EWUG (esri Wisconsin User Group) – 2011 Conference

Keynote Speaker – Christian Carlson

Director of State & Local Government - esri

esri Technology Showcase

Presenter: esri

Introduction to ArcGIS for Land Records and the Parcel Fabric

Presenter: J.D. Overton – esri

This session will provide a detailed overview of the Parcel Editing capabilities included with ArcGIS 10. The topics discussed will include an overview of COGO data entry, managing overlapping parcels in the Fabric data model, and some tips for streamlining the editing experience will be demonstrated. Parcel fabric adjustments that are used to improve the spatial accuracy of the fabric and its dependent layers will also be introduced.

ArcGIS for Local Government

Presenter: Scott Oppman, Local Government Project Manager – esri

This session will provide an introduction to ArcGIS for Local Government and a set of downloadable maps and apps for Local Government users. GIS Professionals and Local Government staff will learn about the content provided and how to use the maps and apps to meet specific business needs in their own organization.

ArcGIS.com: A New Implementation Pattern for GIS

Presenter: Nathan Aamot – esri

This session focuses on the creation of useful GIS products using this new pattern – bringing information to life for both existing and new users. Helping to bridge the gap between GIS professionals and their customers and constituents.

Data Migration to the Fabric, how to get started

Presenter: J.D. Overton – esri

This session will begin with a brief overview of the Parcel Fabric data model to provide the necessary context to discuss data migration strategies. The key considerations that need to be taken into account to migrate parcel data to the fabric data model and how to develop an editing map for daily maintenance workflows will also be discussed.

Building GIS tools for business: challenges and opportunities

Presenters: Dr. Eric Compas and Alvin Rentsch, GIS Center – University of Wisconsin-Whitewater

The new GIS Center at UW-Whitewater has been been tasked with developing online GIS tools to help business development in southeastern Wisconsin. In our presentation, we'll provide an overview of how we're tackling the problem, the efforts and tools that we've undertaken to date, and the challenges we've run across. In particular, we'll highlight the types of issues that businesses face and the ways in which GIS can address them. The session will also be used to hold a group discussion about addressing the challenges we've identified. See http://www.uww.edu/giscenter for more information about the center and a glimpse of our current work.

Using Data Driven Pages beyond map book production: Increasing efficiency and data quality

Presenter: Tom Koehler, GIS Technician – Applied Data Consultants, Inc.

It can be challenging to work with geospatial data which encompasses large areas without the ability to divide the data into segments. With Esri's Data Driven Pages and associated tools in the release of ArcGIS 10 the job just got easier. This feature allows the user to easily browse through a dataset in an organized way by generating a set of output pages using a custom index layer (tiles) and iterating it over a set of map extents. Using Data Driven Pages to organize your workflow is especially useful when there is a need to modify data in increments or for projects that require multiple users modifying the same data set. It is important for users to realize that utilizing pages can decrease the time spent organizing and sifting through data while at the same time

increasing the quality of the data. An added bonus is the series of maps or a map book as an output. This presentation will serve as a guide to setting up Data Driven Pages: how to create index grids, using dynamic text, displaying as a map book, anticipated features and alternatives, and an explanation of what types of projects can be streamlined with Data Driven Pages.

Evaluating dominant phosphorus sources in Wisconsin using the Pollutant Load Ratio Estimation Tool (PRESTO)

Presenters: James (Trip) Hook III; Theresa M. Possley Nelson, PE; Adam Freihoefer – Wisconsin Department of Natural Resources, Bureau of Water Quality.

The reduction of phosphorus loads within Wisconsin waterways requires locating the origin of phosphorus. There are two primary sources of phosphorus, point and nonpoint sources. To evaluate

potential phosphorus reductions through adaptive management (Wisconsin Administrative Code NR 217), a comparison of each watershed's point and nonpoint phosphorus sources is required. To assist in this analysis, the Wisconsin Department of Natural Resources developed a GIS-based model called the Pollutant Load Ratio Estimation Tool (PRESTO).

Developed with Python as a geoprocessing tool for ArcGIS 10.0, PRESTO performs batch application of multiple, customizable nonpoint source load models (packaged models include a simple unit area load export coefficient model and a multiple regression-based equation), and compares the measured point source effluent phosphorus load to the upstream nonpoint source phosphorus load. PRESTO also features a novel method for watershed delineation based on a hybrid raster/vector analysis which forces conformity with Wisconsin Watershed Boundary dataset HUC-12 units or other predefined basin boundaries, thereby providing rapid and consistent drainage area definition for loading analyses. The resulting model outputs provide a screening tool for industrial and municipal dischargers to determine whether they are eligible for adaptive management as part of NR 217.

