HMI Development

Techniques for Reduction of Development Time

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ABSTRACT

With HMI design there can be a lot of tedious work with development of screens that are similar to each other but not identical. Changes toward the end of a project can be challenging and require much rework. With tight budgets and schedules, there is a need to use tools, tips, and tricks to save time and make changes easy. While every software package has tools that shorten development time, creative thinking is sometimes necessary to maximize their effectiveness. The configurator should also consider future modification and upgrade needs that require an organized approach to screen development.

Using a project developed with Siemens SIMATIC WinCC software as a case study, two tips are discussed. One tip is to use some Visual C code to make one template trend screen work for multiple trend screens in much the same way that a pop-up window works. Another tip is to use Excel's concatenate and lookup functions to develop consistent tag names and WinCC's tag import tools to import them. It is often much quicker to input information into the software with Excel than directly into software package.

With the use of these tools and tips, dozens of hours of development time were saved on an example project of Lancaster, Ohio's Upper Hocking Water Reclamation Facility. Changes to tags and corresponding PLC database addresses throughout the project were made manageable.

ABOUT THE AUTHOR

Lucas Jordan, PE *has 7 years of experience and has been involved in instrumentation and controls design, construction administration, and HMI configuration of water and wastewater treatment plants for over six years. He has worked with Siemens SIMATIC WinCC and GE Proficy iFix. He is currently a Staff Engineer responsible for the instrumentation and controls portion of design projects in the southern region.*