



# Memorandum

**Memo Date:** April 7, 2017

**From:** Janet Van De Carr 

**Meeting Type:** Planning & Operations COW (Committee of the Whole)

**Meeting Date:** March 14, 2017

**Action Requested:**  For discussion

**Subject:** RFID and Other Technologies

**Background:**

The Library solicited proposals for a Radio Frequency Identification (RFID) system and received six proposals. A team of staff including me, Angela Berger, Anastasia Daskalos, and Peggy Maiken reviewed the proposals, solicited additional information, scored the proposals and selected two vendors that we recommend inviting to give a presentation to the Board. (*Option A*)

At the March Board meeting Michael Reardon suggested we explore alternatives to the traditional self-checkout stations used in libraries. Mr. Reardon would like the Library to investigate the possibility of installing a system that would allow patrons to check out materials by passing through a gate that would automatically read the patrons' library card and all of the items they are carrying. Mr. Reardon directed me to locate any libraries that are using a pass through type of system, to challenge the six vendors that submitted proposals to see if they offer this technology or if it is in development, and to contact one or two companies that specializes in RFID logistics to see if they would be willing to work with the Library to develop this technology at a reduced fee. Results of our research to date and responses from vendors are attached. (*Option B*)

In preparation for the Committee discussion, staff identified the pros and cons of each option based on our research and knowledge of current RFID technology used in libraries.

**Option A**

Invite two RFID vendors to present their proposal for implementation of an RFID system to the Library Board.

| PROS  | CONS  |
|---|---|
| <ul style="list-style-type: none"> <li>• Vendors are well established in the industry</li> <li>• Proven track record of success providing reliable RFID solutions to libraries</li> <li>• All costs are known</li> <li>• Implementation can begin as soon as contract is signed</li> <li>• Renovation plan incorporates RFID technologies in the design</li> <li>• Vendors comply with industry standards for privacy and security of information</li> <li>• RFID technology with self-checks will reduce patron wait times at the circulation desk and reduce the number of staff needed to check-in and check-out materials.</li> </ul> | <ul style="list-style-type: none"> <li>• Payback for Automated Materials Handling will take multiple years, estimate 5 years</li> </ul> |

### Option B

Continue to investigate pass through technology and how it could be implemented in our Library. Locate a company to develop the technology at a cost that is affordable to the Library.

| PROS  | CONS   |
|---|--|
| <ul style="list-style-type: none"><li>• Pass through technology would allow patrons to exit the Library without stopping at a checkout station or service desk</li><li>• Pass through technology could save patrons a few minutes each time they use the Library.</li><li>• Library could collect data that would tell us who is in the Library, what time they entered and how long they stayed.</li></ul> | <ul style="list-style-type: none"><li>• This technology is not in use in any library in the world, that we can find, including the newest libraries in Europe therefore it would have to be developed for us.</li><li>• Research and development could take several years and be very costly with no guarantee that it would work.</li><li>• Personal data could be used to identify and track Library users.</li><li>• Patrons would have to be trained to carry only one card so that the system would know which card to check out the materials to</li><li>• Library card could not be in a wallet or purse that blocks RFID signals.</li><li>• Items might not all be read, books could be in a back pack with metal on it, or in the bottom basket of a stroller, etc.</li><li>• The read range of the tags would have to be greater than the current industry standard. This could require the development of customized RFID tags and increase costs.</li><li>• Checkout stations at the service desks would need to be designed in such a way as to not read the longer range tags at another station on the same desk to assure that materials were not checked out to the wrong patron.</li><li>• Any time there would be a problem, portal doesn't read the card or some of the materials are not read, or there are fines on the card or the card is expired, the patron would have to return to a service desk for assistance.</li><li>• Portal would have to be wide enough to accommodate large strollers but still pick up all signals.</li><li>• If more than one person was entering or exiting at the same time, the equipment that reads the tags could check out items to the wrong person.</li><li>• It would take time to develop and test a pass through system. In the meantime we would not be able to implement RFID as part of the renovation plan.</li></ul> |

**Recommendation:**

I recommend Option A, to invite Bibilotheca + 3M, and MK Solutions to present their proposals for an RFID system to the Board. Both companies offer solutions that can help us meet our goals to streamline the checkout and check-in process of library materials and control costs. While MK Solutions has no installations in the Midwest that we can visit, they meet our required specifications and scored well.

I attached a spreadsheet showing projected costs for each system as proposed in the RFP. Actual costs will be based on the components and features selected.

If the Board decides to continue investigating Option B, I recommend we hire a consultant to develop a proposal and contact companies that might be open to conducting the research and development needed for Option B. The consultant can 'pitch' the idea of having the company invest in the development costs for this project.

We cannot proceed with implementation of any portion of Option A until a decision is made regarding Option B as this option requires different RFID tags. Tagging the collection is the first step to implementation of a RFID system.

**Budget Implications:**

Action requires expenditure of Funds:  No  Yes

If "yes", cost: \$ to be determined

If "yes", is this a budgeted item:  Yes

**Requested motion:**

None at this time.

**Attachments:**

- RFID Proposals – scorecard and spreadsheet
- Results of investigation of pass through technology – Emailed, dated March 29, 2017
- Comments from vendors regarding pass through technology – Emailed, dated April 5, 2017



