

**PROJECT REPORT ON
TRACK IT ENTERPRISE APPLICATION**

Submitted By: -

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School of Computer Science and Engineering



UNIVERSITY WITH A PURPOSE

**SCHOOL OF COMPUTER SCIENCE
UNIVERSITY OF PETROLEUM & ENERGY STUDIES
Bidholi Campus, Energy Acres, Dehradun – 248007.**

Project Report

Project Title: Track-It

GitHub : <https://github.com/aishwaryaubhrani/Track-It>

Abstract:

Our customized apps increase the turnaround and capacity of merchandise. They manage activities like transportation management, inventory management, order management and fleet management. It also facilitates the consolidation of air, water and ground shipments. This project attempts to develop an application named Track It for android applications through which user can acquire details about their respective consignments or orders.

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1. Introduction

1.1 Problem Statement

These days' people are fully dependent upon their mobile phones. everything is available on the internet everything can be accessed with just a click. so why not consignments or orders, heavy consignments which take days to reach the destination are often ignored. there are thefts with such orders on the journey that take place. Such consignments authenticity is checked through their weight and physical appearance(wear and tear)

1.2 Objectives

The Enterprise Application suggested is a Business to Business Application, named Track-It. It'll be a native Android Application.

- It is basically a tracking service application at an enterprise level.
- It is a Business to Business application.
- Companies can track their consignments by using this particular application.
- The location can be tracked to check where the consignment has reached.
- The Company staff will be notified via push notifications at various steps, such as shipment.

Some of the basic features, to be used in the application itself, are:

- Authentication
- Location Tracker
- Push Notifications
- Complaint service
- Google Maps Implementation
- Database storage and retrieval

1.3 Device Requirements

Operating system: Android OS (Above Version 5.0 (Lollipop) , API Level 21)
Hardware: An Android Phone
Physical Memory (RAM): 2 GB or above
Secondary Memory (Mobile Storage): 8 GB or above.

2. System Analysis

2.1 Motivation

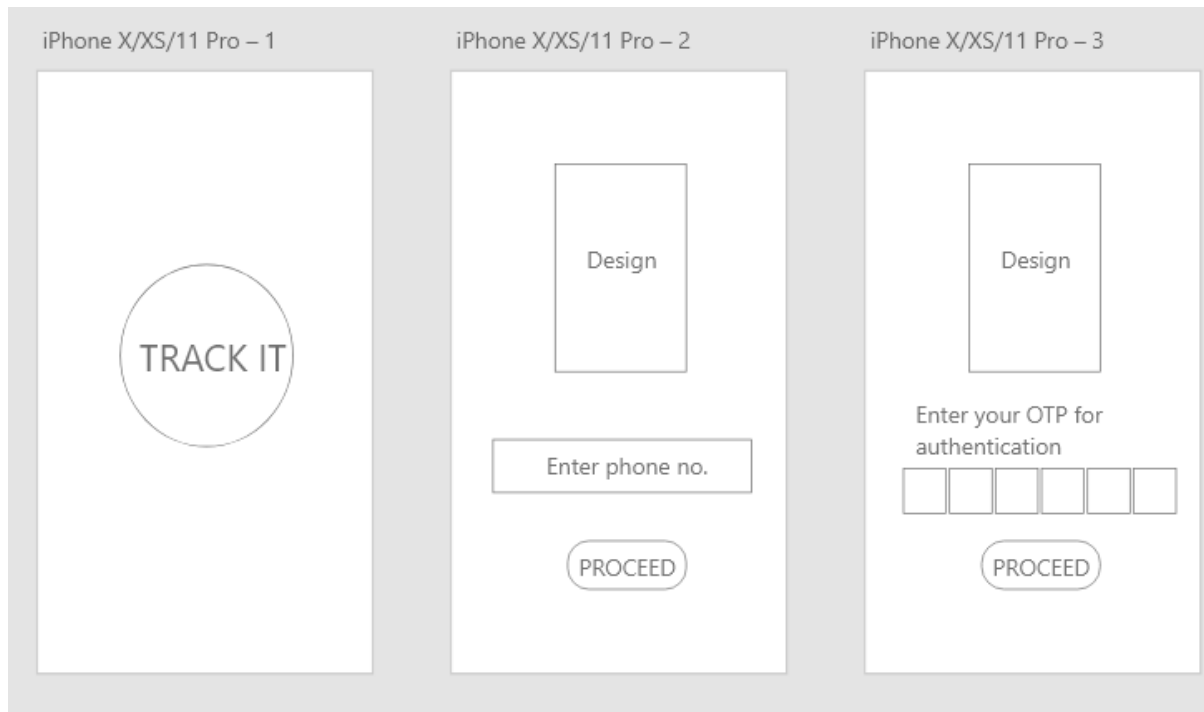
The new research, conducted by the University of Oxford and published in leading journal Science, shows the virus is spreading too quickly for the pandemic to be contained by simply isolating those we know are infected or by manually tracing all their contacts. The location-tracking aspect of the app could be enhanced by enabling users to check in to locations such as shops, public transport stations or workplaces. To encourage more people to use the app, it could also provide access to health services, information and even food or medicine deliveries during self-isolation. The researchers also said that the app should be combined with other measures such as social distancing and frequent hand washing.

2.2 Proposed System

In This application we are integrating both database storage as well as retrieval of the consignments. Additionally, the user can also scan the QR Code of the consignment to track it and know its current location also. The main thing which separates this app with existing applications is that currently in the market there is no app which have all these things together.

