



Use of QR codes by libraries

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Abstract:

QR (Quick Response) codes, a type of barcode is being increasingly used for payment and has now found its application in libraries also. QR codes have emerged as a very useful tool for libraries for offering services to readers. QR codes can be scanned using smart phone or mobile phones with camera to decode the code. QR codes are two-dimensional (2-D) matrix barcodes. QR codes can be generated free of cost using freely available QR code generator website and can be printed and can be pasted on Notice boards or inside the library premises for the use by library users. QR code contains link to a website or application. Libraries can create QR code containing link to Library Website, Library WebOPAC link, Library brochures, E-resources list, Audio-Visual (AV) materials list, New Arrivals List, List of Journals etc. In this paper Use of QR codes by libraries in explored and its possible application is listed.

Keywords: QR Code, Libraries, Mobile Phones, Smart Phones

Introduction:

QR codes are two-dimensional (2-D) matrix barcodes. QR code can be decoded by making use of Internet available smart phone or mobile phone with camera or any application capable of scanning QR codes. Users can scan these QR codes using their smart phone to access the content link that is embedded in the QR code such as website address, any type of files containing information in various formats like pdf, ms-word, jpeg image etc (Shettar, 2017).

The QR codes an easy to understand and use technology is slowly bridging the gap between print and digital era. The QR code was developed by Denso Wave in the year 1994 for a Toyota subsidiary in Japan. This technology was initially developed for application in manufacturing, product marketing and promotion by Toyota. Its use has later widely been made by many companies and other service organization also. There is a lot of benefits associated with the use of QR code, library and information professionals learned about its benefits of its application in libraries and started using it for promotion of the various library products and services like digital documents, audio, video and other types of e-resources (Das, Kumbhar and Ramswaroop, 2020).

QR code can also be misused for fraudulent activities also and thus poses security concerns also. Misuse of QR code can happened as it can be easily replaceable without noticing any change and can be used for scams and malicious activities. Malicious QR code can be used for scamming activities so as to direct the users to phishing websites or for downloading harmful software so as to scam the users (Dudheria, 2017).



- **Benefits of QR code for libraries**

QR code comes with many benefits and it is cost effective as it can be freely generated using any website offering to generate free QR code. Link to a website, a file or document can easily be embedded inside a QR code provided that the link is active on the Internet. Nowadays smart phones are very common and almost everyone is using it, QR code can be scanned to get the desired information. The QR code generated can be displayed on internet website or circulated through emails or printed on physical object like Posters, Hand-outs, display boards etc. QR code can be read using any internet enabled Smart Phones or tablet with a pre-installed QR code reader application. If such QR code scanner is not pre-installed on Smart Phones or tablet, it can be installed from Google Play store for Android devices and iOS application for iPhones. There is no need of any special scanner and printer for printing QR code as like the case of barcode (Shettar, 2017).

The benefits of QR code for libraries are as follows:

1) Convenience and Accessibility:

The major benefits of QR code for libraries include convenience and accessibility they offer. Users can themselves access information using their own smartphones and there is no need for searching of resources manually. QR code offers the users flexibility thus increasing overall user experience which makes it easy for the users to find and use library resources. Users can use their own mobile phones for accessing the library resources and do not need to depend on any external device.

2) Cost Effective:

QR code can be printed in a very minimal cost and is relatively inexpensive compared to other technological solutions. QR code can be scanned by using the own devices by the users thereby removing any financial burden. The cost-effectiveness of QR code allows libraries to innovate and make an improvement in user experience without making any financial investment. As the budgets are shrinking for the libraries due to escalating cost of resources, as it enables to leverage technology without extensive expenditure.

3) Engagement:

QR code can help in keeping the users of the library engaged by offering useful interactive and multimedia content. For example, giving link to video tutorials or digital exhibition can keep the users engaged in useful content. If the libraries create QR code of interactive content, it can attract more users to it, in particularly the young students who like digital content. If the libraries provide varied and interactive resources, libraries can reach up to different learning styles and preferences, enhancing their educational role.

4) Real time updates:

Link embedded in the QR code can be updated in real time and thus can offer updated information in real time, by which the users can be provided with latest information. If there is sudden change in any information like in case of Conference/Seminar if there is suddenly there is a change in a schedule or location the participants can be requested to scan the QR code to see the change. The dynamic capability of QR code ensures that users receive more accurate



and up-to-date information, thereby improving the reliability and usefulness of QR code-linked content. It thus helps the libraries to quickly disseminate important update or changes, so as to reach up to the users.

5) Space Efficiency:

QR code occupies a very little space and contains large amount of information. QR code reduces the need for extensive signage and printed materials, which frees up library space. For example, due to the availability of mobile phone with every user, libraries can make use of the QR code instead of using large posters with detailed instructions or for more additional information a small QR code can redirect the users to the required information. This helps in reducing space and avoiding use of more paper materials thus creating a more organized and visually appealing environment. By using QR code the use of paper can be significantly reduced, thereby helping in environmental sustainability goal, minimizing paper usage and wastage (Paul and Naikar, 2014).

• QR code application in libraries:

The use of QR code can be made by libraries for various purposes and its use is increasing in popularity and is gaining wider acceptance. QR code is not a new technology now and it can be used for disseminating useful information to library users via QR code. Libraries are also not left behind in using QR code; many academic libraries located in western countries are making use of QR code. QR code can be pasted on Notice board or near Circulation counter so as to increase the usage of library resources.

Some of the potential QR code application in libraries as follows:

- QR code can be created to direct the users to a Virtual Library Tour.
- QR code can be created to give access to library maps and library guide.
- QR code to provide access to WebOPAC and Subject guides.
- QR code can be prepared to provide access to e-resources, Online Journals and e-book database.
- QR code can be created to provide access to library website, blogs and to social media website of library.
- QR code can be created to provide access to Library Membership Form, Event membership and a link can be provided to participation in a survey.
- QR code to access WIFI facility.
- QR code to access to provide services like Ask-a-librarian” through email, SMS and telephone.
- QR code can be created to provide links to online version of print materials.
- QR can be created for the purpose of marketing and promotion of instruction guide (how-to-use) of newly subscribed resources and newly offered services.
- QR code can be created and pasted on racks of books to offer location of the book.
- QR code to offer library outreach activities and competition.



- QR code can be created for List of New Arrivals, Book reservation and for library newsletter subscription (Shettar, 2017).

4. Generation of QR code

QR code is two dimensional image sensors which can be understand by some programmed processor. The three squares are located in three corners using a smaller square are used to maintain the size, orientation, angle of viewing etc of QR code. The dots are used for representing the data by using binary digits through an error correcting algorithm.

There are two types of QR codes: One is static QR code, which is one-type job, once this type of code is generated it remains permanent, it can't be changed. The second one is dynamic QR code, which can be edited. We can change the information as per change of time and need (Rahaman, 2016).

QR code can be generated free of cost using following websites:

The QR code generators - <https://www.the-qr-code-generator.com/>

TEC-IT Online QR code generators - <https://qrcode.tec-it.com/en>

Adobe Express QR code generators - <https://www.adobe.com/express/feature/image/qr-code-generator>

Qrcodemonkey QR code generators - <https://www.qrcode-monkey.com/>

Conclusion:

Quick Response (QR) code can be generated free of cost and offers the library ease in offering services to its readers in real time. QR code is easy to generate and it's cost effective. Libraries can reach up to its users in real time. QR code has a lots of benefits associated with it. Libraries can disseminate information about useful resources as well as it can market its products and services to the users in real time. Users can use their own smart phones to scan the QR code to get the information anytime, anywhere.

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