

■ KENNETH E. KENDALL, Feature Editor, School of Business-Camden, Rutgers University

Just when we thought ecommerce was changing our world from a distance-based world to a virtual distance-less world, we find that geographical location may once again demonstrate how important it really is. This month's column, by Julie E. Kendall, points out that new mapping software using satellite technology is in fact changing the way we view our surroundings and even find our way. Julie's opinion is that eventually these programs, which at first glance appear to offer simply "voyeuristic" images of buildings in our neighborhood, will in the future be useful in a variety of ways. She also explains how the new technology is useful now.

Satellite Mapping and Its Potential in Ecommerce: Why We Need Directions to Follow Our New Maps

by Julie E. Kendall, Rutgers University



Julie E. Kendall

is an associate professor of ecommerce and information technology in the School of Business-Camden, Rutgers University. Dr. Kendall is the chair of IFIP Working Group 8.2. She was awarded the Silver Core from IFIP.

Dr. Kendall's research has been published in MIS Quarterly, Decision Sciences, Information & Management, Organization Studies and many other journals. Additionally, Dr. Kendall has recently co-authored a college textbook with Kenneth E. Kendall, Systems Analysis and Design (Prentice Hall, 6th ed.). She is a senior editor for JITTA and is on the editorial review boards of the International Journal of e-Collaboration; Decision Sciences Journal of Innovative Education; Journal of Database Management; Journal of Cases on Information Technology; and Information Resource Management Journal. She served on the inaugural editorial board of the Journal of AIS and as an associate editor for MIS Quarterly. Julie served as treasurer and vice president for the Decision Sciences Institute.

<http://www.thekendalls.org>

Little did the real estate mavens know what technological truth they had stumbled upon when preaching the mantra of "Location, location, location!" We are witnessing an explosion of mapping software and map-related applications that make knowing our location a key to unlocking organized indices to the physical world around us.

In the not-so-distant future we will be able to really know about our location. Type in a zip code, place name or some other locator, and a richly layered, people-oriented way of mapping our geographical space will be at our finger tips. Or the technology will locate us and then provide us access to multi-layered information about our location: maps of stores, physicians' offices and their specialties; photos of natural terrain; depictions of micro-climates (permitting us to checking whether there is a snow squall or lake-effect snow storm hobbling the south towns of Buffalo, New York, while the downtown remains warm and dry).

So, rather than possessing outstanding map reading ability, users in the future will need only be able to describe (or let our technology sense)

where we are located or the location we are curious about. Rich overlays (created by Web designers tapping into the basic structure provided by the software and then customizing it) will provide delicious and deep results such as the closest pizza place to the Rutgers Camden campus, the nearest Wi-Fi spots, the history of the land we are walking on, whether the building's elevators passed their latest inspection, the approved fire evacuation routes in a building we're entering, whether the building is occupied by people or animals (if the animals are sporting electronic sensors, of course), whether the humans in the building are logged onto the same game software the map user is, or whether they are on the Web.

Add voice or Braille output and you have a wonderfully rich and orienting description suitable for the hearing or seeing impaired as well. So a person with low vision who is wheelchair bound might get special-location information maps detailing the height of door sills and curbs, and whether they are navigable by their particular model of electric wheelchair or not. Geo-information will also be able to individuate whether a wheelchair or electric

cart is freely available, or where it can be rented nearby. The same applies for relating the availability of baby strollers to rent to a map of Central Park, or wherever one is doing their Sunday stroll with baby in tow.

But let's turn now to the state of the art. Great strides are being made in map making and in organizing the Web geographically. We won't explain every package of mapping software in this article. Instead, we intend to show you some highlights that will get you interested in trying these packages and services on your own.

Finding the Maps Themselves

Some of these mapping programs are hidden from the general Internet "surfer." For example, a surfer who types in "MSN maps" using a search engine today (this article was written on 9-26-05) would find a link to the very mundane site called MapPoint (also known as "MSN maps and directions"). In order to find the new, excit-

ing way to use maps, surfers need to type in "MSN maps sandbox" and suddenly they are directed to site sandbox.msn.com and then given the chance to go directly to Visual earth (virtualearth.msn.com/).

Of course, not every search engine has an area called a "sandbox" that metaphorically invokes an image of a test area, where inexperienced users can learn, play, and grow in safety. Others label this experimental area differently. Google refers to the experimental zone as the "Google Labs." Yahoo calls it "Next." In all cases these areas deliver new opportunities that are somewhat beyond the beta phase, yet are still largely unsupported in terms of resources.

So, in order to find mapping software, you need a map.