3. Design

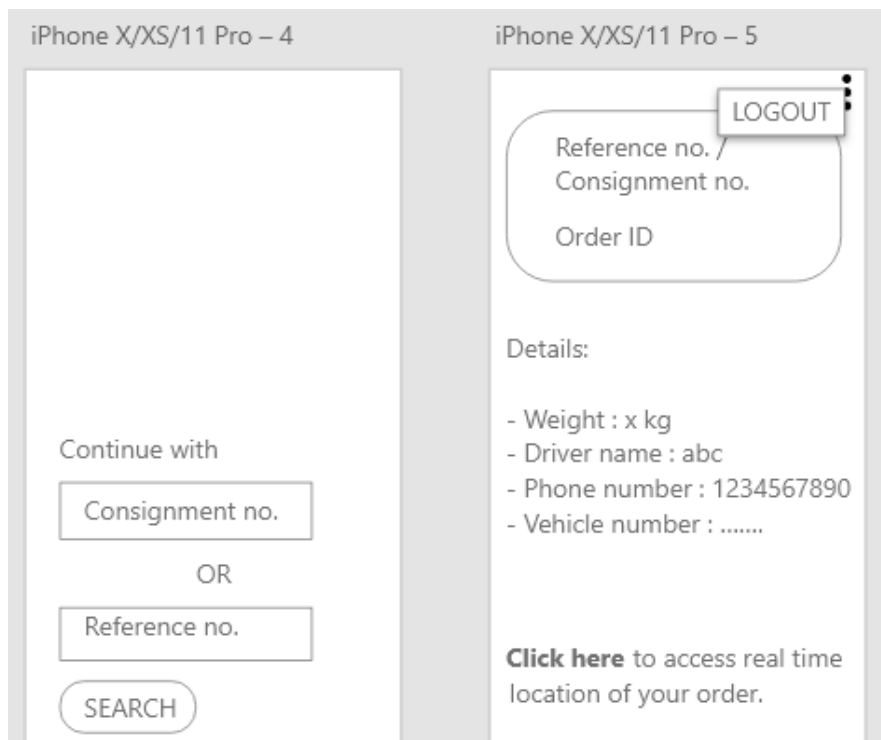
3.1 Wireframes Designs



Screen 1

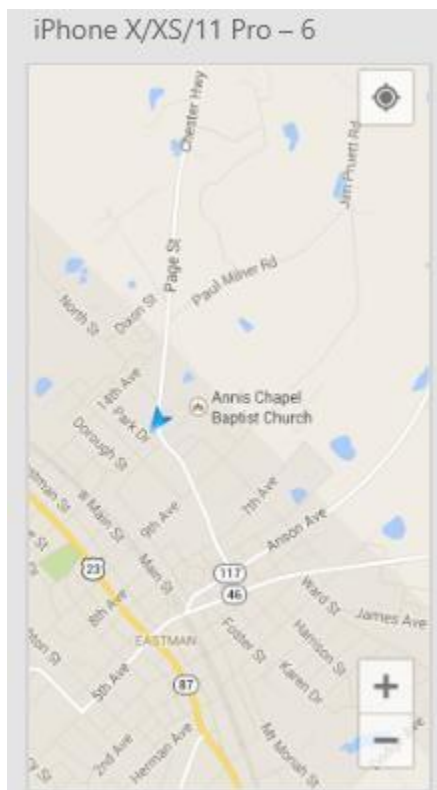
Screen 2

Screen3



Screen4

Screen5



Screen6

3.2 Screen-wise Description

Above are the wireframes of the project proposed.

Screen1

It is a splash screen with the logo of the Application, which will be displayed for a few seconds.

Screen2

The next screen will be taking some input from the user i.e. his/her phone number for authentication. It is an OTP based authentication; the user will receive an OTP to log into his/her account. Here, the user enters his/her phone number and clicks proceed to jump to the next screen.

Screen3

Now, the received OTP is entered by the user, to log in successfully. In case, he/she fills the wrong OTP, access will not be granted.

Screen4

In this particular screen, the user has the option to enter either the consignment number or the reference number with him/her to proceed and check out the status.

Screen5

This is the main screen of the application. Here, the reference number or the consignment number along with the order-ID is displayed to the user. Along with that, the user is displayed all the details of the consignment, such as, weight, driver's phone number, vehicle number and all the further necessary details.

Moreover, if the user wishes to track the consignment, he/she can do it by clicking the 'CLICK HERE to access the real time location of your order', by which the user will be taken to Screen 6 of the application.

The user can log out whenever he/she wishes to.

However, if the user does not log out, he/she is be directed to the main screen i.e. Screen 5 only, there is no need to authenticate oneself again.

Screen6

This is the screen where the user can actually track the consignment on Google Maps and locate it as and when required, i.e. according to his/her convenience.

