Social Service Faculty Publications   Graduate School of Social Service

2014

A digital environmental approach: four technologies that will disrupt social work practice

Lauri Goldkind
Graduate School of Social Service, Fordham, goldkind@fordham.edu

COMMENTARY

A Digital Environment Approach: Four Technologies That Will Disrupt Social Work Practice

Lauri Goldkind and Lea Wolf

Our human experience is mediated with and by technology. Social work offers a panoramic perspective on individuals and issues, insisting on the importance of the ecology of interaction between person and environment. Given this historic strength, social workers cannot ignore the explosive growth and pervasive impact of technology or fail to recognize its role in shaping culture. Beyond its capacity to enhance what we offer to our clients, technology is a prompt, a demand to reimagine our core values in the context of a changing social space and to develop a mechanics of practice that is amenable to rapid evolution.

With this commentary we hope to initiate dialogue: to urge consideration of the implications of a technology-powered culture for designing social work curriculums and training, for reaching across disciplines to improve outcomes, for finding new ways for social workers to partner with clients, and for making these developments tangible and available to agencies and practitioners. Although technological innovation continuously alters the landscape of human possibility, it does not guarantee momentum toward the values of social justice. Social work is both uniquely positioned and ethically obligated to ensure that the drive of technological evolution is a project open to all, and that it does not replicate or amplify existing inequalities.

EMERGENT TECHNOLOGICAL INNOVATIONS

Internet of Things

The Internet of Things (IoT) is a paradigm in which the devices that already surround us—from wearable technologies to household appliances to environmental sensors—are equipped with identifying, sensing, networking, and processing capabilities that enable them to share information, both with each other and over the Internet (Whitmore, Agarwal, & Da Xu, 2014). It has been estimated that since 2008, the number of devices connected to the Internet has exceeded the number of humans on the planet (Whitmore et al., 2014), and the IoT proposes to attach these everyday devices—in homes, stores, and warehouses, embedded in roads and worn on our bodies—to the Internet, generating nearly unlimited data. The IoT renders the inanimate world alert, ensuring that mechanics of exchange in social work will be documented and reported more comprehensively than ever before, as clients, social workers, services and tangible goods are tracked by connected equipment and devices.

The anticipated efficiencies of the IoT (still more concept than integrated reality) will transform systems ranging in scale from the human body to the public sector. From the fine-tuning of personal health based on constant biological signaling to the remote monitoring of client medication compliance via ingestible sensors to the precise targeting of service hours, benefits, or tangible goods, the IoT will alter how we assess, react to, and calibrate the environment. This stream of information will reconfigure the relationships that constitute social work, raising issues of autonomy, privacy, and productivity for both clients and workers. Currently, the IoT paradigm—an eager vision of how this real-time information could reduce waste, eliminate redundancy, and inspire the productive reconfiguration of service delivery—coexists with calls for universal regulation designed to limit invasive monitoring and the commercialization of personal data.

Big Data

According to Getz (2014), "Each day we create 2.5 quintillion bytes of data generated by a variety of

sources, from purchase transaction records to health care medical images and from scientific research findings to social media messages" (p. 28). Big data is a hybrid concept, representing both massive and complex sets of information as well as the process of applying digital tools for identifying and modeling the trends embedded in such data. Specifically, the terms "data mining" and "big data analytics" refer to the translation of information into value: the process by which aggregating and analyzing massive sets of data can yield patterns that may be invisible or impossible to predict at the individual or small sample level.

The work that social workers perform requires an escalating familiarity with data, from the act of recording information into proprietary systems to an ability to analyze collections of output. Like all technology, big data suggests both possibility and caveat. Although the integration of client information drawn from agencies, public records, and the Internet could provide an instantly available dynamic record of strengths, potential service needs, diagnoses, and historic service usage for any client, such real-time compositing might constitute an unacceptable loss of privacy for an individual; and the impersonal analysis of personal history, Internet record, and demographic information could lead to stigmatization of individuals, geographic areas, or groups. Big data describes a dynamic process relevant to social work: the transformation of the microscopic informational detritus of human activity, via informed analysis, into a new mechanics for understanding how individuals interact with one another and with their environment.

Gamification

Gamification refers broadly to the application of game design elements to existing process and services to engage and motivate individuals (Schoech, Boyas, Black, & Elias-Lambert, 2013). It speaks to the use of game design techniques, game thinking, and game mechanics (competition systems that integrate points, badges, rewards, and punishments [Rao, 2013]) in nongame contexts, such as learning scenarios and behavior change. Gamification is, at its core, a strategy for engagement, and this novel platform offers social work new therapeutic capacity, the possibility to reach and involve populations resistant to traditional mental health interventions, and the potential for new forms of outreach and education.

