



# imafi NEWS

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## Wikis: Free Collaborative Software

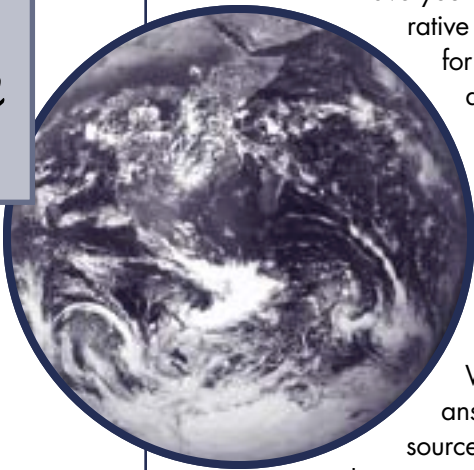
By Angela Kille

Wikis

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Have you ever wanted a collaborative computer workspace for departmental or cross-departmental projects? Are you interested in a centralized space for sharing knowledge in your field that could be collectively maintained? No budget for specialized software? Wikis may be the answer. Free and open source wiki software has been around for about ten years,

but recently wikis have received a lot of attention in the media as more organizations, companies, and educational institutions have begun using them in the workplace.

### WHAT IS A WIKI?

Wikis look like regular websites, but they have unique features that allow them to easily support collaborative working and knowledge sharing. Any user with a web browser can edit or add content to existing pages, add new web pages, or re-organize pages in a wiki. In addition, the user does not need to know HTML to edit the pages. Some wikis use a simplified markup for formatting (e.g., bold, italic, etc.), while many others have WYSIWYG (What You See Is What You Get) content editors for intuitive editing.

If you want to host the website on your own server, there are many free open source wikis available to choose from, such as MediaWiki ([www.mediawiki.org](http://www.mediawiki.org)). Or you can choose a hosted wiki provider like PBwiki ([www.pbwiki.com](http://www.pbwiki.com)) if you do not have access to a server or just do not want to install the software. Many wikis are public websites intended to be viewed and edited by the public, but wikis can also be used internally within organizations and companies where only select people have access to the site or editing privileges.

### WHY USE A WIKI?

Due to its unique collaborative features, a wiki works well when used to collect and share knowledge and information among a decentralized group of people. Since the wiki is online, people can access the wiki from any location to update or add information. Wikis also excel at tracking changes over time since you can view the version history for each page. In practice, wikis function well when used as a knowledge repository, as a space for documentation, and for group project collaboration.

For example, the Mid-Missouri GIS Users Group wiki (<http://msdisweb.missouri.edu/mmgug/>) shows how wiki software can be used to maintain a website for an organization. In this case, editing is password protected so only those with access can make changes, but the

# Who's Doing What in GIS and Spatial Technology



## OAKLAND COUNTY PLANNING

**Population:** 1,213,339 (2004 estimate)

**Geographic Coverage:** 910 square miles (2357 km<sup>2</sup>) consisting of 62 cities, villages, and townships

**Number of Staff:** 14 full-time staff (5 GIS staff)

**Budget:** \$889,450 for 2007

The Oakland County enterprise GIS is a multi-faceted program that supports and promotes coordinated “location-based” data development and access across jurisdictional and departmental boundaries. As part of the Information Technology Department, a central service group called Application Services is responsible for administering the program. This includes facilitating strategic decision-making, establishing technical standards, and the procurement, distribution, and maintenance of GIS hardware and software used throughout County agencies. Departments and communities participating in the County’s GIS program use the ESRI product suite (ArcGIS, ArcSDE, ArcIMS, and associated product extensions) as its core GIS platform.

Oakland County Planning is part of Oakland County’s Planning and Economic Development Services (PEDS) whose mission is to be a Division committed to promoting economic vitality, supporting distinct communities, and conserving environmental resources through knowledge, cooperative initiatives, and consultation services. PEDS is composed of 4 professional service groups: Planning, One Stop Shop (Information Services), Financial Services, and Business Development. For more information, please visit [www.oakgov.com/peds](http://www.oakgov.com/peds).

## PROGRAM STATUS

Oakland County Planning is a group of dedicated planners, architects, landscape architects, and GIS professionals committed to helping Oakland County communities by providing information, consultation, and technical services that cover Land Use and Zoning, Commercial and Downtown Revitalization, Historic Preservation, and Environmental Stewardship. The use of GIS technology is ingrained in each of these service areas and plays an integral role in preparing and communicating information.

