



Vending Machine Collection Dispensers in Libraries

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Several Australian local governments have expressed interest in using vending machines to extend access to library materials. There has been one successful Australian use of a vending machine, but their cost, usual dependence on RFID technology and the suspicion that the technology could be superseded by eBooks have contributed to a slow take up both here and overseas. Vending machines do have a longer history in Scandinavian and Dutch libraries. The Bokomaten and Mediamaten, developed by Swedish firm Distec, have been used in Stockholm libraries for several years and have inspired the California State Library's GoLibrary Project, funding dispensers in a variety of settings.

While there seems to be potential for serving small communities, this is dependent on access to servicing, both for mechanical and electronic maintenance and restocking. Only the most sophisticated vending machines have capability to manage returns as well as loans, so that most machines provide only a partial library circulation service or have a returns facility adjacent to the lending machine. For these reasons, they do not yet appear to be a cost-effective solution for small remote communities but there are some promising developments which may mean there is potential in the future.

Vending technology has seen more dramatic growth in the retail sector in 24/7 mini bookstores and dvd rental outlets. Changing library customer expectations and lifestyles, public libraries' desire to explore new outreach possibilities and potential reductions in vending machine costs may mean that the potential service benefits of vending machines may outweigh the initial high establishment cost.

This paper will provide an overview of vending machine collection dispensing applications in libraries and related service provision.

Why Vending Machines?

Vending machines offer libraries three opportunities:

1. The provision 24/7 access to collections at minimal staffing costs

Pressure on opening hours due to staffing costs and the time poverty of many library users and non-users makes this an attractive option. It is a particularly valuable service extension when patrons can collect items reserved online so that their access to library collections is no longer restricted by library opening hours.

2. The ability to place a library outlet in high traffic locations

This not only addresses the needs of time poor patrons but is a highly effective outreach and marketing strategy to non-users. Potential sites for free standing kiosk include:

- Airports, rail, bus and ferry stations
- Shopping centres and supermarkets
- Universities
- Hospitals
- Community centres
- Retirement villages
- Cinemas – with movie tie-in opportunities

3. The machines provide for flexibility in locating library services

They can be moved to new locations relatively easily in response to new or newly identified demands or underutilisation. They usually require only, a sheltered location with a power outlet and a dedicated high speed internet connection, although some models can operate off line.

The Vending Machine

Vending machines can perform a variety of functions from a simple dispenser, like a soft drink machine, to a fully interactive service, integrated with the rest of the library service, constituting an abbreviated, unstaffed library branch, like an ATM.



1. A dispenser

This looks and operates like a food or drink dispenser, with library materials on display and access gained using a library card. Selections are made from the visible items. This is a delivery only system without returns or reservations capability. eg. Brodart's Lending Library with a capacity of 180 hardback books, 360 paperbacks or 400 DVDs or CDs. A separate return bin can be co-located with the vending machine to provide a more complete service.

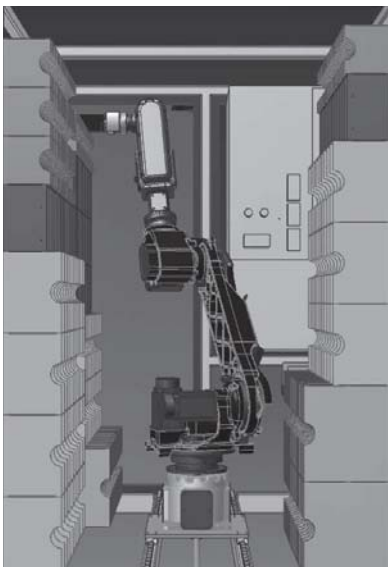
2. Robotic delivery from internal storage

A collection is stored out of sight with access to the collection via a touch screen catalogue. Searches can be narrowed to sub collections, like audio visual materials or children's books. Access requires a library card and retrieval of an item requires verification with the card to provide security in the event of a transaction being interrupted. The robotic delivery of items is reversible permitting returns as well eg. Evanced Solution's Branch Anywhere, with a capacity of 250 – 500 items depending on the collection mix, integrated with the library management system. There are optional expansion bays for additional storage and large LCD screens for digital signage and advertising.

Brodart Books & Automation – Lending library

<http://www.books.brodart.com/Content3.aspx?P=114>

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Evanced Solutions Branch Anywhere Robotics
http://storage.evanced.info/docs/BranchAnywhere_flyer.pdf

3. An automated branch

This machine has visual browsing like a traditional library. The collection is displayed on a conveyor belt. The Shenzhen Library developed the Self Service Library in-house with the Shenzhen Seaveer Intelligent Technology Co. Ltd for \$57,131 and plans to install up to 50 in subways, supermarkets and office blocks, as a cost effective substitute for, rather than an augmentation of traditional branch services. The first model held 400 books.

