

Millennium and RFID : Item Status API

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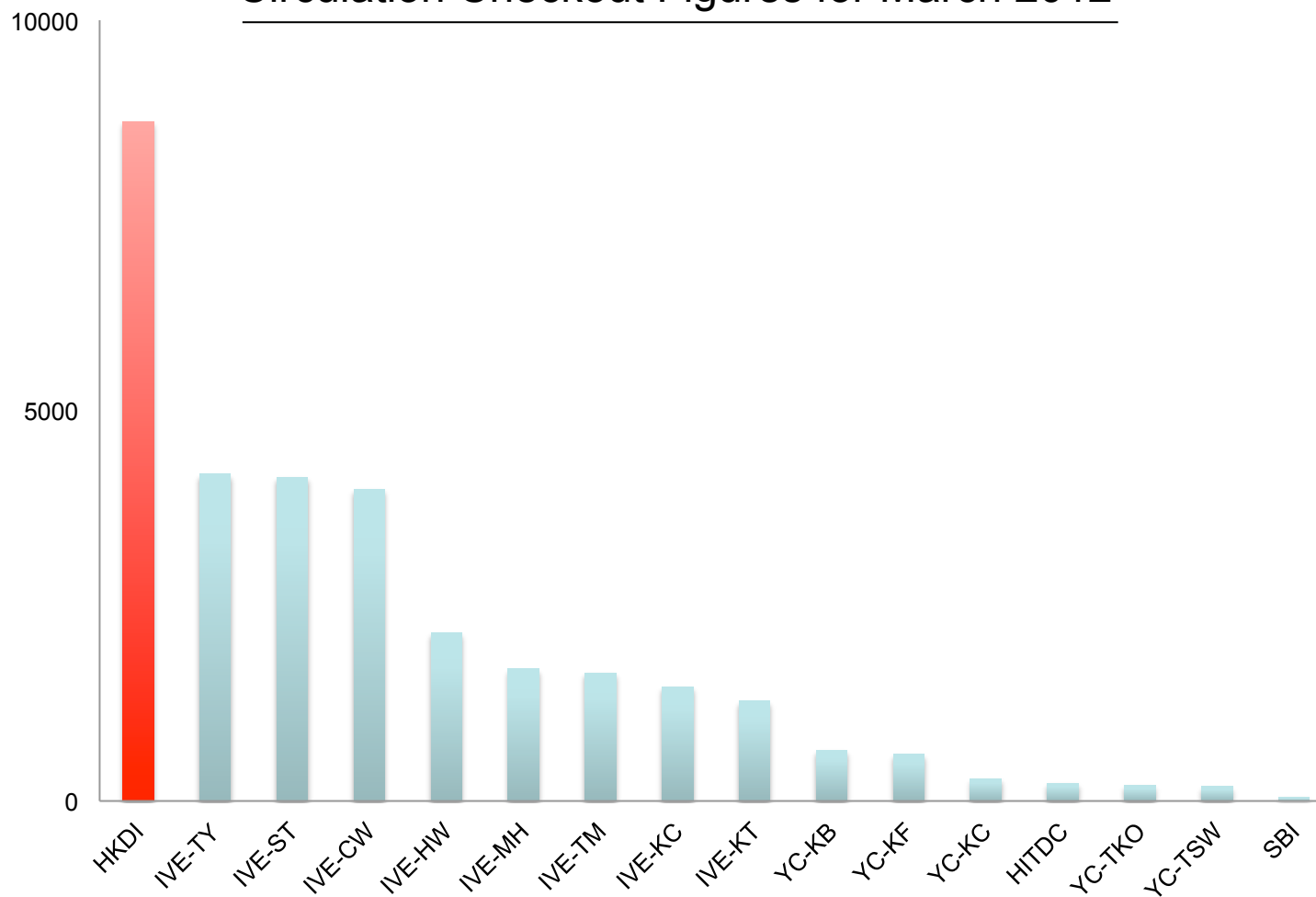


