Exercise 3-2: Customize the VI Window

Goal

- To further affect the attributes of a VI by using Property Nodes and Invoke Nodes.

Hardware Setup

(Hardware) In the exercises where we work with Analog Input/Output channels, we use PCI-6221/USB-6212 multifunction I/O device paired with the BNC-2120 shielded connector block. Analog Input 2 should be connected to the Sine/Triangle BNC connector. Analog Input 3 should be connected to the TTL Square Wave BNC connector. The Sine/Triangle waveform switch should be set to Sine.

Scenario

You can set the appearance properties of a VI statically by using the VI properties page. However, robust user interfaces commonly modify the appearance of a front panel while the program is running.

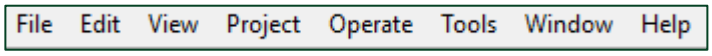
Modify the VI to have the following appearance and behaviors when the VI is running:

- Hide the tool bar
- Hide the menu bar
- Hide the scroll bars
- Move to the center of the screen

Design—Properties

Use the following properties and methods on the VI Class:

- **Front Panel Window: Show Menu Bar** - When this property is False, the menu bar of the VI is not displayed.



- **Tool Bar: Visible** - When this property is false, the tool bar of the VI is not displayed.

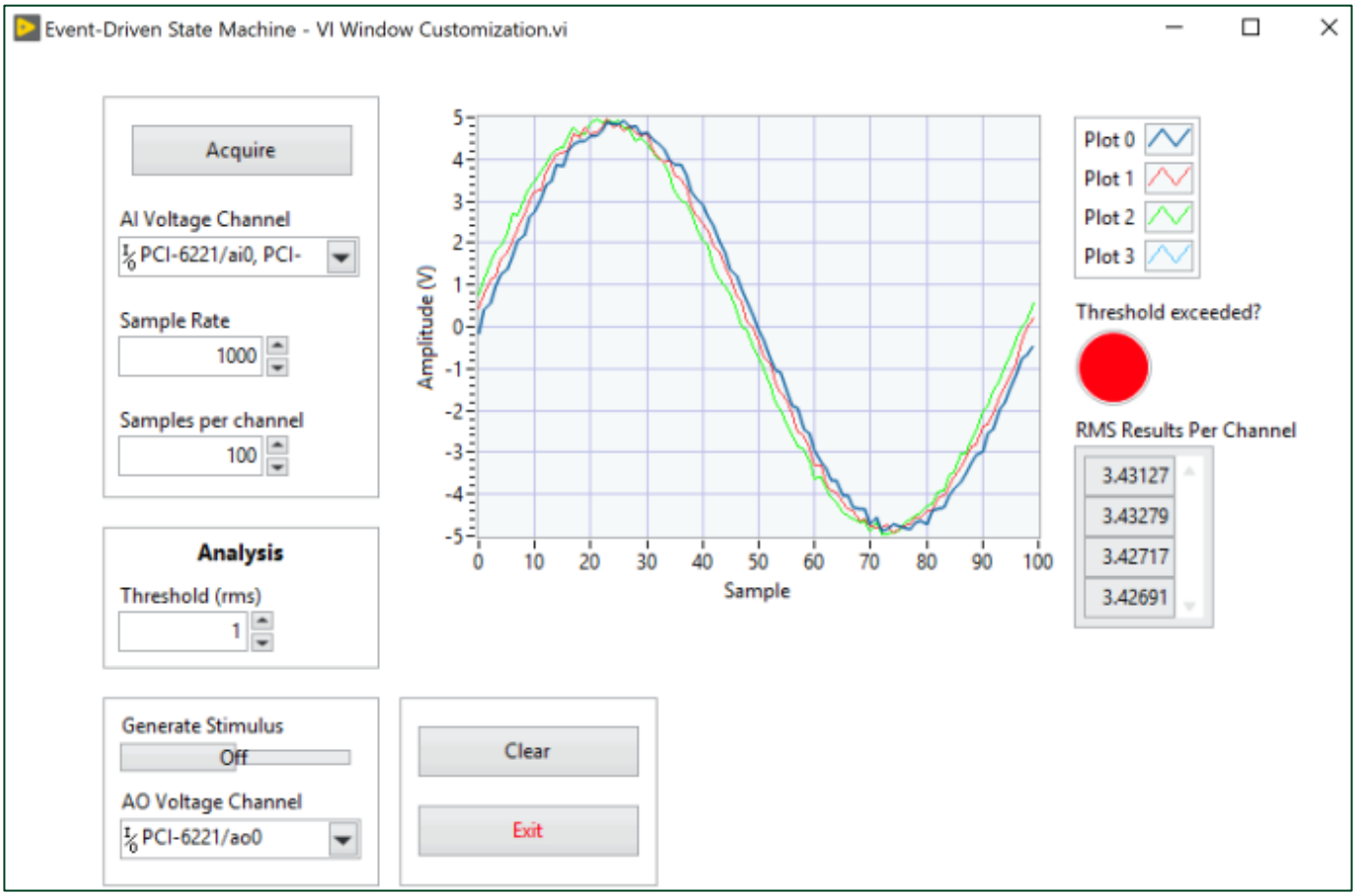
Design—Methods

Unlike properties, a method has an effect every time you call it. Therefore, you should call methods only when you want to perform an action. For example, if you call the **Front Panel: Center** method during each iteration of a loop, the VI is continually centered, thereby preventing the user from moving it. You can use a Case structure to control calling the method in a given iteration of a loop. Use the following method on the VI class:

- **Center** - Each time this method is called, the VI moves to the center of the screen

Use the Context Help window to view descriptions of each property and method.