# RFID Proposals - Scorecard

| Vendor Name                                    | Bibliotheca | D-Tech/ Murphy | Lyngsoe              | MK         | P.V. Supa  | Techlogic  |
|--|-------------|----------------|----------------------|------------|------------|------------|
| <b>Components</b>                              |             |                | <b>Sorter Only</b>   |            |            |            |
| 1. General                                     | 8           | 8              | NA                   | 8          | 8          | 8          |
| 2. RFID tags                                   | 14          | 14             | NA                   | 14         | 14         | 13         |
| 3. Tagging station                             | 16          | 15             | NA                   | 16         | 16         | 16         |
| 4. Staff Station                               | 17          | 17             | NA                   | 17         | 17         | 12         |
| 5. Materials Return                            | 13          | 13             | 13                   | 13         | 13         | 8          |
| 6. Self-checkout                               | 15          | 10             | NA                   | 15         | 15         | 14         |
| 7. Automated Sorting Equipment                 | 12          | 12             | 12                   | 12         | 12         | 11         |
| 8. Handheld Reader                             | 24          | 24             | NA                   | 24         | 24         | 21         |
| 9. Security gates                              | 19          | 0              | NA                   | 19         | 19         | 13         |
| <b>Total Score Components specified in RFP</b> | <b>138</b>  | <b>113</b>     | <b>15 (AMH Only)</b> | <b>138</b> | <b>138</b> | <b>116</b> |
| <b>Additional Factors</b>                      |             |                |                      |            |            |            |
| <b>Overall Proposal</b>                        | 3           | 0              | 3                    | 3          | 0          | 3          |
| Security gates                                 |             |                |                      |            |            |            |
| Size of Opening                                | 5           | 2              | NA                   | 2          | 3          | 2          |
| Appearance/Design                              | 3           | 0              |                      | 3          | 3          | 3          |
| Self-Checkout Stations                         |             |                |                      |            |            |            |
| Appearance                                     | 5           | 0              | NA                   | 0          | 0          | 5          |
| Enhanced Features                              | 5           | 0              |                      | 3          | 0          | 3          |
| Complete Solution                              | 5           | 0              | NA                   | 5          | 0          | 5          |
| Local Installations                            | 8           | 0              | 10                   | 0          | 2          | 4          |
| <b>Total Score for Additional Factors:</b>     | <b>34</b>   | <b>2</b>       | <b>13</b>            | <b>16</b>  | <b>8</b>   | <b>25</b>  |
| <b>TOTAL SCORE:</b>                            | <b>172</b>  | <b>117</b>     | <b>28 (AMH only)</b> | <b>154</b> | <b>146</b> | <b>141</b> |
| Vendor Name                                    | Bibliotheca | D-Tech/ Murphy | Lyngsoe              | MK         | P.V. Supa  | Techlogic  |

**Components Score**.....One point for each component that met the specifications of the RFP (Request for Proposal)

**Overall Proposal**..... 0 = Incomplete  
 1 = Complete  
 3 = Overall presentation positive/professional

**Security Gates**

Overall opening: ..... 1 = up to 36"  
 2 = 36" to 47"  
 5 = 48" or greater  
 Appearance of gates: ..... 0 = Unattractive  
 3 = Modern/Attractive Design

**Self-Checkout Stations**

Enhanced Features:..... 0 = No  
 3 = Program Information  
 5 = Program & Book Recommendations  
 Appearance: ..... 0 = Unattractive Design  
 5 = Modern/Attractive Design

**Complete Solution**..... 0 = No  
 5 = Vendor Produces all components

**Local Installations** .....Two points per local installation – up to 50 miles of Park Ridge (Max 10 points)



|  | Bibliotheca+3M       | techlogic            | PV Supa              | mk Solutions         | D-Tech               | Lyngsoe Systems     |
|--|----------------------|----------------------|----------------------|----------------------|----------------------|---------------------|
| <b>RFID</b>  |                      |                      |                      |                      |                      |                     |
| <b>Tags</b>  |                      |                      |                      |                      |                      |                     |
| RFID Tags  | \$ 24,480.00         | \$ 26,390.00         | \$ 19,691.00         | \$ 21,367.50         | \$ 34,510.00         | N/A                 |
| Hub Tags   | \$ 2,220.00          | \$ 2,520.00          | \$ 1,764.00          | \$ 2,006.00          | \$ 2,880.00          |                     |
| Full Coverage Tags   | \$ 13,320.00         | \$ 11,760.00         | \$ 10,536.00         | \$ 11,750.00         | \$ 16,560.00         |                     |
| Clear Tags   | \$ 380.00            | \$ 450.00            | \$ 184.50            | not provided         | \$ 360.00            |                     |
| Subtotal   | \$ 40,400.00         | \$ 41,120.00         | \$ 32,175.50         | \$ 35,123.50         | \$ 54,310.00         |                     |
| <b>Security Gates</b>  | \$ 9,200.90          | \$ 5,950.00          | \$ 8,995.00          | \$ 8,500.00          | \$ 8,895.00          |                     |
| <b>Self Check-out Stations</b>   | \$ 35,990.00         | \$ 64,500.00         | \$ 34,975.00         | \$ 15,000.00         | \$ 28,975.00         |                     |
| <b>Credit card terminals</b>   | \$ 4,975.00          |                      | \$ 9,975.00          | \$ 10,800.00         | \$ 19,975.00         |                     |
| <b>Case unlocker</b>   |                      | \$ 5,497.00          | \$ 7,475.00          | \$ 5,750.00          | \$ 2,495.00          |                     |
| <b>Staff Stations</b>  | \$ 3,960.75          | \$ 6,475.00          | \$ 2,995.00          | \$ 3,000.00          | \$ 4,875.00          |                     |
| <b>Inventory tool</b>  | \$ 4,944.00          | \$ 4,995.00          | \$ 4,295.00          | \$ 3,990.00          | \$ 3,995.00          |                     |
| <b>Total RFID</b>  | <b>\$ 99,470.65</b>  | <b>\$ 128,537.00</b> | <b>\$ 100,885.50</b> | <b>\$ 82,163.50</b>  | <b>\$ 123,520.00</b> |                     |
| <b>Automatic Material Handler (AMH)</b>  |                      |                      |                      |                      |                      |                     |
| 5 bin-2patron & 1 staff intake   | \$ 90,961.23         | \$ 199,350.00        | \$ 174,995.00        | \$ 109,425.00        | \$ 97,995.00         | \$ 76,900.00        |
| <b>Installation &amp; Training</b>   |                      | \$ 4,250.00          |                      | \$ 9,800.00          |                      |                     |
| <b>Shipping</b>  |                      | \$ 3,490.00          |                      | \$ 6,000.00          | \$ 5,595.00          | \$ 3,500.00         |
| <b>Total Cost before maintenance</b>   | <b>\$ 190,431.88</b> | <b>\$ 335,627.00</b> | <b>\$ 275,880.50</b> | <b>\$ 207,388.50</b> | <b>\$ 227,110.00</b> | <b>\$ 80,400.00</b> |
| <b>Maintenance</b>   |                      |                      |                      |                      |                      |                     |
| <b>Maintenance-RFID only</b>   |                      |                      |                      |                      |                      |                     |
| If paid up-front- covers 4 yrs after 12 mo. warranty                           | \$ 24,835.98         | \$ 38,468.79         |                      |                      |                      |                     |
| If paid annually with 5 yr agmnt   | \$ 29,218.80         |                      |                      |                      |                      |                     |
| If paid annually with no agmnt   | \$ 30,560.14         | \$ 46,162.55         |                      |                      |                      |                     |
| <b>Maintenance-AMH only</b>  |                      |                      |                      |                      |                      |                     |
| If paid annually-covers 4 yrs after Yr 1 warranty                              | \$ 22,481.86         |                      |                      |                      |                      |                     |
| For 5 years after 12 mo. Warranty  |                      |                      |                      |                      |                      | \$ 37,164.00        |
| If paid up-front-covers 4 yrs after 12 mo. Warranty                            |                      | \$ 30,600.00         |                      |                      |                      |                     |
| If paid annually-covers 4 yrs after 12 mo. warranty                            |                      | \$ 36,720.00         |                      |                      |                      |                     |
| <b>Maintenance-RFID &amp; AMH</b>  |                      |                      |                      |                      |                      |                     |
| For 5 yrs after 12 mo. warranty  |                      |                      | \$ 109,975.00        |                      |                      |                     |
| For 4 yrs after 12 mo. Warranty  |                      |                      |                      |                      | \$ 31,400.00         |                     |
| For 3 yrs after 24 mo. Warranty-<br>depending on level of service<br>agreement |                      |                      |                      | \$12,857 - \$42,852  |                      |                     |



