



2011 MAGIP Technical Session Abstracts

Lab or Hands-On Workshop

A Look At Mobile Solutions: 3 Case Studies

Presenter(s): Catherine Love, Valentijn Hoff, Nat Carter

Have you considered developing a mobile application but were unsure of where to start? Join us for a presentation of three different mobile solutions. We'll look at an ArcPad application, an Android application that takes advantage of free web data dissemination, and a custom iPhone application. We'll discuss the challenges of implementing and maintaining mobile solutions and the lessons we've learned along the way.



ArcGIS Online and ArcGIS Explorer: Examples of Community Mapping

Presenter(s): Ken Wall, Geodataservices, Inc.

This presentation will explore how technology, software and mobile devices are transforming citizen interaction and GIS collaboration for community planning. Web mapping and social networks that are continuing to present new opportunities as GIS becomes an important tool for citizen participation. Ken will use case studies and examples from a GIS collaboration between Teton, Pondera, and Lewis and Clark counties to show how capacity building in a grassroots citizen effort was applied to increase collaboration between citizens and governments for community planning. The examples show integration between CommunityViz, free mapping tools ArcGIS Explorer, Google Earth and ArcGIS.COM, keypad polling, wiki and other Web 2.0 tools.

Coding a digital enterprise system: design, tips, and tricks from a coding perspective

Presenter(s): John Hogland, USFS Rocky Mountain Research Station

Recently, the department of natural resources and conservation (DNRC), trust lands management division (TLMD), forest management bureau (FMB) developed a digital enterprise system (DES) using Environmental Systems Research Institute's (ESRI's) ArcObjects, Microsoft SQL Server, and .NET 3.5 sp1. This prototype can be used to create, manage, analyze, and report on FMB's business data, functions, rules, and policies via a series of .net libraries that leverage ESRI geodatabase Versioning and Replication, and ArcGIS Services. Library functionality is presented to the end user as a series of toolbars that can directly integrate with Desktop, Engine, and ArcPad.

This object oriented library provide the basic coding foundation for FMB's DES and can be easily applied to other bureaus within TLMD, divisions within DNRC, or agencies within the State. Leveraging the

flexibility of the object oriented design, portions of this library can be used to consume ArcGIS Services, integrate geoprocessing models, tools, and scripts, and extended GIS functionality to numerous other applications.

Developing an Enterprise ArcGIS Server Architecture: *Discussion to follow.*

Presenter(s): *Kreh Germaine, Montana ITSD*

We're living in a world that requires spatial web services for dynamic user demands yet also necessitates we defend against advanced persistent threats to sensitive data. This presentation will consist of three main foci to address the architecture supporting geospatial web services: architecture scaling for enterprise deployments, deploying securely behind a proxy, and server and web service security. The technical aspects of discussion will focus upon Microsoft Operating Systems and the ESRI ArcGIS Server for the .NET environment. Attendees are asked to engage in a system design discussion in the last portion of the session to ask questions and/or present alternate architectural ideas & suggestions.

Editing, Writing, and Publishing Metadata using ArcGIS version 10

Presenter(s): *Diane Papineau, Montana State Library (NRIS)*

In this session, the GIS Metadata Workgroup will discuss changes to the metadata editing environment in ArcGIS version 10 and their effect on data sharing in Montana.

ESRI ArcGIS Online & ArcGIS Explorer: Local Government– *Tentative Abstract*

Presenter(s): *ESRI*

ArcGIS for Local Government including content about ArcGIS.com, ArcGIS Explorer and Community Maps Program.

Esri Hands-On Learning Lab

The Esri Hands-On Learning Lab offers free training for conference attendees who want to experience areas of Esri software that may be new to them. Attendees will receive approximately **45 minutes of individual self-paced training consisting of a recorded lecture followed by a hands-on software exercise. No separate registration required. First-come, first-served.**

Lesson topics available in the Hands-On Learning Lab (all for ArcGIS 10) are:

- Editing with ArcGIS Desktop
- What's New at Version 10.0
- Getting Started with Animation

- Introduction to ArcGIS Server
- Basics of the Geodatabase Model
- Creating a Map in ArcGIS
- Geocoding With ArcGIS
- Introduction to ArcGIS Desktop
- Introduction to Network Analyst
- Introduction to Spatial Analyst
- Spatial Statistics for Public Health
- Introduction to Versioned Editing
- Working with CAD in ArcGIS
- Introduction to ArcGIS Data Reviewer
- Introduction to Geoprocessing Using Python
- Designing Effective Web Applications using ArcGIS Server

FWP Lessons Learned in Implementing an Enterprise Level GIS – “Getting Our House in Order”

Presenter(s): *Bob Cochran, Bill Daigle, Lydia Bailey, Montana Fish, Wildlife, & Parks*

In this presentation, we will discuss the steps Montana Fish, Wildlife & Parks is taking to streamline our enterprise GIS workflows. Topics will include the challenges associated with installing and hosting an in-house ArcGIS server and enterprise ArcSDE database, data flow from the development to publication environment, and the steps we are taking to make the data more accessible to both users and data managers. As we migrate existing datasets and mapping applications to current technologies, our goal has been to streamline processes so we can spend less time searching for data inconsistencies and repairing failing applications and more time developing new data sets and tools to enable users.



