

GeoViewer

REAL-TIME MONITORING

Text Data View

Calculated Data	Tc °C	Lc B units	Head m H2o	G_Elevation m	P_Elevation m
2010/07/16 03:49:44	3.1	855	6.537	257.50	
2010/07/16 09:49:44	3.1		6.537	257.5	254.04
2010/07/16 15:49:44	3.1		6.528	257.5	
2010/07/17 03:49:44	3.1		6.537	257	
2010/07/17 09:49:44		8550.00	6.537	257	
2010/07/17 15:49:44		8550.00	6.537	257	
2010/07/17 21:49:44		8550.00	6.542	257	
2010/07/18 03:49:44		8549			

Thermistors: Scroll Case Plan View



rst
INSTRUMENTS

innovation in
geotechnical
instrumentation





innovation in
geotechnical
instrumentation

1ne platform

viewable Anywhere

GeoViewer

REAL-TIME MONITORING



100's
OF
Loggers

1000's
OF
Sensors

DOZENS
OF
Sensor
Types

GeoViewer is a data viewer that provides flexible console viewing of large data sets from ADAS (automatic data acquisition systems). The program runs on Windows®, with full functionality under Windows Server®. GeoViewer operates on a LabVIEW™ platform, which has facilitated the evolution of the product, to support multiple loggers, on-web serving of data, numerous devices, web events, mobile access etc. The robust, fast, feature-rich, ever-improving LabVIEW™ platform permits new functionality to be added readily.

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DATA SOURCE & PRESENTATION

Much GeoViewer data originates in data loggers which transmit their data by various logger-specific means to files which are locally or remotely accessible to the GeoViewer server. Because of this file model, any file with a public format which contains time-stamped data may be presented in GeoViewer: spreadsheets, databases, comma-separated text files, GPS data, public weather data, etc.

Designed for efficient use, data presentation is typically shown as views as indicated below:

MIMIC VIEW:

- with stoplight (green/yellow/red/blue/grey for ok/warning/alarm/ alarm-off/stale data) buttons which "drill down" into other views

LISTS VIEW:

- with stoplight coloured numeric fields

TIME SERIES PLOTS:

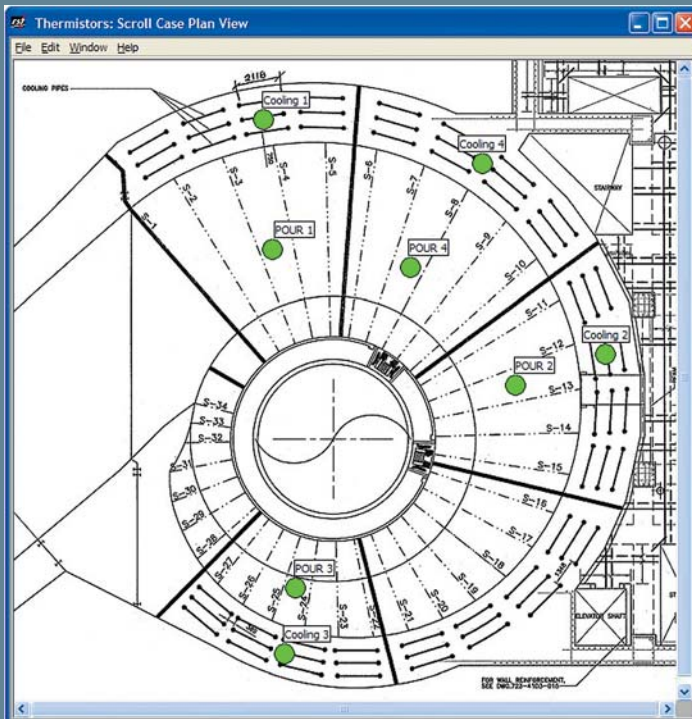
- with one or more channels with alarm levels, different sampling rates

EXAGGERATED PROFILES:

- for inclinometers, tilt beams, etc.

LINKED FILES:

- installation photos, logger programs, calibrations, notes, all one mouse click away from the data



The screenshot shows a software window titled "Text Data View". It displays a table of calculated data with the following columns: "Calculated Data", "Tc °C", "Lc B units", "Head m H2o", "G_Elevation m", and "P_Elevation m". The table contains 16 rows of data, each representing a specific time and date.

Calculated Data	Tc °C	Lc B units	Head m H2o	G_Elevation m	P_Elevation m
2010/07/16 03:49:44	3.1	8550.40	6.537	257.50	254.04
2010/07/16 09:49:44	3.1	8550.40	6.537	257.50	254.04
2010/07/16 15:49:44	3.1	8550.90	6.528	257.50	254.03
2010/07/16 21:49:44	3.1	8550.40	6.537	257.50	254.04
2010/07/17 03:49:44	3.1	8550.40	6.537	257.50	254.04
2010/07/17 09:49:44	3.1	8550.00	6.543	257.50	254.04
2010/07/17 15:49:44	3.1	8550.00	6.543	257.50	254.04
2010/07/17 21:49:44	3.1	8549.20	6.557	257.50	254.06
2010/07/18 03:49:44	3.1	8547.50	6.585	257.50	254.08
2010/07/18 09:49:44	3.1	8547.10	6.591	257.50	254.09
2010/07/18 15:49:44	3.1	8548.40	6.570	257.50	254.07
2010/07/18 21:49:44	3.1	8547.90	6.578	257.50	254.08
2010/07/19 03:49:44	3.1	8547.10	6.591	257.50	254.09
2010/07/19 09:49:44	3.1	8546.30	6.605	257.50	254.10

ALARM FUNCTIONS

Full featured alarms are available for all channels, calculations from channels, communication status, etc. The alarms include high/low warn and alarm levels, hysteresis, event triggers, alarm levels computed from data, device outputs, privilege alarm mask. It is suggested that not every channel be alarmed and alarms be implemented incrementally to minimize nuisance alarms.

WEB FUNCTIONALITY

GeoViewer utilizes Internet communications in numerous ways. Data acquisition may use wired or wireless web communication as a link in a communications chain, local and wide area networks may be used to access data files outside the GeoViewer server, back-up may use offsite resources.



Mobile-Friendly Views

End users may view data by remote computer or mobile device, and receive alarms by e-mail, text messages etc. Privileged users can maintain the system from offsite, typically by VPN (virtual private network) remote access. Because of the limited screen size of mobile devices, mobile-friendly views are typically required, with large buttons and reduced clutter.

Viewing Controls

Static web viewing is controlled by "IP friend list". Advanced viewing, alarm acknowledge etc. is controlled by access licence and individual password. Maintenance at local or remote console per VPN typically uses customer IT security methods.

CALIBRATION & COMPUTATION

With all data storage in raw format, calibration is typically performed on-the-fly using a calibration database. Numerous functions are available: linear, polynomial, transcendental, relational across the entire system (not just within a logger).

Deferred calibration is a powerful maintenance tool: if the calibration of a sensor is found to be incorrect, the appropriate calibration page is edited, and the entire record is automatically updated from the first reading. If a sensor is replaced, intermediate variables are created which point to the discontinuous record, each with an appropriate calibration, and a composite variable is created which switches from one intermediate variable to the other on the replacement date.

BUSINESS MODEL

GeoViewer is typically sold as a purchase/annual maintenance product; i.e. the customer owns the product and runs it on his or her server. The purchase cost is based on number of servers running (typically one), and the number of simultaneous advanced viewers. On- and off-site training and assistance are available.