



Bar Codes

A Primer for Document Management

Executive Summary

Although they are not a solve-all, barcodes can add efficiency and accuracy to your document management efforts, and should be given serious consideration as part of your best practices. From effectively and automatically passing information for indexing, to triggering a query into an external database, barcodes can help make your document management efforts easier.

Barcodes are simple, universal and inexpensive. They utilize a proven, not experimental, technology. In fact barcodes date back to 1948. The technology has been refined and perfected over the years, and it shows no signs of going away. If you are not using barcodes in your document management practice, perhaps it's time to start.

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Bar Code History

A little history. In 1961 barcodes saw their first commercial use by automatically identifying train cars using blue and yellow reflective stripes that represented a six-digit company ID and a four-digit car number. By 1973, the IBM UPC barcode was selected by the National Association of Food Chains as their standard, and the first check-out line scan was made on a pack of Juicy Fruit gum on June 26, 1974.

Now barcodes are ubiquitous, and smart companies continue to make good use of this simple, effective and inexpensive technology.

Wide Application

Barcodes have been developed for many specific applications, such as retail product identification, parts inventory, book publishing, coupons, mail, healthcare, document identification, etc. You need to make sure that you carefully choose the right barcode for your application.

Here are some common barcodes often used with paper products:

- Bar Code 25 (aka Interleaved 2 of 5): digits only; used in libraries.
- **Bar Code 39** (aka 3 of 9): digits, letters and a sub-set of other characters. This was the first alpha-numeric barcode developed, and the most widely used. It includes A-Z, 0-9, space, and -.\$/+%. Code 39 is the standard for the U.S. government and material handling industry.
- **Bar Code 39x**: This is an extended version of Code 39, and includes the entire ASCII character set (including lowercase letters and symbols commonly found on a computer keyboard).
- Bar Code 93: full ASCII character set; various uses.
- Bar Code 128: full ASCII character set (uses "continuous" symbology; mainly used for human identification on things like driver's licenses)
- Telepen: full ASCII character set; used in libraries.

Linear barcodes (characterized by a series of lines of varying widths, such as the ones listed above) are optimized for laser scanners, and are optimal for document management applications.

2-D matrix codes, on the other hand (which feature squares or dots arranged in a grid pattern as illustrated on the right), cannot be read by a laser scanner, and instead must be read by scanners utilizing digital camera sensor technology.

Barcode scanners are relatively inexpensive and extremely accurate compared to key-entry. It is not uncommon for key entry operators to make 1 error per 300 characters entered. On the other hand, barcode scanners can achieve an error rate as miniscule as 1 error in 2 million characters!



My point is this: good document management practices may mean incorporating barcodes in order to facilitate document identification, separation, indexing and integration with other database systems. Documents can easily be pre-printed

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with one or more barcode identifiers that contain information such as document type and account number.

In fact, a number of free barcode fonts are available for download, and can be inserted directly into Word documents, or used to print sheets of barcode labels on Avery sheets such as Product Number 6504.

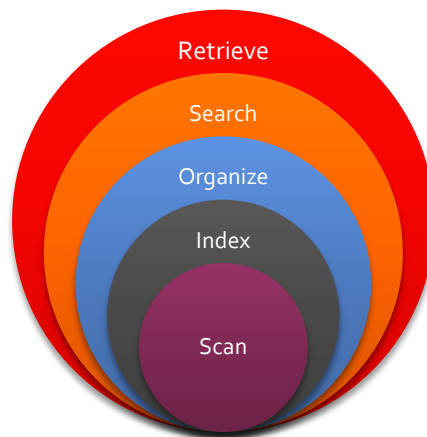
Which One Is For Me?

The two most commonly used barcodes for document management are Code 128 and Code 39 because they are very accurate, and there are plenty of font generators and software applications that use them. For most document management applications, Code 39 (or 39x) may be your best choice because of its wide use.

Some Good Advice

Mind Your Process

Bar codes are part of a process that makes it easier and faster to manage scanned documents. Bar codes can act as part of a solid foundation for that process. Documents that are scanned using barcodes, make indexing easier, which contributes to document separation and good organization, which leads to easier searches, which produces predictable results.



