

AQUA (AN ANDROID APP FOR PEOPLE TO EASILY GET UPDATES ON WATER CRISIS AND ALSO CAN ORDER WATER FROM AVAILABLE SUPPLIERS)

*Report submitted in partial fulfillment of the
requirement for the degree of
B.E. (Information Technology)*

Submitted By

VIVEK KHADE
SOHIL GURUNG
RUCHIR TAYSHETE

Under the Guidance of
Prof. NEHA KUDU
Department of Information Technology



Vidyalankar Institute of Technology
Wadala(E), Mumbai 400 037

University of Mumbai

2020-21

CERTIFICATE OF APPROVAL

This is to Certify that

VIVEK KHADE
SOHIL GURUNG
RUCHIR TAYSHETE

Have successfully carried out Project Synopsis work entitled
**AQUA (AN ANDROID APP FOR PEOPLE TO
EASILY GET UPDATES ON WATER CRISIS
AND ALSO CAN ORDER WATER FROM
AVAILABLE SUPPLIERS)**
in partial fulfillment of degree course in
Information Technology
As laid down by University of Mumbai during the academic year
2020-21

Under the Guidance of

Prof. NEHA KUDU

Signature of Guide

Head of Department

Examiner1

Examiner 2

Principal

Dr. S.A. Patekar

Declaration

We declare that this written submission represents our ideas in our own words and where others' ideas or words have been included, we have adequately cited and referenced the original sources. We also declare that we have adhered to all principles of academic honesty and integrity and have not misrepresented or fabricated or falsified any idea/data/fact/source in our submission. We understand that any violation of the above will be cause for disciplinary action by the Institute and can also evoke penal action from the sources which have thus not been properly cited or from whom proper permission has not been taken when needed.

	Name of student	RollNo.	Signature
1.	Vivek Khade	18101C2041	
2.	Sohil Gurung	18101C2042	
3.	Ruchir Tayshete	18103C2041	

Date:5th December, 2020

Acknowledgment

We are pleased to present “Aqua (AN ANDROID APP FOR PEOPLE TO EASILY GET UPDATES ON WATER CRISIS AND ALSO CAN ORDER WATER FROM AVAILABLE SUPPLIERS)” as our project and take this opportunity to express our profound gratitude to all those people who helped us in completion of this project.

We thank our college for providing us with excellent facilities that helped us to complete and present this project. We would also like to thank the staff members and lab assistants for permitting us to use computers in the lab as and when required.

We express our deepest gratitude towards our project guide Prof. Neha Kudu for her valuable and timely advice during the various phases in our project. We would also like to thank her for providing us with all proper facilities and support as the project co-coordinator. We would like to thank her for support, patience and faith in our capabilities and for giving us flexibility in terms of working and reporting schedules.

Finally we would like to thank everyone who has helped us directly or indirectly in our project.

Vivek Khade
Sohil Gurung
Ruchir Tayshete

Table of Contents

SR NO.	TOPIC	PAGE NO.
1	Introduction	2
1.1	Goal	2
1.2	Need of Application	3
2	Aim and Objectives	3
3	Literature survey	4
4	Problem Statement	7
5	Proposed Solution	8
5.1	Proposed System	9
5.2	Feasibility Study	11
5.3	Gantt Chart	11
6	Project Scope	12
7	Methodology and Modules	13
7.1	Process Model	14
8	Design	16
8.1	Use Case Diagram	16
8.2	Sequence Diagram	17
9	Hardware and Software requirements	18
10	Result	19
	Reference	36

Table of Figures

Figure No.	Figure Name	Page No.
5.1	Flowchart	10
5.2	Gantt Chart	11
7.1	Process Model	14
8.1	Use Case Diagram	16
8.2	Sequence Diagram	17
10.1	Dashboard Activity	19
10.2	Login Activity	20
10.3	Forgot Password Activity	21
10.4	Register Activity	22
10.5	Supplier List Activity	23
10.6	Supplier Activity	24
10.7	Place Order Activity	25
10.8	Complaint Activity	26
10.9	Nearby Supplier's Location Activity	27
10.10	Crisis Marking Activity	28
10.11	Contact Us Activity	29
10.12	Feedback Activity	30
10.13	Rate Us Activity	31
10.14	News Activity	32
10.15	FAQ and Policy Activity	33
10.16	About Us Activity	34
10.17	Edit Profile Activity	35

ABSTRACT

It is an android application. The basic idea is that user can get updates on water crisis and can order different types of water from multiple suppliers. The main objective of this application is to make it interactive and user friendly. It would make using the application easier. It contains a sophisticated user interface and it is very easy to use. The user can view the marked area where crisis have happened and can get latest news for the same. The user can also order water by choosing a supplier and ordering it online. The customer can also complaint about the order if he receives a faulty product. Customers can also contact us for any query and can also rate and give feedback to our application. The main emphasis of this android application is to have a very easily to use and playful and fast experience of the application. It is an android application hence it is easy to manage and all the privacy arrangements are done to the app for better usability.

