**WEB 2.0 UNDER THE LIGHT OF FREE SOFTWARE -
By: ROSANNA MESTRE**
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The development of Web 2.0 has favoured a closer relation between Internet users and the different web applications that facilitate creating, sharing and structuring digital information in a horizontal and collaborative way through so-called social software. Social software includes tools that are familiar to us all, such as chats, forums, blogs, wikis, syndication standards (RSS type), social tagging, multimedia file sharing, social networking, etc. They are tools oriented to give the user a greater capacity of interaction, and a stronger control over the content and the format in which they can be presented.

In our opinion, the emphasis of Web 2.0 on the social dimension connects with some of the main traits of the free software and copyleft movement. The free spirit that guides these communities has not only favoured the creation of multiple computer resources (free operating systems, free computer software, free software licenses…) throughout the last four decades. In addition, it has also managed to attract millions of users all around the world who conceive intellectual creation as a cultural asset not dominated by the logic of mercantilism.

However, what really matters to us here are not the technical aspects of computer programming but rather the philosophic ethics that moves this group of software developers. The ethical project of the free software community carries with it a way to conceptualize culture as free in the sense of transparent control and accessibility. This has communicative and sociocultural consequences that include more aspects than only those merely related to technology, since they are linked to basic issues of computer mediated communication and movement of content today.

This cultural paradigm is of interest here, and from that standpoint we will analyze three main Web 2.0 applications, such as blogs, wikis and social networking, in order to identify four key features that relate the way we communicate through these web applications to the free software philosophy. These features are collaborative content construction, shared knowledge, dissolution of individual authorship, and open commercial opportunities.

Some notes about the Free Software Movement

During the sixties, sharing and exchanging software within the community of programmers was as common as their adaptation to users' needs. Sharing the way they worked was more profitable in a period when the manufacturers offered each machine with its own system, its own software and its own programming language. This began changing during the seventies with the appearance of the operating system known as Unix by AT&T. Unix was the first multiuser and multitasking operating system that began being successfully used in 1974. The conflict of interests that emerged as a consequence of the coexistence of two different versions for Unix made evident the antagonism between these two ways of understanding software development: the mechanisms of enterprise innovation as opposed to the cooperative process of innovation within the community (Romeo & García, 2003). The legal and judicial conflicts that came up related to software ownership questions had two important consequences that Moineau & Papathéodorou (2000) summarize in the divergence of the several systems based on Unix (and the consequent reduction of the compatibility between them) and the transformation of computer development into a proprietary system or a license fee, which includes a strict application of copyright on the part of the companies, in order to avoid the circulation of their own codes and prevent collaborative work.

As a consequence, computer enterprises that hired programmers imposed confidentiality clauses related to the work they would develop. The proprietary software's holders were thus avoiding the appearance of cooperative communities, despite the fact that their group dynamics were based on free software exchange. The enormous success of commercial use of proprietary software during the eighties and nineties favoured the fact that it is still regarded as the most familiar model in the early years of the 21st Century for those who are not expert users.

When Richard Stallman (2002), a computer science programmer who started his professional career at the Massachusetts Institute of Technology in 1971, was offered the possibility of signing a confidentiality contract, he rejected it, on the basis of logic established by the proprietary system. Stallman kept on working following the collaborative principles of the community, creating

what later became known as the Free Software Movement. This Movement is one of the pioneers in defense of free culture, understood as a way of conceiving culture that aspires to be free, not in the sense of lacking control, but rather in the sense of culture whose control is transparent, never hidden or inaccessible, and, at the same time, offering the possibility of being changed or modified (Lessig, 2005).

The first step was the creation of a free operating system with the support of many people who shared the idea of the project and who, above all at the beginning, collaborated in their free time without expecting monetary compensation. They began developing a system known as GNU, an acronym for "GNU's Not Unix", compatible with Unix. In 1990, the GNU system was almost completed except for one component: the kernel or central component of the operating system. In 1991, Linus Torvalds made public that he had developed a kernel that was compatible with Unix. He gave it the name of Linux. The combination of Linux and GNU favored the creation of the first free operating system, GNU/Linux, in 1992, that would be followed by many other free applications.

Soon it was necessary to determine what was understood by free software, due to the confusions that arose surrounding the different meanings that the word "free" has in English and the different ways of development and commercial use given to these type of applications. Another main issue was establishing terms for the distribution of free software so that it would never become a proprietary one. This was achieved by means of copyleft licenses. These licenses constitute a system of protection of intellectual production in which the copyright's owner, making use of them, determines how he or she wants his or her production to be distributed, and decides how and under what conditions the product can be used. It was in 1989 when the first copyleft license appeared for GNU software and its handbooks, a General Public License (GPL), GNU GPL in its brief version. Currently, copyleft licenses apply to all types of intellectual output, such as texts, images, music or audiovisual productions.

