

## A Note from Huffman Engineering, Inc.

Hello,

This month we're looking at improving the operator interface (HMI/SCADA) experience with two articles. The first, why high-performance graphics lead to improved response time and how the less complex and colorful graphics are the better solution. And the second article features three reasons to consider installing thin clients and how they can improve reaction times, cost, and productivity.

November's spotlight is on Jeff Austin, Operations Manager at Huffman Engineering. After serving three decades in the U.S. Navy, he joined the Huffman team in 2016.

Our final article highlights how one of our engineers saw a way to help City Impact's Gifts of Love program improve their inventory process of donated toys for families in need during Christmas. For previous newsletters, new press releases, or to learn more about us and what we can offer you, visit our [website](#). Or give us a call at (402) 464-6823.

Sincerely,

*Wendy & Howard for  
the Huffman Engineering Team*

Huffman Engineering, Inc.  
5301 N. 57th St.  
Lincoln, NE 68507  
Phone: (402) 464-6823

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## ***High-Performance Graphics Lead to Improved Response Time***

I walked into a customer's control room for a refrigeration system. Four different HMIs (Human Machine Interface Screens) were each displaying a different function of their refrigeration system. All worked differently, and had different graphics, and different navigation functions. The four systems were built with three different software packages, and on one screen the graphics were really tiny and busy, making it extremely hard to see. You could not get a good grasp, or even an overview, of what was happening. The operators could not respond quickly, if they could respond at all.



We created a new HMI for the facility's ammonia accumulators and plan to migrate the rest of the functions into the same system to have a similar navigation and appearance, as well as a comprehensive overview. The new HMI, incorporating high performance HMI elements, was quickly successful. Not even a week after it was installed a supervisor came out of the office, saw a bunch of color on the screen, and said "that does not look right." The operators got up and fixed it right away. Implementing [high performance HMI] concepts allowed them to quickly and easily identify that there was an issue and then solve it.

A screen filled with an abundance of colors, moving objects and data tables can make anyone's head spin. And, that is exactly the kind of operator interface that resulted from years of technological advancements and opportunities to share data. Data overload has crept onto the manufacturing floor and into the SCADA (Supervisory Control and Data Acquisition) and HMI screens of manufacturing facilities everywhere. Balance that with IIOT, safety and cyber security concerns, and increasing needs for rapid response, and operators and HMI designers alike have a puzzle on their hands. But what exactly should be required of an effective operator interface?

[\*\*READ FULL ARTICLE\*\*](#)

## ***Three Reasons to Install Thin Clients***

Computerized systems are increasingly used in automation systems despite the continued increase of cyber security threats and patching requirements for the Windows operating system to protect against those threats. A large install base of computers across the plant floor used in the automation process can be costly and time consuming to effectively manage and secure. In a complex world, sometimes less complex is better. With hardware and software advancements, the norm has become pushing out complex control to users using individual computers rather than using a terminal connected to a mainframe as was often the case when computerized controls first made their appearance in manufacturing and utility processes. However, managing and maintaining individual computers across the plant floor can become increasingly costly as the number of computers increase and the cyber security threats facing



each one become more severe. Availability, time, mitigating risk, and cost all add up to a need to shift toward thin client architecture.

Organizations are showing a growing interest in control resources that promote a solution that minimizes IT threats and problems and allows companies to focus on business. Thin clients are devices that connect to servers to run remotely displayed operator interfaces or other software. They have few, if any, moving parts and no locally stored programs. Instead, software is stored on one or more centralized server and displayed on the thin client. On each thin client, operators access only the programs and data they need to do their jobs. Thin clients are manageable, secure, and cost effective.

[READ FULL ARTICLE](#)

## *Employee Spotlight: Jeff Austin*

November's spotlight is on Jeff Austin, [retired Navy Captain](#) and Operations Manager at Huffman Engineering, Inc. Jeff oversees the functions of each project (shop, drafting, purchasing, and more). His role includes assisting Project Managers in resource scheduling and the Engineering Manager in scheduling training across the company. Additionally, Jeff serves as the company's Safety Director, is on the Leadership Team, and within the last year began managing his own utility and industrial projects. Even as he works in many different roles within the company, Jeff juggles them well. Jeff has mainly been working on projects within the utility group, including several large projects for the City of Fremont and the City of Columbus. However, he has also worked on a few industrial projects including a stamping press controls upgrade.



