

# STUDENTS MESS BILL MANAGEMENT SYSTEM USING THE QR-CODE AND ANDROID APPLICATION

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**Abstract—**In this era of human digital world, with fluroishing the new technology changes the man power and also calculate the accuracy dim nensions like measurements , grade points ,price of things etc. Android is becoming very popular day to day . It is highly suitable for expansion as per developer perspective.so making a mobile application for android devices is very common model.as apart,this paper propose a system that is based on QR code which is used to control the student mess bill in hostel.By using smarphone scan the QR code and verify which approved by admin receive the text from QRcode and update the mess bill from time to time.This applications corrects the corruption of mess contractors and save thestudent from bill when student not went to mess.so this study came out with above reason to control down the mess bill of every student.

## Introduction

QR (quick response code) is the form of 2d matrix which is encrypted on the basis of given text which is developed by japanese corporation.Qr represent numbers from 0 to 9 letters from A to Z or supports non latin script Kanjiand binary.it has great storage capacity compared to UPC barcode .QR is in forms of black blurred particles specially called modules that arranged in particular square pattern on white background.It can be destructured into the different modules like position maker,timing pattern, version number,format identifier,alignment maker,data indi-cator.it can be read easily by digital devices like scanners and stores information as a series of pixels . we can save in different formats like PNG,JPG,SVG.

4.Format Identifier :The right and bottom part which adjacent to left top most position maker .it depicts the content of Qr code stores like URL , image,text etc.

## Android Platform

Android is a java/Kotlin based Operating system and it is introduced by Google.it is the popular and finest growing platform.android comes in various version like lollipop,vanilla. Android'sSDK provides the tools and APIs to begin the developing application to freshers on the android studio using the java or Kotlin Google is currently working on android to extending its features for increasing their business wing.Developer develop application in a customized version of java .apps can be directly downloaded from the Android market and other third-party sources. recently mod applications has been developed which we can directly get from fraud websites.although technology fluroshing is boon as well as curse to the human evolution.

## Architecture of QR code

As the above said, QR can be destructured into mainly six indicators.

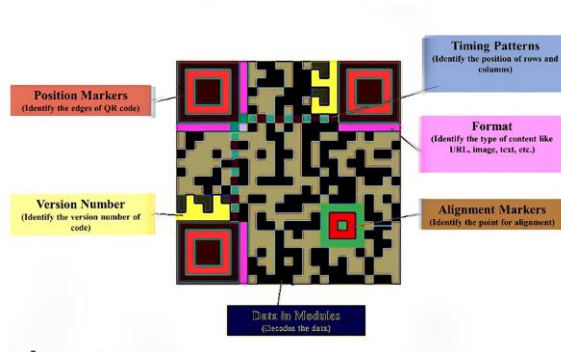
- 1.position makers:The corner squared shape black colored modules which depicts the actual position and accurate orientation of QR code.
- 2.Timing pattern:The squared small dotted black coloured modules that spreads overall the QR code .it depicts the identity the exact position of the rows and columns in Qrcode.
- 3.version number : The left adjacent part of the top-most right position maker and also Top adjacent part of the left-bottom position Maker. It depicts the version of the Qrcode.

## working mechanism

when admin open the Application it asks for the scan valid Identity . the decrypt text is captured by the textview in application

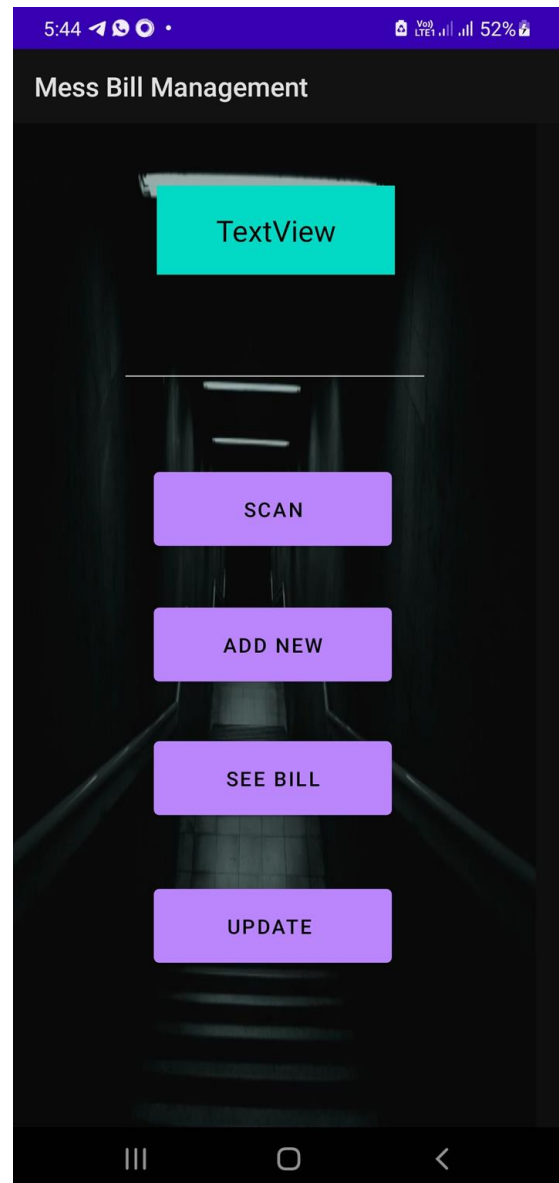
5.Alignment maker:The single square-shape module which is located slightly under the center point of Qr code. It depicts the point of the Alignment.

