

Preliminary

EWUG 2008 Presentation Abstracts

ArcGIS Server 9.3 Implementation – Entering the New

Ian Grasshoff, Waupaca County

Martin Goettl, Trempealeau County

Waupaca County and Trempealeau County have both been running ArcGIS server (AGS) web mapping applications since late 2007. The two Counties worked together throughout the implementation process. They hope to share how to plan for an AGS implementation and potential pitfalls to avoid. The session is intended to be a starting point for users planning to implement AGS web mapping applications. Topics covered will be relevant to software versions 9.2 and 9.3.

ArcGIS Server Improves Mapping Milwaukee Public Schools (MPS)

Ron Bruder, Director of GIS Technology, Applied Data Consultants, Inc.

Todd Niedermeyer, President

Geographic Marketing Advantage, LLC Beginning in November, 2007, Applied Data Consultants (ADC) and Geographic Marketing Advantage (GMA) collaborated to provide GIS design and implementation services to the Milwaukee Public Schools (MPS) system. The primary focus of the effort was to utilize ESRI's ArcSDE Geodatabase technology and ArcGIS Server services and applications to enhance the district's existing "Mapping MPS" program. This improved Mapping MPS program has been the central vehicle in the district's Spatial Decision Support Professional Development efforts and will be at the center of the MPS Strategic Plan for improving the educational services provided across the district. The main design elements of the Geodatabase and of the ArcGIS Server mapping application will be focus of this session. ADC/GMA team members will also share some of the lessons learned from the implementation.

ArcPad Examples for Data Collection and Field Location

Nedd Niedermeyer, Senior GIS Analyst

American Transmission Company

Todd Niedermeyer, President

Geographic Marketing Advantage, LLC

ArcPad is a cost effective tool for field usage. This session will explore ways the software was utilized for collecting municipal assets and locating remote infrastructure.

ArcScene 9.3 unwrapping this unique tool, and its integration with a Google environment

Custom ArcGIS Mobile Development for Field Data Management

Ronald V. Bruder, Director of GIS Technology, Applied Data Consultants, Inc.

Applied Data Consultants recently developed a custom ArcGIS Mobile 9.2 solution for a large, multi-tiered Midwest corporation to streamline their field data management activities. In this session, we will discuss components of the server/client configuration supporting the project, as well as details of the final field application. We will also share some of the issues encountered during the ArcGIS Mobile development cycle.

Customizing ArcGIS Server for a Citizen Mapping Application

Brian Jensen, GISP

GeoDecisions

Carver County's GIS office has contracted with Houston Engineering Inc. and GeoDecisions to create a Parks and Trails Web Mapping Application. The application is being created to promote active living within Carver County by providing citizens with an interactive web map highlighting the County's parks and trails system. Since the application is being built for citizen use, the application design needs to be easy to use and have similar functionality as other popular internet mapping applications. A customized web interface was created based upon these design specifications.

The application was built using ArcGIS Server 9.3 technology, utilizing the new JavaScript API. The application functionality includes address search with option to find all parks and trails within a specified distance. Other common tools include trail locator, map tips, measure, map tips, photo points and printing. The application uses tiled map caches for basemap layers to speed up performance at predefined scales, which is important to keep the user's attention.

This presentation will focus on the experiences we gained in developing the application using ArcGIS Server 9.3 and to provide the attendees with lessons learned during the project development process. Topics will include targeted audience expectations, performance, customization, geoprocessing services and map caches. The application will also be demonstrated for attendees.

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Desktop Tools for FEMA Floodplain Maps

Kristy Hanselman, Project Lead, Map Modernization Program, DNR

Colleen Hermans, GIS Analysts, Map Modernization Program, DNR

Emily Szajna, GIS Analysts, Map Modernization Program, DNR

The Wisconsin Department of Natural Resources directly produces the state's Digital Flood Insurance Rate Maps (DFIRMs) under FEMA's Map Modernization Program. This presentation will discuss how we use an ArcMap 9.2 extension, Flood Map Desktop 9™ (FMD), to create FEMA-compliant DFIRM data, metadata, and map deliverables. The FMD tool has greatly improved our program's work flow and efficiency. As we demonstrate the FMD structure and FMD toolbars, we will discuss geodatabase creation and management, topology, domain tables, formatting style files, symbology, label creation and storage, data exporting, and project settings which form the base templates for our maps.

ArcGIS Mobile at 9.3 (1.5hrs)

Evan Marshall, ESRI

At ArcGIS Server 9.3, ESRI introduces the ability to create and deploy an out of the box mobile application to run on mobile devices out in the field. Organizations can now empower field users with GIS technology to shorten work flows, minimize the use of paper and capture data in an environment to be shared with the rest of the organization without having to be a developer. This session will also show some examples of custom mobile applications that will explore what's new with the ArcGIS Mobile ADF and ArcGIS Engine frameworks.

Javascript API with ArcGIS Server 9.3 (1.5hrs)

Evan Marshall, ESRI

Utilizing a powerful and proven development framework, ArcGIS Server opens itself up to the Javascript world. With the new Javascript API, users can take advantage of an incredibly robust development environment to build and deploy web mapping applications within an organization. This session will explore the utilization of existing Javascript developer libraries that can be utilized to make simple yet powerful GIS web applications, showcase the performance increases that users will see with ArcGIS Server and introduce a simple mash up environment with Google Maps and Microsoft Virtual Earth.

