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Submitted in partial fulfillment of the requirements for the
award of Bachelor of Engineering Degree in

Information Technology

By

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DEPARTMENT OF INFORMATION TECHNOLOGY

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INSTITUTE OF SCIENCE AND TECHNOLOGY
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BONAFIDE CERTIFICATE

This is to certify that this Project Report is the Bonafide work of **PRAVEEN K S (Reg. No: 39120083)** who carried out the project entitled "**QR CODE GENERATOR**" under my supervision from February 2022 to April 2022.

Internal Guide

Dr.S.Gowri

Submitted for Viva voce Examination held on _____

Internal Examiner

External Examiner

DECLARATION

I, **Praveen K S (Reg. No.39120083)** hereby declare that the Project report entitled "**QR Code generator**" done by me under the guidance of **Dr.S.Gowri** is submitted in partial fulfillment of the requirements for the award of Bachelor of Engineering Degree in Information Technology

DATE :

Praveen K S

PLACE :

SIGNATURE OF THE CANDIDATE

ACKNOWLEDGEMENT

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TRAINING CERTIFICATE



ABSTRACT

A QR code (an initialism for quick response code) is a type of matrix barcode (or two-dimensional barcode) invented in 1994 by the Japanese automotive company Denso Wave. A barcode is a machine-readable optical label that can contain information about the item to which it is attached. In practice, QR codes often contain data for a locator, identifier, or tracker that points to a website or application. A QR code uses four standardized encoding modes (numeric, alphanumeric, byte/binary, and kanji) to store data efficiently; extensions may also be used.

The Quick Response system became popular outside the automotive industry due to its fast readability and greater storage capacity compared to standard UPC barcodes. Applications include product tracking, item identification, time tracking, document management, and general marketing.

A QR code consists of black squares arranged in a square grid on a white background, which can be read by an imaging device such as a camera, and processed using Reed–Solomon error correction until the image can be appropriately interpreted. The required data is then extracted from patterns that are present in both horizontal and vertical components of the image.

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CHAPTER-1

INTRODUCTION

1.1 QR Code Adoption

QR codes are now used in a much broader context, including both commercial tracking applications and convenience-oriented applications aimed at mobile-phone users (termed mobile tagging). QR codes may be used to display text to the user, to open a webpage on the user's device, to add a vCard contact to the user's device, to open a Uniform Resource Identifier (URI), to connect to a wireless network, or to compose an email or text message.

There are a great many QR code generators available as software or as online tools that are either free, or require a paid subscription. The QR code has become one of the most-used types of two-dimensional code.

During the month of June 2011, 14 million American mobile users scanned a QR code or a barcode. Some 58% of those users scanned a QR or barcode from their homes, while 39% scanned from retail stores; 53% of the 14 million users were men between the ages of 18 and 34.

A September 2020 survey found that 18.8 percent of consumers in the United States and United Kingdom strongly agreed that they had noticed an increase of QR code use since the beginning of COVID-19 related shelter-in-place orders in March .

1.2 Uses

A QR code used on a large billboard in Japan, linking to the sagasou.mobi website. QR codes have become common in consumer advertising. Typically, a smartphone is used as a QR code scanner, displaying the code and converting it to some useful form (such as a standard URL for a website, thereby obviating the need for a user to type it into a web browser).

QR code has become a focus of advertising strategy, since it provides a way to access a brand's website more quickly than by manually entering a URL. Beyond mere convenience to the consumer, the importance of this capability is that it increases the conversion rate: the chance that contact with the advertisement will convert to a sale.

It coaxes interested prospects further down the conversion funnel with little delay or effort, bringing the viewer to the advertiser's website immediately, whereas a longer and more targeted sales pitch may lose the viewer's interest.

Although initially used to track parts in vehicle manufacturing, QR codes are used over a much wider range of applications. These include commercial tracking, entertainment and transport ticketing, product and loyalty marketing and in-store product labeling. Examples of marketing include where a company's discounted and percent discount can be captured using a QR code decoder which is a mobile app, or storing a company's information such as address and related information alongside its alpha-numeric text data as can be seen in Yellow Pages directories.

1. 3 Augmented reality

QR codes are used in some augmented reality systems to determine the positions of objects in 3-dimensional space.

1.4 Displaying multimedia contents

Multimedia QR codes are also used to direct users to specific multimedia contents (such as video, audio, images, documents, etc.).