The need to find new sources for their financing for such an ambitious project led to the creation of a nonprofit organization dedicated to free software development: the Free Software Foundation (FSF). Its income comes from donations and the sales of program copies and handbooks, and from other associated services. Founded in 1985, the FSF has been an effective instrument to promote users' rights to use, study, copy, modify and redistribute computer applications as well as to promote the operating system

GNU/Linux and the GPL associated project. Furthermore, it has worked with the ethical and political questions that relate to the free use of software, an issue, this latter one, necessary to make clear their positions regarding not only the development of proprietary software, but also in relation to other ways of working with applications whose code is accessible, as is done by the Open Source community.

With these measures, the free software community is attempting to put into practice the principle that intellectual property is not based on rivalry, as happens with material private property. This is mainly due to the fact that ideas are not under a shortage principle as if they were merchandise. When we are sharing intellectual information, we do not lose what we had, but rather we increase our intellectual heritage. Creation cannot be only its authors' property or, less than that, their intermediaries'. Creation (ideas) can not be confused with its container (book, DVD, CD…). Culture, knowledge, information…belongs to the world.

Free Software Spirit in Blogs, Wikis and Social Networking
Blogs, wikis and social networking are clearly different applications but all of them share the goal of somehow making public and sharing the work developed on the Web through simple and easily accessible devices. Although wiki sites are probably the ones that better convey the ethical principles of the Free Software Movement in a context that is alien to the developers of computer applications, blogs and social networking also share, at different levels, certain principles that will now be presented.

1. Collaborative Content Construction
From its origins, the community that worked in order to develop the Free Software Project emerged as a group initiative in which the effort of the individuals was cumulative in order to reach a good result that could be shared by everyone (inside and outside of the community). Closely related to this way of working, a basic concept of freedom is key to the community: letting the source code remain free so that anyone can improve it.

Wiki sites are born with the aim of letting individual contributions be part of collective projects, establishing exchanges of creative production that get mixed in unique bodies of content. These are projects that are able to exist and survive because there is a community behind them, working with them. At the same time, a structural trait that characterizes these wiki sites is the easy access to the gadgets that allow the users to modify the existent content. The constant openness of the site (and frequently also the source code) favours changes in the entries what makes of this process

one in constant cooperative re-elaboration.

Differently from the wikis, in blogs and social networking content contributions are each user's responsibility and cannot be modified by other users. There does not exist, therefore, a body of content as a whole that is created in a collaborative way. However, posts in blogs get richer by the comments that nourish the most active blogs. Comments and blogrolls favour group creation and the constant movement of information. That is why many blogs also participate in the collaborative dynamics of information building.

In social networking, as with blogs, the authorship of every contribution is exclusive of the user and cannot be modified by other users. However, this type of application notably increases the weblogs options so that different users can contribute with their own information. Therefore, the possibilities of the collaborative dynamics of hypermedia content with different functions (links to a written text, images, videos) are multiplied: comments, personal opinions, recommendations, news, events, etc.

2. Shared knowledge
Another consequence of collaborative work in the free software community is the need for all the information related to free licensed software and its handbook to be available. Thus, any user is authorised to execute, modify and redistribute not only the programme but also the copies and modified versions that may be developed. Sharing information is, to them, the first step in sharing knowledge.

Many of these wiki applications are free software and that is why they share the instrumental objective of leaving the source code totally open. Nevertheless, the content of these wiki sites is normally free too, with the main aim of sharing the knowledge that these projects may create. From Wikipedia to locapedias (Romeo, 2008), the most recent projects that are showing great possibilities as local content repositories, the spirit that leads them is favouring the sharing of information.

It can be said about blogs that, even though it may be in a different way, they are born with the vocation of having a public availability. Due to the journal type structure of blogs, they could be considered a way of writing that should be reserved for private use. However, from the moment that they use publication devices, theses texts are accessible to anyone surfing the net. Posts are, on the other hand, not open to modification (they cannot be edited) but the comments option favours interaction with readers that wish to participate, offering with it a more dialogic form of communication.

In social networking, each registered user has his or her own space. However, the contents that he or she adds, as well as links to other web sites, end up being part of and mixing with the ones added by his or her friends network. Each user is part of an interconnected community that continuously creates an enormous amount of information that is potentially very interesting (since it is interesting to some of their friends). This is a magma of hypermedia content that any network member can access and in which what is contributed by the different members gets mixed with what is produced by others.

3. Dissolution of individual authorship

Even though Free Software does not propose the disappearance of the category of author, it does favour its dissolution among the members of the community that take part in the modification of any application. It is, therefore, a group work in which, more important than the individual contributions is the final outcome or, more precisely, the continual improvement that the final version may obtain.

Wiki projects are those where the dissolving of the author's identity is made in a more evident way. Contributions are anonymously mixed (even though the name of the user or the IP from which the modification has been made stays) with the aim of obtaining the best possible version. In a wiki, all of the contributions end up melting in the big hypertext produced by the community without leaving any physical marks of all of those working on its elaboration.

Some of this can also be found in some blogs. When these include frequent comments that are as interesting as the posts, the individual voices tend to merge together as collective polyphonies in which what is said is more important than who said it. Moreover, identity can be shown in different ways in this blogosphere (real name, nick name or anonymous). This favours the fragmentation of the individual identity in the heterogeneity of the multiple profiles of the user that may constitute one's digital identity on the Internet. The Web, though, also has some control mechanisms, such as digital signatures or digital certificates (digital ID type), that allow one to prove who one is on the Internet.