April 5, 2017

Janet Van De Carr, Library Director  
Park Ridge Public Library  
20 S. Prospect Ave.  
Park Ridge, IL 60068

**Re: Radio Frequency Identification (RFID) System for Park Ridge Public Library**

Dear Ms. Van De Carr:

Thank you for your question about RFID-enabled security gates for the purpose of checking out books. As the industry innovator, we strive to provide products to our customers that meet their evolving needs and meet industry standards.

The technology does exist to create an RFID-enabled security gate for the purpose of checking out books. However, bibliotheca does not offer this product at this time for a number of reasons.

The first is that using RFID antennas in this way can lead to partial and inaccurate checkouts. There are too many factors involved in the gate as bookcheck scenario that could render the equipment ineffectual. For example, tags may be accidentally shielded from the gate by metal objects carried through the gate, and RFID-enabled patron cards could also be shielded in this way. This would lead to inaccurate check outs. With this scenario, patrons would not be able to receive a receipt and so would not be able to confirm whether materials are checked out.

As we take the American Library Association's recommendations very seriously, we cannot recommend the use of RFID-enabled patron cards. On the ALA's website you can find best practices that the association endorses.

<http://www.ala.org/advocacy/intfreedom/statementspols/otherpolicies/rfidguidelines>. We respect these guidelines and take them into account when designing our solutions.

In summary, we find the gate bookcheck approach is unreliable at this time. bibliotheca will continue to evaluate the technology required for a gate bookcheck as our RFID technology is constantly improving.

We look forward to building on our partnership with the Park Ridge Public Library for all its current and future RFID needs. We are happy to discuss this further. If you have any questions, please contact me.

Sincerely,



Dustin Lamm, Business Development Manager  
877-207-3127 ext. 154 | [d.lamm@bibliotheca.com](mailto:d.lamm@bibliotheca.com)

You are at: ALA.org » ADVOCACY » Intellectual Freedom: Issues and Resources  
» Intellectual Freedom Statements and Guidelines » RFID in Libraries: Privacy and Confidentiality Guidelines

# RFID in Libraries: Privacy and Confidentiality Guidelines

Radio Frequency Identification (RFID) technology collects, uses, stores, and broadcasts data. Components of RFID systems include tags, tag readers, computer hardware (such as servers and security gates) and RFID-specific software (such as RFID system administration programs, inventory software, etc.).

RFID technology can enable efficient and ergonomic inventory, security, and circulation operations in libraries. Like other technologies that enable self-checkout of library materials, RFID can enhance individual privacy by allowing users to checkout materials without relying on library staff.

Because RFID tags may be read by unauthorized individuals using tag readers, there are concerns that the improper implementation of RFID technology will compromise users' privacy in the library.<sup>1</sup> Researchers have identified serious general concerns about the privacy implications of RFID use, and particular privacy concerns about RFID use in libraries.<sup>2</sup> Libraries implementing RFID should use and configure the technology to maintain the privacy of library users.

The Council of the American Library Association adopted the "Resolution on Radio Frequency Identification (RFID) Technology and Privacy Principles" (Appendix A) and requested the development of guidelines for the implementation of RFID technology in libraries.

## Basic Privacy & Confidentiality Principles

Protecting user privacy and confidentiality has long been an integral part of the intellectual freedom mission of libraries. The right to free inquiry as assured by the First Amendment depends upon the ability to read and access information free from scrutiny by the government or other third parties. In their provision of services to library users, librarians have an ethical obligation, expressed in the ALA Code of Ethics, to preserve users' right to privacy and to prevent any unauthorized use of personally identifiable information. As always, librarians should follow these principles when adopting any new technology.

