IP filtering.** **Access is controlled by users and groups and can be restricted on both page and single object levels.** Furthermore TYPO3 can run under SSL, different ports than port 80 and from alternative admin-directories if you are very paranoid.*

- **Security**
Secure file downloads can be configured. Password submission and storage (backend) is md5-encrypted. IP-filtering can be applied for intranets, extranets and administration sections. Multi-state login-notification by email provides effective “burglar alarm”. True encryption of data-transfer available through standard Web server Secure Socket Layer (SSL).
- **Workflow engine**
A straight line workflow engine makes production and approval of content a breeze in a workgroup of authors, editors and reviewers.
- **Reduced redesign times**
Redesign times are seriously reduced - central changes in templates affects whole sections of the website at once. Last-minute changes are easily incorporated due to the flexible technology and server side image creation/manipulation.
- **Publish static, dynamic and cached content**
Publish any mixture of static HTML (**for speed**), dynamic content (**for database interaction**) or a truly mix of dynamic and cached content for the best of both. Run any third party product simultaneously with TYPO3 on a site if needed.
- **Search engine compatible**
Compatible with all search engines - all pages will be indexed
- **Output formats**
Template engine allows for browser detection, printable versions, versions for PDAs etc., use of CSS style sheets, WML for mobile phones, XML for data exchange, SGML for print. Any output format can be generated by PHP-extensions.

1.4 Alternative, Commercial CMS Tools

Recommendations

For the sake of completeness and to give a wider overview on the market of Content Management Systems we are reporting in this section two of the most advanced and popular commercial CMS.

But considering the frequently reinforced principle of adopting technologies that are as much as possible: open-source, following open standards, largely adopted, with a strong and diverse user based, with a very active group of developers **we do not recommend any commercial CMS to be adopted by IPGRI.**

In particular, to support the previous statement we would mention the recommendations made in the Project Brief at pag.82 (see related document) stating:

Recommendations:

- 1. Select CMS system (possibly open source, format-independent, utilizing non-proprietary technology, fully customizable and well-supported that is having relatively widely adoption, has an active user-base community, support forums and lots of active third-party development tools and software plug-ins.)*

1.4.1 Microsoft Content Management Server

<http://www.microsoft.com/cmserver/>

License: commercial

Pricing:

Microsoft Content Management Server 2002 Production Licenses*
Microsoft Content Management Server 2002 Enterprise Edition
\$24,999 US per processor

Content Management Server 2002 Standard Edition
\$6,999 US per processor

Trial version available at:

<http://www.microsoft.com/cmserver/default.aspx?url=/cmserver/evaluation/trial/>

By streamlining the Web publishing process, Content Management Server can reduce the need for costly site maintenance, empowering business users to manage their own content.

*Content Management Server 2002 provides employees with easy-to-use tools that enable them to create and publish rich, personalized content directly to Web sites. The role-based distributed publishing model incorporates an **approval workflow with multiple levels**, automatic **content scheduling and archiving**, and **content indexing**. Developers can create **centrally-managed page templates** and publishing processes that ensure consistency across the site, making it easy to ensure adherence to corporate publishing standards and branding without diminishing the flexibility of the publishing environment.*

Web Author Client.

Create, edit, and publish content directly within an Internet browser by using the Web Author Client.

*Authoring Connector for Microsoft Office. **Create and publish content directly within Microsoft Word** by using the Authoring Connector for Microsoft Office.*

*Content Management Server 2002 stores all content in **XML, HTML, and binary content objects** for maximum flexibility.*

*Web pages can be built and served dynamically. **This enables content to be personalized based on user profile or behavior, browsing device, or language preference.***

*By managing the objects separately, **content can easily be re-purposed across a variety of applications within the organization and with external partners.***

Highlighted features:

- *Users are empowered to create, publish, and manage their own Web content by means of an **Internet browser or even Microsoft Word**.*
- ***Managed workflow**, content scheduling, archiving, and centralized control over **publishing standards** through **page templates**.*
- *Tight integration with Microsoft Visual Studio® .NET and support for the Microsoft .NET Framework.*
- *Improved **Scalability** and **Reliability** - The Content Management Server 2002 architecture enables to scale up and scale out to meet the needs of even the largest global Web sites.*
- **Integration with Microsoft products and technologies:**
 - Visual Studio .NET for Web site development.
 - Microsoft SQL Server™ for content storage
 - Microsoft Commerce Server for content profiling, personalization, product catalog, and Web analytics.
 - Microsoft SharePoint™ Portal Server for document management, search, and construction of knowledge work portals.
 - Microsoft Word for content authoring and publishing.
 - **Interoperability** - Support for XML Web services.
 - Based on **Industry Standards** - With industry-leading support for standards like XML and SOAP

source:

<http://www.microsoft.com/cmserver/>

Microsoft Content Management System

by Microsoft Inc.

Checked on: 28 September 2004

1.4.2 Macromedia Web Publishing System

<http://www.macromedia.com/software/webpublishingsystem/>

License: Commercial

Pricing:

Starter 10-pack	\$2,499
50-pack	\$12,495
100-pack	\$24,990

The Macromedia Web Publishing System is a complete, scalable web content management solution that empowers businesses to build, manage, and publish to websites within a centrally controlled, standards-based environment.

Free trial available at:

<http://www.macromedia.com/cfusion/tdrc/index.cfm?product=webpublishingsystem>

Features tour:

http://www.macromedia.com/software/webpublishingsystem/productinfo/features/brz_tour/

Web Publishing System Benefits

Content Contributors

Bring your website alive with up-to-date content.

The Macromedia Web Publishing System (WPS) empowers business professionals and content contributors to be involved directly with web publishing, bringing websites alive with up-to-date content and communications. As bottlenecks are eliminated, business processes advance rapidly.

*When you purchase the WPS, each business user will get a licensed copy of Macromedia Contribute 3 with FlashPaper 2 for easily updating web content and publishing documents online. **Macromedia Contribute 3 provides point-and-click simplicity for business users, combining a familiar user interface with tight Microsoft Office integration for maximum publishing productivity.***

Easy to Use

*The Macromedia Web Publishing System makes publishing content and documents to websites a straightforward process **without requiring new technical skills**. Business professionals can update and publish web content easily in three simple steps:*

- 1. Browse to the web page that needs updating or editing.*
- 2. Click Edit to make changes to that page using Contribute.*
- 3. Click Publish once you've finished your edits, and it's done.*

Web Publishing System for Web Developers

Controlled

*The Macromedia Web Publishing System provides extensive controls for administering user permissions. **These controls ensure design standards are met, functionality is maintained, and code is protected.***

In addition, an intuitive approval system allows practical workflows for controlling who can edit and who can publish.

Compatible

*The Macromedia Web Publishing System is **compatible with existing web and IT infrastructure and works across platforms**, enabling web publishing in almost any computing environment. It can also be used to extend the value of existing content management and learning management systems.*

IT Managers and Site Administrators

Centrally administer and track Web Publishing System usage.

*Contribute Publishing Services (CPS) is a **lightweight server application that enables administrators to manage access centrally across large numbers of websites and publishers**, integrate with enterprise systems, and oversee publishing activity through logging and notifications.*

source:

<http://www.macromedia.com/software/webpublishingsystem/>

Macromedia Web Publishing System

by Macromedia Inc.

Checked on: 20 September 2004

1.5 About tools already in use in the IPGRI organization

Since it's possible that more than one tool is already in use relating to the management of online content inside IPGRI, we suggest to carefully evaluate the migration of the content published in this way towards the integration in the final CMS selected.

This would give the obvious benefit of having one integrated environment to manage the whole online publication process.

For instance:

1.5.1 Nucleus

<http://www.nucleuscms.org/>

Even if Nucleus has many positive aspects, it lacks, among the other features a publishing workflow management system.

