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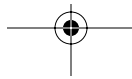
Freedom and Open Source

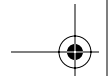
The Language of Freedom

Open source licenses promise to everyone what many in the community refer to as *software freedom*. The terminology of *freedom* is emotionally satisfying, but it has proven to be very confusing.

Freedom is an important subject in law school. Constitutional law courses address such topics as the *free speech* clause of the First Amendment to the U.S. Constitution. But freedom seldom comes up as a topic in classes devoted to business issues such as contract or tort law, or software licensing. Law school courses on intellectual property deal with copyright and patent, but they don't teach about freedom, referring instead to the *rights* of the owners of those legal monopolies. As a result, there is no easy conceptual basis for integrating the language of freedom into the legal language of software licenses. For example, where the word *free* is currently used in software licensing contexts, it usually means *zero*, as in *free of charge* or *free of defects*. Neither of these meanings is intended by open source licenses.

Not that *software freedom* isn't definable. The Free Software Foundation lists four essential kinds of software freedom:





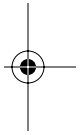
1. The freedom to run the software for any purpose
2. The freedom to study how the software works and to adapt it to your needs
3. The freedom to redistribute copies of the software
4. The freedom to improve the software and distribute your improvements to the public

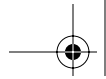
That list, it turns out, can be satisfied by many different software licenses. Both the GPL and the BSD licenses, the earliest open source examples from the late 1980s, ensure those four kinds of software freedom, although they do it in vastly different ways.

Proprietary software vendors love the software freedom provided by the BSD license, but some of them hate and fear the software freedom guaranteed by the GPL. So once again, the concept of *freedom* by itself is only marginally helpful to understanding open source licensing.

Defining Open Source

Confusion about the term *freedom* was the very reason the term *open source* was created. The newer term refers to an important concept well understood by anyone who has ever written computer software: Programmers write *source code* to direct computers to perform specific tasks, while the computer itself takes care of the routine task of translating the source code into an executable program. For a computer programmer, understanding and modifying software requires access to the source code. The source code must be *open*—made avail-





able for all to see—in order that the software can be studied, changed, and improved.

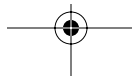
Open source code is an essential requirement for software freedom, a technical prerequisite. *Software freedom* is the goal; *open source* is the means to that goal.

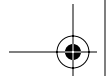
The term *open source* has caught on in the media and in public discourse. It is now possible to ensure that open source licenses promote software freedom without using the confusing word *freedom* at all. We now mostly refer to *open source software* when we also mean *free software*.

Simply changing the name we call something, however, doesn't eliminate existing ambiguities. We still need a definition—a brief set of open source principles—that summarizes what open source means and provides guidelines for open source licenses.

In 1997, Bruce Perens proposed the Debian Free Software Guidelines to reflect the new open source terminology, to avoid confusion about the term *free software*, and to clarify certain other issues about acceptable licenses. Those guidelines were refined in a month-long email discussion and finally adopted by consensus as the Open Source Definition. (Perens wrote about this history in *Open Sources: Voices from the Open Source Revolution*. [O'Reilly 1999].) Originally consisting of nine criteria for licenses, the Open Source Definition had a tenth guideline added in 2002.

Licenses that meet these criteria are approved by the Open Source Initiative (OSI) board of directors. Software that is distributed in source form under such approved licenses is *OSI Certified open source software*. License approval has become a prerequisite for widespread adoption of software by the open source community; such organizations as SourceForge, for example, will only permit software licensed under an OSI-approved license to be hosted on their website.





Here, in summary form, is the most recent version of the Open Source Definition (OSD) from the website of OSI, www.opensource.org.

1. Free Redistribution

The license shall not restrict any party from selling or giving away the software as a component of an aggregate software distribution containing programs from several different sources. The license shall not require a royalty or other fee for such sale.

2. Source Code

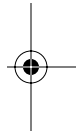
The program must include source code, and must allow distribution in source code as well as compiled form. Where some form of a product is not distributed with source code, there must be a well publicized means of obtaining the source code for no more than a reasonable reproduction cost, preferably downloading via the Internet without charge. The source code must be the preferred form in which a programmer would modify the program. Deliberately obfuscated source code is not allowed. Intermediate forms such as the output of a preprocessor or translator are not allowed.

