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Use of QR Code Technology for Provide Library Services to Research Scholar

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Abstract:

This paper is practical base research paper, this paper provides research related literature, information, resources and databases which are available in the library. Library has provide ICT based library service such as online services, e-resources and used barcode technology for circulation system etc. Now recent library has use QR code technology for provide library services. QR code technology has popular technology in ICT era because of its fast readability and hug storage capacity than barcode. Research scholar scan QR code can downloads and save database in their device for access or use anytime and anywhere for their research work. Library has created database of content of journals Applied Economics, Economic Development in India, Rural Development, Bank Management, Case Folio, Soft Skill, Entrepreneurship Development, Think Line, EPW, University News etc. Research scholar easily access and search the articles in database related to their research work.

Keywords: QR code, Adarsh College Library, Library Services

Introduction:

Revolution of ICT mobile devices, such as the iPhone, iPad, iTouch, and similar products from various manufactures, have found their way into the education sector. Innovative educators are developing creative ways to incorporate this universal technology into students' learning experiences. One of such inventions is the quick response code, commonly called QR code. Quick response (QR) codes are a type of two dimensional barcode. This is quite different from regular barcodes which only hold information in one dimension (horizontally) and are seriously limited in the amount of data they can contain. As well as explosion of information researchers are confused for search information for their research work. Everyday new research and came new information they cannot find out particular information which are need of information for research work.

QR codes was first introduced in 1994. They were developed by Denso Wave, a division of the Japanese corporation Denso, in response to the 20 alphanumeric character limitation of the bar code that has been universally used on all products that are scanned by optical scanners on cash registers (Denso, n.d.). Unlike the uni-dimensional bar code, the QR code is two-dimensional and is capable of coding more than 7,000 characters. Because of its added capacity, the code was quickly adopted by the automobile industry to track parts in the manufacturing process. In 2002, it became used extensively throughout Japan when mobile phones were marketed with QR code-reading features. QR codes have since gained universal popularity because Denso, while retaining the patent, kept the product as an open source code that anyone was allowed to use.

Over time, the traditional black and white pattern has evolved into a variety of formats, such as the LogoQ, which uses color and can be comprised of images embedded into it. QR codes are quickly readable from any angle, thanks to the large square patterns on three of the corners. An error correcting capability allows up to 30% of the code to be damaged or missing without losing data (Denso, n.d.). QR codes can contain a variety of types of information. The most common use of the codes is to convey a web address. However, the versatility of these codes extents from links to YouTube videos to several paragraphs of text for students to read. Codes that contain web addresses, email addresses, links to YouTube video, and so on, save time typing in the address and eliminate the possible error of entering the address incorrectly. This is particularly useful for young children or individuals with motor challenges who find typing or copying an address difficult. Plain text codes are an easy system for students to transfer blocks of text for viewing onto their devices. Basically, the QR code allows students to access digital resources in fewer clicks (Barrett, 2011).

The benefits of QR codes include the following:

- Easy ACCESSIBILITY THROUGH SMARTPHONES.
- SAFETY—TAKES STUDENTS DIRECTLY TO THE WEB PAGE THEY WANT
- EVERYONE, ANYTIME ACCESS
- HUGE INFORMATION STORAGE CAPACITY.
- EASY TO SAVE DATA ON SMARTPHONE.

NEED

LIBRARY IS GROWING ORGANISM EVERYDAY INCREASE COLLECTION OF THE LIBRARY EACH AND EVERY BOOK CANNOT SEE OR KNOW ABOUT BOOK. ALL LIBRARY COLLECTION CODED IN QR MEANS IN 2 DIMENSIONAL CODE LIBRARY USERS OR COMMUNITY CAN SCAN QR CODE AND DOWNLOAD LIST OF BOOKS IN THEIR DEVICE AND CHECK BOOKS WHICH ARE BOOKS AVAILABLE IN THE LIBRARY.

