

Next Steps for Data Interchange for Geotechnical and Geoenvironmental Specialists (DIGGS)



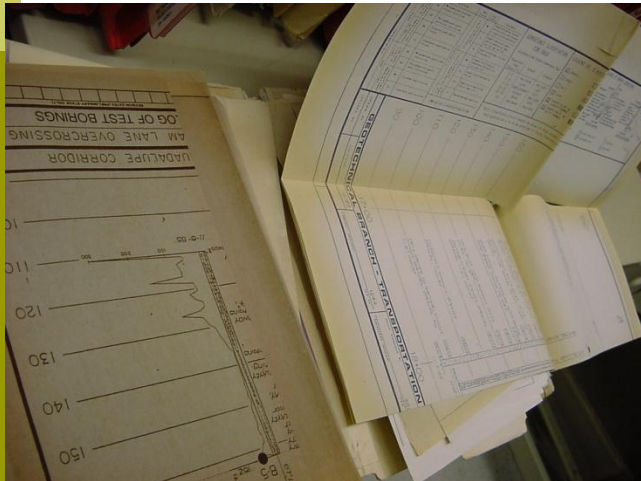
TRB Workshop
Advances in Geotechnical Data Management and
Visualization

January 12, 2014

Robert Schweinfurth, PI, ASCE Geo-Institute
Ohio DOT Contract

Caltrans Experience

- 30,000 project files
- 2 million documents
- 300 projects/year
- 80 years of data
- Difficult to access information



Ohio DOT Experience

- 20-30 person hours per week to retrieve information



What is DIGGS?

- ❑ XML (Extensible Markup Language), Geography Markup Language (GML) compliant Standard for Geotechnical and Geoenvironmental Data
- ❑ Ongoing Effort Since 2005 – Pooled Fund Study
- ❑ Partners: USGA, EPA, COSMOS, AGS, UK-HA, UF, GINT, KeyNetix, State DOTs, FHWA, EarthSoft

DIGGS Schema Includes...

- Borehole Location and Site Information




- Borings & Sampling

DIGGS Schema Includes...

- ❑ Test pits
- ❑ In-situ testing
- ❑ Borehole Geophysics
- ❑ Laboratory Data
- ❑ Geoenvironmental
- ❑ Groundwater



<http://diggsml.com> – Website



International geotechnical and geoenvironmental data interchange framework based on XML and GML.
Written by geotechnical professionals, for geotechnical professionals.

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Robert Schweinfurth

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Who's online

There are currently 0 users and 2

Data Interchange for Geotechnical and GeoEnvironmental Specialists (DIGGS)

DIGGS is a coalition of government agencies, universities and industry partners whose focus is on the creation and maintenance of an international data transfer standard for transportation related data. The coalition came into existence through coordination from the US Federal Highway Administration sponsoring meetings and eventually forming the pooled fund study project. The initial base schema consists of geotechnical data including Borehole, soil testing, site information and more. The first SIG is extending the schema to include Geo-Environmental testing. More SIGs and expanded membership are in the works.

The draft DIGGS standard is available for review and comment. In order to act as a reviewer, you must [create an account](#). You will then have access to [download the schema and documentation](#) as well as participate in the [online discussion forum](#). The forums will be monitored and the DIGGS team will answer questions to help in the understanding and implementation of the schema and will be the main point of contact for review comments. The schema will be updated monthly with corrections and additions during the review. [Review Forum >](#)

Recent Blog Entries (Full Blog Listing)

Schema v2.0a Released

The Pooled Fund Study has come to a close and DIGGS has released the v2.0a of the Schemas. These are in Alpha status. We are working to find a permanent home and an implementation project to transfer ownership.

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Status of Work on DIGGS -- Closure of the Transportation Pooled Fund Project

June 15, 2012 - 12:47am — LTurner

The Transportation Pooled Fund project TPF-5(111), "Development of Standards for Geotechnical Management Systems," is in its final month and the current development phase of DIGGS is drawing to a close. In my last email update to the DIGGS team members and partners back in October 2011, I had reported that the project had been temporarily suspended for several months while seeking approval of a no-cost time extension through the Ohio Department of Transportation (ODOT) and the Federal Highway Administration (FHWA). The project resumed in October 2011, and XML/GML schema development resumed under the contract with the University of Florida and Galdos Systems. As this TPF project is now wrapping up and ODOT is executing project close-out procedures, an update to you on development efforts is warranted.

