

# Use of an Expanding Directory Interface for WWW Legal Resources

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The Internet contains many legal resources which supplement more established online sources, but effective resource discovery tools are critical for end users [10]. The Directory of Internet-Accessible Legal Resources (DIALeR), <http://legalsearch.ils.unc.edu/>, was developed to aid in rapid discovery and navigation between high-quality legal sites. The resources in the DIALeR (MS SQL) database were selected by law librarians with an eye towards finding reputable WWW sites that are building significant repositories of public domain documents. The back-end DIALeR interface enables these librarians to easily build, modify, and customize a tree structure of legal topics. The current interface includes portions of the tree that closely follow long-established print indices of the law.

For the user, the DIALeR design facilitates the location of document archives, databases, and other topically focused WWW sites via navigation through a client interface to the underlying database of resources. Constructed from custom COM component software and Active Server Page (ASP) scripts, the DIALeR client interface mimics the well-known Explorer tool for navigating the file system in MS Windows. Menu items showing a plus-sign (+) can be expanded into sub-items; those with a minus-sign (-) can be contracted; and final items (annotated hyperlinks leading to relevant WWW sites) appear in a separate right-hand frame. While DIALeR's human selection and indexing of resources aids first-order resource discovery, finer-grain searching is achieved through local search tools available at individual sites, e.g., full-text search engines are commonly found at text-rich legal sites.

We know that the disciplinary home of a database user affects their online searching behaviors [5,8,11]. Prior studies of information seeking and online searching of Boolean systems have occasionally included lawyers or law

students as subjects [1,6,8,12]. Several studies of hypertext and Web use have identified particular browsing strategies [2,4,7,9], and one recent study has evaluated law students' use of directory and searching tools on the Web [3].

The current research breaks new ground by investigating the use of legal resources selected and organized by human indexers in a directory structure. The results provide baseline data concerning the ways that lawyers and law students will navigate a directory structure and their selection of resources indexed in that structure. DIALeR transaction logs were collected from February 1, 1999, when the tool was first fielded, through April 12, 1999. The logs of user searches included each manipulation of and selection from the DIALeR directory structure which, at the time of the study, indexed 260 Web sites.

There were 342 search sessions conducted during this period, for a total of 2240 user actions. The average number of user actions per session was 6.5, and ranged from 1-47. The three possible types of actions were to expand a DIALeR menu choice (32.9% of the user actions), to contract a DIALeR menu choice (5.4%), or to select a particular site from the DIALeR database (61.7%).

An analysis of the transitions from action to action was also undertaken (after adding a begin/end pair to denote the boundaries of each session). This analysis, thus, included 2582 transitions (excluding the 342 transitions from End to Begin). The most frequent transitions are pictured in Figure 1. It includes all the transitions that were made at least 100 times, plus the most frequent transitions to and from Contract Menu.

The most frequent transition is from Select Site to Select Site. It is also noteworthy that Select Site was most often the *last* action taken before ending the session with DIALeR. Thus, there is evidence that DIALeR is serving its intended purpose as a portal to high quality Web-based legal resources. It enables users to locate items that are of interest; they then leave DIALeR to further explore the located resources.

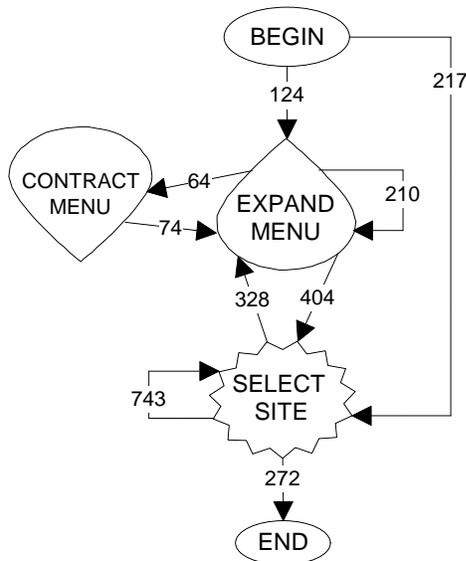
The other finding of interest in the analysis of transitions from action to action is the interaction between expanding

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and contracting menus. Both the transition data and the overall frequencies of the action types provide evidence that people expand the menu choices, then leave them open while they continue their work.



**Figure 1. Transitions from action to action**

An analysis of the menu items with which the users most frequently interacted revealed that just five of the 40 menu choices in the DIALeR directory accounted for 65% of the user actions. They were:

- Judicial (621 actions, 27.7%)
- Legislative (258 actions, 11.5%)
- Secondary, e.g., dictionaries or directories (218 actions, 9.7%)
- Judicial / Federal (192 actions, 8.6%)
- Judicial / State (169 actions, 7.5%)

Users logged into DIALeR from 233 different IP addresses. Domain name lookups revealed that most of the user actions originated at .com (26.7%) and .net (25.7%) addresses, with an additional 19.6% from .edu addresses.

The results of this study allow us to draw several conclusions. A broad spectrum of Internet users are willing to spend time using well-structured directories of Web resources in particular disciplines (the average number of user actions per session was higher than found in most naturalistic studies of online searching behaviors). The most popular type of action was to select a site from the database, suggesting that users found the DIALeR resources useful. The menus were expanded more often than contracted and often users would expand more than one menu, indicating that the users felt comfortable with expanding areas of the directory structure and leaving them open during further navigation. Additional research is needed to further investigate the amount of value added by

the human selection and indexing processes provided via DIALeR and similar directories and the use of such resources by particular user audiences.

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