QR Code and Useful Applications in Libraries



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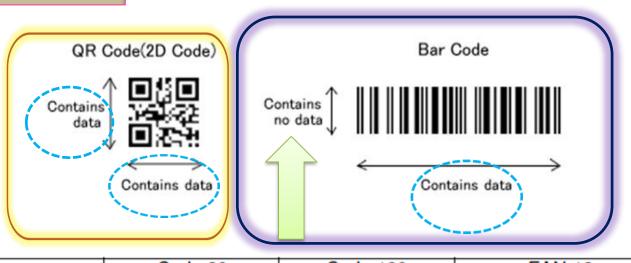
QR Code

- The QR (Quick Response) code is a type of **2D barcode**.
- They are sometimes referred as **2D codes**, **2D barcodes**, **mobile codes** & also known as a **Matrix code**
- Anything can be converted into coded information and present it for quick and access for later
- It can be decoded at high speed and from any direction or any position detection patterns

1D & 2D Barcode

2D Barcode

Stored data in non-linear fashion, such codes known as two-dimensional code.



1D Barcode

A barcode is series of bars and spaces arranged according to a set of rules that determines how data is to be represented.

1D barcodes	Code 39 123456	Code 128	EAN-13 1 234567 890128	9 731234 567897
	QR Code	PDF417	DataMatrix	Maxi Code
2D barcodes				

Anatomy of Barcode and QR Code



QR Code Structure

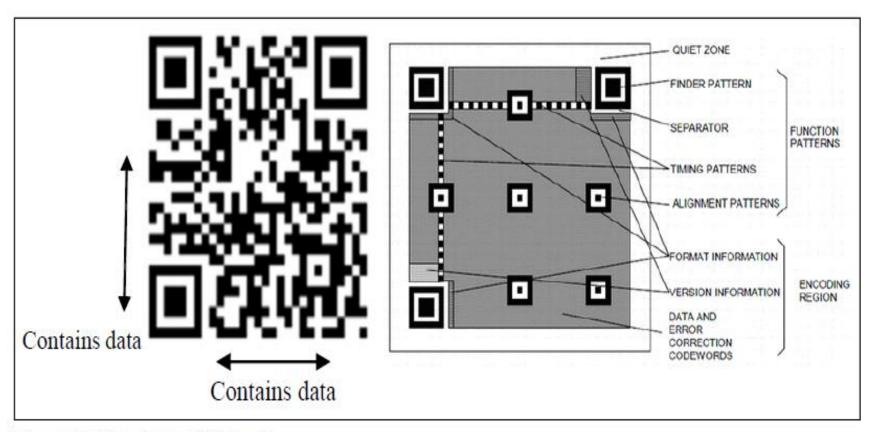
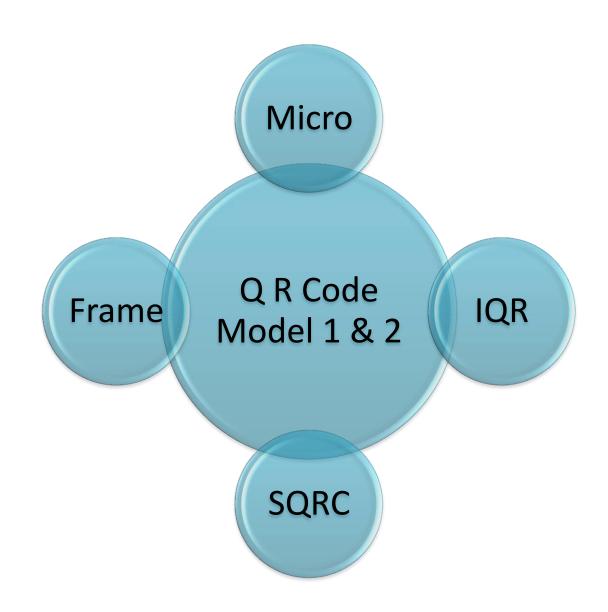


Figure 1: Structure of QR code

Source: Adopted from http://www.onbarcode.com/qr_code/.

Types of QR Codes



Types of QR Codes

There are five different types QR Codes: QR Code model 1 and model 2, Micro QR Code, IQR code, SQRC code and Frame QR Code:

- QR Code Model one and Model two are the typical types of QR codes which are considered as main structure of QR code for other types.
- Micro QR Code is type of QR code which has main feature as one position detection pattern and it has reduced size of printing.
- **IQR Code** is QR code which is present in both square and rectangular shape so that it can easily be printed on cylindrical products too. It stores more data in less space as compared to regular one.
- SQRC is full formed as Secure Quick Response Code hence it provides security to encoded data by providing reading restriction to it.
- Frame QR codes are the QR code which has canvas area for providing different shapes to QR code and making it more attractive to users and customers.

QR Codes

Static

- Once this type of code is generated then, we can't change the code again
- One time job

Dynamic

- Editable
- We can change the information according to the change of time and need

How to Read a QR Code?



Mobile Smart Phone

Mobile Camera

QR Reader App

Point the Camera on QR code

Read/Browse the Content

The Change Agents

- Quick Response (QR) code is one such technology which can cater to the user demand of providing access to resources through mobile.
- QR code is a convenient way to add the virtual to the physical and capable to store variety of information: Text, Hyperlinks, Phone numbers, SMS/MMS messages, Email addresses, Maps, Calendar Information in any direction that is horizontally and vertically.
- Mobile Tagging is one of the trends on the mobile front.
- It is a process that allows users to access digital content on their mobile devices via an encoded object.
- Libraries are implementing QR codes in both their physical and online libraries.
- Application of mobile technology in library services is the need of the hour.

