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Blind-Frien

Lighthouse for the Blind St. Louis creates jobs
with speech collection technology

By Penny Rackley



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For more than 100 years, Lighthouse for the Blind has helped people who are blind or partially sighted overcome the challenges of vision loss. Promoting independence, equality and self-reliance through rehabilitation training and relevant services, the organization's primary mission is to create jobs for the blind. The Lighthouse's 25,000-square-foot St. Louis packing facility and its employees fulfill this mission by assembling large medical kits for the U.S. government, shipping hundreds of kits each year.

Although much of the work at the Lighthouse St. Louis facility was being performed by blind employees, many of the assembly tasks critical to the organization's product could not be accomplished by the blind—they could not pick products, perform materials-handling tasks or prepare or move items for the kits.

"This location assembles kits that can contain more than 500 line items and take up 15 pallets, such as triage station kits, and the majority of our labor force could not participate in the work," said Lighthouse for the Blind St. Louis IT Manager Mark Adams. "Ninety percent of our employees are legally blind, so we needed a new warehouse management solution that was completely blind-friendly."

The location's IT management relied on its 20-plus year relationship with data collection implementation experts at Primary Marking for a new system, with a twist.

"The Lighthouse perspective on efficiency is very different from that of a traditional enterprise," Adams said. "Everything we use, everything we do, must first and foremost be blind-friendly. Primary Marking understands the special circumstances of our operation and suggested that we use Intermec mobile computers, hands-free scanners and speech recognition software as a navigation and picking system."



Photos by Stephanie Condie



Speech recognition vs. voice recognition

Five to ten years ago, speech recognition was still an immature technology, and a voice recognition system might have been a more practical choice for the Lighthouse facility. Since then, speech technology has improved recognition rates and has become very affordable. The technology now is widely used in variety of applications including the warehouse.

Lighthouse St. Louis and Primary Marking chose a speech recognition-based system instead of a voice system, which requires the creation of voice templates or “training” the system. Voice systems depend on voice quality for high rates of recognition, so when user voice quality changes—perhaps from a hoarse voice or nervousness—the template must be updated.

Additionally, voice recognition systems require a voice server to store and manage templates. Speech recognition doesn’t utilize voice templates or require a separate voice server, reducing hardware and system costs and eliminating IT administrative costs.

Old problems, new solutions

Lighthouse St. Louis selected a system of Intermec 750 mobile computers equipped with SyVox speech recognition

software, plus Intermec SF51 Bluetooth-enabled scanners. The ruggedized 750 uses software developed by Primary Marking to control the picking process and communicate data directly into Lighthouse’s ERP system. With the new solution, the location’s employees log in to the system by saying a password to the Intermec 750 mobile computer. A prompt then “asks” the employee if they want to pick an item. If so, the mobile computer tells the employee the location of the first item to pick.

Items are stored on bar-coded shelves, so employees simply scan a shelf to determine their location and in which direction to continue toward the item to be picked. Once the correct shelf is scanned, the 750 “speaks” information about the location of the item to be picked. When the item is scanned, the device tells the quantity to be picked. Once the correct number of items has been picked, they automatically are removed from inventory and the Lighthouse ERP system is updated.

“Primary Marking wrote our warehouse management software specifically for the Lighthouse St. Louis application, and to work with our Macola-based ERP system,” Adams said. “This was a challenging task since we have such a broad product line that changes all the time, and requirements differ from kit to kit.”



“The beauty of using the Intermec system is that employees do not have to know anything about the products on the shelves to pick and assemble a kit,” said Adams. “New employees, blind or sighted, can use the solution with very little training. All other vendor solutions were proprietary and we did not want to buy equipment that could be used only by either sighted or blind employees.”

Prospering in the present, looking to the future

“Another reason we chose Intermec products was the company’s experience with RFID technology,” said Adams. “In our research, Intermec was the only company with a start-to-finish RFID technology offering. We have plans to use RFID tags on our shelves instead of bar codes to make navigating the warehouse even easier. Intermec understands that technology and where it is going, so they can take our data collection technology where it needs to be.”

The new warehouse management and speech recognition system now enables the organization’s blind employees to locate and pick items to help the company ship tens of millions of dollars in kits each year. And the

system’s multiple benefits are making life easier and more productive for the entire organization.

Although the resulting improvements in efficiency and inventory accuracy are a welcome change, Lighthouse St. Louis recognizes that the biggest benefit of the new Intermec system is adding to its blind workforce.

“The new system has improved inventory accuracy—we’ve gone from 70 percent to 95 percent accuracy since the implementation,” said Adams. “But most importantly to us, the Intermec solution has made a huge difference for our blind employees—they now can locate and pick the items completely by speech,” Adams said. “The solution has allowed Lighthouse St. Louis to employ two more full-time blind employees for a year for picking and assembling medical kits. And that’s the reason we’re here.” ■

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Resources:

Lighthouse for the Blind: www.lhblindindustries.com | Primary Marking: www.primarymarking.com | Intermec (750 mobile computer with voice recognition, SF51 scanner): www.intermec.com