AGNULA Libre Music - Free Software for Free Music

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Abstract

AGNULA Libre Music is a part of the larger AG-NULA project, whose goal as a european–funded (until April 2004) and as mixed private–volunteer driven (until today) project was to spread Free Software in the professional audio and sound domains; specifically, AGNULA Libre Music (ALM from now on) is a web–based datase of music pieces licensed under a "libre content" license. In this paper[1] Andrea Glorioso (former technical manager of the AG-NULA project) and Davide Fugazza (developer and maintainer of AGNULA Libre Music) will show the technical infrastructure that powers ALM, its relationship with other, similar, initiatives, and the social, political and legal issues that have motivated the birth of ALM and are driving its current development.

Keywords

AGNULA, libre content, libre music, Creative Commons

1 The AGNULA project — a bit of history

In 1998 the situation of sound/music Free Software applications had already reached what could be considered well beyond initial pioneeristic stage. At that time, the biggest problem was that all these applications were dispersed over the Internet: there was no common operational framework and each and every application was a case-study by itself.

But when Marco Trevisani proposed (this time to Nicola Bernardini, Günter Geiger, Dave Phillips and Maurizio De Cecco) to build DeMuDi (*Debian Multimedia Distribution*) an unofficial Debian-based binary distribution of sound/music Free Software, something happened.

Nicola Bernardini organized a workshop in Firenze, Italy at the beginning of June 2001, inviting an ever–growing group of supporters and contributors (including: Marco Trevisani, Günter Geiger, Dave Phillips, Paul Davis, François Déchelle, Georg Greve, Stanko Juzbasic, Giampiero Salvi, Maurizio Umberto Puxeddu and Gabriel Maldonado). That was the occasion to start the first concrete DeMuDi distribution, the venerable *0.0 alpha* which was then quickly assembled by Günter Geiger with help from Marco Trevisani. A bootable CD-version was then burned just in time for the ICMC 2001 held in La Habana, Cuba, where Günter Geiger and Nicola Bernardini held a tutorial workshop showing features, uses and advantages of DeMuDi(Déchelle et al., 2001).

On November 26, 2001 the European Commission awarded the AGNULA Consortium — composed by the Centro Tempo Reale, IR-CAM, the IUA-MTG at the Universitat Pompeu Fabra, the Free Software Foundation Europe, KTH and Red Hat France — with consistent funding for an accompanying measure lasting 24 months (IST-2001-34879). This accompanying measure, which was terminated on March 31st 2004, gave considerable thrust to the AGNULA/DeMuDi project providing scientific applications previously unreleased in binary form and the possibility to pay professional personnel to work on the distribution.

After the funded period, Media Innovation Unit, a component of Firenze Tecnologia (itself a technological agency of the Chamber of Commerce of Firenze) has decided to partly fund further AGNULA/DeMuDi developments. Free Ekanayaka[2] is the current maintainer of the distribution.

AGNULA has constituted a major step in the direction of creating a full-blown Free Software infrastructure devoted to audio, sound and mu-

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[2]`free@miu-ft.org`

sic, but there's much more to it: it is the first example of a European-funded project to clearly specify the complete adherence of its results to the Free Software paradigm in the project contract, thus becoming an important precedent for similar projects in the future (Bernardini et al., 2004).

2 AGNULA Libre Music: sociopolitics

On February 2003 Andrea Glorioso was appointed as the new technical manager of the AGNULA project, replacing Marco Trevisani who had previously served in that position but was unable to continue contributing to the project due to personal reasons.

This is not the place to explain in detail how the new technical manager of the AGNULA project tackled the several issues which had to be handled in the transition, mainly because of the novelty of the concept of "Free Software" for the European Commission (a novelty which sometimes resulted in difficulties to "speak a common language" on project management issues) and of the high profile of the project itself, both inside the Free Software audio community — for being the first project completely based on Free Software and **funded with european money** — and in the European Commission — for being the first project **completely based on Free Software** and funded with european money (Glorioso,).

The interesting point of the whole story — and the reason why it is cited here — is that the new Technical Manager, in agreement with the Project Coordinator (Nicola Bernardini, at the time research director of Centro Tempo Reale) decided to put more attention on the "social" value of project, making the life of the project more open to the reference community (i.e. the group of users and developers gravitating around the so called LA* mailing lists: `linux-audio-announce`,[3] linux-audio-users,[4] linux-audio-dev[5]) as well as creating an AGNULA community *per se.*

In September 2003, when the first idea of AGNULA Libre Music was proposed to the Project Coordinator by the Technical Manager for approval,[6] the *zeitgeist* was ripe with the "Commons".

A number of relevant academic authors from different disciplines had launched a counter–attack against what was to be known as the "new enclosure movement", (Boyle, 2003): the attempt of a restricted handful of multinational enterprises to lobby (quite succesfully) for new copyright extension and a stricter application of neighbouring rights.