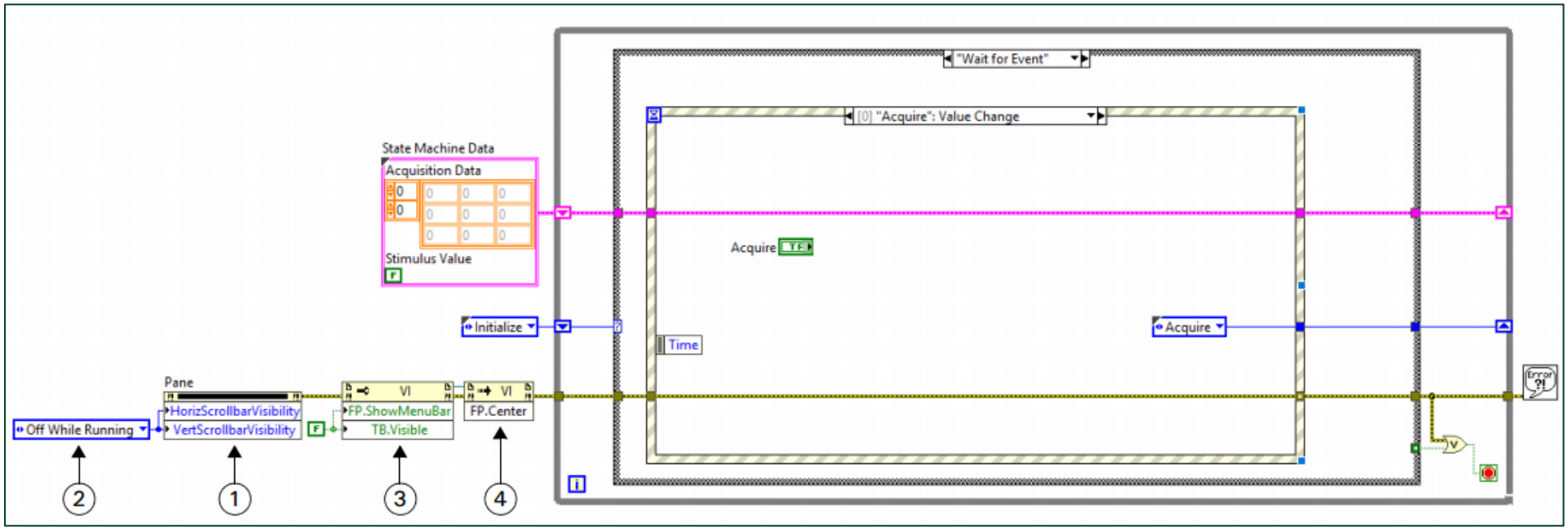
After you implement the changes to the VI, when you run the Temperature Limit VI, it should move to the center of the screen and look similar to the figure below.



Implementation

Set Appearance Properties

1. Open `C:\Exercises\LabVIEW Core 2\Customize the VI Window\Cuztomize the VI Window.lvproj`.
2. From the **Project Explorer** window, open the Event-Driven State Machine - VI Window Customization VI.
3. Modify the block diagram as shown in figure below to hide the scroll bars, menu bar, and tool bar, and center the front panel on the screen while the VI is running.



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1. **Property Node** – Press the <Ctrl-Space> keys to display the Quick Drop dialog box. Search and place Property Node. Right-click the Property Node and select **Link to» Pane**.
   - Right-click and select **Change All to Write**.
   - Expand the node to display two properties and set them to **Horizontal Scroll Bar Visibility** and **Vertical Scrollbar Visibility**.
2. **Off While Running constant** – Right-click one of the inputs to the Pane Property Node and select **Create» Constant**.
3. **Property Node** – Right-click the Property Node and choose **Select Class» VI Server» VI» VI**.
   - Right-click and select **Change All to Write**.
   - Expand the node to display two properties.
   - Click the **top property** and select **Select Property» Front Panel Window» Show Menu Bar**.
   - Click the **lower property** and select **Select Property» Tool Bar» Visible**.
4. **Invoke Node** – You must wire the reference from the VI Property Node before setting this method. Click **Method** and select **Select Method» Front Panel» Center**.

Notice that the scrollbar visibility properties apply to the Pane class, not the VI class. The front panel can be split into multiple panes.

4. Save the VI.

Test

1. Run the VI.
2. Verify that the scroll bars, tool bar, and menu bar are not displayed, and that the front panel window is centered on the screen while the VI runs.
3. Stop and close the VI.

End of Exercise 3-2