Millennium and RFID: Item Status API

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The Background Story

- HKDI & IVE-LWL Learning Resources Center (Library Service) was relocated from former IVE-LWL Library at Kowloon Tong (behind HKBU) in Summer 2010.

- HKDI Library service started on September 6th, 2010.

- After months of operation, we found HKDI Library became the busiest Library among all VTC Libraries with a remarkable margin.
The Background Story

Circulation Checkout Figures for March 2012
The Background Story

RFID Project Timeline

- RFID Project initiated in May 2011
- The budget was confirmed and we started tendering in October 2011
- The tender completed in late January 2012
- Project completed on March 31, 2012
- Officially switched over to RFID on April 2, 2012
Benefits of RFID

- Able to process multiple items at a time
- Able to check and verify multiple items set
- Combined barcode scanner and sensitizer/desensitizer into one device
RFID vs Millennium

- Millennium wasn’t designed to process multiple items simultaneously.
- Required frequent communication between the Millennium and RFID pad.
RFID User Experience # 1

- Mainly based on SIP2 Technology.
- Works but with disadvantages:
  - SIP2 cannot handle advanced circulation functions
  - Costly. Each SIP2 workstation is expensive plus additional SIP2 license charged by III.
RFID User Experience # 2

1. Touchpoint: RFID

2. Process:
   - Sensitize
   - Checkin
   - Checkout
   - Desensitize

3. Example: Library system with RFID technology
RFID User Experience # 2

- Using intermediate program to pass barcode(s) to Millennium

- Working but with disadvantages:
  - Since Millennium will not talk back to the RFID Pad, operators will easily find mismatch on sensitization/desensitization processes and actual circulation transaction
  - Circulation process interrupted when problems encountered.
3 items sensitized before Millennium process them
RFID User Experience #2

3 items sensitized but only 1 item was checked in.
RFID User Experience # 2

3 items desensitized but only 1 item was checked out
1 item was desensitized but nothing processed in Millennium
HKDI Model: Item Status API

- RFID
- Sensitize
- Desensitize
- Checkout
- Checkin
HKDI Model: Item Status API
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### Circulation Desk

#### Key or Scan Item or Patron Barcode

<table>
<thead>
<tr>
<th>Barcode</th>
<th>Title</th>
<th>Due Date</th>
<th>Desensitized</th>
</tr>
</thead>
<tbody>
<tr>
<td>511108000000043</td>
<td>1,000x1000</td>
<td>07 Jun 2012</td>
<td>Manual</td>
</tr>
</tbody>
</table>

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**Check Out**

- Barcode
- Title
- Due Date
- Desensitized
HKDI Model: Item Status API
HKDI Model: Item Status API

- Works better with Millennium
  - Millennium could instruct RFID Pad to hold off rest of the barcodes, when problem appeared and waiting to be cleared
  - Millennium could feedback to RFID Pad to sensitize/desensitize items that had successfully checked in/out.
  - RFID Pad will feedback to Millennium whether items had been successfully sensitized/desensitized.

- Don’t need to pay for expensive SIP2 stations and licenses

- Don’t need to switch workstations for advanced Circulation functions
HKDI Model: Item Status API

- We didn’t find major problem yet.
- Items had been sensitized/desensitized accurately.
- Disadvantages:
  - Item Status API is not free.
  - Only works on Circulation transactions.
  - The RFID Pad needs to be compatible with Item Status API
Thank You