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Tagging One Million Volumes in a 2.0 Environment: Lessons and Experiences of Implementing RFID Technology at the Main Library, The University of Hong Kong

Ruth Wong & Y.C. Wan
The University of Hong Kong Libraries

HKUL 50th Anniversary Conference, Hong Kong Central Library, November 4, 2008
This Presentation

• Focus on the tagging exercise – how we planned and managed the project.
• The exercise is now 99% complete. This has enabled us to update information we provided in our paper one month ago.
Agenda

• Overview of the HKU Main Library RFID project
• Scope of the tagging project
• Preparation work before starting to tag
• The tagging exercise
• Lessons and experiences
• Q & A
RFID Project Overview

- A HKUL Working Group recommended to the Library Senior Management to adopt RFID technology in library operations in 2004.
- The Senior Management decided to proceed with the tendering exercise in 2006.
- The first product demonstration was held in November 2006.
• It was decided to awarded the contract to ETI Consulting Limited (ETIC) in late 2007
• The library implementation team comprises Peter Sidorko (chair), Y.C. Wan, David Palmer, Thomas Hung and Ruth Wong
• Tagging exercise – an Access Services Department project
Tagging Project Scope

- Main Library open stack books and bound journals
- Fung Ping Shan Library open stack books and bound journals
- > 1 million volumes, or some 80% of the open stack collection of the entire library system
Not Included

- AV & Reserve Collection
- Special Collections
- Current periodical issues
Limitations

• Space – the Main Library was full before the project started
• Time – changing over to RFID before 9/2008
• Staff – very busy, cannot afford to deploy existing staff to do the tagging
• Vendor – limited knowledge about how the Main Library works
• Workflow – mobile tagging was not possible
• RFID is new to everyone in the library
Preparations

• Ease of space
• Purchase of tags
• Determine what data will be stored in the tag
• Test of tagging workflow
• Devise tagging software incorporating the chosen workflow
Ease of space

- less used materials moved to remote store
- vigorous criteria used
- 63,000 volumes relegated in two months
- done by three temporary contract staff
Purchase of tags

• Based on existing size of collection of the Main Library and projected growth of newly purchased materials

1.3 million RFID tags of high frequency is purchased
Data stored in the RFID tag

- Privacy issue
  Ownership & Primary Item ID (barcode) only
Test of tagging workflow

Start

Remove books from shelves

Transfer to work area

Tagging & validation

A

End

Re-shelve books

Estimated 180 items (a trolley) / 5 min

Transportation time 2-3 min / trolley

45 seconds per item (data from ETIC)

Remove & re-shelve = 3.4 sec / item
Transportation to/from = 2 sec / item
Tagging = 45 sec / item
Total time = 50.4 sec / item
Location of workstations

Workstation 1

Workstation 2
Test of tagging workflow

Start

- Remove books from shelves
- Transfer to work area
- Tagging & validation

A

End

- Re-shelve books
- Transfer to shelves

Estimated 180 items (a trolley) / 5 min
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Remove & re-shelve = 3.4 sec / item
Transportation to/from = 2 sec / item
Tagging = 45 sec / item
Total time = 50.4 sec / item
Devise tagging software incorporating the chosen workflow

• Original procedures
  Write
    o Scan barcode
    o Retrieve item details
    o Write barcode to RFID tag
  Validate
    - Scan barcode
    o Retrieve item details
    o Check details from screen against details on physical items
    o Press enter to lock data
Devise tagging software incorporating the chosen workflow

• Revised procedures
  Write, check and validate data in one step
  o Scan barcode
  o Retrieve item details
  o Check details from screen against details on physical items; and

Press enter to lock data

9.2 seconds per item are saved
Tagging resources
Equipment & furniture

• Conversion workstations
  o 1 PC with LCD monitor,
  o 1 RFID antenna,
  o 1 RFID reader,
  o 1 barcode scanner and
  o 1 RFID tag dispenser

• Trolleys
• Desks, chairs and partitions
Tagging resources
Equipment & furniture
Tagging resources

Temporary staff

- **Supervisors x 3**
  - Relieve workload from regular library staff from circulation
  - Relegate less used books from the Main Library to remote storage to prevent from frequent shifting of books
  - Solve simple problems on the spot
  - Provide day to day supervisions to tagging helpers
Supervisors

- One is a retired staff who had been working for the Main Library for more than 30 years.

- Two had been participated in relegation and LC re-labeling projects.
Supervisors

- **Started one month before the tagging helpers**
  - To familiarize themselves with the tagging workflow and;
  - To help relegate less used materials to a remote store
Supervisors

• **Briefing on standardizing supervisory patterns**
  All three understand that they have to

  - Ensure all helpers followed uniform procedures;
  - Ensure tagged items are re-shelved within 3 hours;
  - Ensure no untagged books were left on trolleys overnight;
Supervisors

• Briefing on standardizing supervisory patterns
  o Ensure a constant productivity of tagged items;
  o Ensure sufficient manpower on all floors even if some helpers are sick or on leaves;
  o Ensure simple problems were solved immediately;
Supervisors

• Briefing on standardizing supervisory patterns
  o Ensure complicated problems were reported to the Access Services Department;
  o Keep daily statistics on outputs and used RFID tags.
Tagging resources

• Temporary staff
• Tagging helpers x 22

- Shelving and tagging
• Most of them are students from universities, community colleges or secondary schools.
Measures to enhance productivity

- Shelves are sequentially numbered
Measures to enhance productivity

• Trolleys are marked “start” and “end” and a co-ordinate chart in the front
Measures to enhance productivity

• Helpers marked an arrow on the exact place on shelf where the last book on the trolley was located
Measures to enhance productivity

- Take and tag one book at a time
Measures to enhance productivity

• Verify the call number only
Measures to enhance productivity

- Marked boxes for problematic books
Measures to enhance productivity

• Documentations of tagging procedures and self-devised tools are given
Tagging exercise kick-off

- 2 May 2008
- 22 helpers reported for duty in two batches
Tagging exercise kick-off

• All staff received half day briefing & training on
  - Project missions and expectations;
  - Tag’s positions, tagging procedures and shelving safety.
Projected vs. actual productivities

- Projected productivity: 700 items per day
- Actual productivity: 650 - 1000 items per day
Problems encountered

- Faulty registration
- Faulty tag
Problems encounters

• Books in different orientations
Problems encountered

- Books with illustrations at the back cover
Problems encountered

- Books with metal covers / are in ring binders
Problems encountered

- Network problem
  - Slooooooooow
  - Innopac upgrade
At Last – 28/8/2008

• 800,000 items were tagged
• RFID circulation service was launched
Lessons & experiences

• Planning and preparations is important
• Right time & right support
• Roles of supervisors
• Temp staff?
• Communications
• Just do it!
Thank you
Q & A