

QR code based feedback system for real time customer identification and feedback Collection

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Abstract— QR code is acronym for Quick Response code, a 2 dimensional barcode which contains encrypted data in an image. QR code can have more data than a traditional barcode. QR code can have plain text data, a URL to webpage etc. which can be read easily by a decrypting algorithm using QR code scanner. In today's era customer identification is very important in consumer product and services sector and also the user feedback collection is also vital in similar sectors. For this the traditional way is very difficult and tedious job. This cloud based application aims to provide an effective and easy way to do so with help of QR code.

Keywords- QR code, cloud, customer identification, feedback, Mobile application. (Keywords)

I. INTRODUCTION

Today most of the companies and firms are investing lot of money on customer identification and feedback collection. But today's way to do this is very tedious and time consuming job, that's why people always hate to do so. To overcome this we are proposing the solutions using QR code based system which will make this process very easy, interesting and time saving. Typically when any customer wishes to give his feedback he has to do with suggestion boxes, personally speak to responsible person, email, or make a phone call. But very few people love to do so. So to make this more interesting we use QR code.



Figure 1. QR code

Our application focuses on the end user (customer) identification and feedback collection in one go. And then analyses the data by applying different business rules and analytic tools, to showcase the result in useful manner.

II. SYSTEM ARCHITECTURE

The system has different components and actors.

Key Actors: Key actors participate in the whole process. Each actor has some individual role to play. And one combined role.

- User/Customer Feedback giver
- Owner Feedback collector

Components: Components are the entities that are used by actors to complete the process.

- QR code Generator.
- Smartphone Mobile Application by vendor or Smartphone with QR code scanner application.
- Web Application Form to submit feedback.
- Management Information System (MIS) to analyse the showcase the feedback.

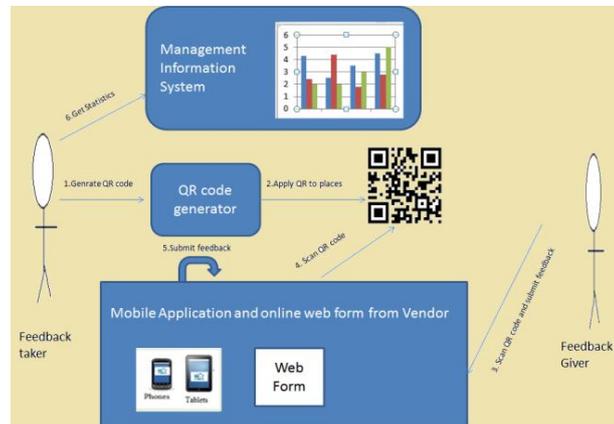


Figure 2. Component and actor work flow.

Flow:

- Vendor/Feedback taker generates the QR code using QR code generator which is Cloud hosted web application.
- After that generated QR code are pasted to respective location
- User/customer will use either mobile application or web application to scan QR code.
- User Submit the feedback with his comments.
- Vendor gets statistics using the MIS system

Using this architecture we are proposing two approaches as –

1. Mobile Application based approach.
2. Web based approach.

III. MOBILE APPLICATION BASED APPROACH

We store the some information in QR code like the store detail in encrypted format so the application can identify the target entity (for what feedback is about). Mobile application will have the scanner to parse the QR code data, and ask user his feedback in interactive manner. User need to download the application from internet source on his Smartphone.



Figure 3. Sample coffee shop workflow



Figure 4. Sample coffee shop feedback from

Coffee shop owner will generate QR codes which will have his store details and some unique Id. He will stick the QR code on walls/tables saying “You like it or hate it just SCAN this” to promote scanning or print it on the bills. User will scan the QR code with the built in QR code scanner in mobile application, which makes application realize on which store user is giving feedback. Application will show him a nice UI where user needs to just tick Yes or No or can put a text comment.

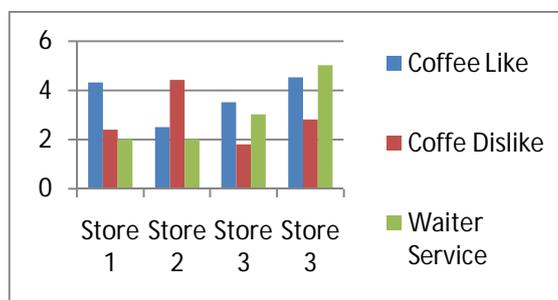


Figure 5. Feedback Statistics

This will help coffee shop to improve his service and also let him know that who are his customers. Coffee shop can then send him the latest offers, prmotion coupons etc. At the end he will be having the nice data which he can analyse for his business

IV. WEB BASED APPROACH

Suppose the person doesn't have a mobile application for that store and still he wish to provide the feedback, then what is nice way to do so?

Answer to this question is web based approach. QR code will have the URL which will lead to web page where user can submit his feedback.



Figure 6. Web based system

V. NECESSITATE

The important question arises for this application is why we need this approach? As this is age of competition, everybody wants to grow his customer and retain the existing customer. To make sure person should come to him again for any kind of services people started advertisement, loyalty programs. But to send right advertisement to right person we need to identify him, and to do so this application gives a right way. Also with this application tracks the loyalty, discounts and offers given by the vendor to particular user. The Vendor gets the overall statistics by applying the different business rules using the Management Information System. Also he can get useful analysis of his stores/sites for their performance, behaviour and area of improvement. So the vendor can take necessary actions for improvement.

Also he will come know that who are the most visiting customers are, so he can arrange discounts and offer for them. Users perspective, he can give the feedback very easily and interactive way. Also If user wants to complaint about anything he need to talk with owner/manager or ask for complaint register which is not very effective way and people hesitate to give that to user. So the Vendor will never come to know this customers real reaction on his service. But using this application user can easily submit his good and bad feedback with less time and without letting know the respective person like anonymous feedback. The Statistics let the vendor realize in broader manner and real time analysis help him to improve his business.

VI. SYSTEM ADVANTAGES

- Complete one solution from user feedback to vendor MIS
- Interactive feedback from prone user to use it
- Help in reducing the corruption and fraud
- Less time to complete the feedback process
- MIS help vendor to analyse the feedback in one go.
- Paperless work, increase efficiency.
- No intermediate entity between user and vendor while submitting feedback.
- Loyalty management is easy to maintain using the system.
- Customer identification in very efficient way.
- Generic system can be used in any field like government, commercial sectors etc.

VII. SYSTEM APPLICATION

- Hotel chains vendors to get feedback about the hotels
- Petroleum sector to get feedback about gas stations
- Coffee shop chain to get feedback about the coffee store and workers
- Corporate offices to get feedback about colleges
- Pizza suppliers
- In public places where people can submit the feedback about the local politicians
- Government offices to get the officers behaviour feedback

CONCLUSION

As this is technology age, almost everyone is using the Smartphone; this system is very efficient way to submit feedback and customer identification. One complete solution will bring the feedback collection and analysis of customer feedbacks, also this will help in implementing the loyalty system which results in increasing the business. Also this will help in reducing fraud and corruption via getting customer feedback.

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