The Background Story

- 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 2021



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

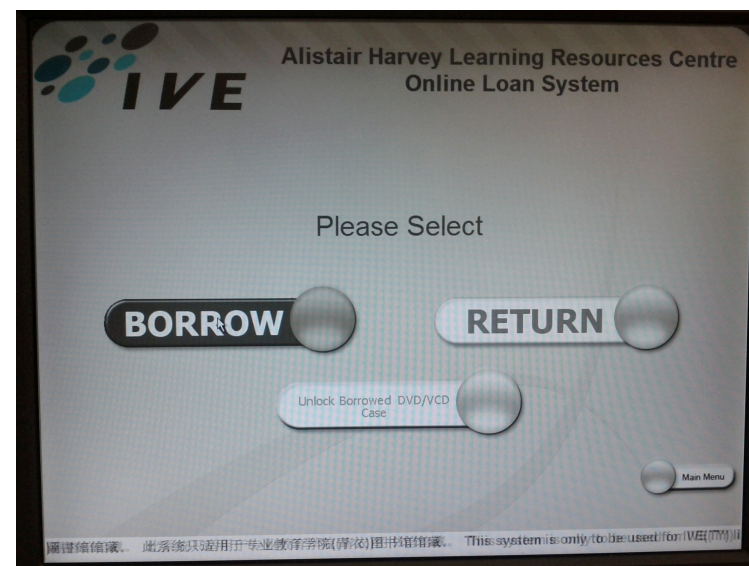
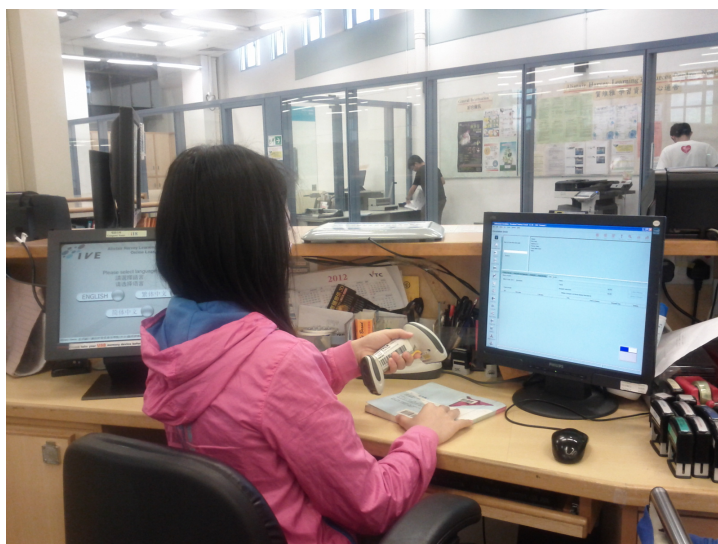


RFID vs Millennium

- Millennium wasn't designed to process multiple items simultaneously.
- Required frequent communication between the Millennium and RFID pad

RFID User Experience # 1

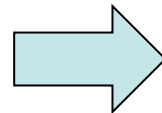
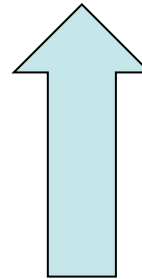
- Mainly based on SIP2 Technology.
- Works but with disadvantages:
 - SIP2 cannot handle advanced circulation functions
 - Costly. Each SIP2 workstation is expensive plus additional SIP2 license charged by ILL.



