

Beyond High Performance HMI

Mind over Water

Lucas Jordan ^{1*} and Robert Touchton²

¹MRSystems, 1185 Beaver Ruin Rd., Norcross, GA 30093

(*E-mail: ljordan@mrsystems.com and Cell: (205) 500-2132)

SUBMISSION TYPE

6-12 page paper plus 30-minute presentation

KEYWORDS

High Performance, HMI, Intuitive, Process, Predictive, Development

ABSTRACT

High performance HMI as a standard is not specific to one industry and is intended as a guideline for the HMI design. It is generally thought of as a system with muted colors, limited graphics, and screens packed full of information. Depending on the needs of a water/wastewater plant, high performance concepts can be applied more flexibly with some displays fitting the stereotype more than others. With this in mind, are there creative and useful ways one can apply these concepts? Can we take some concepts a step further and go beyond high performance?

One of the examples used in explaining the need for high performance is the aircraft industry. In this industry, operators are looking at the screen for extended periods of time and have a plethora of data to process. They don't care much about physical representation of an airplane. In contrast, water and wastewater operators deal with a relatively small amount of simple, slowly changing data and can benefit from screens that display the physical orientation of equipment. Therefore, there is benefit in applying high performance concepts in a flexible and creative manner.

Additionally, much can be done to improve HMI beyond high performance. Creative application of historical data can allow for presentation of data in a predictive manner allowing for pro-active operation of a plant. The system can be designed in ways that make it intuitive in its use. The treatment process can be presented with multiple views allowing for both visualizations of physical location and process flow.

This paper and presentation will include case studies with examples of added features. How operators are using them to improve their operation of the plant and lessons learned will be discussed.

ABOUT THE AUTHORS

Lucas Jordan, PE has 10 years of experience in instrumentation and controls design, construction administration, and HMI configuration of water and wastewater treatment plants. He has experience with several HMI packages including Wonderware, GE Proficy iFix, VTScada, and Siemens SIMATIC WinCC. He is

currently an Applications Engineer responsible for development and startup of HMI applications. Email: ljordan@mrsystems.com

Robert Touchton *is the Chief Design Officer at MR Systems, Inc. heading up all user research efforts company wide, as well as leading the design teams in application development. Touchton uses his 15 years of experience in industrial controls to bring expertise in application and user interface development for water and wastewater treatment plants.*