Benefits of QR Code

• It's fast • Store huge amount of data • Use anywhere • No specific skill is required • No additional technology is required • Use the information later • Anyone can generate it Increased customer satisfaction • Environment friendly & Saves the paper

Generate QR Codes for...

- Website URL
- YouTube Video
- Image File
- PDF File
- Google Maps Location
- Twitter
- Facebook
- LinkedIn
- Instagram
- App Store Download
- iTunes Link
- Dropbox

- Plain Text
- Telephone Number
- Skype Call
- SMS Message
- Email Address
- Email Message
- Contact Details
- Digital Business Card
- Attendance Tracking
- Event (VCALENDAR)
- Wifi Login
- Paypal Buy Now Link

Many more...





Exponential Information JUST ONE SCAN AWAY

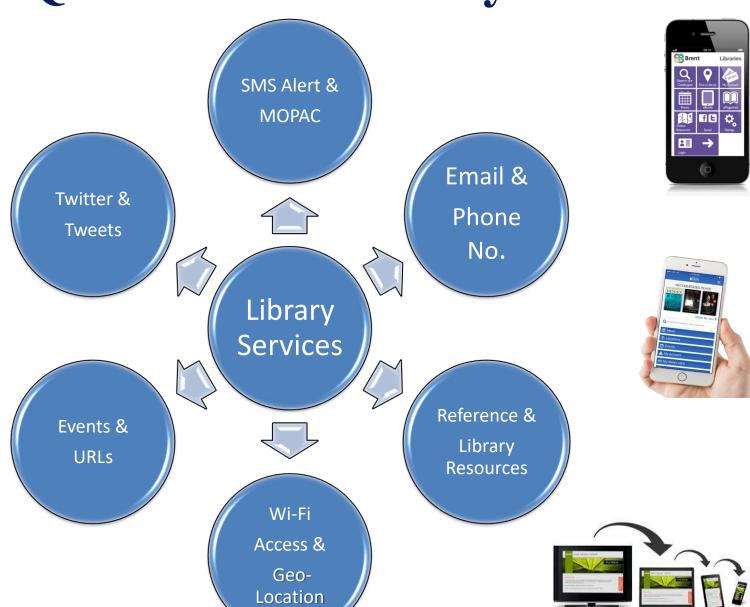
Code Based Library Services

Use of QR Codes in Library Services









Laptop

Tablet Phone

QR codes in Libraries

- Library Audio Tour
- Group study room scheduler
- Marketing/ Promotional materials
- Linking from print to electronic Journal Holdings
- Providing an electronic alternative to physical books
- Promoting online audio-visual materials
- Embedding video help
- Bringing external resources into the library
- Finding appropriate help
- Taking the catalogue record with you
- Seat Reservation
- Wi-Fi proper utilization



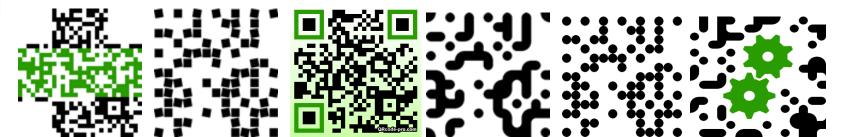






QR Code Applications in Libraries

Examples



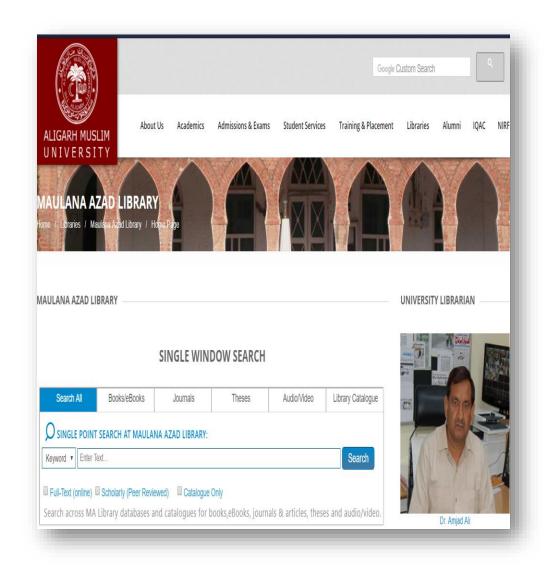
Scan the QR Code for our Library Contact





