



E-AUTHENTICATION SYSTEM USING QR CODE AND OTP

A Final Year Project by IMBG4

“Coming together is beginning;
keeping together is progress;
working together is success.”

-Edward Everett Hale



Meet the Team



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AGENDA

- ☐ Understanding E-Authentication
- ☐ Android Application
- ☐ iOS Application





E-Authentication

Abstract

- The big question of security
- The extra layer of protection
- The concept of Two-factor Authentication
- Importance and use of QRcode and OTP in the current world

Importance Of E-Authentication

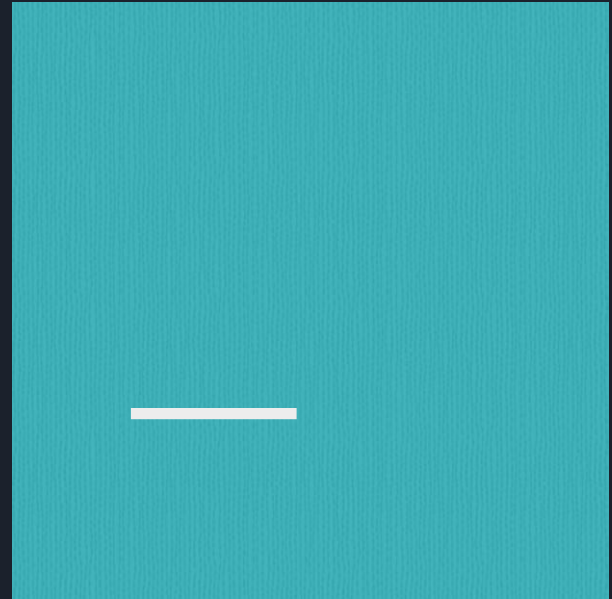
- It helps a particular organization to secure their network for permitting their users only.
- It helps to secure every transactions that is done online.
- It acts as an important layer of security.





Idea

- Special Features
- ✦ Ease of use- a core idea.
- ✦ Maximum “Security”
- ✦ Flexibility
- ✦ Across platform support with probable standardisation according to the requirement.