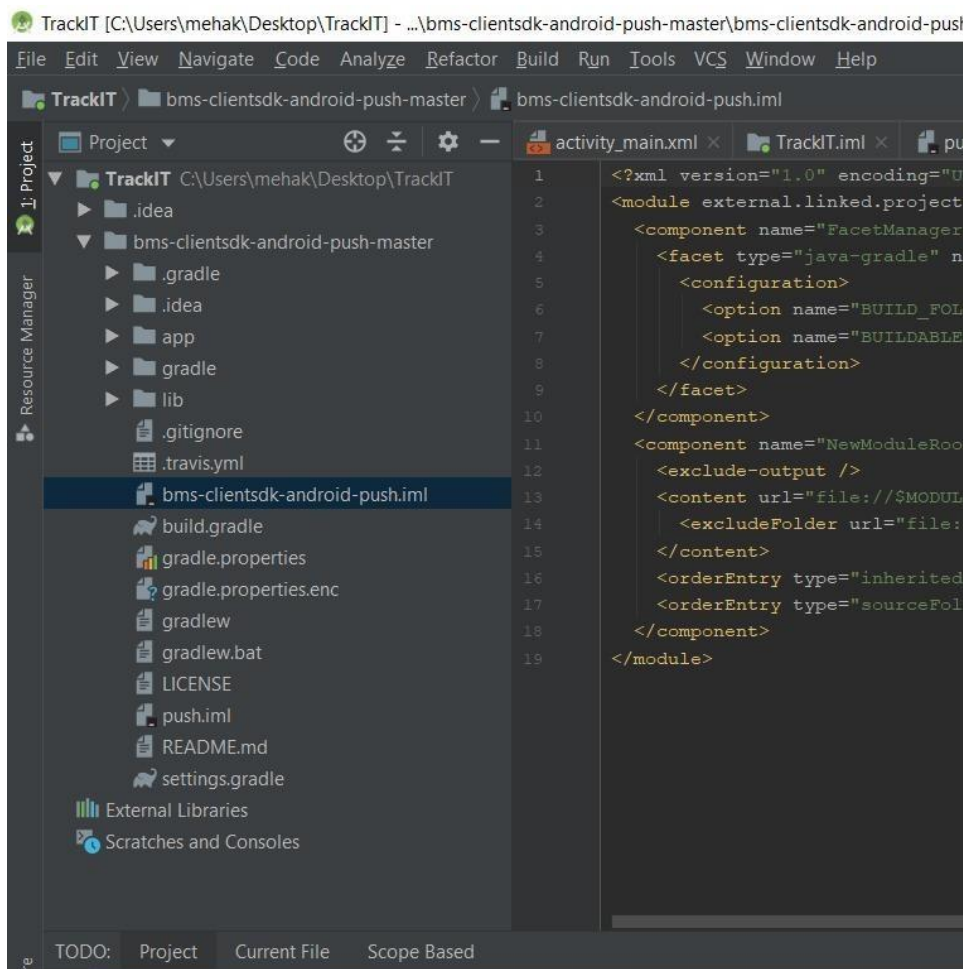
4. Implementation

4.1 Methodology

1. We will be using Track it to track the consignment with much feasible manner.
2. We are building an enterprise level application for the same.
3. We will be also use various API's for example google map api, location tracking api etc.
4. We are using Android Studio to write the code.
5. We will keep our clients informed regarding their consignments with the help of push notifications.

4.2 Push Notifications

A push notification is a message that pops up on a mobile device. App publishers can send them at any time; users don't have to be in the app or using their devices to receive them.....Push notifications look like SMS text messages and mobile alerts, but they only reach users who have installed your app.



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Resource list

Name	Group	Location	Offering	Status
Filter by name or IP address...	Filter by group or org...	Filter...	Filter...	Filter...
Devices (0)				
VPC infrastructure (0)				
Clusters (0)				
Cloud Foundry apps (0)				
Cloud Foundry services (0)				
Services (1)				
Push Notifications-81	Default	London	Push Notifications	Active
Storage (0)				
Network (0)				
Cloud Foundry enterprise environments (0)				
Functions namespaces (0)				
Apps (0)				

Active

View cloud status

Offering: Push Notifications

Created: 2020-09-24

Created by: 500061469@stu.upes.ac...

Plan: Lite

CRN: crm:v1:bluemix:public:imfpu...

GUID: 4df400a8-3a6b-417b-bfa...

View full details

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Resource list /

Push Notifications-81

Active

Add tags

Details

Actions...

Getting started

Configure service

SDKs and Starters

Service credentials

Notifications

Tags

Channels

Monitor

Connections

Plan

SDKs

REST API

Starters

Client side

Android

This package contains the Push components of Android SDK and has to be used in combination with core SDK. You can either download and import this package to your Android Studio..

Learn more

Download

iOS

This package contains the Push components of the Swift SDK. The IBM Cloud Mobile Services Swift SDKs are available via CocoaPods and Carthage.

Learn more

Download

Cordova

This is the Cordova Plugin for the IBM Cloud Mobile Services Push SDK. You should already have Node.js/npm and the Cordova package installed. The Cordova library is also required to ..

Learn more

Download

React native

This is the Push component of the React Native SDK for IBM Cloud Mobile Services.

Web

This is the client JavaScript Push SDK for further developing your Web application for sending and receiving IBM Cloud Push Notifications to Chrome & Firefox web browser apps.

FEEDBACK

Resource list /

Push Notifications-81

Active
Add tags
Details
Actions...

Getting started

- Configure service
- SDKs and Starters
- Service credentials
- Notifications
- Tags
- Channels
- Monitor
- Connections
- Plan

Step 1

Obtain notification service provider (FCM/APNS) credentials

Get notification service credentials for your app. Use Firebase Cloud Messaging (FCM) for Android devices, Google Chrome browser and Chrome Apps & Extensions. Use Apple Push Notification Service (APNs) for iOS devices and apps.

Android iOS web

Step 2

Configure service

Configure the service with FCM/APNs credentials for the Android, iOS and Web apps.

Android iOS web

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Resource list /

Push Notifications-81

Active
Add tags
Details
Actions...