When Policy and Technology Converge

Mapping software has been around for a quite a while now, and people who

show up late to meetings often blame (sometimes unfairly) their inability to arrive at the meeting on inaccurate driving directions on MapQuest. It has become a convenient and clichéd excuse. The explosion in global positioning systems (GPS) that use satellites to calculate positions came about when spurred by former President Clinton, who ordered that the intentional degrading of GPS signals due to military priorities be turned off.

Our civilian maps could be much more accurate, positioning us within 10 meters, rather than 1,000. Since then, this satellite mapping technology has been available to all of us, and many more of us have become interested in its possibilities. TerraFly, which can be found on the Florida International University site, has been around for about five years. Then there was Keyhole mapping software, but it wasn't until Google entered the picture by purchasing Keyhole that most people were aware of the technology.

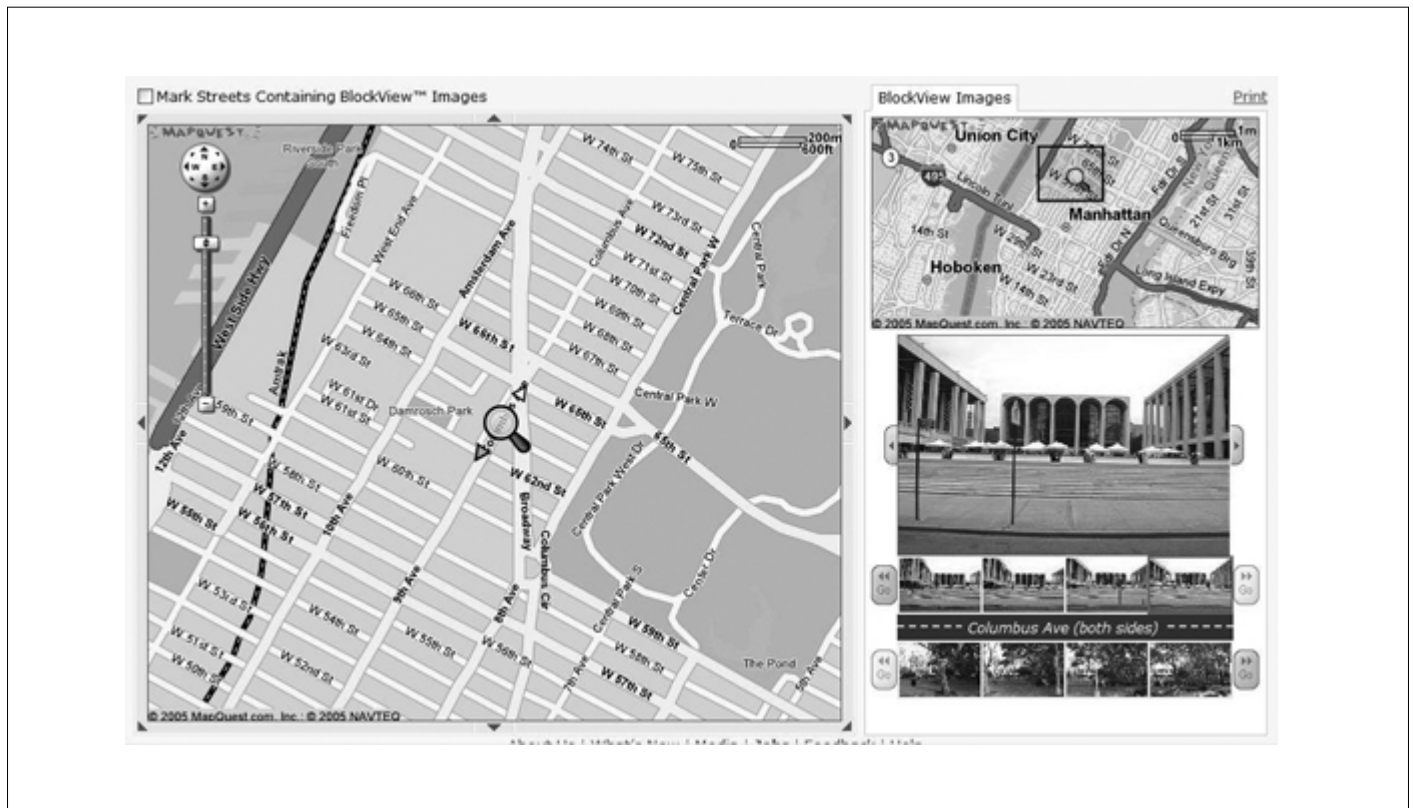


Figure 1: A feature found in maps.A9.com that allows the user to see the buildings on the street is appropriately called "BlockView."