Scan the QR code for our Library Website





Multi URLs

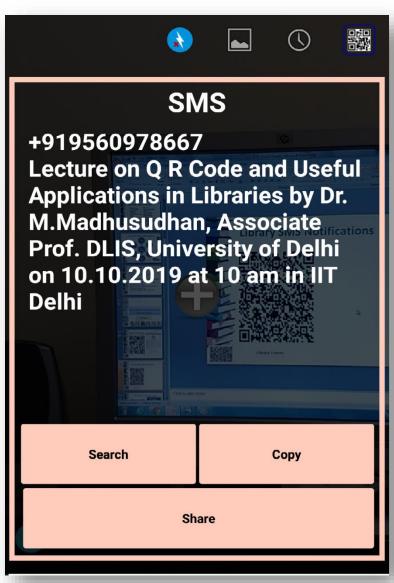




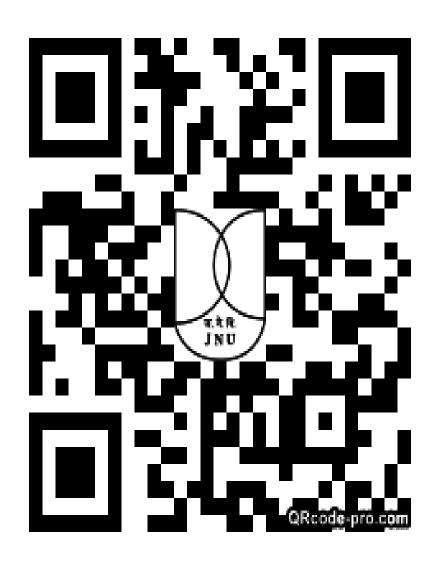
Library SMS Notifications

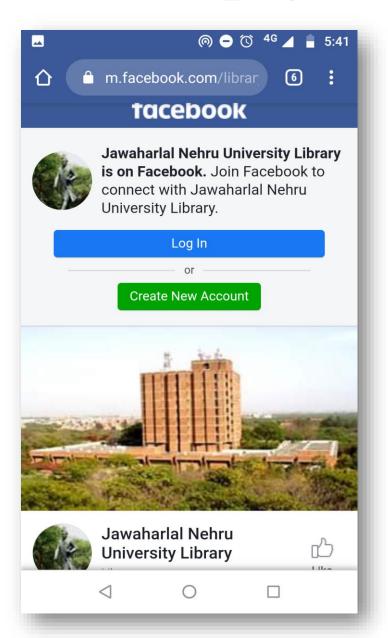


Library Events



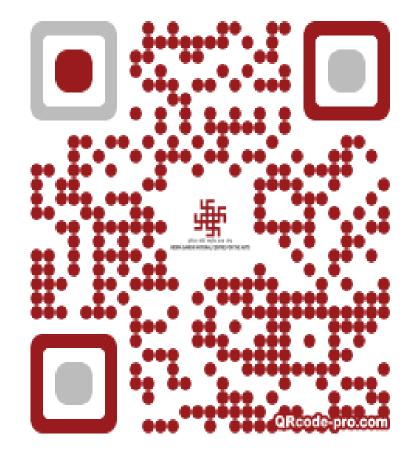
Scan the QR Code to our Facebook page







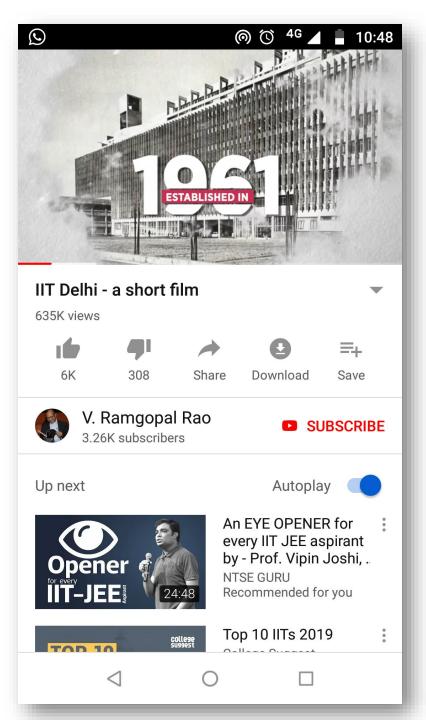
IGNCA@Twitter





Scan the QR Code to Watch our YouTube





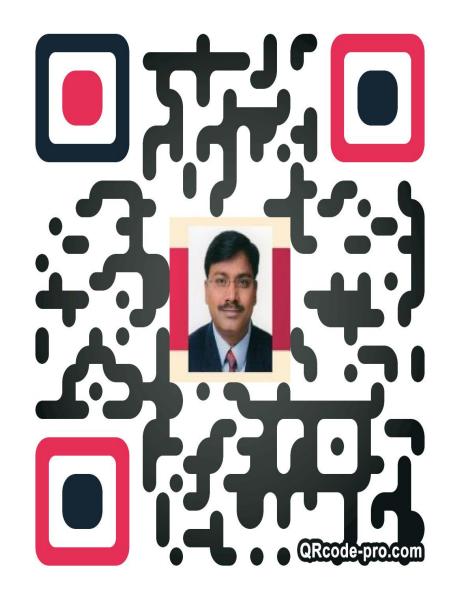
SMS Reference

Ask-a-Librarian SMS service is offering mobile patrons the ability to text their questions to the Librarian.



