Technology

Ghost Map haunts the future

Dickensian development sparks evolutionary change on the internet

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You wouldn't think a cutting-edge technology might date back to 19th-century London. But, then, you probably aren't familiar with John Snow, whose ideas could change the way we use the World Wide Web.

During the summer of 1854, in the filthy, Dickensian streets of the world's largest city, a cholera epidemic swept through Soho killing 10 per cent of the population in 10 days.

A then regular hazard of dense urban living, outbreaks of cholera were thought to be caused by the foul air that settled over most of London. Innovative doctor John Snow, with the help of local pastor Henry Whitehead, hit the streets in search of a more satisfying explanation. After weeks of talking to locals and retracing their footsteps through the city streets, they found that the victims all shared the same water source, proving that cholera was water-borne.

The map Snow developed to show this relationship is now legendary.

One of the best websites on the topic (**www.ph.ucla.edu/epi/snow.html**) does an exceptional job of displaying it and Snow's other maps and categorizing and cross-referencing them to other data sets in a stunning display of what the Web does best: relating things in non-linear fashion.

The history of Snow's innovation is related by author Steven Johnson in his book, Ghost Map: The Story Of London's Most Terrifying Epidemic And How It Changed Science, Cities, And The Modern World (Riverhead).

Snow's scientific acumen, along with Whitehead's knowledge of people's daily habits in the neighbourhood, influenced Johnson to create his own website (**outside.in**) based on the idea of local knowledge.

Currently, information on the Web is tagged and categorized by content: technology news, Canadian politics, basketball, Ashley Simpson... which makes searching by subject remarkably easy.

The new school of Web surfers, members of the so-called Web 2.0 generation, post content as well as read other posts, and add tags to stuff posted on sites like YouTube, Digg and Flickr that further refines the process of searching for cool stuff.

Johnson, from his research on Snow's work, realized that most information on the Web is missing the kind of added value that made Snow's investigation so remarkable: local knowledge organized around neighbourhoods and geographical patterns.

Outside.in's geography-based filters immediately tell you everything from which bloggers are writing closest to your location to neighbourhood news. Click on the "top real estate" link to investigate hot property sales in your area, or follow the links to recommendations on art galleries or the best place to get a pizza.

Johnson has since popularized the practice of tagging content with latitude and longitude, making geography count. This allows users to search not by topic but by the street corner they're standing on.

This brings search functions on the Web much more into sync with how we run our lives – intrinsicially connected to the urban fabric where we live and work. Others, like toronto. com, have tried, but that site is created by a company in a top-down process, whereas outside.in is user-created. The more tags people post, the better the search features will be.

The idea of geography-based Web applets is not entirely new; see the 3-D splendour of Google Earth and the viral success of Google Maps. Over the past three years, surfers have used the Google Maps platform to display data on everything from real estate pricing to crime statistics to gay hangouts across the continent in much the same way Snow layered neighbourhood deaths onto the streetscape of Soho.

This is the beginning of a new vision of how the Web will work. We've witnessed the first wave of static Web content and are now in the throes of the second wave of user-generated content. But when that content begins to be filtered by geography, we might find ourselves in the third age of the World Wide Web, the so-called Web 3.0 or the GeoWeb, where it functions as a user-generated tour guide that does justice to the rich texture of our neighbourhoods. ◙

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