Comparative Study Based on Open Source Content Management Systems Mambo and his Fork – Joomla and Elxis

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Abstract

The paper is dedicated to content management system Mambo evolution and its derivatives (Joomla i Elxis) who created a revolution in the field of web development and design. This paper explains all basic terms regarding content management system, open source, fork bases, historical development of Mambo and its derivatives (forks) as well as comparative analyzes of their characteristics. The CMS systems are described, as comparative analyzes of their results of work speed.. Finally the author made a recommendation regarding the user friendly characteristics, indicating their advantages and disadvantages.

Keywords: *Open Source, Mambo, Joomla, Elxis,* Content management system.

1. Introduction

Currently on the market are present a lot of content management systems which are available to users. Theese above mentioned products are design to be maximum user friendly with their simplicity and other advantages. Certain number of theese products are launched on the market as open source softwares under GNU licence. This licence alows increased flexibility and expandability. CMS is presenting a content management system which is covering all possible solutions allowing contents clasification, organisation, connecting and every other solution of content editing. This term can be used for manual processes of content management although it is mostly implicating on various software solutions aneabling advanced management of large number of informations. The most present form of CMS implementation is on Internet known as WCMS (Web Content Management System). One of pioneer WCMS solutions was published under the name of Mambo, achieved great suxcess due its using simpicity.

1.1 Term Open Source

Currently there are two diferent interpretations: "Free Software" and " Open Source".

The term "Free Softweare" has root at GNU project and it could be defined as follows: free softweare is mather of choice not the price.
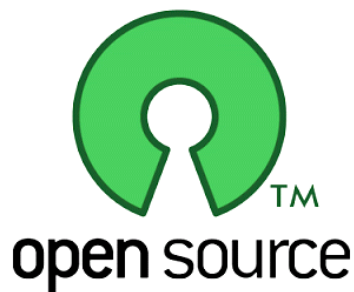

Image 1: Official Open Source Logo

In order to understand this concept we should think in a way that "free" are like "freedom of speech" not like "free beer". Free of charge software is "users right to use the software, make a copy, distrubute, change and eventualy improve "issue. It is important to be mentioned that Open Source is not free of charge software nor only that its code is available to all users. Depending on the license under which softweare has been launched give us a wide scope of abilities of improvments and re-distribution under diferent name (fork) as well as free of charge using. Moreover the free use depends of license owners, some of them could be used only in private, and commercial use is not allowed by license owner. Finally there is a diference between Open Source and commercial software where the author is willing to make some profit, but in same time the commercial

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softweare could be "open code" like it is in case of PHP computer language use.

1.2 Term FORK (Fork - software development)

In software engineering, project Fork is term that occures when developers takes a copy of source code from one of software package and start an idenpendent development under different name, creating an entirely new software. Most often it happens with open source software, such as in this case with Mambo CMS, which is used as a base for creating Joomla and Elxis softwares. In case of take-over of an Open Source software and continuing with independent development, it could be done by developers without previous approval from the author,due to fact that software is published under public license (mostly GNU-GPL) which allows that.

2. Mambo CMS

Mambo is modular CMS which approach the market with a number „Core" modules which enable its functioning. This system is present on the market since year 2000, when Miro Construct Pty Ltd started a development of Mambo CMS commercial type under leadership of Peter Lemont. Next year (2001) the company accepted double licensing, launched Mambo Site Server at Sourceforge site, under GPL license. By middle of 2002 Miro was sole developer of Mambo, contributing to security patches and bag-problems solving but not extending existing features and adding new one to this CMS. In 2002 Miro Construct Pty Ltd launched Mambo 3.0.x Open Source. Mambo Site server becomes „Mambo Open Source" (better known as MOS). Robert Castle has been promoted to mambo Open Source project director, immediately started to create a team of developers - volunteers.

In 2003 was launched Mambo Open Source 4.0 and Miro Construct Pty Ltd officially give up the further responsibility of the developing team of Open Source Project. Furthermore Miro Construct Pty Ltd was more focused its own commercial products, while Mambo Open Source continues to work independently under Mr. Robert Castle management. Moreover Miro Construct Pty Ltd launched Mambo CMS commercial version, claiming that product do not contains the code after it was announced as an open source. In the end of 2003 Mambo Open Source 4.5 was launched, by which time almost all the code written by Miro Construct Pty Ltd disappears.

In the middle of 2004 Mamboforge.net began with work and Linux Format awarded Mambo Open Source as „Best Free Software Project" of the year.

Linux users and developers awarded MOS as „Best Linux or Open Source Software". After these events the name „Mambo Open Source" (known as MOS) has changed the name to „Mambo" causing the community uneasiness about CMS who was developed together by community and Miro Construct Pty Ltd commercial solution (Mambo CMS).