Technologies

Technologies Used



Android Studio
4 and above



Java &
JDK 8
and above



Xcode 11
and above



Swift 4
and above



Technologies

System Requirements



macOS
High Sierra
and above



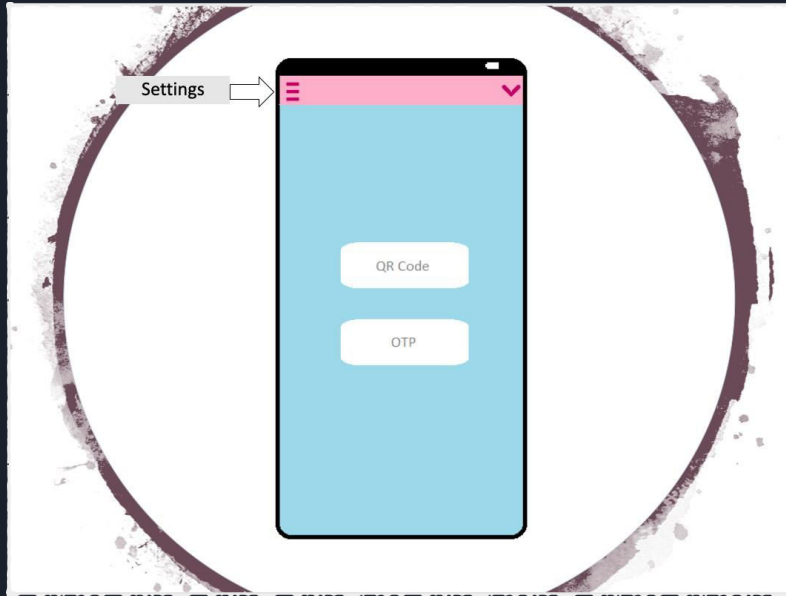
Windows 10

Windows 7
and above



Ubuntu 18.04
and above

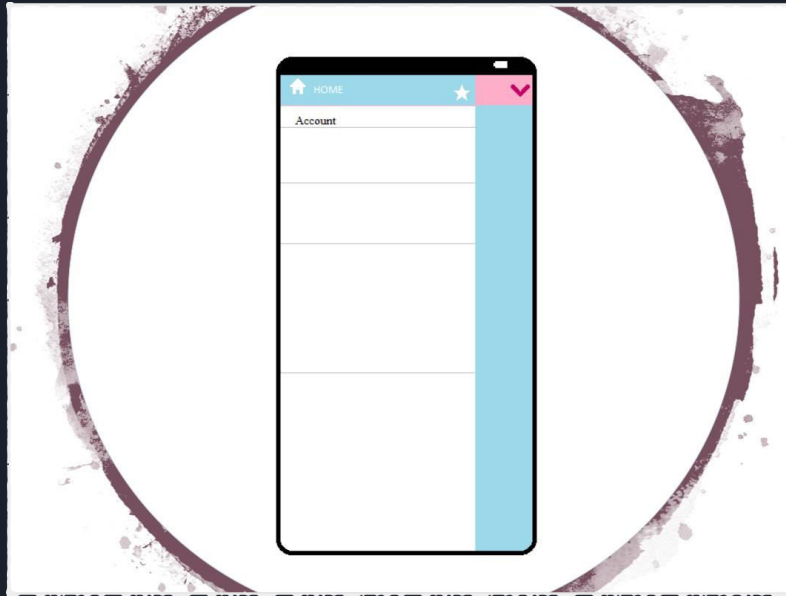
PROGRESS



➤ Design Prototype

- ◆ A minimalist UI of the launch screen.

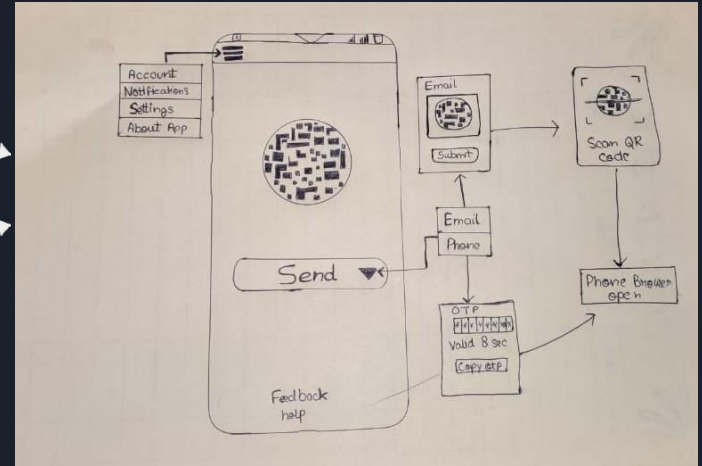
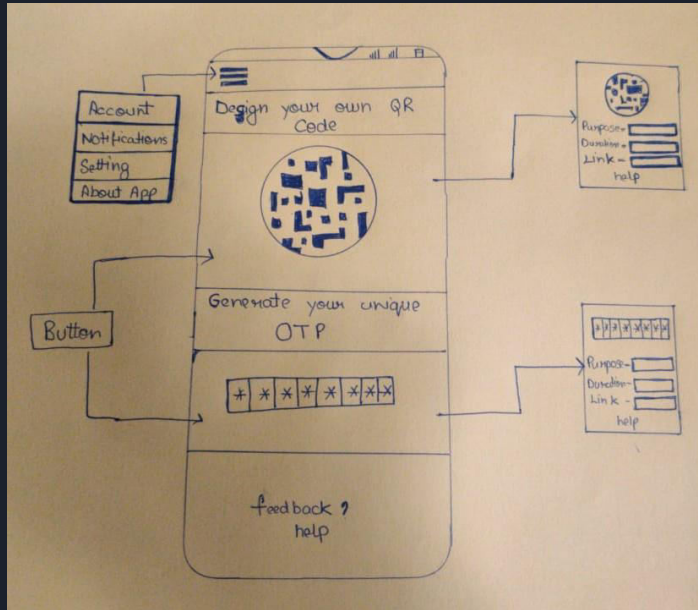
PROGRESS