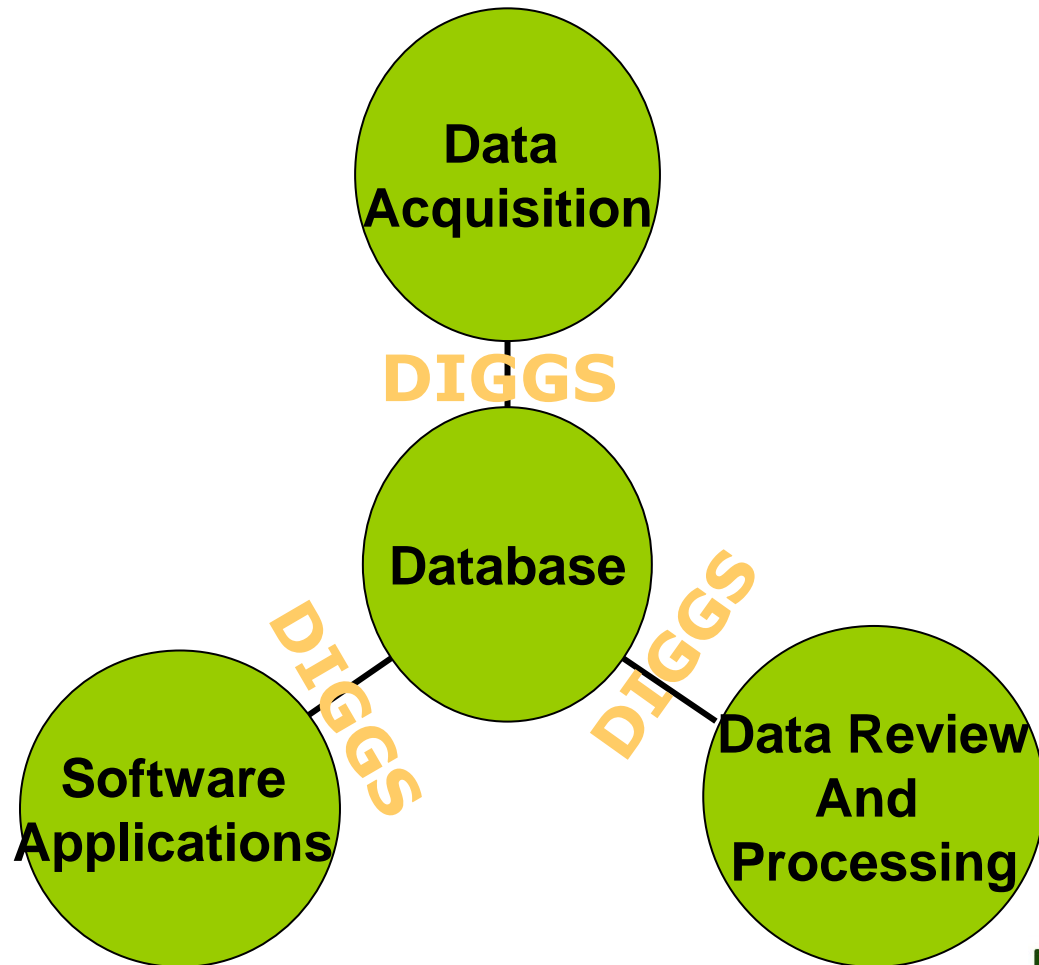
[LTurner's blog](#) you can't post comments [Read more](#) [Public](#) [Frontpage](#)

Pooled Fund Project TPF 5(111)

The Pooled Fund Project is a US Federal Highways Administration project administered by the state of Ohio. Multiple states commit funds to create a larger project under which all organizations receive the benefit from the project. The DIGGS project was created to develop an international standard interchange format for geotechnical data. The project brought together the existing formats created by Association of Geotechnical and Geoenvironmental Specialists in the United Kingdom (AGS), Consortium of Organizations for Strong-Motion Observation Systems (COSMOS) and Florida Department of Transportation (FDOT) created by the University of Florida (UF). The project has a governance structure for developing the base schema as well as Special Interest Groups (SIG) to create extensions. The result of the project is the DIGGS schema. [Pooled Fund Project >](#)

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The DIGGS Advantage Interoperability



DIGGS Advantages

- Share Data within states between different databases Saving \$Millions
 - Allows investigators to do work in best manner, but share required information
- Transfer of Data to Other Users, States, FHWA
- New uses for existing data

Cost Savings

- Ohio DOT:
 - 10-20% less drilling, savings \$12-24M per year
- Florida DOT:
 - Fewer borings saving \$250,000 - \$500,000 on one project
- Missouri DOT:
 - 10-15% fewer borings per bridge
- Missouri DOT:
 - \$81,000 savings per year in boring log preparation by using electronic data entry in the field
- California DOT:
 - 20% savings (\$200k/year) with laboratory data management system implementation

DIGGS Current Status

- DIGGS Version 2.0a - July 2012
 - Update of Data Dictionary
 - Update of Schema
 - Creation of “DIGGS to Excel” Tool
 - Creation of “DIGGS to KML” Tool
 - DIGGS Website Update

Next Steps

DIGGS Implementation

- ODOT Contract with Geo-Institute-2 years
 - October 2013 – October 2015

- Goals of Contract
 - Finalization of DIGGS Schema standard from 2.0 α to 2.0 β and Public Release of DIGGS 2.0
 - Transition of ownership to Geo-Institute
 - Development of Long Term Business Plan, Management Structure, and Adoption Strategy

DIGGS Implementation

- Engagement of DIGGS Advisory Board
- Survey of DIGGS User Community
- DIGGS Training Materials
- Pilot Testing of DIGGS 2.0a
 - State DOTs & EPA, Software/Hardware Vendors, Federal Agency
- Update XML/GML Schema and Data Dictionary

DIGGS Tools Development

- Refining of existing “DIGGS to Excel”, and “DIGGS to KML”
- AGS 4.3 to DIGGS
- Excel to DIGGS
- Validation

Implementation Timeline

- Community Survey – Jan/Feb 2014

- Training Materials – Webinars
 - Jan-March 2014 – High Level and DIGGS Structure
 - Pilot Testers Training Webinar – How to Use DIGGS and Do Pilot

- Tool Development – February-July 2014

Implementation Timeline

- Pilot Testing – July-November 2014
- Release to User Community for Review – January-May 2015
- Management, Business, and Adoption Strategies Development - February 2014– July 2015
- Final Release of DIGGS 2.0 – Nov. 2015

Questions