The result of this strategy on behalf of the multinational enterprises of the music business was twofold: on the one hand, annoying tens of thousands of mostly law–abiding consumers with silly lawsuits that had no chance of standing in the court[7];[8] on the other hand, motivating even more authors to escape the vicious circle of senseless privatization that this system had taken to its extremes.

It seemed like a good moment to prove that AGNULA really wanted to provide a service to its community, and that it really had its roots (and its leaves, too) in the sort of "peer-to-peer mass production" (Benkler, 2002) that Free Software allowed and, some would argue, called for. After investing a major part of its human and financial resources on creating the project management infrastructure for working on the two GNU/Linux distributions the project aimed to produce, it was decided that a web–accessible database of music would be created, and the music it hosted would be shared and made completely open for the community at large.

Davide Fugazza was hired as the chief architect and lead developer of AGNULA Libre Music, which saw its light in February 2004.[9]

2.1 Libre Content vs Libre Software

What might be missing in the short history of ALM is that the decision to allow for the European Commission funding to be spent on this

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[3] http://www.music.columbia.edu/mailman/list-info/linux-audio-announce

[4] http://www.music.columbia.edu/mailman/list-info/linux-audio-announce

[5] http://www.music.columbia.edu/mailman/list-info/linux-audio-announce

[6] The reader should remember that AGNULA, being a publicly financed project, had significant constraints on what could or could be done during its funded lifetime — the final decision and responsibility towards the European Commission rested in the hands of the Project Coordinator.

[7] http://www.groklaw.net/article.php?story=-20040205005057966

[8] In fact, it can be argued that the real strategic reason of these lawsuits had a marketing/PR reason rather than substantial grounds, which does not make them less effective in the short term.

[9] See http://lists.agnula.org/pipermail/a-nnounce/2004-February/000041.html

sub–project of the main AGNULA project was not an easy one, for several reasons:

- The European Commission, as all large political bodies, is under daily pressure by several different lobbies;[10] the "all rights reserved" lobby, which is pressuring for an extension of copyright length and of the scope of neighbouring rights, was particularly aggressive at the time the ALM project was launched (and still is, by the way). This made financing a project, whose primary goal was to distribute content with flexible copyright policies, questionable in the eyes of the EC (to say the least);

- Software is not content in the eyes of the European Commission, which maintains a very strict separation between the two fields in its financing programmes.[11] Using money originally aimed at spreading Free **Software** in the professional audio/sound domain to distribute **content** was potentially risky, albeit the reasons for doing so had been carefully thought out;

- The licensing scheme which ALM applies, mainly based on the Creative Commons licenses,[12], did not and does not map cleanly on the licensing ontology of Free Software.

  Although there are striking similiarities in the goals, the strategies and the tactics of Creative Commons Corporation, Free Software Foundation and other organizations which promote Free Software, not all the Creative Commons licenses can be considered "Free" when analyzed under the lens of "Software" (Rubini, 2004). This point is discussed with more detail in section 4

3 AGNULA Libre Music: technique

To make a long story short, AGNULA Libre Music is a Content Management and online publishing system, optimized and specialized for audio files publication and management.

Registered users is given complete access to his/her own material. The system takes care of assuring data integrity and the validation of all information according to the given specifications.

Registration is free (as in free speech and in free beer) and anonymous — the only request is a valid e-mail address, to be used for automatic and service communications.

In the spirit of libre content promotion, no separation of functionalities between "simple users" and "authors" has been implemented: both classes of users can benefit from the same features:

- Uploading and publishing of audio files with automatic metatag handling;

- Real–time download statistics;

- Creation of personalized playlist, to be exported in the `.pls` and `.m3u` formats, themselves compatibles with the majority of players around (`xmms`,[13] `winamp` (TM),[14] `iTunes` (TM)[15]);

Other features which are available to anonymous users, too, are:

- A search engine with the possibility of choosing title, artist or album;

- RSS 2.0 feed with enclosures, to be used with "podcasting" supporting clients;[16];

- For developers and for integration with other services, ALM offers a SOAP (Group, 2003) interface that allows queries to be remotely executed on the database;

3.1 The web and tagging engine

ALM uses the `PostgreSQL` database[17] as the back–end and the `PHP` language[18] for its web–enabled frontend. PHP also handles a page templating and caching system, though the `Smarty` library.

File uploading on the server is handled through a form displayed on users' browsers; first `HTTP` handles the upload on a temporary location on the server, and then a `PHP` script copies the audio files to their final destination.

It is in this phase that the `MP3` or `OGG Vorbis` *metags*, if already available in the file, are read.

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[10]Please note that in this paper the term "lobby" is used with no moral judgement implied, meaning just a "pressure group" which tries to convince someone to apply or not apply a policy of a certain kind.

[11]It could be argues that, in the digital world, the difference between data ("content") and computer programs is rather blurred.

[12]See   http://creativecommons.org/about/licenses/.

[13]See `http://www.xmms.org/`.

[14]See `http://www.winamp.com/`.

[15]See `http://www.apple.com`.

