

E-learning In South America With ILIAS

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***Abstract** This document describes the present of the e-learning in South America and our particular experiences and contributions, specifically to ILIAS. In addition, is described the development of an automatic installer of ILIAS under Linux, in order to simplify the installation process and this way to obtain the participation of institutions and companies interested in e-learning with poor know-how in technology open source.*

1. E-learning in South America

In South America there is a sustained growth in the development and utilization of e-learning tools based on Open Source Software.

In Argentina, the *Instituto Politécnico Superior* [1], the *Universidad Nacional de Rosario* [2], the *Universidad Nacional de San Luis* [3] and the *Universidad Católica de Salta* [4], offer methodologies of learning using ILIAS, other universities like the *Universidad Nacional de Córdoba*, employs alternative Open Source e-learning platforms.

In Brasil there is important governmental and university plans to foment the development of educational programs by means of e-learning, a representative example is the *Universidade Estadual de Campinas* [5].

The *I Conferencia Latinoamericana y del Caribe sobre Desarrollo y Uso del Software Libre* [6], performed in Cuzco, Perú, closed the August 13, 2003 recognizes and invites to the international community to prioritize the free software in the Education and Health.

2. Our experience in e-learning

Our first experience in e-learning began four years ago. At the beginning, we adopted the LMS WebCT environment. At that time, the product was freeware, but in recent versions, it became a commercial product. At that moment, we focused our attention in investigating the philosophy of the open source project and we concluded that ILIAS was the one that better of adapted to our requirements, from that moment we adopted LIAS as our standard e-learning environment [7].

For two years at the *Instituto Politécnico Superior*, we posted the University Systems Analysts entrance course using this platform. The course was dictated in both modalities: attendant and on-line.

ILIAS gave us the possibility to follow the student's acquisition of new knowledge, to obtain early diagnostics by making different kind of tests, to establish fluid communication channels, in order to answer questions and therefore guide the students and, as a side effect, to foster the student's interest in the use of free software.

Statistical evaluations have probed that in both modalities (online and attendant) the ratio of approved students is near to one. Moreover, actually we use ILIAS as a complementary documentation and communication tool for the conventional student's attendant activity. That is to say, an Intranet Solution.

Modality Course	Registered Students	Approved Students	Approves Percentage
Attendance (67.9%)	78	53	67.9%
Web (65.6%)	64	42	65.6%
Compound (76.7%)	43	33	76.7%
Totals	185	128	69.2%

Results of the 2003 University Systems Analysts entrance course

At the same time, the institute offer extra-curricular courses about information technology using the e-learning modality.

3. The diffusion of ILIAS

The institute has decided to create the first South American ILIAS hosting center. This project make available to the regional academy and corporative community the robustness and versatility of this system.

In the month of June it was made in *Porto Alegre, Brasil*, the *IV Foro Internacional de Software Libre*, with the participation of more than 3500 people,. In this event the *Instituto Politécnico Superior* take part actively presenting a paper whose title is "Open Source Software On Web Based Education" [8], published in the annals of the forum and exposed in the workshops. This work describes fundamentally the characteristics of the ILIAS e-learning platform and our pedagogical experiences in the use of it.

4. Our Contributions

We did not integrate an official group of ILIAS developers, although our activity has like intention to contribute to the development of it. Thanks to the dynamics of interrelation between groups related to Open Source Software, we achieve with people of other nationalities to enrich the technical documentation in Spanish and Portuguese. In particular, in the institute, we wrote tutorials and manuals and develop a method of direct installation of ILIAS. These points are explained with more detail in the following paragraphs.

4.1 Spanish and Portuguese translations

With the purpose to expand the Latin-American knowledge about ILIAS, we are at final phase of the translation process, from English to Spanish and from English to Portuguese. This process take into account the language files, the on line help and any other documentation related with ILIAS.

In order to spread abroad ILIAS to the South American community, we are in the final phase of the translations to the Portuguese language of the ILIAS language file, as well as of the system online help.

In addition we are in the heat of task of translation of ILIAS documents to the Spanish, like being the user help and the administrator help and other documents published in the site of the platform.

4.2 Tutorials and Manuals creation

In order to facilitate the learning of all the characteristic of ILIAS to futures users of ILIAS in South America, with different background of knowledge on computer science, is being made manuals and tutorials explanatory of different subjects and with distinct levels of complexity.

4.3 ILIAS Installer development

Organizations interested in the e-learning formation with not enough technical knowledge to perform one installation similar to the installation of ILIAS in many cases adopt “Turn Key” commercial systems.

When one institution has decided to install ILIAS in one of your server they are against two possibilities:

- to compile sources as described in the ILIAS documentation, or
- to install packages of each third-party software, and the .tar.gz ILIAS file of course

The former implies a basic technical knowledge, sometimes considerable if is desired to perform the installation under a non Linux platform, the later implies the eventual generation of conflicts among software installed, dependencies and *new* software if the suitable collections are not taken.

With the purpose of offering an efficient and safe solution we build a package based installer. For common Linux platforms (i.e. Redhat and Debian) constructing packages are very convenient because they are easy to maintain, upgrade and install. In addition many of them adopt the use of standard Linux packages [9, 10] (i.e. Linux Cobalt Qube 3 System that uses rpm packages and is one of our servers), so building the skeleton of these packages and performing futures changes makes them easily portable.

We have constructed five packages: *ilias-libs*, *ilias-http*, *ilias-php*, *ilias-mysql*, and obviously one named *ilias*. The *ilias-libs* package contains the required third-party software libraries and utilities (i.e. *libz*, *libgd*, *libjpeg* and *ImageMagick* utility). The *ilias-http*, *ilias-php* and *ilias-mysql* packages are related to *apache*, *php* and *mysql* respectively, and were compiled as suggested on ILIAS documentation. The *ilias* package correspond to ILIAS software itself, that it depends as well on the previously mentioned packages.

To prevent conflicts for MySQL Databases and Apache Web Server we decide to work in separate directories. For the automatization task we created Perl scripts that makes all the necessary configurations for Apache Web Server and MySQL Databases, complementing the installer with a graphical console based interface and man pages in our language.

5. Conclusion

Let us think that the actual sociopolitical frame of South America is propitious for the diffusion of solutions based on free software, concretely in the field of e-learning.

Our position to the respect is to promote, to spread and to offer solutions in e-learning adopting like emblem to ILIAS.

We considered that the system has reached a great degree of maturity and trustworthiness sufficient to provide corporative services of qualification and the creation of virtual university campuses on great scale. For this reason we have conformed the first South American solution center of ILIAS offering hosting of courses, consultancy on methodologies of e-learning and customized installations, and the distribution of technical documentation and manuals in Spanish and Portuguese languages.

6. References

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