Licensing Alternatives for Freely Redistributable Software

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Authors of freely redistributable software (FRS) have chosen to distribute their work with a variety of different licenses. Indeed, the variety of licenses raises the question of what "freely distributable" means; in this paper, we consider licenses that at a minimum allow individuals to receive software for personal use without restriction or payment, and that allow non-commercial redistribution of such software. Differing philosophical and/or economic purposes have led to a variety of different free redistribution licenses (FRLs), varying in activities that they require, allow, or prohibit with respect to use and distribution; the different licenses in turn lead to different patterns of use and distribution for the software, and different patterns of benefits to the parties involved (authors, OEMs, other redistributors, and users). Our analysis of existing FRLs gives FRS authors a clearer picture than was previously available of the likely consequences of their choice of license; we also speculate on why the source-code-oriented FRLs tend to be associated with developer-oriented software and the less "free" FRLs with end-user-oriented software.

Introduction

In conventional economic analysis, given a free market with competing suppliers and no complicating factors, the price of goods drops over time to marginally more than the cost of production. However, this clearly doesn't apply straightforwardly to goods whose marginal cost of production is zero, like software: 0 price x any quantity = 0 revenue, which doesn't cover development costs, and it is only by developing new software that existing producers stay in business.

Economists disagree sharply on the appropriate way to cover the development costs for goods with negligible production cost, and even more sharply on the way to provide appropriate incentives to developers. In the software industry, the conventional response has been to price software on the basis of what the market will bear rather than on the cost of production, relying on non-market-based barriers (both legal, such as copyright and trade secret protection, and technical, such as compatibility and interoperability) to prevent free copying. However, a small but significant number of software authors have chosen to make their creations freely copyable and redistributable under a variety of free redistribution licenses (FRLs), choosing means other than per-copy payment to recover development costs and provide economic incentives for further development.

Software distributed with a FRL, as we use this term in the present paper, doesn't provide for compensating the author directly for each copy. Thus, the question of how the author (and other participants in the software process, such as distributors and support providers) get compensated is a crucial one in understanding the differences between FRLs. All FRLs that we consider here:

- Allow copying and distribution of the software without payment to the author;
- Allow use of the software without payment (with some restrictions in the case of shareware);
- Allow charging for goods (such as printed documentation or physical media) and services (such as consulting, support, or the act of distribution) other than the FRL'ed software proper.

Thus, the authors are the only participants whose do not receive compensation for their work on a per-piece or per-service basis; on the other hand, they are also the only participants who do not perform work on a per-piece or per-service basis, so this situation is consistent with the earlier observation about marginal cost. We will return to this point in later sections where we discuss the rationale for the different forms of FRL.

Given the substantial amount of freely redistributable software (FRS) that has been created and disseminated, this paper proposes to:

- Examine and classify the various (FRLs) that developers use to control the conditions under which FRS may, in fact, be redistributed;
- Identify the kinds of FRS that have been distributed with particular FRLs;
- Explore developers' beliefs about the philosophical and economic benefits and rewards that appear to motivate the different forms of FRLs;
- Sift some evidence about what actual benefits and rewards result from different FRLs;
- And finally, make some suggestions to software authors as to what forms of FRL (if any) are most

appropriate depending on their individual goals.

Existing families of FRL

All FRLs have in common the requirement of retaining copyright notices and other notices attached to the software, including the FRL itself which must be propagated to all copies, and a disclaimer of warranty. FRLs differ as to:

Conditions imposed on redistribution, such as the source code availability requirement of the GNU License and the "no commercial distribution" restriction of the not-for-profit licenses;

The circumstances under which payment is required (e.g., after a certain period or if commercial use is made, as in the PKZIP license), requested (as in the typical shareware license), or prohibited (as in the GNU and Aladdin licenses);

The circumstances under which source code may or must be redistributed.

We have identified four broad groups of FRLs in current use, which we will now examine individually.

Unrestricted licenses

In addition to the requirements of FRLs in general, unrestricted FRLs generally require only an acknowledgment of authorship. FRS distributed with unrestricted licenses includes many packages widely used on the Internet, such as X Windows, the Tcl interpreter and Tk library, and the IJG JPEG, PNG, and zlib libraries.

Conditions on redistribution: sometimes none, sometimes only an acknowledgment of authorship. Incorporation in commercial products is allowed.

Payment: none.

Source code: usually available; redistribution allowed but not required.