## Policy Guidelines

When selecting and implementing RFID technology, librarians should:

- Use the RFID selection and procurement process as an opportunity to educate library users about RFID technology and its current and future use in the library and society as a whole. A transparent selection process allows a library to publicize its reasons for wanting to implement an RFID system while listening to its users and giving them a larger voice in the public debate over RFID technology.
- Consider selecting an "opt-in" system that allows library users who wish to use or carry an RFID-enabled borrower card do so while allowing others to choose an alternative method to borrow materials. Because all members who share integrated library systems may not wish to implement an RFID system, this option also may be necessary for library consortia.
- Review and update appropriate privacy policies and procedures to continue protecting users' privacy, in accordance with Article III of the ALA Code of Ethics and [Privacy: An Interpretation of the Library Bill of Rights](#).
- Ensure that institutional privacy policies and practices addressing notice, access, use, disclosure, retention, enforcement, security, and disposal of records are reflected in the configuration of the RFID system. As with any new application of technology, librarians should ensure that RFID policies and procedures explain and clarify how RFID affects users' privacy. The ALA [Library Privacy Toolkit](#) can assist libraries in drafting appropriate privacy policies. There are specific guidelines available for drafting privacy policies, including the [Library Privacy Guidelines for Library Management Systems](#), [Library Privacy Guidelines for Library Websites, OPACs, and Discovery Services](#), and [Library Privacy Guidelines for Data Exchange Between Networked Devices and Services](#).
- Delete personally identifiable information (PII) collected by RFID systems, just as libraries take reasonable steps to remove PII from aggregated, summary data.
- Notify the public about the library's use of RFID technology. Disclose any changes in the library's privacy policies that result from the adoption of an RFID system. Notices can be posted inside the library and in the library's print and online publications.
- Assure that all library staff continue to receive training on privacy issues, especially regarding those issues that arise due to the implementation and use of RFID technology.
- Be prepared to answer users' questions about the impact of RFID technology on their privacy. Either staff at all levels should be trained to address users' concerns, or one person should be designated to address them.

## Best Practices

As with any new application of technology, librarians should strive to develop best practices to protect user privacy and confidentiality. With respect to RFID technology, librarians should:

- Continue their longstanding commitment to securing bibliographic and patron databases from unauthorized access and use.
- Use the most secure connection possible for all communications with the Integrated Library Systems (ILS) to prevent unauthorized monitoring and access to personally identifiable information.
- Protect the data on RFID tags by the most secure means available, including encryption.
- Limit the bibliographic information stored on a tag to a unique identifier for the item (e.g., barcode number, record number, etc.). Use the security bit on the tag if it is applicable to your implementation.
- Block the public from searching the catalog by whatever unique identifier is used on RFID tags to avoid linking a specific item to information about its content.
- Train staff not to release information about an item's unique identifier in response to blind or casual inquiries.
- Store no personally identifiable information on any RFID tag. Limit the information stored on RFID-enabled borrower cards to a unique identifier.
- Label all RFID tag readers clearly so users know they are in use.
- Keep informed about changes in RFID technology, and review policies and procedures in light of new information.

## Talking to Vendors about RFID

When dealing with vendors, librarians should:

- Assure that vendor agreements guarantee library control of all data and records and stipulate how the system will secure all information.
- Investigate closely vendors' assurances of library users' privacy.
- Evaluate vendor agreements in relationship with all library privacy policies and local, state, and federal laws.
- Influence the development of RFID technology by issuing Requests for Proposals requiring the use of security technology that preserves privacy and prevents monitoring.

The Request For Information developed by the [San Francisco Public Library](#) provides a helpful list of sample questions ([Appendix B; PDF](#)) to ask when talking to vendors about privacy and their RFID products.

<sup>1</sup>Lori Bowen Ayre, "Wireless Tracking in the Library: Benefits, Threats, and Responsibilities," *RFID: Applications, Security, and Privacy*, Garfinkle and Rosenberg, eds. (Addison-Wesley, 2006)

<sup>2</sup>David Molnar and David Wagner, Privacy and Security in Library RFID: Issues, Practices, and Architectures, CCS'04, October 25-29, 2004 Washington, D.C.

[Appendix A: Resolution on Radio Frequency Identification \(RFID\) Technology and Privacy Principles](#)

[Appendix B: Security and Privacy Sample Questions \(PDF\)](#)

*Adopted by the Intellectual Freedom Committee, June 27, 2006*

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ALA American Library Association

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**From:** Peter M. Schoen [mailto:pms@lyngsoesystems.com]  
**Sent:** Tuesday, March 28, 2017 2:40 PM  
**To:** Jan Van De Carr <jvandcar@prpl.org>  
**Subject:** FW: Park Ridge Public Library

Hi Jan,

Two things:

First, the library would have to invest in RFID patron cards, for an automatic system like the one suggested for it to operate.

Secondly, got an update from our European manager today and he said that Aarhus is using regular check out kiosks, they may not be visible in the pictures or videos you observed.

Also, he said "the problem with the concept "proposed" is that no vendor will be able to guarantee that the media you register are connected to the right patron card, I looked at it many years ago, as far as I remember actually in a discussion with Knud from Aarhus, it would require a gate/lock like the ones you use when leaving an airport to ensure data integrity. In most European countries it would be directly against the law to detect the patrons ID's automatically when passing a gate."

I just wanted to forward these other items to you.

Best regards,  
peter

Peter M. Schoen  
Senior Account Manager  
Lyngsoe Systems

**From:** Peter M. Schoen  
**Sent:** Monday, March 27, 2017 6:42 PM  
**To:** 'Jan Van De Carr' <jvandcar@prpl.org>  
**Subject:** RE: Park Ridge Public Library

Hi Jan,

Sorry to not get back to you quickly, as I was travelling.

The question is a good one and we, Lyngsoe are not currently doing this in libraries. Our other divisions have track and trace systems in place that automatically monitor locations of luggage, food, parts, and pharmaceuticals. These use a different kind of RFID tag that is active and can be updated, and the tag has a much longer range.

The reason these have not been deployed in libraries is the expense of the tags, and primarily privacy concerns. The scanning devices used (and the tags) are of a different frequency than we use in libraries. This is the same frequency as your new chip credit cards. So, the library scanning system of this type would perhaps pick up your credit card, as well as any other device using this frequency (ie your Apple/Android wallet Ap).

