

## **Lookout 4.5 – For Quick Return on Your Investment**



# Introduction

National Instruments Lookout version 4.5 is the latest release of the market's easiest-to-use HMI/SCADA software. With Lookout, you can build your industrial automation applications faster. Introduced in 1989, Lookout continues to be the value leader in industrial automation software, combining the power of distributed object-oriented technology, ActiveX controls, and Internet capabilities to provide faster returns on your investment. This document describes some specific ways in which Lookout version 4.5 can work for your business organization.

## National Instruments Lookout

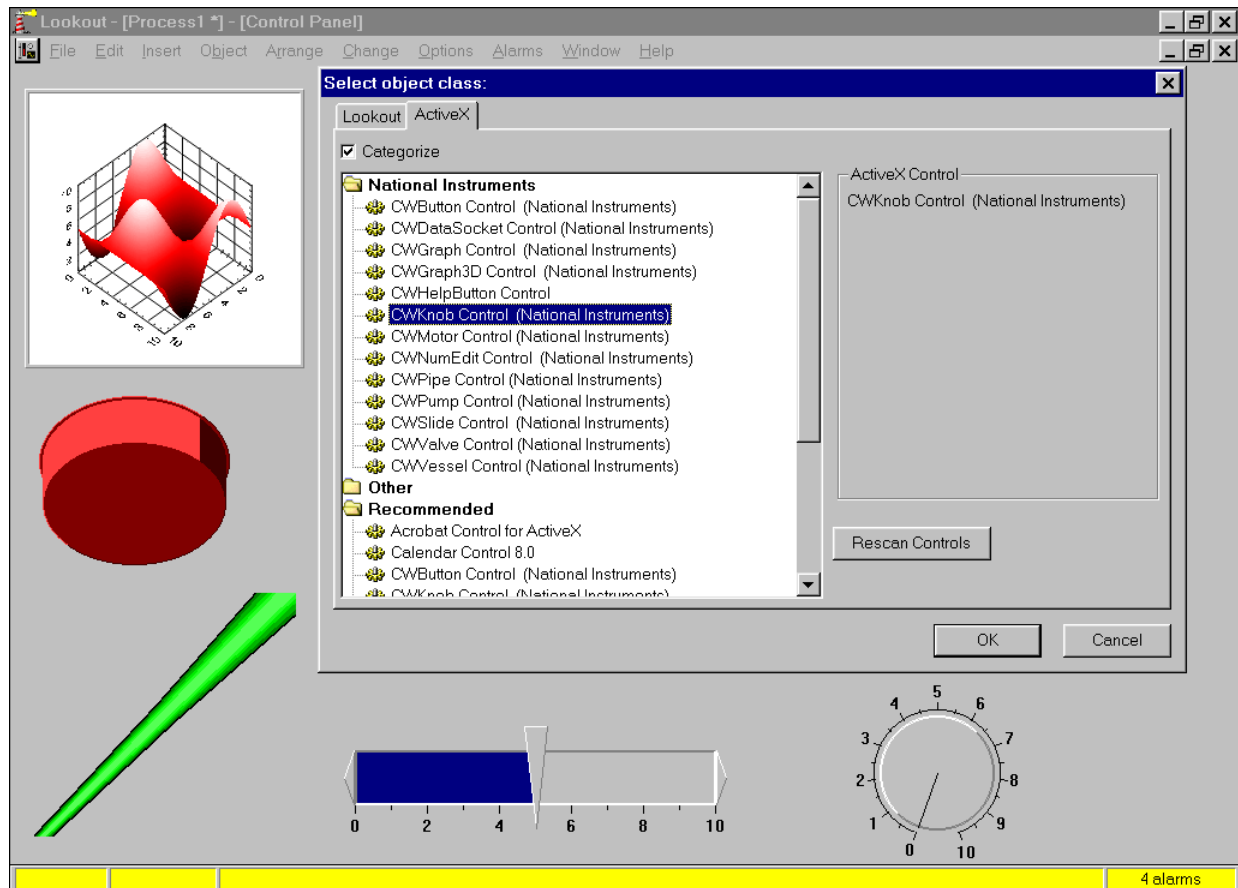
In today's fast paced business environment, manufacturing and process control organizations need to develop and implement software applications within a short time and also maintain and adapt the applications to suit evolving customer requirements. With Lookout 4.5, you can easily develop and maintain applications, saving employee training time and ultimately thousands of dollars for your organization. As a result of extensive customer research, in this release of Lookout 4.5, we focused on delivering the tools and features customers can exploit to develop applications faster. Lookout 4.5 brings you the following and more:

