NSDI Cooperative Agreements Program
Metadata Implementation Project
Interim and Final Project Summary Format

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Interim Report

Organization:

Jackson State University
1400 J.R. Lynch Street
Jackson, MS 39217.
www.jsums.edu

Project Leader:

Elizabeth J. Matlack
601-979-1486
elizabeth.j.matlack@jsums.edu

Project Narrative

The following excerpt is from a recent article published in Directions Magazine. The article was coauthored by Susan Kalweit, Booz Allen Hamilton and Elizabeth Matlack, Director National Center for Biodefense Communications, Jackson State University:

> The dependence of rural communities on the land that supports them creates challenges to maintaining a desirable quality of life, environmental health and economic competitiveness that often are further hampered by an inadequate information technology infrastructure. The National Association for Rural Geospatial Innovations in America likens the situation to what rural America faced in the 1930's that led to the establishment of the Rural Electrification Act of 1936. Mississippi is addressing its "rural challenges" head-on by establishing themselves as a Location Aware Enterprise.
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> In our first three articles on the Location Aware Enterprise (1, 2, 3), we described the elements necessary for making location information technologies a powerful integrating force in improved decision making and stronger business results. In this fourth article, we showcase Mississippi as a model Location Aware Enterprise as it moves forward to leverage geospatial resources for bringing new and enhanced capabilities in public safety and homeland security, state revenue generation and natural resource planning and maintenance. Mississippi is already seeing how their "geo-lectrification" through a Location Aware Enterprise is having a profound affect on the way state agencies work together and with local jurisdictions to improve the way of life and economy for all citizens in the state.
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> In our first article on the Location Aware Enterprise we introduced five service areas.

- Organizational design and change management
- Enterprise architecture
- Information architecture and knowledge management
- Analysis and visualization
- Economic business analysis

Mississippi is well on its way to either implementing or constructing its approach in four of the service areas.

1. Organizational design - making partnerships work in the state through a commitment to coordination
2. Enterprise architecture - developing an enterprise approach to spatially enabling their IT infrastructure
3. Information architecture - developing a state-wide information architecture for addressing, which will underpin key public safety/homeland security and revenue generating business applications
4. Analysis and visualization - developing concepts for new location-enabled applications in E911, bio-terrorism and fraud detection that will have real impact to the health and well-being of citizens in the state

As a predominately rural state, Mississippi is an excellent proving ground to test the validity of a Location Aware Enterprise for addressing the many challenges that dominate rural America. In 1997 the National Survey of America's Families data show that 20.4 percent of the nation's population lived in rural areas. Mississippi was by far the most rural of the study states, with 69.5 percent of its population living in rural (adjacent and nonadjacent) areas – more than three times the national average. Lack of adequate wireless telecommunications infrastructure, lack of resources, equipment, manpower and training in Mississippi all contribute to the "rural penalty" that is a direct result of geographic isolation. Within the last decade, Mississippi has witnessed disasters such as ice storms, tornadoes, floods and hurricanes, but essential training and support are still largely unavailable for community readiness personnel, especially in the area of bioterrorism and weapons of mass destruction. Mississippi, with a commitment to establishing itself as a "Location Aware Enterprise," is a model for how rural communities can make investments in geospatial resources significantly pay-off.

Making partnerships work: Mississippi establishes a coordinating council
In order to ensure the most effective use of limited resources, the State Legislature in July 2003 established the Mississippi Coordinating Council for Remote Sensing and Geographic Information Systems. The state recognized the importance of having senior decision makers from all government service areas involved in the policy and standards setting processes. Therefore, the members of the Council include the Executive Directors of the various State departments as well as county and local representatives. The legislature also established a Policy Advisory Committee (PAC) and a Technical Users Group (TUG) to support the efforts of the Council.

