Maps: Come in From the Cold

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Google booth caught my eye at the 2012 American Library Association's annual meeting in Anaheim. At the far end of the exhibit hall was a table promoting Google Indoor Maps. (The company was a last-minute addition; it's not listed in the final program.) There were several men behind the table and I began talking to the older one. He explained that the interior maps project, introduced in late 2011, was still only for mobile but that it was coming to desktop soon. The idea was that you could zoom in on a building and, at a certain point, it would take you inside to show you the content on the various floors.

Google Indoor Maps has the traveler and shopper in mind. Lost in an airport, train station, or shopping center? Want to find a particular part of a museum? Looking for your seats in a sports venue or concert hall? Check the floor plan on your mobile device to find where you are and where you want to be. The technology has obvious appeal for libraries, and the representative at the booth told me he’d like to see greater participation by libraries of all types. There are only a very few libraries currently participating.

I enthusiastically carried the idea about uploading our floor plans home to the law school library where I worked. Some of the IT people responded with: “Cool!” Encouraged, I showed it to library administrators. They were absolutely horrified at the idea. “Google will know what is inside of our building,” intoned one administrator. “Google knows what brand of toothpaste you buy. Also, the maps are in our online catalog so everybody in the world can already look at them, including Google.” The result: Our library was added to the list of places hiding from the “Do no evil” folks.

HIDING IN PLAIN SIGHT

I found it odd that something this huge was so little known. I started with Google's page that gives examples of businesses and libraries whose floor plans have been added to the project (support.google.com/gmm/bin/answer.py?hl=en&answer=1685827). This lists about 900 names in selected countries. According to Google, the countries now served include Australia, Belgium, Canada, Denmark, France, Germany, Japan, Singapore, Spain, Sweden, Switzerland, the U.K., and the U.S. Only the U.S. has floor maps of libraries—and there's only 18 of them.

I tried several of the examples Google suggests, most notably the Ikea store near my house on Long Island. I've got a pretty good sense of direction, but after the eighth turn in this maze-like store, I gave up. As per the directions provided by Google, you just click to zoom in to the store and at a certain point, you see floor numbers on the right side. (See Figure 1 below.)

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Figure 1: Google floor plan of Ikea in Hicksville, N.Y. Note floor levels at right of screen
As promised by the Google guys at ALA, its indoor maps became available on the desktop late in 2012. Daniel Ionescu warned that it doesn't have as many features as the mobile version in a *PC World* article, "Google Adds Indoor Maps Just in Time for Black Friday" (Nov. 22, 2012; pcworld.com/article/2016078/google-adds-indoor-maps-just-in-time-for-black-friday.html). Specifically, while Google Indoor Maps for desktop would show the main floor, it did not have full floor access like the mobile version. Indeed, when I tried it, it didn't work.

**BING VENUES**

Google isn't the only search engine working on bringing maps in from the cold. Bing announced its plans for floor plans before Google did, in August 2011, as part of its Mobile Browse. It, too, identified shoppers as a prime target for indoor maps and started with mall maps. Bing refers to these as "venue maps." One example is this fully interactive map for the Mall of America. (See Figure 2 below.)

This map puts a list of stores to the left. Click on any name, and it takes you to the full floor plan for that level of the mall. Current news articles claim that Microsoft has only gathered 3,000 floor plans, but clearly it is putting out high-quality work with the ones it does have.

Bing venue maps are no longer restricted to shopping malls, nor is it U.S. only. It has maps for airports, amusement parks, casinos, museums, stadiums, and a few zoos. It claims 81 universities, but no libraries.

**LIBRARIES AND INDOOR MAPPING**

Since many libraries keep maps inside their online catalogs, users can click on a location, such as reference, to see where to go for library materials. Some take this as far as showing which ranges of shelving contain which call numbers. (See Figure 3 at right.) Years ago, in a library far, far away, I became a pioneer of sorts when I looked into the holy grail of online catalog enhancements. When people looked at the catalog record for a book, they could follow a link that took them to a map of the library floor containing that book. Further, the range of shelves containing that title would blink on and off. None of this used fancy coding—just HTML with animated GIFs. The real holy grail would be to have the display point an arrow at the exact shelf containing the book, but I never got close to that.

With the advanced coding techniques now available to tech-savvy librarians, that holy grail just got a lot closer. At the University of Central Florida, a librarian named Blake Stephens started with Google Maps, created a detailed, multi-tiered map of his library, and then described how he did it (portfolio.resourcefork.com). To be honest, it goes far beyond anything in my head, but I'm sure there are others out there who can take this and run with it. (See Figure 4 below.)

