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Case Studies

The West Alexander Neighbourhood in Winnipeg

A Mapserver Case Study

by David A. Enns

Abstract

West Alexander, a neighbourhood located in Winnipeg has been facing ongoing destruction of affordable housing making way for the ever expanding nearby hospital and community college. The issue at hand was how to increase public awareness of this situation before complete sections of a neighbourhood go missing and to determine how people living in the community view their neighbourhood as opposed to those outside the neighbourhood. In a sense we defined our goal as a social GIS project. It required the gathering of several data sources, some purchased and some supplied by the City. The software used to display this data and make it accessible to the public is MapServer/Chameleon.

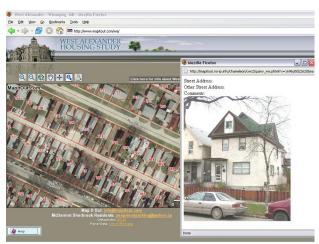


Figure 1: West Alexander Housing Study

In the end, the public was able to discover that an area that is often described as "run down" is rich in history both with people and buildings. Our goal was achieved by creating a public website offering interactive mapping tools. This web mapping site allows some basic interactive tools such as zoom in / out, pan, etc, and one of my favourites, the information tool which brings back detailed information about the parcel clicked on, along with a photograph of the area.

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Technology:

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The first step in this project was obtaining the photographic record of each parcel within this neighbourhood, and then tying these photos to base data that was obtained from the City of Winnipeg. This base data included parcels, roads and hydrography. The 20cm imagery (1 tile) was purchased just for the West Alexander area.

Once we had all the data and photos in place, it was time to create an interactive mapping website. The technology chosen was based on Open Source mapping applications. For the web map portion, I used MapServer, an internet mapping application and for developing the maps with widgets, etc. I used Chameleon.

Initially we had looked at some commercial products, but software cost was an issue and our client had no existing GIS software so we were free to choose. In this case, I chose open source tools such as MapServer and Chameleon because of the power and stability available in these products. It was actually the advantages of using these two tools that was the deciding factor in the choice to go with open source. I especially found the online forum and the community to be very useful with quick turnaround times on questions I had. I consulted both the MapServer IRC channel and the MapServer forum frequently and found that people were very friendly and more than willing to help me get on the right track, even when I had basic Linux questions that related to MapServer.

In the beginning it can be quite difficult, not because of the tools, but because it is a new way of thinking. For someone used to commercial products, moving into the open source arena had its learning curve. Perhaps the most important, but not hardest, issue was the getting the look and feel (GUI) plus increasing redraw times on the map. We chose to use some large imagery which had to be resampled several times until I got a good cross between quality and performance. In terms of development time, the most time consuming part of the project was the cleaning up of layers along with the photos. The linking of the photos took some time, but I had figured that out in a previous project. The beauty of this technology is that when you create your template/widgets, they can then be re-used.

In Summary:

For anyone wanting to start a similar project, I would recommend these tools, as there are several books available on this topic and plenty of good people willing to help on the forums. It was really the encouragement and goodwill help from others in the open source community that made this project successful

The site¹ is open to the public so hopefully citizens of Winnipeg and other cities across the world can look at our example and implement the same idea in their neighbourhoods.

David A. Enns
Map It Out, Inc.
http://wa.mapitout.com/
info AT mapitout.com

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¹West Alexander web mapping site: http://wa.mapitout.com

Editor in Chief:

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