

TEXTING LIBRARIANS @ CURTIN

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Abstract

SMS has become a popular way of communicating, particularly amongst the X and Y generation that are a large proportion of our university client base. As a form of communication it's mobile, asynchronous and in everybody's hands. At Curtin University Library and Information Service, we wondered if SMS could be used to provide quick, easy access to some library services.

In 2004 the Library and Information Service piloted an SMS service, enabling clients to SMS or text a query to the Library. This service is one of the first of its kind in Australia.

Before implementing the pilot, an environmental scan was conducted. Various methods of providing an SMS to email and email to SMS service were investigated. Curtin Library chose one of the options, then implemented and promoted a *SMS a Query* service for a 3 month pilot.

This paper will look at the various methods of providing an SMS service that were considered by the Library. It will describe the method chosen and how it was implemented, indicating problems and challenges that were encountered on the way. Lastly, it will focus on the response and results of the SMS query pilot, and provide tips for others who are interested in implementing a similar service... beginning with 'get those thumbs moving'!

Why SMS a Query?

Over the last decade, mobile phone use has increased exponentially. The Australian Bureau of Statistics reports that in 1998, 44% of households had access to a mobile phone. In 2002, this figure grew to 72% (2003). While 2004 statistics are not yet available, according to a Newspoll survey of 600 teenagers, 89% of teenagers living in Sydney and Melbourne have mobile phones (*89% of teens have mobiles: survey 2004*). And research firm IDC (cited in the Sydney Morning Herald) predicts that "by 2006, there will be more than 17 million mobiles in Australia – one for each person aged between 10 and 80" (Barton 2004).

The mobile phone phenomenon has truly taken off: according to an article in The Web Developer's Journal, "around a third of a million new subscribers join the world's mobile phone services every day" (Taylor & Starling 2004).

The Internet and the proliferation of mobile phones has led to a change in the way individuals communicate – and how reference queries are communicated in libraries. For a number of years, libraries have received queries in person, via telephone conversations, and (over the last decade) through the use of email and online Web-based forms. In an attempt to meet client needs, libraries are becoming more flexible in the way they deliver services. Many libraries, including Curtin University's Library and Information Service, are currently trialling or providing some form of virtual reference.

The concept of *SMS a Query* was suggested to complement the Library's existing customer services. Texting the Library would avoid using the sometimes laborious phone system; help alleviate any spoken language difficulties for the many international students at Curtin; and offer a readily accessible alternative to email.

SMS enables those with GSM (digital) mobile phones to send text messages of up to 160 characters to other GSM mobile phones. Technology is now also available to receive text-based SMS messages via a computer interface – and this is how Library staff at Curtin receive SMS messages from clients.

A 'How to' for establishing a Library SMS Reference Service

What are the options?

Prior to establishing the SMS service, an environmental scan was conducted using databases and the Web. While there appeared to be several ways in which an SMS query service could be set up, methods for implementing such a service varied greatly in both cost and the amount of work required.

While a mobile to mobile SMS service would have been easy to establish, for reasons such as ease of use and query tracking, the Library required a system whereby SMS queries sent to the Library would be received and resolved by Library staff via a graphical interface at a computer workstation.

The Library considered four possible ways an SMS query service could be implemented in this manner. These are outlined below.

1. As a feature of an existing library system: Library systems such as Spydus (produced by Civica) now include the option to automatically send SMS text messages informing clients when a reserved item has been placed on hold for them via notice production software (2003).
2. By purchasing a 'plugin' product. Products are now available which can be integrated into a library's existing email system to enable email to SMS messaging. Products such as gnokki can be installed and customised by local Systems and Technology (IT) staff.
3. Via custom-made technology such as Liblet (a Portalify product) through which clients can use SMS to send reference queries to the Library; renew library books; pay library fines and the check availability of library items. Liblet also enables the library to send due date reminders, recall, and hold notices via SMS (2002b). Popular in Scandinavia, Liblet has been successfully implemented by Chalmers University of Technology Library in Sweden, and Helsinki University of Technology (Pasanen & Muhonen 2002; Portalify 2002a). Australian company Altarama Systems and Services contacted Curtin Library regarding the *SMS a Query* service, and have since released a product with capabilities similar to Liblet (2004).
4. By contracting the service out to an external telecommunications messaging vendor such as WhileMobile.