Mobile operating systems

QR codes can be used on various mobile device operating systems. iPhones running on iOS 11 and higher and some Android devices can natively scan QR codes without downloading an external app. The camera app is able to scan and display the kind of QR code (only on iPhone) along with the link (both on Android and iPhone). These devices support URL redirection, which allows QR codes to send metadata to existing applications on the device. Many paid or free apps are available with the ability to scan the codes and hard-link to an external URL.

1.5 Virtual stores

QR codes have been used to establish "virtual stores", where a gallery of product information and QR codes is presented to the customer, e.g. on a train station wall. The customers scan the QR codes, and the products are delivered to their homes. This use started in South Korea, and Argentina, but is currently expanding globally. Walmart, Procter & Gamble and Woolworths have already adopted the Virtual Store concept.

1.6 QR code payment

Main article: QR code payment

QR codes can be used to store bank account information or credit card information, or they can be specifically designed to work with particular payment provider applications. There are several trial applications of QR code payments across the world. In developing countries like China,[38][39] India and Bangladesh QR code payment is a very popular and convenient method of making payments. Since Alipay designed a QR code payment method in 2011, mobile payment has been quickly adopted in China. As of 2018, around 83% of all payments were made via mobile payment.

CHAPTER-2

AIM AND SCOPE OF THE PRESENT INVESTIGATION

2.1 AIM

QR codes can be smaller - a QR code can be up to 10 times smaller than a bar code and still readable.

2.2 SCOPE

- QR codes are frequently used to track information about products in a supply chain and – because many smartphones have built-in QR readers – they are often used in marketing and advertising campaigns. More recently, they have played a key role in helping to trace coronavirus exposure and slow the spread of the virus.

CHAPTER-3

EXPERIMENTAL OF MATERIAL ,METHODS & ALGORITHMS USED

3.1 OVERVIEW:

Flutter is an open-source UI software development kit created by Google. It is used to develop cross platform applications for Android, iOS, Linux, macOS, Windows, Google Fuchsia,[4] and the web from a single codebase.

3.2 REQUIREMENTS :

3.2.1 SOFTWARE SPECIFICATION:

IDE:

VS Code

Android Studio

SDK:

Flutter

3.3 METHODOLOGY

Accessing websites, images, and files using QR codes is widely used these days. These QR Codes are used for doing payments which is easy to use. You can see this feature in various payment apps such as Google Pay, Amazon Pay, and many more. In today's article, we are going to see how to generate QR codes for certain links and QR code scanners in the flutter app.

3.3.1 Step 1: First add the following dependency in your pubspec.yaml file.

3.3.2 Step 2: Now navigate to main.dart() file and return MaterialApp()

First, we have declared MyApp() in runApp in the main function. Then we have created StatelessWidget for MyApp in which we have returned MaterialApp(). In this MaterialApp() we have given the title of our App then declared the theme of our App as primarySwatch as indigo. Then we have given our first screen of our slider app in the home:
HomePage()

3.3.3 Step 3: Declare StatefulWidget() for HomePage

In StatefulWidget() return Scaffold() widget. In Scaffold() Widget in the body section, we have declared Container() having width and height. In that Container() we have given Column inside which we have given mainAxisAlignment as center and CrossAxisAlignment as a stretch. After that we have given an Image as Network Image below that Image we have given rounded FlatButton() having color, border-radius, and border side. On that FlatButton we have given onPressed method which is used to navigate to the next screen ScanQR().

3.3.4 Step 4: Navigating to ScanQR() page.

In this file first, we have imported package barcode_scan_fix. Then we have created StatefulWidget for ScanQR class. In that state we have declared String as qrCoderesult = 'Not yet Scanned'. After that in Scaffold() we have declared AppBar with the title. In the body section, we have declared Column() wrapped with Container() and given mainAxisAlignment as center and CrossAxisAlignment as a stretch. After that, we have declared two text widgets first text widget has declared for the given title. And the second text widget is used to declare the String which we have given. After that, we have given a FlatButton() and on its onPressed method, we have given codeScanner which is used to scan QR code which we have imported from the bar_code_scan_fix library

3.3.5 Step 5: Navigating to GenerateQr() page.

First we have given `StatefulWidget()` for `GenerateQr()` class. In that, we have given the final variable as `TextEditingController()`. In the `Scaffold()` section we have given `AppBar` along with the title. In the body section, we have given `Container()` having `Column()` with `mainAxisAlignment` as center and `CrossAxisAlignment` as a stretch. Wrapped with `SingleChildScrollView()`. After that, we have given `TextField()` for giving input link to convert into a barcode. After that, we have given `FlatButton()` which will convert our link into a QR code. In the `onPressed` of this `FlatButton()` we have declared its logic in which the imported library `qr_link` is used to convert the link into QR code.

