Third-Party Products: Embedded HMI Development with Model-Based Design

Third-party products help developers prototype and deploy human machine interface (HMI) applications with integrated graphics and multitouch and voice input. By using these products with Simulink® and Stateflow®, developers can design and verify the underlying logic and test HMI concepts with models of system components or real-world conditions. Developers can deploy designs onto embedded platforms, integrating code generated from Simulink models with graphics code to create HMIs for vehicle dashboards, avionics simulators, test equipment, and other applications.

**Altia Design and DeepScreen**

With Altia® Design, engineers can design and simulate HMI prototypes, including graphics objects, animations, and stimulus inputs, without writing code. The Altia Connector enables a Simulink block to include control logic from Stateflow, resulting in functionally complete, accurate models. With Altia DeepScreen®, HMI prototypes can be converted into deployable graphics code targeting embedded real-time operating systems (RTOS) and graphics libraries. Generated HMI code can be combined with code for control logic generated from Stateflow functional models.

**GL Studio from DiSTI Corporation**

GL Studio® helps developers create high-fidelity graphics and interactive software controls, including 2D and 3D interface elements for automotive, aviation, and industrial displays. GL Studio generates C++ code for deploying HMIs to embedded environments, including Windows®, Linux®, and iOS. DiSTI also offers libraries of graphical elements, cockpits, dashboard instruments, and a package for certifiable safety-critical displays. The Simulink interface includes a block that can be added to models to enable drag-and-drop mapping of HMI class properties to Simulink elements without coding.
**EB GUIDE from Elektrobit Automotive**

Engineers use EB GUIDE to develop user interfaces with 3D elements, animations, and multimodal inputs. The HMI designer, graphically defines menus and underlying logic and adds customizable skins, multitouch support, and multilanguage support, as well as voice recognition and audio output. The EB GUIDE interface to Simulink enables designers to define shared data items and cosimulate HMIs with models of related subsystems and real-world conditions. EB GUIDE offers a run-time environment that supports RTOS and embedded hardware platforms, enabling OEMs to update automotive applications without recompilation.

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**VAPS XT from Presagis**

VAPS XT™ lets developers design interactive graphical interfaces for safety-critical avionics and embedded displays. Developers define the look of visual elements, assign behavior, and generate a standalone executable of the application. Optional packages support ARINC 661 compliant widgets and DO-178B certification. The developer can combine code generated from Simulink models with VAPS HMIs into a single, embedded executable. VAPS includes code generation support for COTS hardware platforms, embedded operating systems, and OpenGL variants.
Products Used

- Simulink
- Stateflow

Third-Party Products

- Altia Design
- GL Studio®
- EB GUIDE
- VAPS XT

Learn More

- Third-Party Products and Services

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