Serving Justice with Conversational Law

By David R. Johnson

Digitized, semantic legal-expert systems will enable more people to access and understand the law.

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We now think of law as text—the "law on the books." These are the statutes, regulations, and court opinions to which lawyers look for guidance on how to counsel clients and for sources of authority to cite in legal arguments and briefs. Law also includes contracts, which we think of as long sets of words written down to be consulted later—typically only when the relationship among the contracted parties turns sour.

As others have observed, the modern legal profession arose from the technology of print. The existence of libraries of legal materials required professionals to help lay clients read and understand increasingly complex rules and precedents. In *The Electronic Media and the Transformation of Law* (Oxford University Press, 1991), M. Ethan Katsh speculates that new electronic technologies would change the law in various ways. His speculations are only now becoming right—in ways that not even he predicted.

Migration of law to electronic texts does change things. It increases access to the law for both lawyers and laymen. It allows searches across an ever larger corpus of information. It allows new forms of persuasion that combine text with diagrams, pictures, and videos, as my fellow New York Law School professor Richard K. Sherwin observes in *Visualizing Law in the Age of the Digital Baroque* (Routledge, 2011).

More importantly, these technologies will incorporate not just laws, but also legal expertise, into software that is customizable to individual situations. Just as our Internet experience will be enhanced by the Semantic Web, our experience with legal matters will be facilitated by semantic electronic legal texts, or what I call "conversational law."

People need clear answers regarding what rules apply to them and to particular actions they have engaged in or are contemplating. Most people need a lawyer to help them read and apply the text of a statute to their own situation—but few can afford the billable hourly rates that lawyers have to charge when they provide personalized advice.

Someday, a particular statute will take an entirely different form. An expert system based on the statute will ask you questions about your specific situation and then provide answers concerning whether and how the law applies to you. The conversational law version of a statute will engage in dialogue with you, asking only the questions that are relevant in light of previous answers. Governments that create such systems as a means of interacting more efficiently with citizens will have to adhere to the advice that these systems provide.

CODING THE LAW

An enhanced version of the conversational statute, written by a legal expert, will build on cases that have interpreted the statute. The system will then offer advice about how an individual's proposed actions might be adjusted to assure compliance with, or avoid violation of, the statutory rules.

A legal-expert system will be created and maintained by a lawyer, but it can be used at any time by many more customers than could possibly consult with that lawyer in person. It can produce profits suffi-

client to compensate the lawyer for creating the work, even if the fee charged to an individual is quite modest. If a government lawyer develops the system, its situation-

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specific guidance may be viewed as authoritative and binding on the agency as well as the user.

A case (court opinion) could also be rendered as a conversational expert system. The expert system would interview you to determine whether a precedent has relevance to your situation. Indeed, a meta–expert system might mediate a conversation regarding an entire body of case law. Rather than reading a large number of cases to determine what they might imply, or hiring a lawyer to do that, you would rely on the software code to do the legal research and write the memo or brief that is needed.

This is not a case of "big data," where patterns emerge magically from a pile of bits. Conversational law systems will be deliberately constructed by those with authority to say what the law is. A well-constructed collection of encoded inferences, authored by courts, could ultimately come to be considered an embodiment of the current common law.

Even a contract can become conversational, if converted from static text to code that can ask questions and reason internally. Contract administration will become a continuous automated process that activates alerts or generates advice and con-

clusions regarding participants' descriptions of a situation: e.g., facts related to whether someone has performed, when duties are triggered, and so forth. Value-added versions built by legal experts may include contingent advice on how to resolve difficulties and provide links to appropriate dispute-resolution procedures.

Legal-expert systems have immense implications for how governments communicate with citizens. As the world is becoming more complex, the rules that are needed to govern it (and enhance trust and trade and commerce, while achieving other social goals) are also becoming complex. Eliminating rules is not the answer to the problem of inaccessibly complex law, because the rules reflect our collective decisions on how to achieve social goals. It won't be enough just to use simple, generalized language and hope that subsequent decision makers (like courts) will be able to discern exceptions and create nuanced interpretations.

What we need are systems that can hold complex rules in their entirety but only take up our time and attention when they actually apply. And we need systems that can state the rules applicable to a particular situation with sufficient clarity that a layman will be able to understand the answer. We are about to get such systems, in quantity. The legal profession will never be the same.

CHANGES AHEAD FOR THE LEGAL PROFESSION

The lower cost of accessing an online system for personalized legal advice will dramatically reduce demand for personal meetings with lawyers who charge hundreds of dollars an hour. Lawyers who build high-quality expert systems will begin to make substantial profits—and this will lead even conservative lawyers to consider new careers as legal-expert system authors and legal process engineers.

