

# Open, Generative, and User Centered

## The Potential of SMS-Based Legal Technology for Development

*Innovations Case Discussion:*  
mLegal

mLegal seems to be an especially promising means of improving access to justice in developing countries. The significant potential of its approach to legal client technology stems in part from its consistency with several current trends in development policy: e-government, and legal informatics.

First and foremost, mLegal constitutes a technological means of empowering citizens of developing countries to participate more fully in the legal system. This empowerment accords with the general tendency of many governments in the late-modern period to decentralize power, largely due to technological forces.<sup>1</sup> Furthermore, such an application of technology is consistent with the broad contemporary emphasis in development policy on empowering individuals.<sup>2</sup> Within the theoretical frameworks of information societies and of development policy, technologically enabled citizen empowerment encompasses greater citizen involvement in, and access to, public administrative functions generally, as expressed, for example, in models of “collaborative government”<sup>3</sup> and the legal system in particular.<sup>4</sup>

In the legal domain, the phenomena of devolution and citizen empowerment are manifested notably in the “decomposition” of legal services—including the offering of legal services in an “unbundled” manner<sup>5</sup>—and the rebalancing of the lawyer-client relationship to facilitate the client’s empowerment.<sup>6</sup> To date, many efforts related to service decomposition and client empowerment have centered on government conduct—measures undertaken by the state to empower citizens respecting the justice system. Such measures primarily concern “basic electronic

---

*Robert Richards is a PhD student at the University of Washington Department of Communication. He studies legal communication, with a focus on technology-mediated communication. His current research includes a study of free, public, digital access to law—including access by mobile devices—in India.*

publishing”<sup>7</sup> or “information push”:<sup>8</sup> providing access via the Internet to more legal information, such as the texts of statutes, regulations, and court decisions, as urged by the “free access to law,” “open government data,” and “Law.gov” movements.<sup>9</sup>

In a different and equally salient dimension of the tendency toward the decomposition of legal services and the empowerment of clients as enabled by technology, the client takes the central role in legal reform. This dimension of reform

includes trends such as the user-centered design of legal information systems<sup>10</sup> and technological innovation within the “access to justice” movement, especially in the areas of online public legal education<sup>11</sup> and interactive document-assembly services.<sup>12</sup> In the client-centered approach, the first step is to ascertain the client’s needs for legal information and the technological means by which the client can most easily and affordably access information. Based on this knowledge, services and tools are designed to meet the client’s needs, with technology that max-

---

mLegal pursues a client-centered legal services delivery model by means of two technologies that are highly accessible—in terms of both cost and ease of use—to low-income individuals in the developing world: mobile telephony and SMS.

---

imizes the client’s access, in terms of cost and ease of use, to the relevant information. mLegal embodies this approach in its principle of “meet[ing clients] where they are.”

mLegal pursues a client-centered legal services delivery model by means of two technologies that are highly accessible—in terms of both cost and ease of use—to low-income individuals in the developing world: mobile telephony and SMS. Today, these technologies also constitute core components of legal services delivery. For example, in the most recent survey of technology use by U.S. lawyers, 76 percent reported using smartphones, 21 percent reported using cell phones, and 3 percent reported using text messaging in their legal practice.<sup>13</sup> Much legal technology innovation in developed countries has recently concerned the creation of Internet-based legal applications (or “legal apps”) for smart phones. These “legal apps” allow lawyers to use mobile devices to perform legal research and document management, and to access certain information resources provided by law firms.<sup>14</sup> Many of these “legal apps,” available at no or low cost and easy to use, can also be used by non-lawyer citizens to access to legal information.

Such applications, however, are not suitable for many areas of the developing world, where Internet access is inconvenient or unavailable.<sup>15</sup> Yet mobile telephony is widespread, if not abundant, in most developing regions.<sup>16</sup> A key challenge for

technologists seeking to enhance legal service provision to low-income individuals in the developing world, then, is to create technologies that run on mobile devices unconnected to the Internet, and that offer improved access to legal information resources—access comparable to that afforded by Internet-based “legal apps.”

When one considers the high levels of mobile phone access in the developing world, along with the ease of use and relatively low cost of SMS technology, text messaging seems to be a highly suitable way to deliver improved legal information services to low-income communities in developing countries. At least with respect to hardware and software platforms, the SMS-based legal information services offered in developing nations are user-centered.