Hands on Workshop with Oblique Imagery:

Presenter(s): *Brian Kienle, Pictometry International*

This hands on session will allow the participant to fully experience firsthand the power of oblique technology using various software packages. This will include navigating, measuring, analyzing, and annotating intelligent oblique imagery via desktop software. An online version of the software will also be used, which will allow the user to explore high resolution current imagery from around the county. 3D model creation will also be covered.

Montana DEQ GIS Architecture

***Presenter(s):** Chris Stump & Nat Carter, Montana Department of Environmental Quality*

MT DEQ internally manages all its spatial data either on the file network (intermediate or in development data) or in an ArcGIS Server Enterprise Basic (ArcSDE) driven Oracle 11g RDBMS (Field, Production, and Publication instances). The Field instance is used to manage data for disconnected needs via custom ArcEngine applications or ArcPad driven GPS receivers. The Production instance is used for business data integration and feature creation providing them with a chance to review and verify the data within before sharing outside their business. The Publication instance is used as the source for all Department wide spatial needs via ArcGIS or ArcReader applications. It is also used as the source for all external web based services via ArcGIS Server Enterprise Advanced hosted by the Montana Department of Administration Information Technology Services Division (ITSD) as well as the Montana GIS Portal hosted by the Montana State Library Natural Resource Information System (NRIS).

Montana DNRC Fire Mapping and ArcGIS Viewer for Flex

***Presenter(s):** Don Copple & Liz Murray, Montana Department of Natural Resources & Conservation*

This session will demonstrate and discuss how the DNRC used ArcGIS Viewer for Flex to create an interactive web application for fire mapping. The application is designed to share information with the public and increase the situational awareness of Montana DNRC fire staff and dispatch centers by providing a “one-stop shop” for statewide Montana fire information. The application pulls together data from the DNRC, other state agencies, and federal agencies in one easy to use platform. The Flex Viewer comes out of the box with a wide range of configurable widgets and customization options to choose from. Additional widgets can be developed using the ArcGIS API for Flex and many of these custom widgets have been shared by developers in the ESRI community. ArcGIS Viewer for Flex provided DNRC with a simple solution for quickly building and deploying a custom web application with all the desired functionality to meet our needs. Topics discussed will include preparing DNRC’s data and building web services, consuming data from other agencies, configuring the viewer, and developing custom widgets.

Montana Spatial Data Infrastructure: Data You Can Trust

***Presenter(s):** MAGIP Technical Committee*

The Montana Spatial Data Infrastructure (MSDI) is a collection of 14 digital geospatial data themes representing land information that have been identified by the Montana Geographic Information Officer (GIO), with the advice of the Montana Land Information Advisory Council (MLIAC), as necessary to meet the spatial information needs of the state of Montana and its citizens. Listen in and join the discussion as MSDI Theme Stewards examine data maintenance strategies, developments in web services, and other pertinent issues involved with the continued advancement of framework information as the best available data for Montana—standardized, maintained, and discoverable.

The Science and Use of Oblique Imagery in GIS:

Presenter(s): *Brian Kienle, Pictometry International*

This presentation will cover how and why a GIS professional would use oblique imagery in various GIS packages, including but not limited to ESRI's ArcGIS. The session will focus on the fundamental differences between Nadir (vertical) imagery and Oblique (angled) imagery including the science of how a dynamic grid and varying GSD's (ground sample distance) work.

One topic covered will be an exciting new technology that will allow GIS users to consume oblique imagery as native content in ArcGIS 10 Desktop. Another new technology will be demonstrated that allows a website to consume both WMS and WFS web services in conjunction with web optimized oblique and ortho imagery.

The session will also highlight some of the other benefits of using intelligent oblique imagery like being able to acquire height measurements or creating photo-realistic 3D models. The session will end with examples of oblique and ortho imagery from various natural disasters over the last few years including Hurricane Ike, the 2010 Nashville floods, 2008 tornadoes that struck Suffolk County Virginia, earthquake in Haiti, and finally imagery from the recent Tornado in Joplin Missouri.

Understanding Model Builder

Presenter(s): *Kyle Balke, Geodataservices, Inc.*

Model Builder is an easy to use application built into ArcGIS that allows a user to link together a sequence of geoprocessing tools, where the output of one tool can be used as the input to another. It can be "thought of as a visual programming language for building workflows." This session will offer a demo-style introduction to the world of model building as well as several intermediate and advanced techniques. Topics will include basic model elements and workflow, model parameters, running a model, filters, model only tools, iterators, in-line variable substitution, and preconditions. This session will be valuable to both the newbie and casual model builder user.

Working with the New CAMA Data Format:

Presenter(s): *Bob Holliday, Base Map Service Center*

The Base Map Service Center (BMSC) and the Department of Revenue (DOR) have traditionally provided access to assessment data in both text file and Microsoft Access formats. With the adoption of new technologies at BMSC and DOR, assessment data will soon be provided as SQL Server Database files. The tool of choice for utilizing the new data files for those who do not wish to invest in relational database software is SQL Server Express Edition. SQL Server Express is a free fully functional release of SQL Server. This discussion will focus on getting SQL Server Express and Personal ArcSDE configured for use with the new assessment data format.