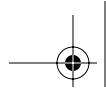
3. Derived Works

The license must allow modifications and derived works, and it must allow them to be distributed under the same terms as the license of the original software.

4. Integrity of the Author's Source Code

The license may restrict source code from being distributed in modified form only if the license allows the distribution of "patch files" with the source code for the purpose of modifying the program at build time. The license must explicitly permit





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distribution of software built from modified source code. The license may require derived works to carry a different name or version number from the original software.

5. No Discrimination Against Persons or Groups

The license must not discriminate against any person or group of persons.

6. No Discrimination Against Fields of Endeavor

The license must not restrict anyone from making use of the program in a specific field of endeavor. For example, it may not restrict the program from being used in a business, or from being used for genetic research.

7. Distribution of License

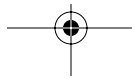
The rights attached to the program must apply to all to whom the program is redistributed without the need for execution of an additional license by those parties.

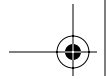
8. License Must Not Be Specific to a Product

The rights attached to the program must not depend on the program's being part of a particular software distribution. If the program is extracted from that distribution and used or distributed within the terms of the program's license, all parties to whom the program is redistributed should have the same rights as those that are granted in conjunction with the original software distribution.

9. License Must Not Restrict Other Software

The license must not place restrictions on other software that is distributed along with the licensed software. For example, the license must not insist that all other programs distributed on the same medium must be open source software.





10. License Must Be Technology-Neutral

No provision of the license may be predicated on any individual technology or style of interface.

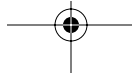
This Open Source Definition has itself created some confusion. It replaced certain vague concepts in the Free Software Guidelines with some equally vague concepts about discrimination, authors' integrity, and software redistribution. Public discussions about license approval sometimes become arguments about what the OSD itself means.

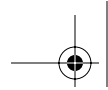
Lawyers point out that the OSD uses words like *shall not* and *must* and *may* in inconsistent ways. For example, the phrase *must allow* means different things in the two places it is used in one sentence.

The license must allow modifications and derived works, and must allow them to be distributed under the same terms as the license of the original software. (OSD # 3.)

The first part of this provision is interpreted to mean that a license *must allow a licensee to create derivative works*. The second part, however, is interpreted to mean that a license *may require (but need not require)* that the same license be used to distribute those derivative works and also that a license *may not forbid* licensing derivative works under the same license.

Even the two sentences of OSD # 1, with their uses of *shall not restrict* and *shall not require*, confuse many new visitors to open source. One of the most frequent first questions people ask is, "Is all open source software zero price?" No. Most open source licensees will be glad to take your money for your first copy of a piece of software. But you never have to pay a royalty or license fee for the right to make copies. It would be better if OSD # 1 phrased this point better.

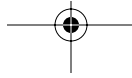


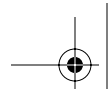


The Open Source Definition is in some respects mandatory (e.g., under OSD # 1 and 2, licenses *must* permit copying of the software and the creation of derivative works) and in some respects permissive (e.g., under OSD # 4, a license *may* provide mechanisms to protect the author's integrity). Some suggest that an OSD provision that is merely permissive should be left to market forces and should not be part of a definition of what constitutes *open source*.

The word *discrimination* in various places in the OSD is also confusing. Every software license discriminates in favor of those who accept and honor its terms (the *licensees*) and discriminates against those who use the software but don't accept and honor its terms (the *infringers*). The word *discrimination* has colloquial meanings that may not have been intended by the OSD. For example, because certain reciprocal licenses like the GPL are unacceptable to certain proprietary software companies, the license has been said to *discriminate* against those proprietary software companies; others say that is merely discriminating against nonlicensees who refuse to accept the license terms and conditions.

While most in the open source community agree that non-discrimination is a commendable goal in the abstract, the community has been unable to agree about what constitutes discrimination. In many jurisdictions around the world, discrimination on the basis of race, age, religion, national origin, sex, sexual orientation, health status, and other personal characteristics is always illegal. How does discrimination against field of endeavor in OSD # 6 fit into that list? The laws of some countries may prohibit the use of certain software by persons or groups (e.g., the export control laws of the United States are discriminatory on purpose); don't such laws mandat-





ing discrimination override the anti-discriminatory provisions of a mere software license? Is such software still open source?