The client-centered focus is evident in the initial plan for the development of mLegal. The needs of clients are foregrounded, particularly in the functions that manage intake and referrals, and case management, scheduling, and reminders; these are among the first components of mLegal to be implemented. Intake/referral applications available via SMS could substantially increase citizens’ direct access to legal professionals. Some researchers report that in developing countries, at least certain categories of clients—such as women who suffer from domestic violence—have experienced access to legal services via mobile devices as empowering.<sup>17</sup> Upon this foundation, in which mobile technology enables particular types of clients to initiate communication with lawyers, mLegal proposes to create a means of direct access to legal services for a much broader client community.

In subsequent stages of development for mLegal, other functions—suitable for the SMS medium and suggested by development policy research, or by technology for development, law, or other domains—might be considered. For example, consistent with the recommendations of the Commission on Legal Empowerment for the Poor, the mLegal intake/referral module might be adapted to allow citizens with legal needs to communicate via SMS with a broader range of sources of legal knowledge. These sources might include non-lawyers trained to assist individuals with legal issues, and peers or neighbors who have gained particular legal knowledge through experience.<sup>18</sup>

Additional functions, requiring no human mediation and designed to assist self-represented citizens, are suggested by the interactive data collection system at the heart of the mLegal intake/referral module. For example, interactive document-assembly systems designed for unmediated use by non-lawyer citizens, such as the A2J Author system created by the Center for Computer-Assisted Legal Instruction,<sup>19</sup> might be adapted for the SMS environment. If electronic forms for litigation papers or legal-transaction documents frequently requested by the citizens of a particular developing region could be incorporated into such a document-assembly system, and if an SMS-based user interface and menu system were created for such a system, non-lawyer citizens could complete such forms via mobile phone.

Such a document-assembly system might also incorporate an SMS-based application for direct digital submission of completed electronic forms to courts that accept electronically filed documents. Where such SMS-based electronic sub-

mission is not available or the citizen does not desire it (for example, if transactional forms are being created), the SMS-based document-assembly system could allow citizens with access to the Internet and printing facilities to have the completed digital forms emailed to them. Meanwhile, citizens who lack such access could be provided with ways to create and mail printed copies of completed forms.

Legal information retrieval is another foreseeable capability of mLegal. Although character limits and cost constraints render SMS an inappropriate medium for retrieving full-text information, text messages could enable the retrieval of key metadata related to legal documents, such as title, jurisdiction, citation, date, document type, subject headings, and abstract. Existing SMS-based health information retrieval technology might furnish suitable models for legal information retrieval.<sup>20</sup> Further, descriptive legal metadata standards such as CEN MetaLex,<sup>21</sup> AKOMA-NTOSO,<sup>22</sup> OAI4Courts,<sup>23</sup> or the forthcoming Law.gov metadata schema<sup>24</sup> could form the basis for stores of SMS-accessible metadata describing statutes, regulations, and decisions of tribunals.

In addition, lawyer-client communication applications developed for mLegal might be adapted for law-related research purposes. For example, the Open Data Kit SMS-based technology has been used to create mobile-phone based survey systems for collecting data on human rights abuses in African nations.<sup>25</sup> Similar technology might be developed within the mLegal framework to gather survey data about substantive legal issues of concern to clients, or about client satisfaction or other parameters related to services provided via mLegal.

These and other possible extensions of mLegal systems would be facilitated by another attribute of mLegal that accords with a current theme in legal technology: the use of open source software.<sup>26</sup> Key benefits of open source software include the absence of license fees, great flexibility to adapt and extend the software for new uses, the ability to allow anyone to contribute to the software, and substantial freedom to distribute one's product.<sup>27</sup> Systems developed with open source software thus have the potential to serve as what Jonathan Zittrain calls "generative systems."<sup>28</sup> These benefits make open source software particularly well suited for use in resource-constrained environments, where software modification and innovation are priorities, and where obtaining creative input from many sources and maintaining the capability to distribute code widely are highly desired: precisely the kinds of environments in which mLegal is to be developed.