There are systems being deployed (Amazon test store) which are using shelf locations and camera systems to automatically check you out at the grocery. These are still in the beta phase and probably not going to be cheap.

Hope this helps.

Best regards,  
peter

Peter M. Schoen  
Senior Account Manager  
Lyngsoe Systems

**From:** Jan Van De Carr [<mailto:jvandcar@prpl.org>]  
**Sent:** Monday, March 27, 2017 9:53 AM  
**To:** Peter M. Schoen <[pms@lyngsoesystems.com](mailto:pms@lyngsoesystems.com)>  
**Subject:** Park Ridge Public Library

Peter,

One of our library trustees has asked me to contact all of the vendors that submitted proposals for an RFID system for the Park Ridge Public Library to ask if your company is developing technology that would scan patrons as they leave the library and read their library card that was in their wallet or purse and all of the items that they are holding and automatically check them out to the patron.

He wants to avoid the need for checkout stations altogether and believes the technology to do this already exists. I realize your company does not sell checkout stations and RFID tags however, since your headquarters are in Denmark I was wondering if you are aware of any systems like I described in use in Denmark or anywhere else in the world.

Also, can you tell me what kind of system they are using at Dokk1 in Aarhus? I have looked at hundreds of photos of their amazing new library, but I can't find any that show people checking out materials.

Thanks for your assistance,

Jan

**Janet Van De Carr**  
Library Director  
T: (847) 720-3203  
[librarydirector@prpl.org](mailto:librarydirector@prpl.org)



Park Ridge Public Library



*elevating logistics*



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## Jan Van De Carr

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**From:** Emmett Erwin <emmett.erwin@pv-suppa.com>  
**Sent:** Tuesday, March 28, 2017 11:56 AM  
**To:** Jan Van De Carr  
**Subject:** RE: Question from Park Ridge Public Library

Hi,

Not that I am aware of. The technology exists, but because of the aforementioned issues, it has not been used. Other issues that come into the equation are the speed of processing by the ILS and the library network as well as the shielding of the patron RFID card in a purse or wallet. If you are interested we could test this at your library. Let me know.

Emmett

Emmett Erwin  
P.V. Supa, Inc  
Toll Free: 1-866-990-7872  
Cell: 609-470-0496

**From:** Jan Van De Carr [mailto:[jvandcar@prpl.org](mailto:jvandcar@prpl.org)]  
**Sent:** Tuesday, March 28, 2017 12:22 PM  
**To:** Emmett Erwin <emmett.erwin@pv-suppa.com>  
**Subject:** RE: Question from Park Ridge Public Library

Hi,

Thank you for your quick response. Are any of your customers currently using this type of system instead of self-checkout units?

Jan

**Janet Van De Carr**  
Library Director  
T: (847) 720-3203  
[librarydirector@prpl.org](mailto:librarydirector@prpl.org)



**From:** Emmett Erwin [mailto:[emmett.erwin@pv-suppa.com](mailto:emmett.erwin@pv-suppa.com)]  
**Sent:** Tuesday, March 28, 2017 10:55 AM  
**To:** Jan Van De Carr <[jvandcar@prpl.org](mailto:jvandcar@prpl.org)>  
**Subject:** RE: Question from Park Ridge Public Library

Hello,

Regarding the technology that can scan RFID patrons cards, yes we can do that. Our RFID security gate antennas can read RFID patron cards; however some patrons leaving the library with the materials may have fines and fees to pay and/or be over their checkout limit on materials. The normal operation of the system would alarm the security gates in that instance, so they would have to go back to the circ desk to either pay the fines and/or fees or the staff would have to override the system.

Please let me know if you need any additional information on our proposal or on the above procedure.

Best regards,

Emmett Erwin  
P.V. Supa, Inc  
Toll Free: 1-866-990-7872  
Cell: 609-470-0496

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**From:** Jan Van De Carr [<mailto:jvandcar@prpl.org>]  
**Sent:** Tuesday, March 28, 2017 11:29 AM  
**To:** Emmett Erwin <[emmett.erwin@pv-sup.com](mailto:emmett.erwin@pv-sup.com)>  
**Subject:** Question from Park Ridge Public Library

Hello,

Thank you for submitting your proposal for the integration of RFID at our library. Our team is currently reviewing the information and will be discussing this with the Board in April.

One of our library trustees has asked me to contact all of the vendors that submitted proposals to find out if your company is developing technology that would scan patrons as they leave the library and read their library card that is in their wallet or purse and all of the items that they are holding and automatically check them out to the patron.

He doesn't want patrons to have to stop at a self-checkout station and says the technology to do this already exists.

Thanks,

Janet

**Janet Van De Carr**  
Library Director  
T: (847) 720-3203  
[librarydirector@prpl.org](mailto:librarydirector@prpl.org)



## Jan Van De Carr

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**From:** Gary Kirk <gkirk@tech-logic.com>  
**Sent:** Wednesday, April 05, 2017 8:02 AM  
**To:** Jan Van De Carr; Gretchen Freeman  
**Subject:** Re: Question from Park Ridge Public Library

Hi Janet,

Please accept our apology for the delay in responding to the question from your library trustee. Paul is no longer working at Tech Logic and there was a mix up in who would respond to you. That said, we have put together a thoughtful response, authored by Gretchen Freeman, Tech Logic's Principal Librarian and Strategist. Gretchen's experience in RFID implementation and practice spans more than 12 years. If it happened in a library, Gretchen has seen it and resolved it.

So, following is our position regarding the question posed. Please let me know if you have any other questions. It would be an honor to earn your business and I look forward to speaking with you soon.