CHAPTER – 4

RESULT AND DISCUSSION

4.1 RESULT

The QR code Generator has create in mobile Phone.

QR generator operator from mobile application it use to scanning & creating

CHAPTER - 5

SUMMARY AND CONCLUSION

5.1 CONCLUSION

In this project we have build the Flutter App with the abilities to scan, generate, and share QR code that works on Android. Flutter Platform Specific Channel API makes it easy for us to use native libraries such as QR code scanner, image sharing, and communicate back the result to the Flutter App.

5.1.1 Key Features of QR Code

- ❖ Safe and secure, it can be only read by machines.
- ❖ They can store any type of data easily.
- ❖ Quick the give response.

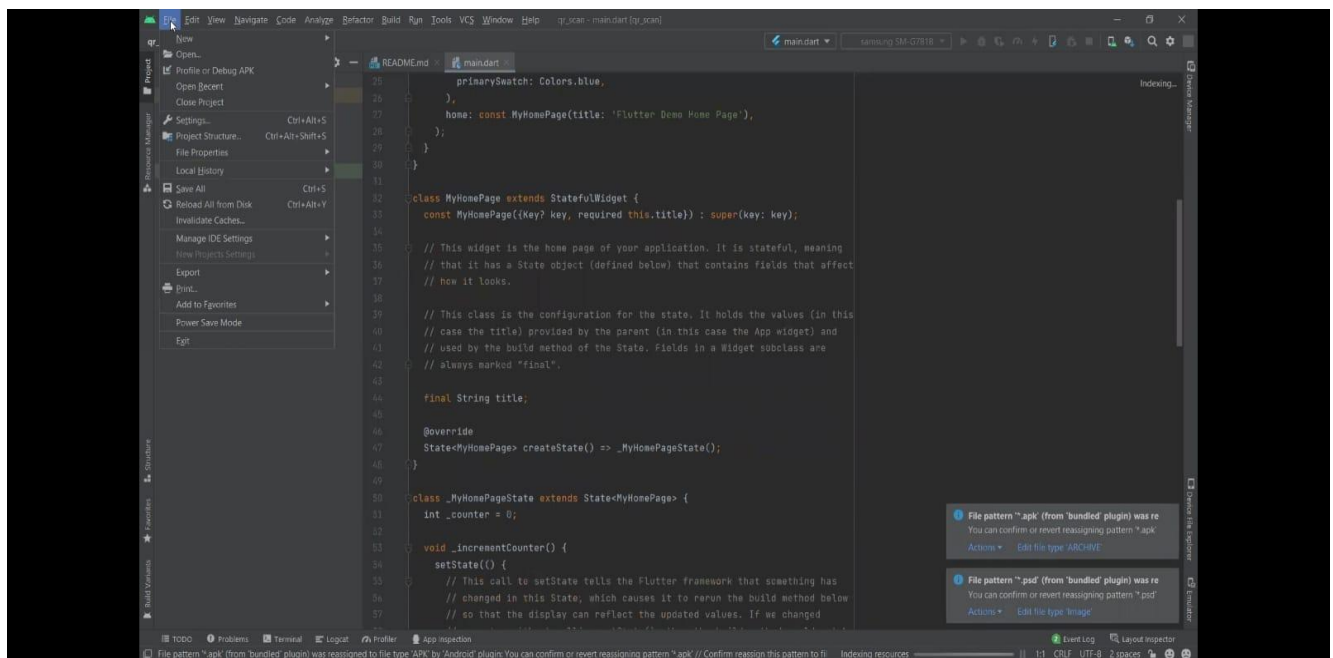
5.2 REFERENCE

1. QR Code, <http://www.qrcode.com/en/>
2. QR Code Tutorial, <http://www.thonky.com/qr-code-tutorial/>
3. ISO/IEC 18004:2000. "Information technology-Automatic identification and data capture techniques- Bar Code symbology- QR Code ", 2000.
4. ScanLife.com, "QR Code Adoption: Trends and Statistics", www.scanlife.com

