

HUMAN MACHINE INTERFACE

RAPIDLY DEVELOP DYNAMIC INTERACTIVE REAL-TIME GRAPHICAL DISPLAYS



SOFTWARE FOR THE EFFICIENT DEVELOPMENT OF HUMAN-MACHINE INTERFACES FOR MODELING AND SIMULATION.

HMI software enables users to prototype an interface for manipulating and controlling a vehicle or machine in a virtual environment. Ideal for testing, engineering, and training, HMI software allows users to achieve significant time and cost savings by prototyping real hardware in a virtual environment for training purposes. And, by simulating a working prototype of an HMI model in a virtual environment, users can produce multiple iterations before the HMI is actually built, meaning even greater time and cost savings.

Presagis has a long-standing reputation developing and supporting HMI software. Developed in 1987, VAPS was the first HMI software tool of its kind. Today, Presagis is the leading aerospace and defense HMI software vendor with thousands of users worldwide.

Presagis leads the industry in developing the very best in HMI software for Modeling and Simulation in the areas of:

- virtual prototyping
- virtual training systems, including air, ground, naval and unmanned systems ground stations
- embedded training systems
- embedded systems

BENEFITS

Increased consistency

Through automatic code generation, code structures become easier to manage. This is most apparent when using code templates and naming conventions and is especially useful when linking or integrating two separate sets of code.

Increased productivity

Automatic code generation makes it easier to generate the first implementation of a given design and decreases the time it takes to generate a new implementation when small changes are made to the design. In addition, code maintenance and later changes are greatly simplified by a consistent structure.

Abstraction

Abstraction allows subject matter experts to focus on the design of the HMI while the code generator takes care of the implementation. Abstraction also makes the design platform independent from the implementation platform.



HMI - Development Phases

Current best practices for creating HMI models involve using integrated GUI development tools for providing smooth and seamless transitions between each phase of development. These development phases include user requirements, GUI design, behavior and logic, prototyping, functional validation, code generation, and documentation. HMI developers can realize significant time and cost savings by using the integrated development toolset within VAPS XT from Presagis to construct their GUI.

HMI - Code Generation

Automatic code generation allows for increased consistency, increased productivity, and abstraction. VAPS XT provides code generation for PC or real-time operating systems in either OpenGL or other proprietary formats.

HMI PRODUCTS

VAPS XT™

The VAPS XT family of products from Presagis is the only HMI software toolset that takes into account all phases of development, from requirements and design to testing, code generation, and certification.

- Automatically generate hundreds of pages of documentation for complex prototypes with the optional automatic document generation capability that is unique to VAPS XT.
- VAPS XT is the only HMI software with integrated statechart editing.
- With VAPS XT, PC prototypes can easily be retargeted for embedded real-time operating systems, including Green Hills Integrity, Windriver VxWorks, QNX Neutrino.
- Open 2D map API works with a variety of 2D map providers, including General Dynamics Softmap.
- VAPS XT supports the widest number of integrations to mainstream 3rd party tools, including Simulink, Clearcase, and DOORS.
- Benefit from the seamless integration of VAPS XT with other Presagis products, including 3D visual software and flight modeling software.
- VAPS XT contains over 20 ARINC 661 widgets, making Presagis the first company to provide an HMI modeling option for ARINC 661.
- Provides a path to DO-178B and future DO-178C for embedded systems.

