Redefine the User Experience

PEG – A family of portable graphics software for designing high performance GUIs on any embedded device.

The PEG family of embedded GUI software is designed to meet the widely varying power, performance and memory requirements of products across the consumer, military, industrial, transportation and medical electronics markets. The flexible and efficient design make PEG software the world's most portable GUI software — currently available on more than 50 microprocessors/graphics controllers and ported to more than 20 real-time operating systems (RTOSs), including embedded Linux and Win CE.

PEG products offer developers a complete GUI software solution for creating advanced graphical interfaces on embedded systems that use a wide range of operating systems, microprocessors and devices. Today, PEG software provides the user interface technology in millions of products, including printers, MP3 players, handheld GPS units, home security systems, medical electronics and digital cameras.

The three primary PEG libraries include:

PEG Pro™ - for today's most sophisticated graphics and high-resolution displays

PEG+™ - high performance, small footprint GUI tool for full color LCDs up to 24 bits per pixel (bpp)

C/PEG™ - extremely efficient; designed for small displays, limited memory requirements & lower color depths

Target Applications
- Automotive & Transportation
- Digital Cameras & Photo Frames
- Handheld GPS Units
- Home Security Systems
- Industrial Controls
- Medical Electronics
- Mobile Internet Devices (MIDs)
- MP-3 Players
- Point of Sales (POS) Terminals
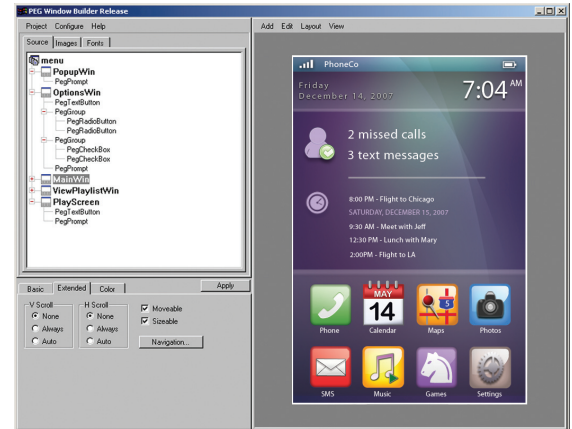- Test & Measurement Equipment

Accelerate Time to Market

PEG development tools accelerate GUI design by allowing developers to create prototypes on a Windows or Linux-based PC using PEG WindowBuilder™ software. The PEG WindowBuilder prototyping environment provides a complete visual layout and design tool to enable GUI design work to take place in parallel to the embedded hardware/software development. Unlike other graphic design tools, PEG WindowBuilder automatically generates C or C++ source code that is ready to be compiled and linked into the application, further accelerating the deployment of the final product.

PEG WindowBuilder software comes standard with each of the PEG software libraries. In addition, PEG WindowBuilder, as part of PEG Pro and PEG+ software, includes built-in FontCapture and ImageConvert tools (these 2 utilities are available separately for C/PEG). The PEG WindowBuilder visual development environment allows for rapid prototyping of embedded interfaces, validating the design concepts and usability for key stakeholders by adding an interactive device "frame" to the graphics window simulation.

PEG WindowBuilder allows for screen preview and navigation on Windows and Linux-based desktop environments.

PEG WindowBuilder, for PEG+ and PEG Pro, produces resource files in source or binary format, and can contain all of the application resources or any sub-set thereof. You can "build in" multiple resource sets or install resources at COMPILE time or at RUN time. For example, it makes it easy to install a new skin on a cell phone or MP3 player; or you can install a new "language pack" for a product that ships in English only.

Key Features of PEG GUI software:
- Small footprint, fast execution speed
- 3 graphics libraries to choose from
- High color depth support, up to 32 bits per pixel
- Multilingual support, including UNICODE and UTF-8
- Includes PEG WindowBuilder desktop prototyping tool
- Touchscreen support available
- Supports the industry's leading processors and graphics controllers
- Runs stand-alone & with more than 20 embedded RTOSs

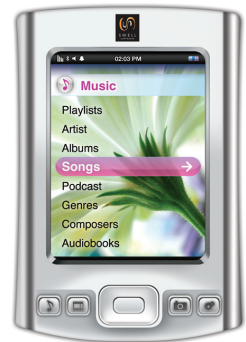### Request a Free Evaluation Version of PEG Software at www.swellsoftware.com

The PEG Family

PEG Pro™
PEG Pro offers developers of embedded GUIs a proven software solution for creating complex, high-color depth embedded graphic applications. Designed specifically for use in the development of GUI applications in automotive, consumer electronics, infotainment and medical devices, PEG Pro runs on a wide variety of real-time operating systems (RTOSes) and microprocessors. Key features of PEG Pro include:
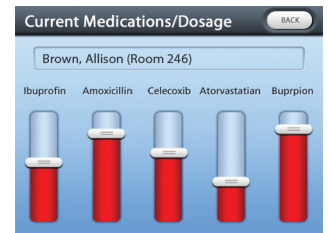
- Support for multiple hardware graphics layers
- True anti-alias line and font drawing
- Per-pixel alpha-blending
- Run-time "theme" support
- Screen transition effects – slide-in, wipe, fade
- 16 bpp to 32 bpp color depth support
- Gradient manager and gradient filled buttons, title bar, slider
- Runtime TrueType font rendering support

PEG+™
A graphical interface package offering a small footprint, high performance and event driven programming model for multi-threaded embedded applications using LCD and video displays and controllers. PEG+ is easily ported to virtually any hardware configuration capable of supporting graphical output. PEG+ delivers exceptional visual appeal utilizing an intuitive and powerful API that allows complete customization of the graphical appearance. Key features of PEG+ include:

- Written in C++
- Simple anti-alias line and font drawing
- Alpha-blended images supported
- Full Windowing capability
- Run time or compile time "theme" support
- Complete widget library
- Monochrome to 24 bpp color depth support

C/PEG™
C/PEG is designed for embedded devices with smaller graphical display needs, limited memory requirements and/or lower color depths. C/PEG is written entirely in ANSI C and not only provides optimized graphics primitives, text and bitmap drawing; it also supports higher level graphic objects to give the developer a full tool set for rapid application development. Key features of C/PEG include:

- Targeted for application with smaller displays (QVGA or smaller)
- Written in ANSI C
- Includes WindowBuilder, FontCapture and Image Convert utilities
- Limited widget/control set
- Fast execution speed
- Small memory footprint for cost-sensitive applications
- Monochrome to 16 bpp color depth support

Starter Kit
The PEG Pro Starter Kit is a suite of applications and UI frameworks which demonstrate the capabilities of the graphics library and can be used to accelerate application development within the PEG Pro design environment. Delivered in source code, the Starter Kit provides "mini applications", giving developers a quick and easy starting point to build fully functioning applications including a music player, phonebook, calendar, GPS, an image (photo) viewer and multiple medical device monitoring and diagnostic screens.

Services
Ask about our professional services capabilities for screen and touch drivers; widget development and UI layout, navigation and testing.

Learn More
Swell Software is a leading provider of portable graphics software for designing high performance user interfaces in embedded devices. The company was founded in 1997, with the mission to fill a void in the existing software tools industry by providing a graphical user interface (GUI) solution specifically for embedded systems. For more information:

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