

Enhancing E-Resource Management in Libraries: An Overview of the OpenURL Standard

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Abstract

The OpenURL standard is an emerging protocol for transmitting bibliographic metadata about digital objects between information services over the Internet, with an initial focus on bibliographic resources. OpenURL is a standardized protocol that connects users directly to the complete text or extra information about a referenced resource. It is an essential tool for managing e-resources in libraries. It improves the efficiency and effectiveness of library services by improving access to resources, increasing interoperability, and facilitating resource discovery. This chapter provides an overview of OpenURL's standard for e-resources management in libraries and discusses how OpenURL can be used to assist libraries and information providers.

Keywords: eResources Management, Library, Link Resolver, OpenURL, URL,

1. Introduction

The advent of electronic publishing of academic literature quickly led researchers to expect and appreciate the convenience of accessing articles directly on their computers instead of having to go to the library to read a printed journal. However, the increased availability of academic material quickly led to further plans and aspirations for future progress. Researchers would greatly benefit from the ability to rapidly go to publications cited inside the article they are reading, or if there was effortless access to the whole text of an article via a discovery tool (Apps & MacIntyre, 2006).

Libraries and information centers are increasingly utilizing technological resources to enhance the user experience. However, the process of accessing digital resources may be more intricate than that of print resources, as one can access digital materials through aggregators, publishers' websites, or locally controlled libraries. In order to efficiently use digital resources, users need

to search abstracting and indexing databases for journal citations, which may include whole articles. If the whole text is unavailable, readers are required to search library catalogs for either physical or digital copies of the publication. Full-text journals usually provide hyperlinks to internet access; however, readers may have to hunt for article citations in databases that include the whole text (Baban, 2011).

2. What is OpenURL?

OpenURL was created in 1998 by Herbert Van de Sompel and his colleagues at the University of Ghent. They created SFX, a context-sensitive link server that Ex Libris bought in 2000. They prepared the first OpenURL draft in March 2000 and submitted it to National Information Standards Organization (NISO) for formal standardization in December 2000. NISO is responsible for establishing, maintaining, and disseminating information-related technical standards. The NISO created it and delivered it to the Online Computer Library Center (OCLC) in 2006. Its purpose is to serve as a resolver for locating an item's physical address.

OpenURL is a standard format for communicating information about a resource, usually a book or scientific paper, online. It links library catalogs, databases, and digital repositories seamlessly. OpenURL, developed to connect users directly to the complete text or extra information about a referenced resource, is essential to library eResource management and accessibility. Since OpenURL was established in an academic environment, it now focuses on reference-linking applications for scholarly content, although it may be used for other sorts of information.

A URL consists of three components:

- i. The protocol, which is the mechanism used to transport the file, such as http (hypertext transfer protocol) or ftp (file transfer protocol).
- ii. The computer's IP address where the resource is located.
- iii. The exact location of the resource on that particular device.

3. How OpenURL Works

OpenURL functions by including information pertaining to a resource into a URL. When a user clicks on an OpenURL link, the URL sends this information to a link resolver. The resolver, which is programmed to comprehend the subscriptions and holdings of the library, utilizes the

information to direct the user to the most suitable copy or service that is now accessible. This process involves several key components:

- ✓ **Source:** The OpenURL link's initial location or point of origin, such as a database, catalog, or index.
- ✓ **ContextObject:** The OpenURL system's central component, ContextObject, houses essential information about the resource under reference. The metadata includes information such as the title, author, publication date, journal name, volume, issue, and page numbers.
- ✓ **Link Resolver:** A link resolver is a service that analyzes the context object's information and determines the most suitable copy or service for the user. The resolver utilizes the library's holdings information, subscription data, and user context to provide suitable connections.

4. OpenURL Standard in eResources Management in Libraries

The OpenURL standard specifies a standardized method for creating a URL that includes metadata about a bibliographic resource, which may be easily transmitted. Put simply, the structure of information included in the URL is standardized, allowing it to be recognized and used by other systems (Zhu 2004).

The OpenURL standard is essential for managing electronic resources (eResources) in libraries. By offering a standardized approach to connecting users with the most suitable materials, it improves the accessibility, interoperability, and efficiency of library services.

