

imagiNEWS

IMPROVING MICHIGAN'S ACCESS TO
GEOGRAPHIC INFORMATION NETWORKS

Tech Tips for Dynamic Websites

By Emily B. Alford and Breezy D. Silver

The recent trend of open source software and tools available online is changing the way that webmasters and website authors do their jobs. Many innovative and easy to use applications now exist that can help you improve your GIS website and save time when updating your pages. There are simple ways to have the content more dynamic. One can find a variety of freely available options that will make updating your website easier without having to be an expert web designer or programmer such as Feed2JS, customizable search engines, and Meebo. While GIS and mapping website are, by definition, content rich and often eye catching, adding basic web functionality such as RSS feeds, search engines, or chat functionally can make them even more interactive and take them to the next level.

Option 1 – Feed2JS

Feed2JS (<http://feed2js.org/>) is a way to dynamically generate content in your webpage by linking your page to RSS feeds from websites and blogs.

When the website or blog changes, your page is automatically updated to reflect those changes. Feed2JS allows you to take the RSS feed you want to display on your page, customize the look and feel of the display on your page, and create the code to place on your page.

Some examples of government agencies using Feed2JS are <http://www.visitpalouse.com/news-weather.html> (Palouse, Washington City website), [\[redcross.org/\]\(http://redcross.org/\) \(Jefferson County, Jefferson County, Illinois Red Cross\), and \[http://www.lausd.k12.ca.us/District_6/\]\(http://www.lausd.k12.ca.us/District_6/\) \(Los Angeles Unified School District\). Many types of content can be used to update a web page with Feed2JS. These examples show news and events automatically updated with the use of Feed2JS, but weather, calendars, and other items are also possible.](http://jeffersoncounty.</p>
</div>
<div data-bbox=)

To create dynamically updated content on your website with Feed2JS the first step is to find the RSS feed you want to use. To do this go to the website or blog from which you want to draw content. For example, if you wanted to put new blog entries from michigan.gov on your web site, you would go to its web page at <http://michigan.gov/>. Look for the RSS or XML or ATOM on the page. Click on the button and copy the URL generated for the RSS feed. In the case of michigan.gov/, the URL is <http://www.michigan.gov/rss/1,2348,7-192-26847--44556-,00.xml>. Paste that into the “Build a Feed” window at <http://feed2js.org/index.php?s=build>. On this page you can also customize your content by choosing whether or not to display a title, how many items to show at one time, whether or not to include descriptions, dates, times, and more. Be sure to click on the preview button to see what the content will look like and change the settings on the page accordingly. Once you have what you want, click on “Generate JavaScript” and copy and paste the JavaScript into your website where you want it to appear. The code will then automatically update the website when the page from which the RSS feed was taken is updated.

Option 2 – Customized Search Engines

Another useful web tool that can help to create dynamic websites is a customized search engine. A customized search engine is exactly what it sounds like, a search engine that is created to search a specific website(s), subject area or topic. It will direct your users to the web sites and information you point them at, and they are able to use search engines already familiar to them.

Continued on page 3



Antrim County

Program Status

The Antrim County GIS has been through constant change and improvement since it was built from the ground up by Ron Hoseney in 1995. While there are now several people in the County Building that utilize the GIS data in one way or another, there is still only one GIS Technician that creates, edits, and maintains the County's GIS data. Since June 2006, Blake Terhune has been the County's GIS Technician and is primarily focused on maintaining the tax parcel data and office tax maps. However, there are many other data layers used on a daily basis that are updated and maintained as needed by the GIS Technician. The production of a diverse variety of maps for different businesses and departments is also a constant process for the GIS Technician. GIS works very well for the County to help provide computerized data for the Antrim County Community website parcel search and mapping application. GIS has also made it very quick and easy to produce and maintain parcel tax maps in the Equalization office for other departments and the public. There is no doubting the fact that GIS has proven to be an extremely valuable asset to the County for fast, accurate, and easily reproducible maps and data.