1.6 Content migration strategy

The selection and adoption of a CMS will entail the migration of the entire content inventory from the old system to the new one.

Our suggestion is:

- to keep the old Web site as it is;
- to install the new CMS-based Web site in a new, carefully crafted, set of URLs (Search Engines friendly, memorable, usable);
- to update each newly created content section by removing it from the “old” system and by inserting it in its new incarnation in the “new” system;
- to update links site wide so that there are only reference to the updated version of the migrated content.

2. Usability, exposure and visibility

2.1 Strategy

The selection of a CMS will surely help in offering site search functionalities: the range of CMS proposed offers valuable ones.

Nonetheless we recommend to adopt the use of the powerful and prestigious Google WebSearch service.

2.2 Recommended tools

The Google WebSearch engine is one of the most effective and straightforward site search solution available on the market. It's free, it's fast and it's easily embeddable in any existing Web site regardless of the technology used on the backend.

A powerful site search engine would improve the user experience in accessing information available on the IPGRI Web site.

Moreover, having the IPGRI Web site to be spidered by Google to allow an effective searching would have the indirect and quite desirable effect of improving the visibility and the exposure of IPGRI's content on the Web.

2.2.1 Google WebSearch

<https://www.google.com/adsense/ws-overview>

Licensing: free.

source:

<https://www.google.com/adsense/ws-overview>

Google AdSense for search

by Google, Inc.

Checked: 21 September 2004

In just a few minutes you can customize the look and feel of the Google search box to match your site. Just add your logo and match the search results to your site by changing the colors of the background, title, text, URL and more. There are more than 200 colors to choose from.

With Google search, your visitors can search the Web from your website. And if Google has already crawled your website, the SiteSearch feature will let them search your own site as well. And the SafeSearch option excludes pages with adult-themed content from search results.

Google doesn't just provide search technology and advertising—they host search results pages as well. So you don't have to pay for software or technical expertise to add search to your site, and you don't have to pay to host it, either. What's more, Google's system administrators are dedicated to keeping your search up and running 24 hours a day.

You can track the number of queries, clicks, clickthrough rate via a web-based account which you can easily update at any time.

2.3 Reference

- **Deploying an effective search engine**
<http://www.steptwo.com.au/papers/search/index.html>
A case study describing how to deliver a successful searching solution. Provides guidelines on user interface design, indexing configuration, search engine weightings and more.

- **Improve search**
http://www.steptwo.com.au/papers/kmc_deployingcms/index.html
Search will often be a key component of the overall solution being delivered. For the search to be effective, more must be done than simply installing the search engine in its default configuration. Additional activities will include:
 - *matching the search and result pages to the design of the site*
 - *configuring the use of metadata*
 - *refining the search engine 'weightings'*
 - *configuring other search settings*
 - *testing the search engine on the real site data*
 - *implementing search engine usage reports (for more on these, see the briefing Intranet search reports)*

3. Monitoring and evaluation

3.1 Strategy

Besides the monitoring of **link popularity** and the **positioning in the major search engines** the need of monitoring citations of the **many publications managed by IPGRI** has been reported in the many comments received during the consultation process.

A wider monitoring goal could be identified in the need of measuring the online credibility.

3.2 Measuring popularity, authority and credibility Online

In general, it can be said that there is not one unique, reliable indicator of credibility, authority and popularity for public Web sites.

Rather, there are a multiplicity of Web indicators that can be utilized to gather valuable data about a web site depending on the specific needs and scope of such research.

The following categories show the major indicators:

Public Link Popularity Indicators

Link popularity is probably the most objective and publicly accessible credibility and authority indicator for anyone Web site. The link popularity of a site can be calculated through the ability of major search engines to report on backward links to anyone site through a simple manual query that anyone can carry out.

Google PageRank

Google PageRank is one of the very classic credibility and authority indicators on the Web and also one of the most trusted and reliable ones.

PageRank™ is an exclusive technology of Google which evaluates the popularity of your Website's pages with a ranking value ranging between 0 and 10. However, in order to know this Rank, you have to download and to install the Google Toolbar.

The Google PageRank is used by many companies, agencies and consulting firms to easily assess the authority and popularity of any Web site. In recent times even the advertising prices of a site have been determined in relationship to the Google PageRank.

Site Stats - (from server logs, live tracker, ad impressions, etc.)

We would strongly suggest to make (a representative sample) of your log server stats publicly available.

Log server statistics are files that are automatically created on the Web server hosting your site and documenting in a high level of technical detail each and every access to your site.

Our recommendation is: **make it completely transparent for everyone to see how well you are doing.**

The more transparent you are, the more credible your information will be.

Note about IPGRI's Web Usage Report

The Web server log statistics available at:

<http://webusage.cgnet.com/ipgri/>

are not offering information useful to evaluate the credibility of the organization online.

Unique visitors should be highlighted but clearly dividing the actual external visitors from visitors accessing IPGRI's Web page from inside the organization.

This data should be broke down to show the actual time spent by this class of users to actually highlight the level of interested expressed in the content IPGRI is offering online.

The kind of aggregated data offered at the URL:

<http://webusage.cgnet.com/ipgri/>

gives a very rough usage statistics of the Web server and not much about what real users are doing in the Web site.

Other Popularity Indicators

Newsletter - Mailing List Size

Another major indicator of a Web site popularity is the size (and quality) of its mailing list. For mailing list size is generally intended the number of subscribers to a newsletter or other email-based periodical publication that the web site publishes.

Hundreds, thousands or tens of thousands. **What is the number of people who has chosen to subscribe to your email-based news reports?**

The larger the size and the more frequent the publication, the higher the level of popularity, authority and credibility achieved by that site.
Unfortunately this data is not generally shared or published.

Our recommendation is that Web publishers state their effective circulation without censorship and by always providing the source reference of that data, if not a visual proof or better yet a certified audited report.

Alexa ranking

<http://www.alexa.com/>

The Alexa service provide information about the traffic of a Web site based on how many users, using the Alexa toolbars, have actually visited it. The Alexa traffic statistics can be showed in a trend-diagram form on a public Web page.

Though Alexa results cannot be trusted as absolute measurements of a Web site popularity, credibility or rank, they can be very useful in checking overall trends and indicative evaluations of a site performance over time.

Yahoo Web Rank

<http://help.yahoo.com/help/us/companion/webrank>

Yahoo has quietly rolled out something very similar to the famous Google PageRank. This is a system that allows Yahoo to calculate the rank of any Web site by leveraging the browsing habits when using the new Yahoo!'s Web Rank Toolbar.

The ranking mechanism places any individual Web site on a popularity scale going from 1 to 10 based on the number of links pointing to that site and other factors Yahoo takes into account. For those who wish not to install the new Yahoo Web Rank Toolbar, or that do not have MSIE installed as their default browser, Yahoo Web Rank data can also be accessed by going to
<http://www.digitalpoint.com/tools/webrank/>

Link Appeal

<http://www.webmaster-toolkit.com/link-appeal.shtml>

Link Appeal calculates the desirability rating of having a link on the URL you specify. This calculation includes four factors:

- a) Google PageRank
- b) number of outbound links
- c) the overall percentage of links to html
- d) Alexa traffic ranking

Link appeal calculates an overall score (1-10) based on the above factors.

3.2.1 Popularity, Authority And Credibility In The Blogosphere

Although the following services are target mainly to Weblogs authors and users, it should be noted that a Weblogs is nothing more than a Web site, a set of HTML-based Web pages with a standard URL.

That is why keeping an eye to the Blogosphere could reveal an enormous potentiality to increase every Website's online credibility.

Inside the blogosphere there are multiple services which greatly facilitate the measurement of authority of and popularity of any blog site. By utilizing link popularity, the **number of citations** on other sites and the number of trackbacks from other blogs. **Far from being very precise in absolute terms, some of these indicators offer a good, relative measure, of a blog popularity, authority and consequent credibility** in its field.