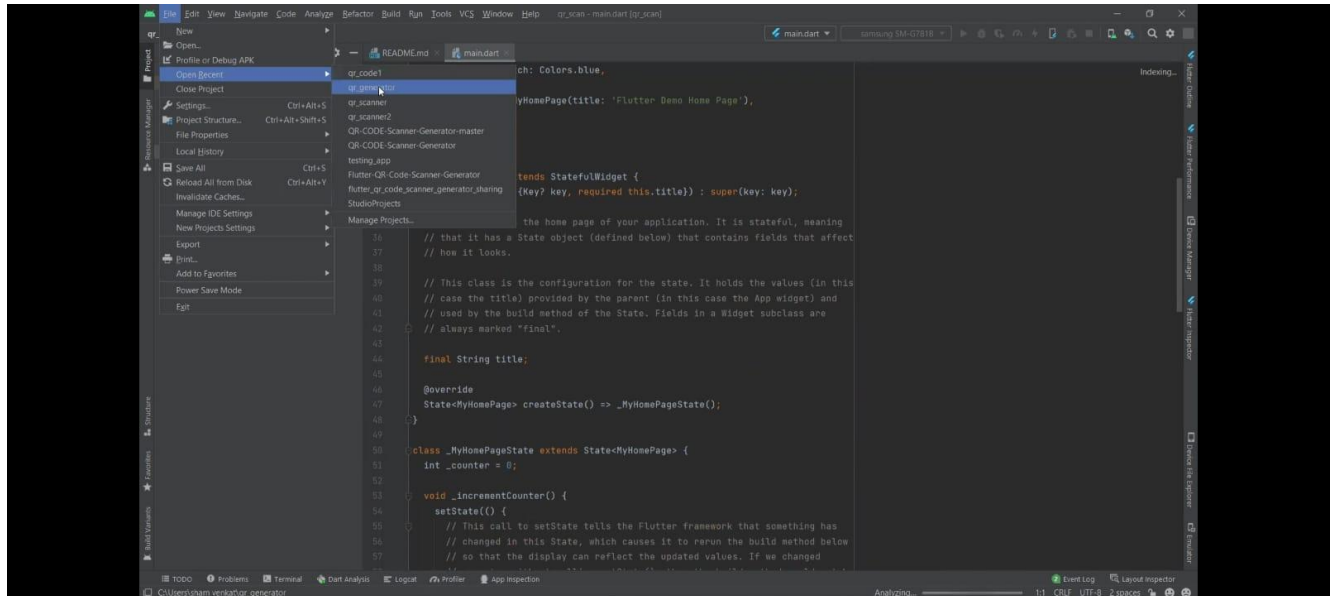
9

5.3 APPENDIX

5.3.1 SNAPSHOTS

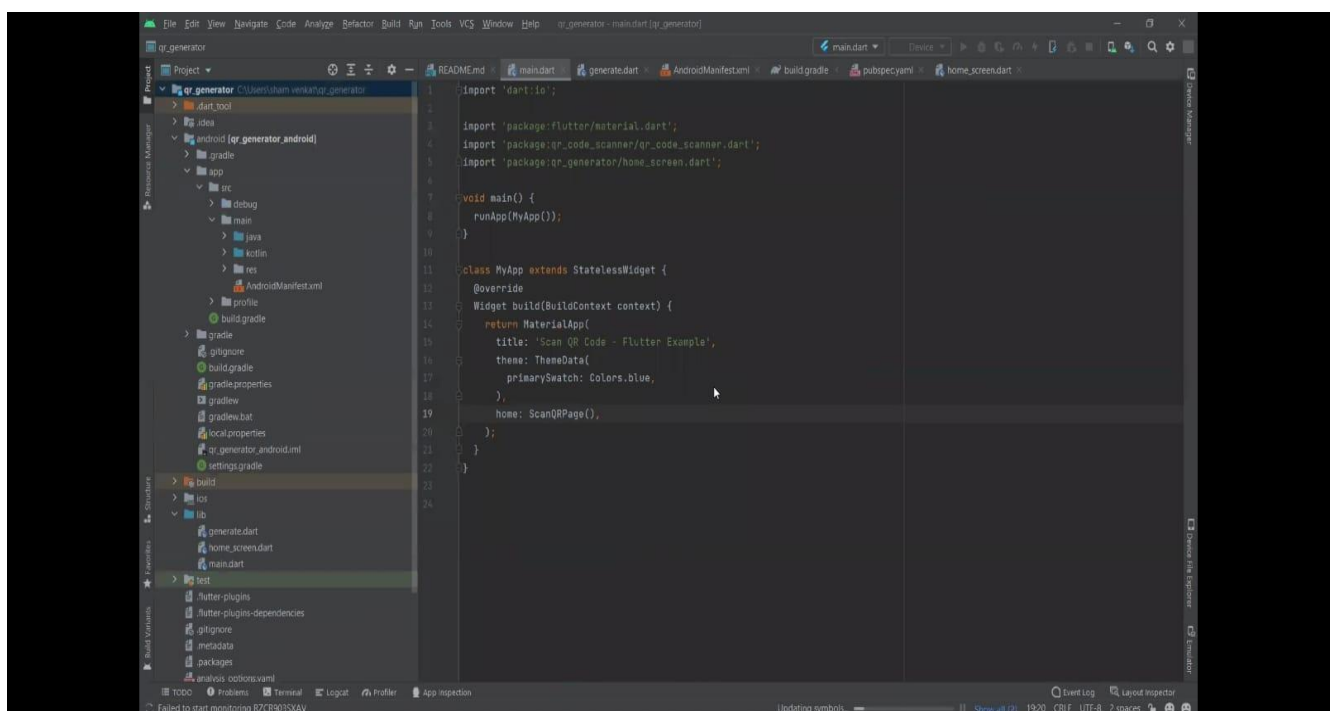


Open the flutter app



First create the new file in name of qr-generator

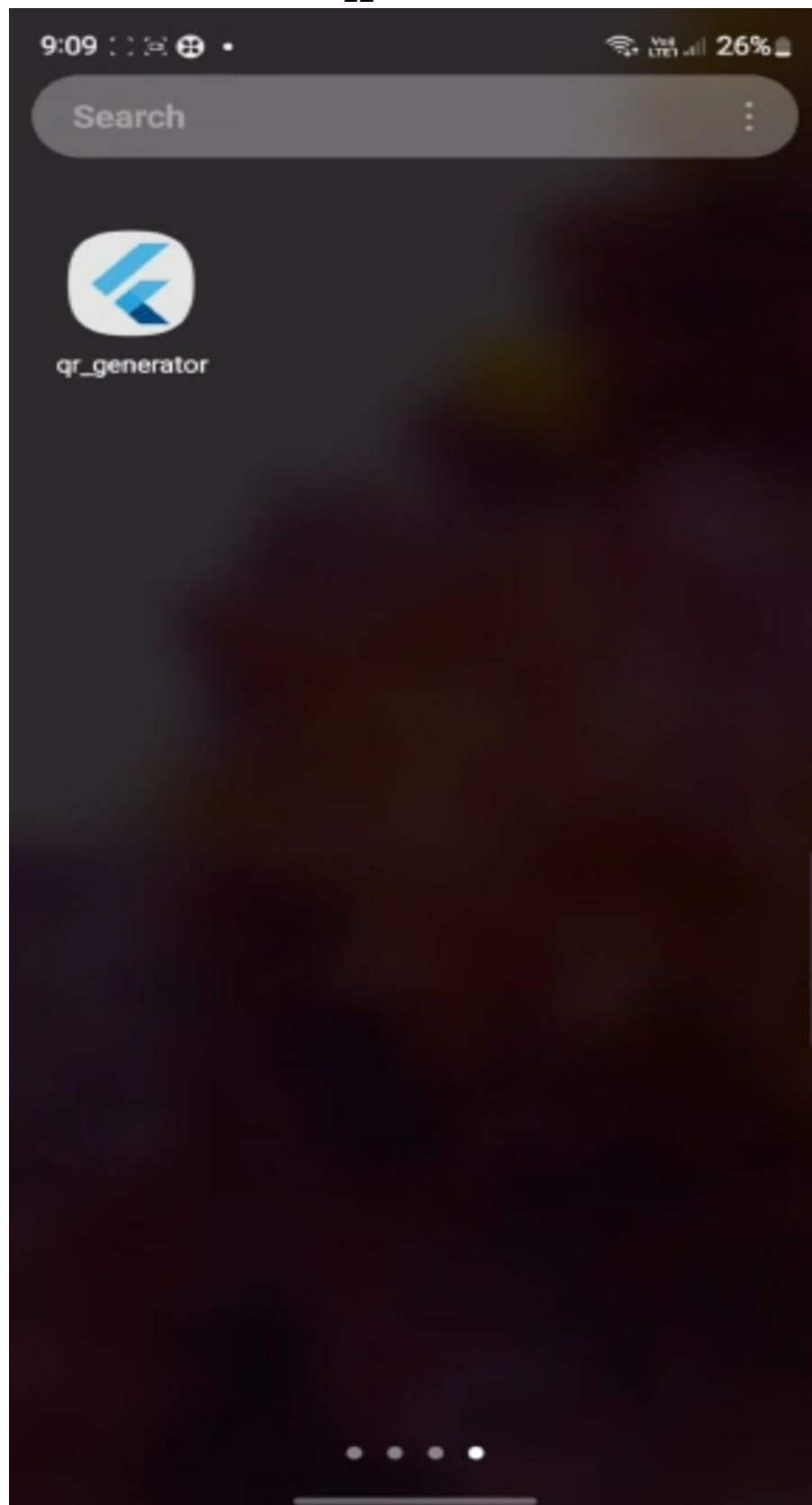
10



The new file has been create and type the source code on there



Run the application



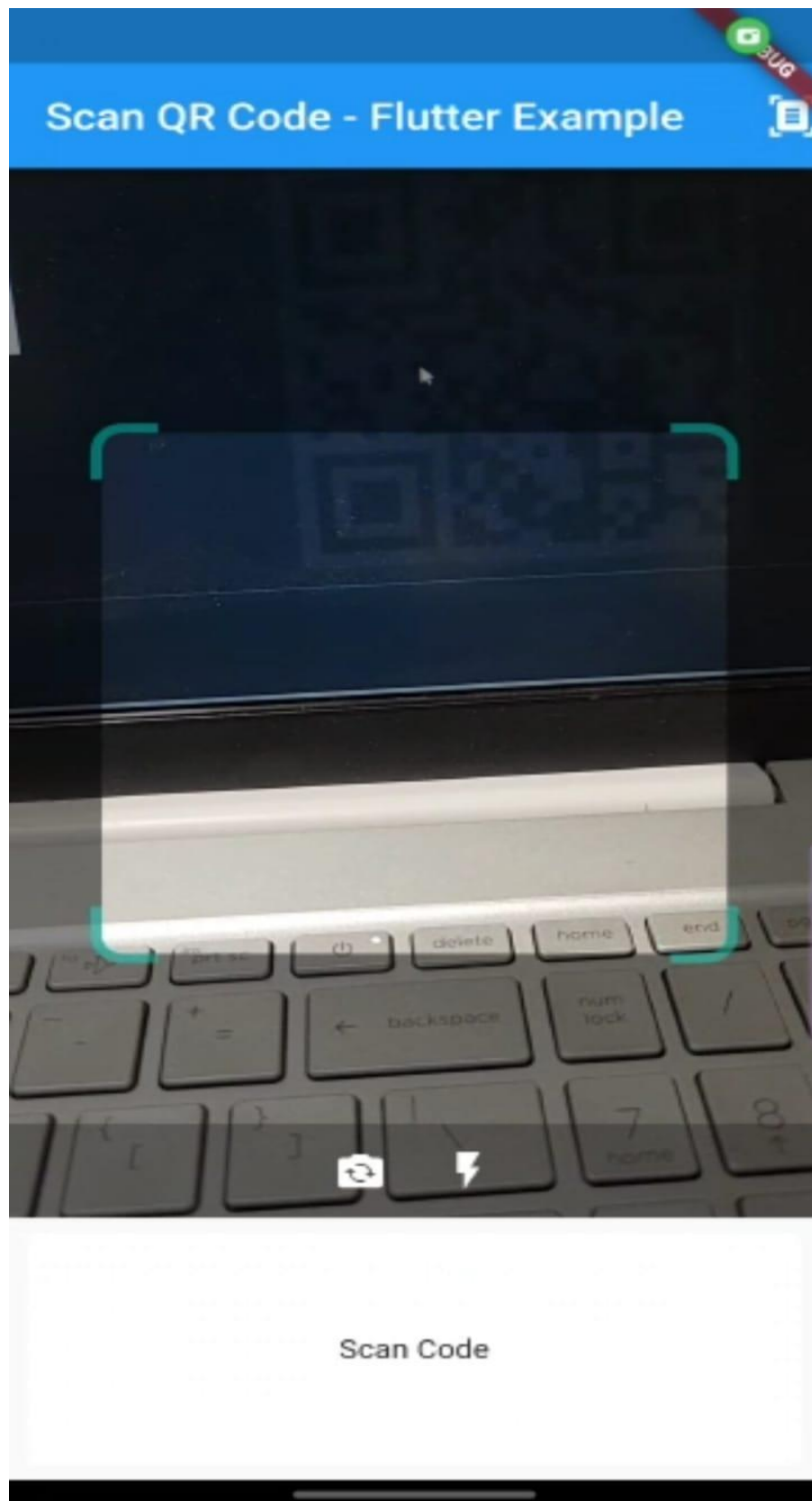
In android phone apps has create



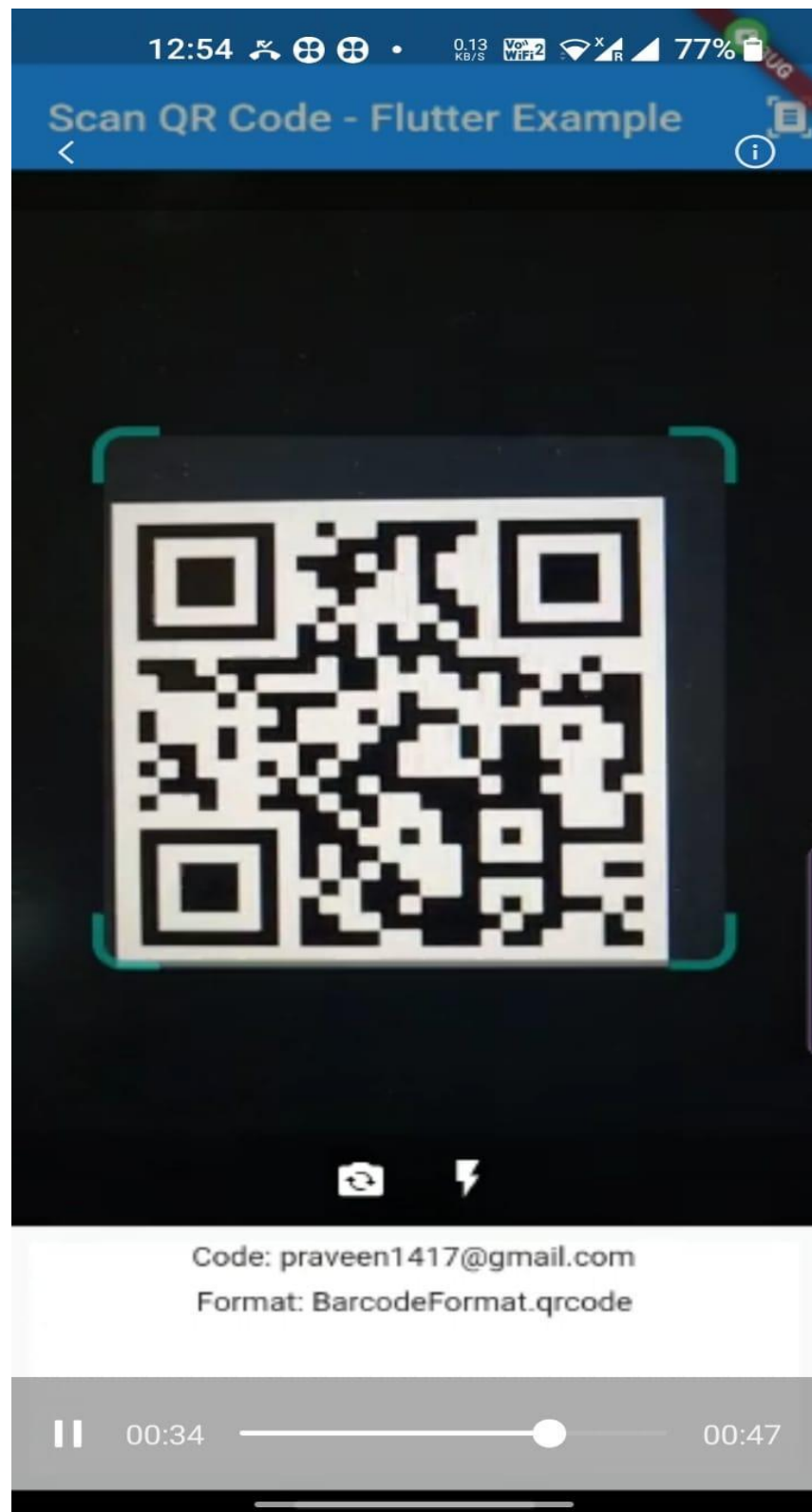
Type the data for creating QR code



The qr code is create



Scan the Qr code



After the scanning the data of particular has show

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5.3.2 SOURCE CODE

```
import 'dart:io';
```

```
import 'package:flutter/material.dart';
```

```
import 'package:qr_code_scanner/qr_code_scanner.dart';
```

```
void main() {
```

```
    runApp(MyApp());
```

```
}
```

```