RFID User Experience # 2



Checkout
Checkin



RFID



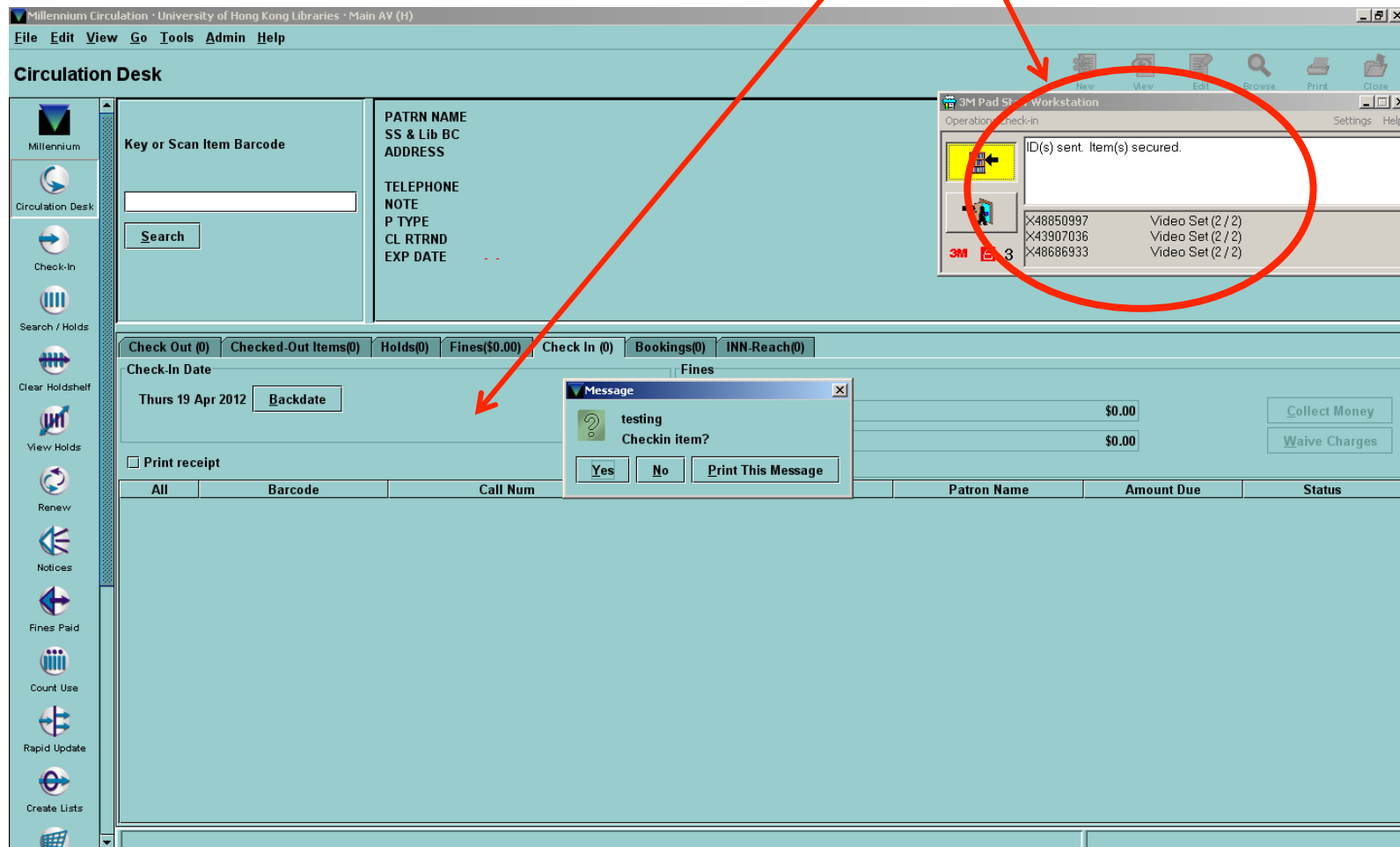
Sensitize
Desensitize

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 found mismatch on sensitization/desensitization processes and actual circulation transaction
 - Circulation process interrupted when problems encountered.

RFID User Experience # 2

3 items sensitized before
Millennium process them



RFID User Experience # 2

3 items sensitized but only
1 item was checked in

Millennium Circulation · University of Hong Kong Libraries · Main AV (H)

File Edit View Go Tools Admin Help

Circulation Desk

Key or Scan Item Barcode

PATRN NAME
SS & Lib BC
P TYPE
CL RTRND
EXP DATE

Search

Check-In Date
Thurs 19 Apr 2012 [Backdate](#)

Print receipt

Check Out (0) Checked-Out Items(1) Holds(0) Fines(\$0.00) **Check In (1)** Bookings(0) INN-Reach(0)

Fines
Total: \$0.00
Amount selected: \$0.00
[Collect Money](#)
[Waive Charges](#)

All	Barcode	Call Num	Title	Patron Name	Amount Due	Status
<input type="checkbox"/>	X48850997	AV 791.43 P667 V A DVD mavxm	Pirates of the Caribbean [videorecording...	Audio Visual & Reserve Coll...	\$0.00	

3M Pad Staff Workstation

Operation: Check-in

ID(s) sent. Item(s) secured.

X48850997	Video Set (2 / 2)
X43907036	Video Set (2 / 2)
X48686933	Video Set (2 / 2)

RFID User Experience # 2

3 items desensitized but only
1 item was checked out

Millennium Circulation · University of Hong Kong Libraries · Main AV (H)

File Edit View Go Tools Admin Help

Circulation Desk

Key or Scan Item or Patron Barcode

PATRN NAME
SS & Lib BC
P TYPE
CL RTRND
EXP DATE

Search

3M Pad SE Workstation

Operation: Check-out

ID(s) sent. Item(s) unsecured.

