

The Internet of everything: linking the print and online collections in a school library

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Abstract

As is true for many libraries, the Bialik College Library print collection is shrinking and the online resources are growing. The library is also changing from “being the place where the books are kept” to a busy, flexible and interactive learning space. One opportunity and challenge that comes with this transition is how to create meaningful two-way links between the online and print collections. Another challenge is to facilitate how these two parts of the collection can be linked via a patron’s mobile device without the need to type in a catalogue or portal URL. In short, how does the library establish the ‘Internet of everything’.

Introduction

Bialik College is a private day school in the inner eastern suburbs of Melbourne Australia. It has just over 1,000 students from earlier learning (3 year olds) through to the Victorian Certificate of Education or VCE (18 year olds). The school is consistently ranked in the top ten schools in Victoria for VCE results. Among the students, there is a high level of familiarity with technology as well as early adoption of technology. In 2010, the school decided to focus on redeveloping the library and turning it into a dynamic and forward-looking learning resource for the whole school.

Prior to 2010, the library had been somewhat neglected. The spaces were old, out of date and poorly lit. The collection budget was low, and because the collection had not been properly weeded, a lot of the stock was old and poorly used. Furthermore, the catalogue system did not have a web interface and was no longer supported by the vendor. As a result, technology and innovation within the new library was identified as essential if use of the collections and spaces was going to improve.

In 2010, the library:

- Migrated to a new catalogue system with a web interface,
- Introduced a library portal at <http://elib.bialik.vic.edu.au> and embedded the catalogue into the portal,
- Commenced weeding the collection,
- Started to turn around and streamline the library processes and improve service delivery.
- The collection of 57,000 items was RFID tagged, and
- The library also moved into a new purpose-built five million dollar building. At 1,080 square metres over two levels, the new library is 142% larger than the old library. With 222 seats, it also provides 87% more seating.

However, in building the new space the library was aware that:

- **Learning spaces are changing** with “the ‘spaces’ where students learn becoming more community-driven, interdisciplinary, and supported by technologies that engage virtual communication and collaboration” (Johnson et al, 2010).
- **Information is going mobile** with more information and applications being used on smart phones and portable tablet PCs, such as the iPad.
- **Students and staff expect immediate access to information** both when and where they want it.
- **The online collections had to be made more visible.** Since opening the new library, there has only been a small increase in the usage of the online collections. Because the focus had been on opening the new building and implementing a web based catalogue, the library is yet to introduce federated searching or the next generation discovery platform across both the print and online resources. However, vendor supplied MARC records with 856 links to online resources have now been added to the catalogue.
- Technologies such as Quick Response QR codes and or Radio Frequency Identification RFID present the possibility of establishing the **‘Internet of**

Things' within the new library spaces. *See the breakout box for details on the Internet of Things.*

- The library had to **provide more with a similar number of staff**. The old library was on one level while the new library is more than twice the size and is on two levels. At 1,200 visits a day on averageⁱ, the new library is also much busier. However, staffing has only increased by 8% from 7.58 FTE to 8.25 FTE. Since moving to the library and introducing the eLibrary portal and catalogue, the monthly average use of the physical resources, books and magazines as well as equipment such as laptops, cameras and iPads, has increased by 142%. Usage of the print collection has doubled.

In the new Bialik library, the collection is located at the centre of each floor, with study space located around the side where there is more natural light. As a result, patrons have to move through the collection to get from one part of the library to another. The collection is also splayed in a fan shape rather than regular aisles. This creates nooks within the collection that students can 'own' and linger in, and makes the library look and feel more like a bookshop than a traditional library. The library was therefore interested in how we could link the online resources within these new and popular spaces. *See the appendix for a copy of the floor plan.*

The Internet of Things

The "Internet of Things" was first used by Kevin Ashton in 1999. It proposed that physical items could have a web presence and vice versa, and that the link or association would enable extra functionality or utility.