These include:

Technorati

<http://www.Technorati.com/>

Technorati provides the most respected and comprehensive authority index about the blogosphere. Technorati allows easy assessment of any weblog popularity/authority by providing a uniquely valuable statistical census of the blogosphere in near real time.

PubSub Linkranks

<http://www.pubsub.com/linkranks.php>

Link ranks are a way of measuring the strength, persistence, and vitality of links appearing in weblogs. From this data is possible to extract valuable information supporting the ranking of blog sites according to their link popularity and value.

DayPop Blogstats

<http://www.daypop.com/blogstats>

The DayPop Blogstats facility shows a blog's ranking in terms of Daypop's citation scoring. It also shows similar weblogs based on link patterns (only the Top 1000 blogs ranked by Citations and DayPop Sponsors' Blogs have data for Similar Blogs).

3.3 Reference

- **PACmeter - Popularity, Authority, Credibility Online: How To Measure Them?**
http://www.masternewmedia.org/2004/08/11/pacmeter_popularity_authority_credibility.htm
- **The Stanford Web Credibility Research Project**
<http://credibility.stanford.edu/>
The Stanford Web Credibility Research Project goal is to understand what leads people to believe what they find on the Web. As part of this ongoing project the Stanford Web Credibility Research Project:
 - *performs quantitative research on Web credibility.*
 - *collects all public information on Web credibility.*
 - *acts as a clearinghouse for this information.*
 - *facilitates research and discussion about Web credibility.*
 - *helps designers create credible Web sites.*
- **Credibility Guidelines**
<http://credibility.stanford.edu/guidelines/index.html>
- **Evidence-based articles on Web credibility**
<http://credibility.stanford.edu/credlit.html>
- **Captology - Stanford Persuasive Technology Lab**
<http://www.captology.org>

*"The data showed that **the average consumer paid far more attention to the superficial aspects of a site, such as visual cues, than to its content.** For example, nearly half of all consumers (or 46.1%) in the study assessed the credibility of sites based in part on the appeal of the overall visual design of a site, including **layout, typography, font size and color schemes.** This reliance on a site's overall visual appeal to gauge its credibility occurred more often with some categories of sites than others. Consumer credibility-related comments about visual design issues occurred with more frequency with finance (54.6%), search engines (52.6%), travel (50.5%), and e-commerce sites (46.2%), and with less frequency when assessing health (41.8%), news (39.6%), and **nonprofit (39.4%) sites.**"*

source:

http://www.consumerwebwatch.org/news/report3_credibilityresearch/stanfordPTL_TO_C.htm

How Do People Evaluate a Web Site's Credibility?

Published: 29 October 2002

- **How Do Experts Evaluate the Credibility of Web Sites?**
<http://tinyurl.com/6cxs2>
- **Consumer WebWatch Guidelines To Improve Credibility**
<http://www.consumerwebwatch.org/bestpractices/index.html>

4. Monitoring Traffic

4.1 Strategy

Monitoring traffic on the Web means the ability to analyze the "trails" that each online visitor leaves behind, when she comes to see your web site.

The advantage of using **live trackers** versus **log analysis tools** is the ease of setup and use, as well as immediate access to traffic statistics.

A combination of the two would work best for most web sites, as the need for immediacy of reports can be easily covered by only a few trackers placed on key strategic pages.

A recently introduced class of monitoring devices called **intelligent trackers** represents a more advanced solution to be considered but maybe not to replace completely the mix of a live tracker and a log analysis tool.

An **intelligent tracker** is a tool that allows to combine raw data in more intuitive and visually displayed information, giving more relevant information about visitors' behavior rather than the Web server performance.

The overall traffic analysis must be executed through a log analysis tool. Our suggestion is to **do a good log analysis every 2-3 months**, so you can better identify the trends and the "bigger picture" of what is happening on your web site.

Use instead **live trackers to monitor tactical promotional actions on your part**, and for example to verify the peaks of traffic you may receive after a certain announcement, or after you have sent out your newsletter or e-zine.

4.2 Reference

Web Analytics

Web Analytics is the formal discipline of studying user activities on a website or web application to understand how well it fulfils its objectives and meets the user requirements, and to seek ways to optimize it to become more usable, relevant and efficient.

Web Analytics involve a variety of analytical techniques to analyze user activity data, which can be collected by a combination of techniques such as server log files, browser tags, search log files, cookies, and custom-written scripts.

Web Analytics is often investigative and requires tools or platforms to drill or filter through the user activity data to spot trends and user experience problems.

Web Analytics has been increasingly expanding itself on to other corporate data sources to view and analyze the user activity data in an integrated fashion.

Log Analysis Tools vs. Real-time tracking

Log Analyzers and Real-Time Statistics reports track site activity in very different ways. As a result, they collect different information and may not always match. For example, real-time stats are much better at tracking unique visitors and give a much more accurate page view count.

Gaining a greater understanding of how these systems track and report stats will help you better reconcile the difference between the two techniques. Also, by understanding the differences you will be in a better position to interpret the results and make more effective decisions about your business.

Log File Analyzer

Your Internet servers create a record of the traffic and information requests in log files. These log files include information on errors, processing time, bandwidth used, visitor IP address, where visitors came from (referred) along with additional information such as operating system or browser used.

Website statistics that use log data typically install on a server behind your firewall and read your log files on a periodic basis. They interpret the data and provide a snapshot report in a readable format of the information contained in your log file.

Real Time Statistics

Another method of analyzing your web site activity is to update an optimized reporting database each time a visitor comes to your site. This method requires you to place a small JavaScript on every web page that is to be tracked. This code is invisible to your site visitors. As visitors surf your site the code places a cookie on their computer so they are tracked as unique.

Within seconds of placing this code on your site information about your visitors is securely written out to a database and is instantly available for reporting. Because the database is optimized for reporting information such as what marketing campaign referred the visitor or what their order value is can now be captured. Because the data is real-time you do not have to wait for a snapshot report.

Selecting a Web Analytics solution: criteria

The four basic factors we use to evaluate the best provider follow, with a little added detail. They'll help you determine which is the solution that best meets your needs.

Evaluate Needs

- What do you need to measure? This depends on your Web site's objectives. Once they're determined, focus on what level of insight the product supports for your business strategy. Without clarity about business requirements, no solution will provide meaningful data.
- Software package or ASP? Factors to consider include volume, cost, and technical integration. Does your company have the ability to implement technical applications? Don't base this decision on upfront costs alone. You're making an ongoing investment in hardware, as well as managing and distributing the information.
- If considering an ASP-based solution (Java bug or tag), how many pages on your site must be tagged? Are the cookies from a third party? Can visitors be tagged with first-party cookies? Perhaps your site can't implement cookies at all (an important privacy concern). Will you have problems loading pages completely if the provider's servers are having their own problems?
- How often do you require updated reports? Are real-time reports a necessity?
- You don't want thousands of reports (that's information overload). Differing reports meeting marketing, IT, and executive needs are probably necessary. Is available report data enough to help you make decisions? Can you dig deeper into report data should the need arise?
- Don't think only of today's needs. What's required down the road? Today, it may suffice to know conversion rate by search engine. Tomorrow, you might be sophisticated enough to analyze conversions by keyword.
- How accurate and reliable are reports? Running different programs on the same logs often produces different results. What methodology is used to interpret data? Will you need to access older reports for comparative purposes at a later date?
- Is the analytic solution compatible with your current site configuration? Does it accurately measure dynamic content? Can it analyze parameters in dynamic URLs (e.g., if the URL is `www.yoursite.com/products.asp?category=4&product=95&option=3`, can the software report more than `www.yoursite.com/products.asp?`) and decipher the parameters? Can you filter visitor segments in and out of results (e.g., internal users)? Can a visitor session occur across multiple servers and still be measured? Does the product work on different types of server platforms?
- What are the options and costs should you add more servers in the future?

