



New Information from an Old Standard

As the bar code celebrates 40 years, more uses for the technology are emerging

by LAURI GIESEN

Bar code readers might seem like low-tech devices that have been around forever. It's not entirely untrue — they have been in use for 40 years, and until recently the technology hadn't changed much.

"Ten years ago, there was not a lot new with bar code readers," says Matt Schler, vice president of new technology for data encryption and sensor technology provider Datalogic. But that has changed in recent years. "Bar code reader developments have really been driven by the desire for retailers to get and maintain key information to improve customer loyalty," he says.

Among the new developments involving the application of bar code readers are systems that streamline data so that retailers can retain the most pertinent information and enable payment and rewards programs offered on mobile devices.

On the horizon is automated scanning: Using these devices, self-checkout customers don't have to hold items up to a reader so the bar code can be scanned. Instead, items on a checkout belt are automatically scanned and directed to the bagging area. This operates at a much higher speed than a traditional checkout configuration.

Automated scanning rests on visual imaging technology that can identify the items. Such technology is still relatively new in the United States, Schler says, but is taking off rapidly in Europe. Tesco in the United Kingdom has announced plans to utilize the automated scanning system, as has a supermarket chain in Italy. Worldwide, Datalogic has more than a dozen pilot tests of the technology. At least

one rollout is planned shortly for the United States, but the retailer has not yet been identified, Schler says.

"I think 2014 will be the pivotal year for the technology," he says. "A lot of retailers are changing out older checkout technology and many are looking at the issue of laser versus digital imaging technology."

INFORMATION RETAILERS WANT

In recent years, a lot of attention has been given to identifying what information retailers want bar code readers to gather. Early versions allowed retailers to see everything each customer was purchasing, but in many mass-market applications, the data was too overwhelming. With supermarkets, for example, the data collected was staggering and hard to analyze. Retailers realized they didn't want — or need — to know everything their customers bought.

Instead, most retailers

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want to know what customers are buying specific products — or what combinations of products specific customers are buying. Software systems are available to allow retailers to use bar code readers to track desired sales and analyze the data for future promotions and customer communication, Schler says.

Taking these approaches a step further, retailers can also use bar code data to provide important customer services. If customers report their food allergies to retailers, systems can be installed to flag items that fail to meet special diet concerns. Clerks can inform the shopper, who can decide whether or not to proceed with the purchase.

“If you provide these types of services and the retailer next door does not, you have a real advantage to getting loyal customers,” Schler says.

Another way to use the bar code readers is to track what products are subject to recall or expiration dates. If a particular product is recalled, the retailer knows who purchased it and can send a text message to customers about the recall. “This lets your customer develop confidence in the integrity of your business and lets them know you are looking out for them,” Schler says.

INTEGRATING WITH MOBILE PAYMENTS

Retailers are also seeking to use bar code readers to integrate with mobile payment systems. Technologies like near field communication will eventually allow customers to retain payment information, loyalty rewards or coupons on their mobile phones. Then customers simply wave their phones over special readers that capture the data and complete the transaction.

But while NFC is available, widespread use of those systems may be a long ways off; in the interim, bar code readers can move mobile-based



payment and rewards programs along quickly.

A number of large retail companies are already gathering payment and loyalty information from customers’ cell phones by using bar code readers. With these scenarios, customers call up coupon or payment information on their phones. A store attendant then uses the bar code reader to scan the information on the screen and the transaction can be completed.

“With NFC there are so many fingers in the pie, it is not likely that we will be able to develop an NFC solution that can cut across all industries,” Schler says. “Even after we start commonly using NFC solutions, there will be a need to keep bar codes in smartphones to facilitate transactions that NFC cannot handle.”

EMBEDDED DATA

Another issue that many retailers are wrestling with is the choice between QR codes and bar code readers. Some believe that QR codes will replace bar codes, but Schler argues there is a place for both.

“They can both co-exist because they really serve two different functions,” he says. “A QR code is something that serves a marketing purpose with quick access to general information. The QR code is open and flexible in terms of the content that you can associate with it. But a bar code

uniquely identifies that product across retail.”

Ultimately, retailers will want the higher degree of data they can gather with a bar code reader, he says, as that will provide them with more information to conduct more advanced rewards and cross-marketing programs.

Schler also expects a greater use of digital watermarks, which involves data that is embedded into print, audio or video materials. It is invisible to the eye but can be detected by mobile devices and POS scanners. These watermarks provide a unique “digital identity” and allow data to be encoded many times across the entire package.

Imaging technology is required to read this information, but with that imaging technology “you can read this information without having to find the bar code,” Schler says.

The advantages of watermarks include speeding up checkout because the cashier does not have to orientate the product to present the bar code; allowing any device equipped with imaging technology to read the packaging; enabling self shopping applications; and providing more marketing space on the product or its packaging.

STORES

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