➤ Design Prototype

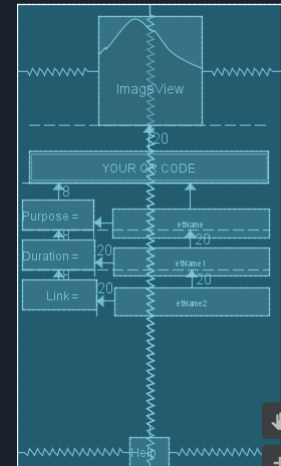
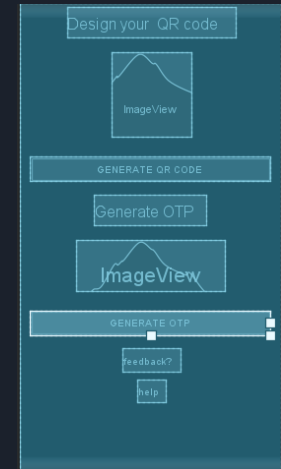
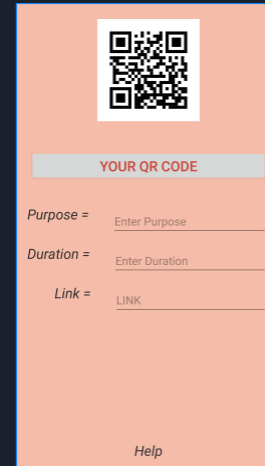
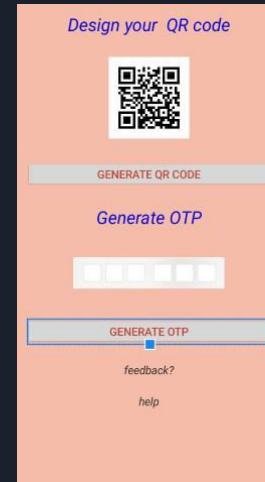
- ◆ A basic view of how drop down menus will appear.

FLOW OF APP



Progress Report

- The UI has been completely designed in XML.
- Therefore the View part of MVC is complete.



Progress

Design your QR code



GENERATE QR CODE

Generate OTP



GENERATE OTP

feedback?

help



YOUR QR CODE

Purpose =

Duration =

Link =

Help

YOUR OTP

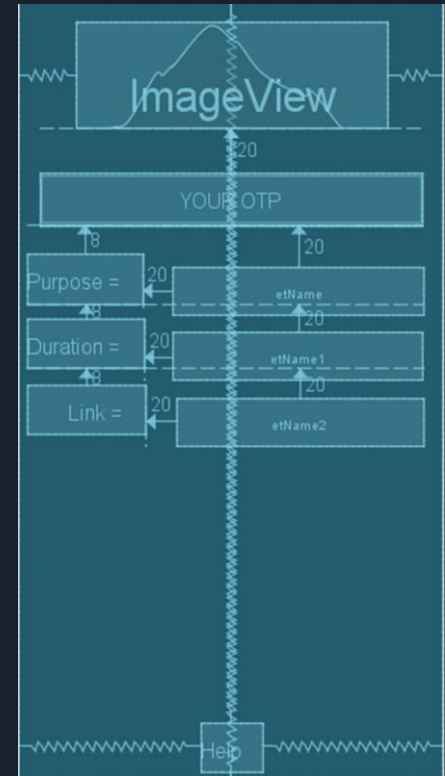
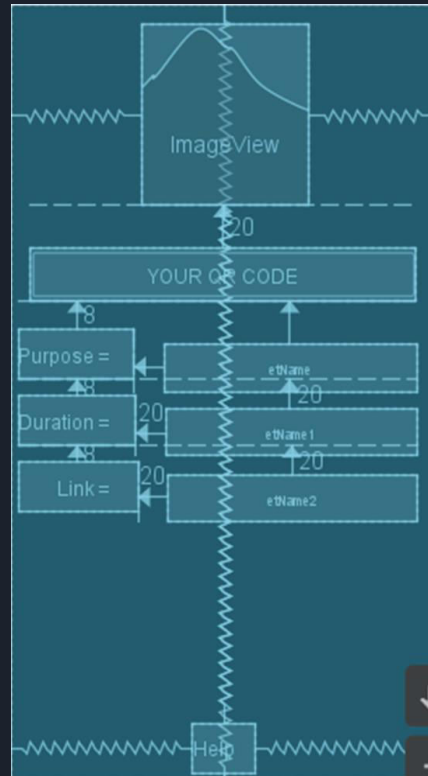
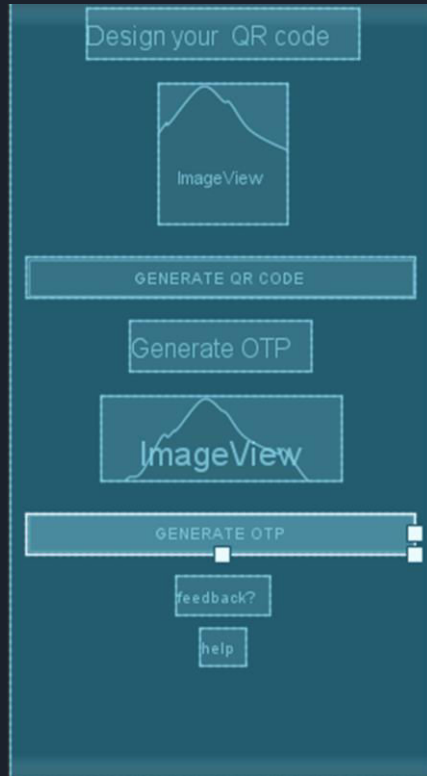
Purpose =