The authors appear to wish only to preserve the integrity of the software and to ensure that they receive recognition for their work; they do not seek direct compensation for the FRS itself.

See Appendix A for a typical unrestricted FRL.

Shareware licenses

Shareware refers to software that is freely available initially, but may request or require payment after use. Shareware is the only type of FRS that almost never includes source code and that imposes conditions on use. Many packages widely available through computer bulletin boards (BBSs) use shareware licensing; it is not common on the Internet.

Conditions on redistribution: payment is typically forbidden. However, many companies sell FRS compilations on diskette or CD-ROM media, including shareware.

Payment: theoretically required for commercial use, or after a certain length of time. Payment often brings additional functionality, documentation, or services (e.g., notification of updates); this is what generally leads users to pay.

Source code: rarely available; redistribution allowed but not required.

The authors appear to wish to maintain trade secrets in the source code and control over commercial exploitation. Compensation comes through shareware fees, source code licensing, and possibly licensing for commercial redistribution.

See Appendix B for a typical shareware FRL.

GNU licenses

The GNU licenses comprise the GNU General Public License (GPL) and the GNU Library General Public License (LGPL). In our opinion, they are the most interesting of the FRLs; they are the only ones based on an explicit philosophy of software economics. The GNU licenses apply to many developer tools (GNU emacs, gcc, gdb, ...), some libraries, and a few end-user packages, all widely available on the Internet. The GNU licenses are closely identified with the Free Software Foundation, but some authors not affiliated with FSF have also chosen to distribute their software with these licenses.

We can only summarize the GPL here; we encourage readers of this paper to read the full text in Appendix D. Briefly, the GNU philosophy is that everyone who receives software should have the right and ability:

To run the program.

To modify the program.

To redistribute the program.

To improve the program and contribute to the community.

While these sound like familiar FRL requirements, they have some interesting consequences. The ability to modify and improve requires availability of source code, so the GPL requires that any distribution include either source code or a written offer to provide source code for the cost of reproduction. Regarding redistribution, the GPL goes a step further than other FRLs by stating that the GPL automatically applies to the totality of any program that incorporates GPL'ed code. This is in support of a deeper philosophy that software authors should not receive payment per copy distributed, because (as we noted in the introduction) software is essentially a public good; the FSF is dedicated to creating an entire Unix-like software environment out of GPL'ed software on this basis. However, the FSF has had to yield to economic and social factors in two areas:

> Originally, libgcc (the C runtime library associated with gcc, the GNU C compiler) was distributed with the GPL. As a result, any program linked with libgcc (i.e., essentially every program compiled with gcc) would become subject to the GPL. This was intolerable to software developers, and would have drastically reduced the usefulness of gcc. As a result, the FSF devised the LGPL, a variant of the GPL that essentially requires that if a program is linked with a LGPL'ed library, only the library is governed by the GPL terms, not the rest of the program.
>
> The FSF's software announcements include the following notice: *By ordering your GNU software from the FSF, you help us continue to develop more free software. Media revenues are our primary source of support. Donations to FSF are deductible on US tax returns.* We think this indicates the weakness of FSF's belief that software developers will receive sufficient compensation for services through the ordinary operation of the market to create FRS: FSF is essentially appealing for donations, in the form of a request to purchase something that is available at a much lower cost through the Internet.

We can now summarize the provisions of the GPL as follows:

> Conditions on redistribution: summarized above.
>
> Payment: not addressed, except that if source code is only provided by offer, the price must be limited to reproduction costs.
>
> Source code: must be available, either in the distribution or by written offer.

Compensation to authors is limited to services, as for FRS in general.

See Appendix D for the GPL. We have not included the LGPL for space reasons.

Not-for-profit FRLs (NFPLs)

The most common NFPLs are otherwise unrestricted licenses that forbid payment, and as such resemble shareware licenses. NFPL'ed software includes some packages like zip/unzip and a set of fonts developed in Russia; it also includes the most recent versions of the popular Ghostscript utility program, whose NFPL is an adaptation of the GPL.

> Conditions on redistribution: payment is forbidden.
>
> Payment: none.
>
> Source code: generally available.

Compensation to authors can come from commercial licensing of the same software under non-FR terms, as with shareware.

