

Protegra

Software Development and Evolution

Spotlight on SCADA

Protegra and GN Technology Solutions have formed a partnership, allowing us to bring integrated software solutions into new areas. GN Technology Solutions specializes in SCADA (Supervisory Control and Data Acquisition), focusing on data acquisition and monitoring, with in-depth expertise in custom electronics development. Protegra takes the data gathered from the sensors and presents them in a user-friendly manner. Protegra will develop the supporting custom software to present and analyze the data collected from the sensors, generate customized outputs and status updates to support operational requirements and build interfaces with existing systems.

While this all seems very technical, it's important to ensure the solution is aligned to the business in order to see a performance improvement. Whether it's capturing data quicker or doing it with greater accuracy, focusing on the value it adds to the business is central with any solution developed by Protegra.

The partnership will offer SCADA solutions that will cost much less than competitive alternatives for two reasons:

1. The innovative designs use off-the-shelf components that are then customized for each client
2. The software, and ultimately the end to end solution, is customized to deliver only the features that will deliver value. These customized solutions can also be licensed for re-use or re-branding.



GN
Technology
Solutions



Protegra

Offers custom SCADA solutions that are considerably more cost effective than off-the-shelf alternatives. In this alliance, GN Technologies will bring the real world, in-depth electronics expertise in custom SCADA hardware and software.

Offers software development and integration services that be used to develop a system that will present complex data in a user-friendly way, using client taxonomy (representing the data using formats or labels that makes sense to the client's specific situation).

Protegra

Software Development and Evolution

Spotlight on SCADA

Dr. James Blatz, P.Eng. - Associate Professor and Associate Head - Department of Civil Engineering - University of Manitoba

Dr. James A. Blatz is currently the Associate Head and an Associate Professor in the Department of Civil Engineering at the University of Manitoba. He is also President of Blatz Engineering Inc., a consulting company providing geotechnical engineering consulting services nationally.

The Challenge

Sandbag dikes are built to defend land and property against rising water levels during flood conditions. Sandbag dikes are built by volunteers in times of emergency and sometimes are not properly constructed. The need to manage the risks associated with uncertainty in construction requires understanding where potential failures in the construction of the dikes may occur. This would benefit cities and agencies responsible for flood protection by alerting them of potential structural failure in dikes.

The Results

The data collected helped to understand sandbag dikes instabilities and recommendations for future implementations.

The system was built in time to be tested under the 2009 flood in Winnipeg, Manitoba. The system was built with a sensor to be installed inside a sandbag to gauge movement in the sandbag dikes.

Additional sensors were installed to capture information such as battery life under low temperatures. The system has three components: the sensors inside the sandbags, the radio-frequency element and the software in a remote station. Each sensor sends/receives the data to/from the central station using a redundant radio-frequency system that can send data up to 60 kilometres away. Finally, the central station collects the data and present it to the user in tables and graphs using web interface.

TESTIMONIAL

"The SCADA implementation for the dike monitoring system was completed on time and on budget. It really helped us gauge movements in the dikes and helps protect us from possible breaches. The software made it easy to understand the data that was being captured by the sensors and we were able to make recommendations. The expertise, vision and practical aspects needed to solve the problem was an important factor at the time to decide the best company to deal with. Moreover, the fact that one company can address all the problems as a whole solution was something almost unique. They helped us with the sensors, electronics, radio-communication and software."

*- Dr. James Blatz,
University of Manitoba*