The dissolution of the author is much more evident in social networking, where identity is built out of the information collected by a subject (Windley, 2005), some of which is one's own production, along with some produced by other users. The "I" of social networking is a hybrid "I" (between digital and analog),

fragmented in different profiles, roles and hypermedia contributions that each user adds about him- or herself, without forgetting the inputs that it receives from the different digital communities he or she belongs to.

4. Open commercial opportunities

In Free Software, its lack of cost coexists with other forms of economic earning power, without any single one of them imposing itself. The alternative to the system of proprietary exploitation allows flexible forms of managing the work of software developers, obtaining an adequate remuneration for it. Developers can receive economic compensation only for created applications, or only for updates, or both, or for any other service preformed for a client. They do not necessarily charge for every service, nor for every license, as would occur with proprietary software. Its profitability model is very different from the one applied to proprietary software, closely related to copyright logic.

In wiki sites, freedom of access to content dominates. Often, the software used by these applications is also free. Some, like Wikimedia Foundation's projects, have very restrictive policies regarding the commercial use of their sites and are open only to noncommercial means of economic earnings, such as donations and awards. Nevertheless, there are also firms which commercialize their wiki applications like a proprietary software developer, from radically different premises.

With regard to weblogs, companies that offer the most sophisticated blogging services usually charge for these services. Bloggers can add publicity banners that they can control, or simply deny any kind of sponsors, with the aim of guaranteeing the highest possible independence of the blog. Nevertheless, there are many applications that allow the free creation of blogs. In most cases, free blog hosting implies the need for including publicity on the site. In this way, bloggers and readers obtain benefits from the free aspect of the service, at the same time that productive consumption is promoted, in a similar way to audiences who watch free television programmes and the free publicity they include, due to advertising contracts negotiated by broadcasters (Echeverría, 1999).

Even though different services that are offered by social networking are mainly free (although this is not the case of very specialised networking sites), these web applications are associated to a business with a very interesting future, due to the enormous attractiveness that its new commercial options offer to the enterprises involved in the process and the huge number of users that they include. In the case of social networking, it is possible to

add a simple banner or just offer the direct buying of products and services. But any brand can also create its own social network, offer personalised applications, spread events, etc. To all this, one should add the great advantage of being able to target commercials to a segmented audience and directly connect with it. In an unconscious way, users make this job easier for commercial agents when they give out personal information about themselves and participate in a free way in their advertising games. But new creators such as musicians, writers, and photographers have alternative channels to disseminate their intellectual output in the digital environment. The productive consumption of millions of users is the result, as happens with blogging applications, of a not very new business logic, but it establishes elaborate advertising planning that has yet to be explored widely and must be mainly based on the free aspect of the services.

Conclusions

Thanks to the infrastructure that Web 2.0 provides, as well as the collaboration from its armies of users, it is possible to make information, knowledge, and culture more accessible to a larger number of individuals, not as mere receptors, but as active participants in human cultural production. Through different tools, many of which are free and easily navigated such as weblogs, wikis and social networking sites, the means of (re)production and distribution of Web 2.0 are increasingly available to anyone with minimal technical resources. It is a space of open participation where diverse collaborative and self-organizing forms of creation and the sharing of information are consolidated; a space where individual identity is diluted into a digital "I" of a hybrid, versatile and fragmented nature.

This way of constructing identity calls into question the idea of author as a creator ex nihilo, which is historically datable and linked to the negative myth of plagiarism. But copying, mixing and plagiarism also can be seen, to some extent, as the way we actually create new content and a way to make intellectual production more accessible to everybody. When digital technologies suppress the distinction between copy and original, cheapen the cost of copying, and decentralize mass production, creativity and freedom of collaborative work are fruitful avenues for dissemination. In this new environment it is still necessary that the authors receive compensation, including economic recompense, as an incentive for creative production, because it benefits everyone and should be strengthened. This perspective can lead to conflicts when it runs into the logic of copyright and most legal systems are still inadequate for the new paradigm. But it is doubtful that millions of

users will give up such highly productive freedom.

Nevertheless, the fact that intellectual creation can be distributed and made profitable through various marketing strategies, and not only with traditional trade, shows that it is possible to find other ways to balance the incentive to authors and the common good. Information and knowledge do not comply with the principle of scarcity and rivalry that characterizes material private property and therefore should not be governed by the parameters of the former. Digital communication makes possible other stimulating patterns of creation and dissemination of knowledge (such as collaborative content construction, shared knowledge, dissolution of individual authorship, and new commercial opportunities), as advocated by the socio-political project of the free software community and illustrated by blogs, wikis and social networking.

Author

Rosanna Mestre is associate professor at the Department of Theory of Languages and Communication Sciences, University of Valencia, Spain. She coordinates Gidc@, a teaching innovation group that uses blog and wiki software in higher education.

Rosanna.Mestre@uv.es

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