

# Local Coders Help Improve Government Functions

*There's a new breed of software developer helping local government.*

[Tina Trenkner](#) | January 2011

In 2008, Boston city officials had an idea for a software program that would change how residents reported service requests. They wanted something that would allow smartphone users to identify and report potholes, broken street lamps or graffiti. Sure, Bostonians could call the city's 24 hour hotline for these requests, but officials wanted to take advantage of the high-tech features found in popular mobile devices, such as Apple's iPhone.

Officials had already laid the foundation for such an application by working with traditional IT vendors to invest in the customer relationship management system that supports the city's call centers. But when trying to find innovative ways for people to submit these requests, city officials wanted a partner who would develop something quick and efficient.

They considered small software development companies; they also played with the idea of going to a university and putting a sticky note on a bulletin board saying, "iPhone application developer wanted," says Boston CIO Bill Oates. "We really were thinking outside the box on how we would get the right partner to come in and talk to us about what we were trying to do."

Eventually, the city partnered with Boston-based Connected Bits, an eight-person company that in 2009 created Citizens Connect for iPhone users. So far, more than 8,000 people have downloaded the free app. The initial cost to the city? Just \$25,000.

This year, Boston put down 10 times that amount -- what Oates considers the biggest investment the city has ever made toward outside developers -- to participate in a yearlong fellowship program called Code for America (CfA), which matches cities with software developers to create easily transferable apps for cities. Seven fellows will work with the city to develop apps for Boston Public School students and their parents.

Boston and three other cities -- Philadelphia, Seattle and Washington, D.C. -- involved with CfA aren't the only ones interested in tapping into a pool of developers to create the apps it wants and needs. Nine other municipalities applied to be inaugural hosts for the fellowship. Based on growing interest in CfA, there's a good chance more cities will join prior to the March 1 deadline for next year's program.

Interest in CfA from developers, designers and city officials is the latest example of how a new generation of small-scale software developers and city officials can collaborate to provide useful and engaging apps for citizens. As more cities tap into this pool of talent, they're discovering the rewards and challenges of developing and deploying these fast -- and cheap -- mobile, Web-based apps.

## Coding for Cities

As recently as 2008, few developers were thinking about writing software code, or "coding," for cities. Now, interest in partnerships between independent software developers and cities has exploded. "This space was totally brand new and early, and it was very, very insidery," says Peter Corbett, CEO of iStrategyLabs, a media agency in Washington, D.C. Corbett is the co-creator of Apps for Democracy, a contest in which developers competed for cash prizes to develop the best apps using city data from the District of Columbia. The first contest, in 2008, produced nearly 50 applications in the course of a month, at a cost of \$50,000. The highly publicized event triggered a series of copycat contests in the U.S. and around the globe.

Corbett, who is on the board of advisers for CfA, doesn't necessarily take credit for making such civic innovation so popular, but does think Apps for Democracy helped because the contest concept is simple to follow. "People said, 'Oh, I get it. Open government data, citizens, they build Web and mobile apps. Got it,'" Corbett says. "We need open data, we need civic engagement focused on technology developers; this is the result that can happen." Having tech leaders like Tim O'Reilly, Craig Newmark of Craigslist and others speak about the rewards of civic innovation helps, too.

Beyond contests, civic innovators have convened at "unconferences" like CityCamp, where municipal and civic leaders meet to discuss city governments' technology problems and solutions. Last year, CityCamps were held in cities such as Chicago, Denver and San Francisco. A couple cities have even created their own version of a research and development lab, where citizens can contact the CIO's office to pitch an idea and see if it could be built. Manor Labs in Manor, Texas, and the Boston Mayor's Office of New Urban Mechanics, a joint partnership with the mayor's and CIO's offices, are examples of local government labs that take advantage of today's highly innovative mobile and Web technology.

Smartphones' popularity is one reason why the developer-city government dynamic has grown so quickly. Another is economic. Like most governments, cities face tight budgets and have fewer resources. But the lack of funds for IT hasn't stifled the desire to be innovative. "We need to think about how we can leverage the excess capacity that's inherent in our people to solve all those problems and there's no other solution," Corbett says.

Developers seem willing to get on board with city initiatives, as shown by the success of recent contests for cities and developers. Perhaps more telling is the number of applicants in CfA's inaugural class. Program staffers were expecting 50 to 100 applicants; instead, they received 362, many of which had previous experience building software apps. CfA fellow Jeremy Canfield, for example, worked on the U.S. Government Accountability Office's internal wiki and developed a mobile game. He passed on an offer at a design firm prior to accepting his fellowship. "It's a chance [to] not only get to work with cities to really potentially make some impact, but actually build this new program to really get it online," Canfield says. "I find that really compelling."

When you consider Citizens Connect's success, the use of coders has worked well for Boston so far -- at a considerably low price and with less overhead than traditional software development. The city's partnership with CfA is a bigger step. Boston, along with the other participating cities, paid \$250,000 toward fellowship stipends (fellows receive \$35,000 for the duration), some benefits and travel. In return, Boston will have seven fellows developing a key software component for the BostONEcard, a multipurpose card that students can use to check in at school, pay for lunch and transportation, and access libraries and community centers. In addition, city officials hope the fellows will create other apps for students and parents that reuse the same component.

"Try to think about the number of resources we're going to have, the length of time that we're going to have them, the quality of the resources," Oates says. "And if you look at that and what we will end up paying from a city perspective on that, I think it's great value. There's no question in my mind that this is going to be great value for the city."

## **Challenges Associated With Working With Outside Developers**

While working with outside developers may be cost-effective, there are a couple challenges to pursuing this type of partnership. First, current procurement laws and standards make it tricky to fund developers. "The way the program works, there's no obvious way to fund this," says Nigel Jacob, co-chair of Boston's Mayor's Office of New Urban Mechanics, which provides thought leadership on the CfA project. "Are they a vendor? Are they providing contract services? What are they?" CfA is not a pre-existing vendor with a product, Jacob explains, so in Boston's case, a legal team worked with budget staffers in a "creative" process to make the funding possible.

The other challenge is maintaining a sustainable project. Once fellows move on to their next career after working with CfA, who will ensure that the solutions will continue to work and evolve? "A project like this is going to live or die by whether or not we have people suitably invested in it," Jacob says.

In Boston's case, the city will be responsible for the products created through CfA. Oates says he may not know how exactly that will work, be it managed internally or through a third party. After all, the fellows just started on their fellowship year this month -- but the city recognizes that the responsibility to keep the project alive is on the city's IT staff.

Despite the challenges, Oates is optimistic about what outside developers can contribute to cities. "When you see CfA, when you see open application development and inviting developers to come in and help, I think it's just a reaction to the challenges we have," he says. "We are now to the point where we've seen some success with innovation and change, and that just breeds more interest to do it more."

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