Product Breadth and Depth

- Is the solution scalable? Can it handle increasing volume load? Will you recognize any latency in pages loading? Does it have a redundancy center? Are there customizable degrees of insight and analysis?
- How fast are reports produced? If you want a particular report for a non-predefined time range (e.g., first half of the month), can the software analyze the data independently of your time frame? If not, you may wait twice as long for reports.
- Is the interface easy to use? Don't settle for the snazziest GUI. An interface that looks terrific may limit the level of insight and depth of reporting. There's often a tradeoff between insight and ease of use. If the product alone determines what's important for you to know, it probably will be easy to use.
- Are reports and terminology in plain English? Can information be presented in other languages if that's a requirement?
- Is the solution configurable based on your custom infrastructure? Does it have an open API you may need to tie in your CMS or CRM solution?

Support

- Have you tested the provider's technical support? What hours is it available? Are there associated costs?
- Does the provider offer education services and/or training, online or off-?
- Is there community support around the product, such as user groups or customer feedback sessions?
- Are installation services offered?

Company Track Record

- How stable is the company you're considering? Is it profitable? How long has it been in business?
- Is Web metrics its core business?
- Is there a simple way to test the product without a long-term commitment?
- Is the company clear about pricing, or are answers ambiguous?
- How often are updates and new versions of the solution released?

4.2.1 Further readings on traffic monitoring

- **Log Analyzer vs. Real-Time Stats**
<http://www.hitslink.com/web-log-analyzer-vs-real-time-stats.pdf>
- **How to Choose a Web Analytics Solution**
<http://www.clickz.com/experts/article.php/3292241>
- **Measuring Web traffic, Part 1**
<http://www-106.ibm.com/developerworks/web/library/wa-mwt1/>
- **Web Analytics/Web Metrics Resources**
http://www.wdfm.com/publish/web_analytics_web_metrics/
- **Web Analytics Articles**
http://www.hurolinan.com/book/br_list.asp?ResourceType=Article
- **Web Analytics**
http://www.hurolinan.com/book/br_detail.asp?LocatorCode=420

4.3 Recommended tools

In the Intelligent trackers category:

4.3.1 ClickTracks

<http://www.clicktracks.com/>

License: commercial

Pricing:

Analyzer:	\$495 for 1 user/1 seat (3-pack for \$995)
Pro:	Pricing starts at \$2995
Analyzer Hosted	Pricing starts at \$49.00/month
Pro Hosted	Pricing starts at \$179.00/month

source:

<http://www.clicktracks.com/>

ClickTracks Web Analytics

by ClickTracks.

Checked: 21 September 2004

ClickTracks takes a fundamentally different approach to website analysis, converting it from a long series of static reports into a way of placing oneself in the shoes of your site visitors. By providing information in the same context that visitors see, the user of ClickTracks gains insight into site visitor motivation.

ClickTracks is a web analytics program that uses a radically different architecture, making it easy for marketers to perform desktop data mining activities that are difficult or impossible to implement using traditional web analysis methods.

In the live trackers category:

4.3.2 Hitbox

<http://www.hitboxprofessional.com/>

Commercial

Cost:

Monthly Plan

The monthly plan is billed at \$34.95 per month with no contract obligations. This plan includes 50,000 page views per month. Additional monthly page views cost \$0.65 for every additional 1,000 page views. For example, a Web site with 55,000 page views per month will be billed $\$34.95 + (5 \times \$0.65) = \$38.20$ per month.

Annual Plan

The annual plan is a one-time fee of \$320 and has a contract life of one year or 600,000 page views – whichever comes first. Additional page views cost \$0.65 for every 1,000 page views. For example, a Web site that generates 250,000 page views throughout the year will still be only billed the \$320 one-time fee for the annual service.

source:

<http://www.hitboxprofessional.com/>

by WebSideStory Inc

Checked: 20 September 2004

HitBox provides real-time Web site analysis to show you where site visitors come from, what content and products they look at, and which navigational paths they take through your site.

Identify exactly which content visitors prefer.

Analyze your target audience's browsing habits to continually improve your site according to your visitors' preferences and settings.

Monitor Visitor Browsing Habits by looking at which navigational paths visitors followed through the site. Monitor your site traffic and page views to see what content and products your visitors are most interested in.

See which search engines send you the most visitor and customer traffic, and see how they compare to each other. Examine the keywords visitors use to find your site on the Web.

*See your reports presented in real time. All of your Web site's reporting is presented in easy-to-read, Flash-based reports. **With point and click simplicity, you can view your data in easy-to-read charts and graphs.***

4.3.3 HitsLink

<http://www.hitslink.com/>

License: commercial.

Pricing:

between \$29.95 per month up to 50,000 page views with the Pro version
to \$374.95 per month up to 1,000,000 page views with the Enterprise version.

source:

<http://www.hitslink.com/>

by NetApplications.com

Checked: 20 September 2004

A hosted service to track 100's of real-time website statistics.
Comprehensive search engine and search term analysis.
Integrated search engine ranking and link popularity reports.
Set up e-mail alerts for traffic spikes.

In the log analysis tools category:

4.3.4 Sawmill

<http://www.sawmill.net/>

Commercial:

Pricing:

Starting from 80.00 EUROS with additional costs for annual upgrades and multiple configuration profiles:

For advanced price configurations see:

<http://www.thesawmill.co.uk/pricing.html>

source:

<http://www.sawmill.net/features.html>

Sawmill Features

by Flowfire.

Checked: 20 September 2004

*Sawmill features a combination of serious power and ease of use that makes it **extremely useful for educational institutions, non-profit organizations, businesses, and other types of organizations.** You can use it to find out where your web traffic is coming from, what visitors are doing on your site, and much more, and you can also use it to track other types of network traffic.*

Features:

*Support for multiple profiles, so you can have **separate statistics for different departments, sections, or individuals in your organization.** Separate web servers can be reported together or separately.*

*A built-in web server (or run it as a CGI script) lets you run it on any machine you want, and **configure it remotely, and lets you or anyone in your institution view the statistics through a web browser.***

***Password protection** and other security features so you can limit who gets to see which statistics.*

Sawmill is very fast, processing 1 million lines of log data per minute on a fast system.

Built-in scheduler to automate database updates, rebuilds, expiration, and more.

A turnkey option – the support team can set up the whole package for you.

*Sawmill's database contains a staggering amount of information, and its **reports are live, so you can zoom in on things that interest you.** All the details are there in the database, and you can get at them by navigating the statistics.*

4.3.5 Funnel Web Analyzer

http://www.quest.com/funnel_web/analyzer/

Commercial.

Pricing: contact sales dept.

source:

<http://www.macromedia.com/software/webpublishingsystem/>

Analyzing the Way Visitors Interact with Your Web Site
by Quest Software.

Last updated: 13 August 2003

Funnel Web Analyzer, a sever log analysis software tool, helps you answer the following questions:

- *What are the demographics of your customers?*
- *How many unique customers do you have, and how many of these are repeat visitors?*
- *How long does a visitor spend on each page?*
- *Which streaming media files are most popular?*
- *What are your most popular pages?*
- *What are the peak periods of activity on your site?*
- *What downloads are most popular?*
- *What search terms are people using to find your site?*

5. Search Engine position tracking

5.1 Strategy

There are many tracking tools in order to assess whether or not a search engine marketing campaign is resulting in increased visits to the site. But rather than adopting an obsessive monitoring strategy **we would recommend to check periodically the positioning in the major search engines just by testing the results ranking for a well defined set of keywords.**

Even if the Search Engine positioning would not seem to be crucial for a NGO like IPGRI, a periodical check would allow to have a better overview of the overall online positioning of the IPGRI Web site.