GIS Integration with CartêGraph

Jennifer Reek, GIS Coordinator, City of Brookfield

Brookfield's experience integrating and utilizing the City's Utility ArcSDE geodatabase with CartêGraph Systems sign and water databases. Both systems and software packages have been used to provide valuable data to our Public Works departments. Jennifer will present how over 6,000 signs were inspected and imported into the associated sign databases with two months last summer. In addition, demonstrate how the Water Utility is using existing associated GIS and asset water system data with Wachs valve exerciser and a Vitals database. Without the integration of GIS and asset systems, neither of these routine tasks would be routine.

GIS in the Flooding Response

Chris Diller, Wis. Dept. of Military Affairs

Coordination efforts, LIDAR and Imagery acquisition, satellite imagery and analysis will be discussed.

GPS Processing within the Geodatabase

Lanny Schnipper, Seiler Instrument

This presentation will cover the process of working with GPS data within a Geodatabase. Using GPS Analyst, an extension to ArcGIS, it is possible to stay completely within the ArcGIS environment while working with GPS data. Check data out; use, verify, and update the data in the field using ArcPad and the GPSCorrect extension; and then check updated data back in. Then process GPS data to achieve up to sub-foot accuracy. Detailed metadata is stored on every position, ensuring your GPS data is compliant with your GIS standards. There are no extra steps or complicated procedures to follow or file conversions to complete. Alternatively, use a pen tablet or laptop computer running ArcGIS and GPS Analyst and write GPS data directly to your Geodatabase. This presentation will highlight the technical details of how this works and also show specific applications that have benefited from this technology. GPS hardware will be available.

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Preparing ArcGIS for Google Transit

Tim Hennig, Brown County Planning Commission

In a joint effort, the Brown County Planning Commission/MPO and Green Bay Metro created an online transit routing application that is powered by Google Maps. This application gives users the ability to search Green Bay Metro's existing transit routes, bus stops, and pick-up times to help plan bus trips from beginning to end using the internet or mobile technologies. The Brown County Planning Commission developed the Google Transit Feeds (GTF) based on Google's specifications by incorporating tables and geospatial data within its existing transportation geodatabase schema. The GTF was developed using GPS, ArcMap, ArcSDE, SQL Server, DTS, and Google Transit open source software. The Brown County Planning Commission/MPO GTF presentation will provide information on how to get started in developing the GTF, advantages, disadvantages, future obstacles, and lessons learned throughout the Google Transit development experience. A live demo of the application will be shown following the presentation.

National Parcel Database

Hans C Dumke, General Manager – Madison Office

First American – Proxix Solutions

First American now has over 100 million parcels that we have collected or digitized and we have plans to build out the entire country in the next three years. The collection, digitization, and maintenance process will be discussed.

NAVTEQ Data from ADCi - A Badger Meter Case Study

Jim Reid, President, ADCi

Badger Meter is a leading manufacturer and marketer of flow measurement and control products, serving water utilities, municipalities and industrial customers worldwide. ADCi is a leading authorized distributor of NAVTEQ data. During this presentation, participants will learn: Who is ADCi? Who is NAVTEQ? And about an exciting application from Badger Meter, the Badger ORION®, Automatic Meter Reading (AMR) System, that uses NAVTEQ data (upon request) delivered by ADCi.

Using GIS for Safe Routes to School Programs

Melissa Kraemer-Badtke,

East Central Regional Planning Commission

The Safe Routes to School (SRTS) Program encourages schools and municipalities to provide safe routes for students (K-8) to use for walking or biking to school. East Central WI Regional Planning Commission is working with a number of schools and municipalities on their Safe Routes to School Plans. SRTS task forces use GIS applications and tools to assess safety concerns and the walkability of their community. This presentation will discuss what GIS applications and tools were used and how GIS assisted in making recommendations for improving the safety at and around the schools.

Using ESRI ArcPad with a NAD27 Projection

Julie Tochor, Earth Tech AECOM

This Presentation will discuss the accuracy of GPS data collected using a GPS GeoXH Subfoot Accuracy Handheld Unit if the base data is in NAD27 Projection. Topics will include what ESRI Support and Trimble Support have stated about data in NAD27 Datum and the grid-based datum transformation from WGS_1984 Datum to NAD27 Datum. Different solution methods for mapping the GPS collected data with base data in NAD27 will be discussed along with their spatial accuracy results.

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Web Services for Watershed Planning

Jerry Sullivan, GIS Project Manger

Wisconsin DNR, Science Services

Watershed Planning requires integration of diverse geospatial data that rarely lies within a single jurisdiction. This presentation offers a framework for integrating web mapping services applicable to watershed planning. It reviews the state of ArcIMS, ArcGIS Server, OGC WMS, and OGC WFS to support local watershed planning in Wisconsin. Reviewed sites include local, county, regional, state, federal, and private sources.

Sites are characterized as publically accessible via a browser (IE, Firefox), a free desktop application (ESRI Arc Explorer suite), an open source client (Quantum GIS), or a professional desktop (ArcGIS).

If internet mapping or web services are “streamable”, it is important to determine if their map projection / datum / coordinate system information is also provided.

An analysis is made of which themes needed for watershed planning are accessible, and whether these are selectable, queryable, or extractable. These themes include: watershed boundaries (at any scale); soils polygons, labels, attributes, and thematic views; wetlands; land cover and/or land use; environmental corridors; elevation, slope, (aspect, hillshade); water quality data; monitoring stations; gaging stations; and so forth.

Directions needed to support these types of natural resource applications in a distributed environment, using best available data, are suggested.