The Aladdin Ghostscript Free Public License (AGFPL) is an attempt to combine the sharing philosophy of the GPL with a not-for-profit restriction. Currently the AGFPL is only used with Ghostscript and one of its GUI front ends, GSview for (Microsoft) Windows and OS/2. The goal of the AGFPL is to shut out a certain class of GPL "free riders": companies that package GPL'ed software with commercial applications in a way that maintains the integrity of the former while making it seamlessly callable from the latter, which effectively (functionally) makes the GPL'ed software part of the application while respecting the letter of the GPL.

> Conditions on redistribution: payment is prohibited, including aggregating of the FRS in any transaction that involves payment (except for online distribution to the general public, and CD-ROMs on which all information is redistributable for non-commercial purposes without charge.) Other conditions are similar to the GPL.
>
> Payment: none.
>
> Source code: must be included in any distribution. This is different from the GPL, which allows including only a pointer to the source code and an offer to provide it at cost.

See Appendix C for a typical NFPL, and Appendix E for the AGFPL.

Discussion

In order for a potential user to any benefit from software, many steps are involved.

Table 1:

	Activity	Deliverable
1.	Find out the software exists.	document
2.	Find out how to get the software.	document
3.	Obtain:	
3a.	the executable software,	software
3b.	possibly source code, and	software
3c1.	on-line and/or	document
3c2.	hard copy documentation for installing and using it.	document
4.	Possibly, get assistance with installation and use.	service
5.	Possibly, do or get adaptations or enhancements	service + software

FRLs typically cover items (3a), (3c1), and possibly (3b) and (3c2). FRLs have no particular advantage for item (1). The use of a FRL makes (2) much easier: no payment requirement implies that no a priori control is needed over individual copies, so anyone can make the software available through public means like on-line services and inexpensive bulk publishing methods like CD-ROMs. For (3c2), the production cost of the documents effectively limits free redistribution even if the license permits it. Services (4) and (5) are available sources of compensation for software workers involved with FRS: the only sources for unrestricted, GPL'ed, or NFPL'ed software, and a possible source (in addition to registration or upgrade fees for (3)) for shareware.

The author's viewpoint

Any FRL provides great advantages for (2), which can in turn lead to more opportunities to provide (4) and (5). Unrestricted and GNU FRLs, however, eliminate (3) as a source of compensation. Thus the time spent creating the software itself provides no benefit to the author, other than intangible rewards and the possibility of future service work. For shareware, the FRL provides more opportunities to provide (3) for registered (paid-for) copies; for NFPL'ed software, the FRL through (2) provides greatly expanded access to the potential market for commercial licensing of (3). Thus shareware and NFP FRLs provide the greatest direct, tangible benefit to the author within the FRS paradigm, and in particular provide rewards beyond pay by the hour for future work.

Authors are in a curious position with respect to (4) and (5). Up to a point, it is to the FRS author's advantage to rush lower-quality software into distribution, since it gives the author a market presence sooner and also creates a larger demand for (4) and possibly (5). Indeed, many non-FR software companies seem to be following this line of thinking as well. Similarly, assuming that the author wishes to be in the service business, it is somewhat to the author's advantage to distribute poorly commented source code (3b) or, as is typical for shareware, no source code at all, since this makes it hard(er) for third parties to compete with the author in providing (5) and to some extent (4).

Use of the different FRLs often reflects an author's underlying attitude towards the software industry. Many authors choosing non-shareware FRLs remember, or at least are inspired by the history of, the excitement of discovery and the rewards of sharing work that characterized the early days of software in the 1960s and 70s; their experience makes it clear to them that if everyone contributes freely, everyone benefits, at least as long as both "everyones" are people like themselves. Unrestricted licenses embody this viewpoint in its purest form. The GPL takes a less trustful view, in that it attempts to compel participants to share their work. The AGFPL takes the slightly different view that those who are willing to share should get the benefits of sharing, while those whose own activities operate by commercial rules should have to follow those rules in order to obtain the benefits of software that is FR for others; this view is also implicit in other NFPLs. Shareware licenses embody an even more limited form of trust in the user. However, all FRLs require a certain degree of idealism or at least trust on the author's part.

The redistributor's viewpoint

From the commercial redistributor's point of view, FRS is not a particularly profitable business; in particular, the marginal cost of (3) through an on-line service, which all FRLs permit, is so low that FRS CD-ROM publishers may not be competitive in the long term. We expect that even (1) as a possible service niche for redistributors will be severely limited by the availability of increasingly sophisticated WWW search engines.

