



# The Power and Pitfalls of RFID



# Meeting with you today

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Started at ITG in August 2008

25 years of experience in libraries, including spells as director in public libraries in IL and WI.

Represent 9 Midwestern states.

Have faith in libraries as bulwark of democracy, and I'm not afraid to say so



# Who are you?

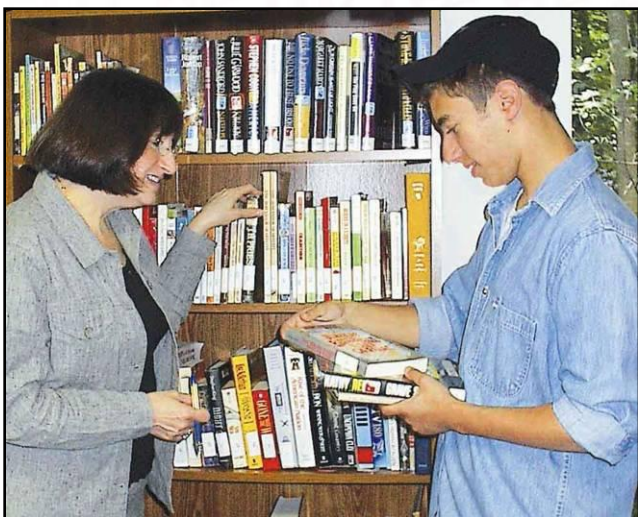
A growing consortium of 90 public, school and institutional libraries located throughout Indiana that use the Evergreen ILS

Catalog of over 3.5 million titles and 5 million items

Serves over 795,000 residents

Indiana public libraries circulated 78,211,299 items in 2008!!!

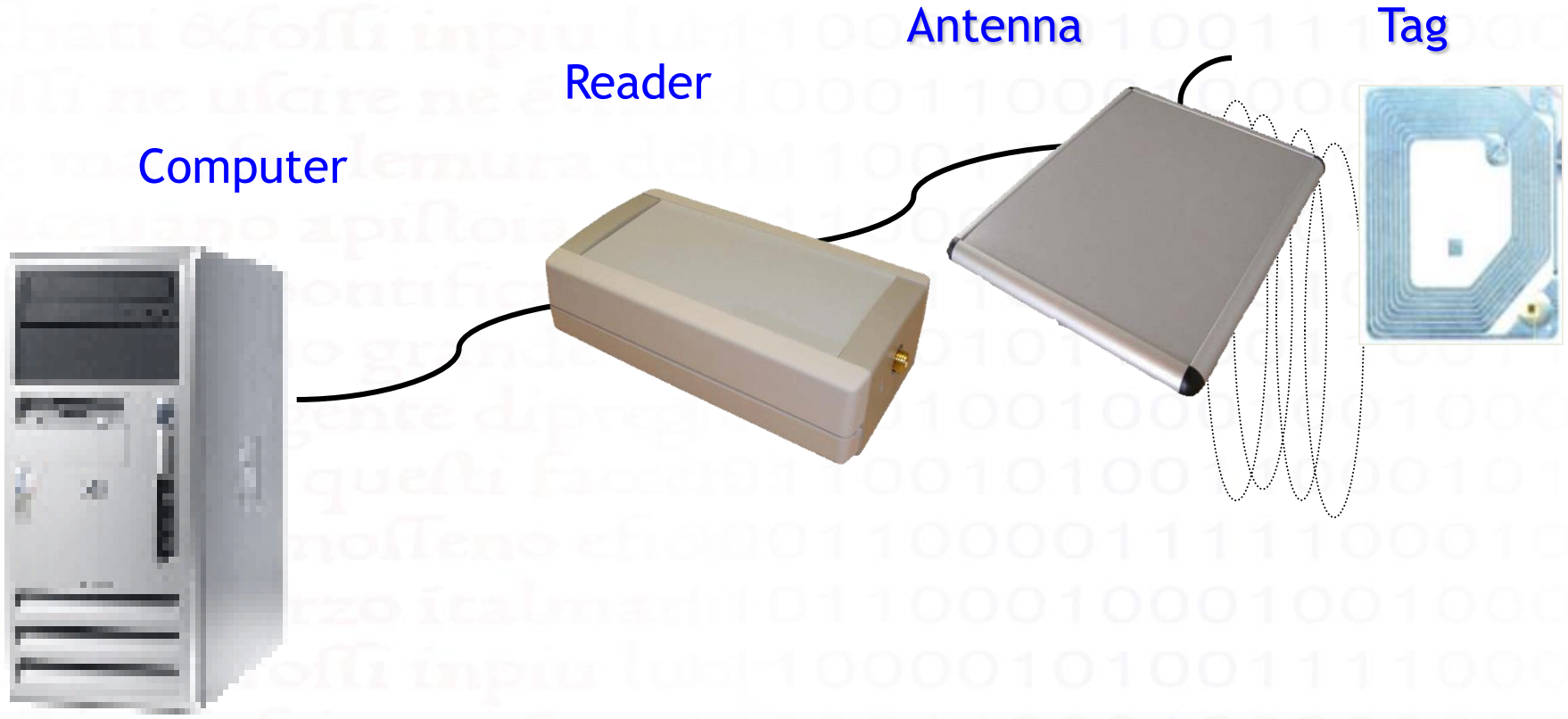
# THE POWER OF RFID: OPERATIONAL BENEFITS of RFID



