

DATA PARSING:

Break Data Out from Behind Bars

**code**

Data behind bars: A Look at Barcode Scanners and Data Parsing

Are barcode scanners key to better business intelligence and analytics?

Est. Read Time: 5 min.

Blocks, lines, and bars. A nurse sees these when scanning a patient wristband; clerks search for them at checkout. In most cases, both may not realize that those barcodes are making entire industries safer, more efficient, and more profitable. Chief among the forces driving this modernization are advanced barcode readers that can parse data.

What is data parsing, and how can my business use it?

The most basic definition: data parsing is extracting relevant data from a source (e.g., barcode) and hammering it into a more readable (and usable) format. A common example is scanning a driver's license when selling age-restricted items like alcohol. Another familiar one is applying for in-store credit or signing up for shopper perks. A quick scan of an ID's barcode extracts basic contact info and automatically populates parts of an online application to expedite the process.



“You can scan the ID so it fills in your name in one field, performs a tab and inputs your date of birth, does another tab, and maybe assigns a number,” says Vernon Witney, UK-based solutions architect for Code Corporation. “Now, we’re getting into data parsing where we’re taking barcode data and splitting it into logical fields and then putting characters between those fields, so it fills in the form.”

So what does data parsing mean for business?

Data parsing is the difference between knowing and guessing. Within many firms, data parsing and subsequent analytics are replacing instinct and “gut feelings” with precision insight via concrete information on variables like sales, staffing, shipping status, or stock. This change means barcodes and data capture devices, like barcode readers, are crucial to embracing digitalization (the process of making manual processes digital) and standardization (establishing common procedures, etc.).

Barcodes Block Typos

Barcodes have come a long way from the first commercial application on a pack of Wrigley’s Juicy Fruit gum in 1974 to supporting data analytics today.

“The whole idea behind barcodes was cutting out human error,” Witney points out. “Barcodes came about in supermarkets for the reliable and error-free entry of a product’s description and price. That’s the core of barcodes: capturing data remotely and accurately.”



Today, more than 40 barcode types (also called barcode symbologies) have been developed and standardized by GS1 for global use. These symbologies contain mountains of data, like product type, manufacture site, and expiry date. Given these complexities, humans can’t correctly enter this data 100% of the time. At best, inaccuracies might result in revenue loss; at worst, typos could result in loss of life (e.g., a caregiver administering the wrong medication type or dosage).

“There could be typos; if you transpose numbers, someone could lose track of what was just given to a patient, which they obviously don’t want to do,” Witney adds.

Compounding the importance of barcodes is the actual process and the barcode scanners’ ability to scan damaged, smudged, or torn barcodes on virtually any surface.

“Trip up at this point, and no advanced data processing or systems will save you if the raw initial data is wrong or unusable,” Witney adds. “It really is critical that the point of data entry generates usable and correctly formatted data.”

As barcodes have grown in importance, they’ve incorporated 1D and 2D designs that are often flanked by human-readable alphanumeric codes. The changes mean barcodes can encapsulate reams of data in the same space (or less) as the first barcodes nearly 50 years ago. These data-

dense barcodes call for data capture devices that can be configured to pull specific info from data using tried-and-true technologies like JavaScript.

Cracking the Code to Accuracy with JavaScript

JavaScript is a flexible programming language widely known in computing for giving web pages interactive capabilities, such as autocomplete text or fillable forms. Seeing the possibilities, Code Corporation, a barcode scanner manufacturer, has taken the lead by incorporating JavaScript into its Barcode Readers, enabling data parsing.

“Having JavaScript in Code’s handheld barcode scanners is pretty unique,” Witney explains. “Competitors must rely on basic formatting or custom firmware to do what Code easily does with JavaScript.”



What can you do with a JavaScript-equipped barcode scanner?

Via JavaScript, a programming “rule” is created that directs the barcode reader to search for specific data and transmit it as desired to a higher-level host like a cash register, thermal transfer label printer, or an electronic health records system. An example of data parsing in healthcare would be creating a rule that enables a barcode reader to match a mother’s breastmilk to her newborn in the maternity ward when each patient’s ID band is scanned. Another practical use of JavaScript is creating a rule that makes the barcode scanner “count” when scanning cases in product fulfillment. If, for example, the barcode scanner doesn’t catalog 20 barcodes when scanning a packed case, it beeps to alert of a mispack.

Rules can even be created so barcode readers can “attach” more data to a barcode, such as adding medication type, amount, and dosage time to a patient’s ID wristband. The additional data helps support positive patient outcomes.

Who Makes the Rules?

JavaScript-equipped barcode scanners offer several advantages to businesses, and getting started is easier than expected. Incorporating new data parsing capabilities can be as simple as using an appropriately equipped Code barcode reader to scan a Code-supplied, “Quick Connect Code” barcode that contains a JavaScript rule. Users can contact solutions architects, like Witney, who evaluate the use case, devise a site-specific solution, create a barcode containing the rule, and send it to the end-user

“To encode a new rule, you can connect a scanner to your PC, use Code’s CortexTools, and then download a properly formatted JavaScript file,” Witney explains. “Alternatively, you can scan a

specially created barcode that will automatically load the JavaScript rule into your barcode reader.”

Preloaded barcode files offer a tremendous advantage for HealthIT departments needing to quickly upgrade several barcode scanners at once or configure several new scanners.

More Data = Fewer Problems

Behind a barcode’s bars, lines, and boxes are up to 7,089 characters (for 2D QR barcodes) that help organizations grow or keep them out of trouble. In the UK, for instance, it’s illegal to sell out-of-date consumables; this mandate means barcode data is critical for retailers. And there is still more data parsing and barcode readers can do for businesses.

For instance, JavaScript rules can empower your firm’s existing Code barcode scanners to perform additional functions that accommodate a new product or workflow. And as industries further embrace digitalization and standardize barcode formats (or the data therein), JavaScript-compatible barcode scanners can scale to match your data capture needs. Currently, many hospitals across the UK have started working with products carrying 1D and 2D barcodes. Using two barcode types supports global sales and traceability for product recalls (the data in 2D barcode flags spoiled or expired drugs), but having two symbologies complicates scanning. Through data parsing, the necessary info is always extracted no matter which barcode type was scanned.

“Data parsing means that the customer can grow with us, and we can grow with them,” summaries Witney. “If their initial requirements are focused on a 1D barcode, but they have requirements to move to a different standard or they see new standards coming in, we can help them grow with Code product and Code features to encompass and work with those new standards—without replacing scanners.”

Interested in harnessing data parsing to improve or protect your business? Contact a Connection sales rep.