The Benefits of DOI Linking vs. URL Linking

January 3, 2003

DOI: 10.1220/edudoc3

Information-Based (Object-Based) vs. Location-Based:
Whereas a URL only links to information by its location, the DOI links to the information successfully regardless of its location. Thus access to your information is “future-proofed” against any redesigns of your website, migrations of your information to other servers, outsourcing/insourcing of your content hosting, divestiture of your content (or sale of your entire company) to another company, etc.

Permanent, Persistent and Dynamic vs. Temporary and Static:
URLs are temporary and static. Once the object is placed at a server location, the URL and all downstream web references pointing to that URL (e.g., search engine results, user bookmarks, links on other websites, etc.) are fixed. Thus, when the object is moved, the user’s attempted link results in an “Error Message 404, File Not Found.”

DOI-based links, on the other hand, by virtue of the underlying technology, are both permanent and dynamic such that the object owner can alter the URL at which the object is located without interfering with any of the existing web references. Thus, search engine results and bookmarks are never out-of-date and no 404 error messages result. Even if these links were hard-coded into downloaded files (e.g., via PDFs, Word documents, eBooks, etc.), printed onto paper, fixed onto CD-ROMs, etc., they still will link properly. In short, the DOI permanently represents the object itself, regardless of location, and the location can be changed with whatever frequency the owner wishes without disrupting the user experience.

Object-Based (at Any Desired Level of Granularity or Specificity or Deep-Linking) vs. Title-Based or More General:
URLs often link only to a company home page, or section of a website, or some other general level of information. Even when they refer to an individual work of intellectual property (such as a book), they typically link only at the title level. Although URLs are capable of linking more “deeply” to a more specific item, they usually don’t, partly because of the difficulty of maintaining unbroken links at such a detail level. But the DOI links to any level of “object,” and/or to its component parts: entire book/individual chapters; music collection/individual tracks; any product/individual components; database record/individual fields; journal article/individual sections; software programs/individual routines; etc.

MultiLinking vs. Single Linking:
Existing URL linking affords to the user only one location to which to be sent (routed), whereas DOI-based linking enables one-to-many linking (“MultiLinking”). A DOI-based link (or “MultiLink™”) offers a menu of choices to any number of locations, services or related information – all established at the discretion of the object owner. In addition, downstream users of the DOI (e.g., via full content syndication, partner-based linking,
etc.) can select from among the owner’s MultiLink choices for the purpose of customizing their own applications to leverage the DOI and its infrastructure. Further, these downstream applications neither incur cost nor require maintenance. Further still, when users or organizations insert DOI MultiLink links onto their websites, into their browser bookmarks or into their own documents, the DOI will retain its persistence concurrent with this DOI MultiLink feature, enriching the user experience by increasing functionality well beyond a URL.

Thus, a digital object provider has the ability via a single link to route users to as many locations for as many purposes as it might wish, all depending upon its own business strategies, sales and marketing efforts, customer service support, rights & permissions activities, etc.

Further, downstream users of the DOI (including distributors, aggregators and retailers) also are enabled to adopt the routing options that best suit their needs, thus empowering each DOI adopter to derive his/her own value proposition by applying the DOI from the original object provider.

“Exporting” the Power of Your Existing Website out to the Rest of the World:
Your own website already possesses rich and well-designed interlinking amongst your various products, including links to marketing information and other related info designed to convince consumers to buy or subscribe to your products. Now you can exponentially leverage this existing investment in design and interlinking by exporting these interlinks wherever a DOI travels on the Internet. You can bring people back to your site and better still, directly to any/all deep links you have already created, whenever a person encounters one of your DOIs anywhere in the world – not only on your own site, but in an email from a friend, in a downloaded document or music file or video clip, on a 3rd party website that you otherwise do not control, in a newspaper or magazine article, in reviews of all kinds (book/music/movie/product reviews), etc.

Improving the “Discoverability” and Exposure of Your Content:
Simply creating a web page does not guarantee that the rest of the world will find it, but registering a DOI ensures that it will be exposed to the outside world. Even the major Search Engines do not see or touch or index most web pages, especially – ironically enough – those pertaining to actual published material, even though this represents the world’s truly high-value, authentic, vetted, quality-assured, monetizable content. Most of these pages are invisible to Search Engines because they are locked behind subscription barriers, firewalls, or the proprietary search engines of individual websites. Registering a DOI, however, exposes the content’s existence to the outside world, as well as guaranteeing much higher Search Engine rankings because the DOI exposes the interrelatedness of the content with other content via CDI’s MultiLinking process. Thus your content is ranked more highly because the Search Engines see it as interrelated with so much of your other content, and vice versa.

Automated Link Lookup and Insertion vs. Manual Link Lookup and Insertion:
Content owners who want to insert within their documents or onto their websites DOI hyperlinks that direct users to related (their own or others’) content (e.g., intra- and/or inter-publisher citation linking), are able to insert DOI links into the appropriate places just as they can URLs today. The process of DOI lookup and insertion, however, can be fully automated and scaled for volume (e.g. to populate an entire magazine issue, a book’s bibliography and footnotes, or an encyclopedia with external link-outs), whereas any URL-based interlinking process is entirely manual and thus limited in practical application due to time and cost.

* * * *

To Learn More about the DOI and Content Directions, Inc. (CDI):
Please visit us at http://www.contentdirections.com or contact us at info@contentdirections.com. Live customer examples (from McGraw-Hill, Thomson Learning, Penguin Putnam, CORBIS, RAND, etc.) can be viewed at http://dx.doi.org/10.1220/demo21.

For additional information or a presentation of the DOI in action, also please contact:

Hal Espo, Sales & Business Development, Content Directions, Inc. (917) 533-7375; hespo@contentdirections.com
or
David Sidman, CEO, Content Directions, Inc. - 558 9th Street, Brooklyn, NY 11215; (212) 792-1847; dsidman@contentdirections.com