One potential drawback to an SMS-based approach like that of mLegal concerns the lack of information access by illiterate citizens. Research on the use of mobile phones in developing countries shows that literacy constitutes a barrier to accessing services delivered via text message.<sup>29</sup> The relatively high rates of adult illiteracy in many developing nations<sup>30</sup> suggest that legal information services delivered via SMS may need to be supplemented by voice services.

For those desiring to create user-centered means of improving access to justice for low-income citizens of developing countries, SMS-based systems seem extremely promising. Development of such systems seems consistent with several trends in legal technology, including the unbundling of legal services, the empow-

ering of legal clients, the prioritizing of citizens' legal information needs and access capabilities in the design process, and the use of open-source software. Furthermore, legal-practice systems rooted in text-message technology could be extended to encompass a range of innovative law-related services and functions, including interactive document creation, e-filing of court documents, information retrieval, survey data collection, and online conferral with non-lawyers who possess relevant legal knowledge. By "meet[ing clients] where they are" and cultivating open systems, developers of open-source, SMS-based legal technologies such as mLegal exhibit great potential to enhance access to justice for low-income individuals in developing nations.

- 
1. Manuel Castells, *Communication Power* (Oxford: Oxford University Press, 2009), p. 40.
  2. Deepa Narayan, ed., *Empowerment and Poverty Reduction: A Sourcebook* (Washington, DC: World Bank, 2002), pp. 2–8.
  3. Beth Simone Noveck, *Wiki Government: How Technology Can Make Government Better, Democracy Stronger, and Citizens More Powerful* (Washington, DC: Brookings Institution Press, 2009), p. 41.
  4. Commission on Legal Empowerment for the Poor, *Making the Law Work for Everyone* (New York: United Nations Development Programme, 2008), 1:64, 2:56–57; Narayan, *Empowerment and Poverty Reduction*, pp. 66–68.
  5. Fern Fisher-Brandveen and Rochelle Klempner, "Unbundled Legal Services: Untying the Bundle in New York State," *Fordham Urban Law Journal* 29 (February 2002): 1107–1124.
  6. Richard Susskind, *The End of Lawyers?* (Oxford, England: Oxford University Press, 2008), pp. 42–52, 238–245.
  7. Helen Margetts, "Public Management Change and E-government: The Emergence of Digital-Era Governance," in *Routledge Handbook of Internet Politics*, ed. Andrew Chadwick & Philip N. Howard (New York: Routledge, 2009), pp. 114–127, 116.
  8. Dory Reiling, *Technology for Justice: How Information Technology Can Support Judicial Reform* (Leiden, Netherlands: Leiden University Press, 2009), p. 202.
  9. Graham Greenleaf, "The Global Development of Free Access to Legal Information," *European Journal of Law and Technology* 1, no. 1 (2010). Available at <http://ejlt.org/article/view/17> Accessed April 12, 2011; Philip M. Napoli and Joe Karaganis, "On Making Public Policy with Publicly Available Data: The Case of U.S. Communications Policymaking," *Government Information Quarterly* 27 (October 2010): 384–391; Carl Malamud, "Law.gov: America's Operating System, Open Source," *O'Reilly Radar* (October 15, 2009). Available at <http://radar.oreilly.com/2009/10/lawgov-americas-operating-syst.html> Accessed April 12, 2011.
  10. Manpreet Kaur et al., "Search History Tools for User Support in Information Retrieval Systems: Evaluation Results from an Iterative, User-centered Process," in *Proceedings of the Annual Conference of the American Society for Information Science and Technology* 42, no. 1 (2005), pp. 1–8.
  11. Reiling, *Technology for Justice*, pp. 184–208; Community Legal Education Ontario, *Exploring the Expansion of CLEONet: Final Project Report to The Law Foundation of Ontario* (Ontario: Community Legal Education Ontario, 2009). Available at <http://www.cleo.on.ca/english/pub/onpub/PDF/cleonetexpand.pdf> Accessed April 12, 2011.
  12. Ronald W. Staudt, "All the Wild Possibilities: Technology that Attacks Barriers to Access to Justice," *Loyola of Los Angeles Law Review* 42 (Summer 2009): 1117–1145.
  13. ABA Legal Technology Resource Center, *American Bar Association Legal Technology Survey Report* (Chicago: American Bar Association, 2010), pp. II-27, IV-36.
  14. Jim Calloway, "Legal Apps for Smart Phones," NALS: The Association for Legal Professionals (March 15, 2011). Available at <http://www.nals.org/?p=2646> Accessed April 12, 2011.