Building a legal-expert system is a highly skilled form of law practice and entails a sort of "fact-specific scholarship." It is like writing many

different legal memos all at the same time. It requires thinking through all of the many different types of factual situations that might cause an expert lawyer, if she were meeting with a client in person, to subtly alter her advice. It requires the highest quality of writing to ensure that both the questions asked during the automated conversation and the advice given are understood. Software economics enables a system to reach many customers at low marginal cost, so it could become a well-compensated career path for a lawyer.

Some areas of law are already conversational. Tax law "advice" is regularly dispensed to lay customers by software such as TurboTax. Given the complexity of the tax code, it is unclear that lawyers charging by the hour could provide the necessary guidance to millions of taxpayers. A few expert lawyers, working closely with the government, make sure that the algorithms built into the software are correct. Compliance is substantially enhanced. Those who build such systems profit handsomely while serving large numbers of customers at low cost. The conversational nature of the software makes it possible for lay users to do some "what if" analyses regarding future actions. If I give this gift, will I be subject to a gift tax? If I sell that stock soon, will the higher rate on short-term capital gains apply?

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Corporate compliance systems are also becoming conversational. Instead of just circulating a large employee handbook that few will read

(and fewer will remember), smart corporate counsel are establishing "smart" procedures. For instance, employees who are about to enter into contracts, file for patents, or take other steps with significant legal consequences are required to access an internal company Web site. The systems found there can automatically issue authorizations to proceed, or flag a problem and send an alert to the appropriate counsel. The general counsel can spot legal risks at an early stage, thanks to the data that such systems collect from interviewing the employees involved and tracking activity on the company server. This quick intervention can also help improve and streamline legal information flows within the company.

Software that automatically generates documents has been around for quite some time. It makes sense for a trust and estates lawyer to use such a system to automatically generate a will. Large firms creating sophisticated financial instruments also need these power tools to assure consistent and accurate results. But the focus on creating printed documents will diminish as the legal framework moves from books to interactive digital systems. Entries in a database are just as binding as marks on a piece of paper. A "conversational will" (expert system) can talk to an executor and give tailored advice about the distribution of property on the basis of the actual situation that exists when the will must be implemented. Complex financial instruments, once they are in conversational form, can contain provisions that automatically distribute messages or even move funds from one account to another.

A HUMAN TOUCH FOR DIGITAL SYSTEMS

Anyone can write a book about law, and anyone can create a legal-expert system. One consequence of the proliferation of conversational Web sites that offer legal guidance will be increased uncertainty regarding what to believe. Katsh, an innovator in online dispute resolution, raises questions about how we

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would adjust to new kinds of legal texts that can be modified continuously and whose source is not always clear.

The accuracy and reliability of legal-expert system advice will likely be assured by the creation of *interactive trust marks*. These are electronic seals that can lead back to a lawyer-author who stands behind the system in question, or that can be withdrawn by a government lawmaker if a particular version of a legal rule becomes obsolete. When law becomes fully conversational, you will know who you are talking to through the system; you will expect verification of the system's legitimacy and question the system's authenticity accordingly if it isn't there.

Conversational legal systems may threaten privacy and confidentiality. But those threats can be controlled. Everything you say to an expert system can be remembered and disclosed. Any responsible system will collect information about user interactions to analyze and improve system performance. So rules will have to be created and enforced to limit the disclosure of client confidences. These rules would generate user trust and encourage the truthful answers necessary for the systems to generate good advice. Privacy rules would also encourage consultations with the legal systems, even if those consultations don't result in the for-

mation of a lawyer-client relationship.

On balance, the legal-expert system you consult will be just as likely to keep your secrets as a human lawyer would. Compliance by software with rules on access to information can be monitored by other software. No system is perfect, but encryption and access controls can ultimately create a channel for conversation between system author and system user—asynchronously—that is sufficiently secure to encourage participation from both sides.

Some people may fear that the rise of conversational law will lead to a cold, heartless, form of legal practice, where the caring touch of a personal counselor has been eliminated. But legal-expert systems may enable human lawyers to improve their nontechnical services, such as offering encouragement, condolence, and other forms of emotionally charged professional guidance. These conversational systems can probe for responses that disclose the real feelings and goals of the client/customer. New forms of software may even use a webcam to find out more about a user's state of mind—and these may be added into the design of conversational legal-expert systems. The output from the systems can be humane—kind or stern, as appropriate—and can include selected videos as well as text.