- ✓ Superior customer service and self-service
- ✓ Efficient utilization of limited resources
- ✓ Safer, more satisfying staff work environment
- ✓ Improved materials management, organization and security



# HOW DOES RFID WORK?



# TECHNOLOGICAL ADVANTAGES OF RFID

- ✓ More than one item can be read at a time, even while in motion, thereby expediting circulation processes.
- ✓ No line-of-sight or special orientation is required to read RFID tags.
- ✓ Material identification and security are combined into a single tag.
- ✓ Other data may be programmed into the tag such as item type, multi-part set information, and branch ownership.
- ✓ Tags may be placed directly on any type of media, including CDs and DVDs.

# POWER OF RFID-ENABLED SELF-CHECKOUT



- ✓ All benefits of self-service - convenience, privacy, efficiency, maximized
- ✓ Higher circulation through self service
- ✓ Ease of use
  - No search for bar code
  - No special item orientation required for deactivation of security





# POWER OF RFID-ENABLED SELF-CHECKOUT


- ✓ Faster than older technology with support for stack processing
- ✓ Modern and current technology
- ✓ Fun

Checkout information for this stack is shown below.

Take any items with 'BLOCKED' status (red) to the staff.

Press Continue to checkout more items or FINISH to end.

32010440043629	So why aren't you perfect yet	CHECKED OUT.
32010440041730	The Garfield Fun Book	CHECKED OUT.
32010440040203	BABAR the KING!	CHECKED OUT.
39304003070670	Love Hunger (Blue Hardback)	BLOCKED!
32010440041854	Love Life	CHECKED OUT.



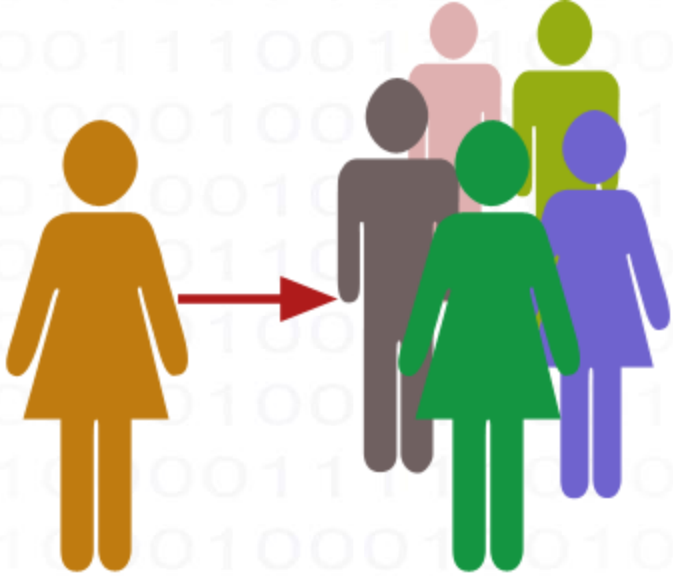
Finish

Continue

View All Items



# SELF SERVICE HAS A POWER ALL ITS OWN



# Power of Staff Circulation

## Speed and Ergonomics



- ✓ Supports stack processing
- ✓ No search for barcodes and doesn't require line of sight scanning
- ✓ Security bit is integrated in process



# POWER OF RFID-BASED SECURITY

- ✓ Integration of security and circulation components
- ✓ Specific item identification
  - Real time alert
  - Batch reporting





ITG ExitWatch - Pedestals Recent Activity View

Pedestals	Item ID	Title	Time of Alarm
FrontGates1	32004000018832	*CHECKED OUT(99)* Dolly	16:17:47 11/01/2010
FrontGates1	34158020177529	Rich Dad's Prophecy	16:17:47 11/01/2010
FrontGates1	37704000360150	Santa'a Slay	16:17:47 11/01/2010
FrontGates1	32004000012611	Supernova/Final Days	16:17:48 11/01/2010

