



Challenge:

[SenSource Inc](#) needed custom software package capable of configuring environmental sensing equipment over TCP/IP and RS232 serial ports. Additionally the sensory readings recorded by the device were valuable for reporting and had to be stored in a database. The existing software was limited but provided a foundation that helped asses their needs and Apex designed a solution. The sensory data included temperature readings, humidity readings, and count data. The temperature and humidity data is straight forward and could be treated as such but the count data was very specific and differed depending on the type of equipment purchased. It ranges from various forms of people counting such as walking through a door or going down a slide, to vehicle counting on the road or entering a parking garage, or dwell periods where a person stands in front of a counter such as a bank or jewelry store.

Solution:

A standalone redistributable custom software product was born that satisfied and exceeded the project requirements. An intuitive user interface was designed to aid in configuring the sensor's parameters and provided easy access to the underlying historical data. Depending on the BI needs of the corporation using the software they could analyze the raw underlying data or create reports in graphical format from the software. To automate data gathering the software was equipped with a number of parameters to allow execution on an interval with the Windows task manager so the system was self maintained. For larger corporations with hundreds of facilities we included an add-on package with base software that featured an ASP.NET application capable of listening for the data to be 'pushed' to the server, eliminating the need for a scheduled task.

Impact:

This allowed for sensor equipment to be distributed easily in large environments. With two methods of obtaining the data by push (downloading) or pull (uploading) it allowed the customer to choose the method which fit their business model best. A small company could pull the data off the device while a large company used an ASP.NET application all while the underlying software remained the same.

This project became the foundation for a new [business intelligence product](#).