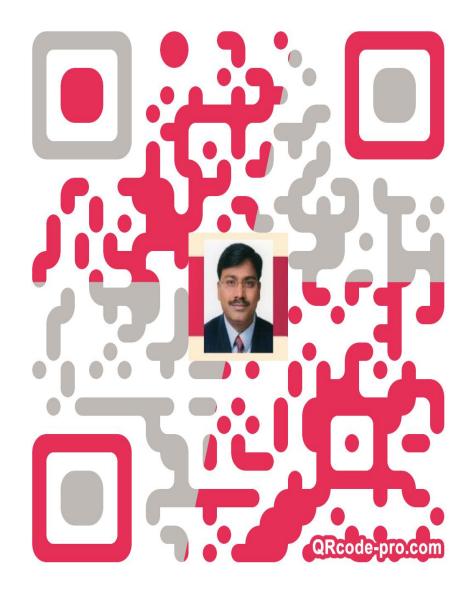


Mobile Number





Website





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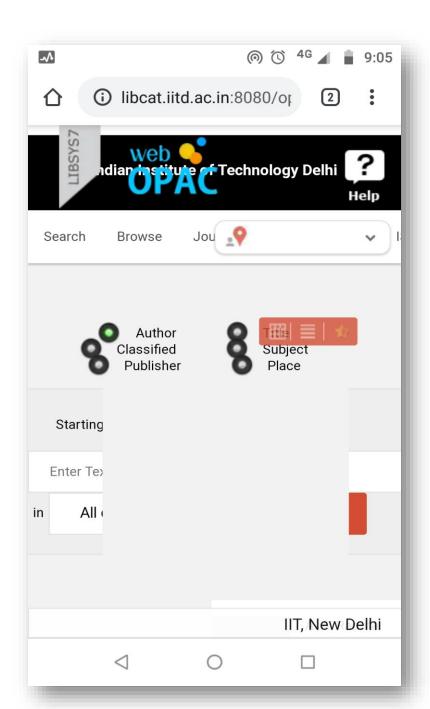
Email:madhumargam@gmail.com;



Web OPAC @ IITD Library

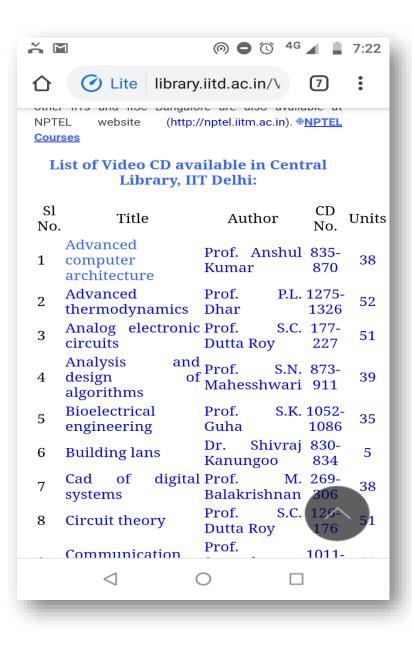


 Library displayed many titles on the shelves with QR code system and user can access these titles using QR code scanning by smart phone.



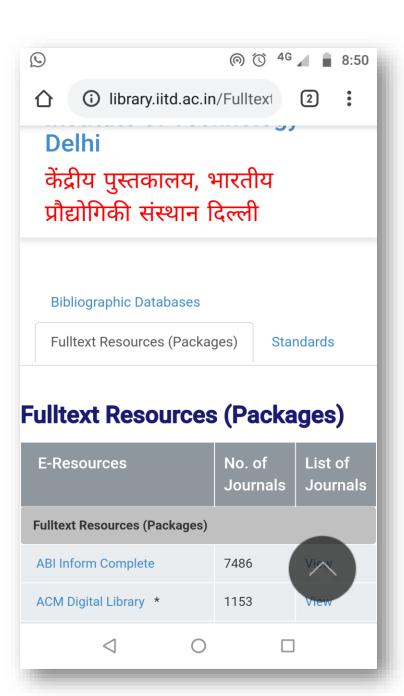
Video Library Services @ IITD Library





Full Text Databases @ IITD Library





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Journal of Knowledge & Communication Management Volume 6, Number 2, October 2016, pp. 114-127 DOI: 10.5958/2277-7946.2016.00010.3



Quick Response Codes in University Libraries: User Expectations for Fast Retrieval of Information at the University of Delhi

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ABSTRACT

The study engages the survey approach to examine the user expectations at the University of Delhi. Through a structured questionnaire supplemented with a short interview, the data collected seek to understand the perceptions and expectations of the students for the implementation of quick response (QR) code in the Delhi University Library System (DULS). The findings of the study reveal that in the growing atmosphere of mobile devices in universities, it is time for libraries to make best use of QR code technology in their libraries by leveraging it in many library operations as discussed in this paper and later sensitise the patrons for its effective use in the retrieval of information. One more purpose of this study is to highlight the pros and cons of QR code technology in library settings. The findings of the study will certainly help the DULS, University of Delhi for effective use of QR codes for marketing its sources and services.

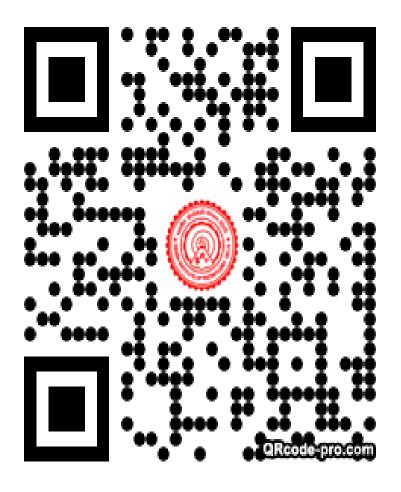
Keywords: Quick response codes, Two-dimensional matrix barcode, Mobile codes, Matrix code Delhi University Library System, University, Delhi

