

GIS Software Techniques and Implementation

A newsletter by Daniel Elroi

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Hi,

What's Daniel up to now? you ask yourself. Is this his July 4th edition? Is he making a run for the White House? Well, no, neither one of those things. It just shows how silly I feel calling myself President of *Elroi Consulting, Inc.*, but there it is. I am.

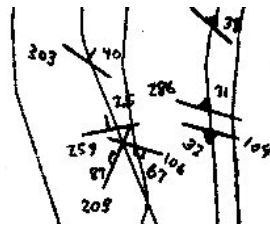
Thanks to my many clients in the past two years, since I've struck out on my own, I have been successful enough to warrant incorporating. So here I am, Grand Poobah and Chief Bottle Washer. But aside from that, everything remains the same: when you dial (303) 355-4-GIS, you still get me. And when you contract me to help with your GIS training, programming, strategic planning, project management, or whatever, it's still me that you get.

Daniel

Announcing the Strike-n-Dip™ Extension

A new ArcView extension for geologists and hydrologists

If you have ever tried digitizing a geology map into GIS, chances are you have had to struggle with how to capture and symbolize strike-and-dip



layers dip into the ground. Each little symbol packs a lot of information: the type of "contact" the rock layer makes with the surface, the direction of the layers (known as the *strike* angle, and sometimes also depicted with text), and the angle of dip.

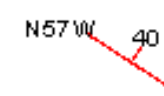
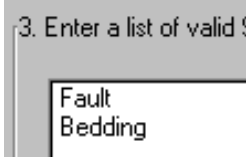
I am pleased to announce that I have created a new ArcView extension, called *Strike-n-Dip*, specifically designed to help capture and symbolize these symbols in ArcView. The extension is easy to use, comes with a manual and help file, and can be ordered by phone or online. The

symbols. These are the symbols used to depict the angle and direction in which rock

extension costs only \$75. I pay for shipping. You can even download a full working version from my Web site at www.elroi.com/strike-n-dip.

Features

The extension will automatically create a specialized *Strike-n-Dip point* shapefile to store these symbols. It will prompt you to create a list of contact types, which you can then use to assign to each symbol.



You can enter the strike angle in *azimuth* or *bearing and distance*, or the extension will automatically compute it for you. It will even convert from one type of angle notation to the other for you.

When you use the extension to assign a legend for the shapefile, the legend will be automatically associated with the shapefile. After that, any time you or anyone else uses the shapefile in ArcView, whether or not the extension is installed, the same symbols will be assigned to it.

You can digitize symbols

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Straight talk straight from the top: An interview with ESRI's David Maguire – *Part 1*

David Maguire is the Director of Products at ESRI. To User Conference goers, he is the serious guy with the funny British accent up on stage on the first day. To ESRI employees, he is the only guy who shows up to trade show booths in a suit and tie while they are snappily dressed in golf shirts. But to most ESRI users he is an unknown. You should probably get to know him – he is, by most accounts, the number 2 man at ESRI, Jack's right hand man. ESRI-who-dislikes-labels would probably shudder at this description, but let's face it. Hand picked by Jack in 1990 to lead the British office of ESRI, David moved to Redlands in 1997 and is now part of the team of four or five people who are ESRI.

So, what does David Maguire have to tell us about the near future of ESRI software? This is the first part of an interview David granted me in April.

About ArcInfo 8 and ArcObjects

Q: Tell me about the new components in Arc-Info 8 – what's so special about them?

A: [ArcInfo 8] is the biggest GIS project ever undertaken, inside ESRI or anywhere else. Arguably the biggest COM project ever undertaken; in terms of COM objects it is, if not in terms of people and lines of code. What's distinctive about ArcInfo 8 is the granularity of the technology. If you look at Microsoft Office, it's a collection of ten to twenty large applications with COM interfaces off them; whereas ArcInfo is actually a collection of about 800 components with interface software off them. So the granularity is an order of magnitude different. [Old] ArcInfo was one of those monolithic systems. There was Arc, Arcplot, Arcedit and Grid, so there were four parts to it, each of which had a whole bunch of commands. If you looked at the Arcplot command reference it was over 2,000 commands. Whereas ArcInfo 8 is a collection of about 750 to 800 individual objects, each with requests which are assembled together through an application framework, which is the ArcCatalog and the ArcMap and the ArcToolbox.

Q: These objects, ArcObjects, are they going to be the basis for all future software development at ESRI?

A: We haven't put all of our eggs into a single basket. ArcObjects is built using COM technology from Microsoft. We're well aware that in parallel with developments in COM there is also a very strong market and technology lobby to support Java, Java Beans. So we're also building technology based on enterprise Java Beans. Much our strongest, best developed, and largest technology endeavor has been to build COM components to build our software; but in parallel with that we're also working on building Java code; that's really what's at the heart of our internet strategy.

On COM, Java, and everything...

Q: Please elaborate on the different technologies you are implementing now.

A: My thinking on this is that ESRI has really got three major things going on right now. We've got attempts to build high performance interactive desktop and client server GIS; that's our COM technology for ArcInfo 8 and other, associated products. Our second technology strategy is harnessing the power of the internet in GIS. We've been doing two things. We've been building an internet-based infrastructure and also building some services and clients that work inside that infrastructure. That's our enterprise Java Bean technology, and ArcIMS is the principal product which expresses our work in that area. And then the third effort is server-centric GIS. That's pulling together the work from ArcSDE and also some of our ArcIMS stuff.