Duration =

Link =

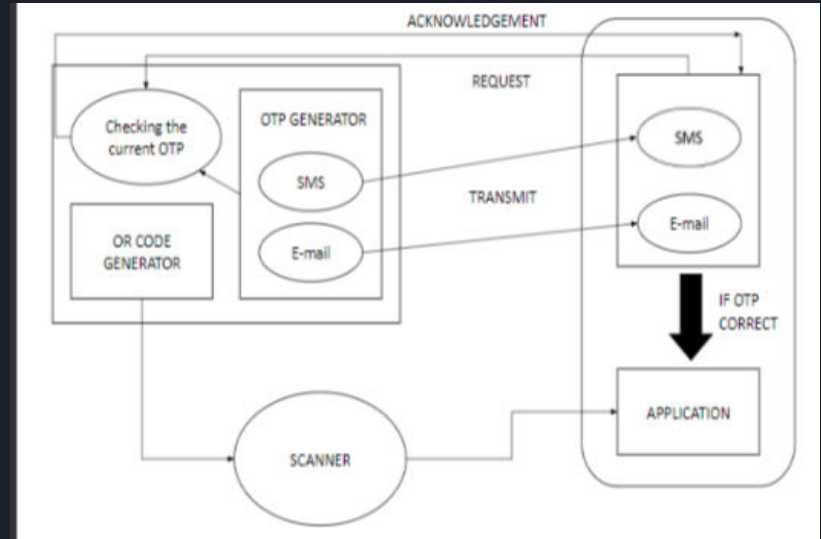
Help

Blueprints

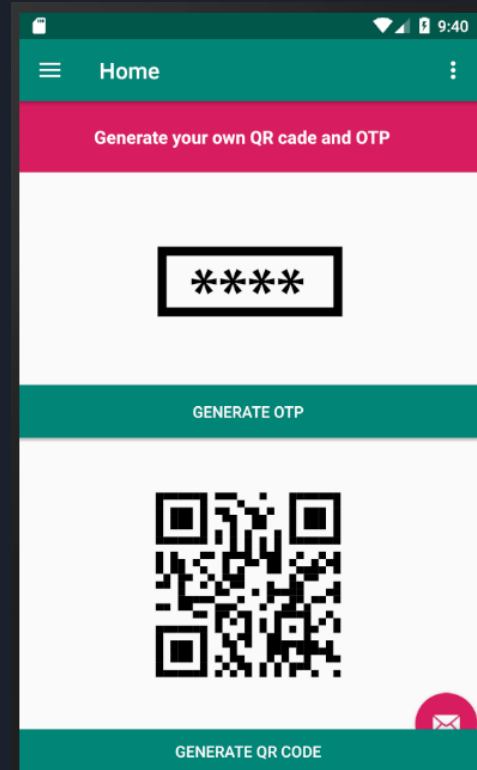
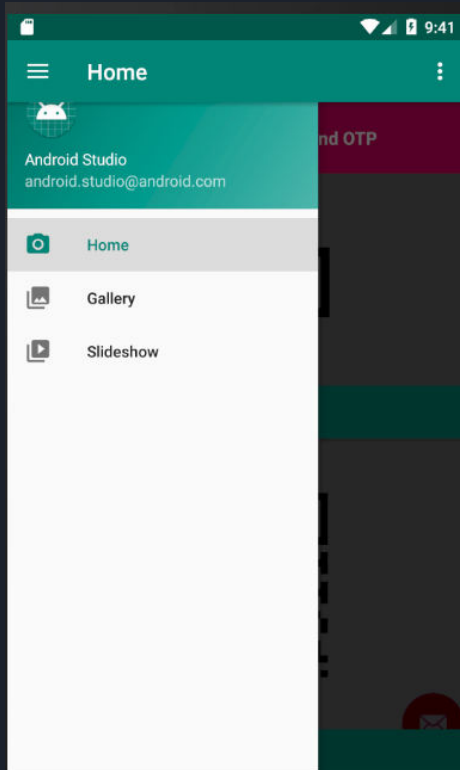