The presentation will provide a description of the tool development, the required datasets, the tool's limitations and applicability, and statewide analysis results.

GIS HealthCheck and Prescription for ArcGIS for Local Government

Presenter: Michael Healander, State & Local Government General Manager – GISi

This presentation will provide awareness to local governments looking for tools to diagnose their GIS, create a roadmap for success and learn about the benefits of Esri's ArcGIS for Local Government initiative – all working to improve the health of your GIS.

Like a medical health check that includes diagnostics (tests), a lifestyle assessment, and prescriptions or recommendations for improvement. A GIS HealthCheck has similar components: a technical diagnostic of the GIS, an assessment of the business utilization of the GIS, and finally a prescription, or suggestions for the future.

This presentation is for you if you answered yes to any of the questions below:

- Would you like to eliminate the frustration of updating and maintaining customized/legacy GIS applications?
- Would you like to make yourself more relevant by supporting more groups across your enterprise with GIS applications?
- Is it difficult to keep up with the capabilities of the full Esri technology stack?
- Do you want to accomplish more despite the fact that you have limited resources?

Join us in this presentation and learn about the GIS HealthCheck toolkit and Esri's new ArcGIS for Local Government initiative.

Neenah-Menasha Web-Based Work Order Management System

Presenters: Sam Pociask, Senior GIS Analyst/Project Manager – McMahon
Roger Boissonnas, Technical Architect – GeoDecisions

Midwest Contract Operations (MCO), part of the McMahon group of companies, is a professional contract operations firm specializing in management, operation and maintenance of water systems, wastewater systems and public works facilities. One of the facilities under MCO management, the Neenah-Menasha Sewerage Treatment Plant, is undergoing a significant facilities plan upgrade in 2012-2013. As part of this effort, McMahon contracted with GeoDecisions to create a spatially enabled Work Order Management web application to replace an outdated and unsupported desktop application. Using ESRI's ArcGIS Server and ArcGIS API for JavaScript, the Work Order Management System (WOrMS) allows facility staff to interact with a map of the treatment plant, select and view equipment and other assets on the map, and view and create work orders linked to those assets. The system supports traditional desktop and laptop computers, as well as mobile and tablet devices like iPads. This presentation discusses the project's business and technical drivers, application architecture and implementation details.

Avoiding the Common GPS Pitfalls

Presenter: Jay Riester – Seiler Instrument

Mapping-grade GPS units have the capability for submeter, subfoot, and even 4-inch accuracy. However, improper form in the field and improper procedures in the office can make achieving these levels of accuracy very difficult or impossible to achieve. This presentation will cover the most common areas affecting GPS accuracy such as: Productivity vs. precision, averaging positions, properly holding the GPS unit, multipath, using external antennas, different procedures points/lines/areas, special considerations for subfoot accuracy, differential correction, coordinate systems, datum shifts, and more!

Using off-the-shelf software to effectively manage a spatial SOA using a workflow-based architecture

Presenter: Jason Close, Account Manager – Latitude Geographics Group Ltd.

The traditional web-GIS viewer has had its place over the years in disseminating GIS data within spatially enabled organizations and to public constituents. The web-GIS viewer will continue to serve end users well, but a measured evolution is occurring in spatial architecture and user centered design that is altering the way GIS/IT administrators deliver applications, tools, and data to their end users.

In this session, we will explore a workflow based approach with our Geocortex Essentials software solution, to deliver spatial applications that cater to business processes within your organization. A perspective will be provided on trends seen in relation to server-GIS and REST technology, workflow based spatial service oriented architecture (SOA), and client side visualization technologies like Flex, Silverlight, JavaScript. (all of which you may already be considering within the bounds of your ArcGIS for Server projects).

Using GIS to create a 3D Campus Networking Tool

Presenter: Chris Berryman – UW Whitewater GIS Center

In the U.S, 54 million people in the U.S age 5 and over have a disability. One mission at The University of Wisconsin – Whitewater, is to create an accessible learning community where students with disabilities have an equal opportunity to participate fully in all aspects of the educational experience. While there are several campus information tools available; there is no tool that shows barriers to accessibility for students with disabilities. I created a tool that shows the barriers to accessibility around campus using GIS, Network Analyst, Google Sketch-up, and 3D Analyst. This tool will be crucial in helping the campus be even more equipped for disabled students, by assisting the students to find the quickest and easiest route on campus to any specified location.