15. International Telecommunication Union, *The World in 2010: Facts and Figures* (Geneva: International Telecommunication Union, 2010), p. 4.
16. International Telecommunication Union, *The World in 2010*, p. 2.
17. See, e.g., Amina Tafnout and Aatifa Timjerdine, "Using ICTs to Act on Hope and Commitment: The Fight Against Gender Violence in Morocco," in *African Women and ICTs: Investigating Technology, Gender and Empowerment*, ed. Ineke Buskens and Anne Webb (London: Zed, 2009), pp. 88–96.
18. Commission on Legal Empowerment for the Poor, *Making the Law Work for Everyone*, 1:62–64, 2:56–57.
19. Staudt, "All the Wild Possibilities," pp. 1117–1145, 1128–1137.
20. Paul Fontelo et al., "Txt2MEDLINE: Text-Messaging Access to MEDLINE/PubMed," in *Biomedical and Health Informatics: From Foundations to Applications to Policy: AMIA 2006 Annual Symposium Proceedings* (Bethesda, MD: American Medical Informatics Association, 2006), pp. 259–263.
21. Alexander Boer, Radboud Winkels, and Fabio Vitale, "Proposed XML Standards for Law: MetaLex and LKIF," in *Proceedings of JURIX 2007: Conference on Legal Knowledge and Information Systems*, ed. Arno R. Lodder and Laurens Mommers (Amsterdam: IOS Press, 2007), pp. 19–28.
22. Gioele Barabucci et al., "Multi-Layer Markup and Ontological Structures in AkomaNtoso," in *AI Approaches to the Complexity of Legal Systems: Complex Systems, The Semantic Web, Ontologies, Argumentation, and Dialogue*, ed. Pompeu Casanovas et al. (Berlin: Springer, 2010), pp. 133–149.
23. Legal Information Institute, "OAI4Courts." Available at <http://oai4courts.wikispaces.com/> Accessed April 12, 2011.
24. Thomas R. Bruce, "Suggested Metadata Practices for Legislation and Regulations," LexCraft (2010). Available at [http://topics.law.cornell.edu/wiki/lexcraft/suggested\\_metadata\\_practices\\_for\\_legislation\\_and\\_regulations](http://topics.law.cornell.edu/wiki/lexcraft/suggested_metadata_practices_for_legislation_and_regulations) Accessed April 12, 2011.
25. Carl Hartung et al., "Open Data Kit: Tools to Build Information Services for Developing Regions." Paper presented at ICTD 2010: The International Conference on Information and Communication Technologies and Development, London, England, December 13–16, 2010. Available at <http://www.gg.rhul.ac.uk/ict4d/ictd2010/papers/ICTD2010%20Hartung%20et%20al.pdf> Accessed April 12, 2011.
26. In the latest survey of U.S. lawyers, 29 percent reported using the Firefox open-source Web browser, and 8.8 percent reported using the Mozilla open-source Web browser. Data on usage of other kinds of open-source software were not reported. ABA Legal Technology Resource Center, American Bar Association Legal Technology Survey Report, pp. II-50.
27. Dan Woods and Gautam Guliani, *Open Source for the Enterprise: Managing Risks, Reaping Rewards* (Sebastopol, CA: O'Reilly, 2005), pp. 91–92.
28. Jonathan Zittrain, *The Future of the Internet—And How to Stop It* (New Haven, CT: Yale University Press, 2008), p. 79.
29. See, e.g., Kazanka Comfort and John Dada, "Rural Women's Use of Cell Phones to Meet Their Communication Needs: A Study from Northern Nigeria," in *African Women and ICTs: Investigating Technology, Gender and Empowerment*, ed. Ineke Buskens and Anne Webb (London: Zed, 2009), pp. 44–55, 52.
30. United Nations Development Program, *Human Development Report 2010: The Real Wealth of Nations: Pathways to Human Development* (New York: United Nations Development Program, 2010), pp. 194–195.