For the purposes of the initial pilot, which was to determine what level of interest there would be in an SMS service, it was decided to opt for a system that had least implications for local IT staff and the Library budget. For that reason, the service was outsourced to external messaging vendor WhileMobile.

How SMS a Query works

SMS text messages are usually sent from one mobile phone to another. Although the method varies slightly depending on the make and model of the phone, generally an individual composes a text message using the keys on their phone, then selects a phone number the message is to be sent to, and sends the message. Messages can be up to 160 characters in length, including spaces.

Most phone vendors allow concatenation of phone messages. This means that messages over 160 characters are joined together – often enabling messages up to 740 characters to be sent, received and read either as one long message, or as a separate series of 160 character segments.

The philosophy behind *SMS a Query* is essentially the same, except that SMS text messages sent to Curtin Library arrive in the form of an email - and are replied to via email also.

Essentially, a client sends a text message to the Library's *SMS a Query* phone number via their mobile phone:

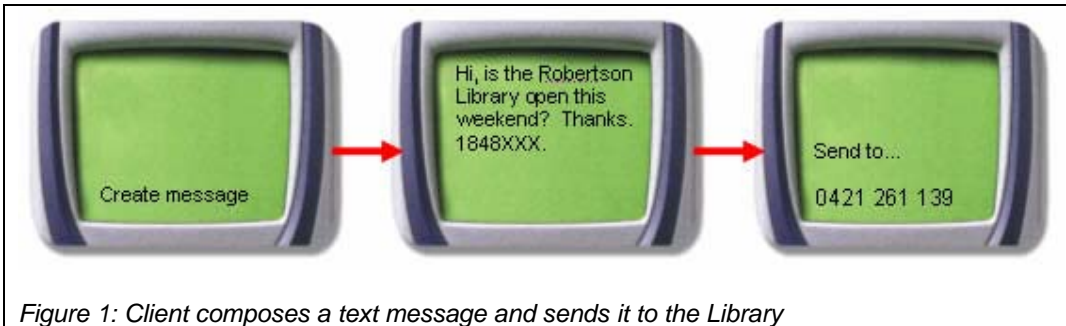


Figure 1: Client composes a text message and sends it to the Library

The message is received in the form of an email through an email mailbox set up specifically for the SMS service.

