

# QR-based U-Learning Material Production System to Create Authentic Learning Experiences

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**Abstract:** Quick Response code are two-dimensional bar codes that can be scanned by mobile phone with embedded camera. In the automatic identification fields of QR code has been widely. These codes can be used to provide fast access to URL, SMS message, phone number, V-card, or any text and QR codes can hold much more information than a regular barcode. The information encoded is a QR code images. In education as the movement of using QR codes is still its infancy whenever the number of smartphones, Internet enable cell phones in this country is increasing rapidly, librarians are able to use QR codes to promote service and help library users find materials quickly and independently. The aim of study is investigate the potential role of QR codes for the management library university to do that this study has been divided into two parts. At the second part we have conducted with the survey to analyze the use of QR code technology is the interesting of among undergraduate students at the Library University.

**Keywords:** QR Codes, Barcodes,Authenticity, Learning

## 1.INTRODUCTION

In modern societies, the pervasive nature of handheld mobile devices such as tablet computers, personal digital assistants (PDAs) or smartphones can extend the learning environment far beyond classroom walls. Such rapid development of technology has forced digital learning to adopt a mobile learning (m-learning) platform. This mobile learning model is provided a new delivery mechanism to overcome time and space limitations of traditional classroom learning. Recently, the context-aware ubiquitous learning (u-learning) was identified as a novel learning environment, an environment through which students can be taught appropriate content at the right time and in the right place. This novel learning environment can detect contextual information in the real world and adapt accordingly to provide customized learning content through mobile devices in response to different learning contexts or situations.

## 2.MATERIALS AND METHODS

Since 2014, Comparative study of Barcode, QRcode and RFID System. Author(Rohan Kankapurkar, Anand Parekar) Wireless sensors are standard measurement tools equipped with transmitters to convert signals from process control instrument into a radio transmission. The radio signal is interpreted by a receiver which then converts the wireless signal is to a specific, desired output, such as an analog current or data analysis via computer software. This paper gives a brief on wireless

sensors and their types like Barcode, QR code, RFID along with their characteristics and working components. The Barcode is a optical machine-readable representation of data relating to the object to which it is attached. On the other hand the Radio- frequency identification (RFID) is the use of a wireless non-contact system that use radiofrequency electromagnetic field to transfer data from tag attached to an object, for the purposes of automatic identification and information that is easily scan and processed typically by mobile devices allowing physical items to almost become interactive, by providing information that is easily scan like a website URL. RFID Technology ( Manjeet, Neeraj,2015). This paper gives an overview of the current state of radio frequency identification RFID technology. A side from a brief introduction to the principles ofthe technology, major current and envisaged field of application, as well as advantages, and limitations of use are discussed. Radio frequency identification is a generic terms that is used t describe a system that transmits the identity (in the form of a unique serial number) object or person wireless, using radio waves. It's grouped under the broad category of automatic identification technologies. RFID is increased to use with biometric technology for security. In this paper Basic Principles of RFID technology along with its types are discussed.

#### STUDENTS DISCOVER A QR CODE



once students discover a QR code, they can access related course content by selecting the system icon on their mobile devices and scanning the QR code. The ulearning system decodes the internal information contained in the QR code, and accesses the corresponding multimedia material package according to the coded instructions. This ensures that the correct package is selected by the u-learning system, which processes and deploys the multimedia materials to the active mobile device(s). Then, students can interact with the relevant materials designed by the teacher, without hassle directly from their mobile devices.

#### EXISTING SYSTEM:

The RFID technology did not stop at item tagging. The paper also presents current research that focus on locating and tracking labeled object that move. Since the uses for RFID tags are so widespread, there is a large interest in low costs for producing them. It turns out that printing tags might become a viable alternative to traditional production.

## DRAWBACKS IN EXISTING SYSTEM

RFID proves to be too expensive for many application as compared to other tracking and identification methods, such as the simple barcode. It is difficult for an RFID reader to read the information in case the tag are installed in liquid or metal products. The problem here is that, liquid and metal surface tend to reflect radio waves.

## PROPOSED SYSTEM:

Proposed u-learning system achieved better result than participant learning via conventional methods. We believe that the proposed u-learning system is advantages because it enhance students motivation and allows for higher levels of engagement, particularly during outdo or learning activities.

DESCRIPTIVE STATISTICS FOR FOUR MOTIVATIONAL FACTORS.

