

Web-Based GIS Wins Accolades for Hamilton

By Stephanie Schappert

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Web GIS is an important spatial data and application delivery channel. Its advantages include widespread usability, rapid application deployments, familiar browsing environment, ease of use and standardization. The City of Hamilton implemented a Web-based GIS portal and database to effectively manage its resources at www.map.hamilton.ca. Its creation began in 1998 and has been used internally by City staff until officially launched to the public in February 2003.

For the City of Hamilton, this innovation was created using GeoMedia WebMap and GeoMedia Web Publisher, which are but two of many Intergraph GIS products. This GIS innovation has proved to be both cost- and time-effective for Hamilton. It is limited only by imagination and creativity!

Funding for the site came from the City's Information Technology Services Division, the City's Economic Development Department, and some Federal Government grant money through Economic Development. Intergraph Canada was also hired to assist internal staff with the development. It is with their support that this innovative project was made possible.

So far in 2003, the City of Hamilton has won three awards for their work on web-GIS:

✎ a Silver Award for the 2003 URISA Best Web-GIS Internet Application

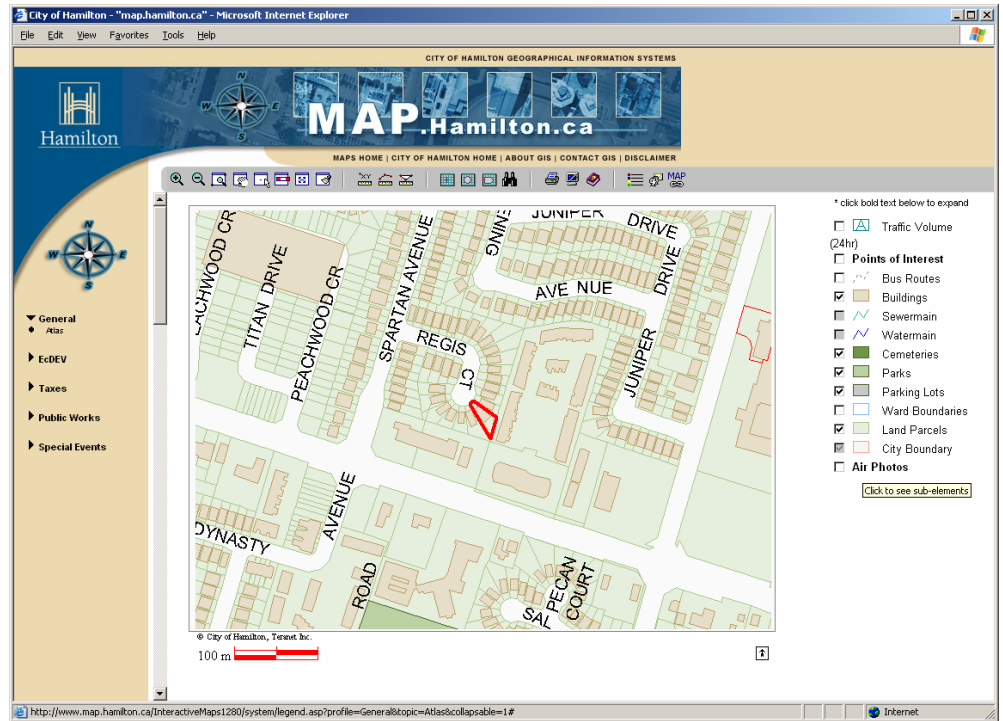
(<http://www.urisaoc.ca/subPage.asp?id=135>)

✎ the international GeoSpatial World 2003 Gold Award for Best Web GIS Internet Presentation

(<http://imgs.intergraph.com/newsroom/pressrelease.asp?id=141>)

✎ First Place in the Directions Magazine Web Mapping Competition, for the Best Government web GIS site

(<http://www.directionsmag.com/web.mapping.contest/>).



Background

The GIS Services division of the Corporate Services Department of the City of Hamilton consists of seven staff members under the direction of Al Little (BES, OLS, OLIP). The section also has two GIS Coordinators, two GIS Analysts, and two GIS Technologists. However, there are a number of staff in other departments dedicated to GIS and mapping activities. All of these dedicated individuals have made the web-GIS portal for the City of Hamilton possible.

In the past, Hamilton had to create its Web site from start to finish, with constraints in each step of the process. It was difficult to change information on the Web site and update information and maps once they were in place. It was also difficult to configure the site to certain specifications. A lot of time and money was needed to create a site that, in the end, staff were unable to change or configure properly.

In 1989, the City of Hamilton and Intergraph teamed up to create the City's first GIS landbase and application environment. The City of Hamilton began using the Land Records Manager (LRM) product, migrated to the Modular GIS Environment (MGE) suite of products, introduced VistaMap as the first entry level GIS client, and finally upgraded to the GeoMedia suite of products when they were released. Al Little, Hamilton's Manager of GIS Services, says GeoMedia was chosen because the City of Hamilton had a positive working relationship with Intergraph, and GeoMedia offered the potential for storing spatial data as a single unified record database in a non-proprietary, industry standard database (Oracle).

Furthermore, whereas the earlier versions of Hamilton's Web-GIS required a significant amount of programming skills, the Web publishing tools employed today make it

relatively easy to build, deploy and maintain a Web-GIS application. Technological advances in processing power and bandwidth availability also played an important role in bringing this channel to life.

Benefits

The Web-GIS portal provided Hamilton with the opportunity to create a database and mapping portal to meet the needs of its citizens and tourists. GeoMedia has enabled the City to store geospatial data in one database, instead of several databases, saving time and money. Hamilton has been able to redistribute its costs to different departments, with a fair split of the costs among them.

This delivery channel permits widespread viewing and use of Hamilton geospatial data by internal staff, business and residents, and potential developers and investors from around the world. The ability to deploy these services without having to visit a user's desktop physically is a major benefit. Data is more current, and more consistent compared with the variety of standalone, redundant databases that existed in the past.

The Web-GIS portal contains several static online maps that users can view and print at their convenience. Most of these maps are stored as PDF files. They include topographic maps, thematic maps and aerial photographs. There is a link to Adobe Acrobat, so readers can download software to view the maps if necessary.

The portal also includes interactive mapping tools such as zoom in, zoom out, zoom area, pan and print. These tools enable the user to select the area that he/she wants to view and to print. The user also needs to download Active CGM, which helps to properly view the maps. The author tried it on her computer and found it easy and effective.

The portal was designed to attract investment and to provide assistance in locating existing and potential businesses. For example, it could help to locate the ideal site for a new shopping mall, fast food restaurant, or men's clothing store. Viewers can also link into real-estate listings and city-owned properties.

In general, Hamilton receives many positive comments from citizens regarding the Web-GIS portal. Nevertheless, "No matter how hard you try to generate good documentation and help files, many users do not want to read it," Little says.

He says the City realizes that most users are not GIS professionals, so they are attempting to do a better job of making tasks more simple and intuitive.

Future Applications

In the near future, Economic Development will have a site selection tool on the Web that will enable developers around the world to search Hamilton for available properties that could meet their requirements. An integrated Business Directory will permit these investors to

investigate possible competition, or identify a supply chain. Demographic data will permit analysis of potential customers and markets.

"As oddly as it sounds, future directions will also be away from the central GIS portal in some cases," Little says. "We would like to see more tightly integrated spatial services extending existing business functions in their own environments."

Organization of services around business and ratepayer "life events" will increase, as the central portal idea decreases. This model, however, will continue to be the virtual organization for presentation of GIS data. Physically, data warehousing concepts will still be employed to maintain a cost-effective and standardized spatial data repository.



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