Backend Classes

- OTP generation Algorithm
- QR code Algorithm
- Sending by e-mail
- Sending by SMS



Android App UI

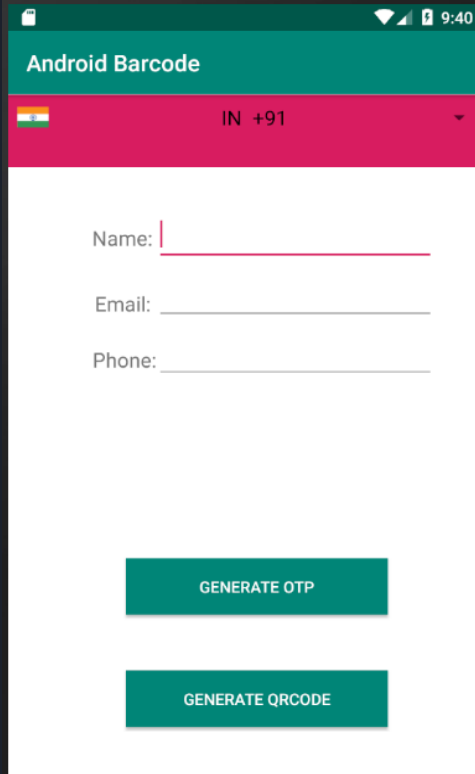


One Time Password

- **Using `java.util.random()`**
- Random class is used to generate pseudo-random numbers in java. An instance of this class is thread-safe. The instance of this class is however cryptographically insecure. This class provides various method calls to generate different random data types such as float, double, int.
-



One Time Password



Android Barcode

IN +91

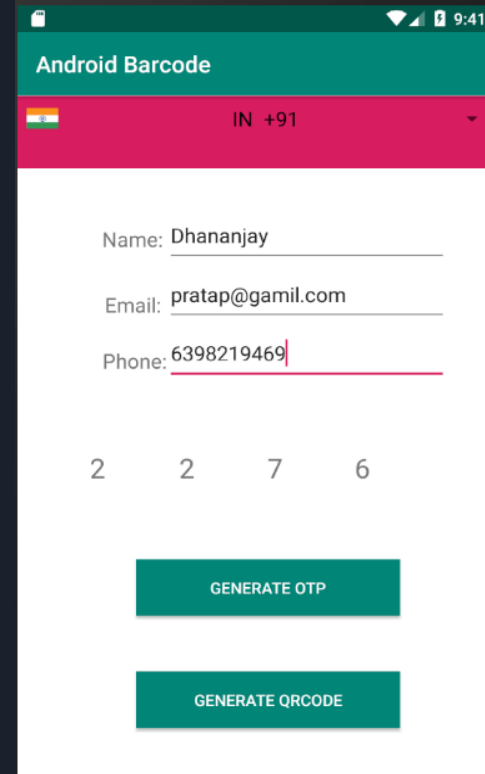
Name:

Email:

Phone:

GENERATE OTP

GENERATE QR CODE



Android Barcode

IN +91

Name:

Email:

Phone:

2 2 7 6

GENERATE OTP

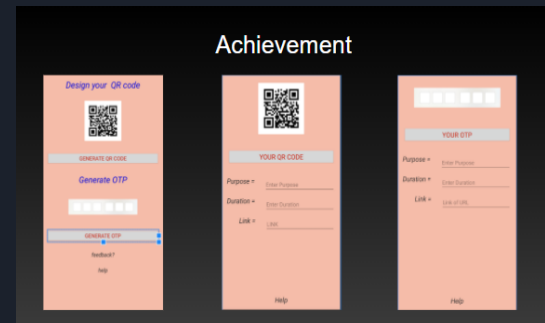
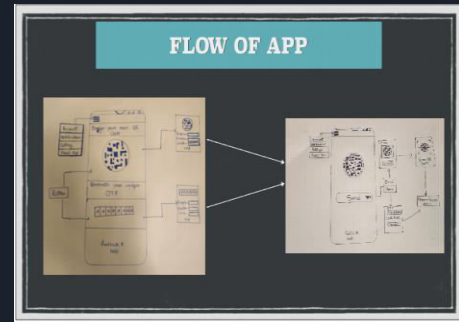
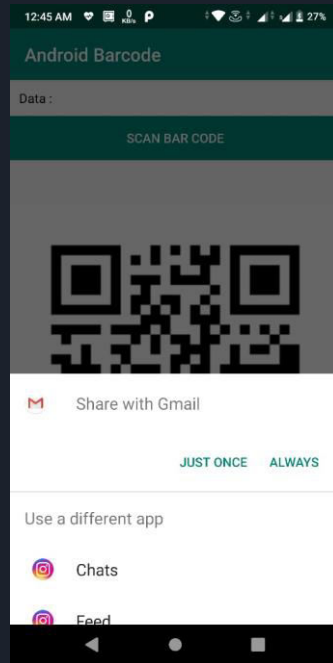
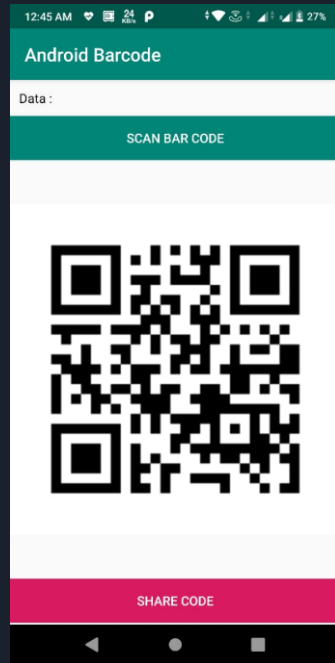
GENERATE QR CODE

QR Code

- Using
- ZXing("Zebra Crossing")
- is the popular API for QR code processing in Java. Its library has multiple components and we will be using the 'core' for QR code creation in our Java example.
-



QR Code





iOS Fundamentals Used

UI Kit

A **UI kit**, or user interface **kit**, is a collection of assets that contains a set of design elements such as **UI** components and styles. **UI** components are elements that convey meaning and provide functionality to users.

Foundation

The **Foundation** framework defines a base layer of functionality that is required for almost all applications. It provides primitive classes and introduces several paradigms that define functionality not provided by the language or runtime.



iOS Fundamentals Used

CIFilter

An image processor that produces an image by manipulating one or more input images or by generating new image data

Int.random

This swift standard library class is used to generate random integers .



iOS Fundamentals Used

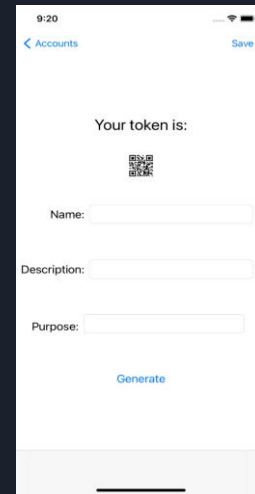
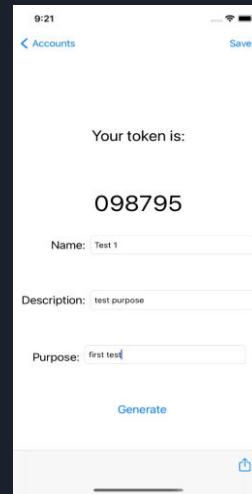
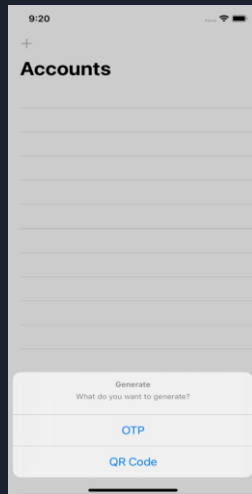
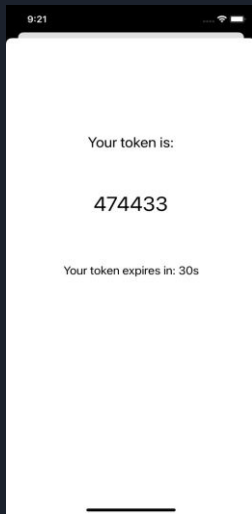
UIViewController

The UIViewController class defines the shared behavior that is common to all view controllers. You rarely create instances of the UIViewController class directly. Instead, you subclass UIViewController and add the methods and properties needed to manage the view controller's view hierarchy.

UITableViewController

Subclass UITableViewController when your interface consists of a table view and little or no other content. Table view controllers already adopt the protocols you need to manage your table view's content and respond to changes.

iOS Application Execution





THANK YOU