See also http://en.wikipedia.org/wiki/Internet_of_Things and "Disruptive Civil Technologies: Six Technologies With Potential Impacts on US Interests Out to 2025", National Intelligence Council, Conference Report, April 2008 <http://www.fas.org/irp/nic/disruptive.pdf> .

The "Internet of Things" is also seen as converging with another of the Internet macro trends, namely "The Mobile Web" (see http://www.readwriteweb.com/archives/barcode_scanning_mobile_web_meets_internet_of_thing.php).

While it is early days, these two trends combined have the potential to dramatically remake the retail sector. Customers could use something like a QR code or RFID tag to not only find out more information about a product or service, they could use their smartphone / mobile device to actually purchase the product or service. For physical items, this transaction could in theory also disable the security tag once the transaction has been approved in real time. This would allow the consumer to purchase the item and walk out the store without the need for staff intervention. For libraries, it means patrons could check out books, CDs and other items and deactivate the security tag without the need to use check out kiosks or library staff.

Proposal

The library considered the possibility of using either QR codes or RFID tags to bring together the print and online collections where they supported specific assignments or projects. We also wanted to see if the students and staff could be self-sufficient and do this with minimum library staff time and resources. Bringing together the print and online collections also deliberately blurs the distinction between the physical and the online. It also allows the library to present its online products and services using the patron's own mobile device.

For some time libraries have integrated their print and online collections from within their library portals. For over a decade, libraries have loaded the vendor-supplied MARC records so their online resources appear within the catalogue alongside their print collection. However, using QR codes or RFID tags, the Library considered the possibility of offering the reverse: the online within the print collection and space.

Therefore, the Bialik College Library proposed:

1. Introducing collection signage into the physical collection as part of an 'Internet of Things' project, so that the actual collection signs included a 'link' to the associated online material,
2. That the collection signage be related back to specific assignments so that the signs had relevance, meaning, significance, and value to the students and teachers, and
3. That the signs be a tangible way of helping the library deliver on the main business outcome within its current three-year plan; e.g. 'Supporting the curriculum'.

The library will monitor progress on the rollout of the signs and see if there is a change in the use of either the print or the online collections as well as level of patron satisfaction.

QR Codes versus RFID at Bialik

QR Codes

Created by Toyota subsidiary Denso Wave in 1994 to track vehicles during the manufacturing process, the QR code is one of the most popular types of two-dimensional bar codes. It was designed to allow its contents to be decoded at high speed. (Denso Wave 2011) QR Codes have also generated considerable interest because they offer much more functionality than traditional bar codes. For example, they can store more data, they still scan if the QR code is damaged, and they can be read from more angles and distances than traditional bar codes. However, despite their many good points, QR codes have been slow to take off outside of Japan. "The technology has three problems at a pretty low level: smartphones are still an elite product, the scanning process can be clunky, and QR codes look more like robot barf than something meant for humans." (Mitchell 2011).

For a full list of benefits from Denso, refer to the Appendix.

While QR Codes are being introduced into a number of Australian libraries everyone still appears to be at the early stage of rollout. For example:

- **Casey Cardinia Library Service** in Melbourne has started to introduce QR codes to link to the mobile version of their library portal. Their options include: Hours of opening, What's On, Kids Programs, a link to the catalogue, a link to an iPhone App, and a link to the full website. This library is also exploring the use of QR codes on posters to promote, and link back to, library events and online services. This is a new and exciting development for the library, but at this stage, it is too early to get any meaningful feedback on whether or not it is successful.
- **Brisbane Grammar School Library** is an innovative and leading school that Bialik College shares information with, and is considering benchmarking against. In sharing what Bialik had done with QR codes on rooms, and our proposal to QR Code or RFID collection signage, Brisbane Grammar introduced QR Codes into their collection in August 2011. For details, see <http://www.brisbanegrammar.com/blogs/library/?p=1346>. The Brisbane Grammar School Library found that “some people knew what to do and had used QR code readers before, while others needed a little help in getting started.”
- **Brisbane City Council Library Service** is using QR Codes on their catalogue and on posters to promote events. LibraryThing for Library QR Codes have also been embedded into their catalogue. This allows patrons to use their smart phones to place a hold. Alternatively, they can use their smart phones to grab the item call number and details instead of writing the information down and going into the stack to retrieve it. Brisbane City is also printing the LibraryThing for Library QR Code onto the actual book. This allows patrons to access additional information, such as book reviews and information on the author and what else they have written.
- **University of Technology Sydney Library** is using QR Codes on: bookmarks and brochures, so people can watch a demonstration, rather than read text instructions, promotional posters that link to online news and services, links to existing online resources such as their Library orientation programme, and provide immediate access to digital content anytime, anywhere without the need to wait for a computer. See <http://www.lib.uts.edu.au/news/articles/8425>
- **Woonona High School** has successfully trialled QR codes on books to link the book to author trailers and web sites.
- Stacey Graham, the teacher librarian at **Our Lady of Lourdes Primary School** at Tarro and **St Patrick's Primary School** at Lochinvar, uses multiple QR codes on books to link to craft activities, author blogs, and book trailers.
- **Vendors.** The benefit of the vendor-provided QR codes such as the LibraryThing for Library QR Codes is the fact they populate into the catalogue on the fly, along with other enriched content such as book covers and reviews. As a result, library staff do not need to spend their time manually creating QR codes for each item.

The introduction and embedding of QR codes (and later, RFID tags) into vendor offerings will only help speed up the process of these technologies going mainstream. This in turn will allow libraries to utilise the technology to deliver enhanced levels of service. Staff can be freed up to do more high level and valued

engagement with patrons. Library services such as circulation, reservations, and searching the collection were once restricted to specialist kiosks and terminals. Both QR Codes and RFID allow libraries to continue migrating these services directly into the hands of the user, and in doing so empower the library patron.

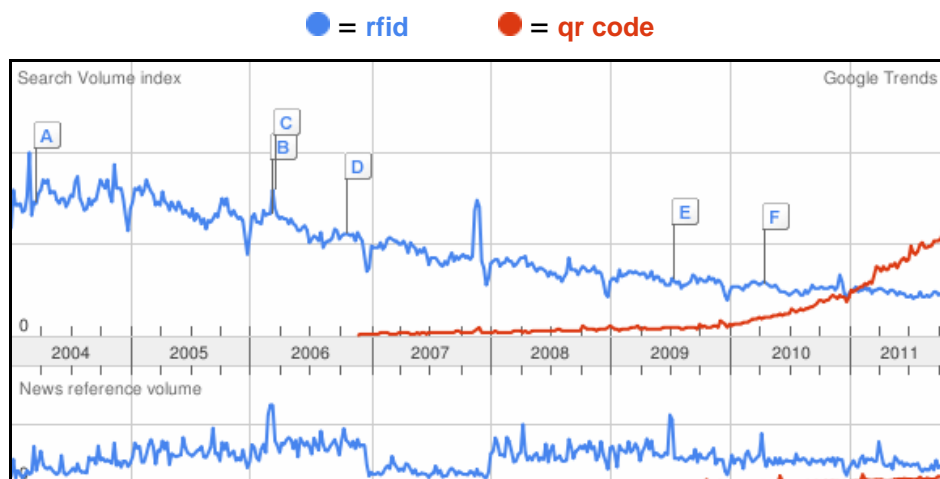
RFID Tags

“Radio-frequency identification (RFID) is a technology that uses radio waves to transfer data from an electronic tag” (Wikipedia, 2011). To date, RFID tags have been introduced into libraries as a way of automating circulation and speeding up inventory control tasks such as stock takes. This is in line with the recommendations of the NISO 2007 report “RFID in U.S. Libraries: A Recommended Practice of the National Information Standards Organization” NISO RP-6-2008. This report (NISO RFID Working Group, 2007), which was put together by the RFID for library application working group. The standards were published 22 March 2011 (Danish Agency for Libraries and Media, 2011) and are available from the ISO web site at http://www.iso.org/iso/iso_catalogue/catalogue_tc/catalogue_detail.htm?csnumber=50996.