Google, MSN, and A9 Make Maps

Google's Visual Earth is getting the most attention at the moment. It has also been dubbed "a 3D interface to the planet" by Google. The general manager of Google's Keyhole group, John Hanke, calls it "a browser for the earth." It uses a combination of satellite imagery, maps, and Google Search to create maps. Hanke's group was acquired by Google, and subsequently developed the software that Google Earth is based upon. Keyhole had several government, real estate, and business clients and became widely popular at the beginning of the current Iraq war in 2003, when Keyhole satellite maps were seen on television, helping viewers to see where military action was occurring.

In an interview published in *Technology Review* (October 2005, p. 56), Hanke said, "The interesting part is not necessarily the core map but the information from the Web that's now being organized geographically, so that you can get to it and understand it in its proper context."

There is now a concentrated effort (and a mad dash) to put geo-tags on as much information as possible. Some authors believe that uniting the Web to "real space" can "deepen our experiences with them," and make them a more "continuous part of our real lives" (Roush, 2005, p. 57). Benefits to e-commerce Web sites are sure to follow as well.

The maps at A9.com, once described as the world's 27th most used search engine to the dismay of my students, offers another alternative to mapping. Although maps.a9.com now offers maps of a limited number of cities, they include a feature called "BlockView" where you can glimpse what the houses on the street look like. Figure 1 shows a maps.A9.com screen with a block image centered on the Metropolitan Opera in New York City.

Personal Use of the New Maps

Sure, we'll still have MapQuest around to blame when we've arrived late, but getting there will be more fun. Once

we're there, it will be even better. We'll be able to actively recognize and engage with the surrounding area. That means we'll be able to see the building themselves, even in three dimensions, so we'll know how large they are compared with other structures in the area.

A couple years ago I remember the discussion regarding how to get to the site of the April board meeting for DSI. The instructions were clear enough—looking back at the instructions, if one followed each step of the instructions very carefully, it was correct in every

way. But upon arising from the depths of the Metropolitan Atlanta Rapid Transit Authority (MARTA) station, one doesn't see the stop light. Construction obscures the view, street signs are missing. You are faced with walking up the hill (which doesn't look so small when you are accompanied by your luggage) or walking down, all the while fearing that you'll need to turn around.

When you are looking for a place (in this example I was looking for a hotel that was about 3-4 blocks from the station), all you see are tall buildings.