ArcGIS server migration: kickin 9.3 to the curb

Presenter: Emily Champagne and Michael Benedict – Milwaukee Metropolitan Sewerage District (MMSD)

This presentation will highlight a case study in server migration at MMSD.

Moving to ArcGIS Server 10 requires a functional and technical approach that delivers the most current web technology while at the same time preserving existing business processes. Our goal is to provide end users with options for consuming server content. No longer do we need to focus on one-off web applications, but rather develop an ecosystem for providing consumable content over the web via ArcGIS Desktop, ArcGIS.com, web applications, and mobile.

The process seems simple. Have good data, define and build services, then provide those services through applications whether on the web or desktop. The presentation will outline MMSD's method of moving to AGS v10 and detail the technical issues and challenges that arose during the migration.

Do It Yourself(DIY) Flex

Presenter: Ian Grasshoff –Waupaca County Land Information

The number of GIS web applications has exploded on the internet over the last several years. It has become the new medium for displaying geospatial data. The Adobe Flex software development kit (SDK) was originally released in March 2004. Since then it has been widely adopted as the tool of choice for creating rich internet applications

(RIA). With Esri's release of their Flex Application Programming Interface (API) and Sample Flex Viewer template it has become much easier for GIS professionals with little or no programming experience to publish their own web applications.

The presentation will focus on the benefits of creating your own custom Flex applications, either by modifying Esri's Sample Flex Viewer template or by creating a new site template from the ground up. This presentation is intended to be a guide for getting started with the Esri Flex API. Attendees can hope to come away with valuable resources and lessons learned in regards to ArcGIS Server paired with the Flex interface.

Using LIDAR and Historical Aerial Photography To Support Ecological Restoration Planning

Presenter: David Aslesen – Applied Ecological Services

This presentation will demonstrate how bare earth and first-return LIDAR data, along with georeferenced aerial photos from 1939 to the present, were critical elements in developing an ecological restoration plan and environmental education materials for a private camp and conference center in Ogle County, Illinois. These free or low-cost data proved to be invaluable for interpreting the current landscape conditions and the cultural impacts that formed them. These interpretations and the visualization tools available in ArcGIS provided a much richer and more accurate "story" for restoration planning and environmental education programs. This presentation will focus on the results and uses of these data but will also touch briefly on the processing and analytical methods used.

ArcGIS Mobile on the Cloud

Presenter: Eric Fowler – American Transmission Company (ATC)

American Transmission Company (ATC) owns and operates the high-voltage electric transmission system in portions of Wisconsin, Michigan, Minnesota and Illinois, that provide the pathway for power into communities. Each year ATC performs aerial patrol inspections on all 9,000 miles of transmission lines to determine if there are any issues that could cause electrical outages. Some of the 80 issues investigated include: trees in the right of way, broken insulators, split poles, woodpecker holes, and broken guy wires.

ArcGIS Mobile, Mobile Project Center, and Cloud technology with ArcGIS Server have proven to be highly effective in the aerial patrol data collection process. Our ArcGIS Mobile solution captures issues that patrollers locate in-flight. In addition, a "bread crumb" log of where the patrollers have flown is also collected. The personnel in the office can view issues and the logs from our remote server.

This presentation will show the various parts required to make mobile and cloud technologies work together. Including how ArcMap and domains are used to make administration of ArcGIS Mobile, and the user experience, simpler.

Fishidy - The convergence of mapping, social networking, and fishing

Presenter: Eric Helwig – GeoDecisions

GIS technology is not typically synonymous with social networking. GIS professionals utilize Social Networking to communicate, network with their peers, and share photos and other information. Fishidy.com changes that by adding a location element beyond a simple "check in". Fishidy.com is a geo-social network that allows users to share information through maps as well as other fishing related information. The site was built with an emphasis toward the angling community and is designed to help enhance people's fishing experiences. However, it's model of how to "crowd source" information and utilize social networking to make your map better is applicable across numerous industries. The application was built on ESRI's ArcGIS Server Platform on the Cloud and features the latest GIS and Cloud Computing technologies. This presentation will focus on how the application was built, how it utilizes social networking to improve and collect location based information, and will include a short demonstration.