

Influence of Libre Software in Education

The blogs planet case

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Abstract—Libre (free, open source) software brings new opportunities, but also new troubles, to the education experience. It provides a great deal of new tools that can be used unexpensively and easily. On the opportunities side, it enables customization and adaptation to special needs, and full reproduction of educational experiences without depending on a budget for expensive software licenses. But it also brings the troubles of charting a new territory, maintaining applications in a demanding environment, and finding ways of adapting to specific needs.

In this paper, we introduce these issues by analyzing a practical case study which has been run in real classes during several years: the contribution by students to a "planet" ("blog of blogs") with topics related to an educational subject.

Keywords—open source; free software; libre software, education, blogs, planets;

I. INTRODUCTION

Blogs, also known as weblogs, are websites containing notes in inverse chronological order, which are publicly accessible over the Internet. Usually, they offer visitors the possibility of commenting entries [1] [2].

Blogs have become mainstream during the last decade, dealing with topics ranging from politics to technology. They are run with a great variety of objectives, from activists trying to publicize their opinions to corporations trying to become closer to their customers. Blogs have also been used for educational purposes, for example as a source of information for students, or as a way of presenting assignments and summaries of class work. Currently, most learning management systems include blogs as an integral subsystem.

Planets are websites which aggregate (syndicate) content from different blogs as if they were a unique blog. The name comes from Planet¹, a libre (free, open source) application that is widely used in the libre software community. Such sites are commonly found for libre software projects, aggregating contributions from developers who write in their own blogs. The way planets work is very simple. Blogs usually offer their content in some XML-based format (RSS,

Atom...), known as the *feed* of the blog. Feeds can be accessed by means of a public URL. The planet software downloads feeds corresponding to the syndicated blogs and aggregates them in inverse chronological order as if all the stories would belong to a single blog. In some cases the planet only shows the title and a part of the body of the original blog entry (a small paragraph or a few lines), offering the possibility to read the rest in the original blog, thus avoiding that long stories would render the planet webpage unreadable.

To identify the authors of every single post, an avatar of the author is used, which is commonly known as a "hackergotchi". Hackergotchies help to identify the author of a contribution in the planet, since planets usually contain texts from various authors, which is much less common in regular blogs.

Planets help in the creation of a community, as the mostly personal views of contributors are grouped in a single location for each project. Informal, and sometimes personal or not-project related information is shared among the members of a project, offering new points of view and stimulating discussion and innovation.

Although planets have been used by the libre software community for some years now, there is little use of them in the educational community. However, blogs have been widely used for various educational purposes. Stephen Downes [8] has reviewed the history of weblogs in education, and has identified the five main uses of blogs in this area:

- managing classes;
- posting materials;
- holding discussions or seminars;
- publishing summaries and comments on readings; assessing tasks assigned to students who maintain their own blogs.

Downes also describes some of the problems of using this technology in education. One university setting where blogs have been used is in the lyrics. Professor Barbara Ganley has extensively documented his experience in this area for years [4].

1 <http://www.planetplanet.org>

In the field of Spanish-speaking education, Gewerc describes the subject "New Technologies applied to Education", part of the degree of Master at the University of Santiago, where blogs are used [5]. This paper refers to some of the educational initiatives -written in Spanish- that use blogs, both in the field of higher education as in high school. In [7] the experience of creation and use of blogs carried out during the 2003/2004 course by teachers and students of the subject "Audiovisual Design" at the School of Communication in the University of Navarra (Spain) is documented. Within the scope of the experimental sciences, from the end of the last decade, Grupo de Sistemas y Comunicaciones (GSyC) at the Universidad Rey Juan Carlos (Spain) has been continuously using blogs in all their classes as a mean of communication among students and between students and professors, especially to assist in the development of practical subjects of Computer Engineering and Telecommunication Engineering. As an example of this experiences, [6] describes the use of Zope / Squishdot in a group of subjects.

This article presents a teaching experience of e-learning based on the use of a planet of blogs that has been augmented with functionality that allows students to evaluate the stories of their classmates. To do this, students had to create a blog for writing stories with content related to the subject. The contents of all the student blogs were linked into a planet, the central location where they can be read and commented. The experience presented refers to six subjects of non-technical degrees. Of these six subjects, one was on-site and the other five were complete distance learning experiences. All courses were related directly or indirectly to computers, information technologies, computer networks and free culture, but none of them was purely technical. The total number of students who have participated in them is around 350.

The structure of this paper is as follows: next, a methodology for the use of a planet of blogs in education is presented. Then, some hints on our experiences are pointed out. Finally, some conclusions are drawn.

II. METHODOLOGY

The procedure of this activity is as follows. Each student has to create a blog specific for the subject. All student blogs are linked from a centralized location, the planet. Students will be able to positively rate entries from blogs of their peers that they believe provide useful information for the subject.