Chapter 1: Introduction

When a breakage occurs in the water pipeline, water crisis occurs. Due to the breakage, the water gets wasted and the area where the water supposed to go becomes impossible. Hence those areas suffer from water crisis until the pipeline is not fixed. During the crisis, the people living in those areas are not able to get water directly; hence they need to contact the nearest water tanker supplier who can provide the supplies to those people living in those areas. This traditional approach takes lot of time and efforts to contact to the supplier. And there becomes a good possibility of miscommunication in terms of water requirements, the location and address and contacting the supplier itself becomes a tedious task. To overcome this problem, this project tries to create a platform for the end users who are in need of water. This platform will connect the water suppliers to the end consumers with the help of a mobile application. Where users can put their location, contact details and requirements and order the supplies in a very efficient way. The app will have more features apart from this such as supplier's shop location, for the latest updates and so on which we will be looking further in the document.

The aim of this project is to provide a user-friendly application for its users. It is developed using Java, XML and Android Studio IDE. The application will be very useful for having update on water crisis and ordering water online.

1.1 Goal

Water crisis can happen anytime anywhere. But it was always difficult for the people to get notified about the crisis. The goal of this project is to create a platform through which people get notified about the crisis and other details related to the same.

During water crisis, it has seen that suppliers cannot fulfill the requirement of the water which people need and it has also been seen that during crisis, people don't get to know where they can get water from. Hence to solve this problem, in our final year project we have created an online water ordering system through which people can order water from multiple sellers according to their requirement. The status of the order will be sent on the customers email id. Along with this, customer can also see various supplier locations which sell different types of water on the map and users can also see the marked area where crisis currently happened on the map.

To take the feedback from users and customers, users and customers can give feedback and also rate our app. If user will have any query related to the application or any seller or product, he or she can contact us from the application. If the order delivered to the user is defective, then user can place a complaint for that particular order and the complaint will get resolved as soon as possible.

With this said, the goal of our final year project is to solve the current problem faced by our society during a water crisis.

1.2 Need of the application

During water crisis, it was always difficult for the people to get notified about the crisis. it has seen that suppliers cannot fulfill the requirement of the water which people need and it has also been seen that during crisis, people don't get to know where they can get water from. Hence, we created an android application to solve this problem of our society during a water crisis.

Chapter 2: Aim and Objectives

This project aims to develop an android application to solve problems during a water crisis by providing various suppliers location and details and a support system for their query and a notifier by creating a news section on the app. And along with this the objective of our final year project is to show the marked area on the map which will reflect water crisis affected areas. The objective is also to create a feedback section for better understanding about the user's requirements. The water ordering system will have an authentication unit which will authenticate users and activate the water ordering system for him/her. The objective of this project is also to have an easy to use and creative user interface and an efficient programming done to the application for fast user experience.

Chapter 3: Literature Survey

1. Challenges in Android Application Development: A Case Study

Publisher: International Journal of Computer Science and Mobile Computing

Authors: Abhinav Kathuria, Anu Gupta

Published in: IJCSMC, Vol. 4, Issue. 5, May 2015

Date Added to IEEE Xplore: 5th, May 2015

ISBN Information:

Smart phone is considered an important innovation that has changed the human life in several aspects. Android has emerged as the most widely used operating system in Smart Phones. Android operating system is open source and freely accessible to everyone. On Android operating system, many applications (apps) are available for fun and entertainment. With cut-throat competition for various examinations, students have moved from conventional way of learning to M-learning for preparation. The present paper discusses the design and development of an Android based app named as iquiz that can help students in preparation of competitive exams like UGC-NET, GATE etc. while they are on move. This paper also highlights various challenges faced by developers in Android App Development.

Nowadays, technology is increasingly used by human being in every field. As people move from one place to another, many wireless technologies are available to remain in contact with others, without regard of the location. The increasing popularity of Smart Phones has drawn the attention of almost everybody. Along with making and receiving calls, users can send and receive messages, access the Internet, digital media, incorporate audio/video recording etc. Smart Phones also contain built-in keyboard, high resolution camera, front side camera for video conferencing, touch screen etc. Different smart phones have different operating systems. A mobile app, short for mobile application or just app is an application which runs on smart phones, tablet or mobile phones. Apps are pre-installed or downloadable pieces of software that can do almost everything. Apps make mobile more like portable computers having multi core processors, gigabytes of memory and a real operating system. Originally mobile apps are made available for informational purposes that include Gmail, calendar, weather information etc. With increase in technology and user demands, developers started to make apps for other purposes like games, banking, video chats etc. An app can show the data in a similar way as a website, along with other benefits to download the content that can be used offline, in case the Internet is not available. There are many apps available in market today for different Operating Systems i.e. Android, Blackberry and Apple etc., in which Android is having the maximum market share these days.