China View. 8.4.08

http://news.xinhuanet.com/english/2008-04/08/content_7942201.htm



Dispenser Projects

California State Library GoLibrary Project

There are four library vending machines operating in California funded by the California State Library's 2007 Library Services & Technology Act Grant. Contra Costa County (San Francisco) has placed one at a shopping centre and two at a public transport transit stations, servicing a large commuting population in its Library-a-go-go project. The machines are based on the Bokomaten with a 400 item capacity, touch screens, returns capability, robotic retrieval, but no reservation capability.

The collection is self contained, RFID tagged and sponsored by Baker and Taylor. The circulation system is integrated with Contra Costa's library management system. They operate with 25 – 30% of their stock on loan, each machine lending 135 to 234 items per month.

Yuba County Library has tested the concept in a rural context, locating their 24/7 "Go library" in a community centre in Wheatland, a small community previously with access to a mobile library service 3 hours per week. The remote vending machine resulted in increased usage of the county library in Marysville.

Library Journal. 15.8.09



www.libraryjournal.com/article/CA6674915.html

The Peninsula Library System has followed Contra Costa's lead in providing vending services at transport hubs in its Free2Read and Ride project. A vending machine, with 800 book capacity, was opened at the Milbrae BART station in May 2011.

Alameda Free Library - READY to go

This service was launched in June 2010 in the Alameda Point Collaborative Community Centre in San Francisco, with funding from a Housing and Urban Development Community Development Block Grant, administered by the City of Alameda's Economic Development Department. It uses a LibDispenser machine from German RFID firm MK Sorting Systems, carrying 876 library books, CD's and DVD's with the future option to easily expand the system.



MK Sorting Systems Press Release 24.6.10 www.mk-sorting-systems.com/fileadmin/img/sorting/News/mks-libdispenser_Alameda_press_release_2010-06-24.pdf

Tulare County, California

Cutler Lending Library

A Brodart machine, with a 300 book capacity, was adapted to operate without internet access at a total cost of US\$27,000, funded by a USDA Rural Development grant, and serves as a stand alone automated branch located opposite a school, with a shelter and book return. Staff visit regularly to restock and download data. It was so popular during the opening week in October 2010 that it needed daily restocking and has since averaged a circulation of 350 to 750 items per week.

Job in the Box

In May 2011, Tulare County placed two similar vending machines in Employment Connection Centres in Visalia and Dinuba in partnership with the Tulare County Workforce Investment Board. The machines are stocked with materials to assist with job finding and clients can join the library at the centre to use the machines immediately.



Cutler Lending Library <http://gathermodust.blogspot.com/2010/11/cutler-lending-library-unveiled.html>

Newcastle City Library – UK

While the Californian vending initiatives place machines in the community as outreach, the Newcastle library, opened in June 2009, uses a vending machine, placed on the exterior of the building, as a way of providing 24/7 access to collections onsite.

Ottawa - Canada

The Ottawa Public Library piloted vending machines at a community centre with one providing adult and another children's material. Reservations are held at the centre's reception desk. If successful, the Library will expand the kiosk network.

www.krisabel.ctv.ca/post/Ottawas-Public-Library-Vending-Machines-Let-Your-Swipe-Books-With-A-Card.aspx

Planned Kiosk Projects

Toronto Public Library

Toronto Public Library is looking at installing a book vending machine at Canada's busiest train station. The plan is to introduce the automatic kiosk sometime in 2012 at Union Station, which has some 200,000 commuters passing through each weekday.

<http://www.thestar.com/news/gta/article/845357--city-library-considering-book-dispensing-kiosk-at-union-station>

Hills Shire Library Service – Sydney

The Hills Shire Council Library Strategy Beyond 2010, which outlines the development of the library service over 10 years, envisages a tiered service delivery model with smaller service points using vending machines. Projects and promotions officer Erica Wort said dispensing machines, which would have 150 books, have been successful in Europe and the US.

"Members can borrow and return items in much the same way as the DVD dispensing machines, which are becoming increasingly common in shopping centres."

<http://www.hillsnews.com.au/news/local/news/general/hills-libraries-embrace-ebooks/1851571.aspx>

Abu Dhabi

In March 2010 the Abu Dhabi Authority for Culture and Heritage (ADACH) launched Your Future Library, a plan for innovative library services which will include book and audio visual vending machines as the cornerstone of the 24 hours self service library.

http://www.uaeinteract.com/docs/ADACH_introduces_Your_future_Abu_Dhabi_library/39934.htm

Use of Vending Machines in Other Sectors

Book Retailing

Book retailers have been exploring vending machine possibilities for the same reasons as libraries, the ability to place outlets in high traffic areas with minimal staff costs. Novel Vending Australasia announced plans in 2009 to place up to 200 machines in Australian and New Zealand hospitals, airports, hotels and universities within 5 years. The business model involved Novel Vending working with book retailers. The company located machines at 7 UK airports for over 5 years in partnership with Waterstones booksellers. The machines provide information about authors and books via an LCD screen and speaker. Australian online bookseller Booktopia announced plans in August 2009 to work with Novel Vending and Dymocks also expressed interest.