All the best,

Gary

*Recently Amazon started testing its "Amazon GO" store in Seattle for shopping without checkout so the topic is very timely. The concept of using RFID to borrow library materials without needing the checkout process has been floated since the late 1990's and hasn't been implemented in libraries for a number of reasons.*

- A library wishing to use RFID for patron identification would need to issue new RFID library cards or be able to rely on NFC (near field communication) from cell phones to access patron ID. The Amazon shopping model has the customer scan/tap their cell phone as they enter the store and then tracks/accumulates their purchases on their account as they move throughout the store. Many people are sensitized to what they consider to be surveillance or intrusion of privacy--and even purchase special wallets to block RFID scanning.*
- The RFID tags in standard use for libraries are passive RFID tags--the tags are not emitting a signal except within near proximity of a reader. Unlike the Amazon model, a patron wouldn't be creating a list of items as they pull materials from the shelves. (Intelligent RFID shelves "could" provide this capability if deployed throughout the entire library at considerable expense.) The standard library RFID tags are not large enough or powerful enough for a group of items to be read and checked out while passing through security gates. Security on the tags consists of a single theft bit which when in the ON position is detected and alarms the gates.*
- Library materials are tracked and checked out using an integrated library system (ILS). No title information resides on the RFID tag itself...just an item identifier linked to the database. IF the ILS supports RFID checkout of a group of items simultaneously, it is very unlikely to support the speed required to read and check out a book bag full of materials passing through a set of security gates. And if two patrons exit at the same time, neither the security gates nor the ILS could properly isolate each patron's set of materials.*

*So, for these reasons, Tech Logic is not currently developing a system for checkout-free borrowing of library materials. Patron convenience is currently better served with easy, well-placed self-checkout stations and kiosks or even intelligent RFID shelves that can all take advantage of RFID technology.*

*And incidentally, the Amazon GO store test is on hold for launch due to problems with securing the customer's identification for payment.*

Gretchen L. Freeman, MLS  
Principal Librarian/Strategist

Tech Logic Corporation  
cell: 801-503-7201  
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Gary W Kirk  
President



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TF: 800-494-9330  
[gwkirk@tech-logic.com](mailto:gwkirk@tech-logic.com)  
[www.tech-logic.com](http://www.tech-logic.com)



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**From:** Jan Van De Carr <[jvandcar@prpl.org](mailto:jvandcar@prpl.org)>  
**Date:** Tuesday, March 28, 2017 at 11:19 AM  
**To:** Paul Ridgeway <[PRidgeway@tech-logic.com](mailto:PRidgeway@tech-logic.com)>, Gretchen Freeman <[GFreeman@tech-logic.com](mailto:GFreeman@tech-logic.com)>  
**Subject:** Question from Park Ridge Public Library

Hello,

Thank you for submitting your proposal for the integration of RFID at our library. Our team is currently reviewing the information and will be discussing this with the Board in April.

One of our library trustees has asked me to contact all of the vendors that submitted proposals to find out if your company is developing technology that would scan patrons as they leave the library and read their library card that is in their wallet or purse and all of the items that they are holding and automatically check them out to the patron.

He doesn't want patrons to have to stop at a self-checkout station and says the technology to do this already exists.

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Janet

**Janet Van De Carr**

## Jan Van De Carr

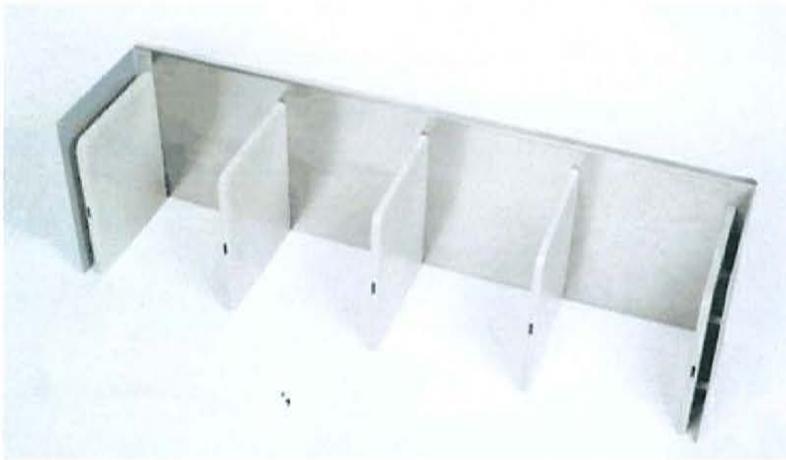
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**From:** Gary Kirk <gkirk@tech-logic.com>  
**Sent:** Wednesday, April 05, 2017 8:56 AM  
**To:** Jan Van De Carr  
**Cc:** Gretchen Freeman  
**Subject:** Re: Question from Park Ridge Public Library

Hi Janet,

Intelligent RFID shelves are shelves in the stacks that are RFID enabled. The idea is that you would convert your existing shelves to RFID antennas. The picture below is an example of what the RFID appliance would look like. Each panel that you see in this picture is an RFID antenna. As you can see, it would take hundreds of these to populate the entire collection, hence Gretchen's comment about considerable expense. These units cost approximately \$5,000 each! There are some very good uses for this technology. For instance, they could be utilized in a smaller display for a "Luck Day" collection. Gretchen has great ideas about this. In smaller libraries that can't consider AMH solutions, this could be a simple way of allowing patrons to return items to a shelf (instead of a book drop) and the item would immediately, automatically be checked in. There are a lot of different ways to configure an "intelligent RFID shelf".

If any of these ideas appeal to you, I would be happy to discuss it further.



Cheers,

Gary

**Gary W Kirk**  
President



**Tech Logic Corporation**

Dir: 651-389-4912 Cell: 404-451-8530

TF: 800-494-9330

## Jan Van De Carr

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**From:** Davis Rachel <Rachel.Davis@mk-solutions.com>  
**Sent:** Wednesday, April 05, 2017 3:45 PM  
**To:** Jan Van De Carr  
**Subject:** RE: Question from Park Ridge Public Library CRM:0043607

**Importance:** High

Ms. Van De Carr,

I apologize, I didn't answer you sooner. Per your question below, the technology basically exists, but based on HF (vs.UFH, Ultra High Frequency known in Retail), the detection ranges are smaller. The detection works, but the reliability of detecting all patron cards and items is the challenge. mk Solutions is known for our innovation and we continue to use our global customers and research and development team for such solutions.

