"Any sufficiently advanced technology is indistinguishable from magic." Arthur C Clarke

HIATRONICS

THE TEST EXECUTIVE CONTENT MANAGEMENT SYSTEM

Check Out Our New Website! **www.Hiatronics.com**

PHONE: (716) 381 - 5706
HiatronicsInfo@Hiatronics.com

Imagine if an individual with little or no computer programming experience had the ability to automate complex equipment in a fraction of the time as it would otherwise take an experienced control engineer to do. Now imagine if this could be achieved without writing low level code or creating complex graphical block diagrams.

With the intuitive drag & drop design environment of Hiatronic Development Suite™ the developer need only construct an object model and write simple test steps to create an application. The software platform automatically takes care of all low level tasks including data acquisition, creation of the user interface, data sheets, manual control form, watching and updating, troubleshooting, and error handling.

THE OBJECT MODEL

A revolutionary new hierarchical object oriented software technology has been developed by HIATRONICS to control automated equipment. The technology is based upon the construction and subsequent manipulation of an 'object model', which in essence is an object oriented duplicate of the physical equipment. The object model is comprised of groups of similar objects arranged hierarchically and in communication with the electronics of the physical equipment.

Construction of the object model is fast, easy and requires no computer programming. The object model is instead built at runtime by clicking on a hierarchically arranged tree view, and populating forms that automatically appear.

COMPOSITION OF THE MODEL

The object model (FIG.1) is comprised of several different domains including DAQ board, hardware, control, and test.

The DAQ board domain contains a virtual representation of all data acquisition boards that are used to control the application. The hardware domain contains a virtual representation of all instruments, actuators, and switches that are used within the physical equipment. The control domain contains all PID feedback and control objects which are used to set the actuators to specific settings.

KEY FEATURES

- Excellent for automating test stands, industrial equipment, and embedded applications.
- Create test sequences using VB.NET
- Intuitive drag & drop construction process allows for rapid application development
- No low level programming required
- Automatically performs all low level tasks
- Uses AT&T Natural Voices™ text-to-speech to guide user throught the automation
- Graphical HTML based instructions
- Works with commercial DAQ boards
- Very stable platform w/ built in error handling
- Database, data sheets & trouble shooting tables automatically generated

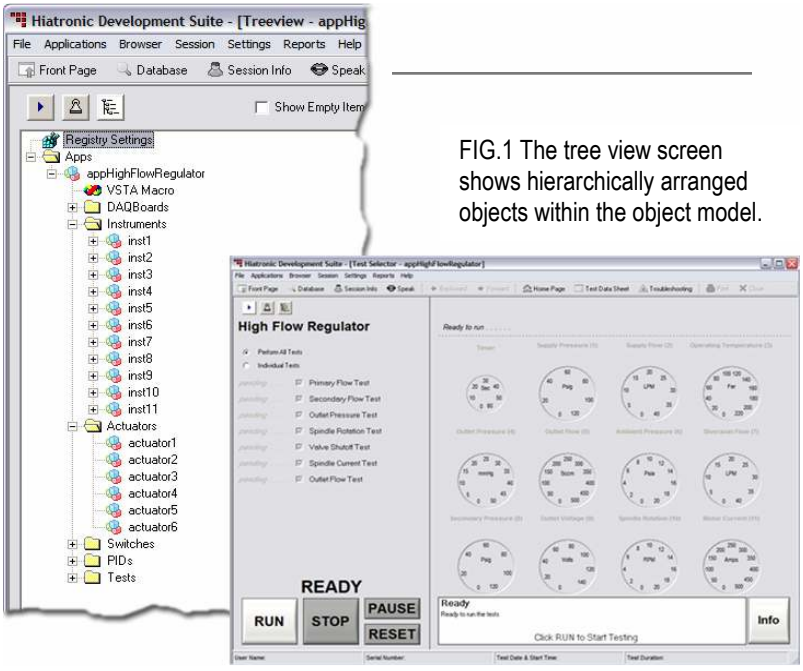

FIG.1 The tree view screen shows hierarchically arranged objects within the object model.

