

Smart Toll Collection Using QR Code

¹Sairam Vemula, ²Rahul Patil, ³Yuvraj Tiwari, ⁴Prof. Pallavi Chandratre

¹Computer Engineering,

¹ Shivajirao S Jondhale College of Engineering, Dombivli, India

Abstract : With the rise in technological developments, mobile phone, tablet and iPods are wide utilized by all users. Ranging from user wants is nearly complete with little object with several benefits. With this trend, many of us use their good phone to try to electronic transactions. One of the electronic transactions are piece of ground payment. This application emerges as an answer to the manual toll assortment methodology utilized at piece of ground. Time and potency are major factors of gift state of affairs. To beat the main problems with vehicle congestion and time consumption, the QR scanner is employed. Here the user uses the QR code because the gate pass. The administrator verifies the QR code with the assistance of QR scanner. It reduces the fuel utilization by reducing the waiting time. This application makes piece of ground payment a lot of convenient for the general public use. Recently we tend to determined that the streams of traffic are inflated at piece of ground on highways are engorged and use manual toll assortment system inflicting long queues of vehicles, the serious holdup and also the waste of your time of travelers. To avoid such issues, we tend to be developing the system that mechanically can scale back the toll quantity registered with a vehicle at the time of car registration. The user makes registration of own vehicle. During this system good phone camera is employed for capturing the QR code mounted on front aspect of the vehicle which can be sent to QR code secret writing method, if the data is authentic that is already keep in central information, the number are subtracted from the user case. The user can realize gas pump, hospital, school, all toll and restaurants during a near space. The user gets notified once reaches to a toll and user gets the main points of credited and debited dealings history within the user case model additionally the operator send word that the dealings are prosperous.

Keywords: *QR Code, E-Toll, MySQL.*

I. INTRODUCTION

Time is lot precious in today's world; everything has been machine-controlled. However, still in India we tend to wait in long queue in toll plazas to pay the toll fee. This can be due to the advanced toll assortment is most generally used assortment technique in India. It needs a Teller or attendant. Supported the classification of car, money toll is collected by the collector. The collector, who conjointly dispenses modification, could settle for and sell certificate, tickets, coupons, creating an entry of the vehicle within the system and supply receipt to the patron. Because of manual intervention, the time interval is highest. The most plans behind implementing this project is to change the toll fee assortment in toll plazas of Indian roads. System used here is QR (quick response) code exploitation for payment employing a portal mobile device.

A user- friendly, convenient, and mobile payment solution could be a key ingredient to support mobile users in conducting secure and reliable payment transactions exploitation mobile devices. Mobile payment systems supporting QR codes are positively required by mobile users and merchants. A QR Code (short for quick Response) could be a specific matrix barcode (or two-dimensional code), legible by dedicated QR barcode readers and camera phones. The code contains up to seven, 089 numeric characters. During this paper, we tend to propose to use an innovative mobile payment system supported QR codes for mobile users to enhance mobile expertise in conducting mobile payment transactions. In contrast to different existing mobile payment systems, the planned payment answer provides distinct blessings to support buy-and-sale merchandise and services with QR codes. This technique uses one normal QR code (Data Matrix) as an example to demonstrate a way to touch upon underlying QR code-based mobile payment progress, mobile transactions and concerned security mechanisms.

II. PROBLEM DEFINITION

In this project we are going to deal with the problem of avoiding manual toll collection. Here we are develop an Digital toll collection system using QR code and which would be an platform in independent system.our system can be run on web browser as well as apps of their respective operating system.

III. EXISTING SYSTEM

Electronic Toll assortment (ETC) system is specially designed for the higher operating of toll booths. There are varied technologies that are already proposed; every technology has its own principles, advantages, and limitation.

Basically, 2 technologies are careful with ETC using RFID and Barcode Reader. Radio frequency Technology (RFID) is used [1] to browse every vehicle with the assistance of RFID reader. Infrared Proximity sensor is employed to detect vehicles that reach the tract. The controllers MSP 430 Launchpad are accustomed to receiving a symptom that's received by IR receiver. The vehicle variety are transmitted through the IR transmitter. The system projected in the recent paper [2] uses barcode reader technology in the electronic toll assortment (ETC) system. During this system barcode tags that are mounted on quantity plate of vehicles, or on the front aspect of vehicles. With the assistance of barcode reader, the embedded info gift on the barcode is browse. The projected system eliminates toll authorities to manually perform price ticket payments and assortment of money. The barcode system contains a disadvantage of terribly low turnout and less storage. To beat this disadvantage the ETC using QR code Technology we tend to are developing.