### Land Use and Zoning

Since 2001, annual land use maps and statistics for the County and each of the 62 separate cities, villages, and townships have been developed. The generation of each community summary is automated in Microsoft Excel using Visual Basic for Applications script. With limited program staff, this is an innovative approach that enables them to focus on providing additional services. Also, making this resource available to communities at no charge can help to lower their monetary expenditures. This information has been made available online ([www.oakgov.com/peds/program\\_service/luz\\_prgm/index.html](http://www.oakgov.com/peds/program_service/luz_prgm/index.html)) for use by the general public, communities, County departments, and professional planning consultants.

Under State mandate, a review of all community Master Plans and Master Plan Amendments prior to their adoption is prepared by program staff. Township rezoning cases are also reviewed when an involved property adjoins a community boundary or County-owned property. Each community Master Plan contains a map that depicts future land use. This information was used to create a composite master plan dataset that consolidates each community’s future land use classification by assigning it an associated composite value. Maps and statistics of the composite master plan and information regarding rezoning cases are also available online.

### Commercial and Downtown Revitalization

Oakland County harbors roughly 30 historic commercial districts or traditional downtowns and town centers that have their own unique sense of place. In 2001, the Commercial and Downtown Revitalization program partnered with the National Trust’s Main Street Center (a program of the National Trust for Historic Preservation) and developed Main Street Oakland County (MSOC). Now supporting 12 downtowns within the County, MSOC is an economic development program that uses the Four Point Approach of: Organization, Design, Promotion, and Economic Restructuring. Using GIS technology, staff is able to provide support request services to our MSOC communities by assisting their volunteer-based committees in performing trade area or market analysis, mapping historic districts, developing custom maps, even developing a building inventory.

*WIKIS continued from page 1*

site itself is publicly viewable. Another organization, the Yukon GIS Users Group, maintains a wiki (<http://yukongis.ca/bin/view/Main/FrontPage>) to share current technical tips and workarounds. A registered user can edit this wiki since much of this information may be of interest to GIS users in general. The GRASS-Wiki (<http://grass.gdf-hannover.de/>) shows how a group of GRASS GIS users collectively maintain GRASS documentation. Finally, the COLAB wiki (<http://colab.cim3.net/wiki/>) demonstrates how wiki software is being used by the U.S. General Services Administration to support intergovernmental communities of practice.

**HOW DOES IT WORK?**

Editing a wiki is simple. Most wikis have an edit link somewhere on each page. A user can click on that link to edit the content on the page and then save their changes. Some wikis have formatting toolbars with buttons for inserting the special wiki markup (e.g., **\*\*wiki\*\*** to make the word "wiki" bold), while others have a WYSIWYG interface with formatting buttons like you would find in Microsoft Word. If you are new to wikis, a WYSIWYG interface will be familiar and intuitive. Either way, you can update a wiki quickly and easily without the need to open up web pages in a web editor.

Users can also add new pages to a wiki. Typically, the user creates a new wiki page by typing a "wikiname," a word with two or more capital letters. For example, to create a new web page with the title Project Ideas, you would type "ProjectIdeas" on an existing web page to create a link to this new, non-existent page. Once you save the current page, you click on the link to the new page to edit it. Add your content, save it, and your new page is immediately up on the website.

Not only can a community of users change the content of a wiki, but they can also edit the organization and structure of the site. This can be a potential problem for some wikis. To address this issue, typically the users of a wiki adopt a few norms about naming pages and how the overall organization of the site should work. In addition, it helps to have a few users who clean things up if needed.

Wikis have a few other unique features. One of these features is the Recent Changes page found on most wikis. This page contains a chronological list of all pages recently changed on the site. Each page also has a link to the page history that lets you view all versions of the page over a certain period of time. Some users experience anxiety about anyone having the ability to make changes to a page. Wikis address this fear with the page history. Most wikis have the ability to revert back to previous versions from this page. In addition, many wikis have RSS (Really Simple Syndication) feeds enabled for tracking changes to a wiki as well. Users can subscribe to these RSS feeds with an RSS reader, like Bloglines or Google Reader, to view the changes without visiting the wiki. Some wiki software also lets you track

changes to specific pages and most have a search feature, too.

A user can install the wiki software on his or her server. This requires some advanced computer skills as well as access to a server. By installing the wiki software yourself, you have more options to choose from, greater flexibility, and the opportunity to create your own plug-ins since most wiki software is open source. Hosted wikis are available as well, many of which are free. So, those without a server or the interest in installing a wiki locally have multiple options, as well.