While there is growing speculation that the smart phones of the near future will be RFID-enabled (see http://www.readwriteweb.com/archives/iphone_as_rfid_tag_reader.php), this is yet to happen. As a result, RFID tags are yet to be used in libraries to integrate patron browsing and checkout services via a patron's smart phone or mobile device. However, there is growing interest in RFID tags within the retail sector, especially since the world's largest retailer, Walmart, “is now asking its suppliers to install RFID tags on all of their merchandise” (Pitta, 2010). If RFID tags go mainstream within the retail sector, this may further enhance the technology and help bring the costs down. As a result, touch-on transactions via a library user's smart phone may become a possibility. If this happens, checkout kiosks may be kept to allow patrons without smart phones to continue to use a library's collection, but more and more patrons will use their own mobile devices.

It is also interesting that a Google Trends graph seems to imply there is an increased focus and discussion on QR Codes while interest in RFID is levelling off. See following graph for details.

Figure 1: Google Trends graph of QR Codes versus RFID



Considerations

At the start of 2011, the Bialik Library was using both QR codes and RFID tags. Therefore, the library explored the option of using either technology to implement the 'Internet of Things' project and link the online resources back into the print collection.

RFID: As noted previously, the new library is twice as big as, and much busier than, the old library, so we had to think creatively and strategically on how to staff the building and the services. Where possible, lower-skilled and process driven work was 'outsourced and or automated'. As a result, circulation (both check-out and check-in) was outsourced to RFID. Other than computer equipment and cameras, the only way items can be checked out and returned (and the security tags deactivated), is via the RFID kiosk. Library staff can no longer check-out and return books, CDs, DVDs and so forth. It is worth noting that the main RFID expenses are capital start up costs, this includes installing the technology and retrospectively RFID tagging the collection. The ongoing costs are considerably less than employing an extra staff member to cope with the increase in circulation. The Bialik College costing indicates that the introduction of RFID will have paid for itself over three years.

However, RFID was not considered for the Bialik College Library 'Internet of Things' project because:

- For the project to be successful, patrons would need to use their own smart phones or mobile devices. While there have been many predictions about the rollout and take-up of RFID enabled mobile phones (Lomas, 2009), this is yet to materialise. There are also concerns about privacy. However, QR code readers are already available on many smart phones. For example, since 2008 "Telstra [has introduced] the software to read QR codes on their NextG handsets as a free download for customers" (Broughall, 2008).
- Unlike the RFID tag, the QR code is actually visible on the sign. Bialik College Library has made the assumption that by being visible the QR Code may attract and encourage patrons to scan the code.
- As the collection has already been RFID tagged, there were concerns that, even if smart phones could be used as RFID readers, RFID codes on the topic-based signs within the collection would not stand out and be readable amongst the 'background noise' of the RFID tags on each book, magazine, CD, and DVD.

QR Codes: When the new Bialik Library opened, each major room / learning space had its own QR Code printed on the glass doors leading into the space. See the following image for details. The library can therefore link the space to online information about the space, for example: usage policies and list of the equipment in the space. It is also proposed that the school's online booking software be linked to the QR code, so that teachers and students can see in real time if, and when, each space is booked. As this last step has not been possible, these QR codes currently link to static content and have only attracted passing interest.

Figure 2: Each space in the library has its own QR code



In establishing its QR Codes, the Bialik College Library has referred to the suggestions outlined in the NotixTech: Taking Business Mobile blog. For example:

5 Ways You Should Never Use QR Codes (NotixTech, 2011)

1. “Avoid using a QR Code to lead a user to a flash-based URL. While there are more Android phones that can deal with flash web sites compared to Apple iPhones, Apple that cannot [do so]. In August 2011, the Gartner Group estimated 18% of smart phones use Apple's iOS operating system. A Bialik user survey indicated more than 60% of target students used an Apple iPhone. See the following Survey section of this paper for details.
2. Avoiding posting QR Codes in areas without reception. The Bialik College Library has the highest concentration of wireless Internet in the school.
3. Not Offering Any Value. QR signs are being directly tied back to supporting the curriculum, so they maximise the benefit to students and teaching staff.
4. Broken Landing Pages (404 errors)
5. Leading People To Non-Optimized Pages”