The most eye-catching use of library mapping I've seen to date is at Wichita State University. At the level of a book record, you are given the option to open a map to help you find the book. What opens is a floor map. The animated figure of a man walks from a central staircase to the range of shelves containing the title, points three times, and then stands on the spot. I'm not sure how librarians could serve the information needs of their patrons any better, unless they could have the catalog serve up a glass of warm milk and virtual cookies. I have seen at least one other library whose catalog rises to this level of service, but without making it so much fun. (See Figure 5 on page 44.)

In the meantime, Google lists several public and academic libraries that allowed the wizards of Mountain View do it...
for them. The Los Angeles Public Library was on the list, but I couldn't get it to show me anything but the nearby Panda Express, while the library building remained a blank mystery. However, the map of the Tisch Library of Tufts University worked just fine in mobile maps.

SPYING ON COMPETITORS

Google and Bing are natural competitors, but a third large company is interested in maps—Apple. It acquired WiFiSlam in March 2013, a specialist in indoors maps (bits.blogs.nytimes.com/2013/03/25/with-acquisition-apple-looks-indoors-for-future-of-maps). WiFiSlam enhances indoor maps by adding GPS, so you can use it at the mall to connect more easily with friends. Apple, remember, took a serious beating when it populated iPhones with a map program that was not ready for prime time. No wonder it wants WiFiSlam. There are existing GPS options for interiors but are said to have an unacceptable accuracy rate. WiFiSlam invented technology that uses Wi-Fi signals in buildings to pinpoint locations and boost speed.

In April 2013 Micello (micello.com) entered the indoor map market, announcing it had gathered 15,000 floor plans for indoor mapping (news.techworld.com/applications/3441135/micello-announces-industry-largest-collection-of-indoor-maps). This is significantly higher than Google's announced 10,000. You can access the maps after a free registration.

The company, a startup founded by ex-Sun executive Anil Agarwal and his son Ankit Agarwal, provides data to GIS systems and claims to have 3.7 billion square feet of interiors in its collection. On its website, it explains that this is the equivalent of 63,792, for those who need a breakdown in the world's newest standard of distance measurement. I couldn't tell from its web presence what it actually does with this data, but I suspect we'll all know soon.

SPYING ON GOOGLE

As I was working on this article, my wife Donna told me, "Google is coming next Monday to work on interior maps of our library." Since I'd gotten the phone number of the Googler from ALA but could not contact him, this looked like a major windfall landing in my lap. I was there at the East Meadow Public Library that Monday to greet them. They didn't arrive at the stated time, so I went back to my wife's office to check messages. Eventually, Donna poked her head in the door and said "They're here, standing by the new book shelf." I went over and saw four young men in T-shirts and backward baseball caps all facing each other and punching data into cell phones. This isn't all that unusual a sight on Long Island, so I checked to make sure this was really my prey and not some other random spies.

By the time I went back, they were marching further into the library in a Blue Angels formation in perfect synchronization. I had a name of the chief contact so I called it out. He said, "I am him." I mentioned that I was writing an article for Information Today, Inc. press. The Google wall of silence came slamming down, and I was told that they do not talk to the media. I mentioned the man I met in Anaheim and got something like a shocked response: "Yes, we work with him." While waving goodbye I told them, "Please tell him hi from me." John LeCarre himself could not have written this scene better.

The Googlers wouldn't say anything, but the librarians sure would, given that my wife has worked there for nearly 2 decades—and also given that they aren't particularly secretive. Carol Probeyahn, library director, said that Google called them initially, so it wasn't an effort directed by the county system. A proposal was given, gone over by the library's lawyer, and passed on to the board. Everybody saw this as a total win, so they went ahead. Assistant director Rocco Cassano said that he'd spent some time developing a map that synchronized the library interiors with GPS data. This was turned in, but months went by, and they had since switched to a new system that employed Wi-Fi for exact and speedy pinpoint of location. Cassano said Google told him that it would take a couple of months before the data went live—and it's not yet at the Google Indoor site.

COMING ON IN

Competition can be a good thing for us, the users. When the three biggest kids on the information block, plus a startup, are fighting for the same turf, you may assume that they will be dealing out plenty of good map data to earn our love. Given the nature of obvious technology trends, I think the field of battle will be heavily tilted to mobile rather than desktop. After all, that's where most people need help with maps. It's certainly not while they are sitting at their desks.

The question really is how libraries can get into the fray. Robert Heinlein once dismissed his powers of prediction with the analogy of a man sitting on a high hill overlooking a train track. He sees trains on his left and right advancing on the same track. He predicts there will be a train wreck. On the other hand, he didn't predict the internet. But I'll take the chance and predict more library floor plans will be available through Google Indoor Maps, and possibly through Bing, Apple, and Micello.

Figure 5: Wichita State University's animated map

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