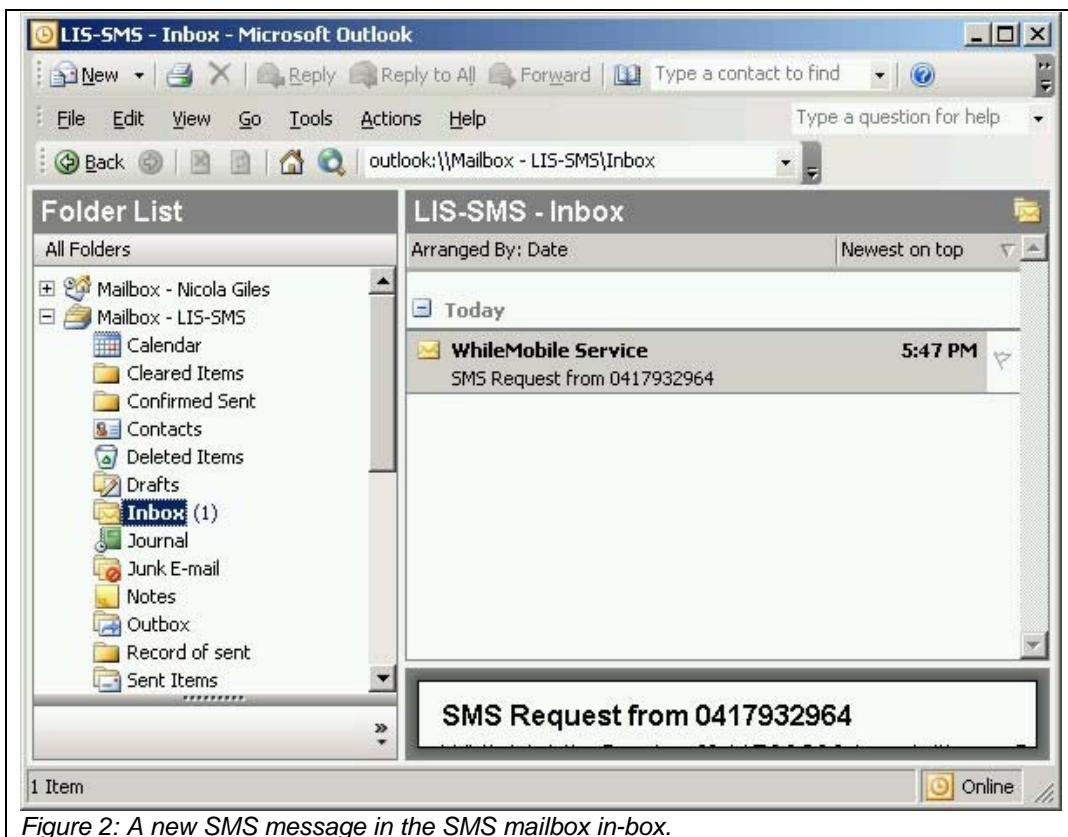
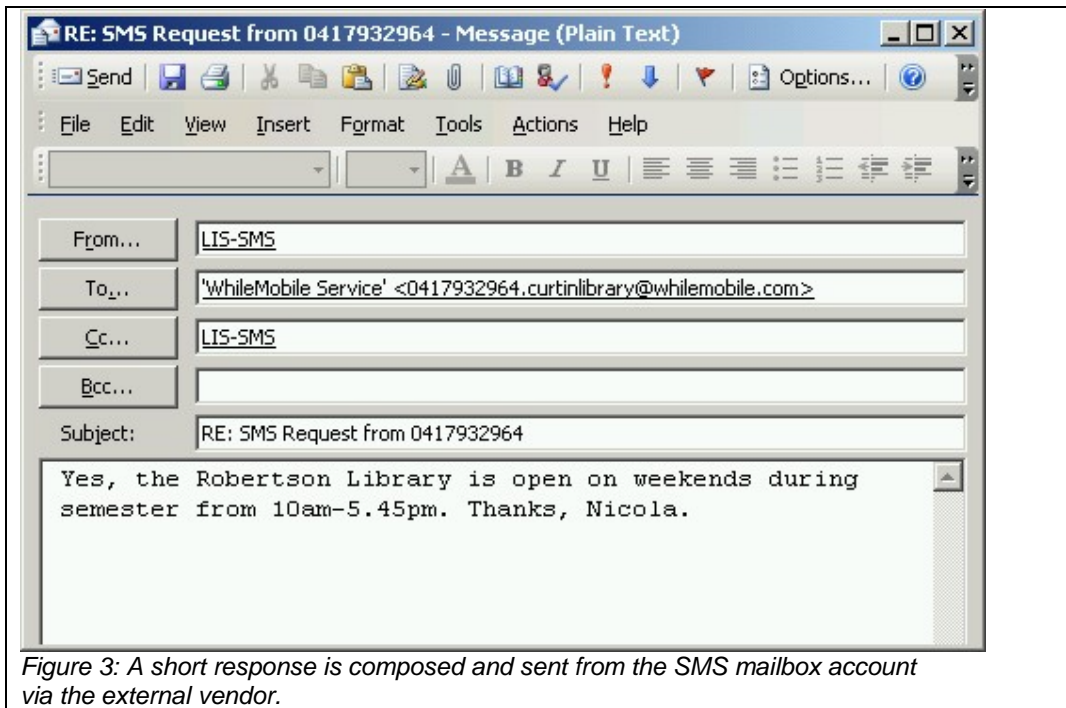
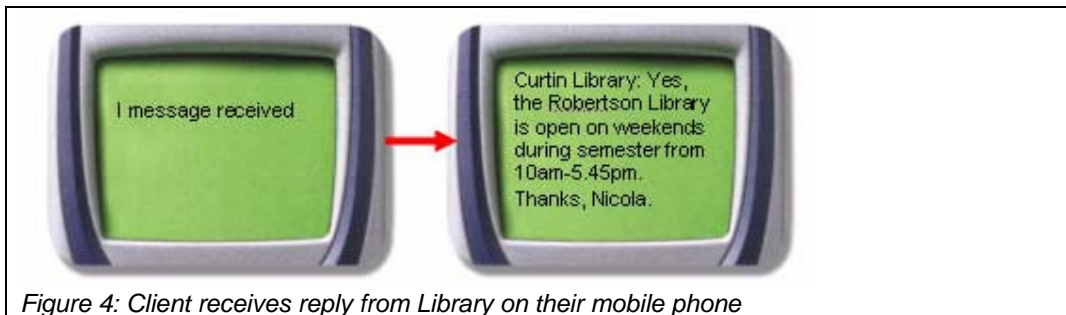