X48850997	Video Set (2 / 2)
X50172275	Video Set (2 / 2)
X48686933	Video Set (2 / 2)

Check Out (1) | Checked-Out Items(3) | Holds(0) | Fines(\$0.00) | Check In (0) | Bookings(0) | INN-Reach(0)

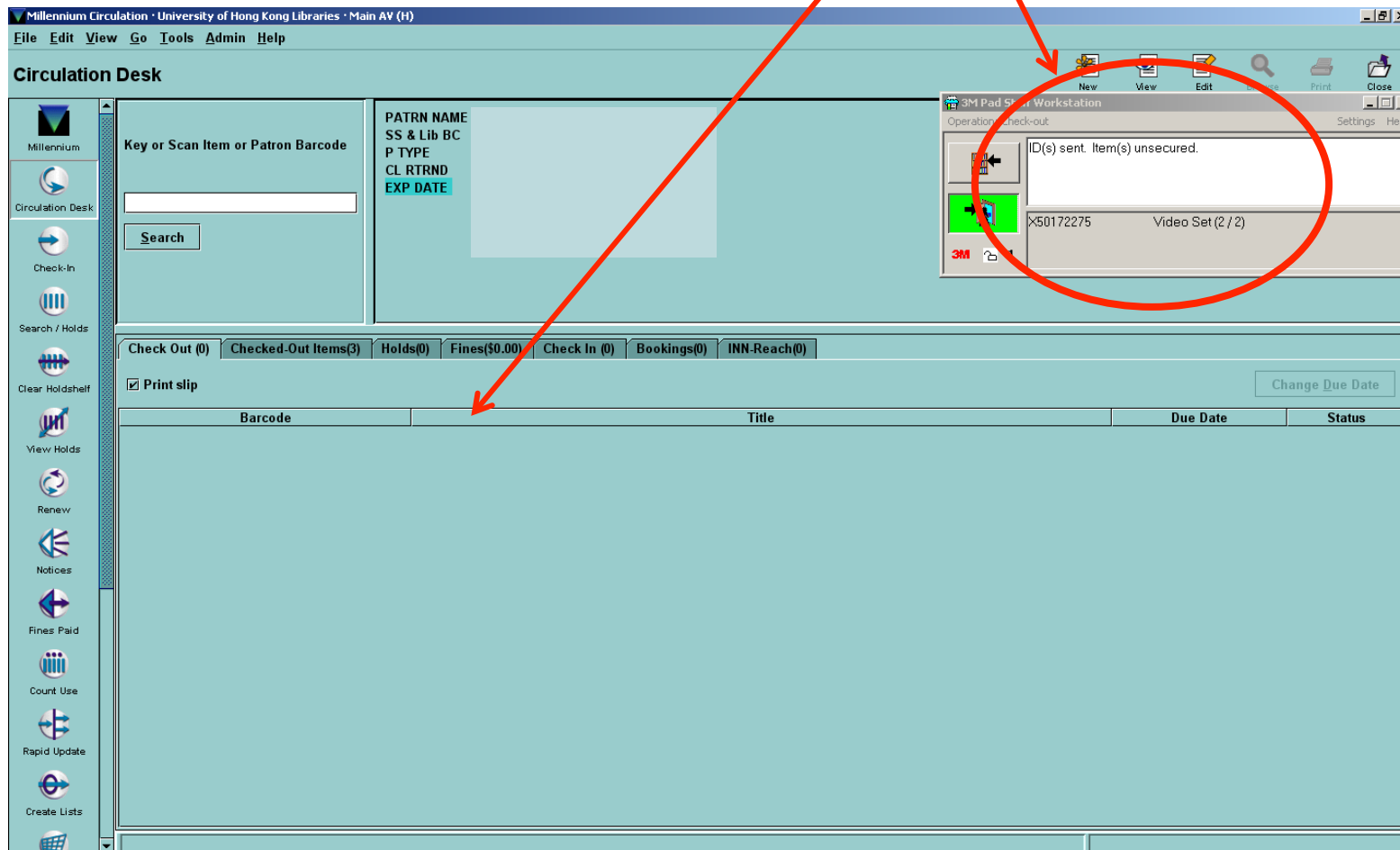
☒ Print slip

Change Due Date

Barcode	Title	Due Date	Status
X48850997	Pirates of the Caribbean [videorecording] : at world's end / directed by Gore Verbinski ; written by Ted Elliott & ...	26 Apr 2012	

