LEGAL RESEARCH FOR BLIND LAW STUDENTS: SPEECH TECHNOLOGIES AND THE WORLD WIDE WEB

BY MARY CLAYTON

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Introduction

Recent improvements in computer speech technology offer the blind law student promising new capabilities for legal information access. The newest software programs for speech recognition (speech-to-digitized text) and voice synthesis (digitized text-to-speech) have integrated law-specific add-on modules that help law students and lawyers use computers for legal research and the practice of law without the necessity of their seeing a monitor or touching a keyboard.

Legal research and writing (LRW) instructors should be aware of recent law-specific applications to ensure that blind law students learn about the types of software they will most likely need for success as practicing attorneys. Teachers, librarians, and administrators should also be aware that this technology does not yet offer ready access to the World Wide Web for legal research. This awareness is increasingly important as many law schools now explicitly incorporate into their educational mission the goal that students gain a working knowledge of computers as part of their law school experience.

Speech Technology Products with Add-On Modules for Law

Speech recognition dictation systems have been in use for several years in a variety of applications. Some systems have been enhanced to allow for continuous speech (natural language) dictation while others require discrete text dictation (slight pauses between words) with continuous speech commands. Some manufacturers have developed specialized applications for legal professionals, incorporating specialized terminology that can be added to a basic system. Speech recognition is standard; voice synthesizers are less common. An added feature of some of the law applications is voice access online searching.

LawTalk — LawTalk 3.5 for Microsoft Word (97 or lower) or Corel WordPerfect (8 or lower) is produced by Kolvox, a division of Banksoft Canada, Ltd. LawTalk utilizes discrete text dictation and continuous speech commands. LawTalk can be purchased separately or with the Kurzweil VOICE V2.5 speech recognition software engine. LawTalk uses the base vocabulary of VOICE, which features a dictionary of 30,000 words in the personal version or 60,000 words in the professional version, and adds about 1,500 legal phrases. It also has templates for various legal documents. LawTalk is not a voice synthesizer. It does provide voice access searching of Westlaw®, Westcheck® for Windows, and CheckCite, QuickLAW, and QuickCite®. For more information call Kolvox at (905) 731-6444 or visit the Banksoft Canada web site at <http://www.banksoftcanada.com>.

ViaVoice Gold — IBM's newest continuous speech product is called ViaVoice Gold. The continuous speech specialty vocabulary for law was scheduled for release during the first quarter of 1998. The discrete speech law vocabulary is still available and contains 25,000 words tailored for the legal profession. ViaVoice Gold offers both voice synthesis and the option of recording and replaying your voice. Call IBM at (800) 825-5263 or visit the VoiceType home page at <http://www.software.ibm.com/is/voicetype/>.

DragonLaw — DragonLaw for Windows 1.0 customizes DragonDictate, a very successful speech recognition dictation system, for legal applications. DragonDictate, from Dragon Systems, Inc., has both speech recognition and synthesizer capabilities. DragonLaw adds a vocabulary of 60,000 legal terms and phrases to the Classic Edition (30,000-word active vocabulary) or Power Edition (60,000-word active vocabulary) of DragonDictate.

DragonLaw also offers access to Westlaw and LEXIS-NEXIS by including more than 1,000 voice commands for online research developed in cooperation with West Online and US Microshare Inc. The DragonLaw language models were developed during four years of cooperation with West, and were built using feedback from legal professionals and other users of DragonDictate as

1 The author thanks Dennis Hyatt, Law Librarian, University of Oregon School of Law, for providing some background materials used in research for this article.

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Vol. 6 Perspectives: Teaching Legal Research and Writing Spring 1998
well as extensive analysis of thousands of case reports and statutes. For more information call Dragon Systems, Inc. at (617) 965-5200 or visit the Dragon Systems web site at <http://www.dragonsys.com>.

**Web Use by the Blind Researcher**

The vast store of text information available on the Internet presents exciting research opportunities for the blind law student. However, despite dramatic improvements in speech technology, navigating the Internet remains a formidable challenge for blind users because of the emphasis placed on graphics in the design and development of Web browsers.

There is no inherent characteristic of the World Wide Web requiring the use of a graphics-based user interface for "surfing the Net." Icons and other graphical links are design features that browser authors elect to use. A graphical interface offers speed in "surfing" with point and click commands, variety in home page design options, as well as a non-text-intuitive approach for finding resources and pinpointing information. These advantages help explain the strong user preference for graphics-rich Web browsers, such as Netscape Navigator and Microsoft Internet Explorer. Other browsers, such as Lynx, use fewer graphics and are comparatively more user-friendly to the blind.

