

---

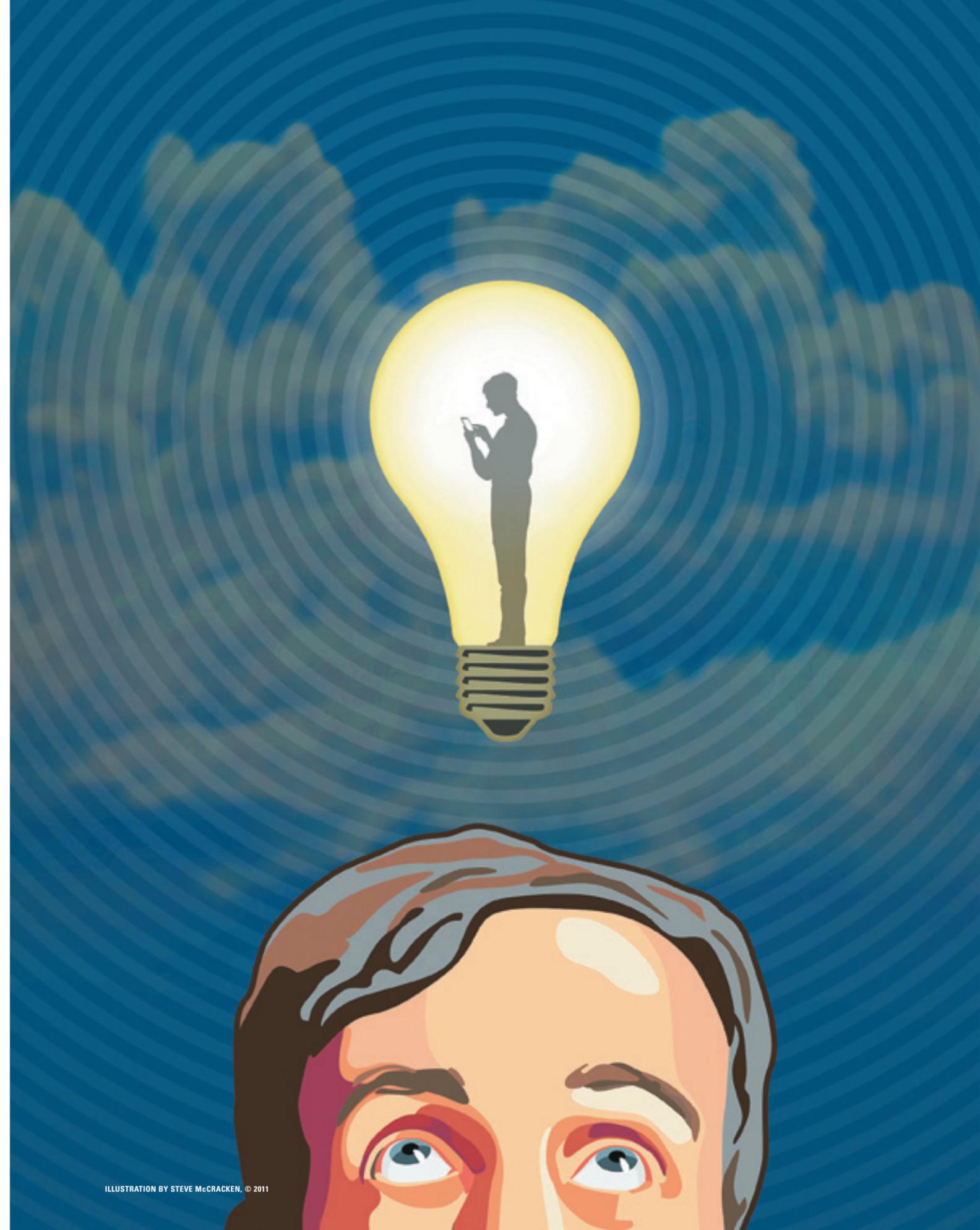
# Mobile Perspectives

By Jim Davis  
and Rosemary A. Rocchio

# On Devices

## Mobile: Letting Go of the Device and Building for Innovation

Mobile use of the Internet is on target to surpass fixed use by 2014. Three-fourths of all college/university students have purchased or intend to purchase an Internet-enabled handheld device within the next year. The smartphone market is changing almost monthly. Attempting to manage even just one or a few “devices” is becoming a lost cause. But in giving up institutional management of the device, we need to ask ourselves the questions: What are we now managing, and what are we no longer trying to control?



---

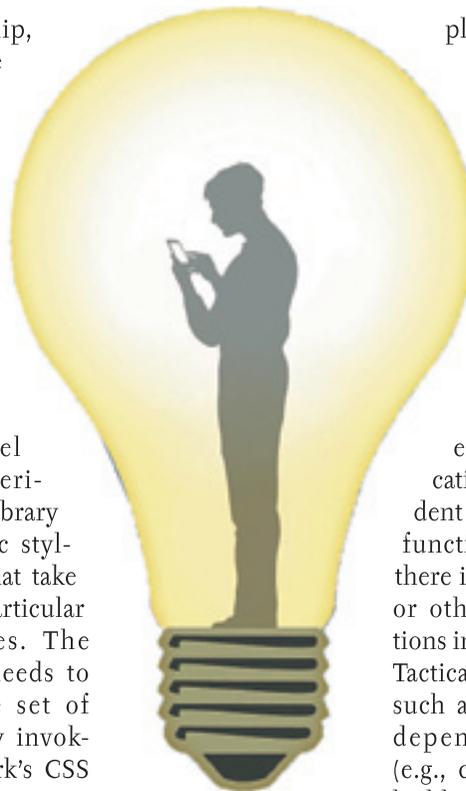
At UCLA, a key test that we apply to our IT strategies is how do we build for *innovation and the contribution of the digital citizen—innovation in both the use of IT tools and the IT tools themselves*. The recent wave of community sourcing and “apps” store approaches has shown the value of a framework that draws on the community to identify and creatively develop apps of value—value that is determined by the user community. In applying our innovation test to mobile devices, we decided to aim for an approach in which the community would identify the needs, could readily develop apps that would be rapidly assimilated into the institutional portfolio, and would determine value through the “vote” of use.