GETTING ORGANIZED

▲ CREATE A CLEAN, WELL-LIGHTED SPACE

Create a space in which documents can be sorted and organized before being scanned. You may want to include something as simple as a staple puller.

▲ DETERMINE WHICH DOCUMENTS YOU MUST KEEP

Not all paper documents that have been scanned can be destroyed. Have a list of all documents that by law or regulation must be kept in paper form.

▲ KEEP YOUR SCANNER'S DOCUMENTATION NEARBY

If something goes wrong, or you need to refer to some scanning function – hardware or software – you don't want to waste time searching for the documentation!

▲ CREATE ACCOUNTABILITY

It may be a good idea for the same person to do the scanning and the indexing or exception management (if needed). Some people take more care during the scanning process if they know they will have to correct for any sloppiness!

▼ DON'T LET THINGS PILE UP

Create a schedule for scanning documents. It can be at the end of the day, the week or the month, depending on your volume.

Practical Application

The Top Five Uses of Barcodes for Document Management

1. **Document identifiers can be used to automatically separate one document from another** and indexed appropriately. A bar code on the first page of a multi-page document within a batch of documents can tell a document management system something along the lines of "This marks the first page of this document. It is of document type 'X.' The following pages all belong to this document. Treat these pages as part of this document until you see another barcode for another document."
2. **Key information (such as account number) can be used to interact with another system's database** in order to extract information that can be used to automatically index documents. If, for example, a document needs to be associated with account information that already exists in another database (name, address, status, phone, fax, email, department, etc.), the account number barcode can automatically trigger the document management system to request all pertinent information from the account information system database and then use that information to meaningfully and predictably index the document.
3. **By using intelligent capture technology bar codes can be used to accurately collect information**, and reduce or eliminate manual key entry and the errors that such a process introduces. Errors in data entry may prevent documents from being retrieved and used for reporting, audit compliance, customer service, etc.
4. **Bar codes can reduce or eliminate the manual cost of separating and indexing electronic documents.** If you are capturing documents in batch, and do not have a way to automatically separate one document from another, you will need to separate them manually or be stuck with individual pages for each document, and perhaps, with no way to easily stitch them together.
5. **Bar codes can also be used to aid a document audit function.** For example, if a loan packet is only considered complete when it contains 10 specific documents, a barcode on each document can be used by the document management system to audit the packet, and identify packets that are "complete" or "incomplete."

Helpful Resources

Here are a couple of resources you may find helpful in using barcodes. These are suggested resources only. I make no endorsements here.

Free Barcode Font

<http://www.barcodesinc.com/free-barcode-font/>

Avery Wizard

http://www.avery.com/avery/en_us/Templates-%26-Software/Software/Avery-Wizard-for-Microsoft-Office.htm?int_id=banner-searchtop-wizardholiday

Tips and Techniques

LOADING INTO WORD

1. Download the new barcode font from your preferred source. Assuming it's in a .zip file, unzip it, and go to the folder containing the new fonts.
2. Start Windows Control Panel
3. Look for the Fonts icon and click on it to open the fonts folder.
4. Copy the new barcode font from the folder it's in and paste it into the Windows fonts folder.

USING IN WORD

1. A good way to use the new barcode font in Word is to create a barcode within a text box that you can position anywhere you want within the document or form.
2. Use the Insert function in Word to select "Text Box." You'll want to insert a "Simple Text Box."
3. Once the box is inserted, type in the text you want barcoded, highlight the text, and then choose the barcode font. Make sure that you start and end each entry of the barcode text with an asterisk (*) The asterisk tells the scanning software where the barcode begins and ends.
4. For example, to create a barcode for "application," you would type it as: *APPLICATION* and it would end up looking like this in barcode form:



5. Right Click on the text box, choose Format Shape, and remove the lines around the box by choosing No line.
6. Finally, test the bar code to make sure that it can be read before standardizing it in your documents.

