



LAB SAFETY SURVEY MANAGEMENT SYSTEM National Institutes of Health (NIH)

Period of Performance: March 2006 – present **Place of Performance:** Bethesda, MD

Requirement / Problem

Lab safety inspectors completed paper-based Laboratory Safety Surveys in the field. Inspectors would then complete their surveys at the office, make numerous paper copies of each survey document and distribute the surveys to management and lab personnel.

This paper-based system resulted in a significant amount of office space being used for file cabinets. Inspectors, program management personnel and administrative personnel also spent a substantial amount of time retrieving previous surveys in preparation for upcoming surveys or to answer questions for lab and other personnel.

Solution / Services

Solution

- Designed and developed a secure web-based system to manage and distribute lab surveys; automating the entire lab survey management process, to the extent possible
 - ✓ Data is stored on a local database on the Tablet PC and transferred when an internet connection is available
 - ✓ Lab safety inspectors have access to all previous surveys on the Tablet PC, therefore reducing time needed to prepare for an inspection.
 - ✓ The system monitors data changes on the Tablet PC and the main server and provides for two-way data synchronization via web services.
 - ✓ System automatically creates PDF version of final surveys and lab information update forms. Lab Surveys are distributed and stored electronically, eliminating the need for paper-based forms.
- Used modern technologies and minimized the complexity of the user interface so that lab safety inspectors and program managers can comfortably utilize it
- Built a user-friendly, Tablet PC-based lab survey system for lab safety inspectors
- Created search features for survey-specific retrieval

Services

- Project management
- Systems analysis and technology consulting
- Software/internet application development
- Systems integration
- Application/server security and technical support
- Data collection, validation, transfer and synchronization
- Program support including training lab safety inspectors to properly use the hand-held data collection system
- Help desk

Technology

- Industry standard software development tools in a Microsoft environment (ASP.NET, VB.NET, JavaScript, SQL Server, Microsoft .NET Framework, Web Services)

Outcome / Results

- Significantly reduced data errors by eliminating need for repetitive data to be entered more than once.
- Automated the data entry process via Advanced User Interface (AUI)
- Custom built making it easier to make changes as conditions warrant
- Drastically reduced the consumption of paper, ink, envelopes, postage, and man-hours associated with lab safety survey creation and distribution by making the whole process electronic
- System is compliant with Section 508 Accessibility Standards