Best Regards

---

Rachel A.G. Davis | Office/Project Manager

mk Solutions, Inc. | 75 Acco Drive, Suite A-3 | York, PA 17402 USA  
T: (860) 760-0438 | M: (717) 434-4933



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**From:** Jan Van De Carr [mailto:jvandcar@prpl.org]  
**Sent:** Tuesday, March 28, 2017 11:22 AM  
**To:** Davis Rachel  
**Subject:** Question from Park Ridge Public Library

Hello,

Thank you for submitting your proposal for the integration of RFID at our library. Our team is currently reviewing the information and will be discussing this with the Board in April.

One of our library trustees has asked me to contact all of the vendors that submitted proposals to find out if your company is developing technology that would scan patrons as they leave the library and read their library card that is in their wallet or purse and all of the items that they are holding and automatically check them out to the patron.

He doesn't want patrons to have to stop at a self-checkout station and says the technology to do this already exists.

Thanks,

Janet

**Janet Van De Carr**

## Jan Van De Carr

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**From:** Jan Van De Carr  
**Sent:** Wednesday, March 29, 2017 4:14 PM  
**To:** 'Michael Reardon'; Stevan Dobrilovic; Judy Rayborn; Karen Bennett-Burkum; Dean Parisi; Charlene Foss-Eggeman; Patrick Lamb; Joseph Egan; Robert Trizna  
**Subject:** RE: Back to the Future

Trustees,

Here is an update on our investigation of alternatives to self-checkout stations as a means of checking out library materials.

- Staff located information on RFID technology that is interesting reading but have not been able to find a library that is using any kind of pass through checkout technology.
- I learned more about the new Amazon Go store in Seattle. They are using visual scanning technology to track customers in the store and identify what they are purchasing. This technology would not work in a library where you have to know exactly what copy of an item a patron is checking out.
- I contacted all the vendors that submitted proposals for RFID to ask if they have this technology ready or in development, I will compile their responses and send them to you when I have all of them.
- I reached out to our IT provider, CVI - a professor at the U of I Graduate School of Library Science and a contributor to Library Journal that writes on a variety of topics to see if there were aware of any libraries using a pass through checkout system. No one is aware of any library using this technology.
- I made a call to Zebra Technologies and spoke to someone on their sales team, when I described what we were looking for he mentioned the old IBM commercial that we all saw on YouTube and I told him that is exactly what we are looking for. He referred me to Bar Codes, Inc. where I spoke to Jeff Ponce in government sales. He thought the technology exists but said the software would be the key piece. He said we would need to install RFID readers in portals that patrons would pass through on their way out. I gave him a few dates for a conference call with Jeff and a software developer to discuss our needs.
- The new library that the library world is talking about is Dokk1 in Aarhus, Denmark, it is the largest library building in Scandinavia at over 300,000 square feet and houses the library and community offices. I attached some links below. One of our RFID proposals for materials handling is from Lyngsoe that is headquartered in Aarhus. I asked our contact how patrons check out their library materials at Dokk1 and he said it is with checkout stations.

It looks like we would be the first library in the world, as best we can tell, if we do this.

Here are links to Dokk1: <http://time.com/4458185/denmark-library-cutting-edge-dokk1/>

You must see their parking garage: <https://www.youtube.com/watch?v=H4jYDfOzriY>

I'll send you more information when I have it.

Jan

Janet Van De Carr

Library Director  
T: (847) 720-3203  
[librarydirector@prpl.org](mailto:librarydirector@prpl.org)



**From:** Michael Reardon [mailto:MFReardon@msn.com]  
**Sent:** Thursday, March 23, 2017 9:18 AM  
**To:** Jan Van De Carr <[jvandcar@prpl.org](mailto:jvandcar@prpl.org)>; Stevan Dobrilovic <[sdobrilovic1@gmail.com](mailto:sdobrilovic1@gmail.com)>; Judy Rayborn <[jorayborn@gmail.com](mailto:jorayborn@gmail.com)>; Karen Bennett-Burkum <[karenbcommunications@gmail.com](mailto:karenbcommunications@gmail.com)>; Dean Parisi <[berardino.parisi@yahoo.com](mailto:berardino.parisi@yahoo.com)>; Charlene Foss-Eggeman <[booklover922004@yahoo.com](mailto:booklover922004@yahoo.com)>; Patrick Lamb <[plamb@crowleylamb.com](mailto:plamb@crowleylamb.com)>; Joseph Egan <[jegan@kenrichgroup.com](mailto:jegan@kenrichgroup.com)>; Robert Trizna <[rtrizna@rsplaw.com](mailto:rtrizna@rsplaw.com)>  
**Subject:** Re: Back to the Future

Thanks for the info. See my comments below in red.

Sent from [Outlook](#)

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**From:** Jan Van De Carr <[jvandcar@prpl.org](mailto:jvandcar@prpl.org)>  
**Sent:** Wednesday, March 22, 2017 5:54 PM  
**To:** Michael Reardon; Michael Reardon; Stevan Dobrilovic; Judy Rayborn; Karen Bennett-Burkum; Dean Parisi; Charlene Foss-Eggeman; Patrick Lamb; Joseph Egan; Robert Trizna  
**Subject:** RE: Back to the Future

Mike,

I have staff looking for information about new ways of "checking out" without having to stop at a desk or station. I have asked them to research any systems in the US and look abroad to see what innovations there might be elsewhere. **Sounds good.**

I will contact all of the vendors that have submitted proposals to find out what they have in development and if they have plans to offer the kind of system we are looking to adopt. **Sounds good.**

Outside the library world there are numerous vendors in logistics, and asset management using both RFID and bar code technology. I think this step should be handled by a consultant with knowledge in these areas. They could learn what our basic needs are and how our systems operate and research the different possibilities. If a system needs to be customized or designed for our application, the consultant could develop the specs so we can obtain proposals. We don't have anyone on staff with the skills needed to do this. **If I were doing this project, I would start by setting up a**

meeting with a manufacturer (or two). The rep should be able to tell you if this something that they can do. Some manufacturers have an consulting group that will engineer the system for you. Perhaps you can pitch the idea that this is a new business area for them and we can serve as the model for all of the other libraries in the nation so maybe we can get a significant discount on the engineering. Joe suggested Zebra Technologies as a place to start. I agree. The decision about hiring a consultant would be made after we have this preliminary info.