Clear Grid    Close Window    Clear and Close    Exit Application

# POWER OF RFID-ENABLED BOOK RETURN

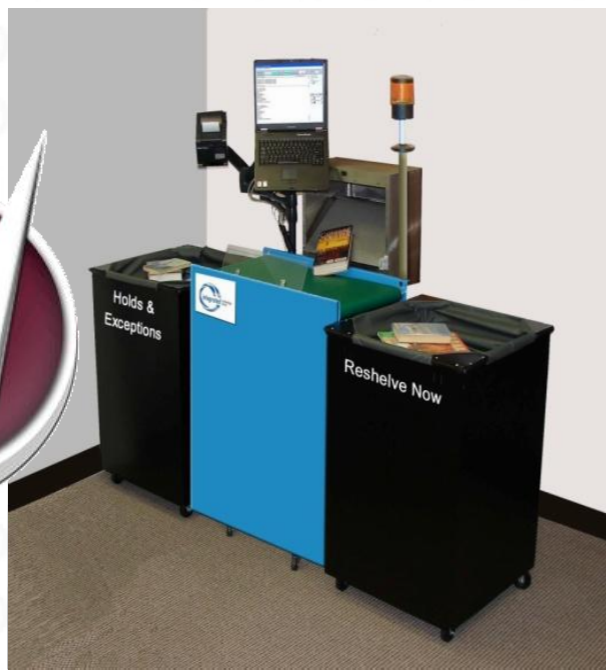
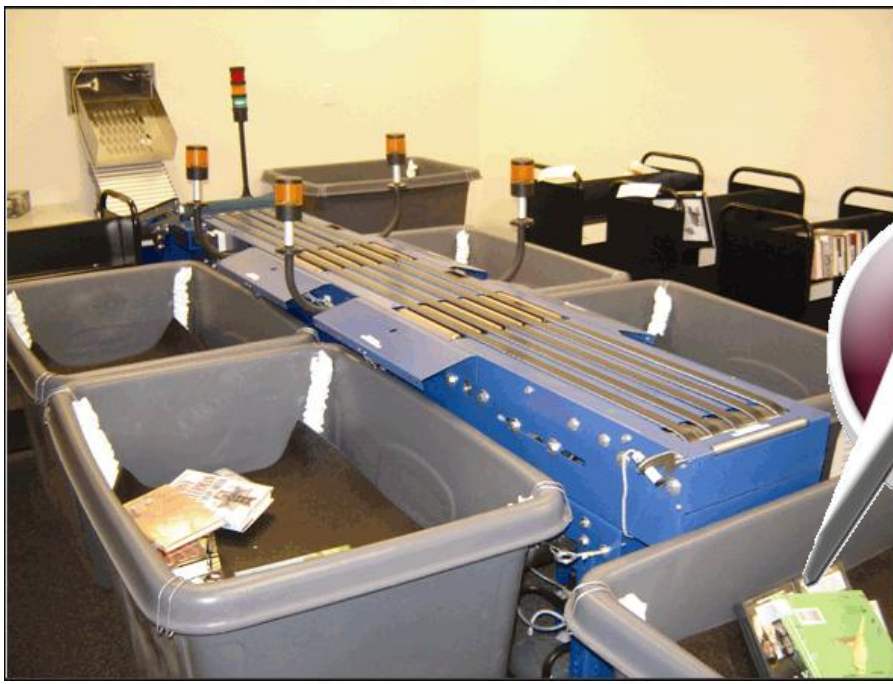


- ✓ Real time update of item and patron record
- ✓ No change in patron behavior - insert items in any orientation, as many at a time as they want
- ✓ Speed





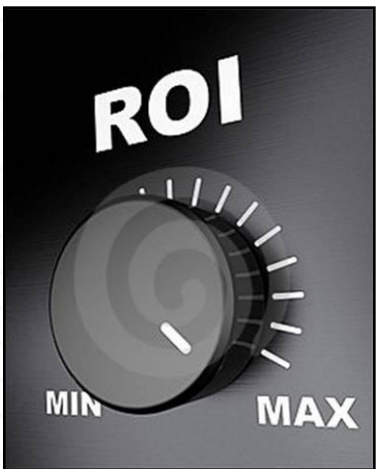
# POWER OF RFID-ENABLED AMH SYSTEM





# HIGHEST RETURN ON INVESTMENT

- ✓ For libraries with high circulation numbers, the investment in RFID may be returned in its entirety by an automated materials handling system
- ✓ Everything else - easier, faster, and more ergonomic staff work, patron self checkout, collection security and management become icing (albeit very sweet icing) on the cake



- ✓ Separates holds
- ✓ Consistent reactivation of security
- ✓ Separates items that belong to other branches of the library system or consortia







- ✓ Separates items that can be identified from those that can't:
  - ✓ missing barcode/RFID tag
  - ✓ tag that can't be read or recognized
- ✓ Separates items that have missing parts or that don't match their cases