This type of analysis should be crossed with the referrers log analysis available from the traffic monitoring analysis. It would surely give hints on visitors' behaviors and needs.

Checking the search engine positioning by hand is something not too difficult although there are some tools that could be adopted to have more automatic and deeper results.

5.2 Recommended Tools

5.2.1 WebPosition Gold

<http://www.webposition.com/>

License: commercial.

Pricing:	WebPosition Gold 3 Standard Edition	\$149
	WebPosition Gold 3 Professional Edition	\$349

WebPosition Gold will help you optimize your pages and can **track and report your positions and traffic**.

WebPosition has been a mainstay tool since the early days when search engine strategies evolved from hobby to science. A new version was recently introduced that further extends WebPosition's reach beyond the common U.S. engines into the international arena.

5.2.2 AgentWebRanking

<http://www.agentwebranking.com/english.htm>

License: commercial.

Pricing:

Business Edition	\$12.50/month, annual cost \$150
Pro Edition	\$41.66/month, annual cost \$500

source:

<http://www.agentwebranking.com/>

by AADsoft.com.

Checked on: 20 September 2004

AgentWebRanking emulates a manual search during the ranking process.

This is why it produces reliable and accurate rankings reports. Software that automatically check keyword ranking without emulating a manual search cannot provide accurate rankings reports. You have probably already seen ranking differences between a report generated by a software and the real position if you check it manually through your browser. There are no differences with AgentWebRanking.

5.3 Reference

- **Tracking and Measuring Search Engine Marketing Success**
<http://searchenginewatch.com/searchday/article.php/2160151>

- **WebPosition Reviews**
http://www.searchengineoptimising.com/webposition_gold/product-reviews-dlr-webpositiongold2.htm

6. Link popularity

6.1 Strategy

Link popularity is the total number of web sites that link to your site.

Good link popularity can dramatically increase traffic to your web site. Well-placed links are an excellent source of consistent and targeted traffic. And due to recent developments, they can even generate additional search engine traffic to your site.

Most of the major search engines now factor Link Popularity into their relevancy algorithms. As a result, increasing the number of quality, relevant sites which link to your site can actually improve your search engine rankings. There is still no one "secret trick" to getting good rankings, but boosting your site's popularity may give it the edge it needs.

Knowing who links to your site and increasing the number of quality links is an important part of any web site promotion effort. This free service allows you to query Google, Altavista, and Hotbot and reports on link popularity.

Testing link popularity is relatively easy and straightforward. Using the recommended tools you can test how many external web sites are linking to the IPGRI home page or to any internal page just by typing the address of the page you want to test.

6.2 Recommended Tools

6.2.1 Marketleap link popularity tool

<http://www.marketleap.com/publinkpop/>

License: free

Marketleap has designed this link popularity tool to help website owners find out who is linking to their site, but also to give a useful benchmarking report to quickly show where you stand in comparison to competitors and other major online players.

6.3 Reference

- **Online service to measure link popularity**
<http://www.linkpopularity.com/>
- **Measuring Link Popularity**
<http://searchenginewatch.com/webmasters/article.php/2167951>

7. Survey the Audience

7.1 Strategy

Using an online facility to survey the audience can be done with one of the many online service available. There is no need to buy any software or to install anything, the recommended services are hosted, reliable and not expensive.

Although there are different viable solutions to online survey, we would recommend SurveyMonkey for it's low cost and ease of use. Moreover it has been extensively used during the consultation process for the three online surveys.

7.2 Recommended Tools

7.2.1 SurveyMonkey

<http://www.surveymonkey.com/>

License: Commercial, and free.

Pricing:

A **basic** subscription is totally free and includes all of the basic features of SurveyMonkey.

A **professional** subscription is \$19.95/month, and includes up to 1000 responses per month. If you exceed 1000 survey responses in any given month, there is an additional charge of \$0.05 per survey response.

source:

<http://www.surveymonkey.com/AdvancedFeatures.asp>

SurveyMonkey Features

by SurveyMonkey.com

Checked on: 20 September 2004

Professional subscribers have access to a wealth of advanced features. In addition to the basic features of SurveyMonkey, professional subscribers have unlimited access to all of the features described below:

- **No Limits** - *You can create surveys with an unlimited number of questions, spanning an unlimited number of pages. Unlike other services, you are not charged extra for long surveys.*
- *You can customize the path a respondent takes through your survey by adding skip logic.*
- **Require Answers** - ***Make sure that you receive a response to essential questions.***
- **Create Custom Themes** - ***Every element of your survey can be customized: fonts, sizes, and colors.***
- **Filter Results**
- **Share Results**
- **Download Results.**

7.2.2 Zipsurvey

<http://www.zipsurvey.com/>

License: Commercial

Pricing:

- Free 30-day Demo (includes 25 completed surveys)
- \$50.00/month (includes 500 completed surveys per month)
- \$550.00/year (includes 12,000 completed surveys per year)

source:

<http://www.zipsurvey.com/Features.asp>

by CorporateSurvey.com

Checked on: 20 September 2004

ZipSurvey online survey software by CorporateSurvey.com is a web-hosted survey application developed by I/O psychologists for business and HR consultants, market researchers, professionals, students or anyone interested in creating online surveys quickly and affordably.

*Use ZipSurvey to create **online surveys, feedback and evaluation tools, questionnaires or create other online forms for data collection, analysis and reporting.***

7.2.3 zNonProfit

<http://info.zoomerang.com/znonprofit/index.htm>

License: Commercial

Pricing: zNonProfit is available for 12-months for \$350 USD,
a 40% discount off of zPro professional rate
(10,000 responses are included)

source:

<http://info.zoomerang.com/znonprofit/index.htm>

by MarketTools Inc.

Checked on: 20 September 2004

zNonProfit is a discounted offering of the complete zPro survey package created specifically for nonprofit and not-for-profit organizations and government agencies. zNonProfit provides all of the popular features of zPro at a fraction of the cost.

Zoomerang is the premium global online survey software that business, organizations and individuals use to create professional, customized surveys.

- *Intuitive step-by-step interface-no technical expertise necessary*
- *Multiple survey deployment options: email, web link, or targeted list*
- *Automatically generated reports to assist you with real-time results analysis*
- *Additional services available such as providing survey respondents and language translation*

8. User Participation

8.1 Strategy

Having an online discussion facility would improve user participation and would provide a viable platform to promote the interaction with the audience.

Moreover it would be easier to provide the possibility to discuss recently published news and articles.

Even if most of current CMS systems have built-in discussion forums: **we would suggest the adoption of a forum system that would seamlessly and easily integrate in such CMS.**

Requirements for discussion forums

- Content syndication via RSS and/or ATOM feeds
- Email subscriptions
- Plug-in system for extendibility
- Capability of being seamlessly integrated in existing websites/CMSes

8.2 Recommended Tools

8.2.1 Vbulletin

<http://www.vbulletin.com/>

License: Commercial

Pricing: Owned Option: \$160
 Leased Option: \$85

source:

<http://www.vbulletin.com/features.php>

by Jelsoft Enterprises Limited.

Checked on: 20 September 2004

vBulletin can be run on any machine that can support PHP and MySQL (Solaris, BSD, Linux, Windows, Mac)

- *Written in PHP which makes for a fast and efficient product*
- *XHTML 1.0 Transitional Compliance*
- *Styling & Templates*
- *Templated system*
- *Conditionals supported in the templates*
- *Ability to create multiple styles which can be applied to different forums and users*
- *Ability to upload / download styles and languages*
- *vBulletin has inbuilt RSS feeds*

Installing vBulletin is simple. Simply upload the software onto a server equipped with PHP and MySQL installed and run the integrated installation utility.

8.2.2 phpBB

<http://www.phpbb.com/>

License: free, open source

source:

<http://www.phpbb.com/features.php>

phpBB Features

by phpBB Group.