Each student should create a blog where entries include notes related in some way with the subject (explanations, comments, anecdotes, etc.). Blogs are individual. Professors should put special emphasis on advising students that blogs should have original content, and not simply copied and pasted information from other sites. They are also instructed

on how it is always good practice to reference or display external news by using links, and to comment personally the content they present. Some other hints related to writing texts for the Internet are also provided, with particular attention to how to do it for blogs. In this sense, long entries are discouraged, HTML is briefly introduced and some guidelines on the visual aspect of the blog are commented.

To create a blog, students can use one of the many free platforms that offer this service and that allow the contents of the blogs to be exported in any of the following formats: RSS 1.0, RSS 2.0 or Atom. Example of these are Blogger, WordPress, Bitacoras.com, LiveJournal or Blogia, but many other exist on the Internet. Students will then have to aggregate their blog to the planet by entering the following information:

- The URL of the blog
- The name or pseudonym of the student
- The e-mail address of the student

The resulting form can be seen in Fig. 1:

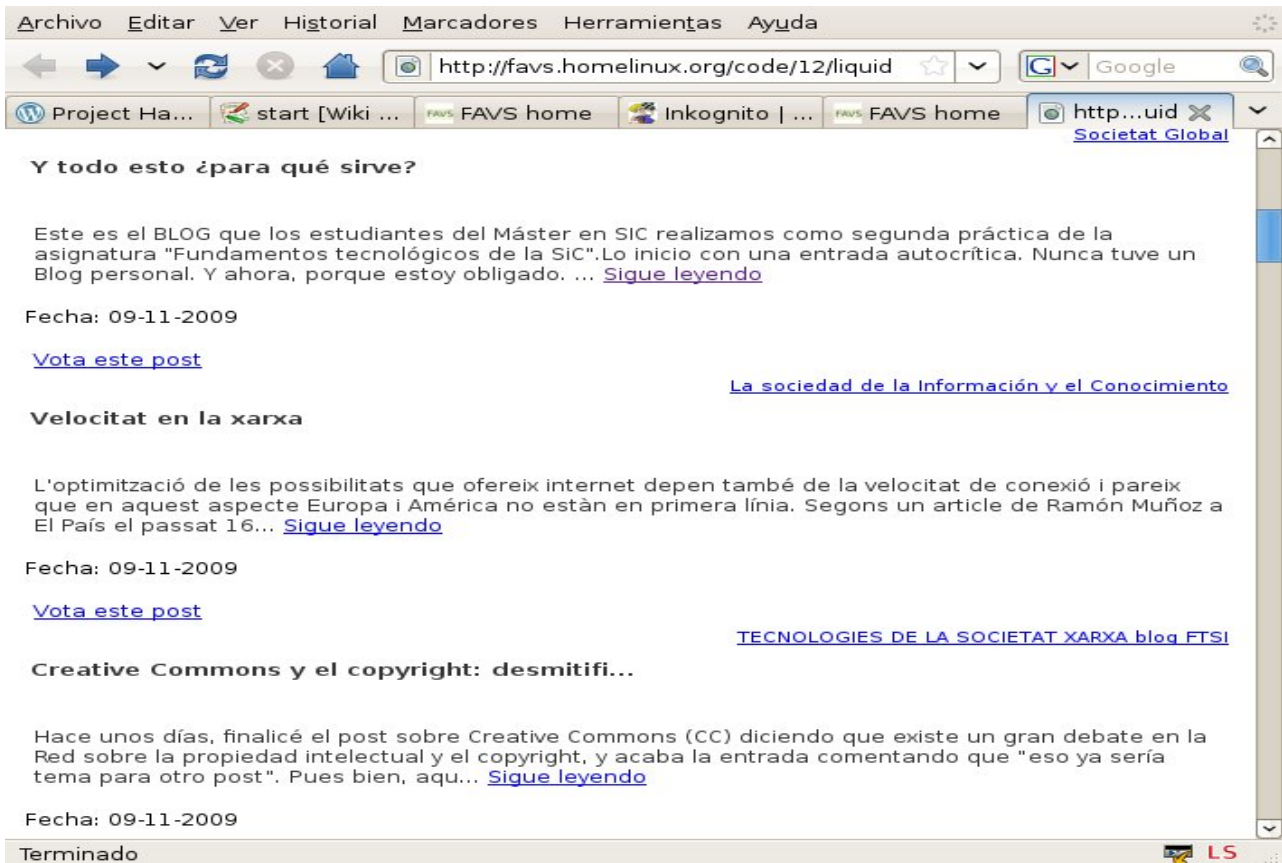


The registration form consists of three text input fields stacked vertically. The first field is labeled "Blog url:", the second "Email:", and the third "Name:". Below the "Name:" field is a button labeled "Join!". The entire form is set against a light yellow background.