6.Data Indicator:The encrypted data can be damaged it can be restored by these strips. Actually these are irregular shape.it is located by the white colour.



then the decrypt text is search in SQL Lite.if the text id found in database then bill get Updated.otherwise it shows the toast message contact the admin.the searching the identity if not found creating identity otherwise Update's the bill.although the interface seems dull compared to other application but the thought may consider studen concern.

### Interface of the Application



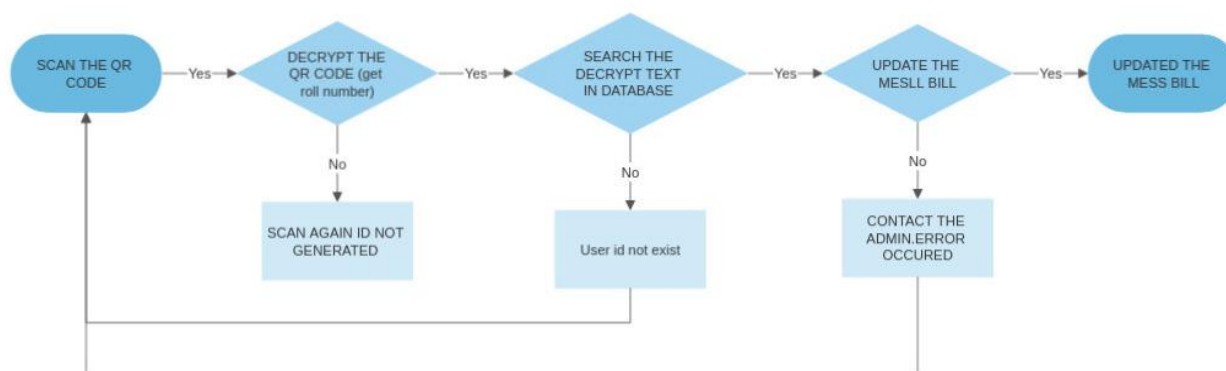
### Zxing framework

Zxing is the best API for automatic QR generation and also provides the decryption . It is open source and multiformat 1-dimension and 2-dimension code which generates in the form of the image. Zxing is developed by sean owen,daniel switkin written in Java which mainly used in android operating system.