Checked on: 20 September 2004

Discussion forum system, server based. With a simple installation that will have you up and running in minutes.

Features:

- *Designed with security as a priority*
- *Powerful and extensive authorization system*
- *Strong encryption to keep passwords safe in the database*
- *Support for both cookie and URI-based sessions*
- *Email notification of replies to your topics*
- *PhpBB RSS Syndication, add-on module*
(<http://www.phpbb.com/phpBB/catdb.php?cat=56>)
- *Style and Customization*
 - *Multiple styles available for the user to choose from*
 - *Templates separated from the PHP code so that new layouts can easily be created or integrated with your current site design*
 - *Complete control of fonts and colors with **cascading style sheets** (CSS)*
 - *Active community creating add-ons and specialized modifications*
 - *Default style compliant with **XHTML 1.0** and **HTML 4.01** recommendations from the W3C*

8.2.3 Infopop

<http://www.infopop.com/>

License: Commercial

Pricing: Various options. Starts from \$25 per month plus \$25 setup fee
to \$79 per month plus \$79 setup fee

source:

http://www.infopop.com/eve_platform/

by Infopop Corporation.

Checked on: 20 September 2004

*Invision Power Board (IPB) is a professional forum system that has been built from the ground up with **speed and security in mind**, taking advantage of object oriented code, highly-optimized SQL queries, and the fast PHP engine.*

Key features:

- *A **comprehensive administration control panel** is included to help you keep your board running smoothly.*
- ***Moderators** will also enjoy the full range of options available to them via built-in tools and moderators control panel.*
- *Members will appreciate the **ability to subscribe to topics**, send private messages, and perform a host of other options through the user control panel.*
- *UBB.x offers **numerous notification options**. Community members can receive **instant email** notifications or daily or weekly digests based for individual topics, forums, posts by specific community members.*
- *Currently does not support RSS syndication.*

8.3 Reference

- **Forum Insider**
<http://www.foruminsider.com/>
- Conferencing on the Web
A comprehensive guide to software that powers discussions on the internet
<http://www.thinkofit.com/webconf/>
- Conferencing on the Web
Related Resources
<http://www.thinkofit.com/webconf/wcrelate.htm>
- **Online Community Resources**
<http://www.fullcirc.com/commresources.htm>
- The Right Tool for the Job:
Choosing Tools for Collaborative Work Online
<http://www.thinkofit.com/webconf/rtfj/index.htm>
- **Choosing Web Conferencing Software**
<http://www.forumhosts.com/fortip.htm>

9. Test & Verify

9.1 Strategy

The technology testing is related to various aspects:

- Link checking
- Code validation
- Accessibility
- Browser compatibility
- Print compatibility
- Screen compatibility
- Operating system compatibility
- Performance compatibility

We strongly suggest to embed as much testing procedures as possible in the initial design phase of the CMS.

The final HTML pages published on the Web are the results of merging various templates of code (PHP, ASP, HTML, CSS, etc.) with the actual content stored in neutral format (DB native or XML).

By creating templates that are strictly following the requested standards and by fine-tuning the content publication process it should be, ideally, possible to produce entirely valid and tested Web pages.

The reality is not always matching the ideal scenario but 90% of the testing of the final Web pages could be avoided if the previous recommendations are carefully followed.

9.2 Recommended Tools

Since human error, computers inaccuracies, software bugs and continued editing could introduce compatibility and consistency problems, there are a set of procedures and tools that we recommend to put in place in order to guarantee the final quality of the content published, especially under the technical aspect.

9.3 Browser, Operating system, Screen Compatibility Testing

9.3.1 BrowserCam

<http://www.browsercam.com/>

License: Commercial

Pricing:	Hourly	\$ 10.00	Up to 10 URL's in unlimited browsers.
	Monthly	\$ 39.95	Unlimited use.

Browser Cam creates screen captures of your web pages loaded in any browser, and on any operating system, so you'll be 100% sure your web pages look good-and work right-on any platform. It checks also for international character set compatibility

9.3.2 iCapture

<http://www.danvine.com/icapture/>

License: Free.

Testing your web site on a Mac equipped with the Safari Web Browser at different screen resolution.

9.4 Link Checking

9.4.1 Xenu Link Sleuth

<http://home.snafu.de/tilman/xenulink.html>

License: Freeware

source:

<http://home.snafu.de/tilman/xenulink.html#Description>

Tilman Hausherr

Published on 6 August 2004

Xenu's Link Sleuth (TM) checks Web sites for broken links. Link verification is done on "normal" links, images, frames, plug-ins, backgrounds, local image maps, style sheets, scripts and java applets. It displays a continuously updated list of URLs which you can sort by different criteria. A report can be produced at any time.

Additional features:

- *Simple, no-frills user-interface*
- *Can re-check broken links (useful for temporary network errors)*
- *Simple report format, can also be e-mailed*
- *Executable file less than 500K*
- *Supports SSL websites ("https:// ")*
- *Partial testing of ftp and gopher sites*
- *Detects and reports redirected URLs*
- *Site Map*

9.5 Code validation

9.5.1 HTML Tidy (HTML Validator)

<http://www.w3.org/People/Raggett/tidy/>

License: free

HTML Tidy is not just a HTML validator for your web documents. It is able to correct (repair and fix) bad HTML code and give you pointers to areas where you need to change in order to make your web page accessible to people with disabilities.

Source code and binaries are available for a wide variety of operating systems, there is even a Java port of HTML Tidy.

9.5.2 CSE HTML Validator

<http://www.htmlvalidator.com/>

License: Commercial (standard, professional), Free (lite)

Pricing: starting from \$69 for a single license, standard edition.

source:

<http://www.htmlvalidator.com/>

CSE HTML Validator

by AI Internet Solutions.

Published on: 20 September 2004

CSE HTML Validator for Microsoft Windows is the most powerful, easy to use, and user configurable HTML, XHTML, CSS, link, spelling and accessibility checker available.

CSE HTML Validator helps eliminate website problems that cause visitors to leave your website.

Thousands of registered users use CSE HTML Validator, including web professionals, webmasters, corporations, government agencies, individuals, teachers, students, and **non-profit organizations**.

9.6 Accessibility Testing

9.6.1 Web Accessibility Toolbar

<http://www.nils.org.au/ais/web/resources/toolbar/>

License: free

The Web Accessibility Toolbar has been developed to aid manual examination of web pages for a variety of aspects of accessibility.

It consists of a range of functions that:

- identify components of a web page
- facilitate the use of 3rd party online applications
- simulate user experiences
- provide links to references and additional resources.

9.6.2 Bobby

<http://bobby.watchfire.com/bobby/html/en/index.jsp>

License: free

This free service will allow you to test web pages and help expose and repair barriers to accessibility and encourage compliance with existing accessibility guidelines, such as Section 508 and the W3C's WCAG.

9.7 Performance testing

9.7.1 Web Page Analyzer

<http://www.websiteoptimization.com/services/analyze/>

License: free

Test your web site speed and improve website performance with this free web-based analyzer. It calculates page size, composition, and page download time. The script calculates the size of individual elements and finds the total for each type of web page component. Based on these page characteristics the script then offers advice on how to improve page display time and website speed.

10. E-commerce

10.1 Strategy

IPGRI's strategy is to sell print publications, particularly in the developed world, but to make electronic copies available free of charge on the Web site.

Evaluating the adoption of alternative online services to distribute IPGRI's content would allow an increased visibility thanks to different marketing strategies and market reaches of the services proposed.

10.2 Recommended Services

The following e-commerce service providers are offering online selling of electronic products managing the entire process from the ordering phase to the post-sale service.

Even if most of them are referring to “software” goods, they allow electronic publications such as papers, articles, and essays to be sold as e-books.