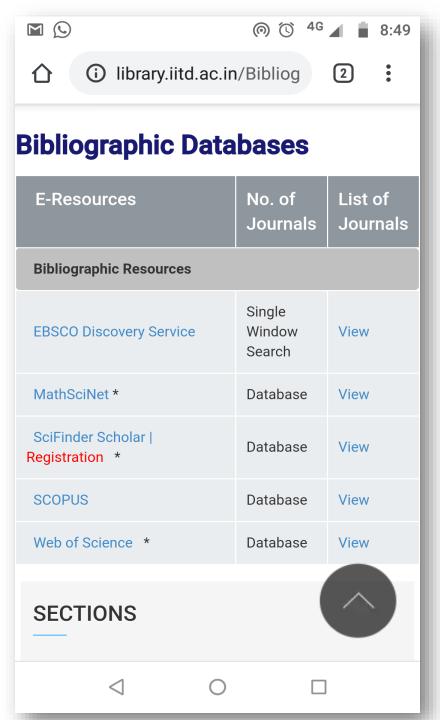
INTRODUCTION

QR stands for quick response that is a type of two-dimensional (2-D) matrix barcode that 'once scanned using exploitation sensible and web capable mobile devices/phones having camera, with QR Reader put in as default application, allows one to access some pre-written content such as a website address, email address, details of things within the catalogue, phone numbers etc.' (Shettar, 2013). In other words, QR code is capable to store information (numbers, texts, hyperlinks, contact details, calendar information, e-mail addresses, phone numbers, Short Messaging Service (SMS), maps, social network information and others) in any direction that is horizontally and vertically. One distinguished feature of QR code in comparison to the classic barcode is that it has

^{*}Corresponding author

Bibliographic Databases @ IITD Library





E-Books @ IITD Library

- Rapidly increased the demand of eBooks in educational communities.
- To easily access the eBooks by the users many libraries, publishers, aggregators are create and publish a QR code of book (title) so users can be accessed via these QR codes.







Central Library, Indian Institute of Technology Delhi

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- - May 18-24,
- May 11-17.
- April-27, May-3, 2019
- 2019

- April 14-19,
- - March 30-April
- 05,2019
- March 23-29.
- March 16-22,
- March 9-15,

Feb. 23-1

March. 2019

- May 4-10, 2019 March 2-8,
- April 20-26.

- February 16-22,
- April 6-12, 2019 _ February 9-15,
 - February 2-8,
 - January 26-Feb. 1, 2019
 - January 19-25,
 - January 12-18,
 - January 5-11,

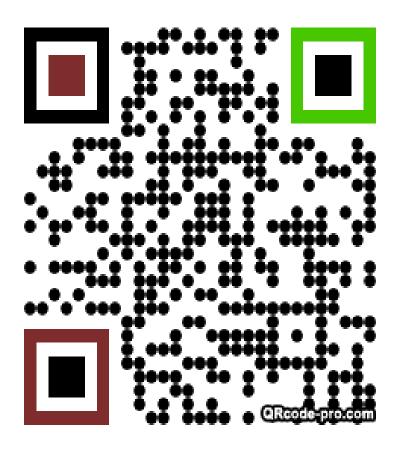








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Applied Linear Regression. Wiley Series in Probability and Statistics	Weisberg, S.	Wiley	20
Computer architecture	Patterson hennessy	Elsevier	20
Computer Architecture: Pipelined and Parallel Processor	Flynn, Michael J.	Jones & Bartlett	19