Deborah Kendrick, a Cincinnati writer who is blind, noted: "[J]ust as more blind and visually impaired people are learning to use technology, online services and popular software trends are moving rapidly toward graphical user interfaces, computing environments that are graphically based and cannot be translated by Braille terminals and speech synthesizers into words."?

Thus, while speech recognition and voice synthesis technology are improving the opportunities for the blind to make full use of their computers, it is nonetheless much more difficult for them to locate Web sites and use the graphical interface browsers designed for sighted users. The development of screen access technology and screen readers for the blind lags behind the rapid changes in Windows-based operating systems and general graphical browsers.

This problem was the focus of a complaint brought to the U.S. Department of Education, Office of Civil Rights (OCR), against San Jose State University by a sight-impaired student who claimed that the university failed to provide him with access to the Internet. The college resolved the access issue, and OCR closed its investigation of the complaint after confirming the difficulties that blind users have in converting graphic images common to Web home pages into meaningful speech. The OCR resolution letter went on to say that "[a]lthough there may be limited circumstances when a personal reader is needed to bridge the gap in accessibility provided by adaptive software programs, this gap is continually being narrowed and post-secondary institutions are expected to stay apprised of recent advances."3

One advance, for example, comes from The Productivity Works, a New Jersey Internet software company that has developed an Internet browser called pwWebSpeak. The browser is designed specifically for the blind, a part of Productivity Works' ongoing work to develop products that "incorporate universal Internet access for people with disabilities."4 pwWebSpeak "interacts directly with the information on Web pages and translates the information content into speech."5 Call The Productivity Works at (609) 984-8044, or access its home page at <http://www.prodworks.com>.

**New Search Engines for Legal Research on the Web**

Blind law students may benefit from the development of new law-specific search engines that save time in locating Web sites with legal information.

The American Association of Law Libraries, in conjunction with the legal publisher Little, Brown and Company, funded research for a new Internet search engine called LIBClient. LIBClient was developed by Dr. Bert J. Dempsey and Robert C. Vreeland of the University of North Carolina. Version 1.1 was released in January of 1997 and version 2.0 is now being developed. Their objective is to provide a means for legal researchers to more effectively and efficiently locate legal materials on the Internet. The current version and a project summary of LIBClient is available at <http://lliis.unc.edu/~vreer/libclient>.

LawGuru at <http://www.lawguru.com> is a collection of more than 340 law-related search engines and tools. This Web site was created by Esliamblly & Barlavi, a California law firm. Visitors

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3 Resolution Letter, San Jose State University, Case No. 09-95-2286 (California, OCR Region IX, 1996).

4 Thomas Edison State College Becomes First School to License pwWebSpeak, Bus. Wire, June 17, 1996.

to the site can search court opinions, codes, statutes, bills, and other materials. LawGuru also provides links to federal government and law-related Web sites. Access to the LawGuru "meta search page" requires use of a frame-based browser, such as Netscape Navigator 3.0 or Microsoft Internet Explorer 3.0.

LawCrawler at <http://www.lawcrawler.com> is a comprehensive crawler that indexes only law-related Web sites. Users are able to limit searches to particular servers, such as specific U.S. government agencies. FindLaw at <http://www.findlaw.com> enables users to search the full text of all the law reviews available on the Internet. LawCrawler and FindLaw have merged into an enterprise called FindLaw Inc., which offers a variety of commercial services. However, the information resources at FindLaw and LawCrawler are free.

**Conclusion**

Competency in the use of computer technology is an integral skill necessary for the successful practice of law. Computers now provide the standard means for modern communication, document preparation, data management, and information access. An increasing number of schools are adopting computer skills into their curriculum to reflect the sense that students should not be left to haphazardly discover important computer applications. Because use of this technology has several potential applications for LRW assignments, LRW instructors and law school librarians must be aware of the computer technology most appropriate for disabled students as they begin their first-year studies.

Speech recognition and voice synthesis software is rapidly developing into a full and integrated alternative means for computer use by lawyers. This software is essential technology for disabled practitioners, especially for those who are blind or have impaired mobility. And, as a matter of productivity, efficiency, and personal preference, the speech technology mentioned in this article, including the interface software for browsing the Internet, may soon become widely used by the nondisabled community as well.

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