Our institutional ability to let go of local control, in this case of the mobile device, builds from a longstanding deployment principle called “service layering.”<sup>1</sup> Layered IT services integrate common-good institutional service and framework layers with diverse-edge layers to form whole services that address widely varying needs. The service is neither decentralized nor centralized but combines the advantages of each. Autonomy is valued and preserved but within an institutional framework. Edge services can vary widely and at the same time serve the institution such that service layering is consistent with community sourcing. Governance becomes an important component of the community’s ability to shape this service.

In the case of mobile, we have focused on a device-agnostic framework that stipulates only that the mobile device be web-enabled. Fundamentally, our Mobile Web Framework (<http://mwf.ucla.edu>) is about abstracting the presentation layer between data and mobile devices through two primary functions. First, the MWF sets up the standards and interfaces by which data and applications can be presented cohesively yet physically exist anywhere. Concerns from distributed data owners are assuaged when they aren’t asked to

give up ownership, and we trade the need for cumbersome central database copies for manageable governance and quality-assurance processes. Second, the framework ensures the look-and-feel of the user experience through a library of device-specific styling and scripts that take advantage of a particular device’s features. The app developer needs to create only one set of markup code. By invoking the framework’s CSS definitions and functions, the app is appropriately presented through all devices. This framework allows for a broad range and diversity of edge-layer services that can be developed locally but presented institutionally.<sup>2</sup>

Obviously, this device-agnostic framework and approach has huge practical advantages in that we can reach the vast majority of our mobile community regardless of what device they are using and we can readily accommodate ever-changing devices. This nearly-complete reach also sets the stage for some significantly important academic and administrative applications that depend on reaching virtually everyone—that is, all students. A particularly interesting and important academic ap-



**We have focused on a device-agnostic framework that stipulates only that the mobile device be web-enabled.**

plication that we are currently developing is the generic mobile clicker. The framework makes it possible for all mobile devices to become a standardized clicker.

The MWF does not preclude either native applications that are dependent on specific device functionality for which there is no published API or other native applications installed on a device. Tactically, we view needs such as required device-dependent data input (e.g., camera, alarms) to be likely drivers for native apps, and we treat these as specialized applications. For example, we have some campus units that are using specific data-gathering applications (e.g., pop-up alarms for health-monitoring purposes) for research projects on particular devices used by defined groups. In addition, any mobile web app built with this framework can be placed in a native app “wrapper” for distribution. Hence, we intend to facilitate app developers taking full advantage of commercial “apps” stores and their associated devices, given their large public reach.

From an IT management standpoint and having given up management of the device, we are also experiencing huge advantages in not dealing with

---

the less-than-exciting task of managing applications on ever-changing devices, models, and operating systems. In fact, quite the opposite is happening. Both institutional and distributed IT staff are excited and energized by being able to devote more of their time to the delivery of their content and functionality through a versatile mobile application platform.

The most exciting prospect is the potential for innovation and collaboration. We already have staff in more than twenty distinct units or groups developing and contributing applications and code to the UCLA MWF. The range, diversity, and creativity of the mobile apps is astounding, but equally astounding is the energy and speed with which apps are being developed. The “governance” structure currently consists of an oversight group that ensures testing, user

experience, and local support for each application. With the MWF in a launch-and-growth phase, this group has been promoting possible applications and use of the framework. We have rapidly reached the tipping point in that the applications are now being self-generated by the community of operating units around the campus and across the UC system. And we are only beginning to consider how to tap into the community of students.

Expectations for our mobile apps are high. Letting go of the device has allowed us to build for innovation. ■

#### Notes

1. Jim Davis, “Beyond the False Dichotomy of Centralized and Decentralized IT Deployment,” in Richard N. Katz, ed., *The Tower and the Cloud: Higher Education in the Age of Cloud Computing* (Boulder, Colo.: EDUCAUSE, 2008), <<http://www.educause.edu/thetowerandthecloud/PUB72021>>.

2. For further details on the UCLA Mobile Web Framework, see Rosemary A. Rocchio, “Going Mobile with a Web-Based Strategy,” *EQ*, vol. 34, no. 1 (2011), <<http://www.educause.edu/library/cqm111w>>.

© 2011 Jim Davis and Rosemary A. Rocchio. The text of this article is licensed under the Creative Commons Attribution-NonCommercial-ShareAlike 3.0 Unported License (<http://creativecommons.org/licenses/by-nc-sa/3.0/>).



**Jim Davis** ([jdavis@oit.ucla.edu](mailto:jdavis@oit.ucla.edu)) is the Vice Provost of Information Technology at UCLA.



**Rosemary A. Rocchio** ([rrochio@oit.ucla.edu](mailto:rrochio@oit.ucla.edu)) is the Director of Academic Application Services at UCLA.