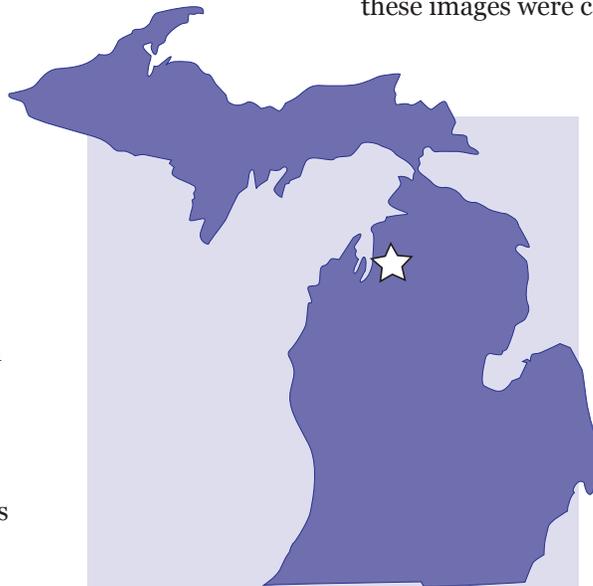
Since its adoption, GIS has been located in the Equalization Department under the supervision and direction of the Equalization Director. Other users of GIS data include fellow Equalization office workers, as well as individuals from the Planner/Coordinator office and E-911 Dispatch. The Antrim County Building is currently undergoing a major technology infrastructure upgrade that will come in the form of new cabling, phone system, servers, and network electronics. Included in this project are two print and file server machines, one of which will be used to distribute all GIS data from a single, central location.

This will hopefully make it easier for these other GIS users to get access the most accurate and up to date version of the data possible.

In 2005, the County was able to complete a new flyover for digital orthophotography. Covering the entire county, these images were captured in black and white at 1.5

foot (45.72 cm) spatial resolution and stored as TIFF raster files. The Equalization department has also recently purchased a new HP Designjet 4000 wide format plotter that allows the printing of full color maps up to 42 inches (106.68 cm) wide. This plotter has been a very useful resource for creating more detailed maps in bigger sizes and in less time than ever before. The aerials and plotter were made possible through Homeland Security Grants from the County's Emergency Services.

A single use version of ArcView 9.2 is the current software of choice and seems to be satisfying all of the County's current needs. Antrim County has not purchased any extensions for ArcView, but the option is always open depending on need. The majority of the County's GIS vector data is stored as shapefiles. The parcel and road centerline data sets are the only exceptions and they are both stored as a very simple personal geodatabase. Unfortunately, full functionality of these geodatabases are limited because of the basic list of features available with ArcView.



Program Summary

Population: 23,110
(according to the 2000 Census)

Geographic Coverage:
approximately 524 square miles
(1357.153 km²)

Number of GIS Staff: One

Annual Budget: \$4,500
(excluding payroll and benefits)

New Programs and Activities

Every year holds new projects in the form of parcel updates, subdivisions and new section maps for these areas, but there are always background projects. Over the past year or so, the major project has been creating a countywide point address data set. This project entails creating a single point located on the rooftop of the addressed building. The data creation began by using the 2005 aerial photography to manually create a point on

DYNAMIC WEBSITES *Continued from page 1*

There are many different options for customized search engines out there such as Google Co-op (<http://www.google.com/coop>), Yahoo Search Builder (<http://builder.search.yahoo.com>), and Swicki (<http://swickihome.eurekster.com>). Each of these options has different tools that may or may not be what is needed to build a specific customized search engine. Some of these options should be taken into account when choosing the customized search engine to best suit your needs:

- **Will it search only the URLs that the creator has indicated?** Only Google Co-op has the option to only search the URLs the creator has indicated. Yahoo Search Builder allows the administrator of the search engine to indicate that the URLs added by the administrator should be given preference but it will still do a full Yahoo search as well. Swicki gives priority to the sites that have been clicked on most often and the sites indicated by the administrator, but it also searches the entire Yahoo database. As more and more searches are done in the Swicki search engine, the results returned will reflect those results that were most popular to previous searchers.
- **Does it allow the administrator to indicate to users suggested search terms?** All three of these options allow for suggested search terms or keywords to be added to your search. In the case of Yahoo Search Builder and Google these are set keywords that can be displayed around or near the customized search box that one can embed into a web page. The Swicki search engine allows for a similar set up where a keyword cloud will be located as part of the search but will then evolve and change as more searches are conducted. The most popular search terms will update as the search engine is used.
- **How many sites can be added to the search engine?** Google Co-op does not impose a limit to the number of sites that you can search in their customized search engine. Yahoo Search builder allows for 25 sites to be given preference in their search engine. Swicki allows for 50 URLs to be given preference but will evolve and adapt as the search does so those originally given preference may change with time.
- **Will statistics be created for the search engine?** Yes, in all three cases statistics are kept and are available for the administrator of the customized search engine to view. The companies that make this technology available are also tracking statistics of the

customized search engines created as well.