FIG.2 The user interface is automatically generated for an application. Note the test list at middle left, the control buttons at lower left and the circular gauges at the center of the screen.

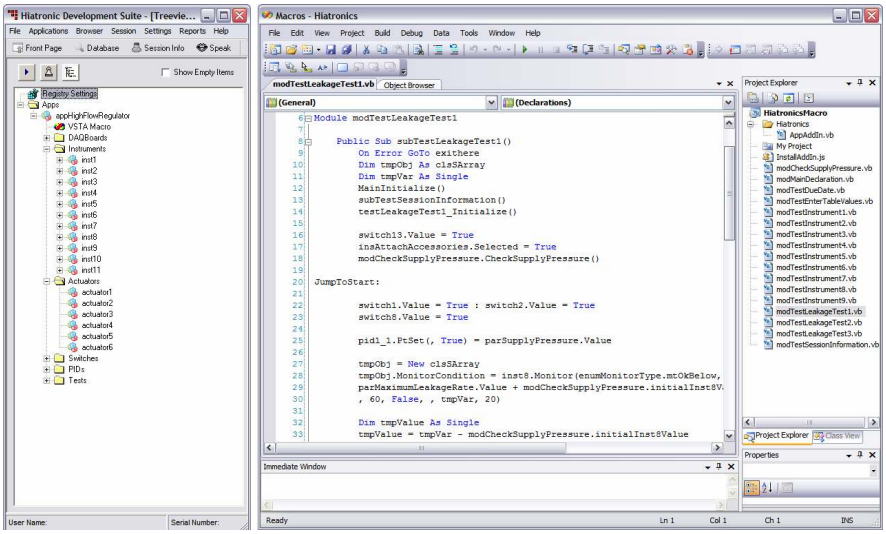

FIG.3 The tree view and the VSTA integrated development environment are used to generate test sequences.

THE USER INTERFACE

The user interface (FIG.2) is automatically created for the end user and is based upon the configuration of the object model. Any changes made to the object model are automatically reflected within the user interface.

FIG.4 The User Interface.

The top left hand portion of the user interface contains buttons which allows the user to toggle between three different screens. The first screen (FIG.5a) is the test screen which displays a list of test sequences which can be automatically run.

The second (FIG.5b) is a manual control screen. This screen is useful to manually control the physical equipment.

The third screen (FIG.5c) is the tree view, which allows access to the object model and is used to modify the object model, or can be used in conjunction with Microsoft's Visual Studio Tools for Applications (VSTA).

CREATING SEQUENCES

The platform uses VSTA to allow users to create automated test sequences using VB.NET. The object model is automatically exposed within VSTA (FIG.3) and the programmer can command the object model using simple calls from within the VSTA editor.

The VSTA editor is tightly integrated with the tree view. To call any object within the object model, simply drag the item that you wish to call from the tree view, and drop it into the VSTA editor. A user can quickly learn the simple techniques to create test sequences.

ADVANTAGES

Hiatronic Development Suite is highly effective at organizing and managing large applications. It is easy to step in and understand an existing application. The highly structured organizational aspect of the platform does not take away from its flexibility. The object model offers an almost unlimited number of possible configurations.

The platform provides the tools necessary to create an object model to mirror the physical equipment.

Hiatronic Development Suite uses a hierarchically structure object model as its core technology. This technology is revolutionary because it allows an end user to easily configure complex automated equipment without the need to program low level code or create highly customized computer programs for every new application, thus saving time, and money.

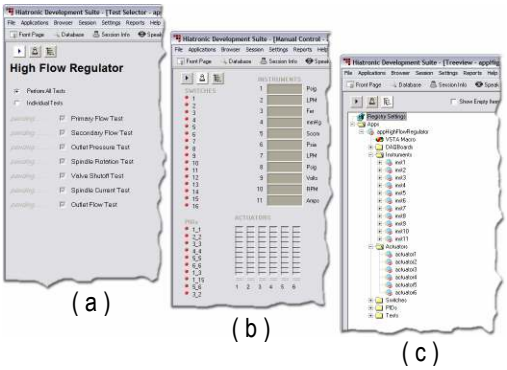

FIG.5 The user interface shows three different views (test, manual control, tree view).