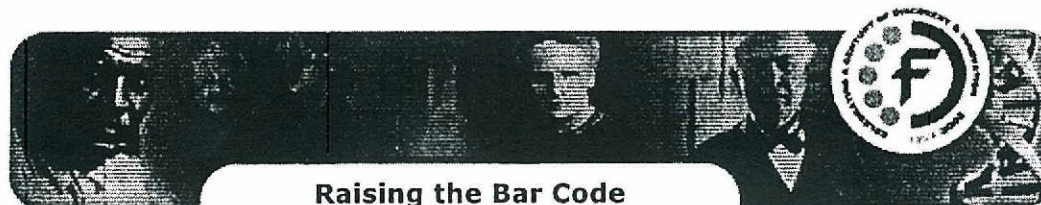


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discovery
and
innovation



Raising the Bar Code

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On your way home from work, you suddenly remember that you desperately need milk and bread. Annoyed, you stop at the mega-grocery store, grab the two items, and scurry to the "12-Items or Less" aisle. Your errand is almost complete, but the person in front has approximately 20 items AND is writing a check! It could be worse—your wait could be a lot longer if it wasn't for bar codes and scanners!



People have always wanted to find a faster, more efficient item tracking method ever since a punch card system was used for the 1890 U.S. Census. In his 1932 Harvard thesis, Wallace Flint proposed a quicker way to order groceries using punch cards and a reader. Good in theory, but not practical; society had to wait until technology caught up.

In 1948, Drexel graduate student Bernard Silver overheard someone pleading with a dean to create an automatic item classification system for his local food chain. Silver mentioned the idea to Drexel teacher Norman Joseph Woodland, who became enamored with the idea. After trying many forms of code and reader machines (one device alarmingly smoldered paper), Woodland and Silver owned a round, black-and-white symbol with narrow and wide dashes (patented in 1952) and a crude machine that read the symbol by using a light beam from an 500-watt incandescent bulb.

Meanwhile, Sylvania employee David J. Collins had developed an orange-and-blue strip color-coding system for tracking individual railroad cars that was mildly successful in the early to mid-60s. He recognized the potential for a black-and-white coding system, quit Sylvania because his employer didn't encourage him to pursue the idea, and founded Computer Identics Corporation. Lasers were coming into existence in the late 1960s, and Collins was able to invent a machine that read black-and-white stripes using a milli-watt helium-neon laser beam. Collins tested his simple, handmade scanner in two factories and was successful.

The grocery industry was still clamoring for an item-coding system, and in 1969 the National Association of Food Chains called for proposals and standardization. The race was on! RCA had purchased the Woodland/Silver patent in the early

Decoding the Bar Code

Next time you buy an item, take a look at the UPC. You should see a 12-digit number (two halves of six). The first number is usually a zero, unless the product is a special type, or comes

60s and began further development. In 1972, the round symbol was tested but with little success: when scanned, the ink smeared so much that it became unreadable.

IBM won the race. With Woodland as an employee and consultant, IBM employee George J. Laurer invented the now-industry-standard Universal Product Code or UPC in 1973. On June 26, 1974, the first product, a pack of Wrigley's Juicy Fruit Chewing Gum, was scanned at a Troy, Ohio supermarket checkout using a UPC scanner manufactured by National Cash Register Company.

from the meat or produce department where merchandise has variable weight. The next five numbers make up the manufacturer's code; the five after that is the product code-manufacturers must register with the Uniform Code Council (UCC) to obtain a unique identification code for both their company and their product. The last number—the "check digit" or "checksum" verifies that the first eleven numbers have been scanned properly. If that wasn't enough, there are hidden codes within the UPC code to tell the scanner which end is up so that the item can be scanned properly.

So the next time you go to the grocery store, remember that it took decades to develop a way to save you a few extra minutes at checkout. Does waiting in line seem so bad now?

Sources:

Bar Code 1, Bar Code History Page, <http://www.adams1.com/pub/russadam/history.html>

Bar Codes, http://inventors.about.com/library/inventors/blbar_code.htm

Bokor, Laslo. Bar Codes, Internship Report. Summer 2001,

http://www.cs.iusb.edu/internship/papers/laslo/Bar_Code.html (January 31, 2002)

The History of the Bar Code, <http://escher.cs.usdavis.edu:1024/CS15/history.html>

History of Bar Codes, <http://www.lascofittings.com/BarCode-EDI/bc-history.htm> (January 31, 2002)

<http://inventors.about.com> (January 31, 2002)

The Story of the Bar Code, <http://www.postpaper.com/jan3.htm>, January 3, 2000 (January 31, 2002)

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