Patron Awareness Survey

To prepare for the introduction of QR signage at Bialik, the library staff wanted to get an understanding of how many students had a smart phone, and what was the current level of understanding around QR Codes. This would also help identify how much time and effort needed to be set-aside for patron training and familiarisation.

A survey was distributed to 81 male and female students in years 8 though to years 10. VCE students were too preoccupied with their exams to be surveyed. A simple paper based survey was used that asked the following five questions. The survey was filled in and then immediately collected to at the beginning of each class.

Survey Questions

1. Do you have a Smart Phone?
2. Do you have an (A) Apple iPhone or (B) and Android Phone.
3. What is this?
[Open question with an image of a QR Code]
4. In one sentence what does this do?
5. What class are you in? We did not collect student names against each questionnaire, so this question helped ensure the results could be matched up against year group and class.



Survey Results

Other than the fact that when doing the survey we realised some students had Blackberries and question two needed to include this option, the survey results indicated that:

Table 1: Smart Phone Ownership

Have a Smart Phone	Year 7	Year 8	Year 9	Year 10	Total
No	12	4	5	4	25
Android (1)	2	1		1	4
Nokia	1				1
Null	9	3	5	3	20
Yes	10	8	18	20	56
Android	1	2	3	2	8
Apple (2)	7	6	15	16	44
Blackberry				2	2
Nokia	2				2
Total	22	12	23	24	81
Does not have a smart phone	54.5%	33.3%	21.7%	16.7%	30.9%
Has a smart phone (3)	45.5%	66.7%	78.3%	83.3%	69.1%
	100.0%	100.0%	100.0%	100.0%	100.0%

Notes:

1. 16% of students who said they did not have a smart phone then identified themselves as owning an Android phone, while all iPhone users identified their device as a smart phone.
2. 79% of students who identified as owning smart phones owned Apple iPhones. This represented 54% of the total sample population of 81.
3. Nearly half, or 45.5%, of the Year 7 students (12 year olds) had a smartphone; this rose to 84% of students in Year 10 (15 year olds).

Table 2: QR Code Awareness versus Smart Phone Ownership

Do you know what this is [QR Code]	Year 7	Year 8	Year 9	Year 10	Total
No	17	4	11	4	36
Android	2	2	2	2	8
Apple	7	1	7	2	17
Nokia	3				3
Null	5	1	2		8
Yes	5	8	12	20	45
Android	1	1	1	1	4
Apple		5	8	14	27
Blackberry				2	2
Null	4	2	3	3	12
Total	22	12	23	24	81
Doesn't know what a QR Code does	77.3%	33.3%	47.8%	16.7%	44.4%
Does know what a QR code does	22.7%	66.7%	52.2%	83.3%	55.6%
	100.0%	100.0%	100.0%	100.0%	100.0%

Notes

Overall, nearly 56% of students knew what a QR code was and what it did. Understanding rose from 23% in Year 7 (12 year olds) to 83% in Year 10 (15 year olds).

1. Of the students who knew what a QR bar code did, most students did not know it was called a QR code; they tended to call it a bar code for a phone. Common answers included:
 - Finding things on the web such as websites and items
 - Its used for getting onto the web and using 3G
 - To identify certain things quickly and easy [sic] like websites
 - Reads details and takes you to the page
 - To get into movies*

* Student awareness of what QR codes do without knowing what they are called may be driven by advertising and the delivery of services such as concerts, movies and online music. These services often target a younger and technologically -savvy population.

One Year 10 student displayed a dry sense of humour by replying that the QR code was Picasso's last painting” and the QR code was used to “show the inhumanity in our world”.