The third party service viewpoint

Since all FRLs except shareware require or encourage the distribution of source code, they create opportunities that do not exist with non-FRLs for third parties to provide (4) and (5). In fact, this is essentially the only source of compensation for software workers under the GPL. However, the FRS-support industry is currently minuscule: we know of only one pure FRS support and enhancement company, Cygnus Support, that has an annual revenue over $1M, even though GNU software has been widely used for over a decade. We believe there are several reasons for this:

> For reasons we will discuss in the next section, non-shareware FRS tends to be heavily oriented towards developers and other technologically oriented users rather than end users who just want a tool to solve some problem. This both reduces the market for such FRS and makes it much more likely that the people who do use it will be able and willing to investigate problems themselves. I.e., the availability of source code both expands the market for third parties doing (4) and makes it easier for users to do it themselves.
>
> If FRS is of good quality and well documented, the need for support is minimal; if the FRS is of poor quality and/or poorly documented, it is less likely that a third party will find it worthwhile to invest the effort needed to support it. Thus we would expect that there would be more people extending FRS for compensation than supporting it, and that most of the people doing either one would be the original authors. We believe that both of these are actually the case.
>
> The now widespread use of dynamic linking technology, popularized (but not invented) by the Microsoft Windows Dynamic Link Library (DLL), has led to an industry trend towards "semi-open" systems -- applications that are distributed only in binary form with non-FRLs but providing APIs that allow third parties to write extensions in the form of dynamically linked modules, which again may be distributed only as binaries with non-FRLs. This allows third parties to participate in (5) to a considerable extent even with non-FRS.

In summary, FRLs do create more opportunities for third party services, but probably not on a large scale.

The user's viewpoint

We can distinguish software users according to whether they have some involvement or interest in computer technology, or whether they simply want a piece of software to carry out some functional task like financial analysis or publishing. These groups have some overlap, but they have very different needs and expectations with regard to software they use.

The technology-involved group wants software that is functionally complete, adequately documented, and reliable. Source code and support availability are both valuable and trade off against each other to some extent. This group includes most traditional (i.e., non-4GL) software developers; they generally use workstations and high-powered PCs.

FRS can be very attractive for the technology-involved group because it allows them to get technologically advanced functionality with little initial investment and with the opportunity to explore the technology on their own. Even if a technology-involved user is acquiring software for a task-oriented purpose, such a user will be more willing to deal with quirks or minor awkwardnesses. Also, because nearly all FRS authors are technology-involved, there is likely to be a good match between the mindsets of the authors and those of the technology-involved users, which will make the software easier to understand and use.

The task-oriented group wants software that is attractively presented, well documented, easy to install and configure, designed for usability, functionally rich in their task domain and at the same time easy to use on simpler tasks, reliable, and supported. This group comprises the overwhelming majority of non-developer computer users other than students and corporate users of mainframes; they generally uses PCs and Macintoshes, in both corporate and personal environments. Competition for this market is heated in all of the just-enumerated categories. Especially in business environments, documentation, ease of installation, reliability, and support are essential; usability and price are important but secondary, and source code availability is only valuable as insurance in case the software provider (normally also the source of support) goes out of business or discontinues the product.

There is very little non-shareware FRS for task-oriented users. We speculate that the reason for this is that most software authors who are motivated by the desire to create and share technology (these authors being the main creators of FRS) have neither the interest, the skills, nor perhaps the patience to address the more user- and task-oriented design issues. The exception is shareware, which allows an author to distribute versions of software freely in the expectation that a significant fraction of those versions will turn into sales; thus authors who do not share the FRS ethic can use shareware licensing as a marketing tool. The same is true to a lesser extent of the NFPLs.

Some legal comments

Note that the author of this paper is not a lawyer; the following discussion of legal matters should not be taken as legal advice, or even necessarily fully sound from a legal perspective.

FRLs, like all software licenses, rely on copyright for their force. Like "shrink wrap" licenses, they rely on the theory that licenses that automatically takes effect upon certain actions (using a piece of software, breaking a physical wrapper) are defensible. However, since the only benefits that a FRL conveys to the copyright holder are intangible, it might be difficult to get a court to enforce a FRL, especially if (as is the case with unrestricted licenses) there are no provisions in the FRL itself that take effect upon breach; and it might be extremely difficult to get a court to award any kind of damages to the copyright holder. On the other hand, the present author knows of several situations where redistributors breaching FRLs have voluntarily cured their breach, presumably on the advice of their attorneys.