Figure 2: A new SMS message in the SMS mailbox in-box.

A response is composed, and the reply is sent back to the client.



The client receives the response on their mobile phone in the form of a text message. All outgoing messages are prefaced with 'Curtin Library', indicating to the client who the message is from.



Once the client has received the message, an automatic confirmation email is sent to the Library's SMS mailbox indicating so.

Curtin Library's SMS service can send up to 3 concatenated (joined) text messages to clients, giving Library staff approximately 440 characters (including spaces) in which to compose a response. Character count software is available to indicate how many characters (and spaces) are in each message.

Budget Considerations

The costs to establish the SMS query service were relatively inexpensive. Budget considerations included the costs of establishing the infrastructure (approximately \$1000); a monthly maintenance fee (\$30); and the additional cost of outgoing SMS messages. Outgoing messages are charged at the agreed rate of 22 cents per message. If the outgoing message exceeds 165 characters and is concatenated, the cost of the outgoing message increases accordingly: the cost of two joined messages is 44 cents, and the cost of three joined messages 66 cents.

Staffing SMS a Query

Staffing the *SMS a Query* service has proven to be considerably easier than staffing the virtual reference desk, primarily because SMS messaging is asynchronous, and therefore less demanding on Reference Desk staff.

For the duration of the pilot, queries received during business hours are dealt with by a team of 4 staff. Reference Desk staff have also been trained in using the service, and respond to queries received at night and on weekends.

Minimal staff training was required. As all Library staff are familiar with email, brief procedures were drawn up and staff attended a demonstration. Staff appear to enjoy the novelty and challenge of responding to queries, and ensuring the answer is within the 440 character limit. Staff are provided with a list of appropriate SMS abbreviations, and have access to standard answers to frequently asked questions.

As the volume of queries has not been overwhelming, providing the service has in no way strained existing resources.

The service appears to be relatively inexpensive to set up and maintain in terms of costs and staffing resources.

Promoting SMS a Query

The service has been heavily promoted. Upon launching the service, the Library ran a competition encouraging clients to use the service. Clients who sent an SMS query to the Library before a certain date were placed in a draw for a \$50 cash prize.

Other promotional strategies included publishing articles in Curtin's student magazine *Grok* and in library publications such as *InCite* and in *Biblia*. A press release was made available and stories were subsequently published by various community newspapers such as the Southern Gazette (*Book in with SMS 2004*).

The service has been promoted on Curtin campuses in tandem with the Library's virtual reference service. Posters were put up in all Curtin libraries; in computer labs and in the student guild area. Informational fliers promoting both services were sent to distance education students. The service was also promoted on the Library Website.

Response and Results: Let your fingers do the talking!