Jeff with  
Former President  
George H. W. Bush

Jeff graduated from the University of Puget Sound in Tacoma, Washington with a Bachelor of Science degree in Chemistry and a minor in Math. He also earned a Masters degree in Aeronautical Engineering from the U.S. Naval Postgraduate School in Monterey, California. Jeff is now working to earn his Project Management Professional (PMP) certification.

Before joining Huffman Engineering in 2016, Jeff served three decades in the U.S. Navy, most recently as Deputy Director of Joint Exercises and Training at U.S. Strategic Command. Though born and raised in Port Angeles, Washington, Jeff found himself traveling all over during his Navy career. In 2001, Jeff and family found themselves stationed in Nebraska for the first time. They moved away in 2004 but found themselves back in Nebraska in 2011. Jeff was able to finish his last five years in the Navy in Nebraska and decided it was the place that his family was meant to be. They now live outside of Lincoln in an old farmhouse built in 1920 on 4.5-acres. He has been married to his wife Rachel for over 27 years and have three children and one grandchild. Ian, 30 and Tyger, 6, live in Seattle. Rose, 21, is a senior at the University of Puget Sound majoring in Mandarin Chinese. Colton, 18, is a Freshman at Southeast Community College studying welding.



When not working, Jeff fills his time with family, sports, and volunteering in his community. He is actively involved in his church and works closely with the church's local ministry called "Tabitha's Thread", where basic necessities are provided for kids in Cass County and beyond, including a monthly food pantry. He's also on the Board of Directors for the Foodbank for the Heartland. Camping, grilling, cooking, and BBQ are also on his list of hobbies he enjoys.

"I'm also a big football fan," noted Jeff, "I played Division II football at Puget Sound. Being a Nebraskan from Washington State, I'm a big fan of the Huskers, University of Washington Huskies, and the Seattle Seahawks."

While working at Huffman Engineering, Jeff has mentioned that it's the people he works with that he enjoys most. There is a family like atmosphere and a focus on individual as well as team growth that's refreshing to see. He has also found that it's the end of a project that is the most rewarding. Being able to see the customer's ideas, systems, upgrades, and programs beginning to work for them is something he is proud to be a part of.



## ***Huffman Engineering Improves City Impact's Gifts of Love Inventory Process***

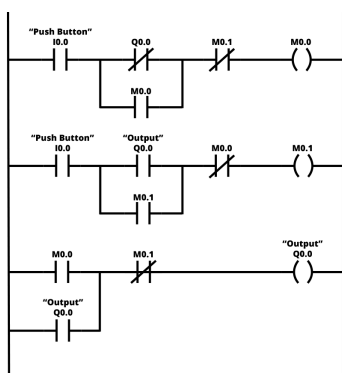
An engineer at Huffman Engineering, Inc. realized that streamlining inventory and pricing could make creating Christmas easier for a local charity. [Gifts of Love](#) is City Impact's yearly event that allows low income families to celebrate Christmas with dignity. Because the ministry sells toys and gifts to these families at a 30% price, each gift has had to be re-priced with the lower price. Until Huffman Engineering stepped in, this was done randomly.

As the holidays quickly approach, Huffman Engineering has been not only preparing for our annual volunteering event with City Impact's Gifts of Love, but we've also been finishing up this project to help streamline their inventory process of gifts donated.

Before the process was cumbersome: download a barcode app, scan and search for items, discount the item correctly, and write a price on a small little sticker. There were several issues with this: data couldn't be downloaded, phone batteries were dying, and different prices were being used leading to inaccuracy of pricing and labeling. Huffman Engineering's Senior Engineer and P.E., Steve Beck, saw the need for a better engineered system and began building an Ignition™ software program to fit their needs. City Impact now has a program that scans each item, compares it to several different websites for the lowest price, prints off a pricing label, and enters the item into a database. With several stations set up to scan inventory, the processes much more streamline, saves time, and consistent. Huffman Engineering plans to donate four label makers and bar code readers and will loan a computer to run the program, and Inductive Automation, also seeing the opportunity to help children, is donating a free Ignition™ software subscription for three months, saving City Impact over \$10,000.



## Other News



### [3 Benefits of Code Re-Use](#)

Blog by: Scott Duckett, *Automation Specialist*

## Huffman Engineering Completes Successful FDT Test



The Huffman Engineering Colorado office continues to be busy. Recently, the team completed a Factory Demonstration Test (FDT) in nearly half the time that was required.

## Connect with Us



(402) 464-6823  
5301 N 57th St Ste 101 Lincoln, Nebraska 68507  
112 Inverness Circle East, Suite E, Englewood, CO 80112

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