

EnviroMON



Graphic of user interface

Problem

Long term collection and presentation of environmental data currently requires large and expensive personal computers and networking hardware. This equipment is used for environmental monitoring, for example, storage area monitoring, home/office monitoring, factory floor and warehouse materials monitoring, agricultural data collection, biological and environmental research, etc.

Currently available equipment is cumbersome, expensive, and difficult to protect from harsh environments or theft in remote areas. The size of the equipment, and the heat radiated from such units also tends to impact the environment being monitored. This is especially true of micro biosphere type experiments.

Data collection in remote areas also poses accessibility and operator hazard problems. The ideal system should be accessible from multiple physical locations, by multiple users, and present the data in an easily interpretable format.

Solution

The solution to the problem is to use an ethernet connected device that can collect, store, and present environmental data over the Internet or intranet using LabVIEW and National Instruments' Internet Tools (which can be purchased separately or as part of the Enterprise Connectivity Toolset).

The device is compact and low powered (provided by plug pack or optionally, batteries if in a remote environment). Data is presented as a simple HTML page via HTTP protocols, as well as comma separated values for remote archival and programmatic interpretation.

The device functions as a remote weather station, as well as a scientific environmental data collection device.

The use of plug in modules enhances the product making it more flexible. Plug in modules consist of low speed environmental monitoring hardware, low speed analogue acquisition, low speed digital inputs, low speed digital outputs, etc.

One of the primary uses of the EnviroMON is in a Museum environment. The EnviroMON would be used to monitor the environment in artefact storage rooms, off-site artefact storage and individual museum exhibitions, alerting museum staff to any potential damage that may be caused to the artefacts located at these sites.

The EnviroMON is not meant to replace Building Management Systems (BMS), but to supplement them. In the instance where a specific exhibition has been set-up and the displayed items are sensitive to light, temperature, humidity, etc, the EnviroMON can be set-up to monitor these parameters and, as stated before, either independently alert museum staff of potential problems or perhaps interface with the current communications systems in the existing BMS to alert the appropriate personnel.

An additional benefit of installing the EnviroMON would be to display the data collected to museum patrons. This makes the display more interactive and it also draws the patrons' attention to the fact that the artefacts are always under threat of deterioration and it requires the constant vigilance of the museum to ensure the long-term viability of such displays.

NVSI currently has recently installed an EnviroMON in one of the sections at the Australian Museum located in Sydney, Australia. The EnviroMON can easily be modified to cater for extra parameters that other museums require to be captured in order to adequately monitor their displays.

The EnviroMON can be set-up to send either an email, SMS message to a mobile phone or send a message to a pager once any of the parameters that are being monitored fall outside a specified range. The EnviroMON currently captures and monitors the following parameters:

- Temperature
- Relative Humidity
- Ambient Lighting
- Camera Flash Counter

It is planned for the EnviroMON to captures and monitors the following parameters:

- Noise Level
- Water/Moisture
- Salinity Detection (Conductivity Sensors/Meters)
- Wind Speed
- Wind Direction
- Volatile Organic Compounds (VOCs)

Each EnviroMON can be independently set-up to include any or all of the above parameters.

The EnviroMON can also be set-up to control temperature and humidity as long as the devices doing the controlling have PC interface ports.

MINIMUM INPUT REQUIREMENTS

- Temperature
- Relative Humidity

OPTIONAL INPUT PROVISIONS

- Ambient Lighting
- Water/Moisture
- Noise Level
- Camera Flash Counter
- Salinity Detection
- Wind Speed
- Wind Direction
- Volatile Organic Compounds (VOCs)

Ordering EnviroMON



To order EnviroMON, phone, fax or email your request to NVSI as per the following:

Contact Information

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