10.2.1 Shareit

<http://www.shareit.com>

Online e-commerce service provider managing the ordering, delivery and payment process. Based in Europe.

10.2.2 Regnow

<http://www.regnow.com/>

Alternative e-commerce service provider. Easy set-up procedure for the account and for each electronic product to be sold.

10.2.3 Kagi

<http://www.kagi.com/>

U.S.-based electronic commerce service provider. As the others proposed here, Kagi offers advanced services in selling online any type of electronic products including publications in the form of e-books.

10.2.4 Ingenta

<http://www.ingenta.com/>

Ingenta offers publishers of academic and professional content a suite of fully outsourced, end-to-end solutions.

Ingenta offers online distribution for publishers of academic and professional content who want to quickly and affordably distribute content online via an aggregated service, provide managed full-text access for subscribers and have the option to offer pay-per-view access to non-subscribers.

10.3 Recommended Online Payment Systems

It could be useful to have a straightforward system to accept funds from visitors and/or clients without having necessarily the need of attach it to sales.

10.3.1 PayPal

<http://www.paypal.com/>

PayPal is one of the most popular and reliable systems to accept international payments via fund transfer on credit card charges. **It could even be used as an e-commerce system.**

source:

<http://www.paypal.com/cgi-bin/webscr?cmd=p/gen/about-outside>

About PayPal

by PayPal.

Checked on: 20 September 2004

Founded in 1998, PayPal, an eBay Company, enables any individual or business with an email address to securely, easily and quickly send and receive payments online. Pay Pal's service builds on the existing financial infrastructure of bank accounts and credit cards and utilizes the world's most advanced proprietary fraud prevention systems to create a safe, global, real-time payment solution.

PayPal has quickly become a global leader in online payment solutions with 50 million account members worldwide. Available in 45 countries around the world, online retailers, online businesses, as well as traditional offline businesses are transacting with PayPal.

PayPal has received close to 20 awards for technical excellence from the Internet industry and the business community at large -most recently the 2003 Webby Award for Best Finance Site and the 2003 Webby People's Voice Award for Best Finance Site.

11. Cross Media distribution

11.1 Strategy

The adoption of vendor-independent, neutral and versatile file formats and technologies allows to produce with the minimum efforts multiple formats and cross-media content.

XML, as a family of standards, would allow the storage in neutral format of all that content which needs to be repurposed for multiple media.

It should be easier to produce an email newsletter, a printed PDF and a Web page starting from the same “neutral”, “correctly tagged”, content.

This feature should be carefully evaluated and implemented in the selected CMS or, at least, it should be possible to plug-in an add-on software module to provide this functionality.

The content delivery should be possible across various media and formats as: e-mail and traditional printed format.

It should be possible to subscribe to any web page for changes to be received by email.

11.2 Recommended Solution for Print-on-Demand Functionalities

11.2.1 Cafepress

<http://www.cafepress.com/>

CafePress.com makes it easy for authors to self-publish their books. Simply upload a PDF file with your book content, choosing the binding type and start selling.

- No setup fees or minimum quantities.
- Black and white books with full color covers.
- Saddle Stitch, Wire-O or Perfect Bound binding options.
- 5 book sizes.

11.2.2 Lulu

<http://www.lulu.com/>

You can publish your work as a real paperback book or as an e-book without paying any fees. The publishing process itself takes less than fifteen minutes and you set your own royalty for each item. Lulu books are **printed on demand**.

Lulu.com provides the following tools for authors:

- Make your book available in paperback or e-book format through the Lulu.com marketplace for free.
- Lulu.com handles all transactions, order tracking, and shipping on book orders.
- State-of-the-art print-on-demand technology allows each book to be manufactured as it is purchased.
- Purchase ISBN assignment through Lulu.com for retail distribution through vendors like Amazon.com and BN.com.
- Publishing a book requires no set-up fee, no minimum order, and no exclusivity.
- Set your own royalty. You earn the full amount of your royalty for every book sold.
- Lulu.com pays you monthly through PayPal.

11.3 Strategy for Web Alerts

Delivery the right content at the right time with media alternative to the Web is possible thanks to Web Alerts which would send only the desired content to subscribed users.

11.4 Recommended Solutions for Web Alerts

11.4.1 ChangeDetection

<http://www.changedetection.com/>

License: free

Check Web pages for changes and sends e-mails with new content.

Features:

- You add the ChangeDetection panel to your site.
- Your visitors monitor your site for changes.
- When you update your site your visitors are notified and return to see what's new.

11.4.2 WatchThatPage

<http://www.watchthatpage.com/>

License: free

If you want to inform your customers when your pages change, you can use the WatchThatPage notifier mechanism free of charge.

You can also get statistics about interest for your site.

12. Language translation

12.1 Strategy

With the help of translation memory tools it should be possible to facilitate the process of offering IPGRI's content in multiple language.

CAT (Computer Aided Translation) is a term used to classify a wide variety of software tools that are employed to assist the translator in his work, either in consistency, speed, or simply workload. Some definitions include machine translation tools in the CAT category, while others consider CAT to be exactly equivalent to TM.

TM (Translation Memory) tools are programs that store previous translations and, upon translating new texts, offer suggestions to the translator, based on material stored in a memory database.

Even though the translation technology is still far from being perfect, a carefully selected blend of tools and services could greatly enhance the capability of translating content, both for internal staff and consultants.

12.2 Recommended Tools

12.2.1 SDLX

<http://www.sdlintl.com/products/sdlx/home.asp>

License: commercial

Pricing: various pricing configuration according to the several products available.

source:

<http://www.sdl.com/localization-information.htm>

by SDL plc.

Checked on: 20 September 2004

SDLX is an innovative and user-friendly Computer Aided Translation tool which increases efficiency by allowing the re-use of previously translated phrases and terms.

SDLX project oriented user interface provides easy access to a suite of tools for alignment, editing, analysis etc. without the need to open separate applications during the translation process. SDLX also provides Wizards for common tasks such as project import and export, file analysis, and document translation.

SDLX is the first CAT tool to support bi-directional languages such as Arabic and Hebrew.

The program is highly robust and reliable. It has built a reputation over the years for these very characteristics.

In addition to online help and tutorials, SDLX users are supported by a team of consultants, available to advise on both technical and functional aspects of the product.

Not only does SDLX support the use of Translation Memory, but it also supports the industry standard Translation Memory Exchange (TMX), making Translation Memories easily portable between different translation software.

It also supports the use of OpenTag, a standard for extracting text for translation and enabling cross leveraging of different file formats. SDLX is also fully compatible with Windows 2000, Office 2000 and XML/SGML.

12.2.2 Deja Vu

<http://www.atril.com/>

License: Commercial

Pricing:

Déjà Vu X Standard	US\$603
Déjà Vu X Professional	US\$1218
Déjà Vu X Workgroup, first license	US\$2768
Déjà Vu X Workgroup, additional license	US\$1833

source:

<http://www.atril.com/>

Features

by Atril

Checked on: 20 September 2004

Conceptually, Deja Vu is an inexhaustible, infallible and instantly accessible extension to the translator's memory, complementing his or her skills rather than replacing them.

*At any time during the course of a translation, you can ask Deja Vu to tell you whether you have translated a specific sentence or expression (or a similar one) in the past, and have it immediately display the previous translation if this is the case. This results in **increasing productivity for the translator**, who is relieved of the repetitive parts of translation, and can therefore concentrate on the creative aspects.*

Deja Vu goes one step beyond traditional TM tools. While other systems only display exact and fuzzy matches, Deja Vu intelligently uses the memory database, terminology database and project lexicon to increase the quality of fuzzy matches by working with smaller segments and words.

