



ERGONOMICS EVALUATION DATA MANAGEMENT SYSTEM

National Institutes of Health (NIH)

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

Requirement / Problem

Originally, ergonomic evaluators utilized a paper-based system for laboratory assessments and office ergonomic evaluations in the field in response to work-related injuries. Evaluators would complete their evaluations at the office, make numerous copies of each document and distribute the surveys to management, office, and lab personnel. 270net was selected to develop a system for the *Department of Health and Safety (DOHS) Office of Research Services (ORS), Ergonomics Division* that would significantly reduce data errors, eliminate the input of repetitive information, eliminate the need for transcription of handwritten material to Word-based format, as well as the reduction of paper, ink, envelopes, postage consumption and man hours associated with survey creation and distribution.

Solution / Services

Solution

- Designed and developed a secure web-based system to manage and distribute lab and office assessments
 - ✓ Data stored on a local database on a Tablet PC and transferred when an internet connection is available
 - ✓ The system monitors data changes on the Tablet PC and the main server and provides for two-way data synchronization via web services.
 - ✓ Ergonomics evaluators have access to all previous evaluations on the Tablet PC, therefore reducing time needed to prepare for an evaluation.
 - ✓ Ergonomics evaluators have access to a customized list of pre-written comments and recommendations for each question. These comments and recommendations can easily be customized to the individual evaluation.
 - ✓ System automatically creates PDF version of final evaluations. Evaluations are distributed and stored electronically, eliminating the need for paper-based forms.
- Automated the entire evaluation management process
- Built a user-friendly, Tablet PC-based survey system for ergonomics evaluators
- Built in evaluation search features making it very easy for evaluators to retrieve needed information.

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 ergonomics evaluators 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 much of the data entry process via advanced user interface
- Custom built the ergonomic system, making it easier to make changes as conditions warrant
- Drastically reduced the consumption of paper, ink, envelopes, postage, and man-hours associated with ergonomic survey creation and distribution by making the whole process electronic
- Pre-formatted a list of comments and recommendations resulted in a dramatic reduction in amount of handwriting necessary to complete an evaluation.
- System is compliant with Section 508 Accessibility Standards