2. Development of Native Mobile Application Using Android Studio

Publisher: International Journal of Applied Engineering Research

Authors: Neha Verma, Sarita Kansal, Huned Malvi

Published in: International Journal of Applied Engineering Research

Date of Conference: 21st, July 2018

This paper describe about the Cab application developed using Android Studio new version. It also include about the Cross Platforms on which development of android and IOS both platforms application can be done. Cross platforms Paper also includes an example of Cab application which will show its working and its uses. Cab Application is an Android Application which is build in Android Studio 8.0.1. Android Studio is a official integrated development tool or environment for Google's Android operating system. It is build on JetBrains' IntelliJ IDEA software. The main motive of building Cab Application is to provide employment and also make drivers, owners and customer's life easy. So basically we are trying to connect peoples (customers, Drivers and Owner's of the cabs) can be mutually benefited. In this Application number of services available, so the customer can easily select the services, date of service, time of service etc.

Now a day's everyone is in a need of smart phones majorly people uses androids phones for day to day communication. Many applications are developed for unlimited fun for people lives and the android system has become popular in the market of smart phones. Paper includes all about the Cab application development and difference between cross platform apps and native apps. Android is a operating system used for the smart phones based on android and for development of android application, android studio tool is used. It is developed by Google. On other hand Cross-platform mobile development refers to the development of mobile apps that can be used on multiple mobile platforms with a single coding. There are lots of cross-platform tools which are available online nowadays being the major challenge understand which one is the best to achieve the goals of a certain user or company. Moreover, cross-platform tools are still evolving tools have flaws and limitations, but represent a straight forward solution to solve the platform fragmentation problem. A more often application of the MDE concepts in this area may represent a good solution not only to develop cross-platform apps, but also to ease the development and captivate a larger number of users through the use of domain concepts. As future work, an extension to this survey can be made, namely increasing the set of analyzed tools and comparison factor.

3.Book: Beginning Android™ Application Development

Publisher: Wiley Publishing, Inc.

Author: Wei-Meng Lee

Published in: 2011, Canada

i First Started playing With the Android Sdk before it was officially released as version 1.0. Back then, the tools were unpolished, the APIs in the SDK were unstable, and the documentation was sparse. Fast forward two and a half years, Android is now a formidable mobile operating system, with a following no less impressive than the iPhone. Having gone through all the growing pains of Android, I think now is the best time to start learning about Android programming — the APIs have stabilized, and the tools have improved. But one challenge remains: getting started is still an elusive goal for many. It was with this challenge in mind that I was motivated to write this book, one that could benefit beginning Android programmers and enable them to write progressively more sophisticated applications. As a book written to help jump-start beginning Android developers, it covers the necessary topics in a linear manner so that you can build on your knowledge without being overwhelmed by the details. I adopt the philosophy that the best way to learn is by doing — hence the numerous Try It Out sections in each chapter, which first show you how to build something and then explain how everything works. Although Android programming is a huge topic, my aim for this book is threefold: to get you started with the fundamentals, to help you understand the underlying architecture of the SDK, and to appreciate why things are done in certain ways. It is beyond the scope of any book to cover everything under the sun related to Android programming, but I am confident that after reading this book (and doing the exercises), you will be well equipped to tackle your next Android programming challenge.

This book is targeted for the beginning Android developer who wants to start developing applications using Google's Android SDK. To truly benefit from this book, you should have some background in programming and at least be familiar with object-oriented programming concepts. If you are totally new to Java — the language used for Android development — you might want to take a programming course in Java programming first, or grab one of many good books on Java programming. In my experience, if you already know C# or VB.NET, learning Java is not too much of an effort; you should be comfortable just following along with the Try It Outs. For those totally new to programming, I know the lure of developing mobile apps and making some money is tempting. However, before attempting to try out the examples in this book, I think a better starting point would be to learn the basics of programming first.

Chapter 4: Problem Statement

Traditionally, to order water supply from a supplier, the user orders it from a phone call. This results in more manual work and good chance of miscommunication while giving and receiving the details like the location, requirements, and the user who ordered the supply.

To overcome this problem, we proposed an idea of creating a mobile application through which the user will be able to order the water supply as per their requirements. This leads to less manual work and very less chance of miscommunication due to less interaction with the supplier. With this, the work becomes more efficient and the supplier can bring the supplies directly to the location.

In our day and age where people use lots of water resources for even small activity, one should know whether he will receive water today or not. Till now it's not possible to notify each and every individual about the today's condition regarding the water supplies. Hence we decided to add a feature of news section where admin can push notifications on the current scenario of the supplies.

If the user orders a water tanker from a supplier, the user does not know the exact location of where the supply has reached. Hence in our project, the user will be able to send the exact coordinates to the supplier for better navigation.

In traditional manner, one does not know the number of water suppliers in their locality, Hence we will be implementing a feature where the user will get the location and contact details of all the suppliers in their location.

These are the above problem statements which we came across and try to solve them in our final year project.