- Full ActiveX support for third-party and programming language connectivity
- Enhanced Internet capabilities
- Aggregate objects for modular project development
- Extensive images for easy HMI development
- Additional FREE driver objects for hardware connectivity
- User interface enhancements
- OPC client to 2.0 compliance for multivendor hardware connectivity

## Open Connectivity through ActiveX

Lookout 4.5 is an ActiveX container. With the ActiveX technology, Lookout takes advantage of any National Instruments or third-party ActiveX control for easy implementation of HMI/SCADA systems on your factory floor. You can call any ActiveX control from within Lookout and easily develop HMI/SCADA applications using these controls.

ActiveX controls are based on component object model (COM) technology. COM is the underlying architecture that forms the foundation of higher-level software services, such as those provided by OPC (OLE for process control), a technology for transferring and sharing information among several applications. With ActiveX capabilities, Lookout is opened to any programming language in the market such as Visual Basic, Java, C, C++ and Borland Delphi. Using any of these languages, you can program the desired functionality to use within Lookout as an ActiveX control.



**Figure 1.** Examples of the ActiveX Controls Included in Lookout 4.5

## Visualization

With the visualization capabilities of Lookout 4.5, you can easily understand and navigate through the operator interface. In Lookout 4.5, more than 3,200 images are added to the graphics library. Examples of the graphics categories are:

- Conveyors
- Electrical
- Pumps
- Tanks
- ISA symbols
- Material handling

Graphics can be rotated, and colors can be changed and used within Lookout. Lookout 4.5 also added 3D ActiveX graphics to enhance the operator interface. With these tools, you can not only develop applications faster, but also make applications look similar to real-world scenarios.