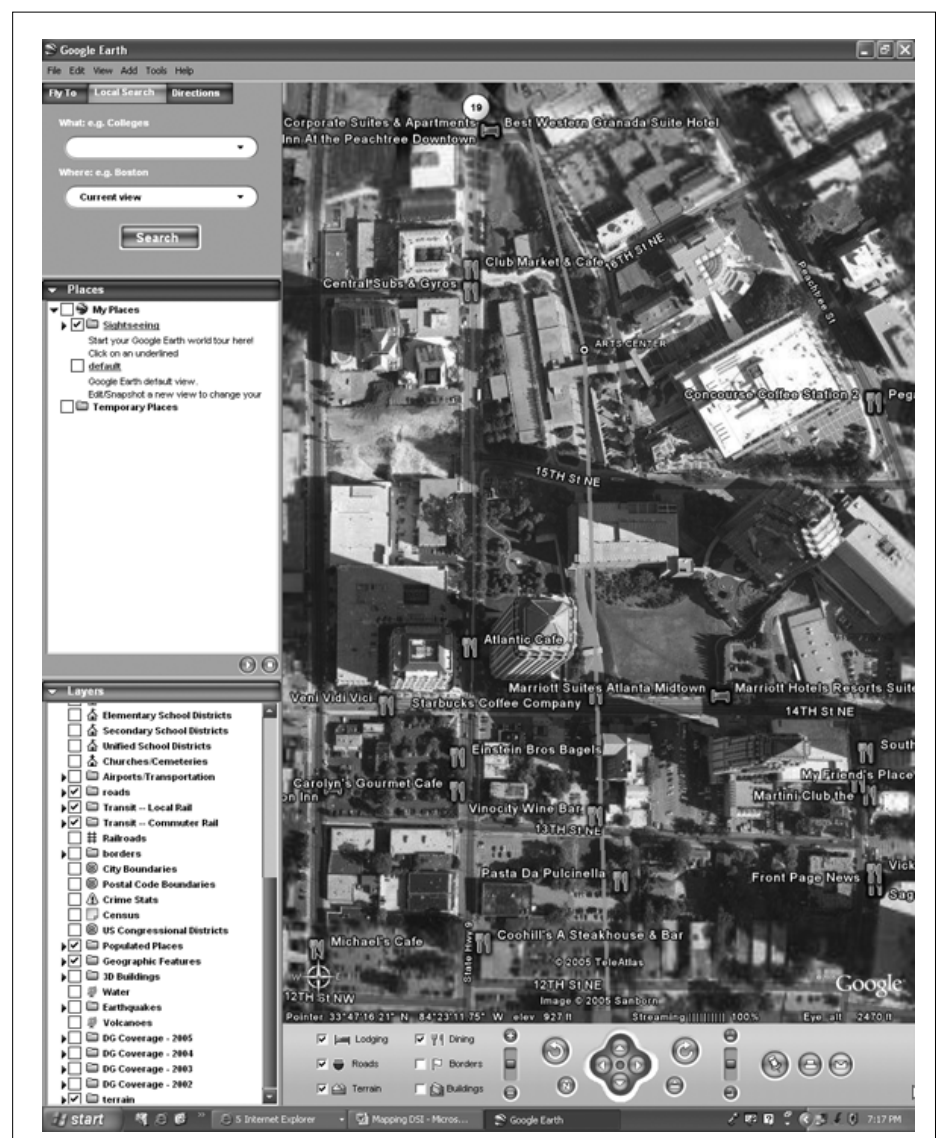


Figure 2: Google Earth allows the user to display a satellite view of an area including the names of all the streets, the rapid transit line, and restaurants in the area all at the same time.

Nothing looks familiar, and you try to figure out which way to turn. Nowadays, using a package such as Google Earth, you can pinpoint the address of the hotel (just by entering the hotel's phone number, for example). Then let the program draw in the MARTA line and stations, then print out the hybrid satellite photo of the area.

The hybrid satellite photo (see Figure 2) shows the buildings, their architectural style, and some idea of their height. (For a better idea of height, you can click on 3-D and be more certain of

the relative height of buildings in the area.) When you arrive at the station, pull out the map, look at the buildings in brilliant color (assuming that you have access to a color printer), and everything suddenly makes sense. Sure, you still need to walk up the hill with your luggage, but knowing where you are going takes some of the stress out of the journey.

Maps with extensive overlays are just another way that the Internet is making our lives easier.

References

<http://earth.google.com/>

<http://maps.A9.com>

Roush, W. (2005). Killer maps. *Technology Review*, 108(10), October, 54-60.

<http://sandbox.msn.com> ■

DSI Marketing Director Coordinator Vacancy Announced

Terrell Williams' second term as Marketing Director ends December 31, 2006. Pursuant to Institute procedures, the Board of Directors is seeking qualified candidates for this position. The Marketing Director serves a three-year term and may be reappointed for a second three-year term. Anyone interested in the position should contact Carol Latta at the address below.

The overriding role of the Marketing Director is to foster a marketing orientation to support member attraction and retention throughout the leadership of the Institute. The Marketing Director is responsible for developing an annual marketing plan and overseeing the implementation of the plan. The Marketing Director regularly attends various committee meetings at the Annual Meeting in November and a meeting with the Strategic Planning Committee in March. The Marketing Director may be asked to attend Executive Committee and Board of Directors meetings in January and April. Thus, the position requires significant travel support from the Marketing Director's institution.

The major responsibilities of the Marketing Director include:

1. Develop and implement programs and activities that will secure

new members and retain existing members of the Institute.

2. Manage and expand contact e-mail lists of prospective members.

3. Interface with Institute members to encourage ongoing activity in the Institute.

4. Report to the Executive Committee, the Strategic Planning Committee and the Board of Directors on Institute marketing activities and membership trends in the Institute.

5. Support, contribute to, and analyze various surveys to members and nonmembers of the Institute and their results.

6. Make recommendations to the Home Office, Executive Committee, the Strategic Planning Committee, and the Board of Directors, with information provided to the Member Services Committee, and the Development Committee regarding all aspects of member attraction and retention. This will include member statistics, benefits, pricing, and communications.

7. Work with the Information Technology Committee on Website development and other technology issues related to member services, benefits, attraction and retention.

8. Develop messages for and oversee ongoing contact with various mem-

ber and non-member constituencies of the Institute.

9. Constitute and oversee a marketing committee as appropriate.

The Marketing Director is a member of the Development Committee for Excellence in the Decision Sciences (Ex Officio), the Information Technology Committee (Ex Officio), the Member Services Committee (Ex Officio), and the Strategic Planning Committee (Ex Officio).

Questions about the position may be directed to the current Marketing Director, Terry Williams, Western Washington University, at (360) 650-4896 or terrell.williams@wwu.edu. All interested parties should submit the following to Carol Latta, Executive Director, Decision Sciences Institute, 35 Broad Street, Atlanta, GA 30303:

1. Curriculum vita
 2. Statement of activities and service provided to the Institute
 3. Statement of interest and availability to serve a three-year term
 4. Statement of qualifications and experience related to the position
 5. Description of institutional commitment for the support of the director's job functions for a three year period.
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