Getting started

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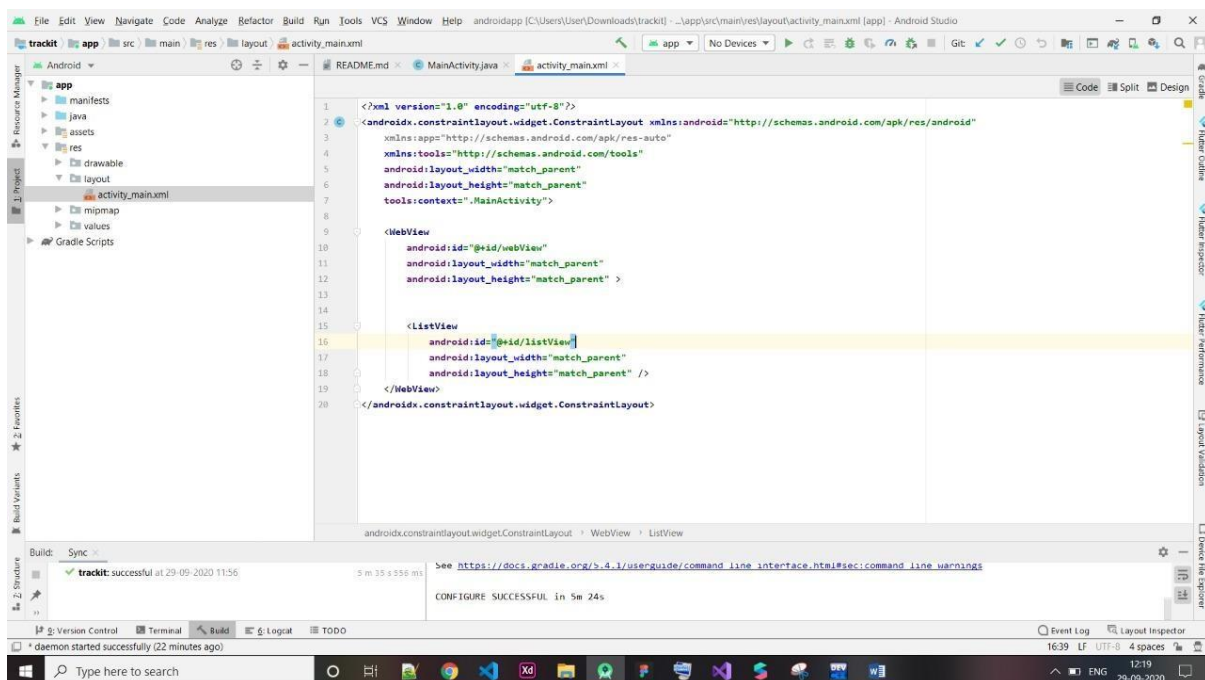
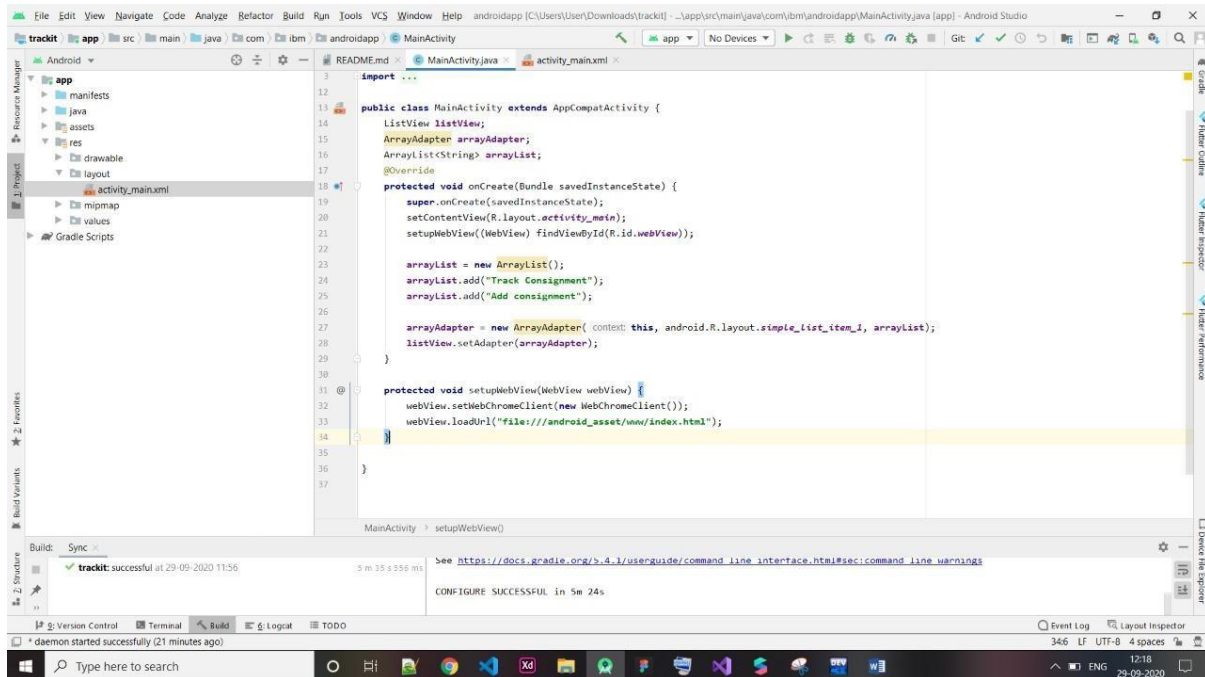
Web

This is the client JavaScript Push SDK for further developing your Web application for sending and receiving IBM Cloud Push Notifications to Chrome & Firefox web browser apps.

Learn more Download

4.3 Working with Adapters

In Android, Adapter is a bridge between UI component and data source that helps us to fill data in UI component. It holds the data and send the data to an Adapter view then view can takes the data from the adapter view and shows the data on different views like as List View, Grid View, Spinner etc.



4.4 Administering and Testing for Credentials Validation towards User authentication.

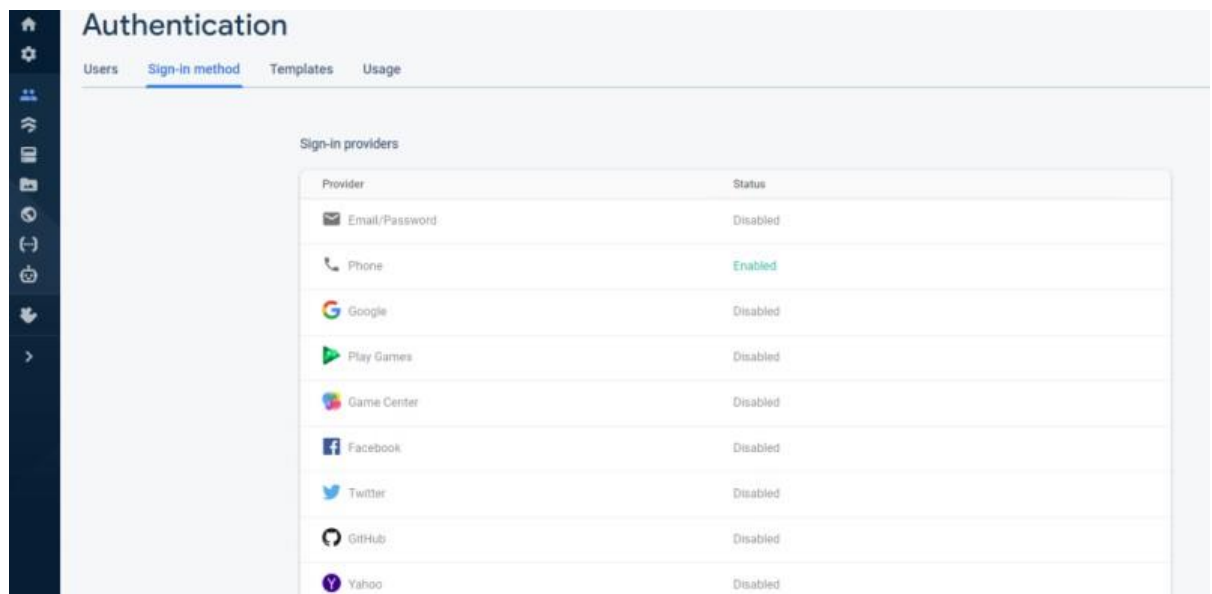
In our project Track-IT. We have used OTP based authentication.