Fig. 1.- Registration form.

Once properly registered, the blog will automatically appear on the planet.

Every blog must have a minimum number of entries at the end of the semester. That number of entries has to be calculated according to the number of students, because if the required frequency is very high the total number may be too big to be followed properly by students. In the learning experiences, weekly and biweekly frequencies have been tested, so that at the end of the semester there are at least a dozen (or half a dozen) news per student.



The votes received by the blog of a student, coming from peers will be considered for the evaluation of the activity.

In addition, and to foster that students rate their peers on a regular basis, voting entries from other blogs will also be taken into account. In this way, both writing in their blog as well as reading the planet accounts for the final mark. Teachers can assess additional items positively, in general, once the activity is finished. This may include aesthetic considerations (configuration of the blog, proper use of a blog-suitable style, etc.) in addition to the quality of the content.

Each student will have a number of points each week that can be distributed among the entries of blogs of his peers. To do so, at the bottom of each entry on the planet there is a link "Vote me!" through which you can rate that specific entry. The votes of peers and teachers will be taken into account when assessing the subject.

From the experience in several subjects, we have noted that the number of votes per student and per week should be at most a quarter of the total number of blogs syndicated in the planet. The rationale for this lies in the fact that if students have too many votes, discriminating between good and bad entries is not possible. Giving students a number too small, on the other hand, discourages reading the planet as once they have given out all votes, they may stop reading

more stories. For the usual class of 40 to 50 students, five to ten votes per week is in general an acceptable number. Teachers may vote the entries they like, although in their case they have an unlimited number of points.

Fig. 2 shows how the planet is structured. On the right, after a brief introduction and some links to the page with the registration form and the page with the rules of the activity, the stories authored by students are listed in reverse chronological order. Each story has its own box, which shows the name of the author, the text of the post and two end links. The first link, "Vote me!", allow students to vote the story, while the second, "Read the full entry", leads to the website blog, since for space reasons entries on the planet are shown only partially (only the first 250 characters are displayed in this example).

Meanwhile, on the left side of the window there is some information about when the planet was last updated, and the list of syndicated blogs. The planet is automatically updated every hour, which means that every hour the software of the planet takes the feeds of the syndicated blogs and generates the list of stories in reverse chronological order that can be seen on the right.

If a student decides that a story of a colleague on the planet is worth one point, clicking on the link "Vote me!" takes him to a page where you are asked to fill out the form shown in Fig. 3.

You will vote for:

Blog: Fonaments en xarxa

Post: Flashforward

Please introduce your email:

Vote!

Fig. 3.- Voting form.

III. TEACHING EXPERIENCE

The authors have been able to test the methodology in several university courses and postgraduate degree subjects. The problem areas found were as follows:

- Creating the blog. As the subjects involved in this experience were mainly targeted to students of non-technical degrees, this was for many of them the first time they faced the world of blogs. To mitigate the problem, we encouraged their peers with advanced technical knowledge or who were more familiar with technology to devote their first entries to how to set-up and manage a blog.
- Identification of the feed and registration at the planet. Once the blog has been created, the identification of the feed, including its URL, is a problem for many students. This may become a main blocker, since that information is necessary for registration. The greatest difficulty is in fact the concept of feed itself, which is not easy to understand at first for many students. Therefore, teachers are encouraged to show the difference between the feed (intended for machines) and the main blog page (intended for humans) and to show some examples. Avoiding impersonation when voting. To prevent anyone from voting on behalf of a peer, we had to think of a way of avoiding it. The mechanism we finally implemented was very simple: when you vote, you must indicate your e-mail address. With every vote a voucher of the vote is sent by email, stating that the vote has been stored and urging the receiver to contact the teachers in the case that the vote was not given by him.

- Detection of deceptive voting. The fact that students themselves can assess their peers can lead to situations where two or more students may use fraudulently the voting system, voting indiscriminately. It may happen that a student randomly distributes votes without reading the entries, thus obtaining a good assessment in reading. To avoid these situations, we have designed and implemented a voting analysis software that using data mining techniques and social network analysis identifies "abnormal" situations.

IV. CONCLUSIONS

This article has presented a teaching experience of blogging by students of non-technical degrees in which they participate in the evaluation of the contents provided by their peers. We have seen the procedure followed in this activity and have highlighted the experience of deploying it in several universities for several subjects.

ACKNOWLEDGMENTS

The authors of this article want to show their appreciation to R. Plaza by the completion of voting analysis software, as well as GSYC professors, who helped with the set-up and monitoring this activity: E. Soriano, A. Santos, K. Leal and L. Rodero.

This work has been funded in part by the Comunidad de Madrid, under the E-Madrid Excellence Network.

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