RFID User Experience # 2

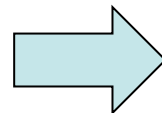
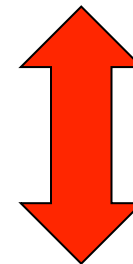
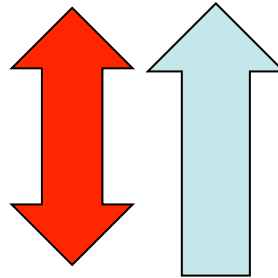
1 item was desensitized but
nothing processed in Millennium



HKDI Model : Item Status API



Checkout
Checkin



RFID



Sensitize
Desensitize

HKDI Model : Item Status API

Millennium Circulation - Vocational Training Council - L2 RS - CIRC Terminal 2

File Edit View Go Tools Admin Help

Circulation Desk

Key or Scan Item or Patron Barcode

Search

Name
Barcode
Address
Contact/Mobile Telephone
Patron Type
Claims Returned
Expiration Date

Check Out (3) Checked-Out Items(3) Holds(0) Fines(\$7.00) Check In (0)

View RFID Alerts Add Message Change Due Date

Barcode	Title	Due Date	Desensitized
31111080131798	服裝設計的手繪質感表現與平面稿上色技法 / Giglio Fashion 工作室 編著.	07 Jun 2012	OK
31111004507388	Informing design / edited by Joan Dickinson, John P. Marsden.	07 Jun 2012	
31111010825519	冷知識 熱場面：連Google也瘋狂的有趣問題 / 百科全書網 編著；怪人 譯.	07 Jun 2012	

Reader Status

3 item(s) presented

11:56 12/4/2012

HKDI Model : Item Status API

Millennium Circulation - Vocational Training Council - L2 RS - CIRC Terminal 2

File Edit View Go Tools Admin Help

Circulation Desk

Key or Scan Item Barcode

Search

Name
Barcode
Address
Contact/Mobile Telephone
Patron Type
Claims Returned
Expiration Date

Check Out (0) | Checked-Out Items(3) | Holds(0) | **Fines(\$7.00)** | Check In (3)

Check-In Date: Thurs 12 Apr 2012 [Backdate](#)

RFID

View Alerts

Fines
Total: \$0.00 [Collect Money](#)
Amount selected: \$0.00 [Waive Charges](#)

☐ Print receipt ☐ Waive charges on items being checked in

All	Barcode	Call Num	Title	Patron Name	Amount Due	Status	Sensitized
<input type="checkbox"/>	31111004507388	NK 2116.4 .I64 2009 c.2 dic...	Informing Design edited by Jo...	CHU, CHUN WANG ...	\$0.00	OK	OK
<input type="checkbox"/>	31111010825519	AG 196 .J3 I4312 2008 dic...	冷知識 熟場面: 連Google也瘋...	CHU, CHUN WANG ...	\$0.00	OK	OK
<input type="checkbox"/>	31111080131798	TT 507 .F8278 2010 dicma	服裝設計的手繪質感表現與平...	CHU, CHUN WANG ...	\$0.00	OK	OK

Reader Status
3 item(s) presented

11:58
12/4/2012

HKDI Model : Item Status API

Millennium Circulation - Vocational Training Council - L2 RS - CIRC Terminal 2

File Edit View Go Tools Admin Window Help

Circulation Desk

Key or Scan Item Barcode

Search

Name
Barcode
Address
Contact/Mobile Telephone
Patron Type
Claims Returned
Expiration Date

Check Out (0) Checked-Out Items(4) Holds(0) Fines(\$0.00)

Check-In Date: Thurs 12 Apr 2012 Backdate

RFID

☐ Print receipt

All	Barcode	Call Num
<input type="checkbox"/>	31111004507388	NK 2116.4 .J64 2009 c.2 dic...
<input type="checkbox"/>	31111080131798	TT 507 .F8278 2010 dicma

The following item could not be checked in:

Title: 冷知識 熱場面 : 連Google{u4
Author: No Author
Call number: AG 196 .J3 I4312 2008
Barcode: 31111010825519

Please remove the item from the RFID pad.

