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Bharat QR Code - An Insight

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ABSTRACT

India has seen a sharp increase in adoption of cashless modes of payments ever since demonetization. Both private and government organizations are coming up with new methods to ease digital payments. Digital payments have become easier than before. But to make digital payments even easier the Government of India has launched Bharat QR code. It is a single inter-operable QR code. Bharat QR is supposed to take digital payments to a higher level of convenience. Bharat QR Code is another step towards a less-cash society. This can help to attract more people towards cashless payment methods.

Introduction

Over the past few months, the Government of India has been aggressively pushing for higher usage of digital payment mechanisms, through the launching of Unified Payments Interface (UPI) for smartphones and for basic and feature phones it has introduced Unstructured Supplementary Service Data (USSD), BHIM app, the Aadhaar Pay that enables the people to make cashless money transactions with the use of their Aadhaar Card and their fingerprint for biometric authentication. To make the payments process easier the Government of India has now launched the Bharat QR Code payments transfer mechanism for cashless electronics payments.

What is a QR Code?

QR code or Quick Response code is a two-dimensional machine-readable code made up of black and white squares and are used for storing URLs or other information.

QR Codes were developed in Japan by Denso Wave, a subsidiary of Toyota, to track vehicle components. The original purpose of the QR Code was for inventory, but its potential and use extends far beyond this original function. This type of code contains much more information than the usual barcode, which presents information and is read horizontally. The more information it contains, the longer and wider it must be. QR Codes are read both horizontally and vertically and can therefore contain much more information in a more compact space. Because they are read simultaneously in two directions, they are referred to as two-dimensional or 2-D barcodes. Denso has allowed unrestricted worldwide access for the creation of commercialized QR Codes, with no charge or restrictions. Importantly, they can be created with free software, often pre-installed in smartphones and can be reproduced through a conventional printer

These QR codes can contain any alphanumeric text and often feature URLs that direct users to sites where they can learn about an object or place (a practice known as "mobile tagging"). Decoding software on tools such as camera phones interprets the codes, which represent considerably more information than a one-dimensional code of similar size. The codes are increasingly found in places such as product labels, billboards, and buildings, inviting passers-by to pull out their mobile phones and uncover the encoded information. Codes can provide tracking information for products in industry, routing data on a mailing label, or contact information on a business card. Small in size, the code pattern can be hidden or integrated into an esthetically attractive image in newspapers, magazines, or clothing.

A great feature of QR-Codes is that there is no need to scan them from one particular angle. QR-Codes are capable of omnidirectional (360 degree's) high-speed reading. QR-Codes scanners are capable of determining the correct way to decode the content within the QR-Code due to the three specific squares that are positioned in the corners of the symbol.

Figure 1: A Sample QR Code

The Current System and its shortcomings

At present the QR code-based payments are accepted by most merchants across India, but they are largely closed loop systems. Visa is a pioneer in QR Code payments and it has already launched mVisa in India. Last year, DTH operator TataSky had partnered with Visa to allow and accept QR code-based payments from its subscribers. In fact, mVisa is the widely accepted payment option across the globe.

In November 2016, MasterCard launched its 'Masterpass QR service' in partnership with Ratnakar Bank's Ongo payment wallet. RuPay is also expected to come up with its QR code-based solution. Since demonetization, e-wallet apps such as Paytm, Freecharge and Mobikwik, among others have also seen a surge in usage. While these wallet apps also allow QR code-based payments, both parties need to have the app.

For instance, a transfer of money using Paytm, the recipient needs to have Paytm account and app installed in their smartphone. However, there is no unified solution for the same, which means, a person won't be able to transfer money from Paytm wallet to a recipient using Freecharge or MobiKwik. This is where Bharat QR Code will be of great help.

What is Bharat QR Code?

Bharat QR Code, the latest initiative to boost digital transactions, will make use of QR codes system for payments across merchant outlets. The solution comes as a first of its kind throughout the globe.

Bharat QR Code is a common QR code built for ease of payments. It is a standard that will support Visa, MasterCard and Rupay cards for wider acceptance. Currently, if anybody needs to make a cashless payment at most stores, they need a credit and debit card to swipe and enter the PIN code for authentication.

