# Proposal for a C++ Library Repository Web Site

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## Introduction

A world-wide web site containing a repository of free C++ class libraries would be of great benefit to the C++ community. Although other sites supply specific libraries or provide links to libraries, there is currently no well-known web site that acts as a general repository for C++ libraries. The vision is of a site where programmers can find libraries they need, post libraries they would like to share, and act as a focal point to encourage innovative C++ library development. An online peer review process is envisioned to ensure library quality with a minimum of bureaucracy.

Secondary goals include encouraging effective programming techniques and providing a focal point for C++ programmers to participate in a wider community. Additionally, such a site might foster C++ standards activity by helping to establish existing practice.

While involving programmers in a community centered around an attractive web site is a lofty goal, long run success requires high quality libraries. That means making it easy and rewarding to submit libraries, yet providing a filtering mechanism to eliminate well-meaning but sophomoric submissions. An online peer review process seems a reasonable starting point. Initially a library would be posted in a probationary area of the site and only accepted into the repository if it received favorable peer reviews. Programmers will be encouraged to sign up as peer reviewers, but will have to identify themselves and post a capsule biography.

A guiding principal is to encourage wide participation and interaction. Get people involved, in newsgroups, mailing lists, as peer reviewers, library contributors and maintainers, and as moderators and webmasters. And, of course, as library users.

The idea is not to set up an organization which happens to have a web site. Rather, the web site **is** the organization. Like all good web sites, and all good organizations, it will evolve over time.

## Site Map

An initial site map might look something like this:

Home Page
    Libraries
        Overview: What the library does, target audience, requirements for successful use.
        The actual C++ headers and source files available for download.
        Documentation.
        Link to biography
        Peer reviews. Pros and cons as seen by peer reviewers. Links to biographies.
        User experience reports. Similar to book reviews in online book stores.
    Proposed libraries. These are probationary libraries awaiting peer review.
    News. Descriptions of recent changes to the site.
    Discussion. Initially via mailing lists, I suppose (?) How to sign up, etc.
    Biographies (including library authors, peer reviewers, moderators, and webmasters)
        Short biography of each participant, preferably with picture.
    Call for volunteers.
        For each kind of volunteer, a description of what's involved and how to get started.
    Call for libraries.
        Requirements for libraries.
        Guidelines for libraries.
        How to submit a library.

Since the site and its libraries are intended to appeal to a broad cross section of the C++ community, the site should not appear biased toward particular operating systems or web browsers. Formats of downloadable files should be portable, such as ASCII text, PDF, or HTML.

## Questions and (proposed) Answers

**How is a library accepted for posting on the site?** An initial review by a moderator filters out libraries which do not meet the absolute requirements (must be C++, ownership clear, acceptable format, etc.) The library is then posted in the Proposed section. If it receives sufficient peer review support, and after possible revisions by the author, it is moved to the regular library section. If a proposed library does not garner sufficient peer review support after some period of time, it will be removed. The author is free to rework and resubmit libraries which did not pass initial muster. This is encouraged, particularly when reviewers liked the idea but felt too many details were lacking on the initial submission.

**Is there any assurance libraries actually work as claimed?** No. The peer review process will hopefully eliminate the most seriously flawed libraries, but a well constructed library with hidden defects is likely to slip through. Encouraging ordinary users to report their experience with a library is intended to address such concerns. Such user experience reports become part of the information about each library.

**Who does the peer reviews?** Volunteer peer reviewers.

**What are the qualifications for becoming a peer reviewer?** Peer reviewers must identify themselves, and provide a capsule biography. The moderators may try to filter out people who don't appear to have a reasonable background. But as with similar organization, there can be a tension between the need to get people involved and the need for quality volunteers.

**How does someone become a peer reviewer?** Sign up via the web site.

**What criteria must a library meet to be accepted for?** To encourage library submission and give the peer review process a chance to do its job, absolute requirements should be kept to a minimum. But copyright and other legal requirements must always be met, and the library must be provided in an acceptable format. Other absolute requirements will probably evolve over time.

**Are there guidelines for peer reviews?** A checklist for peer reviews is envisioned.

**Are commercial libraries requiring a fee acceptable?** No. However, a library that a commercial enterprise makes available without fee is acceptable. If the description of the library makes a low-key plug for the supplier, that seems acceptable as long as the library delivers real value and isn't just a Trojan horse for the plug. Peer reviewers make up their own minds on issues like this.

**Are shareware libraries acceptable?** No. At least initially, only free libraries will be accepted.

**Must full source code be provided?** Yes, these are source code libraries.

**What about documentation?** A very simple library might get peer review support with only a well commented header file. For more substantial libraries, some form of documentation is certainly going to be expected by peer reviewers.

**Are platform specific libraries acceptable?**

**Must a library do useful work?** No. A library meant as a teaching example or demonstration might not actually do any work, but that is fine if the peer reviewers support it.

**Who owns the libraries?** Presumably most authors will wish to retain ownership.

**What support is available for the libraries?** Newsgroups or mailing lists may provide some peer support.

**Who will provide the initial libraries?** The intent is to seed the site with some interesting libraries. This will involve some arm twisting of people believed to be possible library authors.

**Who will do the work?** Part of the point of circulating this proposal is to find volunteers to be the initial moderators, webmasters, peer reviewers, and library providers. Constructive criticism is also needed.

**What is the relationship between the site and the C++ Standards Committee?** None. Certain people participate in both activities, but that reflects individual preference rather than any formal relationship.

**Will the libraries become part of the next C++ Standard?** No. But to the extent a library becomes "existing practice", the likelihood increases that someone might propose it for future standardization.

**Is the site a commercial business?** No. It is just some people getting together as a kind of cyberspace civic association. If it ever needs to incorporate, it would most likely be as non-profit organization.

**Who will supply the financial support?** A volunteer is paying for initial site hosting. Luckily, the out-of-pocket cost for hosting a web site is very low.

**Is there any charge for being a volunteer?** No. Unlike the standards committees, you don't have to pay to volunteer!

**Will a count of downloads for each library be available online?** Hopefully, yes. Details depend to on host site support to some extent.

**Will the site include material beyond libraries?** The main focus is on libraries, but if people contribute occasional articles or other material to make the site more interesting, that could be a nice fit.

**Will there be links to other sites?** Probably a few. But because of maintenance and other issues, links should be used sparingly.

**Are there any newsgroups or mailing lists associated with the site?** Some kind of participatory group discussion will be an important part of the community, but details are undecided.

**How will the web site get started?** During the initial development period, access will be limited (via password) to a select group of people interested in contributing to the startup effort. A mailing list will provide a channel for discussion and constructive criticism. Once the site is functioning satisfactorily, access will be opened to all and an announcement will be made through the usual newsgroups.

## History

Beman Dawes and Robert Klarer developed the idea for the web site during a series of corridor conversations at the March, 1998, meeting of the C++ standards committee in Sophia Antipolis, France.