



SCS Case Study

Desktop Database Application Design and Development, Reporting Services

The Client

The park and recreation board for a major metropolitan area manages the urban forest within that city. This includes boulevard trees as well as those on city-owned land. In order to maintain the urban forest, the forestry division of the park and recreation board must plant several thousand trees each spring. To prevent epidemics such as Dutch Elm disease, they must plant a variety of tree species.

The Challenge

Managing the forestry division's tree planting process was very time-consuming and labor intensive. The determination of planting locations, purchasing of the trees, and administration of the actual planting and initial care was managed through a series of Excel spreadsheets. Data entry and data updating could only be done by one person. Information could not be easily shared among forestry division personnel. The complex follow-up reporting required for public works and neighborhood revitalization projects was tedious.

The Solution

Superior Consulting Services (SCS) and the forestry division worked to design an application to meet the data management needs of the tree planting process. SCS analyzed the existing spreadsheets currently in use. In addition, SCS led a number of facilitated discussion sessions with forestry division personnel to determine the requirements of the tree planting application.

Multiple screens were laid out to provide for efficient data entry as well as decision support and management during the entire planting process. Numerous security roles were defined for controlling access to the screens and capabilities within the application. Merged letters were authored for corresponding with tree vendors during the bidding and purchase process. Hard copy reports along with Microsoft Word and Microsoft Excel exports were designed for required accountability reporting to government agencies and for providing workers in the field with to do lists and planting site locations. (Mobile computing is not currently available to field personnel.)

A Windows desktop application architecture was selected to meet the data entry and data interaction requirements. Microsoft SQL Server 2000 (later upgraded to Microsoft SQL Server 2005) was used as the database platform. Microsoft SQL Server Reporting Services provided the majority of the reporting capabilities.

The Result

A team of SCS developers worked to implement the application design. A three-tier approach was used. XML structures were employed to move large amounts of data between the front-end application and the back-end database. The project team used the Superior Way Methodology throughout the project. As the project neared completion, users were provided with training and documentation.

The tree planting application that resulted from this design and development effort has been used through numerous planting seasons. It has managed the purchase, delivery, planting, follow-up care, and reporting for almost 20,000 trees. It will continue its work for the forestry division for many years to come.

SCS has provided support for and enhancements to the tree planting application over its many years of usage. Now, after mentoring and knowledge transfer, the park and recreation board technical staff is able to provide for its own application support and enhancements. However, SCS continues to stand behind its software product, when needed, to ensure it continues to meet the park and recreation board's needs.