This project aims to develop an android application to solve problems during a water crisis by providing various suppliers location and details and a support system for their query and a notifier by creating a news section on the app. And along with this the objective of our final year project is to show the marked area on the map which will reflect water crisis affected areas. The objective is also to create a feedback section for better understanding about the user's requirements. The water ordering system will have an authentication unit which will authenticate users and activate the water ordering system for him/her. The objective of this project is also to have an easy to use and creative user interface and an efficient programming done to the application for fast user experience.

Chapter 5: Proposed Solution

To achieve all the above aims and objectives and to solve the above problem statements, we will be creating an android application by using Java as our programming language and android studio as our IDE (Integrated Development Environment). The proposed system will cater following features.

- Online booking system.
- Water Supplier's Shop / Office Location.
- Water crisis marking on the application.
- Recommendation of nearest water supplier to the user.
- Water supplier details.
- News Section.
- Variety of tanker options to choose from.
- Contact Us Section.
- FAQs section.
- Feedback section.
- Rating section.
- Registration, login and edit profile section.
- About us section.

The motive of this android application is to allow the user to provide interactive and easy to use interface through which a user can order water online from different sellers and also can get regular updates on water crisis. Below is the flow diagram of proposed system.

5.1 Proposed System

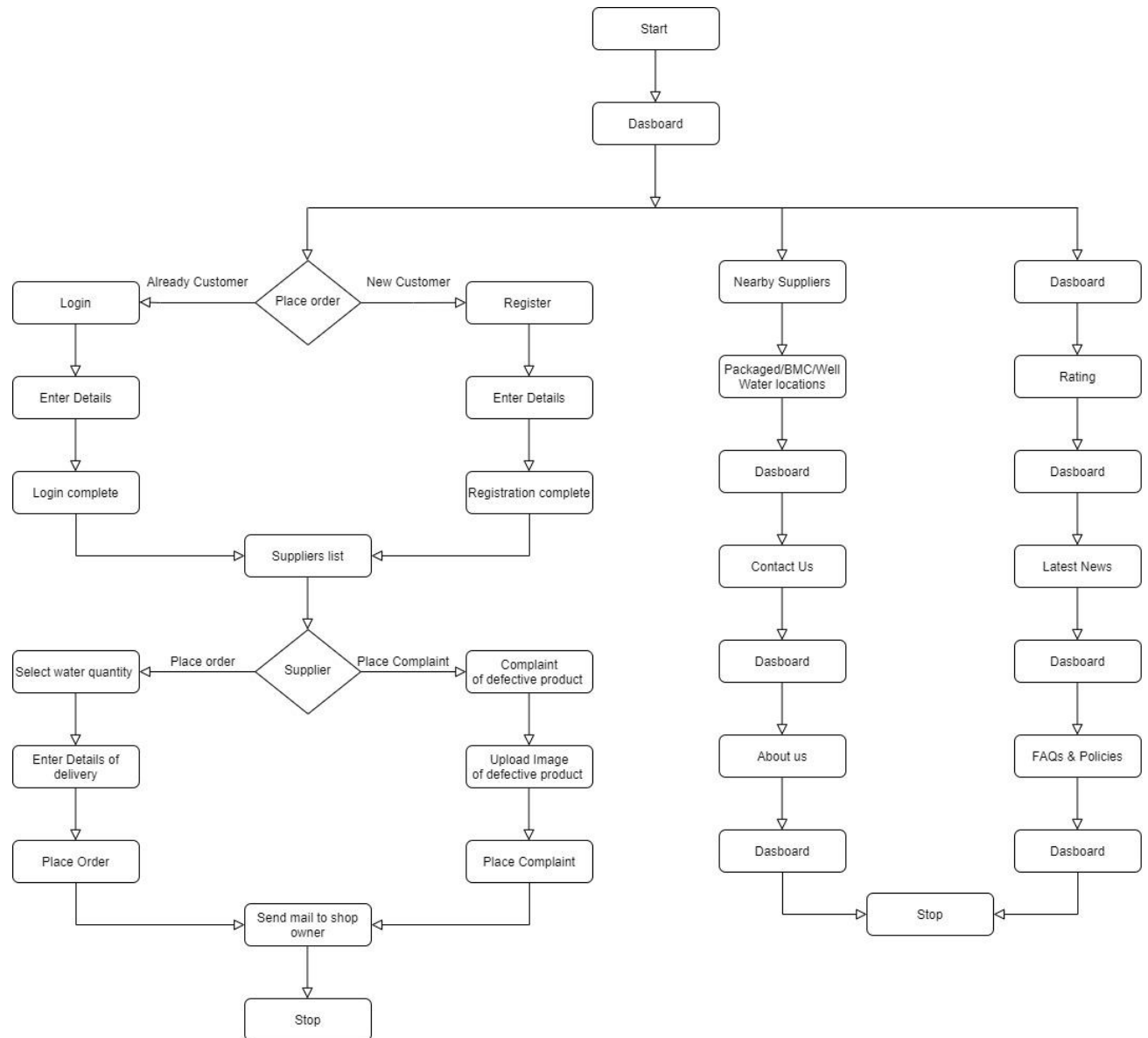


Fig 5.1 Proposed System

5.2 Feasibility Study

1. Technical feasibility: Technical feasibility focuses on the technical resources (software And hardware) available to the organization and also helps to determine whether r the Technical team is capable of converting the ideas into working systems. The software Required for our project, Android Studio is already ready with us. And hardware component are a laptop to write our application and mobile phone to run our application which both are ready.