**HOW TO CHOOSE A WIKI**

There are several steps to choosing a wiki. First, you need to think about what features you need. Are there any technology requirements as well? Then, decide if you want to use open source software and install the wiki on a local server or try out a hosted wiki. If you want to consider using open source software, evaluate its documentation. How extensive is it? Is it up to date? Next, take a look at the software over time. How long has it been in development? When was its most recent release? Also consider the community of developers and users of the wiki software. Is there an active community working on the project? Is there a users' email list or online forum for the software? Finally, consider whether you have the resources, both physical and human, to implement a wiki locally. A useful tool for comparing wiki software, both open source and hosted, can be found at the WikiMatrix website ([www.wikimatrix.org](http://www.wikimatrix.org)). You can compare specific wiki software or complete the Wiki Choice Wizard to receive a list of suggestions on this site.

**SUMMARY**

Wikis have the potential to provide tremendous value to an organization or workplace by providing an online workspace that supports collaboration across a distributed network of users. Due to its many unique features and cost-effectiveness, a wiki may be the best solution for those needing a centralized repository for sharing information and knowledge, a collaborative project workspace, and more.

**HOSTED WIKIS**

PBwiki - [www.pbwiki.com](http://www.pbwiki.com)  
WetPaint - [www.wetpaint.com](http://www.wetpaint.com)  
WikiSpaces - [www.wikispaces.com](http://www.wikispaces.com)

**OPEN SOURCE WIKIS**

Mediawiki - [www.mediawiki.org](http://www.mediawiki.org)  
PmWiki - [www.pmwiki.org](http://www.pmwiki.org)  
TWiki - [www.twiki.org](http://www.twiki.org)  
XWiki - [www.xwiki.org](http://www.xwiki.org)

**FURTHER READING**

"Wiki." *Wikipedia*. <<http://en.wikipedia.org/wiki/Wiki>>.

*For more information, contact Angela Kille, Reference Librarian, Michigan State University Libraries at (517) 432-6123 ext. 313 or [kille@msu.com](mailto:kille@msu.com).*

**Historic Preservation**

Oakland County Planning initiated the conversion of the County's historic aerial photography dating from 1963. Additional county-wide cultural resource datasets that have been developed include Native American features, centennial farms, historic settlements, cemetery locations, and registered historic sites.

More recently, Planning has completed a new product – the Oakland County Native American Features Map and Cultural Information resource.



*(Oakland County Native American Features Map and Cultural Information resource)*

Intended for the general public and local school groups, this product shares information about the Native Americans who inhabited Oakland County prior to European settlement. This map is the first in a series of maps created using GIS technology for the purpose of community cultural education.

**Environmental Stewardship**

The Environmental Stewardship program forms and supports partnerships with local communities, environmental interest groups, citizens, businesses, and governmental agencies. The program aims to expand awareness of Oakland County's rich natural setting and invite participation in the stewardship of the environment. Focus is concentrated in three areas: water resources, natural areas, and trails and paths. Staff leverages GIS technology to provide services that assist in numerous partner projects and initiatives. Just as examples, on behalf of West Bloomfield Parks and Recreation, staff created individual township park maps for their use in the West Bloomfield Parks Master Plan and township website applications. Also produced is the OakRoutes map and user guide that showcases the developing trails and pathway network in and around Oakland County. Over 33,000 copies have been distributed to communities, government agencies, and citizens.



*(Oakland County Natural Resources Mapping Service)*

The program is also leveraging GIS technology through the development of the Oakland County Natural Resources Mapping Service (OCNR). OCNR is a password-protected, online ArcIMS application that provides a range of natural resource information to selected users. Applications

like this deliver tools to multiple Environmental Stewardship program partners who use it to track information and assist in planning numerous projects and activities.

**NEW PROGRAMS AND ACTIVITIES**

**Supporting Ad Hoc Review Committee**

Under State law, communities are able to form development authorities that facilitate community and economic development by channeling funding toward projects in targeted areas. Sometimes development authorities form districts that capture tax dollars. When the development authority is a Downtown Development Authority or a Corridor Improvement Authority, Oakland County has the right to exempt its taxes from local capture. In these instances, Oakland County uses an Ad Hoc Review Committee to decide whether to relinquish County tax dollars.

Oakland County Planning uses GIS to prepare maps and tables that display current land use within a proposed district. Analysis compares the percentage of use in the proposed district to average percentages of similar districts throughout the County. The Ad Hoc Review Committee uses this analysis as one factor in making their decision.

**Green Infrastructure Initiative**

As the headwaters of five major river systems and home to over 1,400 lakes, Oakland County is blessed with a uniquely diverse landform and an abundance of natural features. These natural features along with an expanding trail system provide for diverse choice in lifestyle settings. It is in Oakland County's best interest to protect its natural environment and retain this quality of life as a key component in attracting businesses and residents.