IV. PROPOSED SYSTEM

We are preparing a system where user needs to download an application for his mobile device and register his vehicle through signup. As this app will provide every little detail of his account and transaction. For payment near a toll plaza, the app will generate a QR code for transaction. As the vehicle approaches the gate, teller needs to capture QR code and therefore gets decoded and authentication and toll amount is deducted from user's account. The Gate will have decided a particular amount to various types of vehicles.

V. WORKING METHODOLOGY

Toll User

The user needs to use an app, where he needs to signup first using email, name, mobile no, vehicle no, vehicle Type etc. Now User can login into for payment at gate

Recharge Money

The user can use their credit or debit cards for recharge their wallet of their respective accounts.

Wallet

User is provided with two types of account options which are prepaid or postpaid. The user needs to credit amount to his prepaid wallet for payment purpose and pays the bill for postpaid account. The amount of prepaid account is deducted and adds for postpaid account.

QR Code

In application there is an option of QR code for generation of QR code. The QR code contains user details like User id, Vehicle information etc. The generated QR code is unique for every transaction so it cannot be misused.

Toll Operator

This is the second application is for toll user which will help in management toll plaza account detail, vehicle details, and money, fine etc.

As of user side first the user needs to login if the all credentials are a match then it moves to next phase. After successful login appears Dashboard of account, which contain total transaction, Money Spent, Billing, Blacklist Lives, Transaction graph and money spent graph. On click side bar button user will provide option of selecting QR code, Transaction, Wallet, Logout option.

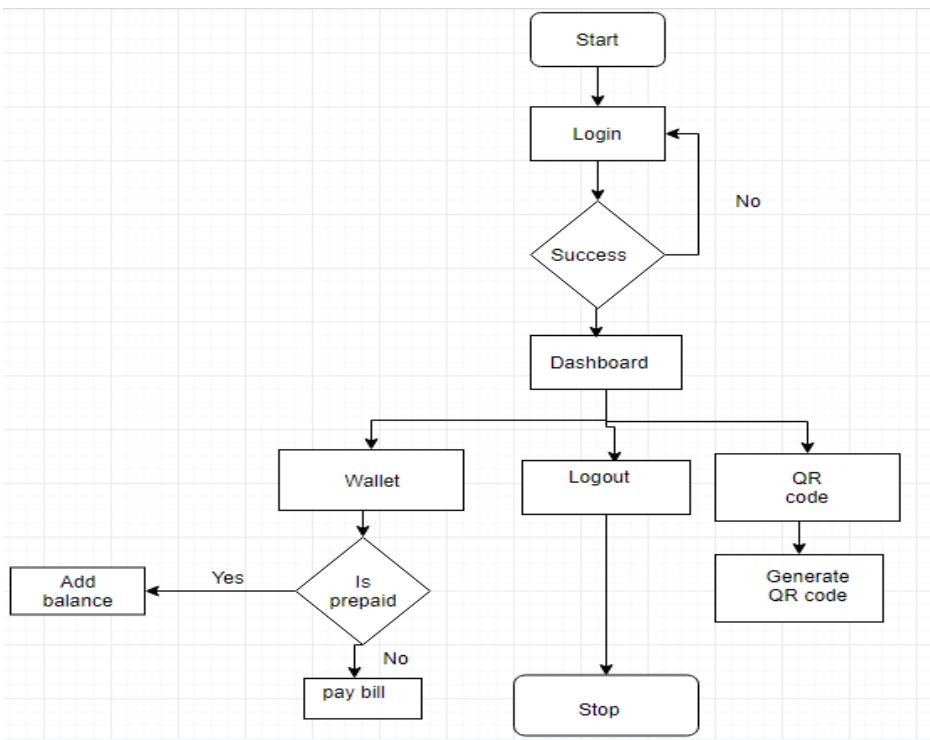


Fig. 1 User Side Flowchart

On admin side toll collector scans the QR appear in user mobile after scanning admin visits login page for toll user once logged admin logged in admin will be able to see view bill, accept wallet, accept cash After selecting Accept cash money will be deducted from user wallet and user will be allowed to pass toll naka