2. Economic feasibility: This assessment typically involves a cost/ benefits analysis of the project. This project will be developed with minimal cost, only expense will be the existing laptop and our mobile phone.

3. Legal feasibility: This assessment investigates whether any aspect of the proposed Project conflicts with legal requirements like zoning laws, data protection acts, or Social media laws. The project does not involve any legal concerns since all the Decisions will be taken under the guidance of water suppliers.

4. Operational feasibility: This assessment involves undertaking a study to analyze And determine whether—and how well—the organization’s needs can be met by Completing the project. The main objective of the project is proper allocation of Water supplier to the customer and proper tracking available to the user.

5.3 Gantt Chart

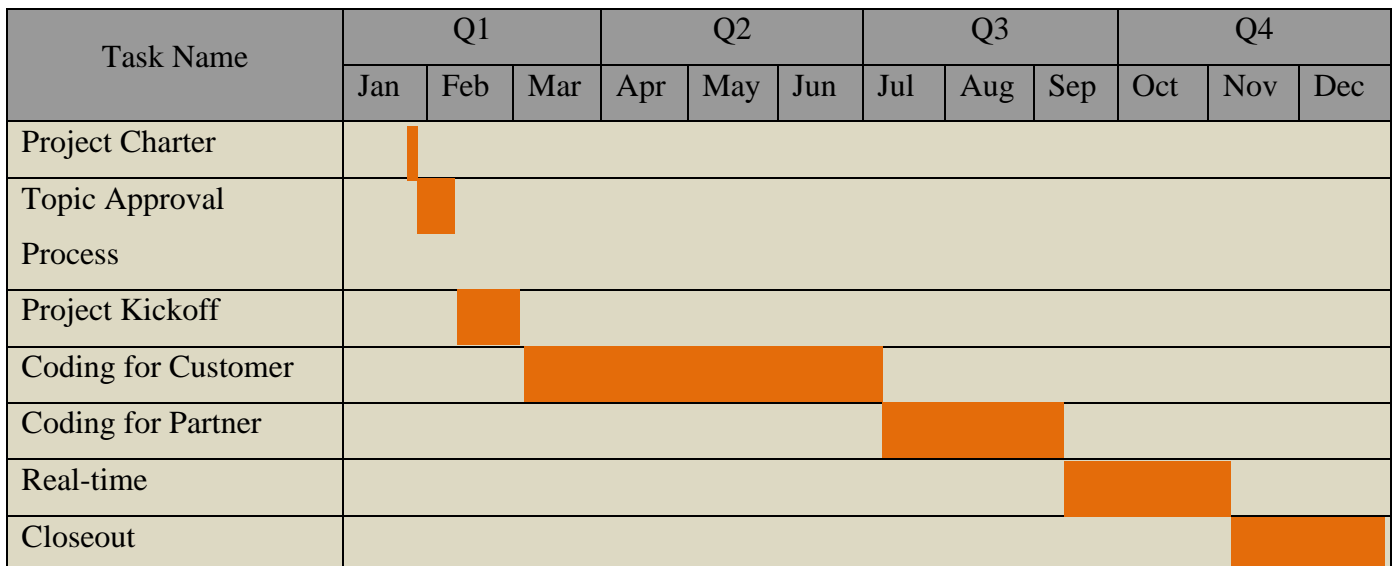


Fig 5.2 Gantt Chart

Chapter 6: Project Scope

Below are the list of project scope:

- Creating a good and easy to use user interface.
- Having functionality of online ordering of the product.
- Showing list of suppliers in our application.
- Showing list of products each supplier will have.
- Having a section to take complaint from the user.
- Taking feedback from users about our application.
- Solving queries of users.
- Having an about us section for better connectivity with users.
- Having FAQ section for fast query resolution.
- Having an authentication system.
- Showing nearby suppliers locations.
- Having latest news section on the applications.
- Having an edit profile section.

Chapter 7: Methodology

Working:

Initially the user will log in to the system in order to place a booking for the water supply. The user will be greeted with the user interface from where he / she can place an order. Automatically the current location of the user is fetched in the application or else he / she can change the location by typing the location. The user will enter the requirements, then he will be shown the estimated price which he has to pay the supplier at the time of delivery after this, the user will press on place order. The request of the user will get pushed to the supplier he chose.

In the next part, the user will be able to track his / her order in the application once the order is placed successfully. Other things which user can do are, he can read the news sections where water supply related news will be posted by the administrator.

In another section of the app, the user will be able to see all the water suppliers' location nearby to him. Along with this, he will be able to see the contact details and other details of the supplier.