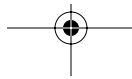
Certain provisions of the OSD have proven to be of no great importance. In OSD # 7, because the reference is to an *additional license*, it is not clear what role this OSD provision can ever play, as a practical matter, when reviewing *this license* for approval. As to OSD # 8, the Open Source Initiative website mysteriously says only that this provision “forecloses yet another class of license traps.” This issue has never arisen concerning any present open source license. Furthermore, OSD # 9 is probably unnecessary because it protects against something that would probably be illegal on antitrust grounds wherever it really mattered. Its use of the phrase *other programs distributed on the same medium* is far too narrow to adequately describe what a distributor actually does with software.

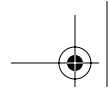
Many OSD provisions deal with the *distribution of software*. Some have criticized the OSD because it doesn't directly address the *use of software*. This is not entirely valid because the rights to copy, to create derivative works, and to distribute are essential for the use of open source software. But nothing in the OSD actually makes that point directly.

Open Source Principles

In preparing this book, I found that the official Open Source Definition was simply too confusing to focus readers on what really matters most about open source licenses. Therefore, I have chosen to rely on a somewhat different set of Open Source Principles to describe software that is *open source*.

These Open Source Principles are different from but consistent with the official Open Source Definition and with the Free Software Guidelines quoted earlier.





They guide us to what I believe are the key things to look for in open source licenses—and the key things we’ll find missing in non–open source licenses.

It will be useful to keep these Open Source Principles in mind as I describe specific open source licenses later in this book. You may also find the brief explanations of each principle helpful later in this book as I explore various actual open source license provisions and the laws relating to licenses and contracts.

1.

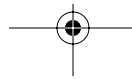
Licensees are free to use open source software for any purpose whatsoever.

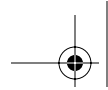
An open source license may not interfere in any way with the use of the software by licensees. Restrictions on use, such as “for research and noncommercial purposes only,” are not allowed in open source licenses. The phrase *free to use* is also intended to mean “without any conditions that would impede use,” such as a requirement for the licensee to report uses to the licensor, or to disclose the means or manner of internal uses of the software. Note also that the first word, *licensees*, means that *open source software is only available under the terms of a license to which each licensee must agree.*

2.

Licensees are free to make copies of open source software and to distribute them without payment of royalties to a licensor.

This principle does not mean that a licensor cannot sell open source software. It merely says that a licensee need not pay the licensor for additional copies he makes himself, even if those copies are distributed to others. As a practical matter,





this open source principle drives the price of mere copies of open source software toward its marginal cost of production and distribution.

3.

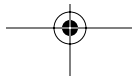
Licensees are free to create derivative works of open source software and to distribute them without payment of royalties to a licensor.

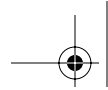
Quality software is built upon the foundations of earlier software. Many advocates of free and open source software contend that the requirement for open source licenses to permit the unhindered creation and distribution of *derivative works* is essential to meet the goal of the intellectual property laws as stated in the U.S. Constitution, “to promote the progress of science and the useful arts.” Under this open source principle, a licensor cannot charge a royalty for the privilege to create and distribute derivative works, or require a licensee to pay a royalty for copies of a derivative work that are distributed, or impose any restrictions on the type or character of those derivative works.

4.

Licensees are free to access and use the source code of open source software.

Source code is written in a human language to instruct a computer how to perform certain functions. Since the source code must be changed in order to instruct the computer to perform different functions, access to the source code is essential to make the third open source principle—the freedom to create derivative works of open source software—a practical reality. Source code is a means to an end, not the end itself. The phrase *free to access* merely requires the licensor to make





source code available to licensees upon request at zero price, not necessarily to distribute the source code to everyone.

5.

*Licensees are free to combine
open source and other software.*

Open source licenses may not impose conditions or restrictions on other software with which the licensed software is merely combined or distributed. This prevents restrictions regarding what other software can be placed on computer storage media or in computer memory. Open source is but one of many possible business and licensing models for software distribution, and customers must be free to select and use those software alternatives. This open source principle does not mean that licensors cannot impose reciprocal conditions upon licensees who create and distribute derivative works, for the activity of creating derivative works is not the same as merely combining software on media or on computers.

