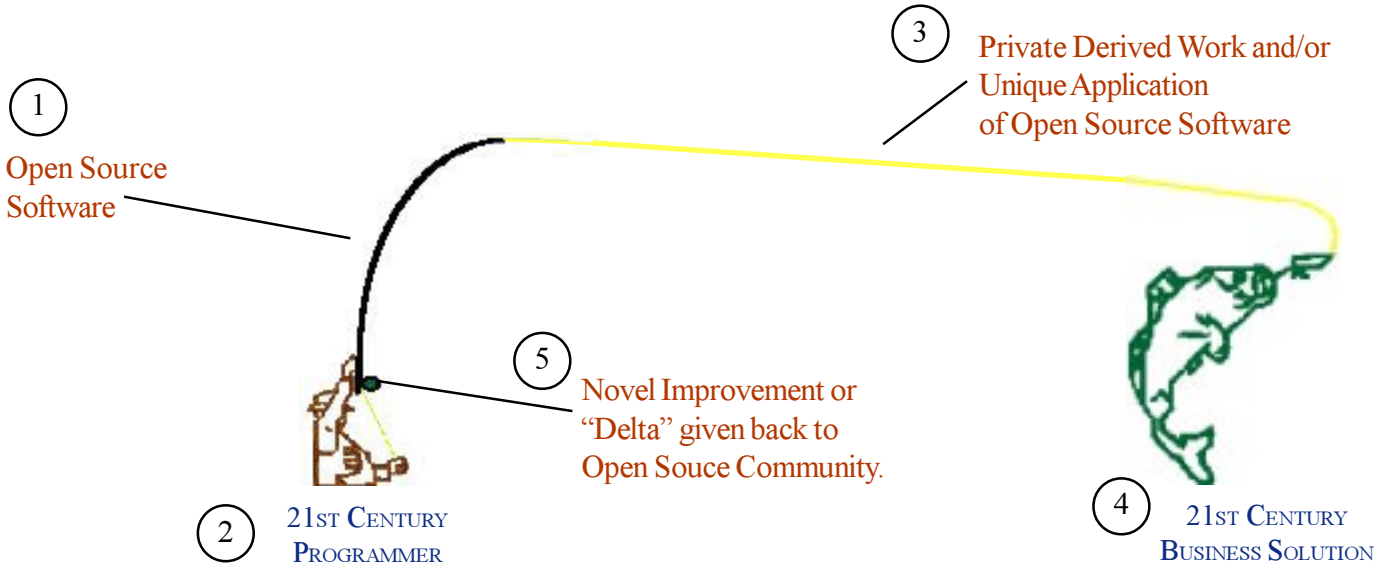
OPEN SOURCE SOFTWARE

n. 1. Software capable of rapid growth, sustained evolution, low overhead, and high reliability. 2. A development practice featuring direct user involvement, global expertise, and a dynamic round-the-clock response. 3. A new requirement for serious professional software in our changing world.

v. Promoting the Progress of Science and useful Arts by explicitly guaranteeing that all may freely build upon the ideas and information conveyed by a software work.

s. Fishing Rod for the 21st Century.

ANATOMY OF SUCCESSFUL 21ST CENTURY SOFTWARE DEVELOPMENT



Here we see a programmer in the future, probably not you, who is using open source software to solve a diverse 21st century problem.

She uses the rod skillfully since it is a familiar tool, time tested, and very flexible. The tool has been known to her since high school where she stayed up all night learning the details of its operation. In fact, it's so familiar it has become an extension of her mind, leaving her free to concentrate on the details of the business problem given to her.

She finds that she must modify the open source software to catch Wombles. The first author, probably you, had only intended for the rod to catch Frogs, but as it turns out, the private derived work is a simple modification.

While modifying the software to catch Bass, she discovers a loose binding caused by a rare mis-alignment occuring on a word boundary. Lucly, it's an easy fix, and no doubt everyone would love to have the fix, so she publishes it on the Internet -- where she finds that someone found a wobble in the handle and had fixed that as well. Wow! Too fixes for the price of one.

Oh, and yes, we forgot about the magnificent catch. And only a week to get it to work! Way ahead of schedule.

RETURN ON INVESTMENT

- Developing software is a large investment and has substantial risk.

People sell or license software to generate a return on their investment.
Legally, this is done through the combination of three mechinisms:

- Copyright Law
- Patent Law
- Trade Secret / Other Agreements

Since we are talking about Open Source Software, we will only focus on the first two.
Trade Secret protection, Non-Disclosure agreements, and Non-Compete agreements are very good protection in many cases, but are not mass-market solutions.

The first two, and licenses derived from them, have been effectively used in shrink-wrap software and are the focus of the discussion.

PATENT LAW

Patents are used to protect ideas.

To be patentable, an invention must be new, useful and nonobvious. In addition, the inventor must fully describe and disclose the invention for which patent protection is sought in a patent application. If the PTO determines that all the patentability requirements have been met for the invention for which patent protection is requested, a patent will be granted to the applicant.

Patent protection is available in the United States for inventions without differentiation as to the field of technology: "any new and useful process, machine, manufacture, or composition of matter" can be patented. Despite this breadth, certain limits do exist on what can be patented. For example, a person cannot patent a process that consists exclusively of the steps one would follow to apply a mathematical principle to solve a mathematical problem. Discoveries, laws of nature, mathematical algorithms, abstract ideas, and methods of doing business and the like are not eligible for patent protection. See 35 U.S.C. § 101 (1988) and Diamond v. Diehr, 450 U.S. 175, 185 (1981)

Once it is determined that an applicant has requested protection for subject matter that is eligible to be patented, the examination process shifts to evaluate the substantive merits of the invention. This evaluation is performed to determine if the invention is "novel" and "non-obvious." The PTO performs this evaluation by comparing the invention undergoing examination to the "prior art." Generally speaking, prior art includes information that is publicly available prior to the filing date of a patent application. An invention satisfies the novelty requirement if it differs in any material way from what is known in the "prior art."