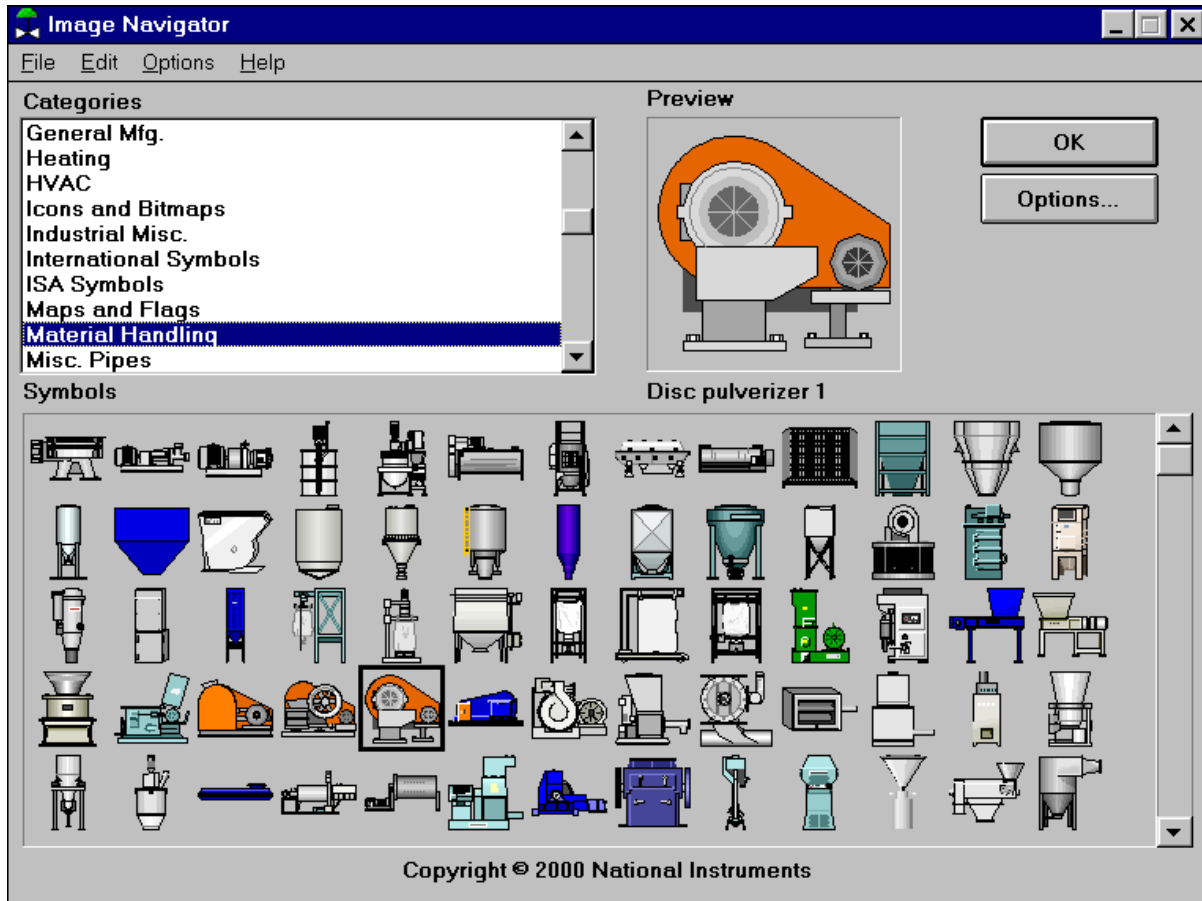


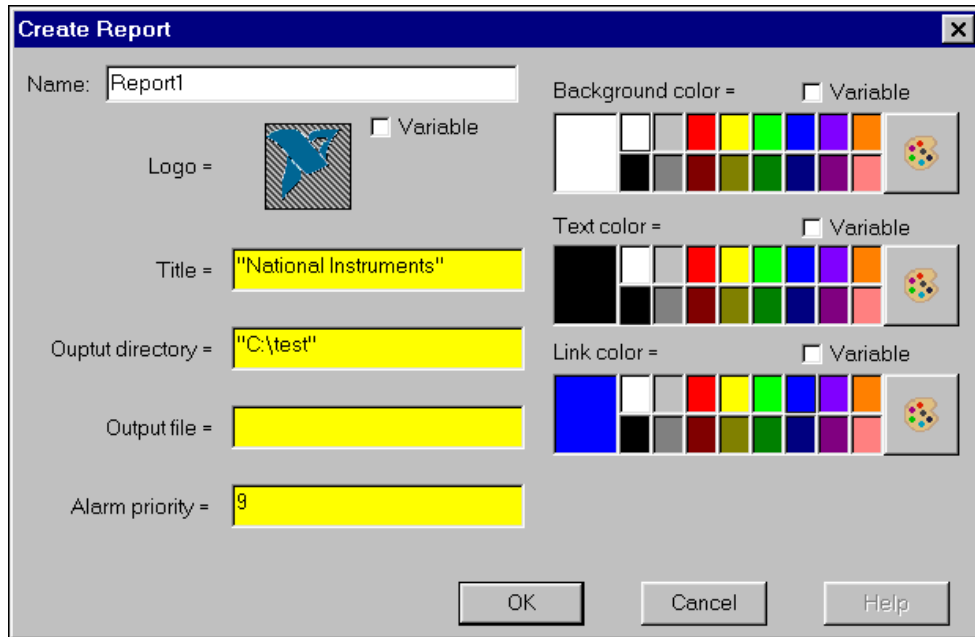
Figure 2. Example Images from the Image Navigator

## Enhanced Internet Capabilities

With Lookout 4.5 you can:

- Build custom HTML reports to be viewed over the Web
- Send e-mail on process conditions
- Export multiple processes and monitor and control your processes from the Web

With Lookout 4.5, users have advanced report generation capabilities using HTML functionality. You can easily create reports, which embed both data and trend charts, using the report generator object class. You can also take advantage of the advanced editing features of HTML to create user-friendly reports. With Lookout, you don't need HTML or XML programming knowledge to publish this information. Reports created using the report generator can be viewed from any location with a Web browser. You can obtain real-time information by just refreshing the browser. Historical data can be viewed by using SQL queries.



**Figure 3.** The report object can be used to customize reports according to requirements.

With Lookout, you also have the ability to e-mail alerts based on process, alarm, or event conditions. Through e-mail, you can send process conditions or warnings anywhere in the world. Additionally, e-mails generated with the e-mail object can be used as a data storage or reporting tool.

Lookout also provides the ability to monitor and control your process from anywhere in the world. Using the Lookout Web client, you can export multiple process files over the Internet. You can connect to server process on the plant floor, and download the Lookout process as an ActiveX control from anywhere. With multiple levels of security enabled in the Web clients, only authorized users can control and monitor the process through a Web browser.