# POWER OF RFID-BASED SHELF READING



- ✓ Speed
- ✓ Ergonomics
- ✓ Ability to search

# PITFALLS OF RFID FALL INTO 2 CATEGORIES

- ✓ Political/Sociological
- ✓ Technological/Operational





# POLITICAL: PATRONS, STAFF & COMMUNITY

- ✓ Privacy
- ✓ Personal Service



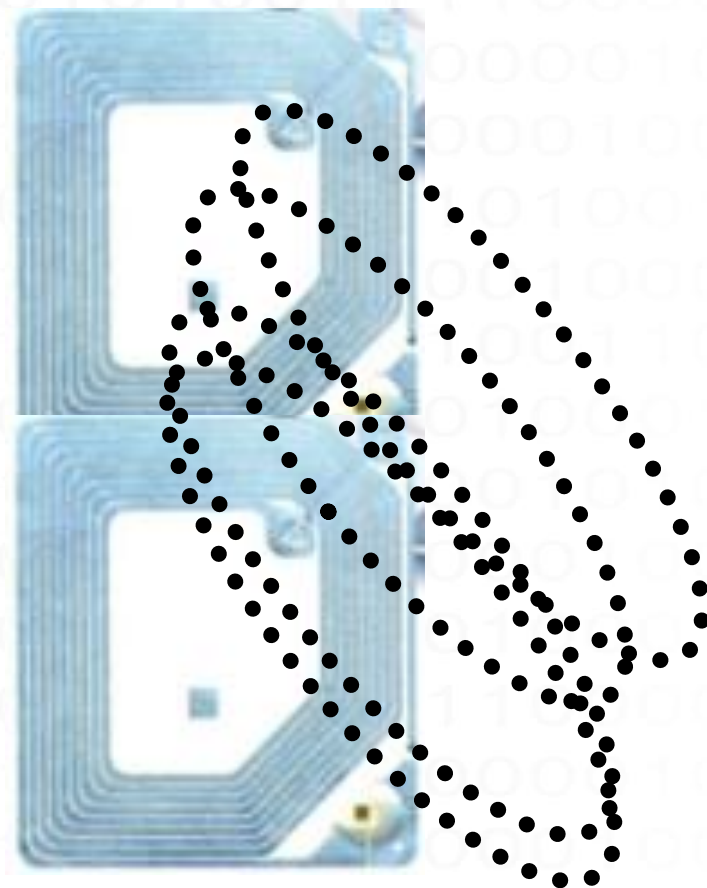


# SOCIOLOGICAL: TECHNOLOGY/HUMAN INTERFACE



# TECHNOLOGICAL/OPERATIONAL PITFALLS

- ✓ Reader bleed
- ✓ Tag collision
- ✓ Allergy to metal
- ✓ Damaged or missing tags
- ✓ Interoperability



# PITFALLS OF RFID-BASED SECURITY

- ✓ Some tags will not be detected as a result of tag collision, allergy to metal and shielding.
- ✓ Special problems with AV materials



# PITFALLS OF RFID-ENABLED SELF-CHECKOUT



- ✓ What to do if not all tags are detected or read?
- ✓ Should checkout be blocked if all parts of a multi-part set are not detected?



- ✓ How do you handle confusion of patrons that can result from different experiences with other self-checkout applications?
- ✓ How can the library allow self-checkout and provide security for AV materials at the same time?
- ✓ How does the library handle staff concerns about job security?

# PITFALLS OF STAFF CIRCULATION



- ✓ Reader bleed
- ✓ Resistance of staff to new technology and new procedures
- ✓ Differing technical skills of circulation staff

# PITFALLS OF RFID-ENABLED BOOK RETURN

- ✓ Failure to read all tags
- ✓ Inconsistent reactivation of security
- ✓ Exceptions not separated



# PITFALLS OF RFID-ENABLED AMH SYSTEM

- ✓ Singulation



# Patron's Experience at Returns Changes



- ✓ Change required in patron behavior
- ✓ Patron is doing own check-in. Adds to time to return items
- ✓ Additional complexity that could prevent patron from returning items
- ✓ Cost of the hardware and software

# PITFALLS OF RFID-BASED SHELF READING



- ✓ Batch process
- ✓ Temptation to use technology for technology's sake)
- ✓ Accuracy is required

# The Elusive “Data Model” Standard

ISO 28560 is under revision. What to do in the meantime?

- ✓ Understand that tags and hardware are effectively standardized
- ✓ Make sure that your RFID vendor makes its model publicly available
- ✓ Get guaranty from RFID vendor that it can read multiple data formats simultaneously
- ✓ Find out what experience your RFID vendor has reading different tag data formats



# MOST IMPORTANTLY



While the ability to rewrite tag formats is potentially valuable, it is most important that the RFID system be able to read multiple data formats simultaneously so that no reprogramming of tags is required.





# Who We Are



Bibliotheca ITG is the premier developer and supplier of flow management technology solutions for library materials in the U.S., Canada, and South America.

Additional Thoughts or Questions?

<http://blog.evergreen.lib.in.us/>

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