Chapter 4
Streamlining Access to Library Resources with LibX

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ABSTRACT
LibX is a platform that allows libraries to create customized web browser extensions that simplify direct access to library resources and services. LibX provides multiple user interfaces, including popups, context menus, and contextualized cues to direct the user’s attention to these resources. LibX is supported by two toolbuilder applications - the Edition Builder and the LibApp Builder – which allow anyone to create, manage, and share LibX configurations and applications. These tools automate the process of software creation and distribution, allowing librarians to become software distributors. This chapter provides background and history of the LibX project, as well as in-depth analysis of the design and use of the LibX Edition Builder that has helped enable its success.

INTRODUCTION
Web-based resources and applications have taken on a dominant role in the daily workflow of researchers, students, and librarians alike. LibX (Bailey & Back, 2006) is a platform that allows libraries to provide services for these users at the point of need, by creating a presence for a library inside a user’s browser. A plug-in, installed by the user, provides users with quick access to a library’s catalogs, databases, and resources such as web services. Such access is provided through search interfaces, including popups and context menus, as well as through specially crafted “cues” embedded into pages a user visits which enrich those pages with metadata such as bibliographic record, holdings, and/or real-time circulation information.

LibX’s widespread deployment and adaptation was enabled through the use of two accompanying toolbuilder applications: the LibX Edition Builder and the LibX Libapp Builder, both of which are web-based. The LibX Edition Builder enables librarians and interested members of a local...
community to create a LibX Edition, which is a customized configuration reflecting the resources and services available to that particular community. The Libapp Builder allows the creation of Libapps (library applications) that interact with web pages a user is visiting. Both design tools that allow community-based sharing and distribution of editions and Libapps, respectively.

This chapter will present the history of the LibX project, from its early conception to its present state, explain the motivation, design, and functionality of the Edition Builder and Libapp Builder tools, and discuss the user experiences we collected. LibX meets the theme of this book, “robots in the library,” in two significant ways: not only does the LibX plug-in itself help automate workflows such as finding known items, but the builder tools we created automate the process of creating library software.

BACKGROUND

In 2005, OCLC (OCLC, 2005) conducted a study on Perceptions of Libraries and Information Resources, which included a companion report on college students’ perception in particular. This report found that search engines, rather than physical or online libraries, were most students’ first choice when seeking a source or place for information. 72% of college students and 80% of overall respondents preferred search engines, compared to 24% and 17% who preferred physical or online libraries. These respondents valued search engines for their reliability, cost-effectiveness, ease of use, convenience, and speed. On the other hand, libraries outranked search engines in the survey participants’ perception of trustworthiness and accuracy by a similarly wide margin. The conclusions we drew from the survey, as well as from our own and others (Fast & Campbell, 2004) concurrent observations, were twofold. First, we concluded that library search interfaces needed to be improved to compete better with search engines. Most existing interfaces were simple databases that indexed only metadata and required users to use arcane search syntaxes. Since then, this deficiency has been recognized by library system vendors and publishers of abstracting and indexing databases, resulting in the proliferation of discovery systems such as ProQuest’s Summon service. These systems adopt the innovations and the resulting user experience introduced by search engines, while providing access to full text indices of many licensed academic resources.

Second, we realized that like search engines, which are often directly accessible through a browser’s user interface (also called the browser’s “chrome”), library interfaces should be accessible in a similarly direct and easy-to-use way, integrated with the user’s “webflow.” Moreover, by integrating access to library resources into the browser, we expected to be able to provide integrated services than went beyond mere user-initiated searching.

Others had similar realizations. In 2005, Jon Udell started his Library Lookup Project, which provides a way to generate bookmarklets for searches in popular library OPAC implementations. Bookmarklets are canned snippets of JavaScript code that can be stored in a browser’s bookmark file. Selecting the bookmark activates the code, which then performs a search in a given library’s OPAC.

At around the same time, a shift in browser development took place. An offshoot of the open-source Mozilla project supported by Netscape, the Firefox browser started to gain popularity as an alternative to the then dominant Internet Explorer by Microsoft. Firefox uses a dramatically different design than existing browsers by allowing software extensions that had direct access and control over the browser’s user interface and operation, allowing for user-specific functionality that had not been foreseen by the browser’s designers. These “Firefox extensions” (since renamed to “Add-Ons”) rapidly gained in popularity as a large community of developers and adapters developed many for purposes ranging from block-