



Providing Environmental Data to Management at NIH

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Division of Environmental Protection

National Institutes of Health

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Objective

- Overview the process of utilizing GIS application to support management of the Environmental program at the National Institutes of Health





National Institutes of Health (NIH)

- Supports leading medical research for US and the World
- 27 Institutes and Centers; *Intramural and Extramural*

- NIH Locations

- § Bethesda, MD
- § Poolesville, MD
- § Rockville, MD
- § Baltimore, MD
- § Fredrick, MD
- § Raleigh, NC
- § Hamilton, MO



- Research, Administrative, Industrial



Team Approach

- Environmental Subject Matter Experts
- Environmental Management Team
- GIS / Data Management Experts





Project Background

- Goal: To improve current data management process to support more effective decision making
 - § Evaluate the current methodology



Project Background (cont.)

• Need for Programmatic Improvements

§ Regulation – provide easy access to evidentiary documentation

- * Environmental Protection Agency
- * Occupational Health and Safety Administration
- * Executive Order

§ Provide Accurate Information on a timely basis

- * Reduction of workflow complexity
- * Cost analysis for projects and programs

§ Meet a functional vision – “I want to point at a fixture on a campus and know what environmental issues are associated with it. I also want to roll-up facility and program specific information for routine reporting purposes. In a nut shell I want to use technology to it’s potential of real time reporting and reduce the need to request data summaries and reports.”



Technology Platform

- System Components

- § Software

- * ArcGIS Server/ArcSDE 10.1 à 10.2
- * nVision Version xxx

- § Data Requirements

- * Campus/buildings
- * Floor Plans
- * Forest Conservation Plan
- * Campus Utility Master Plan
- * Environmental Impact Statements and Environmental Assessments
- * Asbestos Management Plan; PCB Management Plan, Equipment Surveys (Environmentally impactful);





Requirements

- Concept to Proceed

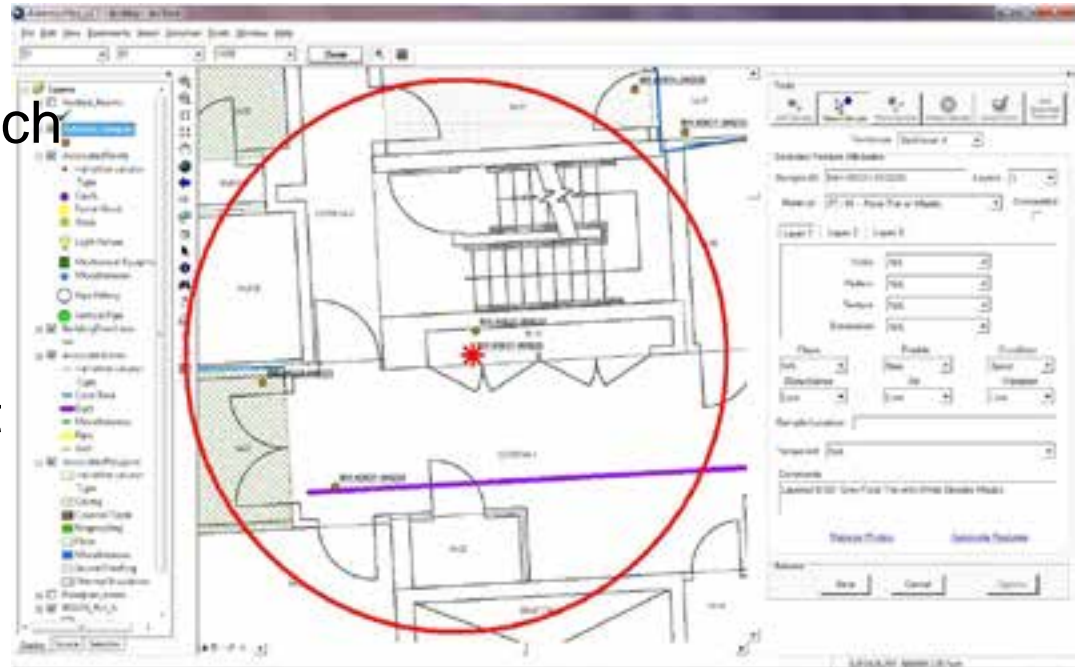
- § Collection of Photos
- § Collect Sample Chain of Custody
- § Collect Laboratory Reports
- § Collect Descriptive Information related to sample collection
- § Collect quantities for features
- § Generate a detailed report compiling all inputs in a user friendly format including a map and photos
- § Tools to update data over time



