The Fully Automated Book Vending Machine

By Gary Michael Smith

Perhaps the greatest innovation in print production in recent times is the creation and development of on-demand printing equipment. This type of printing involves producing short-run books and other materials bound in professional covers and supplied in quantities needed. Although conventional offset printing is economically preferable for runs of more than 2,000 copies, the cost advantage to printing less than 500 copies almost always favors print on demand (POD).

With POD, the book production paradigm has changed from "print, distribute, sell" to "sell, distribute, print." Materials are printed when required but the cost usually is higher because of the lack of economy of scale, i.e., the fewer the copies printed the higher the cost per copy.

Although machines from Xerox, InstaBook Corporation, and On Demand Machine Corporation have been around for a couple of years, the process still required the loving touch of human hands to move the digitally printed pages from output tray to binder and then trimmer. And this is not to mention that the covers had to be printed separately, then placed in an area for binding to the book block.

Now, for the first time, these processes of book cover and text block printing, gluing the spine, binding the cover and text block, and trimming have been automated by Marsh Technologies, Inc. What's more, even the method of transmitting files is no longer a manual process thanks to another company called VolumeOne.

The Pioneer

With POD still a growing technology, a number of companies such as IBM, Xerox, and Random House are investing in the process, and Barnes & Noble wants to have POD equipment in its distribution centers as well as in the back of some bookstores. A number of companies already have machines in operation, and some are even developing newer models as technology improves and prices for components decrease. The latest innovator is Jeff Marsh of St. Louis-based Marsh Technologies, Inc. (http://marshtechinc.com).

One of the newest inventions in book manufacturing is Marsh Technology's PerfectBook machine, priced in the $82,000 range, which enables books to be printed near the customer location. Marsh's machine includes a state-of-the-art binding system that uses a quartz ultrasonic horn to subject the spine to high-frequency vibrations to heat and melt strips of glue, fusing the book block to the cover.

Automating Transmittal

Now that books can be printed by any number of instant vending-type machines, the next step is to develop a method for transmitting book files to these machines no matter their location. One concern, however, regards automating this process to eliminate the need for highly trained operating staff so these machines can be widely distributed for use by anyone from print shop employees to bookstore clerks to individual shoppers.

"The book is out." These words, spoken by Jeff Marsh on Saturday, July 9, 2001, informed his colleague Peter Zelchenko that, for the first time in printing history, a book had just been transmitted by remote control over the Internet to a printing machine with no operator intervention. This system of transmission, called the Book Dispatcher, is the brainchild of Zelchenko of Chicago-based Volume One (http://www.volumeone.net).

The Book Dispatcher represents the first fully automated Internet-based traffic management system tailored for printing books on demand. The idea is for books to be stored in secure locations on publishers' Internet sites and then travel to automated or manually operated book printing machines located near the customer.

Digital Offset Printing for Covers

Back when the Earth's crust was cooling and I was in high school, Mr. Stennett taught me and six others the classic art of offset printing on an old, green A. B. Dick offset wet ink press. A. B. Dick still makes presses, but has also added lines of high-tech equipment such as the Digital PlateMaster.

Competing digital offset presses also include the Heidelberg Quickmaster DI and the Indigo E-Print 1000+, the latter of which is what I use to print the covers of books produced by my publishing company.

Today, for the first time in history, books can be printed and, more importantly, *bound* without human intervention. In the future, the first person to see an author's labor on paper might be the consumer purchasing the book — not the author, editor, agent, publisher, printer, bookstore clerk, or anyone else traditionally involved in the conventional publishing processes. That future exists today.

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Gary Michael Smith is an author, educator, publisher, and the Director of Production for Patron Saint Productions. This article is excerpted from his book Publishing for Small Press Runs—How to Print and Market from 20 to 200 Copies of Your Book. *See http://www.ChatgrisPress.com for more information.*

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