Number and Type of Queries

Over a six month period over 200 queries were received. Initially up to 6 queries were received a day, however the number of incoming queries has since abated and queries now appear to be arriving more gradually at a steady rate.

SMS queries are categorised in line with categories used at other service points in the Library, and are included in information provision statistics submitted to CAUL. A six month analysis of queries received indicated that the majority of questions sent by clients required a simple explanation.

Query Category	Example of question sent	Percentage of Queries Received
Explanatory	What time does the Library close?	71%
Catalogue	Do you have book X?	10%
Reference	When was PM John Howard born?	9%
Referral	Which senior librarian should I approach to discuss X?	8%
Technical	I am having problems accessing XXX database	2%

87% of queries received were during library opening hours.

The majority of queries were responded to within 160 characters. Only 13% of messages sent from the Library to the clients were longer than 160 characters and required concatenation (joining). 16% of incoming messages from clients required no response from the Library at all: these were usually messages thanking the Library for answering the query.

Number of SMS messages used to send a response	Percentage of messages
1 message	71%
2 concatenated messages	10%
3 concatenated messages	3%
0 messages (no response required)	16%

While the service aims to respond to queries arriving during opening hours within an hour, the average turnaround time is 74 minutes. While most queries can be dealt with quickly, some queries are more complex (or may require consultation with another department within the Library), thereby increasing the turnaround time.

Problems and Challenges

Usefulness of response

A number of other libraries interested in the service have enquired as to the ability to provide a meaningful response in so few characters. It must be acknowledged that there are 3 inherent problems with *SMS a Query*.

1. There is no reference interview process;
2. Clients have a limited number of characters to express their query; and
3. Library staff have a limited number of characters in which to respond.

While it is possible to provide an answer to the question 'How has Australia's PM power affected by traditional disciplined parliamentary parties?' within 465 characters, the client may require further information. It can only be hoped that the Library's answers are adequate, and that clients will inform the Library if the response has not answered their question adequately.

When in doubt or where appropriate, a contact telephone number and/or a relevant URL are provided for more information. 46% of messages sent to clients over six months contained either a URL or a contact phone number.

To date, there has only been one SMS query which could not be answered through the SMS service. A sample of 10 client queries and the responses provided by the Library is included in Appendix A.

International Coverage

Unfortunately, not all mobile network vendors support SMS messaging. While SMS is popular in Australia, Europe and Asia, its popularity is lagging in many countries (such as the U.S.A. (Bridges 2002)). The Library's SMS service is capable of responding to queries originating from international networks, however the Library can not guarantee the delivery of replies sent to clients. Delivery may not be possible if a roaming agreement between the Australian carrier and the international carrier does not exist. As text messaging becomes increasingly popular, and as network companies become more competitive, it is anticipated that roaming agreements will become a priority, and this will no longer be an issue.

Graphics

Many mobile phones support both SMS and Multimedia Messaging Service (MMS), allowing users to send graphics and audio. The Library's SMS service does not currently support MMS. A small number of clients have attempted to send graphics and have been unsuccessful. The Library has responded to these messages by sending a message to the client indicating that *SMS a Query* is a text based service only.

Client Feedback

Client Feedback

Clients have responded to the service extremely positively. A client survey has elicited feedback such as: "I think the sms query is very beneficial to all students and staff. The answer was prompt, and the service is highly satisfactory for me. I hope this service will keep going! Viva librarians!!! =)".

Survey results indicate that clients find the service easy to use (with the average rating 4.2 out of 5). 100% of clients reported they did not experience any problems using the service, and 92% of respondents claimed they would use the service again.

SMS a Query at Curtin – What Next?

The *SMS a Query* pilot will conclude at the end of 2004. In 2005, the service will be mainstreamed, and eventually integrated with the Library's online query service. As is the case with the online query service, queries received will be allocated to the appropriate department within the Library, who will then respond to the query accordingly.

Into the Future: Mobile Phone Applications in Libraries

"Cell phones are becoming more of an anchor tool in daily life: part mobile phone, part digital assistant, part camera, part MP3 player" (Startup develops way to transfer Web snippets to cell phones 2004).