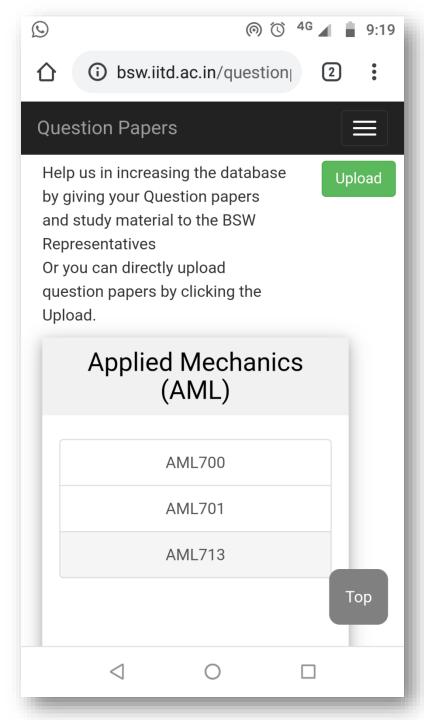






Question Papers & Study Materials @ IITD Library

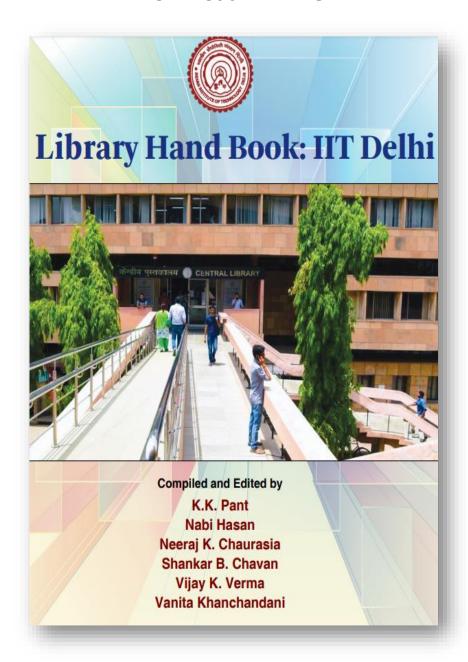




Library Hand Book: IITD Library

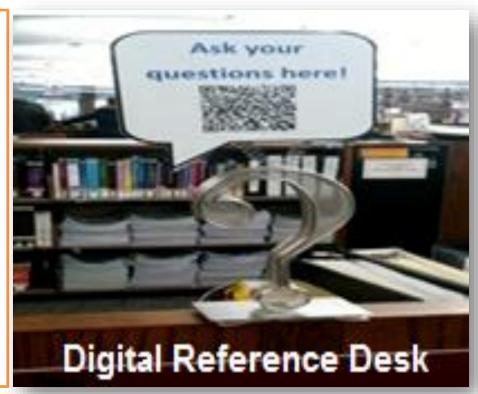


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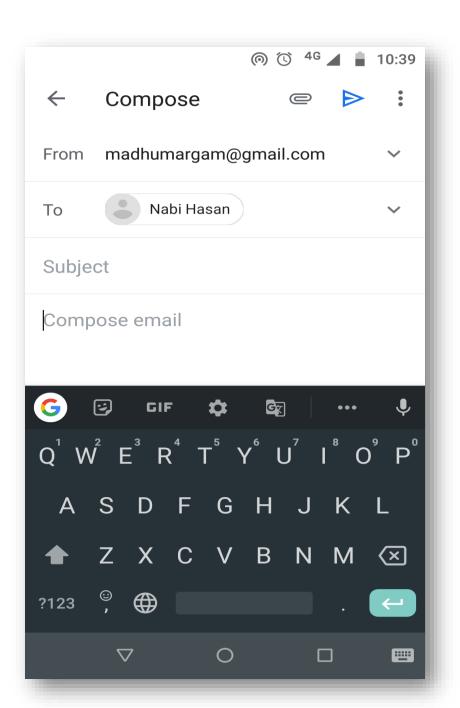
Digital Reference Service

- •Digital library professionals setup a QR code based digital reference service platform to provide the fast and smooth library services on users mobile smart phone.
- •In digital environment, it is very popular and beneficial to the users.

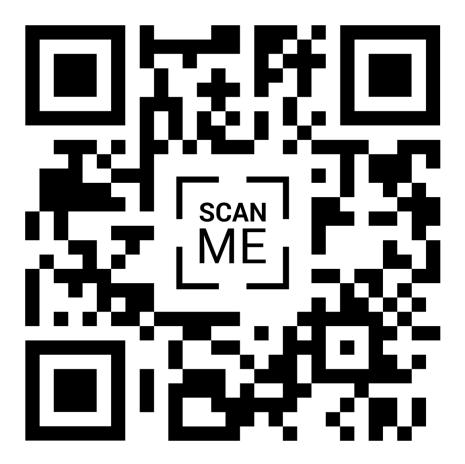


Scan to mail





Event QR Code



National Seminar

on

"Access and Availability of Medical Literature in Electronic Environment"





National Seminar on "Access and Availability of Medical Literature in Electronic Environment"

The principal objective of this event is to provide a platform for the exchange of knowledge and skills of relevant medical literature/information search and retrieval in the electronic environment. Promote the latest information dissemination tech

RSVP



Wednesday, 07 Jun 2017

All day

When

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Abo

Use of Mobiles in Library Services by Dr. M Madhusudhan, Asstt Prof., University of Delhi, New Delhi

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Dr. S. Siva Chidambaram

Organizer

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Phon

chieflibrarian.aiims@gmail.com

Ema

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website

Callouts



QR Code Callouts



Book Polls



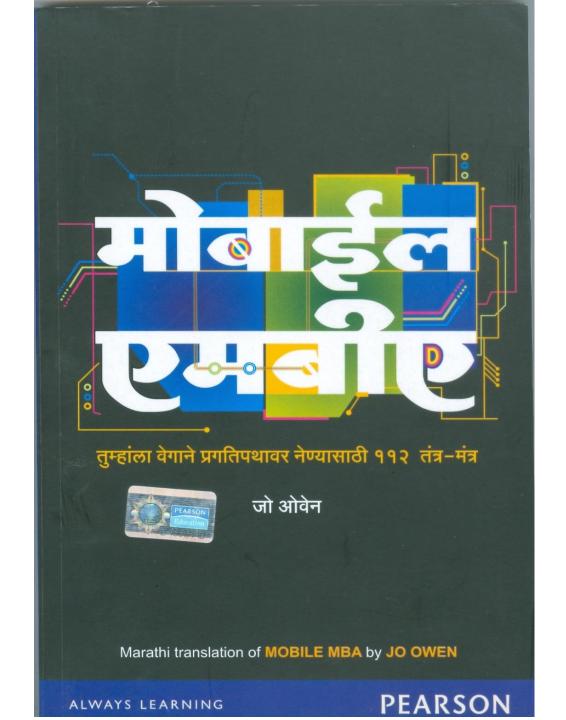
QR Code @ Book for Contents

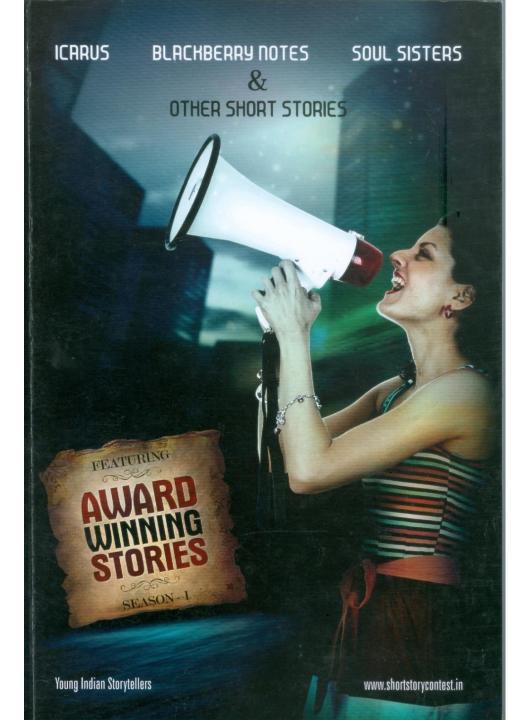
रणनीतीचे विश्व

(The World of Strategy)

