RFID at HKU Libraries:

Phase 2 Implementation

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Background

- Implemented RFID at the Main Library of the University of Hong Kong Libraries in 2008

- 1.3 million books tagged in 6 months

- 5 self-check machines plus counter stations since Dec 2008

- Took inventory of Main Library collections in 2009

- Decided in 2010 to extend the use of RFID in the branch libraries and audiovisual materials
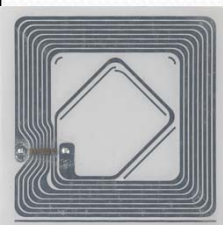
Phase 2 Goals

- Reduce manpower requirement in counters by increasing rates of check-in and checkout
- Help staff maximize their productivity by reducing the amount of time spent in routine tasks
- Improve service quality and workplace ergonomics
- Enhance library security
- Interface with the existing RFID system used by the Main Library

Implementation

- Awarded the contract to 3M Hong Kong Limited in Dec 2010

- Set up a 5-member tagging team with existing staff

- Tagging of branch library books started in Feb 2011

- 360,000 volumes tagged in 74 working days

- Some 1,000 items tagged per day per staff

- Official launch held in the Medical Library in Oct 2011

Our First Users

Key Issues

- Integrating the Main Library and branch libraries / audiovisual materials RFID systems
- Tagging audio-visual materials
- Privacy in entering PIN
- Increasing patron self check-in and check-out activities

1. New System: Old System

- The new system can read the 1.3 million books tagged in 2008

- No need to re-tag the Main Library books

- A good case for RFID interoperability

- Acquire hardware from the new vendor when equipment acquired in 2008 breaks down

2. Audiovisual Materials

- A variety of formats – the most popular ones being CDs/DVDs and videocassettes

- Metallic surface of CDs/DVDs reflects and detunes RF energy → interference → decrease read rates

- Multi-disc CD/DVD sets pose further challenges in (a) manual handling in re-packaging them in 2 or 3 cases (b) exact alignment of tags

Stack Test

- Avoid re-packaging multi-disc sets – additional costs and upsetting our loan policy
- Exploit the capabilities of the tags: CD8 (aka donut) and Stingray full disc tag
- Read capability – stack test

	2 tags	3 tags	4 tags	5 tags	6 tags	7 tags	8+ tags
Donut	Yes (1s)	No	No	No	No	No	No
Stingray	Yes (1s)	Yes (1s)	Yes (2-3s)	Yes (2-3s)	Yes (3-4s)	Yes (3-4s)	No

Our Choice

No. of Discs	RFID Tag	Case	Cost
1	Donut	Original	Material + Labour
2	Donut	Original	Material + Labour
3	Stingray	Original	Material + Labour
4	Stingray	Original	Material + Labour
5	Stingray	Original	Material + Labour
6	Stingray	Original	Material + Labour
7	Stingray	Original	Material + Labour
8 and more	Re-packaging; donut / Stingray	CD Jewel Case	Additional Re-packaging Cost

Note: use Stingray tags for CDs produced by labels, such as Archik, Decca and Deutsche Grammophon.

3. Privacy in Entering PIN

- We require users to authenticate with their PIN
- Touch screen of the self-check machine poses a potential threat to disclosing of personal information in public
- A number of options: from no PIN to using other personal information to replace PIN
- Provide a mini keyboard for inputting PIN

4. Increase Self-check Usage

- 10 user-friendly self-check machines (5 units for the Main Library, one each for the 5 branches)
- Publicity and promotion
- Locate self-check machines next to the counter / adjacent to the collections
- Consolidate circulation counters, Main Library
- Self-collection of requested books, Main Library

Gains

- Converted part the Main Library counter area into a staff office to improve staff working environment

- Re-deploy counter staff to work at LEVEL 3, our new Learning Commons facilities

- Gain a lot of experiences on RFID technology over the past few years

- And …

RFID Award

Silver Award of the Best EPC/RFID Implementation, 2011 Hong Kong RFID Awards

Pains – over the past years every time we made payment authorization …

Thank you!