So I think in the long term I'd really see ArcIMS as being an infrastructure or glue, which allows us to glue distributed users and remote systems together in an enterprise using HTTP and XML as a messaging system to allow those two systems to communicate efficiently.

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An Interview with ESRI's David Maguire

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Q: So you're saying that ArcIMS is all Java?

A: It's all Java. We've built Java infrastructure for interfacing to Java servers and servlet technology which runs on the server side and supports request brokering and interfacing to other systems. And we've built enterprise Java Beans which run on the client side to create Java applets or in fact a Java-based standalone application which runs on the desktop.

Q: There has been a lot of hype about ArcIMS – how much of it is real?

A: ArcIMS is a product out of the box, it's an integrated solution allowing someone to build a complete scalable internet GIS system.

Our role is to build a generic application which most people can use out of the box; and to support extensibility for people who want to go beyond that or to do things in different areas, in different ways. To me the really exciting thing about this is that

we've already started, and this will be a big push for us in the next twelve months as we integrate this all together. So that you will be able to have, for example, ArcView 8 on the desktop, talking across the internet to an ArcIMS server, which is running ArcMAP at the back; and the whole thing will work together.

On ArcInfo 8.0.2 and 8.1

Q: Wait! ArcView 8? Tell me more about the upcoming software releases.

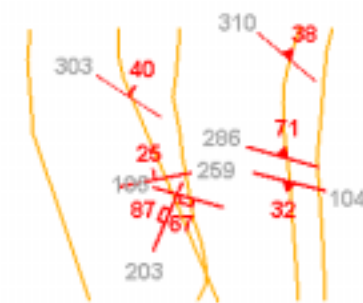
A: ArcInfo 8.02, which includes ArcSDE 8.02 as well [is currently shipping]. We fixed well over 500 bugs, added better internationalization support for double byte character support and things, we ported to Windows 2000, and we did a few other bits and pieces that were never quite ready for 8.01. *In a separate conversation, David confirmed that some pretty serious performance issues existed in version 8.0.1 when it comes to handling coverages,*

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The Strike-n-Dip™ Extension

(Continued from page 1)

from a digitizing board, from a scanned and georeferenced map image, or simply by eyeballing it on the screen. Since the symbols are applied, rotated, and scaled as you add them, you get immediate feedback as to whether a symbol was entered and attributed correctly.



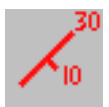
When it comes to plotting these symbols out on a map, the Strike-n-Dip extension allows you to specify which angles to annotate (strike, dip, neither, or both). It then

places them on the map offset correctly as you would expect to see them on a hand-drawn or CAD

geology map.



The extension comes with a form that allows you to determine your preferences, such as whether your maps depict the dip angle to the right or left of the strike symbol, and whether you prefer to enter strike angles in azimuth and bearing angles. These preferences are remembered by the extension from one session to the next.



Download it today

The Strike-n-Dip extension is ready to be downloaded at www.elroi.com/strike-n-dip. Once you receive it, simply e-mail sales@elroi.com with a request for an evaluation license, or you can download the request form and fax it back.

Please try the Strike-n-Dip extension for ArcView – I think you will like it!

New Clients, New Projects

My goodness, I've been busy! Since the last newsletter I have started helping [ISSI Consulting, Inc.](#), a successful government environmental consultant, with their work at the [U.S. Air Force Academy](#) in Colorado Springs, Colorado. Currently, I am involved in database and ArcView and IMS applications design.

I am pleased that [Adams County](#), Brighton, Colorado, has chosen to extend my training contract. I am training the GIS staff to use ArcMap to create a brand new County Atlas.

Across the country, in Newark, Delaware, I have been assisting [Fiscal Associates](#) with some ArcView-based software they have created for market analysis.

In the mining industry, I have began assisting [Peabody's Powder River Coal Company](#), in Gillette, Wyoming, with migration strategies to ArcInfo 8. ArcMap offers them exciting opportunities to upgrade existing applications and link them to new database.

Back in Denver, Colorado, I have been assisting [Telsoft Corpora-](#)

[tion](#) with staff augmentation, to support some of their ongoing MapObjects projects.

Finally, I have began an exciting project with [The Orton Family Foundation](#), of Rutland, Vermont. The producers of a new ArcView-based suite of software, called CommunityViz, the foundation supports smart development in small communities. Together with **The Carta Group**, Ft. Collins, Colorado, and [Allpoints GIS](#), Boulder, Colorado, I am developing training materials, user manuals, and workbooks.

An Interview with ESRI's David Maguire

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and assured me that these have been addressed in version 8.0.2.

The next big ArcInfo 8 effort is ArcInfo 8.1. The goals of this project are twofold. One is that we want to enhance the platform to support some more fundamental data types. This would include geocoding, linear referencing (dynamic segmentation), and also making some more extensions to the geodatabase to support improved object based editing and some other things. Another case in point would be ArcSDE ported to work on Informix and DB2. And the image stuff, too, [will be] in SDE.

We want to co-release [extensions] with 8.1. Geo-Statistical Analyst should be out earlier, with 8.0, as will ArcFM Water. And then at 8.1 we also plan to add the next generation of 3D Analyst and the next generation of Spatial Analyst. The idea is to merge together Grid and Spatial Analyst; and to merge together TIN and 3D Analyst. These will be supersets of the pairs of systems based on our COM technology and integrated completely with ArcMap and ArcCatalog.

That will ship this year. Definitely.



Next time: the future of ArcView and much more

GIS Software Techniques and Implementation is an online newsletter published freely by Elroi Consulting, Inc.

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