- रणनीतीचे स्वरूप २
- रणनीतीचा उपयोग कसा कराल ४
- तुमच्या क्षेत्रात रणनीती राबवणे ६
- रणनीतीचे चार स्तंभ ८
- रणनीती आणि अनुचित स्पर्धेची कला ९
- पोर्टफोलिओ रणनीती १०
- तुमच्या कंपनीसाठी व चमूसाठी ध्येय ठरवा १२
- विलीनीकरण व कब्जा १३
- नव्या कल्पना कशा साकारायच्या १५
- रणनीतीची भाषा १६
- उद्योग कसा सुरू करावा १८







namesake, Razia the Sultana. It was the poetry that held what had never become, Hafeez's love for Razia, she thought, as the words on the page stared back at her like the stars that begin to form in the waters of a deep dark well. They smelt of a promise, of a beginning that beckoned like the morning *adhan*, holy and pure, in the hope it carried.

Avishek Parui is a doctoral candidate and tutor in the Department of English Studies, Durham University, UK, researching on cinema, nervous trauma, and the narratives of post-First World War English Literature. He has been awarded the British Council Certificate for Creative Writing Training in 2009. Winner of the Short Fiction Award, 2010 by The Platform Magazine and the poetry competition titled Journeys, he has published in various literary magazines and journals including The Grove, Humanities Underground and Pirene's Fountain. He had featured in the annual Best Poetry Collection for 2009 and 2010 by Forward Press UK.

QR Code @ Book for Author's Profile



Icarus Blackberry Notes Soul Sisters / 27

*N. Nakkeeran1, Sanjay P. Zodpey2

¹Associate Professor, Indian Institute of Public Health, Gandhinagar, Gujarat, ²Director, Public Health Education, Public Health Foundation of India, New Delhi, India

Summary

Traditionally, qualitative studies are founded on interpretative and constructive epistemology. The process of data collection in these studies is longer and intensive. This helps to build a strong rapport with the community, hence enabling to capture the field as naturally as possible. These characteristics provide an ample scope to take care of quality and validity of data. However, in applied situations, data collection is often a truncated activity. This robs away a number of taken-for-granted strengths of traditional qualitative research methods: No time is spent on rapport building; holism is left behind, instead we engage in selection; we focus narrowly on specific phenomenon of concern, divorced from its context; analysis does not evolve out of an iterative process. In this paper, we aim to discuss some of the issues related to rigor and quality of such studies and strategies available to address them.

Key words: Applied qualitative research, Qualitative health research, Qualitative research, Theoretical sampling, Validity

QR Code @ Journal Article for Journal website link

Introduction

In a study, based on a "systematic sample of 100 trials, published in English from the register of the Cochrane Effective Practice and Organisation of Care Review Group", Simon Lewin and others find that 30 of them used qualitative methods along with the randomized control trials (RCT). From these 30 studies, they identified at least 11 "ways in which qualitative methods can be used alongside randomized controlled trials", thus highlighting the important role qualitative methods could play even in RCTs, considered as the gold standard in bio-medical research. At the same time, they also point out that the

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PMID: 22684166	首级底

"rigor of qualitative studies undertaken alongside (these) randomized controlled trials ... is an important concern", and they identify "major shortcomings in many of these studies", including "lack of a clear justification for the qualitative approach used, ... inadequate descriptions of context, sampling, data collection, and analysis methods; little reflection on the researcher's role in the research process ... and insufficient evidence to support the claims made in the paper".

How do we address these issues of rigor and quality in these situations? It is encouraging to see an increasing use of qualitative methods in applied situations. A majority of applied qualitative studies in medicine or public health gets published in journals, meant for studies done with quantitative principles. Publishing in these journals not only requires a certain structure of writing but also a certain form of representing the reality and adducing evidence. There is also a trend in the direction of systematic reviews of qualitative studies. These aspirations introduce a number of restrictions on these studies in terms of design of the study as well as the structure of their publication. These restrictions are often compounded with limitations, stemming from limitation in funding and inappropriate use of computer based software for analysis. Equally, we see extensive use of qualitative methods in program implementation and

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Reviewing information systems evaluation models

Evaluation research applies social science procedures to assess the conceptualisation, design, implementation and utility of social intervention programmes (Rossi & Freeman in Babbie & Mouton 2001:335). Furthermore, evaluation studies have three main purposes, namely, (1) to

Digital Reference Service

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- In digital environment, DRS is very popular and beneficial service to the users.



SHELF ENDS

Scan the QR Code to receive details of your

Subject Librarian



QR (Quick Response) Code is atype of barcode. When you scan or read a QR code with your iPhone, Android or other camera-enabled Smartphone, you can link to web pages, receive information contained in the code as text format to name but a few functions. You need to download and install a QR Code reader application on your mobile phone and this will enable you to scan the barcode, which will then link you to the information

Sociology

Pauline Murray



To receive the information by text



To link to Pauline's subject page

If you require kelp or further information on QR codes in the Library, contact library, in the critical formation on QR codes in the Library, contact library, in the critical formation on QR codes in the Library, contact library, in the critical formation of the codes in the Library contact library in the critical formation of the codes in the Library contact library in the critical formation of the codes in the Library contact library in the critical formation of the codes in the code in the



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QR (Quick Response) Code is a type of barcode. When you scan or read a QR code with your iPhone, Android or other camera-enabled Smartphone, you can link to web pages, receive information contained in the code as text format to name but a few functions. You need to download and install a QR Code reader application on your mobile phone and this will enable you to scan the barcode, which will then link you to the information

Scan the QR Code to link to the guide via Youtube



Renew library material online



Off-campus access



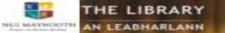
The library catalogue



Library orientation video

If you require help or further information, contact library.infoservices@nuim.ie or tel: 01.708.6445





LIBRARY EXHIBITIONS



Scan here to learn more about Pádraig Ó Duinnín!