OK

Amount Due: \$0.00 Status: Sensitized

Collect Money Waive Charges

Reader Status: 3 item(s) presented

12:02 12/4/2012

HKDI Model : Item Status API

Millennium Circulation - Vocational Training Council - L2 RS - CIRC Terminal 2

File Edit View Go Tools Admin Window Help

Circulation Desk

Millennium

Circulation Desk:

Check-In

Search / Holds

Clear Holdshelf

View Holds

Renew

Notices

Fines Paid

Count Use

Create Lists

Delete Records

Key or Scan Item Barcode

Search

Name
Barcode
Address
Contact/Mobile Telephone
Patron Type
Claims Returned
Expiration Date

Check Out (0) Checked-Out Items(4) Holds(0) **Fines(\$7.00)** Check In (2)

Check-In Date: Thurs 12 Apr 2012 [Backdate](#)

☐ Print receipt

RFID [View Alerts](#)

All	Barcode	Call Num	Title	Patron Name	Amount Due	Status	Sensitized
<input type="checkbox"/>	31111004507388	NK 2116.4 .l64 2009 c.2 dic...	Informing design / edited by Jo...	CHU, CHUN WANG ...	\$0.00	OK	
<input type="checkbox"/>	31111080131798	TT 507 .F8278 2010 dicma	服裝設計的手繪質感表現與平...	CHU, CHUN WANG ...	\$0.00	OK	

RFID items that could not be checked in

Title	Author	Call Number	Barcode
冷知識 熱場面：連Google(u4	No Author,AG 196 .J3 l43...		31111010825519

[Print](#) [OK](#)

Total: \$0.00 [Collect Money](#)

Amount selected: \$0.00 [Waive Charges](#)

☐ Waive charges on items being checked in

Reader Status

3 item(s) presented

HKDI Model : Item Status API

Millennium Circulation · Vocational Training Council · L2 RS - CIRC Terminal 2

File Edit View Go Tools Admin Window Help

Circulation Desk

Key or Scan Item or Patron Barcode

Search

Name
Barcode
Address
Contact/Mobile Telephone
Patron Type
Claims Returned
Expiration Date

RFID items that could not be checked out

Title	Author	Call Number	Barcode
冷知識. 熱場面 : 連Google{U4	No Author	AG 196 .J3 I43...	31111010825519

Print OK

Check Out (2) Checked-Out Items(3) Holds(0) Fines(\$7.00) ...

View RFID Alerts Add Message Change Due Date

Barcode	Title	Due Date	Desensitized
31111080131798	服裝設計的手繪質感表現與平面稿上色技法 / Giglio Fashion 工作室 編著.	07 Jun 2012	OK
31111004507388	Informing design / edited by Joan Dickinson, John P. Marsden.	07 Jun 2012	OK

Reader Status

2 item(s) presented

12:11
12/4/2012

Millennium Circulation - Vocational Training Council - L2 RS - CIRC Terminal 2

File Edit View Go Tools Admin Window Help

Circulation Desk

New View Edit Messages Browse Print Close

Millennium
 Circulation Desk:
 Check-In
 Search / Holds
 Clear Holdshelf
 View Holds
 Renew
 Notices
 Fines Paid
 Count Use
 Create Lists
 Delete Records

Key or Scan Item or Patron Barcode

 Search

Name
 Barcode
 Address
 Contact/Mobile Telephone
 Note
 Patron Type
 Claims Returned
 Expiration Date

Check Out (1) Checked-Out Items(11) Holds(20) Fines(\$0.00) Check In (0)

View RFID Alerts Add Message Change Due Date

Barcode	Title	Due Date	Desensitized
31111080068743	從 1,000 公里到 0 距離 : e-Marketing 營銷藝術 / 嚴啟明, 陳俊雲 著.	07 Jun 2012	Manual

Reader Status
 0 item(s) presented

ZH 12:29 12/4/2012

HKDI Model : Item Status API

File Edit View Go Tools Admin Help

Circulation Desk

New View Edit Messages

Millennium

Circulation Desk

Check-In

Search / Holds

High-Demand Ho...

Clear Holdshelf

View Holds

Renew

Key or Scan

Search

Check Out (

☒ Print slip

32233002597

RFID Pad Server Settings

Local IP Addr...	Server IP Addr...	Port Number	HTTP Context	Timeout	Interval	Active
192.168.10.150	192.168.10.150	21645	/RfidPadServi...	20	1	<input checked="" type="checkbox"/>
192.168.10.187	192.168.10.187	5550				<input checked="" type="checkbox"/>
192.168.10.188	192.168.10.188	5550				<input checked="" type="checkbox"/>
192.168.10.189	192.1...					<input checked="" type="checkbox"/>

Edit RFID Server

Local IP address: 192.168.10.150

RFID server IP address: 192.168.10.150

Server port: 21645

HTTP context: /RfidPadService

Timeout: 20

Interval: 1

OK Cancel

Add Edit Copy Remove Done Cancel

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 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