- **Where is the data hosted?** In all three of these cases the search engine can appear on the page by copying the code provided by Google, Yahoo, and Swicki. However all data pertaining to searches and search results will be housed by the companies providing the search engines.
- **Is it easy to set up the search engine?** In all three cases it is very easy to set up customized search engines. It is as simple as being prompted to create a title, keywords, look and feel, and add URLs and then code will be generated to add to a website to house the customized search engine.
- **What information is collected?** It is important to remember what information the search engines collect and use. Be sure to read the terms of use.

Option 3 – Meebo Chat Window

Looking to make yourself easily available for questions through a website? A great option for chatting with website visitors is meebo. Meebo (<http://www.meebo.com>) is free software that allows for the addition of a chat window in a website. The owner of the site needs to create a meebo account. This account can also link to any other instant messaging methods currently used so if someone contacts the website owner through AOL, Google Chat, or Yahoo IM they will automatically show up in the meebo window if the owner is logged in. Once an account is created simply name the window, or widget as meebo calls them, choose the style, and then get the code created by meebo to add to a website. The window will appear in the website when the owner is logged in and indicate the owner is offline when no one is logged in. This is a really great and simple way to make simple web communication possible with a free and easy web tool. None of the chat sessions are saved and no statistics are available. Once a session is over no information is saved so it is as if it never took place. An example of a place where meebo is used is at the MSU Libraries (<http://www2.lib.msu.edu/contact/askalib-im.jsp>).

Remember that these are a few but not exhaustive list of free software available to improve your websites. However, with these three options you too can easily create dynamic, useful web sites.

For more information, please contact MSU Reference and Technology Librarian Emily B. Alford at (517) 432-6123 x119 or bartone1@msu.edu or MSU Data Services and Reference Librarian Breezy D. Silver at (517) 432-6123 x114 or silverbr@msu.edu.

Professionally Thrive as an IMAGIN Member

Being a member of IMAGIN for the purposes of being identified among a network of geospatial professionals is premised on each member's perceived value of the IMAGIN network. The value of affiliation in a professional development organization is important in any community of professionals. Yet is affiliation enough reward for you? Your membership benefit can be greatly enhanced through your active participation in IMAGIN enabling you to professionally thrive. Repeatedly, membership survey responses show that our members view professional networking among the top three reasons they belong – the others are opportunities for continuing education and professional development. So if this is true, how does our professional network remain meaningful for you if you are not involved in the organization? How does IMAGIN engage its members to become a network promoting your professional development and outreach for geographic sciences and applications? In other words, in what ways does your IMAGIN membership involvement translate to your own successes and accomplishments in our rapidly growing, information driven society?

Information and outreach networks promote the sharing of specialized knowledge. These types of networks are designed to facilitate an exchange of ideas, best practices, and potential solutions to challenges we share. A report from the IBM Endowment for the Business of Government presents a convincing review of the benefits derived from collaboration and synergy achieved between and within organizations' communication networks (the article is applicable to private and non-profit sectors as well). (www.businessofgovernment.org/pdfs/AgranoffReport.pdf). The IMAGIN annual conference is one means to promote the conveyance of ideas, exchange approaches to building spatial resources, find ways of overcoming challenges, and present our recent achievements. However, participation at the conference is only one of many ways to be share knowledge. The release of new web based mapping tools, portals, and mashups all provide great opportunities to increase the awareness of geographic resources to a population of new spatial data consumers who are searching for ways to incorporate spatial information in their work. Where will this consumer turn to for expertise? These consumers might benefit from referrals to IMAGIN members who have an interest in their application(s). Referrals through

our IMAGIN member network could be a viable way to extend knowledge to new user communities (educational institutions, businesses, economic development agencies, non-profit organizations, etc.).