Conclusions

FRLs cover a broad enough spectrum to provide users with the benefits of FRS while catering to at least three different classes of software authors:

> Authors who are motivated only by the satisfaction and pride of creativity and public utility, or who are satisfied to be in a service business, can use an unrestricted or GNU FRL.
>
> Authors who wish to have a modest income while maintaining tighter control over their technology can use the shareware approach.
>
> Authors who want to provide the benefits of FRS to users while receiving the tangible benefits of non-FR commercial licensing can do so with a NFPL.

The rewards available to authors with pure FRLs, and the nature of end-users' expectations, make it unlikely that functionally rich, end-user-oriented FRS will be created other than as shareware; however, the FRS model can work well for more developer-oriented applications. It will be interesting to see how FR and non-FR software compete in the emerging domain of reusable components.

Acknowledgments

Thanks to Richard M. Stallman for originating the GPL and the LGPL, and for discussions on the philosophy of free software.

Thanks to Stephen J. Turnbull, of the Institute of Socio-Economic Planning at the University of Tsukuba, Japan, for his comments on FRS from an economist's perspective. The author, of course, assumes full responsibility for the use to which he has put those comments in this paper.

References: software sites

Shareware is generally distributed in the PC and Macintosh world through non-networked bulletin board systems (BBSs), of which there are many thousands in operation. To find ones near you, look in any local newspaper or magazine that reaches a computer-involved audience.

You can order GNU software on CD-ROM from the Free Software Foundation. For ordering info, send e-mail to gnu@prep.ai.mit.edu or contact the FSF:

> Free Software Foundation 59 Temple Place - Suite 330 Boston, MA 02111-1307, USA 1-617-542-5942

GNU software is also available from the following FTP sites:

> ASIA: ftp.cs.titech.ac.jp, utsun.s.u-tokyo.ac.jp:/ftpsync/prep, cair-archive.kaist.ac.kr:/pub/gnu, ftp.nectec.or.th:/pub/mirrors/gnu
>
> AUSTRALIA: archie.au:/gnu (archie.oz or archie.oz.au for ACSnet)
>
> AFRICA: ftp.sun.ac.za:/pub/gnu
>
> MIDDLE-EAST: ftp.technion.ac.il:/pub/unsupported/gnu
>
> EUROPE: irisa.irisa.fr:/pub/gnu, ftp.univ-lyon1.fr:pub/gnu, ftp.mcc.ac.uk, unix.hensa.ac.uk:/mirrors/uunet/systems/gnu, src.doc.ic.ac.uk:/gnu, ftp.ieunet.ie:pub/gnu, ftp.eunet.ch, nic.switch.ch:/mirror/gnu, ftp.informatik.rwth-aachen.de:/pub/gnu, ftp.informatik.tu-muenchen.de, ftp.win.tue.nl:/pub/gnu, ftp.nl.net, ftp.etsimo.uniovi.es:/pub/gnu ftp.funet.fi:/pub/gnu, ftp.denet.dk, ftp.stacken.kth.se, isy.liu.se, ftp.luth.se:/pub/unix/gnu, ftp.sunet.se:/pub/gnu, archive.eu.net
>
> SOUTH AMERICA: ftp.inf.utfsm.cl:/pub/gnu,

ftp.unicamp.br:/pub/gnu

WESTERN CANADA: ftp.cs.ubc.ca:/mirror2/gnu

USA: wuarchive.wustl.edu:/systems/gnu, labrea.stanford.edu, ftp.digex.net:/pub/gnu, ftp.kpc.com:/pub/mirror/gnu, f.ms.uky.edu:/pub3/gnu, jaguar.utah.edu:/gnustuff, ftp.hawaii.edu:/mirrors/gnu, uiarchive.cso.uiuc.edu:/pub/gnu, ftp.cs.columbia.edu:/archives/gnu/prep, col.hp.com:/mirrors/gnu, gatekeeper.dec.com:/pub/GNU, ftp.uu.net:/systems/gnu

Here are some Internet sources for other FRL'ed packages mentioned in this paper. Most of these packages are widely "mirrored" around the world.

