Leveraging Your Plant’s Human Machine Interface (HMI) for Better Performance

www.thermosystems.com
Introductions

Jason Wittkamp, P.E.
Director
Thermo Systems LLC
Jason.Wittkamp@Thermosystems.com

Matthew Rawson, P.E.
Control Systems Project Engineer
Thermo Systems LLC
Matthew.Rawson@Thermosystems.com
Topics of Discussion

• Understanding your plant’s HMI

• Best practices from other sites

• Potential for improving your plant’s HMI
What is an HMI?

“The HMI is the collection of hardware and software used to monitor and interact with the control system and ultimately with the process.” – ANSI/ISA-101.01-2015

The goals of an effective HMI are defined by the processes that the HMI is integrated into.
Types of HMIs

1. Single Loop Controllers, Lights, Indicators

2. Local Control Panels or Displays

3. Integrated SCADA System or DCS System
Understanding Your Plant’s HMI

1. What does your HMI show about the process?
Understanding Your Plant’s HMI

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1. What does your HMI show about the process?
Understanding Your Plant’s HMI

2. Is it broken down in a structured manner?
Understanding Your Plant’s HMI

2. Is it broken down in a structured manner?
3. Does it show all of the values and details that you would like to see?
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1. Working with your integrator or controls team to develop a comprehensive package for your plant’s HMI.
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<table>
<thead>
<tr>
<th>Object/Item</th>
<th>Color Code</th>
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<tr>
<td>General</td>
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<tr>
<td>Header Background</td>
<td>White</td>
</tr>
<tr>
<td>Footer Background</td>
<td>Light Gray</td>
</tr>
<tr>
<td>Body Background</td>
<td>Light Gray</td>
</tr>
<tr>
<td>Header Buttons</td>
<td>White (Black Text)</td>
</tr>
<tr>
<td>Body Buttons</td>
<td>Gray (Black Text)</td>
</tr>
<tr>
<td>Footer Buttons - No Alarms</td>
<td>Gray (Black Text)</td>
</tr>
<tr>
<td>Footer Buttons - At least one unacknowledged alarm present on screen that icon navigates to when selected</td>
<td>Orange/Gray Flash</td>
</tr>
<tr>
<td>Footer Buttons - Only acknowledged alarms present on screen that icon navigates to when selected</td>
<td>Orange</td>
</tr>
<tr>
<td>Static Text, Descriptions, etc.</td>
<td>Black, Blue, or White</td>
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<tr>
<td>Devices that have no animation but are shown for clarity</td>
<td>Dark Gray</td>
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<tr>
<td>Pipes and Other Process Lines</td>
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<td>TES Water</td>
<td>Purple</td>
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<tr>
<td>Chilled Water</td>
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<tr>
<td>Condenser Water</td>
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<tr>
<td>Electrical (normal and UPS)</td>
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<td>Steam</td>
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<td>Fuel Gas</td>
<td>Yellow</td>
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<td>Fuel Oil</td>
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<td>Lube Oil</td>
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<td>Condensate, Softened Water, other Water</td>
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<tr>
<td>Corrosion and Equalization Control Chemicals</td>
<td>Orange</td>
</tr>
<tr>
<td>Air, Instrument Air, HVAC, Fuel, other Air</td>
<td>White</td>
</tr>
</tbody>
</table>
Best Practices from Other Sites

2. Include standardization where applicable.
Best Practices from Other Sites

3. Planning Key Performance Indicators ahead of time.
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1. Identify areas of improvement for your plant’s HMI.

- Placement
- Background color too similar to faceplates
- PID Details
- Less Detail on Overview
- More Detail on Valve, Pipe routing
- Too flashy, distracting
1. Identify areas of improvement for your plant’s HMI.
2. Talk with your integrator or controls team to formulate a plan.

Questions to ask:

• Do we need to add instrumentation for KPIs?
• Do we need to add new screens or update old ones?
• Can our existing HMI Software accomplish all of our goals?
• Do we need to create or update site standards or documentation?
3. Proceed and follow the plan.
3. Proceed and follow the plan.
Questions?
Thank You

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