In 2002, Bridges stated "...cell phones – in their next iteration as intelligent devices – represent a coming dominant information paradigm" . Nothing could have been closer to the truth. They are accessible, ubiquitous and unobtrusive. Bridges went on to predict the convergence of hand-held computers and internet-enabled mobile phones.

This revolution is underway – and as these technologies converge, the distinction between mobile phones, PDA's, MP3 players/iPods and pagers is becoming increasingly blurred: "Capabilities of the personal digital assistants (PDAs) will merge with cellular phones and provide much expanded content for the new products" (Hannon 2004).

In order to remain competitive, mobile phone vendors continue to produce more advanced products. According to In-Stat, "...more than 1.4 billion handsets, PDAs and Internet

appliances are expected to be equipped with wireless capabilities by the end of 2004” (Hannon 2004).

The result of this is an increase in the array of services available to those with Internet-enabled mobile phones. These services include the ability to receive news and information alerts (Gamba 2004); the ability to download novels (Barton); conduct mobile banking (*Got to be in it to win it* 2004) and search the Web.

But what does this mean for Libraries? How can libraries exploit these converging technologies to offer the best service to clients?

Content On Demand

Mobile carriers are now providing information to clients on demand, where responses are stimulated by code (Reidy 2004 p.33). By texting a mobile phone number and a code, clients can receive information on demand, such as stock prices, exchange rates and weather reports. Libraries could make effective use of such technology. Clients who SMS the Library with a particular code could stimulate an automatic response from the Library, outlining Library opening hours, or information on Library events, for example. It is possible to charge clients for such services, thereby recouping the cost of any outgoing messages: “delivering premium content over SMS requires that subscribers pay an additional charge beyond the cost of receiving a standard SMS message” (Reidy 2004 p.33).

Marketing through Broadcasts

Using a computer workstation, SMS broadcasts can be sent to a number of recipients (Reidy 2004 p.32). Libraries can send broadcast text messages to groups of clients promoting services such as new databases, extended library opening hours, or a new series of hands-on workshops: “*Want 2 hear about new ProQuest alerting service? Demo at main library, 10am on 27/11. Reply with SMS ‘alert’ to book!*”.

Mobile Librarians: In the Field

More content providers are providing mobile phone friendly content alternatives. While there are a number of sites that are WAP (Wireless Application Protocol) enabled, content vendors are also turning to ‘workarounds’ to avoid having to represent information in both HTML and WML (Wireless Markup Language: the language behind WAP). The Google mobile portal, for example, changes HTML to WML as required – and other content providers (such as Opera) present content in a single column of text, devoid of graphics, using a technique known as Small Screen Rendering (SSR) (McDermott 2003 p.10).

Access to an increasing array of information via converging hand held computers and Internet enabled mobile phones allows Librarians to provide an information service outside the traditional realm of the Library. Of her mobile phone, McDermott asks: “If my library’s Internet connection were to fail, could I use this miniature search engine to answer patrons’ questions?” (2003). Why not?

Librarians in academic and special libraries in particular could exploit wireless technology this way. In this way, librarians need not be static, stationed at reference desks, but roving around helping clients at their workstations.

Design Issues

Content is not always king! The way an information source displays information on a mobile phone/handheld computer is paramount in influencing the extent to which that resource is used. Libraries need to consider the appearance of content on handheld devices (such as mobile phones and PDA’s) when developing Websites and purchasing or developing online catalogues and databases (Bridges 2002).

Policy

Libraries need to acknowledge that handheld computers/Internet enabled mobile phones are legitimate information seeking tools: "Libraries also need to adopt policies which are handheld computer friendly" (Bridges 2002).

Tips for Others

An SMS query service may not be appropriate for every library. Evaluate the needs of your clients: do they use SMS services? For students at Curtin, SMS was clearly an appropriate technology: so many students use text messaging. In addition, it was felt that SMS may appeal to International students, who might prefer to read a message (rather than telephone the Library) due to language difficulties.