Bharat QR code will enable the merchants to accept digital payments without the Point of Sale (PoS) swiping machine. It will allow customers of any bank to use their smartphone app to make payment. In terms of benefits, merchants will no longer need to invest in buying the PoS machine. With no PoS machine, merchants will also be able cut down the cost by way of transaction fees charged by the banks for using the PoS terminal.

Types of Bharat QR Code

BharatQR code can be of two types. The first one is static QR code. It is generated by a merchant to receive payments of any amount. The merchant needs to generate it, print it and paste it on the outside of its shop. You, a customer, needs to scan this QR code with BHIM UPI app or any other bank-specific app. The app will read all the details from the BharatQR and will ask for the amount. Enter the amount and pay. The payments in BharatQR are done using IMPS, hence the money will be instantly credited in the merchant's bank account.

The second type of BharatQR is dynamic. Dynamic codes are generated for single use only. To generate dynamic code the merchant needs to enter the amount and generate the code. No need to print or paste dynamic code because the code will become unusable. The merchant only needs to show the code to customer and customer needs to scan this code. As the amount is already entered by the merchant, the customer needs not to enter it again. The payment will be done as soon as you tap on the pay button.

Security benefits of Bharat QR Code

Currently, when you give your credit / debit card to swipe, there is a negligible possibility of someone capturing crucial details such as card number, expiry date and CVV. While OTP option is enabled for two-step-verification before authenticating transaction, the risk of exposing your card details still remains. But in the case of Bharat QR code, the transaction is completed with greater security and all the details remain in customer's control, which is a big advantage.

Key Features of the Bharat QR Code:
1) Open Payment Interface

There are many QR-code based payment interfaces available today. But these existing QR code based payment gateways operate on a closed loop system. For example, mVisa will only work with Visa card holders and MasterPass will only work with MasterCard holders. But with Bharat QR Code all users can smoothly make and accept payments.

2) Integration of UPI

UPI-based payments are also supported by Bharat QR Code. Therefore, BHIM app can be used effectively for making payments. It would be interoperable with various accounts since BHIM app can include bank account details of various banks.

3) Banks offering Bharat QR Code

14 banks are a part of Bharat QR Code platform till now. They are: State Bank of India, Yes Bank, Axis Bank, Bank of Baroda, Bank of India, City Union Bank, HDFC Bank, IDBI Bank, ICICI Bank, Union Bank of India, RBL Bank, Development Credit Bank, Karur Vysya Bank and Vijaya Bank. Soon, more banks are expected to join the fora.

4) Process of making payment using Bharat QR Code

The static form of making payment is as given. e.g, if a customer of HDFC Bank whose official payment app is PayZapp, he will have to open PayZapp and scan the Bharat QR Code from within the app and he will have to enter the amount to be paid. Then he will receive an authorization request by the bank. Once the identity is verified he will receive a PIN from the bank which needs to be entered in order to complete the process of payment. Hence, the official app of the bank needs to have an account which has to be installed for using Bharat QR Code based payments.

5) Dynamism in making Payments

Dynamic Payment mode is another form of payment. Under this method, for every new transaction the merchant will generate a new QR Code every time. The customer need not feed in the amount but will simply have to scan the QR Code and enter the authorization code for the completion of the process of payment.

6) Lower transaction cost of Bharat QR

The introduction of Bharat QR Code has replaced the need for PoS machines for swiping card. This makes it cheaper, more secure and less time consuming. For both the customer and the merchant, the total costs involved goes down as no transaction cost is involved in going cashless through Bharat QR Code.

7) Substantial Teamwork

It is for the first time that all major payment gateways operating in India such as Visa, Mastercard, American Express and NPCI have come together to develop a common payment processing platform. Therefore it will not matter whether you are paying via Visa enabled debit card or the merchant is accepting via a Mastercard enabled bank account. The QR code shall be the common gateway for receiving and making payments from any bank and by using any payment gateway.

8) Secure Payment

Payment with BharatQR code is more secure because customer is not sharing any details with the merchant. There is a certain amount of risk with PoS terminals as card details can be copied using skimming technology. This risk is eliminated in case of Bharat QR as all you need to do is scan and pay.

Conclusion

It is obvious that Bharat QR Code is one of the biggest achievements of the Government of India in promoting and boosting cashless payments in the economy. The future success of this scheme will also depend upon the awareness among the people about the usage of Bharat QR Code.

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