



EMBEDDED GRAPHICS FOR JAVA™ DEVELOPERS

Integrating SWT™ with PEG+™

Value Added Package

SWT AVAILABILITY

RTOS Support:

- ◆ LynxOS
- ◆ Linux
- ◆ Windows NT*
- ◆ WinCE*
- ◆ OSE
- ◆ QNX**
- ◆ VxWorks ***

Architecture Support:

- ◆ PowerPC
- ◆ Intel x86
- ◆ ARM

* With Windows GDI

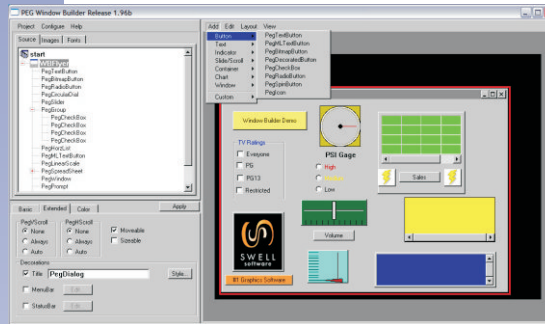
** With GTK/Photon

*** Inquire about availability.

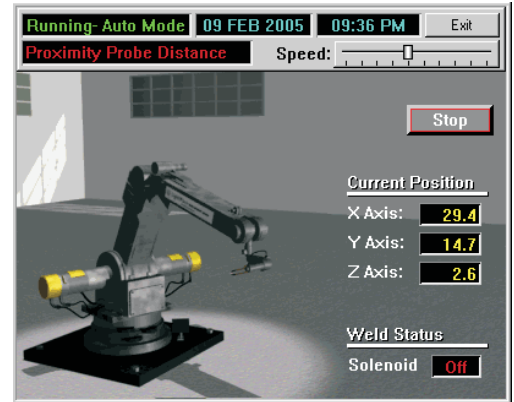
Atego also offers AWT support for GTK/II on Linux/x86 and Linux/ARM targets.

Graphics capabilities are increasingly important in today's complex embedded applications. All but the simplest and most deeply embedded devices have a need for some level of graphical interaction with users.

As computing becomes more common within everyday human-operated equipment, and as functionality grows, the level of sophistication required in the graphical interface grows as well. Increasingly, those interfaces need more than just simple text menus and input, requiring sophisticated windowing and menu capabilities, dynamic graphical representations, and multi-layered controls.



PEG+ is written with the embedded market firmly in mind, meaning that the value of every feature is weighed against the code size and performance requirements of that feature.



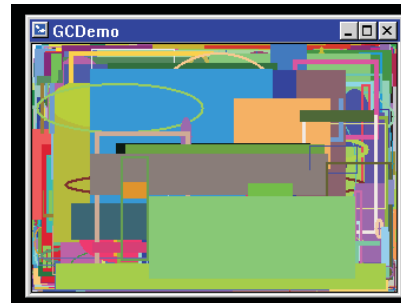
A minimum PEG+ footprint requires roughly 50K of code space, 4K of stack space and 8K of dynamic memory. A typical full-featured GUI requires a small fraction of that required by other graphics solutions.

PEG+ is fully integrated with the RTOS messaging, memory management and synchronization services. This yields the lowest possible overhead and the only true real-time multitasking GUI environment available. PEG+ input devices are interrupt driven, and again use RTOS services to communicate user input

information to the graphical user interface.

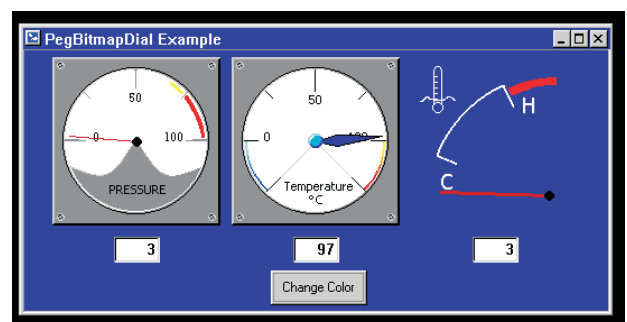
PEG+ can also be configured to support multiple GUI tasks. These tasks can be of differing priorities and can each directly create, display and control any number of GUI windows or child controls.

Common graphical interface libraries used by Java developers include SWT from the Eclipse Foundation, and Standard Edition AWT and Swing. Typical implementations of Java graphic libraries are geared toward desktop rather than embedded systems. As such, these implementations are usually inefficient, large, and slow.