Based on recommendations from Oakland County's Business Roundtable, the Environmental Stewardship program formed the Natural Areas Advisory Group which consists of land conservancies, community park organizations, environmental interest groups, and businesses. They have developed a process to identify the County's Green Infrastructure – an interconnected network of natural areas and open space. Preserving Green Infrastructure can produce economic dividends, as well as, provide a framework for sustainable development. These initiatives are ecologically driven but incorporate historic and cultural features as well.

GIS plays a critical role in this process. For example, when meeting with community planners and representatives from local units of government to document the local green infrastructure vision, program staff prepares maps and information like aerial photography and Michigan Natural Features Inventory – identified natural areas, water resources, and topography. Also, a dataset that represents potential wildlife habitat links between

## From the President

Assuming everything goes as planned, this will likely be my last "From the President" column in the *IMAGINews*. As such, I'm taking this opportunity to reflect a bit on the past, and make a few observations about the future. Please keep in mind that these comments are mine, as an IMAGIN member and GIS user, and not necessarily policies of either IMAGIN or the USGS.

The last three years have seen significant changes and challenges in our country, our state, and our community. Not the least of those changes has been the continued tightening of operating budgets, and continued uncertainty about the future. But the last three years have also seen a significant retrenchment of GIS within the public sector – although funding may be grudgingly provided or reduced, the efficiencies realized by IT in general and GIS in particular have been recognized. Finally, the sudden illness and death last fall of Bill Enslin - a friend, mentor, IMAGIN founder, and a tireless advocate of GIS in Michigan - punctuated the end of an era, what I believe to be the end of the beginning of GIS in Michigan.

Many people may not recall the chaos that existed in the GIS community back in the early 1990s when IMAGIN was founded. GIS departments formed and dissolved, data formats were cumbersome and not fully interchangeable across software platforms, data standards were largely nonexistent, and everybody wanted to do things their own way. In this context, IMAGIN had one seemingly simple goal – promoting data sharing among GIS users and producers. To facilitate that goal, IMAGIN undertook activities to provide education to users and data producers (to improve the quality of the data), develop standards, and actually house and share data. And perhaps the most significant role was to provide a forum for communication among GIS professionals – to facilitate both cooperation and education.

In most respects, I would argue that most of these underlying goals have been achieved, though not necessarily by IMAGIN. IMAGIN's early efforts at data sharing were limited and cumbersome. Fortunately CGI has been able to deliver in that area and provide many useful state-wide datasets to the public. The "Enhanced Access" law provides a structure, although perhaps a flawed structure, for providing public access to geospatial data produced by county and local governments. In the area of education and standards, the expansion of programs at universities and community colleges has provided far more access to technical training than existed 10 years ago. Development of standards has largely been driven at the national level, including develop-

ment of metadata standards and theme-specific data models, such as those for parcels or hydrography.

Perhaps most importantly, GIS is no longer a new technology struggling to prove its worth. Geospatial technologies have been proven to improve the efficiency of government and private operations at all levels. Very few public agencies that have developed GIS operations have been willing to live without them for very long. The struggle is no longer to survive, but to find a way to thrive.

IMAGIN should continue to play a role in that struggle, the role the organization has had success with in the past – professional education and communication – through the annual IMAGIN conference, workshops, E-news, the website, and the *IMAGINews*. However, the next frontier in GIS is meaningful cooperation. Two counties that can agree to collaborate on an orthophoto acquisition get the work done for less than either county would have individually. Four counties would get a better deal still. State or regional efforts would be better than that. But in each case some amount of control would be given up in order to leverage your resources with your neighbor's. Similar arguments can be made in the areas of expertise and infrastructure – does each county need to be able to QA/QC their orthophotography and LiDAR, or could that be a centralized function carried out at a region, State, or Federal level? Does each county need to maintain a separate Internet mapping application, along with the associated hardware and network infrastructure?

Relinquishing some autonomy in exchange for collective benefits is one a key element of government, or more broadly, a community. But that lost autonomy must be compensated in the form of representation. If it is not, the disenfranchised fragment off and the collective benefits are lost. Other states and regions have devised a variety of structures to facilitate cooperation, with varying levels of success. Even in the best cases, not everyone gets what they want; neither does it mean the biggest or the wealthiest make all the decisions. Identifying a model by which entities with differing resources, competencies, and expectations can cooperate will be a challenge. But I believe finding a way to forge those partnerships is critical to advancing GIS in Michigan.