Mambo version 4.5.1 was launched in September 2003 and one month later was launched" 4.5.1 a stable" version. Mr. Robert Castle resigned on director of project position in November 2003, and Mr. Edi Endru takeover this position couple day later. Mambo management Board has been assembled from Miro Construct Pty Ltd and Mambo development team. The Management Board has been founded to manage Mambo Project. Moreover in January 2005 Mr. Endru Edi announced a strategic partnership between Mambo and Miro International Pry Ltd. Afterwards during year 2005 it was established a mambo-foundation.org domain and Mambo Foundation.Inc as well. Mambo continues as successful Open Source Project, but later on whole team of developers left Mambo Company.

The Mambos former development team created a new company under the name "Open Source Matters" and their new project under a name „Joomla", and most of Mambo users started to use services of „Open Source Matters". Later on Open Source Matters Inc. Was registered as none profit organization in New York, USA.

By the end of 2005 Joomla takeover Mambo market position and launched its first version of Mambo under name „Joomla 1.0". In spite the fact that both CMS look almost identically, Joomla made a considerable progress which has been noticed by users which continue to follows the Joomla new solutions.

Beside Joomlas team in 2006 two Greek developers founded Elxis which was based on Mambo and Joomla as well. Elxis bring some new solutions which haven't been recognised and supported by users, like it was in case with Joomla.

3. Joomla CMS

The Joomla solution was the most powerfull at the time as well as most awarded and used Open Source CMS system. This sotware was launched under the GNU GPL license so that any user can use and make the changes according to his needs. The advantage of this system was in simplicity in publishing, as well as changing and deleting of published contents on web pages. The reasons behind were in inbuilt text editors (WYSIWYG) and learinig to use was on level of use of MS Office Word (Open/Libre Office) packages. All issues which are connected with code, HTML or classic WEB programing was invisible for client. The market for this product was huge and through a large number of translations and varaities could explain a big popularity of this system. Basically there is nothing that you can't do with this system, with small efforts investing in work and a researching on internet, the user could find more than 1600 modules (free download) available, alowing to user tremendous opportunities for creativity.

4. Elxis CMS

Elxis is free of charge Open Source CMS offering freedom and power to do what ever you want, with no limits. Elxis created a small team of developers from Greece and Serbia. Beside development unit in project was involved and Elxis Community team providing fesh ideas, testing, fine tunning, writing documantation and translations. First three versions of Elxisa was launched under GPL license, while the last version was launched under EPL license (elxis public license). The system follows W3C standard, good security system, extremly flexible and easy to use. During development process a lot of efforts has been invested in optimisaton of search engine, which classified them in group of systems with high performance. Elxis CMS fourth generation (4.x) has

been developed by full object oriented programing which was deleoped from scratch (first time solving the code issue inherited from Mambo). Only 0.01% is participation of old code from previuos version. Elxis CMS is multilingual system supporting UTF-8 coding , meaning it is able to retrive the content on any of existing language. Elxis CMS is able to translate automatically the text and keep original formating. The user needs to chuse the language and than to activate the icon translate, and in a few seconds outcomes a translated text. Elxis CMS is user frendly system available to be used very easy by new user .

5. Comparative Study

In this study are comparatively presented an info regarding 3 CMS based on following set criteria:

- Usability,
- Technical Requirements,
- User Friendly Characteristics,
- Performance,
- Certainty,
- Built In Application and
- Support.

In the table below we can be observe that all 3 software solutions support same values or in other words they are the same CMS with some improvements. Some of major improvements that have brought Joomla and Elxis are in the area of safety; performances as well as a lot of adjustments have been done in the field of search engines (SEO). Another improvement which Elxis last generation brought on the market is new license ELP- Elxis Public License, which impressed CMS supporters, but that doesn't mean that it is worse solution than Joomla. In the paper follows the test of speed and load which are more valid to view the performances of the two systems than it could be observed visually.

CMS	Mambo CMS	Elxis CMS	Joomla CMS
Usability			
WYSIWYG Editor	Yes	Yes	Yes
Version	Yes	Yes	Yes
Technical requirements			
Server	Apache Recommended	Apache Recommended	Apache Recommended
Database	MySQL Recommended	MySQL Recommended	MySQL Recommended
Operating System	Any	Any	Any
Programming Language	PHP	PHP	PHP
Shell Access	No	No	No
License	GNU-GPL	GNU-GPL / EPL	GNU-GPL
User friendly			