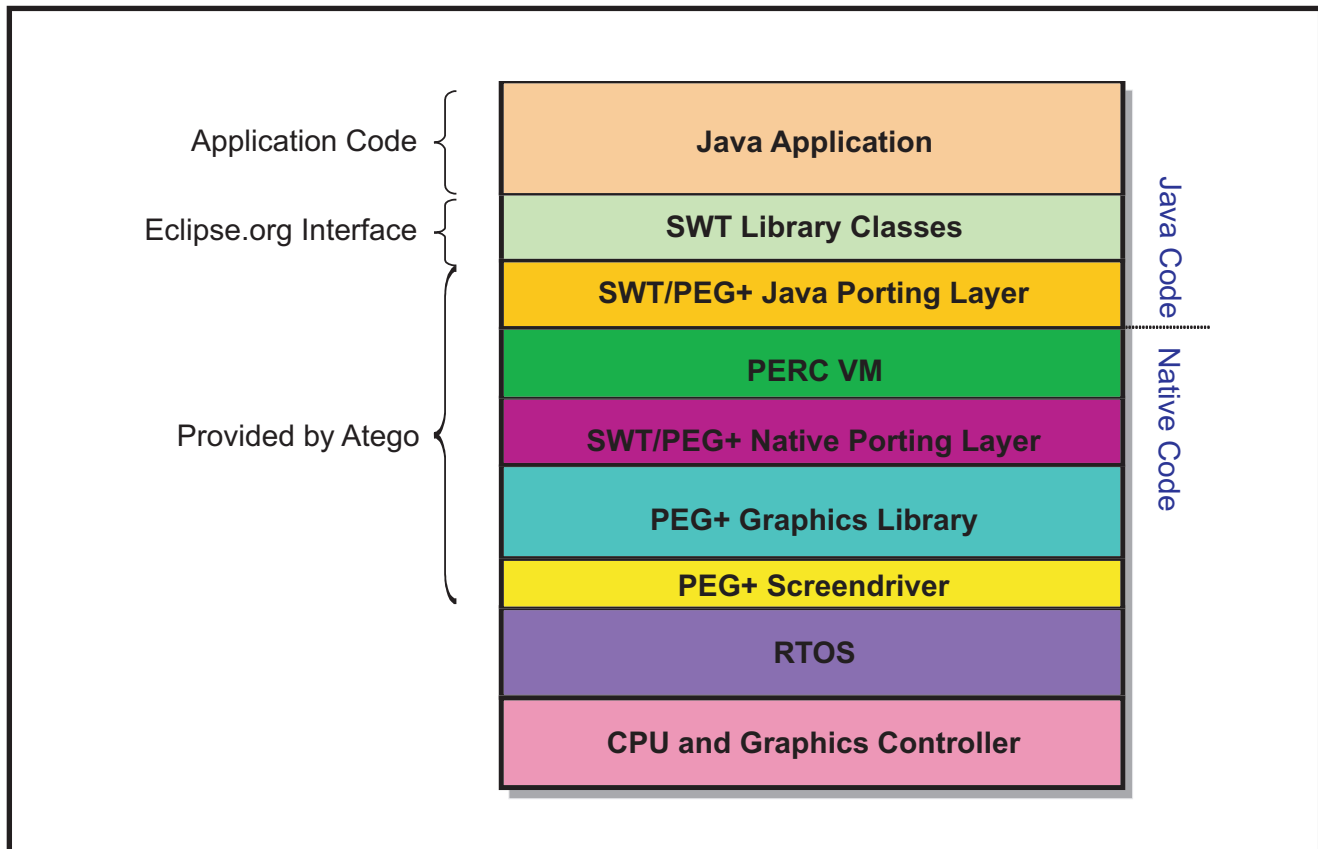


In order to meet the special needs of embedded developers, Atego has developed a full SWT interface integration for the PEG+ embedded graphics library. PEG+ from Swell Software is the industry-leading solution for embedded graphics.

PEG+ provides the most complete GUI solution available to real-time embedded system developers. All of the utilities, documentation, support and development tools you will require for creating a graphical user interface on an embedded system are included with the PEG+ library development package.



SWT / PEG+ Software Stack



The SWT/PEG+ graphics stack includes the following components:

- ◆ **Java Application** - the end-user application.
- ◆ **SWT Library Classes** - from the Eclipse Foundation under EPL (Eclipse Public License) useable in commercial products. This is the non-platform-dependent portion of the SWT implementation.
- ◆ **SWT/PEG+ Java Porting Layer** developed by Atego specifically to implement SWT widgets on top of the PEG+ native graphics library.
- ◆ **PERC VM** supplied commercially by Atego for standard RTOS/CPU platforms.
- ◆ **SWT/PEG+ Native Porting Layer** developed by Atego to make native calls on behalf of the SWT Java Porting Layer into the PEG+ native graphics library.
- ◆ **PEG+ Graphics Library** this is the native graphics library licensed by the end-user from Swell Software.
- ◆ **PEG+ Screendriver** This is a native driver to the graphics controller. It may be a standard driver provided by Swell Software or a custom driver written by the end-user or a 3rd party or under a services contract with Atego.
- ◆ **RTOS Kernel** one of the standard RTOSs supported by PERC and PEG+.
- ◆ **CPU and Graphics Controller** one of the standard CPUs supported by PERC and PEG+.

Although the PEG+ library is licensed from Swell Software, the entire graphics and PERC VM stack from the SWT Library Classes down to the PEG+ Screendriver is distributed and supported by Atego under special arrangement with Swell. If any issue is found in the PEG+ code, Atego will work with Swell Software to resolve it on behalf of Atego customers.

To obtain more information, please contact Atego at www.atego.com or call one of our sales offices

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