Studies have described the use of game-based interventions that target specific components of addiction and substance abuse, depressive symptomatology, and relationship violence prevention, among many other foci (Rao, 2013; Schoech et al., 2013). One example, Blues Buddies, is a social network that encourages people with mild to moderate depression to learn and adopt tools to cope positively by entering a social network that incorporates shared learning and reciprocal supports while also promoting one-to-one relationships (Rao, 2013). Gamification offers social work a contemporary paradigm for enlisting participation: potentially providing clients new tools to assume expertise and ownership of well-being, engaging those more willing to game than to talk, and inviting the manufacture of public awareness out of first-person virtual experience.

Mobile Technologies

The use of mobile technologies has exploded. Of the world's estimated 7 billion people, 6 billion have access to mobile phones. Significantly fewer, only 4.5 billion, have access to working toilets (Wang, 2013). Far evolved from a device to connect people, smartphones—those with Internet-enabled functionality—allow users the ability to conduct their lives virtually: banking, shopping, consuming media, and even accessing mental health services, immediately and from any location (Getz, 2012). The attributes of mobile technology—the way in which it collapses the traditional barriers of time and space—have created a perception of constant immediacy. Such transformation, registered both internally and environmentally, charges this technology simultaneously with promise and challenge for social work.

Mobile technologies are among those most readily and consciously adopted by social workers. Technologies directed to the specifics of therapeutic social work are already in play—including reference materials that focus on prescription drug information and diagnostic criteria, mobile-enabled crisis intervention (some 911 systems already moving toward a text-based model), and mobile configurations that allow for remote therapeutic interaction. Global events have broadcast the power of mobile technologies in campaigns for social justice, and traditional social services delivery will also be significantly enhanced by mobile technologies. Remote documentation, access to therapy, and medication

management could streamline client care; supportive case management could offer clients mobile alerts to upcoming appointments or court dates, enhanced by specific instructions or travel directions. Among those discussed here, mobile technologies may be the most visible in present–day social work practice. Yet the speed of their adoption throughout the world, their quick–accruing capacities, and their encroachment into our collective definition of the self portend an accelerating yield of unimaginable change.

CONCLUSION

The power of these tools can immediately enhance social work practice. From supplementing treatment with games to checking benefits eligibility via an application, the potential of technology to improve services delivery is undeniable. Yet even as we engage these tools to generate solutions to the logistics and dilemmas of practice, it is imperative to launch a conceptual reevaluation of how the essential values of social work operate in a world where individuals and their environments have been reshaped by the live presence of technology.

The four technologies outlined in this commentary are widely relevant to effective practice. Yet their scope, in aggregate, is also a reminder of how broadly technology will change the way we live and relate, and should be a prompt to a project of deliberate revitalization across the field. As a discipline based on advocacy for the successful titration between people and the systems and environment that surround them, social work is uniquely situated to offer a human compass in the conversation about technology, and to represent the essential ethical values of social justice and connection in a reality whose constant engine is change. **SW**

REFERENCES

Getz, L. (2012). Mobile app technology for social workers. *Social Work Today, 12*(3), 8.

Getz, L. (2014). Big data's impact on social services. *Social Work Today, 14*(2), 28.

Rao, V. (2013, April). Challenges of implementing gamification for behavior change: Lessons learned from the design of Blues Buddies. In *Proceedings of CHI 2013 Workshop "Designing Gamification"* (pp. 61–64). Alpha, NJ: Sheridan Communications.

Schoech, D., Boyas, J. F., Black, B. M., & Elias-Lambert, N. (2013). Gamification for behavior change: Lessons from developing a social, multiuser, Web-tablet based prevention game for youths. *Journal of Technology in Human Services, 31*(3), 197–217.

Wang, Y. (2013). *More people have cell phones than toilets, U.N. study shows*. Retrieved from http://newsfeed.time.com/2013/03/25/more-people-have-cell-phones-than-toilets-u-n-study-shows/

Whitmore, A., Agarwal, A., & Da Xu, L. (2014). The Internet of Things—A survey of topics and trends. *Information Systems Frontiers,* 1–14.

Lauri Goldkind, PhD, is assistant professor, Graduate School of Social Service, Fordham University, 113 West 60th Street, New York, NY 10023; e-mail: goldkind@fordham.edu. **Lea Wolf, MSW,** is a consultant, Brooklyn, NY.