**Create Mailer**

Name: Mailer1

Recipients= "info@ni.com"

Subject= "Alarm Condition"

Message= "Milling Machine is down"

Send=

Generate event on succesful send     Word wrap message

Unsent Mail

Buffer unsent messages

Retry attempts: 5

Retry delay: 10 minutes

From address= "production@ni.com"

SMTP server:

Timeout: 10 seconds

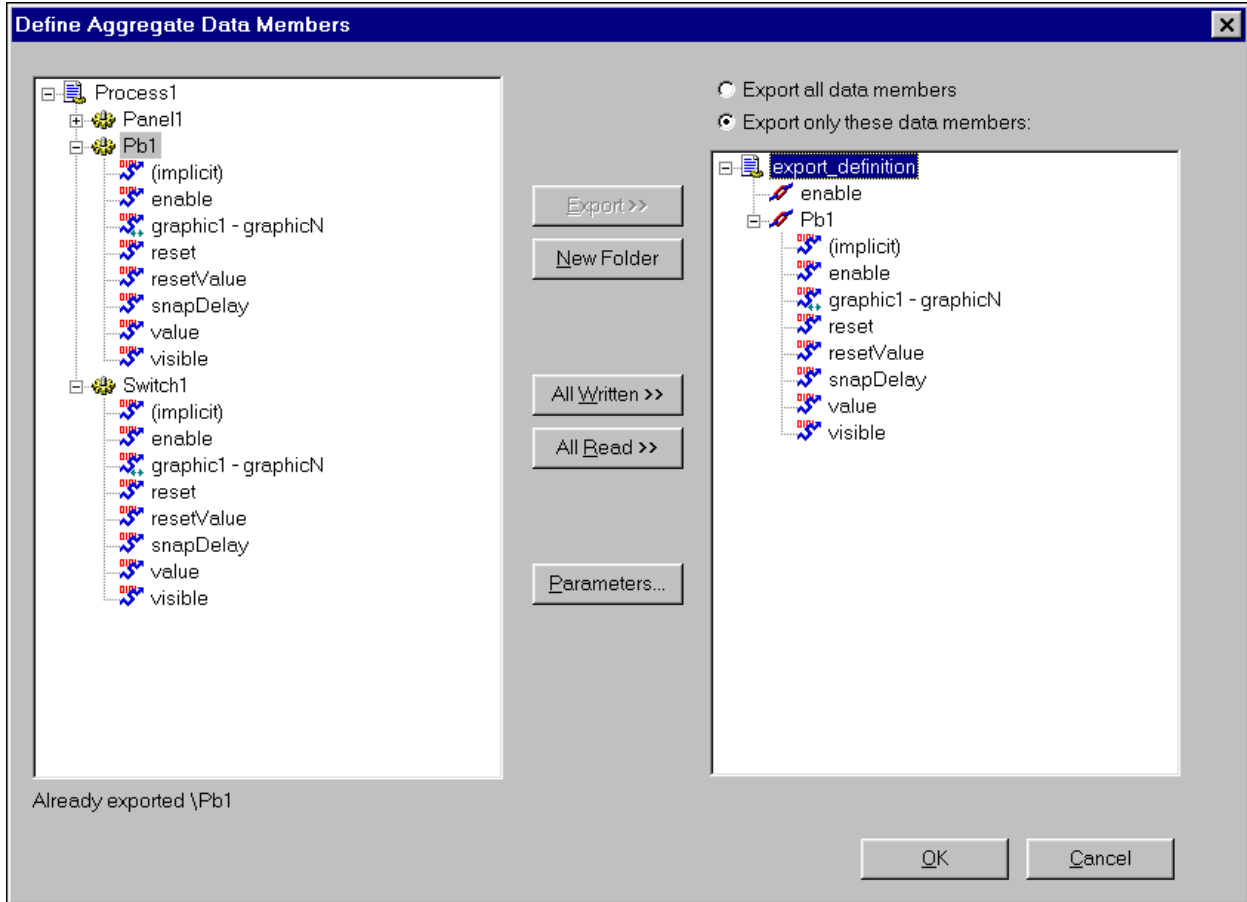
Mailer alarm priority: 8

OK    Cancel

**Figure 4.** Alarms and process conditions can be e-mailed to the user.

## Aggregate Objects

With Lookout 4.5, you can create a complete process and save it as an object that can be used many times. Several interconnected Lookout objects can be combined to create a new object that behaves similar to other Lookout objects. With this capability, you can accomplish modular project development, so that numerous people can work on large projects and reduce application development effort on repetitive tasks. For example, an OEM manufacturer who wants to build a process and use it hundreds of times would benefit from this time-saving capability. In a production plant where similar machines exist and building one process satisfies the control of all the machines, the OEM manufacturer can develop objects once and use them many times to control similar machines. Additionally, system integrators can build objects that are application specific and reuse them for other projects. Because the aggregate objects can also be password protected, system integrators can resell their objects.