- Developed Specific Input / Output / Framework after the project origination

Application Development

- Phased / Modular approach
 - § Field Collection
 - § Reporting
 - § Maintenance
- Desktop Model – Data Input
- Server – Data Management



Web, mobile, and
desktop clients

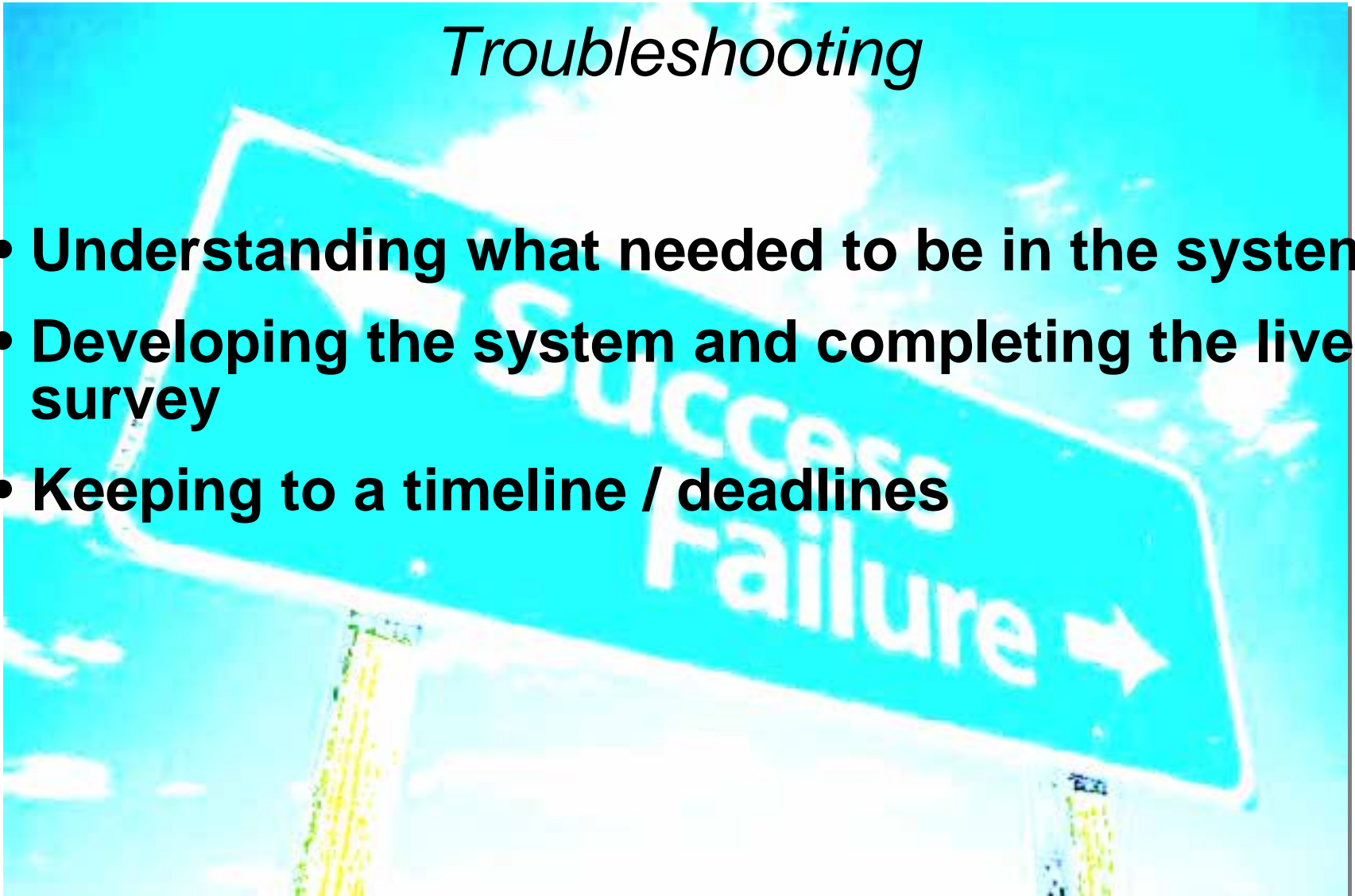


Web server



Troubleshooting

- **Understanding what needed to be in the system**
- **Developing the system and completing the live survey**
- **Keeping to a timeline / deadlines**





Troubleshooting

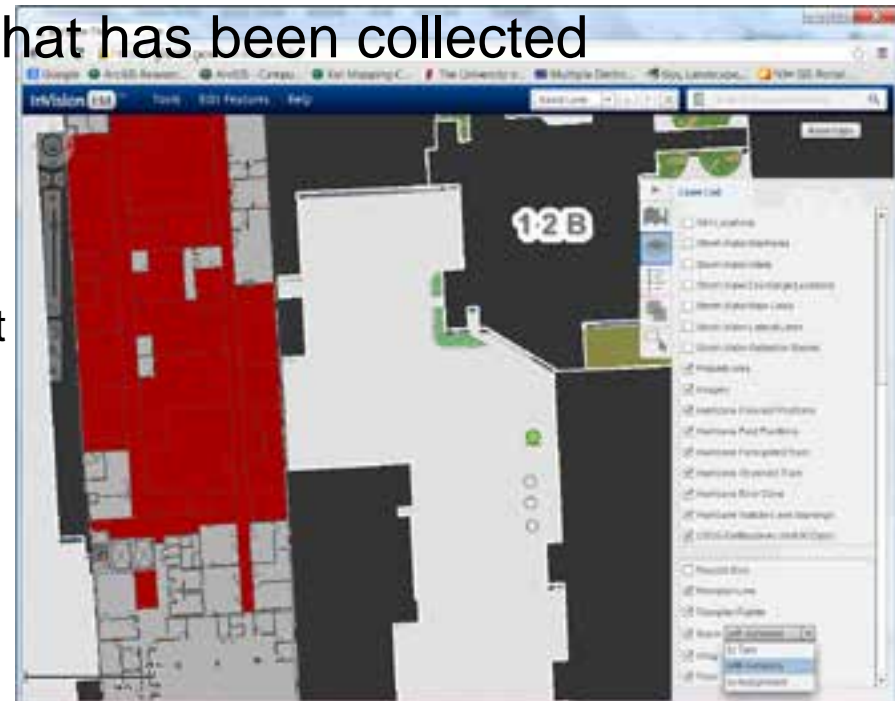
- Remote testing of modules and reporting application
- Remote access to authoritative data
- Support of field teams





Completion: User Friendly System

- Uses terminology of the industry
- Tool to navigate to building, floor, and room
- Conditional feature display (*turn off ceiling when working with floor*)
- Protection of the data that has been collected
- Documentation
 - § Installation
 - § Module / Tool primers
 - § Data library / Management





Conclusion

- System Status

- § Completion of the sampling tool, management tool, reporting tool, and abatement (reconcile) tool.
- § Over 20,000 inspection hours
- § Over 5,000 samples collected
- § Over 40,000 photos collected
- § Over 25,000 rooms surveyed in over 50 buildings
- § More than 5 million square feet surveyed, categorized, and documented
- § Reduction of cost of \$0.07 per square foot

- Federal usage

- § Identifying collaborators to promote the usage of the asbestos tools government-wide



Questions and Contact Information

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