In another section of the application, he will be able to see a marked location marked by the administrator during water crises. The user will be also privileged with the Contact us and FAQs section through which he can place his / her query on the app and which will be solved by the administration team as soon as possible. The user will also be able to edit his/her profile. Along with this, the user can rate the application and also can give feedback through which we can understand the user requirements better.

7.1 Process Model

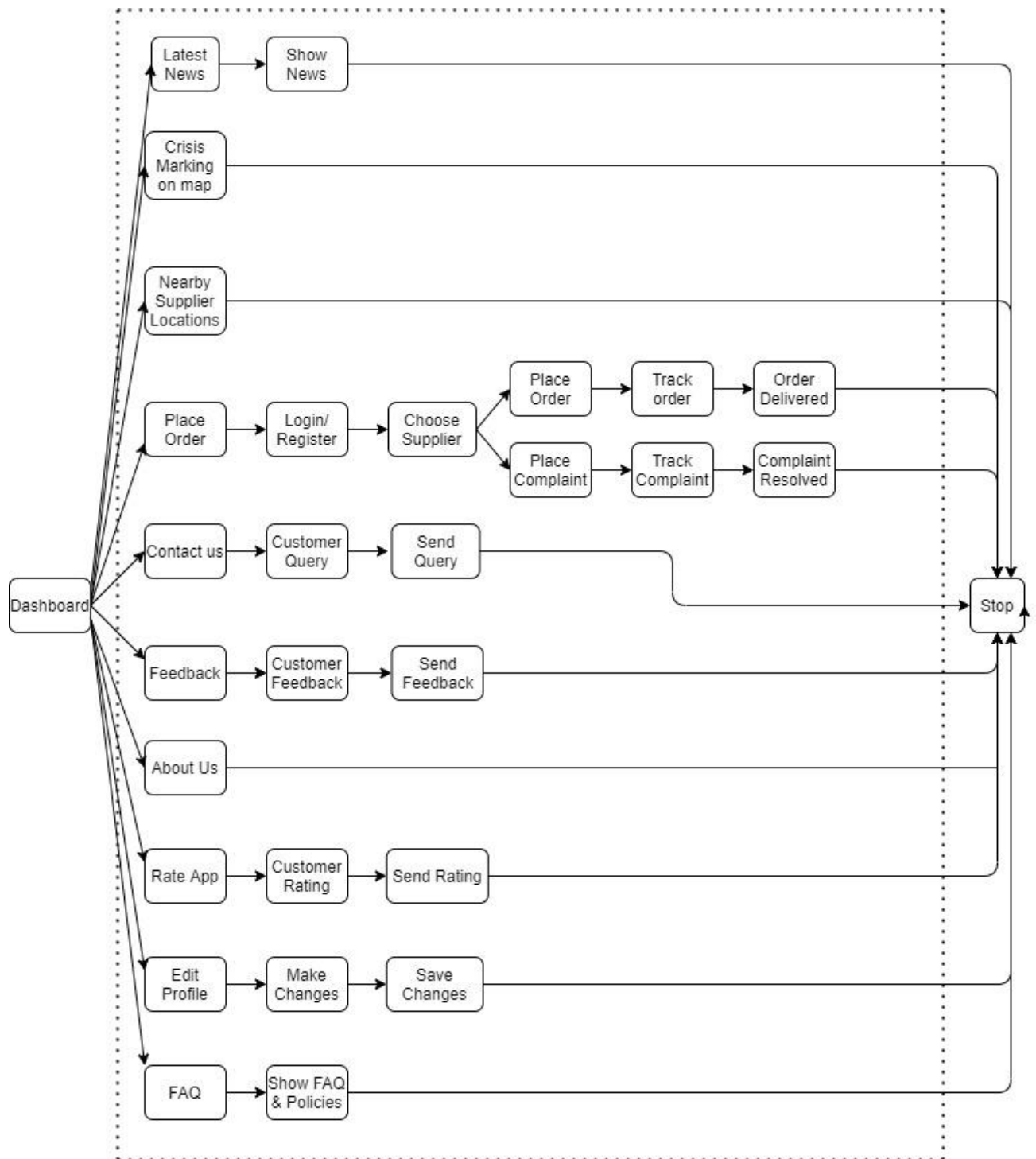


Fig 7.1 Process Model

On our application, the user will be greeted with a dashboard having various options. The first option will be place order from where the user can place order by choosing seller and the product listed by the seller. Here user can also complain about the order if he wants to.

The next option will be nearby water supplier location. Here, the user will be able to see the nearby water supplier locations according to the filter.

The next option will be water crisis marking on the map, from which user will be able to see the area on the map where water crisis occurred.

The next option will be contact us section through which user can send their query.

The next option will be feedback through which user can give feedback to us which will help us to understand the user's requirement.

The next option will be rating option through which user can rate our application.

The next option will be news section where user can get latest news on water crisis updated by the admin.