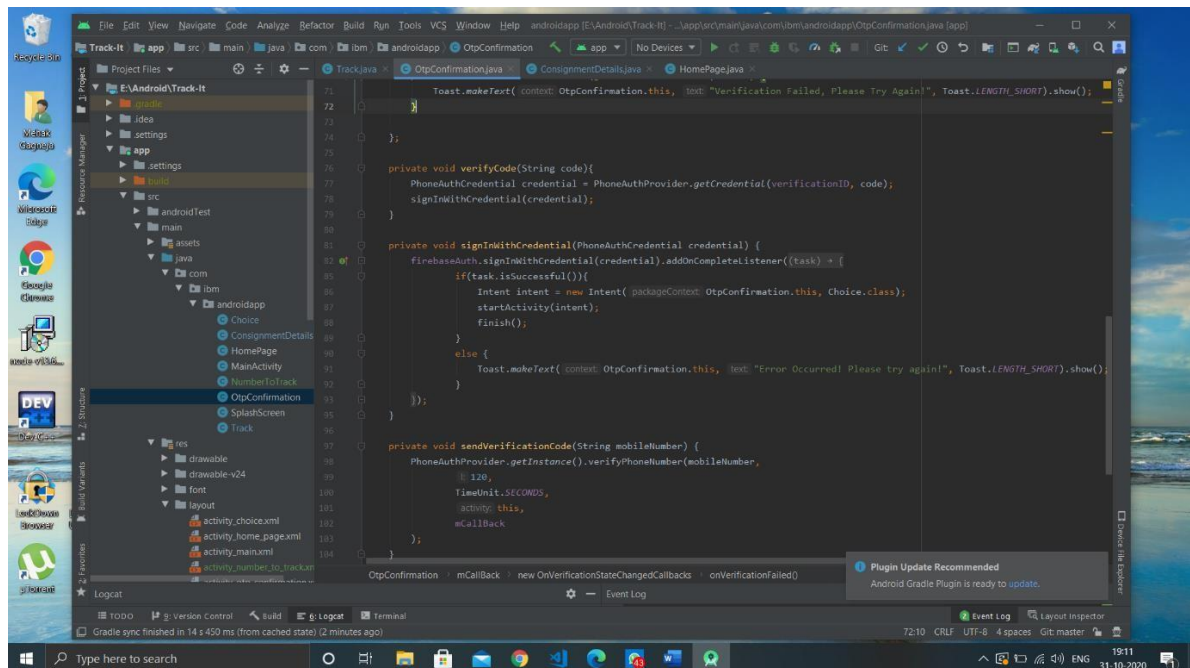
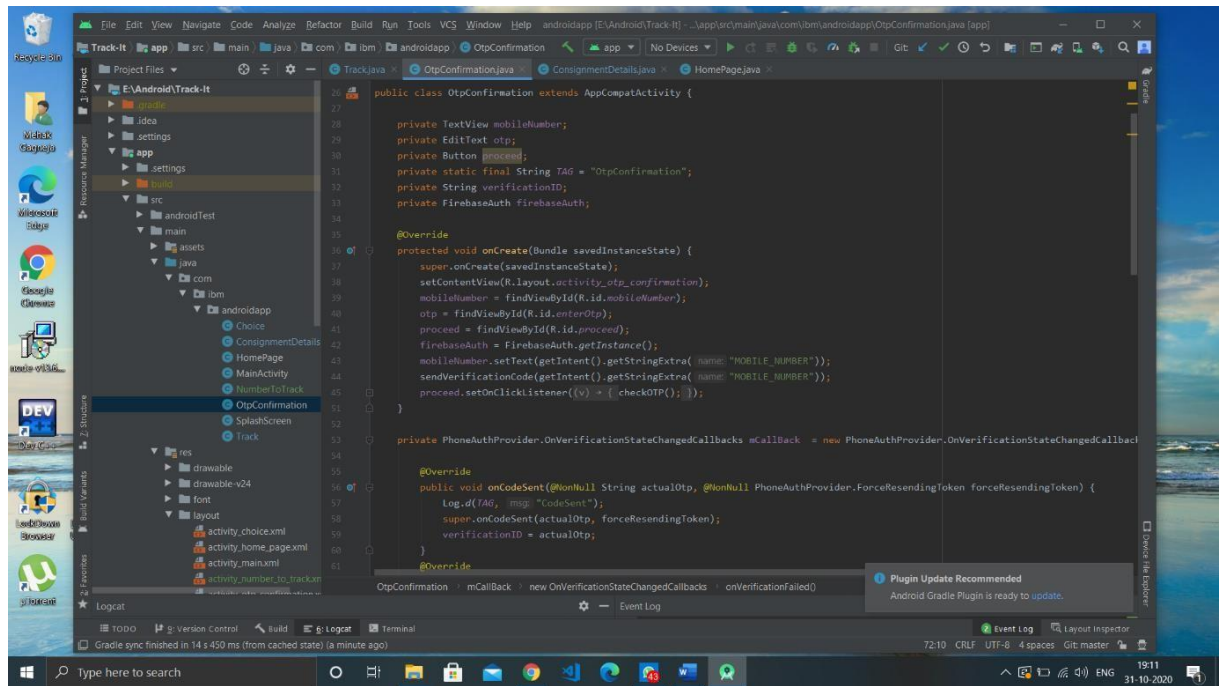
The user has to firstly verify his phone number, which is the primary key of our users, a unique id.

This is done to make the application secure so that unwanted users are not able to access the application.