Deja Vu's other unique features include:

- ***Propagate a new translation (which was not in the memory database when you pre-translated the project) across all the files in a project. Fuzzy propagation (to similar sentences) is also available.***
- ***As an integrated environment, Deja Vu offers all the features you expect in a word processor, including AutoText, search and replace and spell checking.***
- ***Project lexicon - Using a project lexicon makes the translation process more consistent and improves the efficiency of Deja Vu. It can also be used to generate glossaries for customers or to create terminology databases from projects.***
- ***Project management - Extensive project management options which simplify the completion of large, multi-file and multilingual translation projects. Work with several translators on a single project in different languages, or with several translators in the same language on a single project. Distribute satellite projects and receive/distribute new database entries as separate text files.***

- *Export whole projects into Word documents, and re-import them after checking the spelling and grammar.*
- *Support for multiple file format support*
- *Deja Vu supports all of the languages currently supported in Windows 95/98/NT4/2000, including bi-directional languages (Arabic and Hebrew).*
- *Atril provides free lifetime unlimited technical support for Deja Vu.*

12.2.3 Trados

<http://www.trados.com/>

License: Commercial

Pricing: contact sales dept.

source:

<http://www.macromedia.com/software/webpublishingsystem/>

Macromedia Web Publishing System

by Macromedia Inc.

Checked on: 20 September 2004

source:

http://www.masternewmedia.org/2002/02/28/professional_desktop_translation_tools.htm#trados

Professional desktop translation tools

by Robin Good.

Published on: 28 February 2004

Trados, is a good translation software that lets you set up your own database. Trados translation quality can be very high depending on the quality of the database built around it.

Trados utilizes a "translation memory" to build up an ever growing and highly customized database of phrases and sentences that do not require future re-translation time.

The program allows translators to keep working with their favorite word processing tool (e.g.: Microsoft Word).

Trados supports most of the world languages from Afrikaans to Zulu and including Chinese, Russian, Thai, Arabic and Japanese.

TRADOS software is also capable of tapping into pre-existing translated materials to rapidly build-up a useful translation-memory bank to tap into.

This feature by itself, it is worth incalculable amounts of money as it truly leverages the work and translation effort carried out in the past, by making the foundation and key resource for all future work.

12.3 Reference

- **Tools for translation**
<http://www.stc.org/47thConf/postconf/TT3AA-Tools-for-Translation.pdf>
- ***The Concept of TM (Translation Memory)***
TM is based on a database of segments, consisting of a source and a translation.
TM allows leveraging:
 - *The database is searched for exact and fuzzy matches*
 - *When the TM system finds matches, it substitutes the translation for the source string*
 - *Users decide on acceptability of the proposed translation*
 - *TM packages handle a large variety of languages*
 - *TM packages also offer project management, glossary maintenance, etc.*
- **Advantages and Disadvantages of Translation Memory:
A Cost/Benefit Analysis**
<http://www.webbsnet.com/translation/thesis.html>
- **TMX - Translation Memory eXchange**
<http://www.lisa.org/tmx/>
TMX (Translation Memory eXchange) is the vendor-neutral open XML standard for the exchange of Translation Memory (TM) data created by Computer Aided Translation (CAT) and localization tools. The purpose of TMX is to allow easier exchange of translation memory data between tools and/or translation vendors with little or no loss of critical data during the process. In existence since 1998, TMX is a certifiable standard format. TMX is developed and maintained by OSCAR (Open Standards for Container/Content Allowing Re-use), a LISA Special Interest Group.
- **Translation Memory Software**
<http://users.utu.fi/sailva/tmtoolse.html>
- **Translation Memory**
<http://www.opentag.com/tm.htm>
- **TR16: Development, Use and Profitability of Translation Memory Systems**
<http://www.tc-forum.org/topictr/tr16deve.htm>
- **Machine Translation vs. Translation Memory**
<http://www.multilingualwebmaster.com/library/mt-vs-tm.html>

13. Conferencing and Collaboration

13.1 Strategy

The need of collaborating with other staff members both in the headquarters and in the regional offices could be satisfied in a very cheap and straightforward way by adopting two technology-based strategies.

This will be taken care of as part of the CGIAR intranet project but an overview of the technologies and services available would allow to broaden the range of possibilities to choose from.

Internal, rapid communication

The use of a free, open source Instant Messaging platform could allow each member in the organization to instantly contact any other member and to rapidly exchange written thoughts. Using a voice-based communication tools it would be possible to replace the phone and talk effortless with any other colleague

Quick reliable document and file exchange

Most of the Instant Messaging client software allows to **exchange directly files of variable dimension** without the need of passing through any email attachment or remote storage system.

The future CMS could be also leveraged to support this collaboration need by hosting a private storage area or even a Wiki-like/Weblog-like section where any staff member could post/upload any piece of electronic information without too much hassle.

13.2 Recommended tools

13.2.1 Jabber

<http://www.jabber.com/>

License: free

Jabber XCP is communications software that gives businesses a competitive advantage by allowing people and systems to exchange important information in real-time.

Enterprises can deploy secure instant messaging, service providers can offer enhanced presence-based services, and OEMs can integrate real-time communications into truly differentiated offerings. And they can do so with ease using Jabber XCP's flexible, standards-based architecture.

Jabber has a very wide user base.

13.2.2 Trillian

<http://www.trillian.cc/>

License: Free

The multi-network Trillian IM client allows you to **seamlessly integrate all of your communications traffic in a single, sleek package**. Connects to all major chat networks, including **AIM, MSN, ICQ, Yahoo!** and **IRC**.

Trillian is completely free, with no spyware and no ads.

Trillian is a skinnable, interoperable instant messaging client.

13.2.3 Gaim

<http://gaim.sourceforge.net/>

License: free, open source.

Gaim is a multi-protocol instant messaging (IM) client for Linux, BSD, MacOS X, and Windows. It is compatible with **AIM** (Oscar and TOC protocols), **ICQ**, **MSN Messenger**, **Yahoo!**, **IRC**, **Jabber**.

Gaim users can log in to multiple accounts on multiple IM networks simultaneously.

Gaim supports many features of the various networks, such as **file transfer** (coming soon), away messages, typing notification, and MSN window closing notification. It also goes beyond that and provides many unique features.

Gaim runs on a number of platforms, including **Windows and Linux**.

Gaim is under constant development, and **releases are usually frequent**.

13.2.4 Skype

<http://www.skype.com/>

License: free.

Cross-platform free Voice-over-IP technology that allows quality voice communications between any two computers and that has now also added conferencing calls, computer-to-phone calls and direct file transfers among computers.

Available in English, Swedish and Estonian, Skype is new free live P2P audioconferencing tool for people using **Windows XP** and **Windows 2000**.

Skype is a very effective and well-designed professional tool **to allow VoIP under the very worst adverse conditions** including users behind firewalls and NATs which have always had difficulties in properly communicating with other communication and conferencing tools.

Skype comes in to solidly fill the niche left too long open by the major instant messenger (YM, AOLIM, MSN, ICQ) tools, which have never been able to provide a truly effective VoIP solution, and by the early telephone challengers such as Mediarling, Net2Phone and Dialpad.

14. Implementation requirements

To select, evaluate, install, configure, maintain, upgrade and fine tune all technologies required and recommended to implement the new online communication strategy a small team of skilled people is strongly suggested.

These skills could be found by consulting with a firm or a consultant providing the following competencies and skills:

- Knowledge of the client/server architecture of the Web
- Server side:
 - Windows, UNIX, Linux operating systems
 - Apache Web server software
 - Scripting languages:
 - PHP, PERL, ASP
- Client Side:
 - Web standards practices and coding
 - XHTML
 - CSS
 - JavaScript
 - Cross-platform development
 - Browser
 - Resolution
 - Operating System
 - Strong skill in installing and configuring software
 - Strong problem-solving capabilities

IPGRI Online Communication Strategy
Technology Evaluation Report

ipgriweb_tech_eval_report20040929j.doc