No system will ever duplicate the subtle electricity of face-to-face encounters. But conversational legal-expert systems will overcome the obstacles of impersonal and inscrutable text, speaking to clients in a voice that reflects having actually listened to them. Legal-expert systems could even talk on the phone, using voice-recognition software to interview users.

CREATING THE CONVERSATION

Students at New York Law School and Georgetown University are building legal-expert systems while they are still pursuing their degree. These systems cover a variety of topics: Can I revoke my previous copyright transfer? Can I protect my trademark? What do I have to do to

protect my status as a lawful immigrant? Is gay marriage permissible in my state? Virtually any focused and recurring legal question that has relatively determinable answers, and for which the answers differ depending on the circumstances, makes a good candidate for such a system.

Legal-expert systems will be built in a modular fashion, one specific topic at a time. They will be able to incorporate other systems by reference, which will enable ever more powerful reasoning. Decisions will be built on the basis of intermediate conclusions produced by different systems. In principle, this could be used to prune away the confusion of multiple, inconsistent definitions contained in current statutes and rules. Conversational legal-expert systems will permit the creation of more "meta-laws," which may incorporate the tests of a number of different legal regimes or regulatory systems.

It is already possible to build a legal-expert system that contains everything reflected in a decision about a particular case, including evidence, factual conclusions and inferences, legal tests (doctrinal elements), and ultimate conclusions. The resulting computational structure would allow someone who wants to learn about a case to "talk to it" and ask questions, such as whether the court would have reached the same decision if a particular piece of evidence were not available or a particular argument were not made. If a system can embody the "logic" of a case—at least insofar as the court has been explicit in its reasoning—then it can be built to reflect explicit reasoning about a large number of alternative "cases."

In the future, a legal-expert system could decide a case, even one in which the facts are contested. Computers aren't good at drawing analogies, so such a system will have its limits. There will always be a role for human judges who can draw parallels across different lines of cases, but most cases are in fact resolved without resort to judicial creativity. Attaining resolution from the conversational law system will be a much more cost-effective option for most litigants.

JUST THE FACTS

Can a computer ever judge the credibility of witnesses—something even humans have a hard time with? Technology is starting to understand what it's like to be human: Software designed to track eye movements or speech patterns is getting better at detecting when someone is lying. It will be possible to build conversational legal systems that include more than one person in the conversation. A court case could be conducted entirely online, with lawyers or even advocacy systems entering in evidence and arguments, with jurors or credibility-assessing experts entering their judgments, and with the overall system, built and owned by the court, computing the ultimate result and announcing it from the virtual bench.

In the "law on the books" world, much lawyering involves making arguments about how vague or general terms should be construed in the context of a particular case narrative and policy. In contrast, disputes in the world of conversational law will be about how a particular factual question posed by the legal-expert system should be answered. Sophisticated legal-expert systems will know how to probe for specific circumstances and situations at a level of detail that could never be reflected in a statutory text or court opinion. They can do this, in part, because their backward and forward chaining algorithms spare most users from answering questions that are irrelevant, given their prior responses. Once an authoritative conversational legal-expert system knows the "facts" that it cares about, its result is determined and can be communicated in a form that lay clients can readily understand.

So the litigation battles in the age of conversational law will be more heavily based on factual disputes, rather than attempts to read meaning and policy considerations into ambiguous legal language. Where the parties generally agree on the facts, as is often (although not always) the case, the generation of an authoritative resolution of the dispute can become highly efficient, even automated. Because parties have a conversational resource to readily consult about planned activities, compliance with the rule of law may even increase.

OPEN-SOURCE LAW

Considering the future of legal-expert systems leads one to deeper questions about the nature of law itself. Is law just a set of increasingly complex and obscure rules? Or is it a process by which we or our representatives and agents collectively decide on social goals and values?

If the law itself is a collective conversation about shared values, then it is imperative that the authorship of the systems that create conversational law be as widely distributed as possible. Such systems must also be transparent: The rules that trigger results must be open for all to inspect and modify. Conversational law, to be just, must involve open-source code.

However we make law, we all need to know what it says about specific situations, including our own. When law is text—even electronic text—most people need the help of a lawyer to answer their questions. As law becomes conversational code, we will talk to it directly. Some people may not get the answer they like, so lawyers will always need to be around to provide comfort or help formulate alternative plans for those who can afford them.

It may get harder to change or obfuscate the rules when a machine, rather than a potentially biased or otherwise fallible human, is dispensing the answers. Barriers to access will come down. Conversational law, in the form of the rise of authoritative legal-expert systems, will serve justice. ❏

About the Author
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