An invention satisfies the nonobviousness requirement if a "person of ordinary skill in the art" would not have viewed the invention as having been obvious in view of the prior art at the time the invention was made.

An applicant must also satisfy a number of requirements that govern the contents and form of a patent application. A patent application consists of a specification and claims. The claims of a patent define the metes and bounds of the invention by specifically defining the features of an invention which are protected. Among other things, Section 112 requires that the inventor provide an adequate disclosure of the invention that the applicant has claimed. A disclosure is adequate when it enables a person of ordinary skill to "practice" the invention as claimed without undue experimentation or effort. Section 112 also requires that the inventor disclose the "best mode" of practicing the invention known to him. The requirements of Section 112 serve to ensure that the patent provides a high-quality, technically accurate disclosure of the invention.

Once issued, a patent grants its owner the exclusive right to prevent others from making, using, offering for sale, or selling the claimed invention in the United States, or importing the claimed invention into the United States. A patent owner is given a term of protection that begins on the date the patent is granted and ends 20 years from the date the application leading to the patent was filed.

COPYRIGHT

The Constitution of the United States provides that Congress has the power to "promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries." Here are some comments from the Supreme Court:

[I]t should not be forgotten that the Framers intended copyright itself to be the engine of free expression. By establishing a marketable right to the use of one's expression, copyright supplies the economic incentive to create and disseminate ideas. (Harper & Row, Publishers, Inc. v. Nation Enterprises, 471 U.S. 539, 558)

We have often recognized the monopoly privileges that Congress has authorized, while "intended to motivate the creative activity of authors and inventors by the provision of a special reward," are limited in nature and must ultimately serve the public good. (Fogerty v. Fantasy, Inc., 114 S. Ct. 1023, 1029)

The primary objective of copyright is not to reward the labor of authors, but "[t]o promote the Progress of Science and useful Arts." To this end, copyright assures authors the right in their original expression, but encourages others to build freely upon the ideas and information conveyed by a work. (Feist Publication, Inc. v. Rural Telephone Service Co.)

Congress also interpreted the clause when it enacted the Copyright Act of 1909:

The enactment of copyright legislation by Congress under the terms of the Constitution is not based upon any natural right that the author has in his writings, . . . but upon the ground that the welfare of the public will be served and progress of science and useful arts will be promoted by securing to authors for limited periods the exclusive rights to their writings . . . .

By granting authors exclusive rights, the authors receive the benefit of economic rewards and the public receives the benefit of literature, music and other creative works that might not otherwise be created or disseminated. The public also benefits from the limited scope and duration of the rights granted. The free flow of ideas is promoted by the denial of protection for facts and ideas. The granting of exclusive rights to the author "does not preclude others from using the ideas or information revealed by the author's work."

While copyright law "ultimately serves the purpose of enriching the general public through access to creative works," copyright law imposes no obligation upon copyright owners to make their works available. While it is hoped that the potential economic benefits to doing so will induce them, copyright owners are not obligated to provide access to their works -- either during the term of protection or after. Hence, unpublished works never distributed to the public are granted as much (if not more) protection as published works. However, once an author publishes a work, copies of the work must be deposited with the Library of Congress for the benefit of the public.

COPYLEFT

Copyleft was invented by Richard Stallman in the mid-80's as a way to keep software he was distributing 'free' to stay 'free'.

By 'free software' RMS means that the software comes "with permission for anyone to use, copy, distribute, either verbatim or with modifications, either gratis or for a fee. In particular, this means that source code must be available -- If it's not source, it's not software."

If he released his software into the public domain (not copyrighted) then someone could modify and build off his work and release it without returning anything back to the community. They could be a 'free rider'.

CopyLeft says that anyone who redistributes the software, with or without changes, must pass along the freedom to further copy and change it. Copyleft guarantees that every user has freedom.

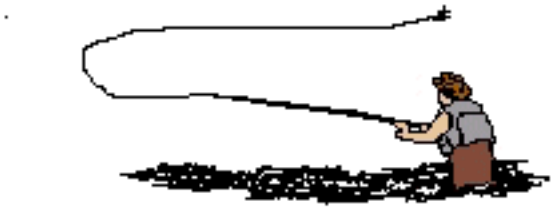
Copyleft provides an incentive for other programmers to add to free software. Important free programs such as the GNU C++ compiler exist only because of this.

Copyleft also helps programmers who ant to contribute improvement to free software get permission to do that. There programmers often work for companies or universities that would do almost anything to get more money. A programmer may want to contribute her changes to the community, but her employer may want to turn the changes into a proprietary software product.

When we explain to the employer that it is illegal to distribute the improved version except as free software, the employer usually decides to release it as free software rather than throw it away.

To copyleft a program, we first copyright it; add distribution terms; which are legal instrument that gives everyone the rights to use, modify, and redistribute the program's code or any program derived from it but only if the distribution terms are unchanged. Thus the code and the freedoms become legally inseparable.

Proprietary software developers use copyright to take away the users freedom; we use copyright to guarantee their freedom. That's why we reverse the name, changing 'copyright' to 'copyleft'



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Notes:

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(3) OS Kit and Quick Time License require payment if the product, or any dertivitive products are used "commercial" purposes. These are defined as those non-home, non-501(c3), or non-educational uses. They are free for "non-commercial use". PGP and the PSL are also examples of "semi-free" software such as these.

(4) The Java JDK has restrictions about works created with the product. Namely, all interfaces created must be published publicy. It also has similar terms as the Microsoft agreement. Once again, it is choice that you are giving up.

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