2. 67% of students with Android phones did not know what a QR Code did. This compared with 39% of students with iPhones who did not know what a QR Code did. Interestingly, the majority of students who did not own a smart phone (60%) correctly identified what a QR Code did.

The survey results indicated there was a growing level of awareness of QR codes as the student got older. The library has also found that the younger students tend to help each other use new library services such as online reservations. This suggests

it is still worthwhile for the library to introduce QR codes to link online resources into the print collection. To keep the survey short, and avoid disrupting classes, we did not ask what QR app the students were using. We will monitor this during the rollout and adjust the patron help and FAQ resources accordingly.

Setting up the Links and the Signs

All the initial collection signs with QR codes to link back to online resources will be done for the Middle School and focus on what is being taught at the time. QR codes will not be created for Primary School students, as these students tend not to have mobile phones, let alone smart phones. QR signage for VCE students will commence in 2012.

Signs will include:

1. A QR Code prominently displayed at the top of the sign
2. A background image representative of the subject
3. The subject name
4. The Call number
5. Down the track, RFID tags can be added to the sign once the signs have been catalogued into the collection with 856 fields pointing to the subject URL on the eLibrary portal.

The first two signs created were for Ancient China and Holocaust Studies. See the following image for details.

Figure 3: Library QR signs linking online and print resources

Ancient China QR Sign



Holocaust QR Sign



The QR codes land on URLs within the library portal. For example:

Figure 4: QR Code landing page: Subject Ancient China

“Jump to” tabs links to specific content e.g. eBooks, databases, videos etc.

Subject headings with direct clickable links back to print and online results in the web OPAC.

Subject QR Code acts as visual cue that the patron has come to the right spot on the eLibrary portal.

Default study helps links directs patron to instructions on essay writing and how to cite.

Title specific content links with default license / copyright statement.

Processes

- A. Before creating the signs, the library created articles on our eLibrary portal. Each subject had its own unique URL. Each topic article contains:
 - a. Subject headings with hyperlinks that generate subject searches on the web catalogue. These links return results from both the print and online collections.
 - b. General guides to writing assignments and reports that include:
 - i. Organising your thoughts, how to research, and essay-writing skills

- ii. Writing a bibliography, how to quote and avoiding plagiarism
 - iii. Evaluate web sites
 - iv. Getting current information
 - v. Evaluating your work
- B. Hypertext links to eBook titles, chapters and or sections as well as articles from eMagazines.
- C. Recommendations and links to the databases students should use to find more information on the topic, and
- D. Best of Web recommendations
- E. The library registered the URL with Mofuse. Mofuse generates the QR Code, which is then copied and added into the sign artwork.
- a. The size of the QR code we generate on Mofuse is 'Small'.
 - b. We do not use Atoms.
 - c. See also <http://qrcode.mofuse.com>
- F. We use Adobe Photoshop to create the QR code artwork.
- G. The dimensions of the QR code on the actual sign is 5 cm x 5cm.
- H. Signs are colour printed on A4 paper and inserted into A4 sign holders (sourced from the local store Officeworks) that were placed horizontally into the collection so the sign stood out from the collection. The library chose this because our experience with signs that are flush with the collection is they got lost among the books and were therefore ignored. Using signs that stood out from the collection also meant they could be scanned from either side by different patrons.

Conclusion

A search on Google Scholar shows there is a growing body of research and literature digital youth and the emerging literacies, learning, and self-actualisation. The convergence of the 'mobile devices (ReadWriteWeb: Mobile Services, 2011)' and the 'Internet of everything (ReadWriteWeb: Internet of Things, 2011)' is also recognised as a major technological trend (Cooney, 2011) that will have a dramatic impact on how people will find products and services, including information services. For libraries, especially school libraries that support a user population of tech-savvy early adopters, these are trends they can ill afford to ignore.