class MyApp extends StatelessWidget {
```

```
    @override
```

```
    Widget build(BuildContext context) {
```

```
        return MaterialApp(
```

```
            title: 'Scan QR Code - Flutter Example',
```

```
            theme: ThemeData(
```

```
                primarySwatch: Colors.blue,
```

```
            ),
```

```
            home: ScanQRPage(),
```

```
        );
```

```
    }
```

```
}
```

```
class ScanQRPage extends StatefulWidget {
```

```
    const ScanQRPage({Key? key}) : super(key: key);
```

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```
    @override
```

```
    _ScanQRPageState createState() => _ScanQRPageState();
```

```
}
```

```

class _ScanQRPageState extends State<scanqrpage> {

  final GlobalKey qrKey = GlobalKey();

  late QRViewController controller;

  Barcode? result;

  //in order to get hot reload to work.

  @override

  void reassemble() {

    super.reassemble();

    if (Platform.isAndroid) {

      controller.pauseCamera();

    } else if (Platform.isIOS) {

      controller.resumeCamera();

    }

  }

  @override

  Widget build(BuildContext context) {

    return Scaffold(

      appBar: AppBar(

        title: Text('Scan QR Code - Flutter Example'),

      ),

      body: Column(

```

```

children: [

  Expanded(

    flex: 4,

    child: Stack(

      children: [

        QRView(

          key: qrKey,

          onQRViewCreated: onQRViewCreated,

          overlay: QrScannerOverlayShape(

//customizing scan area

            borderWidth: 10,

            borderColor: Colors.teal,

            borderLength: 20,

            borderRadius: 10,

            cutOutSize: MediaQuery.of(context).size.width * 0.8,

          ),

        ),