We can probably all agree that the mere existence of data and resources is insufficient to service the needs of a knowledge driven population. We will all witness how server based information delivery systems will replicate many functions previously accomplished by using desktop GIS software. This should come as no surprise. A greater number of GIS resources will be within the immediate reach of a growing community of spatial data consumers who will grapple with ways to make this information useful within their own professional community of practice. As a result, IMAGIN member professionals who possess the necessary expertise to match the best spatial data with well designed applications will become influential leaders. Spatially driven applications will need to incorporate the right data with proven spatial analysis techniques to produce meaningful results. This is where your IMAGIN networking connections will pay dividends when you get involved. IMAGIN's member network presents an opportunity for you to reach out to spatial data users and stakeholders who range from the casual user to the GIS professional.

The value of the IMAGIN member network lies in the diversity of the disciplines and the communities of practice represented. IMAGIN's members seek opportunities to learn, support, and perform meaningful analysis within these communities of practice (e.g. land use/resource management, asset management, demographic market segmentation, logistics, public safety response, public health, etc). IMAGIN provides an opportunity for all of us to test drive ideas and receive feedback to improve our work. **IMAGIN members become enablers for those seeking success when using spatial information resources. The common thread between us is how we seek to advance spatial data resources and related applications in support of the decision making process.**

Today, IMAGIN presents you with an opportunity to chart a course enabling your own organization to leverage spatial information to make the best decisions which provide your stakeholders real benefits. Your active participation in IMAGIN will earn you both the recognition and credibility you deserve as a contributor within a rapidly growing, knowledge driven society. Ralph Waldo Emerson offers some advice for IMAGIN members when he states, "We are all inventors, each sailing out on a voyage of discovery, guided each by a private chart, of which there is no duplicate. The world

IMAGIN Student Poster & Paper Competition Runs Smoothly!

Sponsored by: InfoGeographics, Inc.; ESRI; Hubbell, Roth, and Clark; Sanborn; and Schoolcraft College

The 2008 IMAGIN Student Poster & Paper Competition was a great success this year. Eight undergraduate posters were displayed and four graduate papers were presented. For the second year in a row the competition was held at Schoolcraft College in Livonia. Posters were on display all afternoon on Thursday, January 24. With the students standing by their posters to address any questions, observers were able to meander through the gallery and discuss the posters with their creators. After the judges completed their review, the Undergraduate Gallery Walk opened to the general public. At 1:00, after a welcome by the IMAGIN Professional Recognition Committee, the graduate paper competitors began their presentations addressing a full room. After a full day of posters and presentations, the judges made their difficult decisions and a brief awards ceremony took place. The results are as follows:

Undergraduate Poster Competition

1ST PLACE: Erika Espeland, Central Michigan University, *3D Mapping for the Cloud Forest in Tropical Areas*

To assist sustainable forest management, Erika prepared a map showing the proximities between human land uses, including mining, residential and commercial areas, and existing forest land. The poster displayed 3D perspective views for various land uses in the Chanchamayo Cloud Forest in the Peruvian Andes by incorporating GIS and Remote Sensing techniques. Using spatial interpolation, contours, and a DEM were generated and used for watershed modeling and terrain analysis in the region.

2ND PLACE: Joe Pomerville, Central Michigan University, *Identifying the Most Suitable Habitat for the Florida Panther*

In the past 15 years, the Florida Panther population has decreased dramatically from several thousands to less than one hundred today. Using an existing suitability model, this poster produced a habitat suitability map of the Florida Panther in Collier County using ArcGIS 9.2. The resulting poster helps to facilitate the conservation activities of government agencies and organizations by identifying the most suitable habitats to protect and acquire.

3RD PLACE: Ken Robertson, Central Michigan University, *African American Migration in the United States*

Using GIS, the poster presented migration data for the African American population in the United States from 1680 to 2000. Several different symbolization techniques were utilized to show the origins of African Americans in the New World and a map of the Slave Trade. The poster presented a discussion of the trend towards urbanization and discussed the differences between the rural black South and the urban North of today.

4TH PLACE: Don Lafreniere, Eastern Michigan University, *Representations of Eastern Michigan University*

This poster showed the first of a set of maps designed to provide a more comprehensive guide to visitors and members of the EMU campus community. The project included a parking map and an overview map outlining the extent of wireless Internet access on campus.

5TH PLACE: Amber Eckert, University of Michigan - Dearborn, *City of Novi GIS Demonstration Project*

This poster presented the results of a project plan involving the assembly of source information, GPS field acquisition, and the incorporation of data into the City of Novi's GIS. The results of this project will help the City improve the operational management of its water, sanitary, and storm water systems and provide asset management tracking and assessment reporting.