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Friendly URIs	No	Yes	Yes
Web Robots Exclusion	Yes	Yes	Yes
Performance			
Load Balancing	No	No	No
Visitor tracking	No	Yes	Yes
Certainty			
Audit Trail	No	Yes	No
Captcha	No	Yes	Yes
Email Verification	Yes	Yes	Yes
Session Management	No	Yes	Yes
SSL Compatible	No	Yes	Free Add on for LDAP
Means of Authentication	No	Yes	No
Built-in applications			
Search Engine	No	Yes	Yes
User Contributions	Yes	Yes	Yes
Syndicated Content	Yes	Yes	Yes
Support			
Developer Community	Yes	Yes	Yes
Public Forum	Yes	Yes	Yes

Tabel 1: Comparison of three CMS (Mambo, Elxis and Joomla)

6. Elxis vs. Joomla benchmark comparison

The benchmark results of the comparing test between Joomla 2.5.4 Emper (stable) and Elxis 4.0 Nautilus (pre-alpha) will follow up. The test was implemented with Apache's ab tool, on computer which was used for local development based on MS Windows operative system. Both CMS have had same basic (default) settings, but Elxis has had 2900 published articles more than Joomla. Various caching options were tested and result shows that Elxis least four time is faster than his competitor Joomla.

6.1 Test environment

Web server: *Apache 2.2.17*
PHP version: *5.3.5*
ApacheBench: *2.3*
OS: *Windows Vista 64bit Home Premium Edition Service Pack 2*
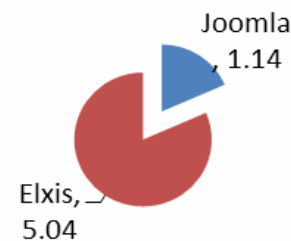**Joomla:** *2.5.4 Ember stable*
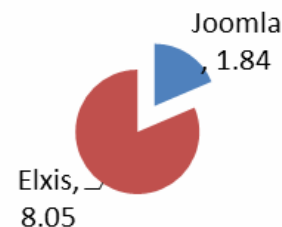**Elxis:** *4.0 Nautilus rev1140 pre-alpha*

6.2 Metodology of the test

Primarily the speed testing were conducted in several different phases. The same testing was repeated twice without coming identical results. Furthermore both CMS front page performances were tested with and without turn on cash option. Moreover the content of the published articles of both CMS were tested as well. In the caching (cash) option were used following: without cash, with cash files and APC cache. Elxis APC has op-code caching based on APC caching module in caching format.
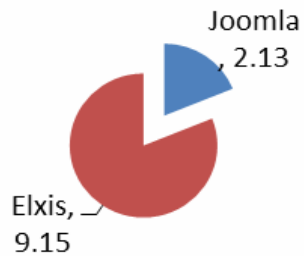
6.3 Comparison of the results

Graphs below show comparative results using the option "number of requests per second".The graph shows that Elxis is faster than Joomla even if compare Elxis without cache and Joomla best option (APC Caching). Nonetheless we should have in our mind that Elxis is still in development phase.
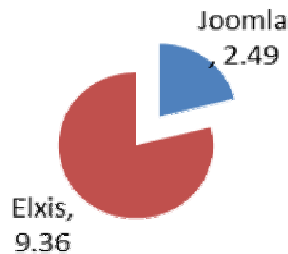

Graph 1: Result wituot cashe (FrontPage)

Graph 2: Result with file chaching (FrontPage)

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Graph 3: APC result (FrontPage)

Graph 4: APC result and content testing

7. Description of the results

In the presented texts it could be observed that Elxis is faster than Joomla. Tests were conducted in the same enviroment with sole excpetion that Joomla was in the final version, against Elxis in test version, which provides more space for Elxis further improvements regarding the speed and other issues. The main reason behind why is Elxis is faster is laying in good optimisation and organisation. When the APC is turned on , Elxis reduces the number of requests sent to database located at Fronpage. In same time Elxis has the same princip of operation with contents and modules which are loaded only when they are needed . Furthermore Joomla caches all modules regardless wherthere they are published or not. One of reason why , Elxis has only two types of global extensions (components and modules) against Joomla who has 11 diferent types of extensions.

8. Conclusions

What can be observed in this work is strong influence of Mambo on development of above mentioned two CMS with great regret due Mambo ceased to exist. The paper presents detailed comparison and analysis of the three CMS. The main idea of CMS is content management providing easy and efficient way to handle it. This is an inspiration and goal of all three systems, providing easy

and fast content management in order to be maximum user friendly. Joomla and Elxis have their advantages and disadvantages which is leading us to a conclusion that Joomla has excellent systematic solution, followed with a significant number of users, providing them with large number of accessories (plug in) allowing to beginners to create fabulous sites. On the other side Elxis achieved better speed which is already above described, beside that Elxis is safer and user friendly. All this is leading us to a conclusion that Joomla is more dedicated to small and medium sites, and Elxis is able to support more demanding projects as well as experienced computer scientists leading them to achieve serious results.

Acknowledgments

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