In late 2010, it was reported that the Novel Idea Vending Company went into liquidation.

<http://inkeatsman.wordpress.com/2010/10/17/book-vending-machine-%E2%80%93-the-novel-idea-%E2%80%93-it%E2%80%99s-down-the-shute/>

DVD rental

While it is assumed that movies will eventually be primarily distributed by downloading from the Internet, and subscription services accounted for the greatest share of US dvd rentals in 2010, kiosks accounted for a greater share of the markets than in-store rentals.



Oovie <http://www.oovie.com.au/>

Oovie – has 260 kiosks placed primarily in supermarkets and shopping centres, with a credit card the only requirement to borrow. The company has rented over 2 million DVDs to over 300,000 customers since 2005. The company is part of the Hoyts Group and plans further expansion.

Red Room was established in 2006 and has outlets in cities throughout mainland Australia, except the Northern Territory. They operate with kiosks, similar to Oovie's, while also providing access through stores with memberships. Touchscreens provide browsing by title, genre, actors and popularity. Reviews and previews are also available. Online browsing and reservation is also available

Related developments in improving access to libraries physical collections and services

Print on demand

Described as an "ATM for books" by its US proprietor On Demand Books, Espresso machines have been established in the US, Canada and Australia, and in the Bibliotheca Alexandrina in Egypt. The machine prints and binds books on demand, mostly out of print titles, in five minutes. In April 2009 an Espresso Book Machine was launched at Blackwells bookstore in Charing Cross Road, London. It cost \$175,000, which Blackwell's expected to recoup. <http://www.guardian.co.uk/books/2009/apr/24/espresso-book-machine-launches> **Guardian 21.4.09** The University of Melbourne's Custom Book Centre acquired an Espresso Book Machine in April 2010. Angus and Robertson's plan to install 50 across it's chain of stores failed to eventuate.

Book lockers

In response to library budget cuts in the United States, some libraries are providing for the collection of materials ordered online from book lockers located in public spaces.

"In this suburb of St. Paul, the new library branch has no librarians, no card catalog and no comfortable chairs in which to curl up and read. Instead, the Library Express is a stack of metal lockers outside city hall.

When patrons want a book or DVD, they order it online and pick it up from a digitally locked, glove-compartment-sized cubby a few days later. It's a library as conceived by the Amazon.com generation." (New Library Technologies Dispense With Librarians. Connor Dougherty. Wall Street Journal. 25.10.10)

<http://online.wsj.com/article/SB10001424052702304354104575568592236241242.html>



Matt McLoone for The Wall Street Journal 25.10.10
<http://online.wsj.com/article/SB10001424052702304354104575568592236241242.htm>

Suppliers

ST LogiTrack – Singapore – maker of the Smart Dispenser
<http://www.stlogitrack.com/aboutus.html>

Distec – Sweden – maker of the Bokomaten and Mediamaten <http://www.distec.se/eng.htm>

Evanced Solutions – maker of the Branch Anywhere prototype
<http://evancedsolutions.com/our-solutions/branch-anywhere/>

Libramation – Canadian maker of the Libramate and Book Bank <http://www.libramation.com/>

Brodart's – US maker of the Lending Library
<http://www.books.brodart.com/Content3.aspx?P=114>

MK Sorting Systems – Germany & USA – maker of the LibDispenser <http://www.mk-sorting-systems.com/en/products/libdispenser.html>

Shenzhen Seaever Enterprise Co. Ltd. – Chinese maker of the Self Service Library
<http://www.seaeverit.com/page/SSL-en.html>

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<http://www.libraryjournal.com/article/CA6660907.html>

Need to kill time on the BART? Borrow books in Millbrae. San Francisco Examiner. 4/5/11.

<http://www.sfexaminer.com/local/2011/05/need-kill-time-bart-borrow-books-millbrae>

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1/6/11. <http://gathernodust.blogspot.com/2011/06/job-in-box-unveiled.html>

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<http://www.yuba.org/departments/library/documents/final%20report%20LSTA9.pdf>

Video demonstrations

Bokomaten (Sweden) <http://www.youtube.com/watch?v=g8pl6Nkrvhc>

LibDispenser (Germany) <http://www.mk-sorting-systems.com/en/products/libdispenser.html>

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