Factor	Control group		Experimental group	
	M <sub>1</sub>	SD <sub>1</sub>	M <sub>2</sub>	SD <sub>2</sub>
Attention	3.56	0.16	3.67	0.45
Relevance	3.62	0.20	3.96	0.24
Confidence	3.41	0.31	3.76	0.32
Satisfaction	3.53	0.27	3.94	0.42

## ADVANTAGES IN PROPOSED SYSTEM:

The advantage to using these tools is that you c develop the content once and then revise as necessary. You don't have to constantly prepare and schedule delivery, and the learner can access the content anytime and pursue learning at his or her own place. In this module both users can perform the login and the registration process. When the new users will register the User name, Password, and Conform Password into the registration page. After registration the process, the next stage is login i the process, when the login page contains the user name and password field. When the users will give the correct data to login into the given application. DATABASE CREATION. Once the user will create the particular data's into this application, the data's will store into the database. In this process we use the SQLite, it is an in-process library that implements a self transactional SQL database engine SQLite engine is not a stand alone process like other databases, you can link it statically or dynamically as per your requirement with your application. The SQLite access its storage files directly. QR-CODE GENERATOR. A QR code (Quick Response Codes) are a type of two-dimensional barcode that can be read using smartphones and dedicated QR readin that link directly to text, emails, websites, phone numbers. In this module we have to choose the appropriate field, And give the required content into the given field which we wants to be shared to another user. After the process click the gene button, when the given content will generated into the QR code.

## RESULTS

### LOGIN & REGISTRATION.

In this module both users can perform the login and the registration process. When the new users will register the User name, Password, and Conform Password into the registration page. After registration the process, the next stage is login into the process, when the login page contains the user

name and password field. When the users will give the correct data to login into the given application.

#### **DATABASE CREATION.**

Once the user will create the particular data's into a's will store into the database. In this process we use the SQLite, it is an process library that implements a self-contained transactional SQL database engine SQLite engine is not a stand alone process like other databases, or dynamically as per your requirement with your application. The SQLite access its storage files directly.

#### **QR-CODE GENERATOR**

A QR code (Quick Response Codes) are a type of two-dimensional barcode that can be read using smartphones and dedicated QR readin that link directly to text, emails, websites, phone numbers. In this module we have to choose the appropriate field, And give the required content into the given field which we wants to be shared to another user. After the process click the gene button, when the given content will generated into the QR code.

#### **QR-CODE SCANNER.**

The QR code Scanner is the process of scanning the QR codes and retrieving the data from the QR code sent by the first user. In this process the scanner will work with the help of the mobile phone camera for scanning. Then the scanner will capture the QR code or images, through the camera function ,then the sender data will retrieve by the receiver through the QR code scanning. After finishing the process the data will display into the receiver device.

#### **DISCUSSION**

The QR Code versions have ranged from 1 to 40 versions. Each version of the QR Code is different with its modules. Each module of the QR Code is appeared as the random patterns of black and white which contained in the square box. Also, the QR Code utilizes black patterns for standing the binary number „1“ and uses the white patterns for standing the

binary number „0“. Therefore, the biggest symbol of QR Code has the ability to hold much more data compare to a smaller QR Code symbol. Figure 2.4 displays the QR Code symbol versions. Thus, it is obvious that each version of the BAR Code is extended to four additional modules on each side of the symbol of QR Code.

#### **CONCLUSION**

Nowadays, the mobile phone with camera embedded is getting more popular and mobile phone is getting more important and practical to recognition QR code symbol. The purpose of this paper is to design a library system combined with QR code application. To integrate this concept, we can assist students to read more information about books at the library conveniently. They can use their mobile phones to reach their reading habits will be stored within the QR code symbols.

**REFERANCES:**

- [1] T. Wakahara and N. Yamamoto, "Image Processing of Dotted Picture in the QR Code of Cellular Phone", International Conference on P2P, Parallel, Grid, Cloud and Internet Computing, PP. (454-458), (2010)
- [2] H. A-Lin, F. Yuan and G. Ying, "QR code image detection using run-length coding," In Proc. of the IEEE International Conference on Computer Science and Network Technology, Vol. 4, PP. (2130-2134) (2011).
- [3] H. Hanks, "Successful Scanning: A Guide to QR Code Best Practices", (2012), The Agency Inside, PP. (1-18)
- [4] C. Law and S. So, "QR Codes in Education", Journal of Educational Technology Development and Exchange, Vol. 3, No. 1, PP. (85-100), (2010)
- [5] Denso Wave Incorporated, "QR Code Standardization", (2010), Denso Wave Incorporated in Japan, [Online] Available:
- [6] R. Ashford, "QR codes and academic libraries Reaching mobile users", ACRL TechConnect, Vol. 71, No. 10, PP. (526- 530), (2010)
- [7] T. Kneese, "QR Codes for the Dead", Intel Science and Technology Center for Social Computing, Vol. 29, Issue 3, PP. (1-2), (2014)
- [8] Y. Du and D. Godu, "2010 Top Ten Trends in Academic Libraries", ACRL, PP.(286-291), (2010).
- [9] S. So, "Beyond the simple codes: QRcodes in education", Proceedings ascilite Hobart: Concise Paper, PP. (1157-1161), (2011).
- [10] A. Probst, "The Expectations of Quick Response (QR) Codes in Print Media: An Empirical Data Research Anthology", UW-L Journal of Undergraduate Research XV , PP. (1-13), (2012)