Ann Apps, a researcher with Manchester Information and Associated Services, states that the present draft OpenURL (version 0.1) of the standard specifies 'by-value' metadata for specific bibliographic resources such as journals, articles, conference proceedings, and books. The resolver to which the meta data is transmitted is defined as a baseURL.

4.1 Right links to right users

Based on the procedure, it is evident that the knowledge base is a crucial component of the link resolver. The currency and correctness of the data in the knowledge base will have a direct effect on the link resolver's performance. If the data is not adequate, the link resolver could fail to

consider some full-text sites that are accessible. The library must also oversee the management of the electronic materials available in the knowledge base. Maintaining regular updates and up-to-date title access information in the knowledge base is crucial.

4.2 Customization and Flexibility

OpenURL provides libraries with the ability to customize their link resolvers to match their unique resources, access permissions, and user preferences. This customization guarantees that users will get the most relevant and easily accessible links, taking into account their institutional affiliations and subscription statuses. Libraries have the ability to customize their systems so that certain access points or channels for accessing material are given priority, improving the overall user experience.

4.3 CrossRef DOIs and the OpenURL link resolver

DOIs are digital object identifiers used by publishers to direct readers to the full text of their publications. Publishers allocate them to a specific URL or directory, ensuring continuous linkage. CrossRef is a system that uses DOIs to provide enduring connections for academic and professional publications across different publishers. However, it fails to specify if the library has full-text access. CrossRef is compatible with OpenURL, enabling the local link resolver to recognize the full-text service that the library may access. This feature improves material accessibility and increases the availability of full-text information using the local OpenURL link resolver.

4.4 Cited author/cited paper searches:

It appears logical to provide the well-recognized search capabilities of SciSearch, available in the ISI dataset, as an SFX service at LANL. The service screen provides a drop-down menu that allows access to any author specified in the source citation of each source database. We analyze and merge the journal information with the author information to facilitate a search for cited papers. It was developed for both the local source and the final destination to deliver this service, as it essentially involves a search within a specific location.

4.5 Document delivery:

It is adjusted for the document delivery translator to transfer the relevant information from the citation record to the current form in order to combine the document delivery service with the

existing local CGI form at LANL. When current LANL sources do not provide full text access, this service takes over. It automatically populates a document delivery request with the appropriate citation information.

4.6 Integrating library resources under a link resolver

Therefore, as long as the database or service is functional with OpenURL, it is possible to include it in the link resolver system either as a source or a target entity. The link resolver allows for the connection of the library's materials and services. It is possible for the link resolver system to incorporate a variety of services, including full-text databases, A&I databases, citation databases, content databases, table of content databases, online library catalogs, library journal A to Z lists, interlibrary loan and document delivery services, websites, and any other local databases and services.

5. The Roles of Libraries and Librarians

Librarians should have knowledge of OpenURL and actively encourage the use of the databases they acquire. OpenURL enables librarians and end users to use its open linking system, providing libraries and information providers with advantages. Librarians should check that every resource they license or subscribe to, follows OpenURL. In order to achieve contextually relevant linking, librarians must guarantee that suppliers provide enough metadata to satisfy the requirements of context services. The committee's experts advised libraries to be knowledgeable about OpenURLs and to require their use in their goods. The committee underscored the significance of libraries being a "library-driven project" and empowering librarians to negotiate with data suppliers.

Links that are contextually aware should use OpenURLs, which can contain either minimum or comprehensive metadata. Libraries should guarantee that vendors submit an adequate amount of metadata. Beit-Arie noted that OpenURL provides a low-barrier technique and specification for a crucial aspect of academic information sharing. Implementing OpenURL's open linking mechanism may assist libraries and information providers. Librarians should ensure OpenURL compliance with any resource they license or subscribe to. When creating new apps.

6. Conclusion

OpenURL is an emerging protocol for transmitting bibliographic metadata about digital objects between information services over the Internet, with an initial focus on bibliographic resources. The OpenURL standard is an essential tool for managing e-resources in libraries. OpenURL significantly improves the efficiency and effectiveness of library services by improving access to resources, increasing interoperability, and facilitating resource discovery. Furthermore, the provision of use monitoring, customization, and open access efforts highlights its significance in contemporary library operations. Libraries will continue to rely on the OpenURL standard as they traverse the ever-changing digital world. This standard is crucial for managing and accessing resources effectively, ensuring that users can simply and efficiently connect with the information they want.

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