### SQL LITE

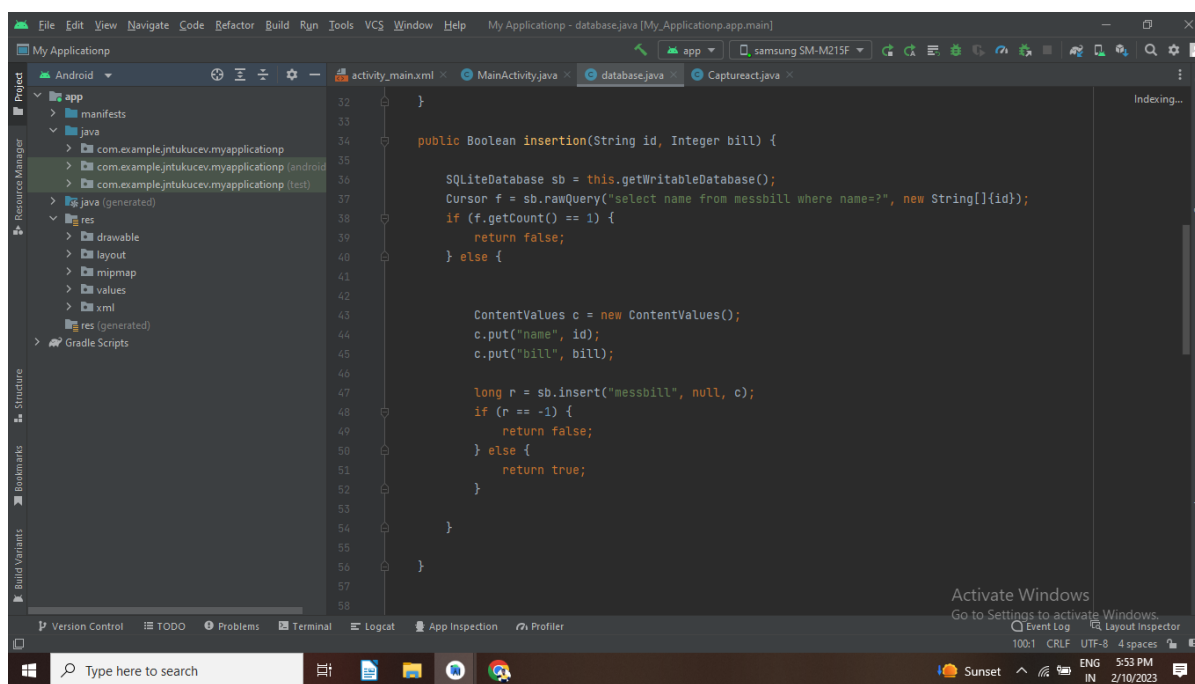
SQL LITE is developed in the base of c-language which is light-weight database.it is highly reliability SQL Lite is generally consider as localhost database of the Android device.it is embedded database in smartphone which stores data as the gdbm database management in form of B-trees.It is very useful for developer that not installing the server or workbench we can retrieve the database which get in raw form we can destruct the raw table from software called DB Browser. CRUD operations-create , read , update delete.the automatic updation of the daily bill when admin scans the students QR code has embedded in it lets take this talk later.

## Working mechanism phenomena represented by flowchart



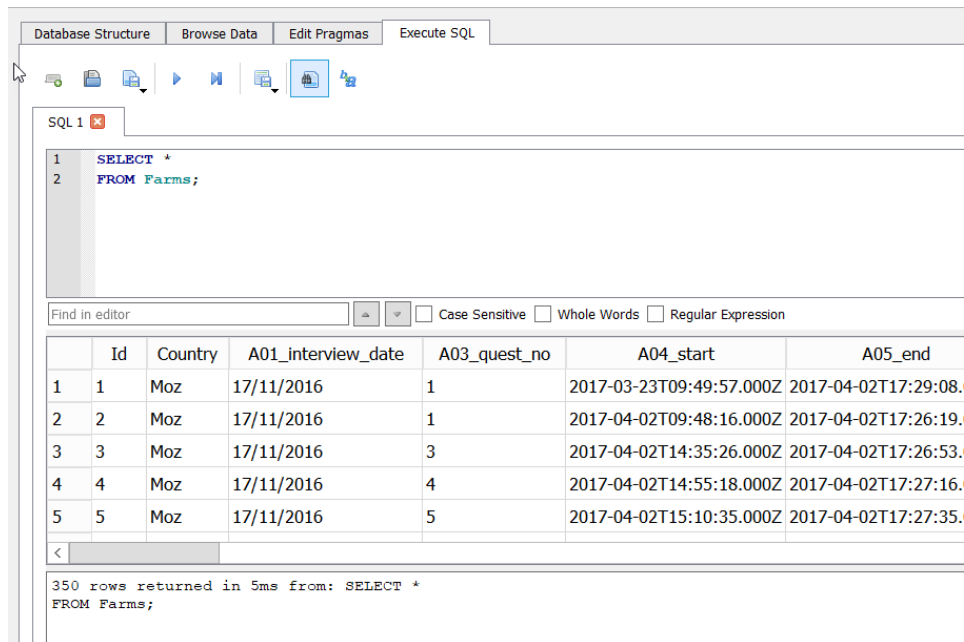
## “CRUD” operations used in Application

### 1.REGISTER THE NEW STUDENT





#### 4.EXTRACTING DATABASE USING DB BROWSER(SQL CIPHER)



#### Applications of QR system in present days

- 1.Bank may add QR code in customers passbook which easily work much faster by the employees while withdraw or adding funds from their account
- 2.Student Attendance management system in college
- 3.Traffic penalty system which introduce QR on a side of Number plate which benefits government
- 4.College access system for Lectures,officials,admin
- 5.Genunity,cost,expiry date of a particular product

#### Conclusion:

As per my point of view this application may change hostel system which expells the burden financial life of a poor student.and also the security levels of any text,image,pdf any format get full type of encryption we can also set the encryption password manually for the external files.I think digital india need to update technology manually like fingerprints, iris, QR code. As a part, I choose my field to fluroish my college system like this thought. We can also encrypt and decrypt the binary formats in QR which builds much security.To be frank,QR generation is the pride of every human being.

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