        Positioned(

          left: 0.0,

          right: 0.0,

          bottom: 0.0,

```

```

child: Container(

  width: 50,

  height: 50,

  decoration: BoxDecoration(

    color: Colors.black26,

  ),

  child: Row(

    mainAxisAlignment: MainAxisAlignment.center,

    children: [

      IconButton(

        icon: Icon(

          Icons.flip_camera_ios,

          color: Colors.white,

        ),

        onPressed: () async {

          await controller.flipCamera();

        },

      IconButton(

        icon: Icon(

          Icons.flash_on,

          color: Colors.white,

```

```

        ),
        onPressed: () async {
            await controller.toggleFlash();
        })
    ],
),
),
)
],
),
),

```

```

Expanded(
    flex: 1,
    child: Container(
        margin: EdgeInsets.all(8.0),
        width: double.infinity,
        color: Colors.white,
        child: Center(

```

```

        child: result != null
            ? Column(
                children: [

```

```

        Text('Code: ${result!.code}'),

        SizedBox(

            height: 8.0,

        ),

        Text('Format: ${result!.format}'),

    ],

)

: Text('Scan Code'),

),

),

),

],

),

);

}

void onQRViewCreated(QRViewController p1)

{

//called when View gets created.

```

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```

this.controller = p1;

controller.scannedDataStream.listen((scanevent) {

    setState() {

```

```
//UI gets created with new QR code.
```

```
    result = scanevent;
```

```
    });
```

```
    });
```

```
}
```

```
@override
```

```
void dispose() {
```

```
    controller.dispose();
```

```
    super.dispose();
```

```
}
```

```
}
```

```
</scanqrpage>
```