CREATING A BARCODE SHEET

1. You can also use Avery Wizard (which installs a new Avery tab in Word). Avery Wizard, when launched from Word, helps you select the label sheet on which you want to print several copies of the same barcode.
2. Click on the Avery tab, then click on Avery Wizard. Once the wizard launches, click on Next.
3. Then choose the label sheet product number (you may want to try 6504). Click Next.
4. Choose the blank design. Click Next.
5. Choose "Create a sheet of identical layouts." Click Next.
6. Type in your text. Don't forget the asterisks. Example: *EMPLOYEEAPP*
7. Highlight the text and change the font to whatever barcode font you loaded into Word. Change the font size to fill up as much of the label as possible. Click Next.
8. Click Finish. Presto! You have an entire sheet of barcode labels!
9. Before committing one or more label sheets to the new bar code, test the bar code image to make sure that it can be read properly.

Case Study

Automotive Group Uses Bar Codes for Seamless Integration and Touch-less Indexing

One CloudDocs customer is using a combination of forms with pre-printed bar codes (one for account number and one for document type), along with bar code labels they create and print themselves, to create "touch-less" document indexing and organization. It saves them time, money and effort.

This particular customer has corporate stores that all follow corporate business procedures, and franchise stores that need the flexibility to do things their own way here and there. Their old document management system (DMS) could capture and index documents, but only for corporate stores. It could not be extended to the independent franchisees without prohibitive cost and

effort. This customer needed a system that could replace the existing software-based DMS and support 300 users, but was affordable, flexible and easy enough to be used, independently, by franchisees that may only have two or three users.

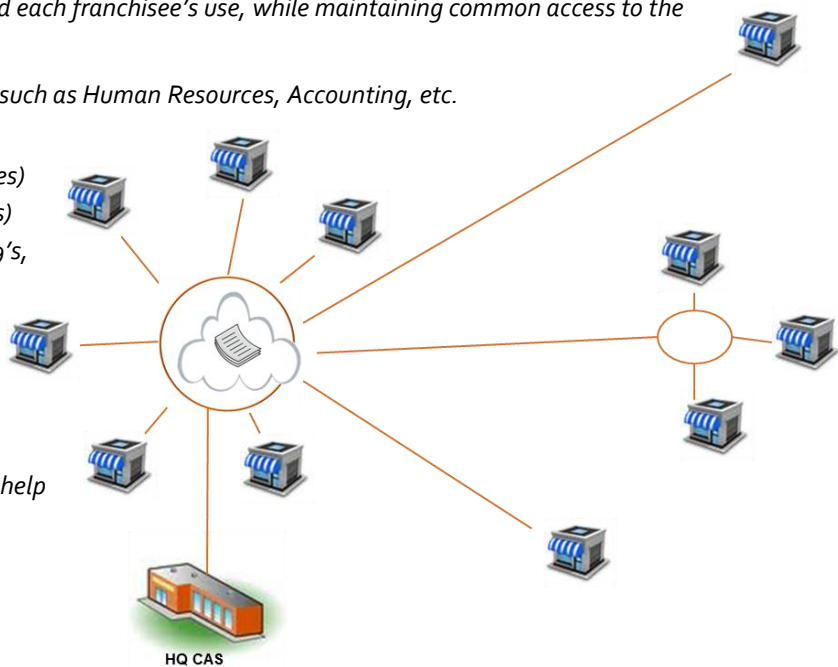
Here's what they were facing. The Customer Account System (CAS) was generating up to 120 paper documents per customer for something called a "retail packet." Some of the documents were legal, some contractual, some informational, some confidential. Almost all of them had to be acknowledged by the customer via signature or initials, and each had to be uniquely identified and stored by the document management system.

Simply put, they needed a system that could:

- Read an account number bar code to identify a unique retail packet
- Read a "document type" bar code to identify and separate each document, even it was multiple pages
- Interface with their CAS to automatically pull information and index each document
- Find and view an entire retail packet or specific documents
- Provide a quick and easy way to correct exceptions created when a bar code cannot be read (for example, if it has been written over or smudged)
- Be used by anyone, anywhere (who has secure access)
- Could be configured for corporate and each franchisee's use, while maintaining common access to the CAS
- Could be used by other departments such as Human Resources, Accounting, etc.

Today this client (and many of their franchisees) is successfully using bar codes (and CloudDocs) to capture retail packets, HR documents, 1099's, etc. in a seamless and mainly touch-less fashion.

While bar codes are not the only reason this client is able to save time, reduce costs and improve customer service, bar codes certainly help make it all possible with less effort.



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