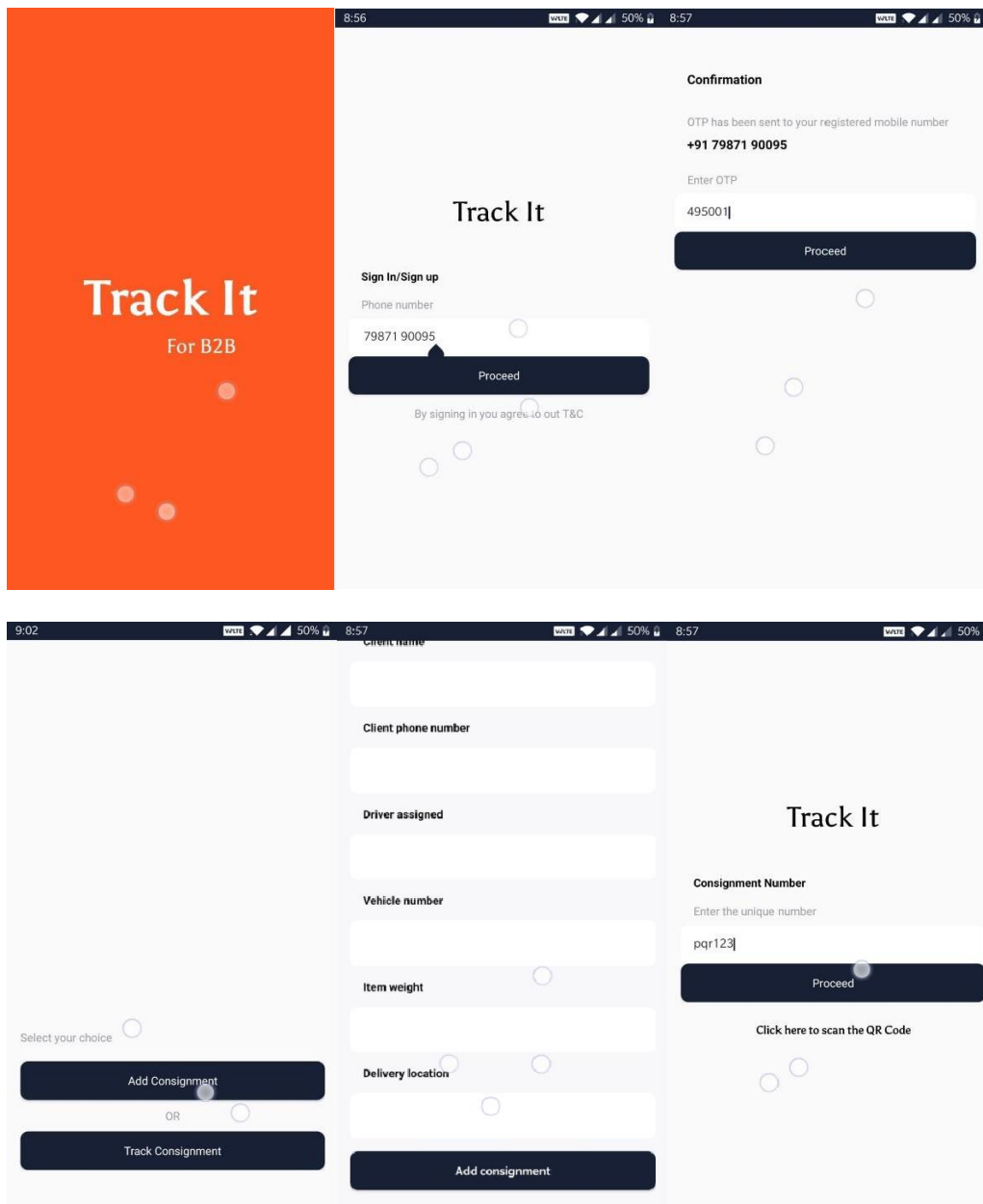
Steps:

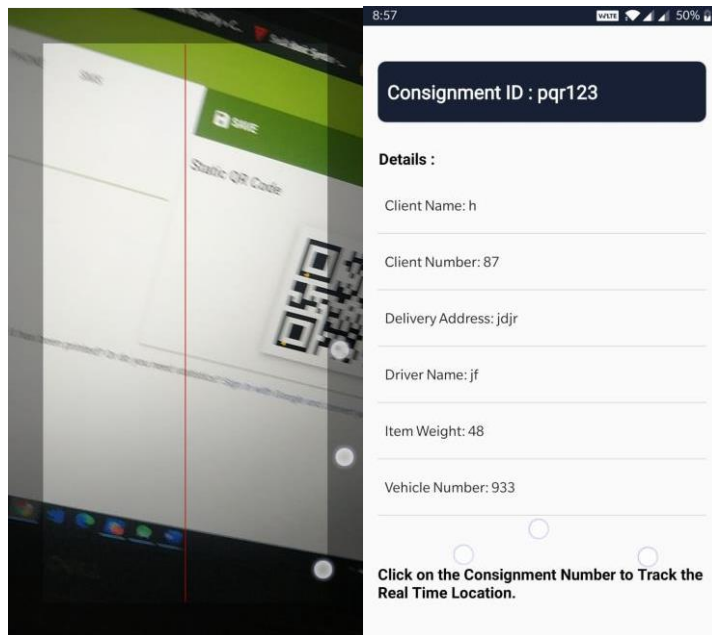
- Implement the FirebaseAuth API
- Go to cloud console in Firebase and enable authentication through phone.
- Write code for Authentication in your Android Studio.
- Authentication completed (OTP Based).