INTERDISCIPLINARY: QR CODE TECHNOLOGY IS USED TO ALL USERS. IT IS INTERDISCIPLINARY USE ALL STREAM STUDENTS AND TEACHERS CAN ACCESS AND USED IT FOR THEIR STUDY, RESEARCH WORK AND ENTERTAINMENT ETC.

Objectives

- To awareness of QR code technology.
- To promote mobile based Library services.
- TO promote mobile base library products.
- To provide fast and easily library services to users.
- To provide library resources in 2 dimensional code.
- To save time of users and staff.
- To Promote and aware of use of open source technology

Scope of the study

Practical researcwork of this study, QR code library services and products provide to the research scholar of Business Economics research center of Adarsh College of Arts and Commerce College Badlapur affiliated to University of Mumbai

Methodology:

Use action research, descriptive methodology and case study of Adarsh College of Arts & Commerce, Kulgaon-badlapur.

Use of QR code technology in Libraries

In 21st century libraries are fully computerized and they know about demand of the users. They always try to provide world class services to their users beyond physical boundaries. There are many libraries that have implemented QR technology. The names of some notable libraries are given below:

- Savitribai Phule Pune University, Pune (PUMBA)
- Tezpur University Central Library, Nappam, Assam
- Lafayette College Library
- Syracuse University Library Learning Commons
- Half Hollow Hills Community Library
- Contra Costa County Library
- Topeka & Shawnee County Public Library

With the advent of ICT and awareness of technology among people, QR codes are being used everywhere. So QR codes can be used in library for develop library product such as list of books, journals, CD-DVD and Maps etc. So we can say that QR code can be used in a variety of ways as per need. The main aim of using QR code is to give brief message to the users. There are several ways to use the QR code in Library environment

“Library Success: A Best Practices Wiki” has a QR Codes page and is one place where librarians and others can share and link to how their libraries are using QR codes. 5 The wiki provides a great way to find ideas and learn from each other.

Examples of QR code uses in libraries include:

- Library exhibits that include a QR code link to songs, videos, web blog, report, pamphlet and surveys etc. or other information that augment the exhibits.
- Codes in the library stacks/end caps or magazine/journal areas that point to online electronic holdings of print materials or related subject guides.
- Linking to library pamphlet to aware or advertise of Library.
- Code added to print handouts for additional information on mobile friendly sites.
- QR code with text that loads the library’s text message reference service and other contact information into the patron’s phone.
- Art shows or permanent art in libraries with a QR code linking to the artists’ Web sites.
- In catalog records to offer patrons basic info about an item, including the location and call number.
- Users can scan the code and head to the stacks rather than writing or printing.
- Taped to video/DVD cases, linking to mobile-friendly video trailers.
- Code placed on staff directory pages and research guides that go to mobile friendly sites for later reference.
- Code placed on audio book cases for author interviews or books for reviews.
- Code placed on study room doors connecting to room reservation forms.
- Library video tutorials—individual videos or create a QR code to a YouTube playlists of videos, which create a great mobile home screen app that can be saved for easy access, as needed.

About Adarsh College Library:

Adarsh College was established in July 1995 with the objective of facilitating Quality Higher Education to the students in and around Badlapur. The College imparts Education in Arts and Commerce Faculty and offers self-financing professional courses like BBI, BMS, BAF, B.Sc (IT) & BMM. The vertical expansion in terms of Post Graduate and Research Program has come into effect in the

form of P.G. courses in M. Com and M.A. in subjects of Marathi, History and Economics. The college is recognized 'Research Center; for pursuing Ph. D. in Business Economics. College has near about 1400 students admitted for various courses.

Library also established in July 1995, it has rich and quality reference collection for readers. The college has a spacious Library well situated at ground floor of main college building. Library has a well light and well ventilated separate reading hall for Boys & Girls. The college library is the hub of learning with a collection of about 28585 books including 8948 general reference books, 95 Encyclopaedia, 64 National and International journals and magazines, and 281 CD/DVDs and collection of 32 Maps. Library has subscribed e-resources under N-LIST Program.