Tcl and Tk (unrestricted FRL): ftp.smli.com:/pub/tcl/*

IJG JPEG library (unrestricted FRL, library): ftp.uu.net:/graphics/jpeg/jpegsrc.v*.tar.gz, oak.oakland.edu:/SimTel/msdos/graphics/jpgsrc*.zip

PNG library (unrestricted FRL, library): swrinde.nde.swri.edu:pub/png/src/lbpng081.zip or libpng-0.81.tar.gz

zlib (unrestricted FRL, library): swrinde.nde.swri.edu:pub/png/src/zlib095.zip or zlib-0.95.tar.gz

zip/unzip (NFPL): ftp.uu.net:/pub/archiving/zip/...

Malyshev fonts (NFPL): ftp.tex.ac.uk:/tex-archive/fonts/postscript/cm, also on ftp.dante.de and ftp.shsu.edu

Aladdin Ghostscript (AGFPL): ftp.cs.wisc.edu:/ghost/aladdin/* (consult Index)

GSview for Windows and OS/2 (AGFPL): ftp.cs.wisc.edu:/ghost/rjl/* (consult Index)

Biographical information

L. Peter Deutsch received the Ph.D. in Computer Science from U.C. Berkeley in 1973. His career has included major work in operating systems (SDS 940 time-sharing system) at Berkeley, and on integrated programming environments (Interlisp, Cedar Mesa, and Smalltalk-80) at Xerox PARC and ParcPlace Systems. Since 1986, Dr. Deutsch has been President of Aladdin Enterprises, a consulting business that offers for licensing a highly portable, high-performance implementation of the PostScript language developed by Dr. Deutsch that is also available under a free license from the Internet under the name Ghostscript. Dr. Deutsch was a co-recipient of the ACM 1992 Software System Award for his work on Interlisp, and in 1993 was named a Distinguished Alumnus of the U.C. Berkeley Computer Science program. Dr. Deutsch is a member of ACM, IEEE, CPSR, and the League for Programming Freedom. He may be reached at: Aladdin Enterprises, 203 Santa Margarita Ave., Menlo Park, CA 94025 U.S.A., tel. +1-415-322-0103 (8:30 AM - noon), fax +1-415-322-1734, e-mail <lpd@aladdin.com>.

Appendices: sample FRLs

Appendix A: an unrestricted FRL

This is the license that accompanies the zlib library.

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2. Altered source versions must be plainly marked as such, and must not be misrepresented as being the original software.

3. This notice may not be removed or altered from any source distribution.

Jean-loup Gailly Mark Adler
gzip@prep.ai.mit.edu madler@alumni.caltech.edu

If you use the zlib library in a product, we would appreciate *not* receiving lengthy legal documents to sign. The sources are provided for free but without warranty of any kind. The library has been entirely written by Jean-loup Gailly and Mark Adler; it does not include third-party code.

If you redistribute modified sources, we would appreciate that you include in the file ChangeLog history information documenting your changes.

Appendix B: a shareware license

CompuShow SHAREWARE Standard Version 8.60a [02-03-1993]

 This program is copyrighted software. However, you are encouraged to copy and share it with others, so long as no charge is made for the software, and it is unmodified and copied in its entirety. If you use this ShareWare program beyond a 21 day "trial period", you must register. As a registered user, you will receive a copy of the enhanced program, which includes all features of this standard program plus: Printing of all graphics formats on most dot-matrix and laser printers! An automated Slide Show! A Setup program to change screen colors and options! See the program documentation (at your DOS prompt, execute README) for instructions and a registration form.

Thank you for your support: Bob Berry CompuServe [76555,167] Canyon State Systems and Software Internet 76555.167@compuserve.com Post Office Box 86 GE Mail R.BERRY7 Sedona, Az. 86339-0086 BBS (602) 282-9035 Voice (602) 282-5070

Appendix C: a not-for-profit FRL

Licensing agreement

The author of this fonts grants to any individual or non-commercial organization the right to use and to make an unlimited number of copies of full collection or selected fonts when this is done WITHOUT CHARGE and has attached this licence agreement.

This fonts cannot be sold or distributed with any commercial product without written authorization from the author. If you want to charge a small fee for distribute fonts as is or with any software, you should contact the author.

This restriction is not intended to apply to connect time charges, or flat rate connection/download fees for electronic bulletin board services.

Basil K. Malyshev (E-Mail: malyshev@mx.ihep.su), 22-Dec-1993, Protvino, Russia.

Appendix D: the GPL

GNU GENERAL PUBLIC LICENSE Version 2, June 1991

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Library General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE

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