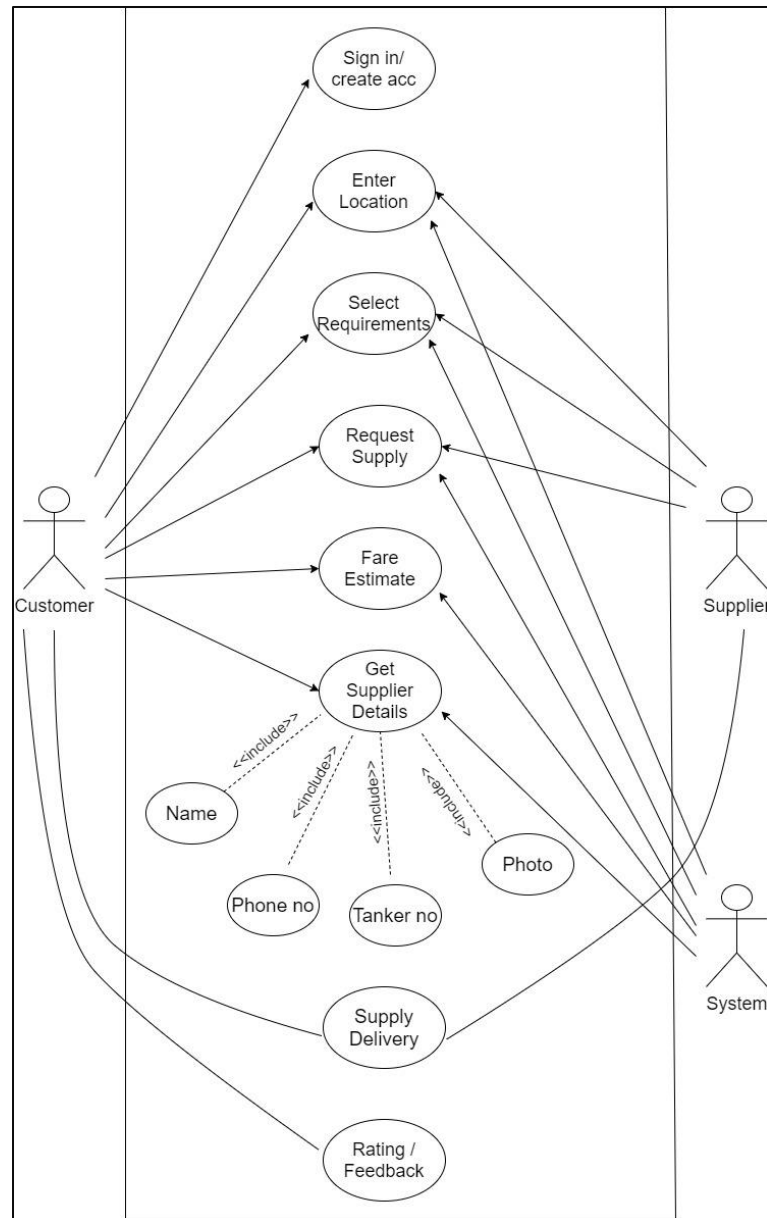
The next section will be an FAQ section where user can get answers to frequently asked question by other users and also he can read the terms and policies of our application.

The next section will be an about us section where user can follow to our social media handles and also have some information about us.

The last section will be an edit profile section where user can edit his or her details