Look for a system that suits your needs. Curtin Library chose not to use SMS messages to alert clients of items on hold, or send overdue notices, but decided instead to focus on SMS as a medium to receive client queries. Different libraries have different requirements, and SMS services can be expanded to deal with these.

Keep an eye on new developments. SMS technology is being used increasingly by corporations to deliver client services. Watch not what other libraries are doing with this technology; but instead keep an eye out for what messaging services and large corporations (such as banks) are offering.

Start now – don't get left behind! SMS is a simple, quick and un-demanding technology to adopt, and (unlike new library management systems), is relatively easy to integrate and staff. Adopting such a cutting edge service is an easy way to impress clients (and apparently other libraries also) at minimum cost and fuss.

Conclusion

SMS a Query is just the tip of the iceberg in exploiting mobile phone technology in libraries. The provision of an SMS reference service is simple to provide – but in order to provide the best customer service, other applications require further investigation.

The *SMS a Query* pilot has shown that SMS technology can be a powerful communication channel for more than just the Library. For example, Curtin University administration is investigating wider use of SMS to email technology.

Smart Libraries use smart technologies – and this pilot has shown how Curtin Library has adopted one of the empowering technologies of today.

Thanks to Gary Wood (Curtin University of Technology Telecommunications Manager) and Gaya Jhaveri (National Account Manager, WhileMobile) for their assistance and support in establishing this service; John Frylinck for his persistence, and Peter Green, Colin Meikle and Julie Woodland (Curtin Library & Information Service E-Library Development Team).

Appendix A: Query Samples

All messages sent to clients are prefaced with the text: 'Curtin Library:'.

Query Sent by Client	Response sent by Library
My lecture said that I can download this book from the library. 'AS/NZS-ISO 9001:2000' Can you tell me, how i can get it? Thx.	Hi Go to the database Standards Australia Online in Gecko & search in Standard Number box for 9001. Can get full standard there. Colin
When is the Kalgoorlie library open on weekends?	Hi, yes during semester the Kalgoorlie campus library is open on Sundays from 1-6pm. 4 more info on Kal hours call 9088 6797. Nicola.
Hi, what time does the library close on thursday nights or any other weeknight for that matter? Thanks. 12635XXX	In semester the Rob lib is open Mon-Thur 8am-9.30pm; Fri 8-7.45. All hours r online @ http://library.curtin.edu.au/information/hours.html . Nic.
When is John Howard's birthday?	John Winston Howard born: 26th July 1939. Julie.
I was wondering if you could tell me where i could purchase the book GPS Satellite Surveying 3rd ed by alfred leick. I see you have recently purchased 2 copies.	Hi, u can buy this book from DA Direct online @ http://www.dadirect.com/ - search under the ISBN 2 find it: 0471059307. Nicola.
What is section 96 of australia's constitution?	See full constitution @ http://www.aph.gov.au/senate/general/constitution/ . S.96,under Chapter IV,relates to financial assist to States. Colin.
Can u do intra- uni loans at bentley? i.e. Borrow a book from uwa	Hi, if u r a current student u can borrow from UWA (or ECU or Murdoch): u will need your ID card & proof of current enrolment. 4 more info c http://library.curtin.edu.au/information/reciprocal.html . 4 info on interlibrary loan c http://library.curtin.edu.au/information/docdel.html . Call 9266 2145 for more info. Nicola.
Could u refill printer on level 5	OK will have someone attend to do this. Julie.
Any info on the eruption of mount st helen? Cheers	Hi-check link for latest reports from US Geol Survey http://vulcan.wr.usgs.gov/Volcanoes/Cascades/CurrentActivity/current_updates.html . Julie.
Can you confirm that the photocopying part of the library opens at 8.15am tomorrow and that i can get binding done there? Thanks	Hi, p/copy office open 8.15am-8.30pm Mon-Thur, 8.15am-7.45pm Fri. Spiral, fastback & thermal binding avail. For more info ring 92667973. Colin.

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