In addition to the technical presentations and workshops, the first two days of this year's IMAGIN conference will feature plenary presentations from four state GIS coordinators – Eric Swanson (Michigan), Stu Davis (Ohio), Jill Saligoe-Simmel (Indiana), and Bill Johnson (New York). Wednesday morning will include a plenary presentation and discussion led by

*WHO'S DOING WHAT continued from page 4*

high-quality natural areas is used. This dataset was created using ArcGIS Model Builder and Python scripting. Using these resources as a backdrop, local representatives identify and draw the community's existing green infrastructure elements and points of interest. Once completed, the information obtained at the workshop is digitized in ArcGIS. The idea is to capture the local vision which connects to adjacent community visions. Together they form a countywide network that connects with regional Green Infrastructure initiatives.

This collaborative approach allows for creative partnerships to develop, and several partners have used the information gathered to capture funding. For example, staff performed analysis of Oakland Townships local green infrastructure vision and compared it to remaining developable land. The maps and information generated helped the community's Parks and Recreation organization successfully communicate to their Board the need to extend their local open space millage. In other instances, support materials were developed to assist local communities capture funding from available grants, or to assist in the development of State and County Parks and Recreation Master Plans.

**Lessons Learned/Recommendations**

With Oakland County's enterprise GIS solution, County Departments have been able to focus on the services they provide while at the same time contributing to the enterprise program. This has enabled Oakland County Planning to focus efforts on the application of GIS technology in support of its program functions.

Finally, as useful as GIS technology has been in terms of enabling Oakland County Planning to provide services to local communities, it doesn't replace program area expertise. In other words, the talents and dedication of the people of the entire Planning Group should not go unmentioned.

*Oakland County Associate Planner Ryan Dividock can be reached at (248) 858-4071 or dividockr@oakgov.com*

*FROM THE PRESIDENT continued from page 5*

Scott Oppmann and Jeroen Wagendorp regarding the results of a working group they've co-chaired on how to take Michigan GIS to the next level. This will also be an opportunity for the community to provide input into that process. Because this is such an important opportunity, there will be no fee to register for the third day of this year's IMAGIN conference. I urge everyone in the Michigan geospatial community to attend, and participate in forming the future of GIS in Michigan.

*IMAGIN President Steve Aichele can be reached at (517) 887-8918 or saichele@usgs.gov*

*Member News*

**Grand Traverse County** has received a grant from the **Grand Traverse Band of Ottawa and Chippewa Indians** to assist in the creation of an address productivity tool that allows anyone using the Grand Traverse County ArcIMS Website to interactively and accurately map the location of address records. This grant allows the County to continue an address field verification project to create a point file of both the structure location and the structure entrance location. This Web-based system will allow any entity with a database that contains a standardized property address field to use the system and view spatial relationships.

**Great Lakes Information Network** announces the release of many Great Lakes-specific spatial datasets through its data portal at <http://gis.glin.net/ogc/services.php>

**InfoGeographics Inc.** – a GIS services and products company – has moved into a new, larger office in Traverse City. Centrally located and suited for expanded operations and professional staff, InfoGeographics' new address and contact information is:

InfoGeographics, Inc.  
620 Third Street  
Traverse City MI 49684  
Phone: (231) 995-8266  
Fax: (231) 995-8267  
Web: [www.infogeographics.com](http://www.infogeographics.com)

**Leelanau County** has received a grant from the **Grand Traverse Band of Ottawa and Chippewa Indians** to gather old mylar, paper, and blueray maps from the planning department office, other county offices, the Tribe, local municipalities, and the historical museum, and digitize them into the computer mapping system. This will create a layer of historical data, and allow the County to dispose of the old maps thereby freeing up storage space. The resulting data can be used for studies, historical comparisons, and a point of reference by citizens, township and village officials, County offices, and the Tribe.

Aaron Ford, GIS technical manager of **R.A. Smith & Associates, Inc.** – civil engineering, planning, surveying, landscape architecture, GIS, and visualization consultants located in Brookfield, Wisconsin – recently met the standards and requirements as established by the GIS Certification Institute to become a certified GIS professional (GISP).

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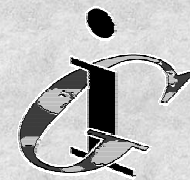
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IMAGIN is a non-profit 501(c)3 organization comprised of individuals and organizations interested in the use and application of geographic information system (GIS) technology in Michigan.

Our members are committed to improving the quality and availability of digital data necessary to make good use of GIS.

We believe that cooperation and open communication are necessary to achieve these objectives.

Steve Aichele, IMAGIN President

Tara Holmes and Matt Malone,  
Co-chairs/Services and Benefits Committee

●  
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