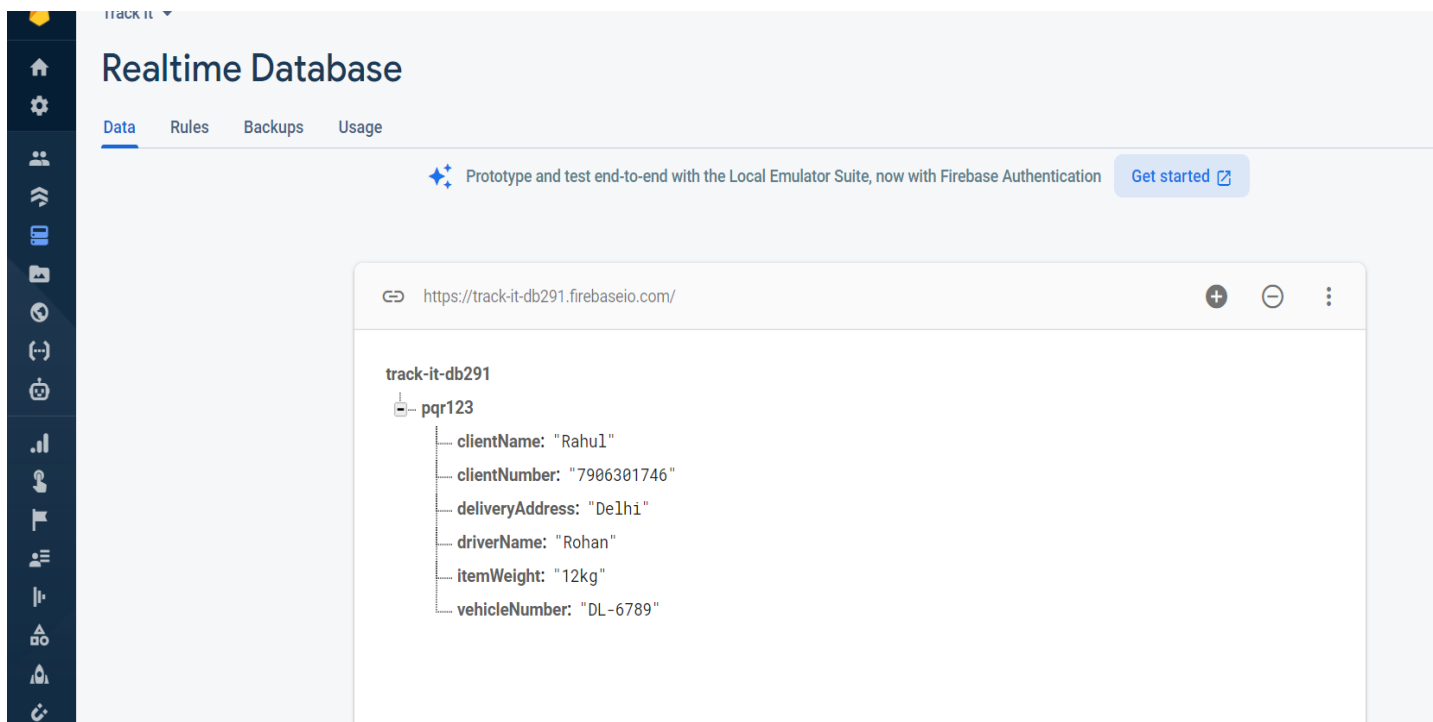


4.5 Screenshots

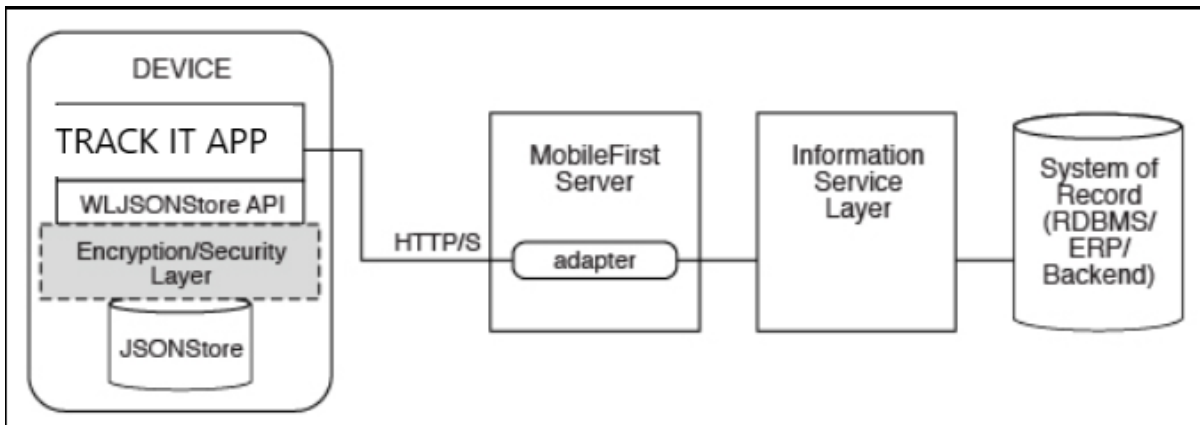




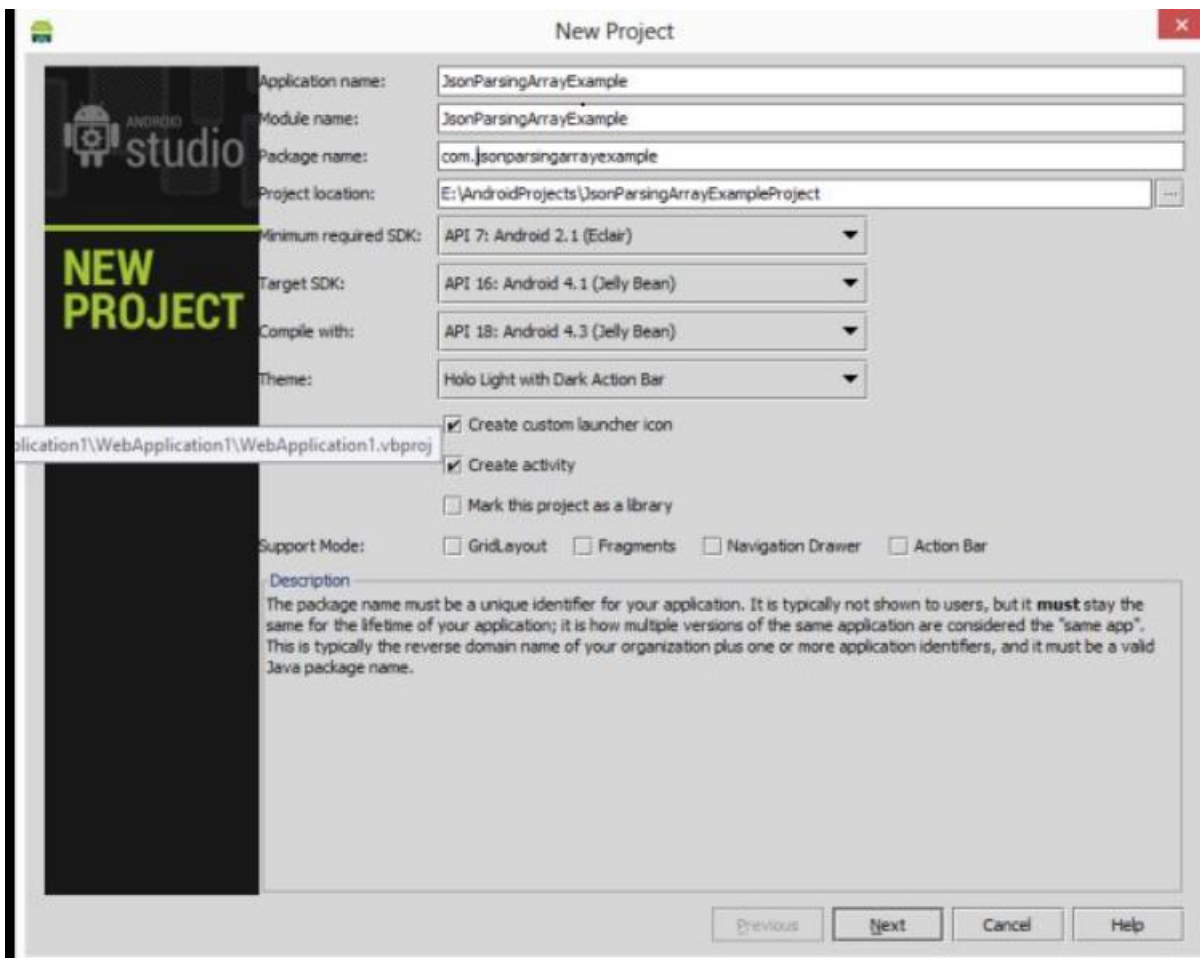
Database Snapshot:



4.6 Architecture



WLjson geo location
Api(consignment location)
WLjson storage Api(user id or
consignment id)

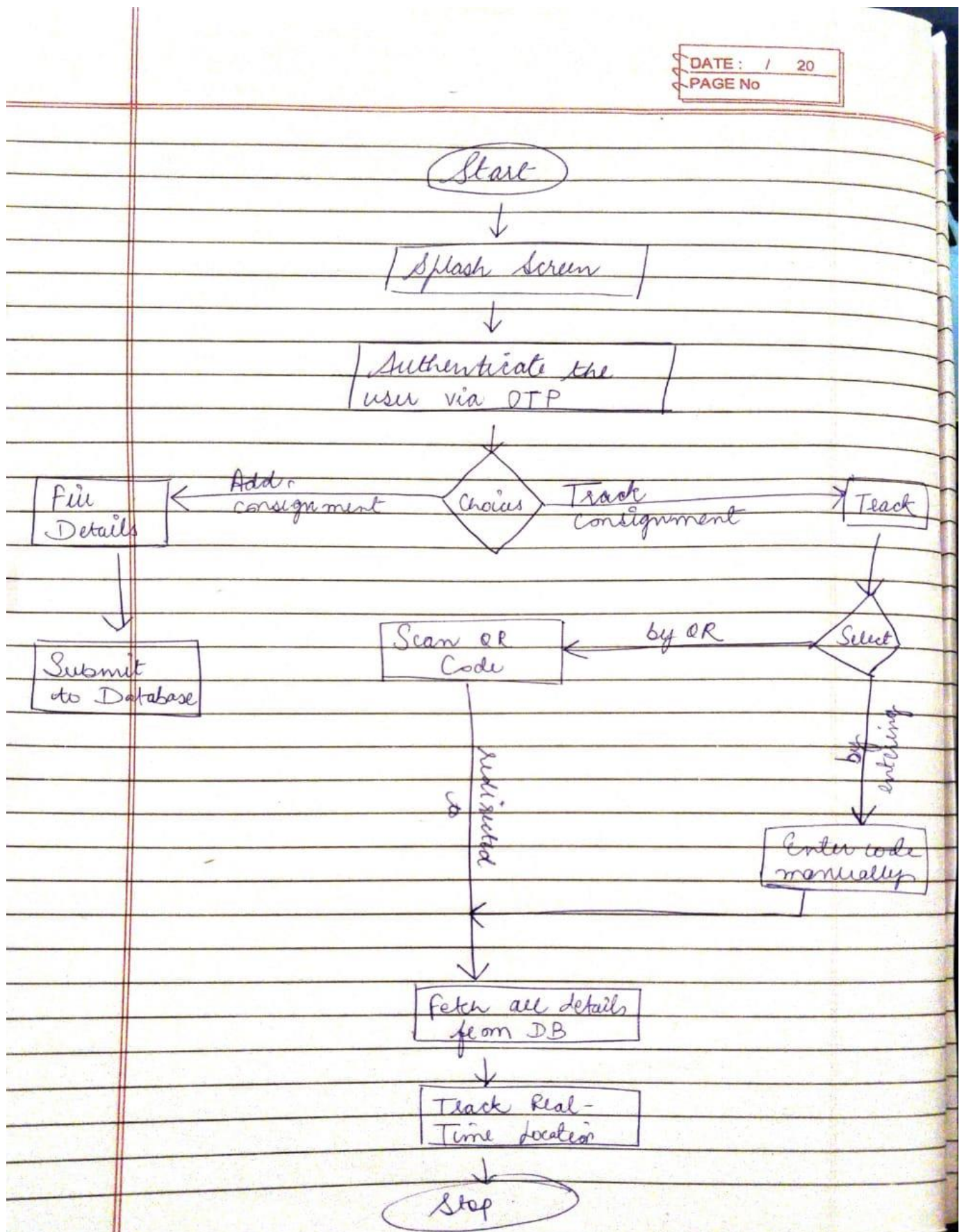


Step 2: -
Further
xml and
java files
are created
to establish
Sqlite
connection.



**{ JUST FOR THE
REFERENCE ORIGINAL
MAY LOOK A BIT
DIFFERENT }**

4.7 FlowChart



5. Limitations

- Internet Connectivity is must
- Since we are using a basic plan of firebase database so there can be a delay of few seconds in retrieving the data.

6. Future Enhancements

- Integrated money transfer system so that customer don't have to use third party applications.
- Live tracking system when connected to a delivery service.
- Integrated chat app which will help the users to chat.
- Faster delivery system. same day delivery if destination is within 600km.

7. Conclusions

The application fulfils the purpose of tracking user's consignment details. Actually, it allows the user to both, add the consignments as well as retrieve its details, such as, driver name, number, client name, client number, vehicle number etc.

Also, it has a QR Code scanner, so that one can scan the QR Code of their consignment number provided to track the same.

Real-Time location of the consignment can also be tracked.