[16]See `http://en.wikipedia.org/wiki/Podcasting`.

[17]See `http://www.postgresql.org/`.

[18]See `http://www.php.net`.

Besides, a form for the modification/creation of such tags is presented to the user.

The system ask which license should be applied to the files — without this indication files are not published and remain in an "invisible" state, except for the registered user who uploaded them in the first place.

To avoid abuses of the service and the uploading of material which has not been properly licensed to be distributed, all visitors (even anonymous ones) can signal, through a script which is present in every page, any potential copyright violation to the original author. The script also puts the file into an "invisible" status until the author either reviews or modifies the licensing terms.

3.2 Metadata and license handling

To guarantee a correct usage of the files and an effective way to verify licenses, the scheme proposed by the Creative Commons project has been adopted (Commons, 2004). Such scheme can be summarized as follows:

- using metagas inside files;
- using a web page to verify the license;

ALM uses the "TCOP" Copyright tag, which the ID3v2 metadata format provides (Nilsson, 2000), to show the publishing year and the URL where licensing terms can be found.

This page, which lives on the AGNULA Libre Music server, contains itself the URL of the Creative Commons licensing web page; moreover, it contains an RDF (Group, 2004) description of the work and of the usage terms.

In this way it is possible:

- to verify the authenticity of the license;
- to make it available a standardized description to search engines or specialized agents;

4 AGNULA Libre Music: legalities

4.1 Licensing policy

AGNULA Libre Music has decided to accept the following licenses to be applied on the audio files published and distributed through the system:

- Creative Commons Attribution-ShareAlike 2.0[19]

- Creative Commons Attribution 2.0[20]
- EFF Open Audio License[21]

The overall goal was to allow for the broadest possible distribution of music, leaving to the author the choice whether to apply or not a "copyleft" clause (Stallman, 2002a) — i.e. that all subsequent modifications of the original work should give recipients the same rights and duties that were given to the first recipient, thus creating a sort of "gift economy" (Stallman, 2002b), albeit of a very particular nature, possible only thanks to the immaterial nature of software (or digital audio files, in this case).

We chose not to allow for "non-commercial uses only" licenses, such as the various Creative Commons licenses with the NC (Non Commercial) clause applied. The reason for this choice are various, but basically boil down to the following list:

- Most of the AGNULA team comes from the Free Software arena; thus, the "non commercial" clause is seen as potentially making the work non-free. Further considerations on the difference between software and music, video or texts, and the different functional nature of the two sets would be in order here; but until now, an "old way" approach has been followed;

- It is extremely difficult to define what "non commercial" means; this is even more true when considering the different jurisdiction in which the works will be potentially distributed, and the different meanings that the term "commercial" assumes. Besides, what authors often really want to avoid is speculation on their work, i.e. a big company using their music, but have no objection against smaller, "more ethical" entities doing so.[22] However, "non commercial" licensing does not allow such fine–grained selection (Pawlo, 2004).

5 Future directions

AGNULA Libre Music is far from reaching its maximum potential. There are several key areas which the authors would like to explore;

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[19]See   http://creativecommons.org/licenses-/by-sa/2.0/.

[20]See   http://creativecommons.org/licenses/by-/2.0/.
[21]See   http://www.eff.org/IP/Open_licenses-/20010421_eff_oal_1.0.html.
[22]The decision of what constitutes an "ethical" business vs a non–ethical one is of course equivalent to opening a can of worms, and will not be discussed here.

moreover — and perhaps, much more interestingly for the reader — the AGNULA project has always been keen to accept help and contributions from interested parties, who share our commitment to Free Software[23] and circulation of knowledge.

More specifically, the ares which the ALM project is working on at the moment are:

- Integration with BitTorrent

  BitTorrent[24] has shown its ability to act as an incredibly efficient and effective way to share large archives (Cohen, 2003). AGNULA Libre Music is currently implementing a system to automatically and regularly create archives of its published audio files. The ALM server will act as the primary seeder for such archive.

- Integration with Open Media Streaming (OMS)

  Open Media Streaming[25] is

  > a free/libre project software for the development of a platform for the streaming of multimedia contents. The platform is based on the full support of the standard IETF for the real-time data transport over IP. The aim of the project is to provide an open solution, free and interoperable along with the proprietary streaming applications currently dominant on the market."

  ALM is currently analyzing the necessary step to interface its music archive with OMS, in order to have a platform completely based on Free Software and Open Standards to disseminate its contents. Besides, OMS is currently the only streaming server which "understands" Creative Commons licensing metadata, thus enabling even better interaction with ALM metatag engine (De Martin et al., 2004).

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[23]It should be noted that Free Software Foundation Europe holds a trademark on the name "AGNULA"; the licensing terms for usage of such trademark clearly state that only works licensed under a license considered "free" by the Free Software Foundation can use the name "AGNULA".

[24]See `http://bittorrent.com/`.

[25]See `http://streaming.polito.it/`.

6   Acknowledgements

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