Among the first significant actions of the Council is developing a standardized addressing policy for the State. A standardized addressing system will be a fundamental underpinning to a variety of applications including public safety and fraud detection. Without a coordinated effort, this critical component of spatially-enabled statewide services could not exist.

Enterprise approach to spatially-enabled IT infrastructure: Mississippi commits itself to a GIS clearinghouse

In November 2002, Governor Ronnie Musgroves' Advisory Commission on Remote Sensing Technologies recommended the state develop the Mississippi Digital Earth Model (MDEM). When complete, this digital land base computer model of the state will be the foundational geospatial element of the statewide IT infrastructure. The Department of Environmental Quality is responsible for coordinating the acquisition and maintenance of the data, while the Department of Information Technology Services is responsible for storing, managing and providing access to the data through a statewide GIS clearinghouse. This partnership between a functional state agency and the state IT department ensures Mississippi's statewide IT infrastructure is spatially enabled, rather than seeing stove-piped geospatial systems develop.

The National Center for Biodefense Communications' (NCBC) metadata project is directly supporting Mississippi's developing Location Aware Enterprise.

Measurable Project Results:

The NCBC is an active member of the Policy Advisory Committee (PAC), the Technical Users Group (TUG), the Metadata Standards Sub-Committee and the Addressing Standards Sub-Committee. The Metadata Standards Sub-Committee has over the last seven months reached several important decisions which have been adopted by the Policy Advisory Committee. Of these decisions the three most important are:

1. All data which becomes part of the State of Mississippi's GIS Clearinghouse ("the Clearinghouse") must have metadata provided with it which meets the minimum standards recommended by the Federal Geographic Data Committee or development of the National Spatial Data Infrastructure.
2. Metadata for the MDEM, the seven base layers that will be the foundation of the MS GIS Clearinghouse, will be developed and maintained by designated Information Technology Services ("ITS")staff members and/or MS Department of Environmental Quality ("DEQ") staff members or their designees. The accuracy, consistency and quality of metadata for the seven base layers is critical to the State therefore the responsibility for developing and maintaining it should rest with the agencies responsible for it.
3. Templates will be developed to assist individuals and organizations in developing metadata for additional data they would like to provide to the Clearinghouse. The templates will be designed to solicit information required to create at least the minimum

metadata required to meet FGDC standards. ITS and DEQ will be responsible for final production of appropriate metadata for all geospatial data stored within the Clearinghouse.

Describe metadata service

- Indicate how metadata is served or posted

  Metadata will be posted to and maintained as a part of the Clearinghouse servers by ITS/DEQ staff or their designees.

- Indicate how many metadata entries were created

  Experimental test data only so far has been developed. The Clearinghouse is still and unfunded mandate for the State. We are working of funding source strategies.

- Indicate if you need assistance in providing for metadata service

  At this point what we really need is money

Next Steps (if appropriate)

- Describe the next phase in your project

Continue to develop templates and establish standards and guidelines which define acceptable criteria for any data included in the Clearinghouse, including metadata requirements.

- Are there issues in metadata management and service

Design databases to house metadata and standardized XML calls that will be used to support webservices.

- Requirements (more technical assistance, software, other?)

Funding is our most overarching need at this time.

Feedback on Cooperative Agreements Program:

- What are the program strengths and weaknesses?

The kickoff meeting was valuable. Additional meetings of the entire CAPS group would have been beneficial to all.

- Where does the program make a difference?

Getting to meet the FGDC staff and work with them was and continues to be helpful. It always helps to meet people face to face and to

- Was the assistance you received sufficient or effective?

Assistance was mostly provided at the kickoff meeting and all of that was valuable at the time. Additional face to face working meetings would be very helpful as well.

- What would you recommend doing differently?

Same as above, more face to face group working meetings.

- Are there factors that are missing or need to consider that were missed?

None come to mind at the moment

- Are there program management concerns that need to be addressed? Time frame?

None

- If you were to do this again, what would you do differently?

Given the same circumstances, no probably would follow the same path.