Library Building Updates

The Library is changing

On **Friday 8th April** work will commence on a temporary entrance to the Library. We would like to inform users of the following:

- . All PCs in the multimedia area on the ground floor will be inaccessible from Friday 8th -Tuesday 12th April
- From Monday 11th April access to the Library will be via the new temporary entrance

The Library would like to apologise for any inconvenience caused by these works.



http://library.nuim.ie/about-us/NewLibraryBuilding

QR Code for Promotion of Library Collections









Create digital "way finders" in the stacks

FIGURE 1. A QR code for our library tour. **Library Audio Tour Stop** What's this? http://lib.byu.edu/sites/grcodes/

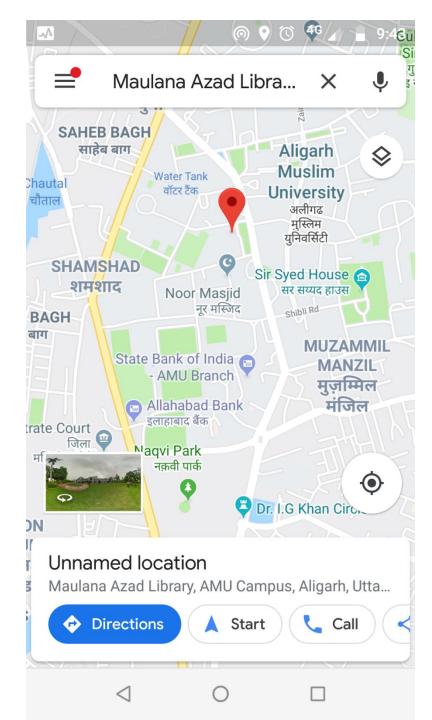
How To Find a Journal Article goo.gl/bGz1y Or drop by the Reference Desk.

Source: http://lib.byu.edu/sites/qrcodes/

Source: http://goo.gl/bGz1y

Geo Location of Maulana Azad Library, AMU, Aligarh





QR CODE GENERATORS



STEPS FOR CREATING QR CODE

 Navigate to a specific QR code generator or use your favourite search engine to find one.

• Select the type of data you want the QR code to encode.

• Type or paste in the data requested by the generator.

• Generate the QR code.

QR CODE GENERATORS

- BeeTagg (<u>www.beetagg.com</u>);
- Google QR Code Generator (<u>chrome.google.com/webstore/detail/qr-code-generator/</u>)
- I-nigma (<u>www.i-nigma.com</u>)
- Kaywa (http://qrcode.kaywa.com/)
- QRCode Pro (www.qrcodepro.com)
- Neoreader (www.neoreader.com)
- Nokia Barcode Reader (<u>mobilecodes.nokia.com/</u>)
- RedLaser (<u>redlaser.com</u>)
- Snapmaze (http://mobile.snapmaze.com/jar)
- Scanlife (<u>www.getscanlife.com</u>)

QR CODE GENERATORS

- QR Droid (http://qrdroid.com/generate)
- QuickMark (<u>www.quickmark.cn/</u>)
- Qurify (<u>www.qurify.com/es/</u>)
- Qurify (http://www.qurify.com/en/)
- Upcode (www.upc.fi/en/upcode/)
- Zxing (code.google.com/p/zxing/wiki/GetTheReader)
- http://goqr.me/
- http://www.qr-code-generator.com/
- https://www.the-qrcode-generator.com/
 - Many more in Commercial & Public Domain

Benefits of QR Code Applications to Library Service

User Friendly

Personalized Service

Ability to
Access
Information

Time Saving



User Participation

Location Awareness

Limitless Access

Conclusion

- Another vehicle for code based information
- Bridge from physical to the digital world.

QR Code

Library

- Libraries in Hand trend
- Access the library resources with simple a scan of a code
- Increase ROI both Print and online collection

- One Scan away for exponential Information.
- Open the door for information on the go

Services

Further Readings

- Madhusudhan, M.and Saleeq Ahmad Dar " Mobile Information Services and Initiatives in University Libraries: A New Way of Delivering Information." *DESIDOC Journal of Library & Information Technology* 37.2(2017):109-118.
- Saleeq Ahmad Dar and Madhusudhan, M. "Quick Response Codes in University Libraries: User Expectations for Fast Retrieval of Information at the University of Delhi "Journal of Knowledge & Communication Management 6.2 (2016):114-127.
- Saleeq Ahmad Dar and Madhusudhan, M. "Leveraging Mobile Devices in Enhancing Information Services: Perception of students in different Universities of Delhi." *World Digital Libraries*, 11.1 (2018):29-40.
- Singh, A. and Parvinder Singh. Evaluating Quick Response code and its scanning process using USB device. *International Journal of New Innovations in Engineering and Technology*, 5.4 (2016): 45 -54.

Acknowledgement:

• Thanks to all the authors/ universities/websites/Libraries, who's original works are cited/created/used in the form of images, QR codes (QR code Pro & QR Stuff & others) and screenshots in this presentation for better illustration/understanding and also for academic purpose only.





THANK YOU