**Figure 5.** Select the objects from existing ones to create your own object.

## Industry-Standard OPC 2.0 Compatibility

Lookout 4.5 is fully compatible with OPC 2.0. Lookout 4.5 is an OPC 2.0 server, so third-party clients have access to real-time data published in a networked Lookout system. Such client applications include HMI, maintenance, MES, and database software. As an OPC 2.0 client, Lookout can connect to a variety of third-party drivers for programmable logic controllers (PLCs) and industrial buses.

# Additional Objects

## Driver Objects

Driver objects for the following devices are available FREE of charge in Lookout 4.5 from the following vendors:

- Fatek Facon
- Omni Flowmeter
- Phoneducer
- Scan Data RTU
- Siemens HMI Adapter for S7
- Mitsubishi driver for the serial communications module
- Allen Bradley Micrologix
- DeviceNET for FieldPoint industrial hardware

A list of all available drivers can be found at [ni.com/lookout/drivers.htm](http://ni.com/lookout/drivers.htm) Drivers are also available through third-party suppliers. Additionally, various ActiveX drivers from the market can also be used with Lookout. New drivers can be requested by calling National Instruments at (800) 794-0100.

## Joystick Object

The joystick object facilitates the use of a joystick, with which users can control moving parts like conveyors and overhead cranes, or simulate production scenarios.

## User Interface Enhancements

With Lookout 4.5, National Instruments has continued to enhance the product for a better user experience. Some of the enhancements include:

- Values in Connection Browser – users can look at the values of I/O and other expressions from the connection browser to help trouble-shoot the process.
- Cut and Paste Feature – the cut-and-paste feature, which is similar to Windows applications, makes it easier to copy objects among folders.
- Color Palette – with this version of Lookout, users have more than 16 million colors at their disposal.
- Multiline Text – the text box and the expression boxes tolerate multiple lines of text to handle long messages or paths more easily.

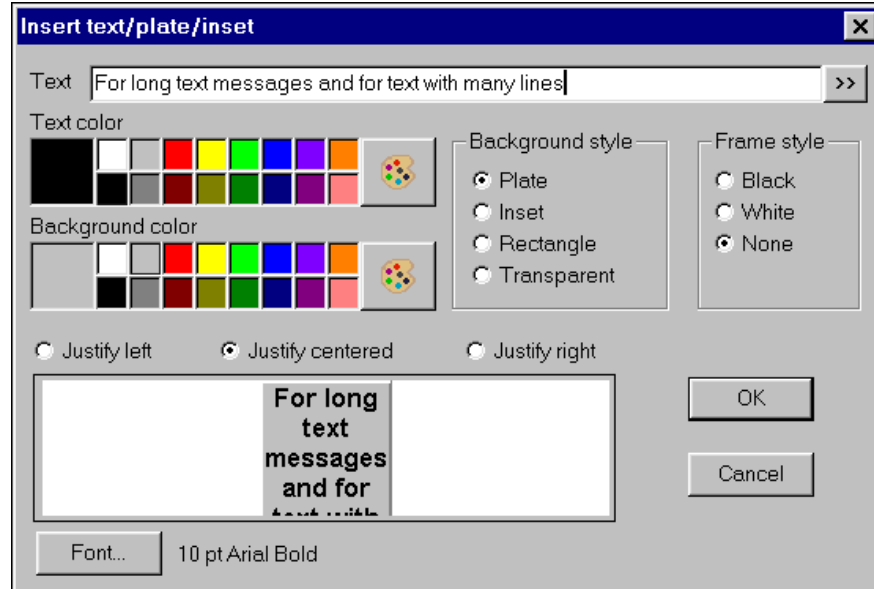


Figure 6. View of the Text Editor in Lookout

## Conclusion

Lookout 4.5 incorporates all these and other minor features to help you in developing and maintaining applications and training operators so that you can produce a faster return on your investment.



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