Graduate Paper Competition

1ST PLACE: Maxwell Field, Central Michigan University, *Common Loon Habitat Modeling in Northern Lower Michigan Using Binary Logistic Regression*

This paper presented the results of logistic regression models analyzing Loon habitat characteristics to model Loon presence and nesting activity in Michigan's Northern Lower Peninsula. Analytical results were presented to help conservation biologists identify critical habitat for Common Loons in Michigan.

2ND PLACE: Heather Stricker, Central Michigan University, *Monitoring Wolf Recovery in Michigan's Northern Lower Peninsula*

The GIS model presented in this paper addresses



ANTRIM COUNTY *Continued from page 2*

the structure and complete attribute information all by hand. After finishing an entire township, it was easy to see that this manual method was far too labor intensive to be workable. A few minutes of tinkering with the trial version of a third party application called XTools Pro revealed a way to create a point in the center of every polygon that retained all the same attribute fields and data from the original feature. After massaging the data in Microsoft Excel with VBA macros, the point address attributes were updated and missing addresses were automatically compiled and corrected.

As new addresses are assigned for building permits, this point address data set will be updated immediately. This data was created primarily with the intention of helping with emergency service operations in the form of more detailed information and maps as well as for disaster modeling and damage assessment. Other uses include updated address maps for local ambulance authorities and fire departments as well as helping with updating the Census' local address list. Although tedious and time consuming, this project has proved to be an asset not only to the County, but to other organizations in the area as well.

Lessons Learned/Recommendations

Looking back at the County's GIS program, more thought should have been given to all potential users within the organization and not only those within the Equalization Department (where the program started). Such enterprise-wide thought may have identified critical needs the County is just now discovering, such as the need for a network-accessible, centralized GIS data server. This would also have impacted the design and format of the County's core GIS data layers. Even if your County is not on the GIS bandwagon yet, plan big and try to envision the day when GIS is used throughout your organization, by many users, supporting a variety of business processes. As a final note, make the best effort possible to automate data creation and updates instead of doing it by hand. This reduces total project time, reduces the chance for human error, and makes the project (or similar projects) easily repeatable.

Antrim County GIS Technician Blake Terhune can be reached at (231) 533-6320 or gis@antrimcounty.org

FROM THE PRESIDENT *Continued from page 4*

is all gates, all opportunities." It is time to for your contributions to IMAGIN to allow you unlock those gates and reveal the opportunities within your future. It is time for your membership in IMAGIN to allow you to professionally thrive. Get off the sidelines, take the field, and make a difference.

For more information about IMAGIN and its ongoing activities, visit the IMAGIN web site at www.imagin.org/about/committees.html or contact IMAGIN President Christopher Blough directly at cblough@cityofnovi.org or (248) 347-3279.

IMAGIN COMPETITION *Continued from page 5*

the future of wolf habitat in Montmorency County, Michigan, based upon localized human densities near suitable wolf habitat. Based on the analysis, Montmorency County may lose up to 23 % of its suitable wolf habitat by the year 2050.

3RD PLACE: Andrew McAninch, Michigan State University, *The Tasseled Cap Transformation for the IKONOS Satellite and its Utility*

This paper presents the results of an assessment of the Tasseled Cap Transformation for the IKONOS sensor. An unsupervised classification was performed on transformed and untransformed images to determine if the transformation improves classification results. Then the correlation between the second band (the greenness component) and 4 vegetation indices (SR, DVI, NDVI, SAVI) was calculated to determine the nature of the greenness component.

More information and pictures from the competition are available online at www.imagin.org/awards. The IMAGIN Professional Recognition Committee would like to thank this year's judges for donating their time and efforts: Jim Bennett of InfoGeographics, Inc., Chris Blough, IMAGIN President and City of Novi GIS, and Bryan Thompson, Professor Emeritus of Geography & Urban Planning at Wayne State University.

For more information on the IMAGIN Student Poster and Paper Competition or the IMAGIN Professional Recognition Committee, please contact Sarah J. AcMoody at (517) 432-7447 or acmoody@msu.edu.



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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.

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IMAGIN

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East Lansing MI 48823

(888) 298-1002

(888) 298-1003 fax

www.imagin.org

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