In the meantime, this technology will not change the materials return, material handling, or inventory processes so planning for these parts of the project can continue. I would also continue to plan for the self-checkout stations as this is Plan B for the check-out process. We should be able to gather enough info to make a decision about how to proceed before we need to make a commitment on purchasing the self-checkout stations.

I am willing to attend an introductory meeting with manufacturers if you think that it would be helpful. Perhaps Joe, the other engineer trustee, might be available as well.

If possible, we should have some introductory meetings with manufacturers before the next COW so that we can have a productive discussion.

TRUSTEES, DO NOT REPLY ALL. IF YOU HAVE COMMENTS, PLEASE SEND THEM TO JAN FOR CIRCULATION.

Mike

Jan

**Janet Van De Carr**

Library Director  
T: (847) 720-3203

[librarydirector@prpl.org](mailto:librarydirector@prpl.org)



**From:** Michael Reardon [<mailto:MFReardon@msn.com>]

**Sent:** Wednesday, March 22, 2017 10:30 AM

**To:** Jan Van De Carr <[jvandcar@prpl.org](mailto:jvandcar@prpl.org)>; Michael Reardon <[mfreardon@msn.com](mailto:mfreardon@msn.com)>; Stevan Dobrilovic <[sdobrilovic1@gmail.com](mailto:sdobrilovic1@gmail.com)>; Judy Rayborn <[jorayborn@gmail.com](mailto:jorayborn@gmail.com)>; Karen Bennett-Burkum <[karenbcommunications@gmail.com](mailto:karenbcommunications@gmail.com)>; Dean Parisi <[berardino.parisi@yahoo.com](mailto:berardino.parisi@yahoo.com)>; Charlene Foss-Eggeman <[booklover922004@yahoo.com](mailto:booklover922004@yahoo.com)>; Patrick Lamb <[plamb@crowleylamb.com](mailto:plamb@crowleylamb.com)>; Joseph Egan <[jegan@kenrichgroup.com](mailto:jegan@kenrichgroup.com)>; Robert Trizna <[rtrizna@rsplaw.com](mailto:rtrizna@rsplaw.com)>

**Subject:** Re: Back to the Future

Thanks. Please expand the technology research beyond libraries. Perhaps we need to be the first library to adopt this technology. We might be able to get financial assistance with the project if we become the earliest adopter.

Sent from [Outlook](#)

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**From:** Jan Van De Carr <[jvandcar@prpl.org](mailto:jvandcar@prpl.org)>

**Sent:** Wednesday, March 22, 2017 9:44 AM

**To:** Michael Reardon

**Subject:** RE: Back to the Future

Mike,

I got the message with the commercial too, it looks like exactly what you are talking about and it would be awesome.

We will do some research to see if this technology exists in libraries anywhere in the world, Europe is often ahead of the US in deploying some new technologies.

It is interesting to note that the commercial was filmed in 2006 but we are just now seeing a practical application with the Amazon Go stores as the first of its kind in the US.

Jan

**Janet Van De Carr**

Library Director  
T: (847) 720-3203

[librarydirector@prpl.org](mailto:librarydirector@prpl.org)



**From:** Michael Reardon [<mailto:MFReardon@msn.com>]  
**Sent:** Wednesday, March 22, 2017 9:20 AM  
**To:** Jan Van De Carr <[jvandcar@prpl.org](mailto:jvandcar@prpl.org)>; Joseph Egan <[jegan@kenrichgroup.com](mailto:jegan@kenrichgroup.com)>; Robert Trizna <[rtrizna@rsplaw.com](mailto:rtrizna@rsplaw.com)>; Patrick Lamb <[plamb@crowleylamb.com](mailto:plamb@crowleylamb.com)>; Judy Rayborn <[jorayborn@gmail.com](mailto:jorayborn@gmail.com)>; Dean Parisi <[berardino.parisi@yahoo.com](mailto:berardino.parisi@yahoo.com)>; Karen Bennett-Burkum <[karenbcommunications@gmail.com](mailto:karenbcommunications@gmail.com)>; Charlene Foss-Eggeman <[booklover922004@yahoo.com](mailto:booklover922004@yahoo.com)>; Stevan Dobrilovic <[sdobrilovic1@gmail.com](mailto:sdobrilovic1@gmail.com)>  
**Subject:** Fw: Back to the Future

Jan,

As you can see, I was sent this video from our new liaison to City Council. It was uploaded to Youtube in 2006 so this technology is not state-of-the-art.

I'd like to understand if it is currently possible to achieve the goal of checking out at the exit without a patron removing materials and his/her library card from his/her purse, bag, briefcase, etc. If it is possible, what is the cost vs. the currently proposed system?

To get this information, please tell the RFID equipment vendors that we'd like to get as close to this vision as possible and ask how they can achieve our goal. In addition, please have someone research other vendors that may be able to realize this goal even if they do not currently sell equipment to libraries and get their information/proposals.

Please call me if you need clarification on the goals of this activity.

Thanks,

Mike

Sent from [Outlook](#)

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**From:** Melidosian, Charles <[cmelidosian@alliantcreditunion.com](mailto:cmelidosian@alliantcreditunion.com)>  
**Sent:** Tuesday, March 21, 2017 9:22 PM  
**To:** Michael Reardon; Robert Trizna  
**Subject:** Back to the Future

Listening to Mike's RFID vision tonight for the library reminded me of this old IBM RFID commercial.

<https://m.youtube.com/watch?v=eob532iEpqk>

Sent from my iPhone

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