However, in introducing the "Internet of things" and mobile platform service delivery, a library cannot ignore the fact that the services have to make sense to the end user or patron and deliver value. Linking the print and online collections within the actual library space is one form of delivery utility to the library patron. Using technologies such as QR codes and RFID tags to facilitate this linking via a patron's smart phone provides ease of use, immediacy, and convenience. It also ensures the library does more than offer the print from within the online web offering, it enables the library to create a link from the print back to the online.

Like so many other libraries, Bialik has just started down the path of establishing these two- way links. As of November 2011, the library is still waiting on more

empirical data to validate the decision to use QR codes to link online and print. These findings will be reported on at the VALA2012 Conference, and updated information will be posted on the Bialik College eLibrary portal at <http://elib/bialik.vic.edu.au>. However, it is now possible for libraries to embed the Internet and online resources into the physical space in new and exciting ways. Combined with emerging technologies relating to augmented reality and geospatial tagging there is the potential for libraries to create even more engaging and information rich built environments.

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Appendix

Library ground floor plan

The Senior Library is on the ground floor, while the Junior Library, with a similar configuration of the collection, is on the first floor.




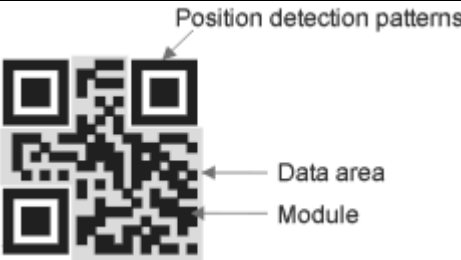
- The collection at the centre of things:**
- **Easy access.**
 - **Creates separate zones**
 - **Study areas have lots of natural light**

QR Code Functionality

Following are what Denso lists as QR Code benefits. For details for see

<http://www.denso-wave.com/qrcode/qrcode-e.html>

<p>Stores more data -“While conventional bar codes are capable of storing a maximum of approximately 20 digits, QR Code is capable of handling several dozen to several hundred times more information.”</p>											
<p>QR Code is capable of handling all types of data, such as numeric and alphabetic characters, symbols, binary, and control codes. Up to 7,089 characters can be encoded in one symbol.</p>	<table border="1"> <thead> <tr> <th colspan="2">QR Code Data capacity</th> </tr> </thead> <tbody> <tr> <td>Numeric only</td> <td>Max. 7,089 characters</td> </tr> <tr> <td>Alphanumeric</td> <td>Max. 4,296 characters</td> </tr> <tr> <td>Binary (8 bits)</td> <td>Max. 2,953 bytes</td> </tr> <tr> <td>Kanji, full-width Kana</td> <td>Max. 1,817 characters</td> </tr> </tbody> </table>	QR Code Data capacity		Numeric only	Max. 7,089 characters	Alphanumeric	Max. 4,296 characters	Binary (8 bits)	Max. 2,953 bytes	Kanji, full-width Kana	Max. 1,817 characters
QR Code Data capacity											
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Kanji, full-width Kana	Max. 1,817 characters										
<p>Small Printout Size. Since QR Code carries information both horizontally and vertically, QR Code is capable of encoding the same amount of data in approximately one-tenth the space of a traditional bar code. (For a smaller printout size, Micro QR Code is available.)</p>											

<p>Dirt and Damage Resistant: QR Code has error correction capability. Data can be restored even if the symbol is partially dirty or damaged. A maximum 30% of codewords*1 can be restored*2.</p>	
<p>Readable from any direction in 360°: QR Code is capable of 360-degree (omni-directional), high-speed reading. QR Code accomplishes this task through position detection patterns located at the three corners of the symbol. These position detection patterns guarantee stable high-speed reading, circumventing the negative effects of background interference.</p>	

End-Notes

ⁱ Daily visits are calculated by the security gate reports and represent the average number of visits per day by students and staff to the library for the days the library is open. In 2011, there were 1,052 students and 300 staff, though a proportion of the staff are part time and 286 students in the Early Learning Centre have their own smaller library. The figures suggest that a large number of students and staff are using the library more than once a day. This is also supported by the anecdotal evidence collected by the library staff.