Library Services:

Various services provided by the Library the details are as follows:-

- | | |
|-----------------------------------|-------------------------------------|
| • Document Delivery | • Reference |
| • Publishers Catalogues | • Book Exhibition |
| • Periodicals (Reference Service) | • Internet |
| • Book Review | • OPAC (Open Public Access catalog) |
| • Clipping | • Reprographic |

Now library newly started QR code panel service for library readers. QR code service provide for purpose of promote library service as well as save the time of users. Today mostly student has smart phone, they are using smart phone in their day today life. So library has developed QR code in the library. QR code products of Library as follow QR code:

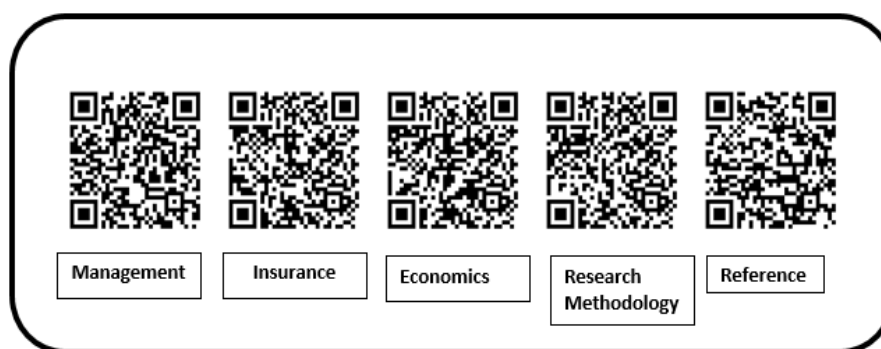
- | | |
|------------------------------|----------------------------|
| • Library Pamphlet & weblog | • Library services |
| • Subject wise list of books | • Library membership forms |
| • Old question papers | • E-mail service |
| • All Book bank forms | • Library report |

Above QR code panel display on notice board and issue counter for scan. There is given title SCAN ME and collect information. Students demand of old question papers before QR code we provide hard copy of old question papers that time only two three students could refer now students scan QR code of old question papers and download link and papers. Now save time and money of students. They solve and refer old papers at home and share to their friends.

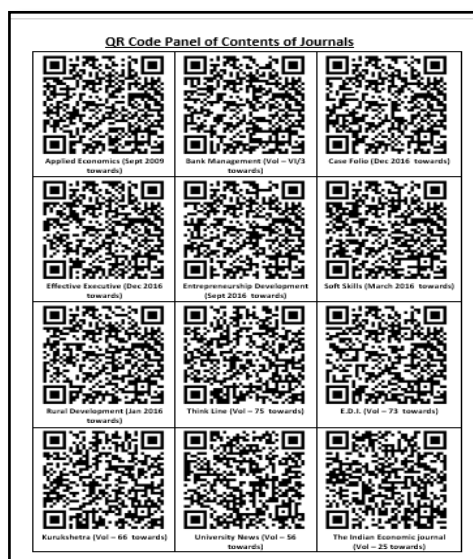
Developed QR code for Research Scholar:

Adarsh College has research centre of Business Economics. There are total 8 students enrolled and they are using library resources and search research related literature in books, periodicals and e-resources. Now they are access QR code through smartphone and download research related resources. Following QR code developed for research scholar.

QR code of research related subjects. (Economics, Management, Commerce, Research Methodology etc.)



QR panel of Content of Journals: Library has subscribed 64 periodicals. Create contents of 12 research related journals. Researcher scan QR code by smartphone download data and find research related articles or literature in the downloaded content.



Above developed QR codes access by researchers as well as Undergraduate and post graduate students for their project or dissertation work.

Conclusion:

In the world. Libraries has challenged of information explosion and development of various technologies. In this present ICT era, Adarsh College library has developed QR code panels and display on notice board, library blog and issue return counter. Library users easily access data and scan QR code download data on their device user can use data anytime and anywhere. They can search of their research work related books, articles and reports etc. Library has make separate room for research center of Business Economics. 5 subjects and 12 journals' content QR code display in research room. Researchers access QR code and find out literatures.

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