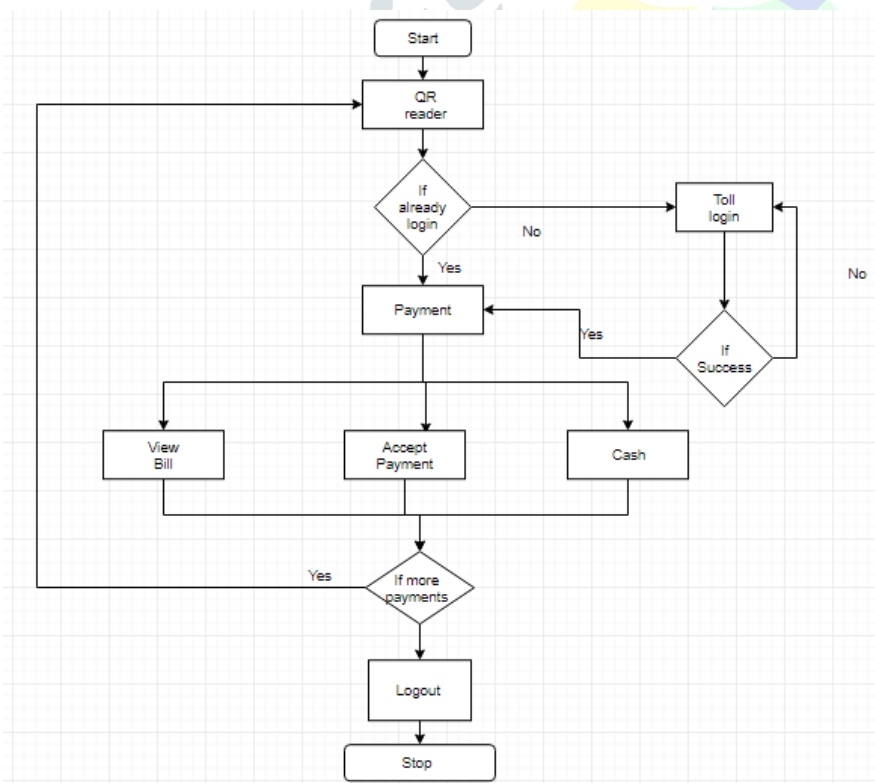


Fig. 2 Payment Process Flowchart

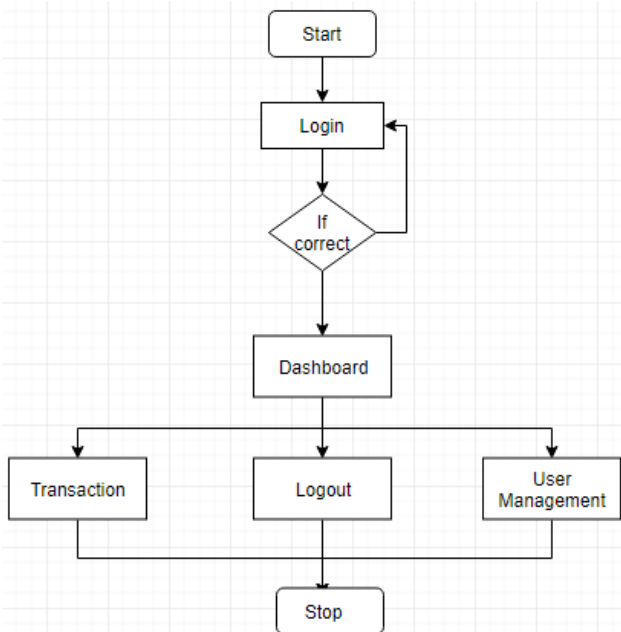


Fig 3 Toll Management Flowchart

VI. RESULTS

Following are some samples of our project

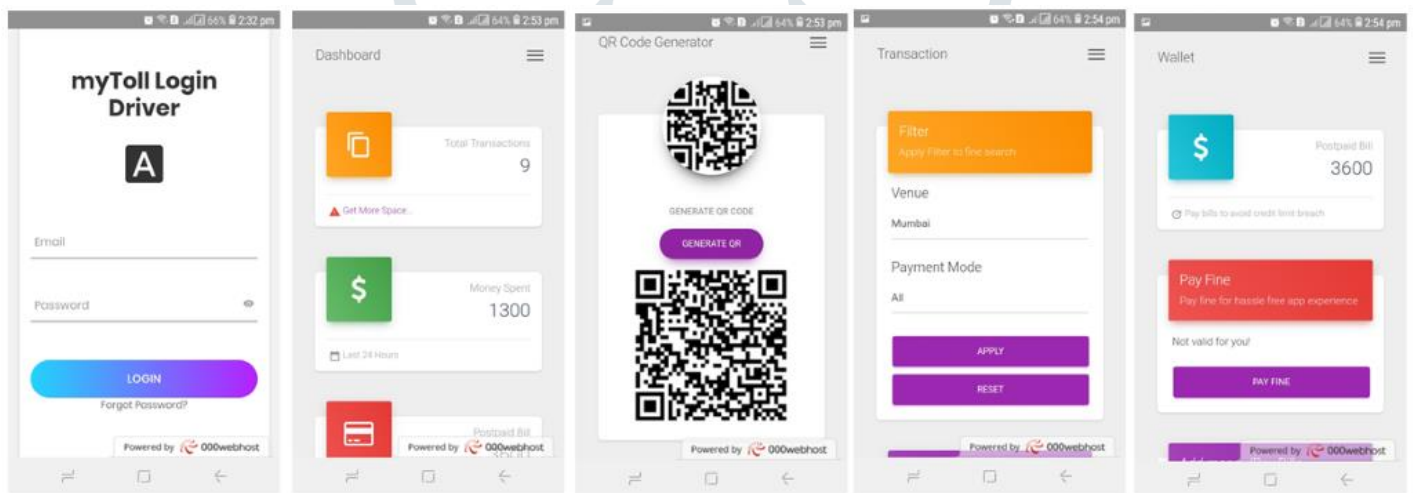


Fig. 3 User Side Screenshot

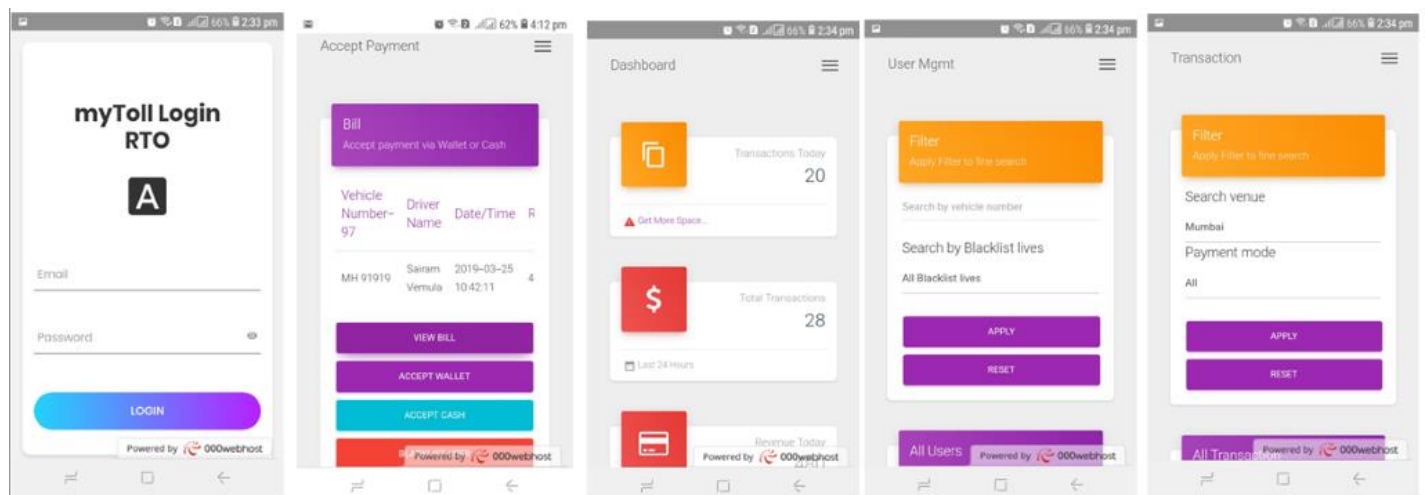


Fig. 4 Toll Side Screenshot

VII. CONCLUSION

Here we develop a replacement approach of smart toll system using QR code that is simple to use and versatile. The code itself stores large quantity of data vertically and horizontally that's simply scanned and holds on. It stores the knowledge in little house that helps not solely to eliminate the manual data entry however conjointly conjures up for automatic toll solutions. This technique saves time, hands and cut backs traffic jam at tollgates that ultimately reduce the waiting time of travelers and fuel consumption. It provides toll authorities to line variable rating for toll services and so good policy of assembling will be followed.

REFERENCES

- [1] Kasturi Shah, Prajakta Joshi, Dishaa Garg “Automatic Toll Collection Using QR Code” ISSN: 2395 -0056, p-ISSN: 2395-0072©2016 IRJET.
- [2] YudhiKristanto, BagusPriambodo “Application Design of Toll Payment using QR Code a Case Study of PT. JasaMarga” ISSN: 2231-2803©2016 IJCTT.
- [3] Kinjal H. Pandya, Hiren J. Galiyawala “A Survey on QR Codes: in context of Research and Application” ISSN 2250-2459©2014 IJETAE.
- [4] Vinod Suryawanshi, Aditya Gosavi, Unmani Joshi, Sagar Suri“Automatic Toll Collection Using QR Code” ISSN: 2319-7242©2017.
- [5] Sumit Tiwari Dept. of Technical Education SITS Educators Society Jabalpur, “An Introduction to QR Code Technology” 978-1-5090-3584-7/16/\$31.00©2016 ICIT
- [6] Rahul Raj C. P, SeshuBabu Tolety, Catheine Immaculate, “QR code based navigation system for closed building using smart phones,” 978-1-4673-5090-7/13/\$31.00 ©2013 IEEE.