Chapter 8: Design

8.1 Use Case Diagram



8.2 Sequence Diagram

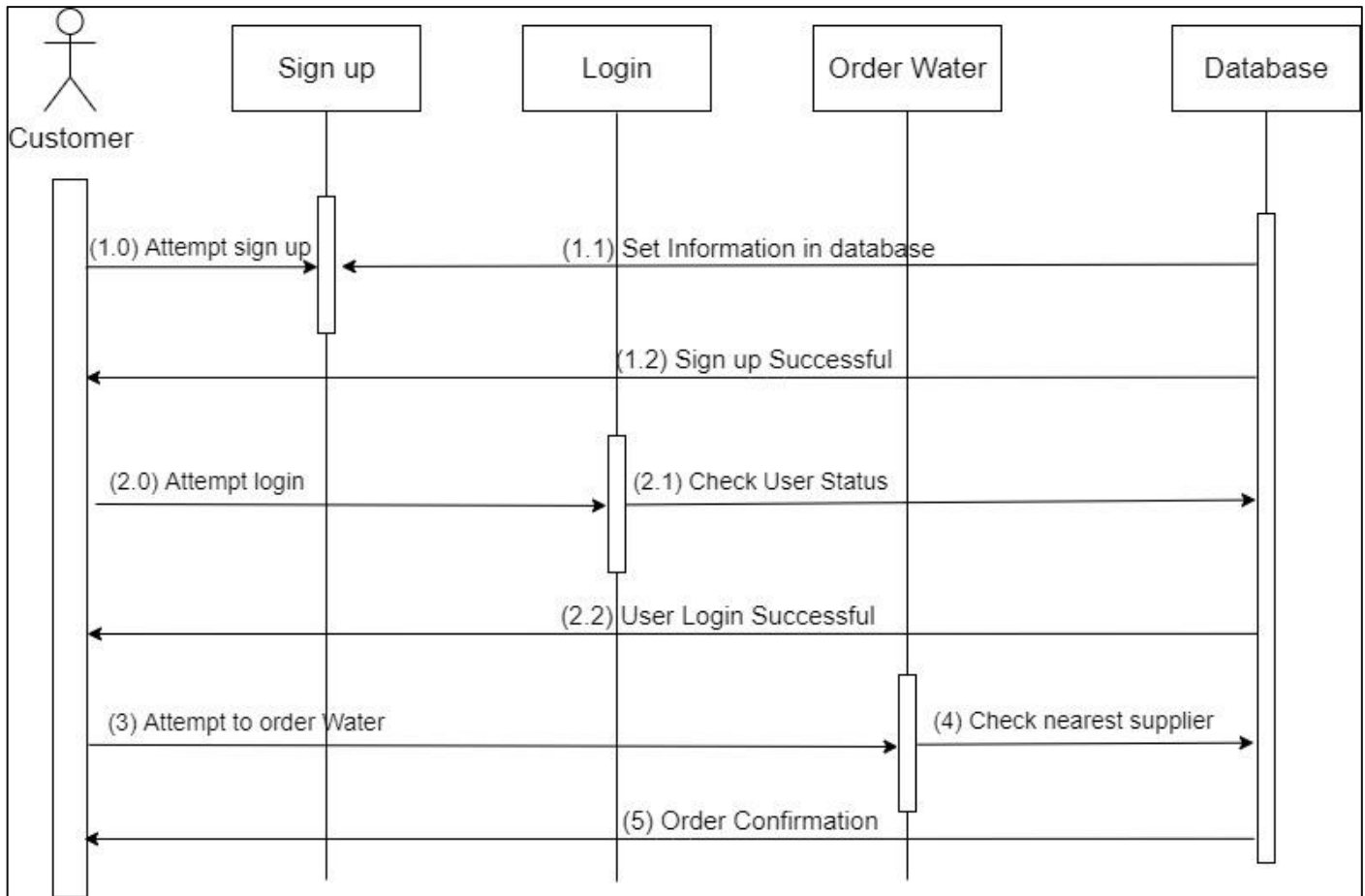


Fig 8.2 Sequence Diagram

9. Hardware and Software Requirements

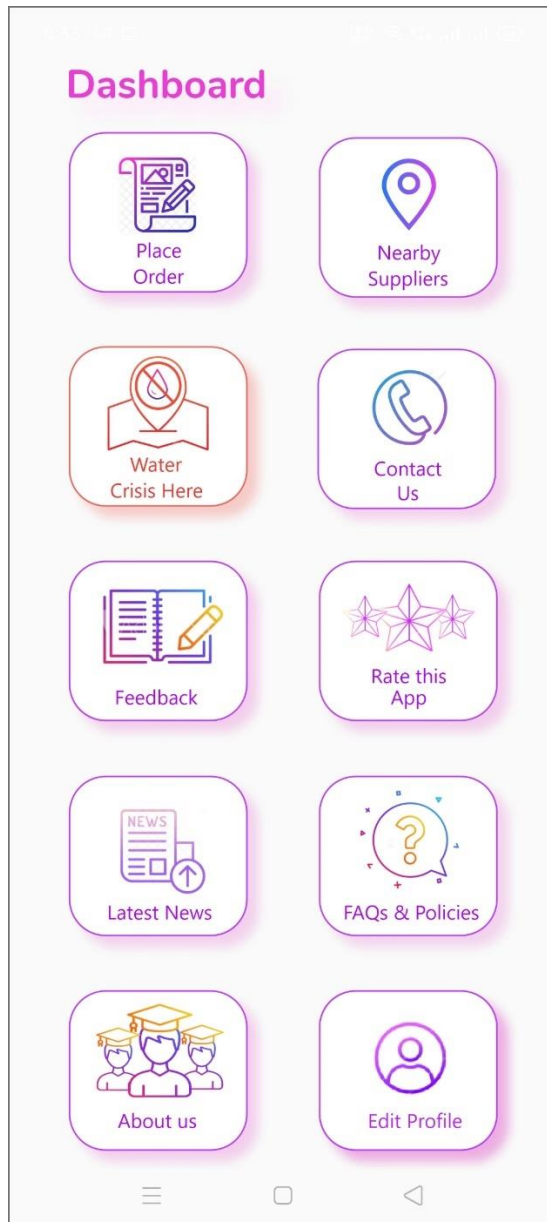
Hardware:

- One Laptop / Desktop Computer, Multiple Mobile Phones.

Software:

- Android Operating system.
- Windows / Linux / Mac Operating system.
- Android Studio.
- Kotlin Programming Language.
- Java Virtual Machine.

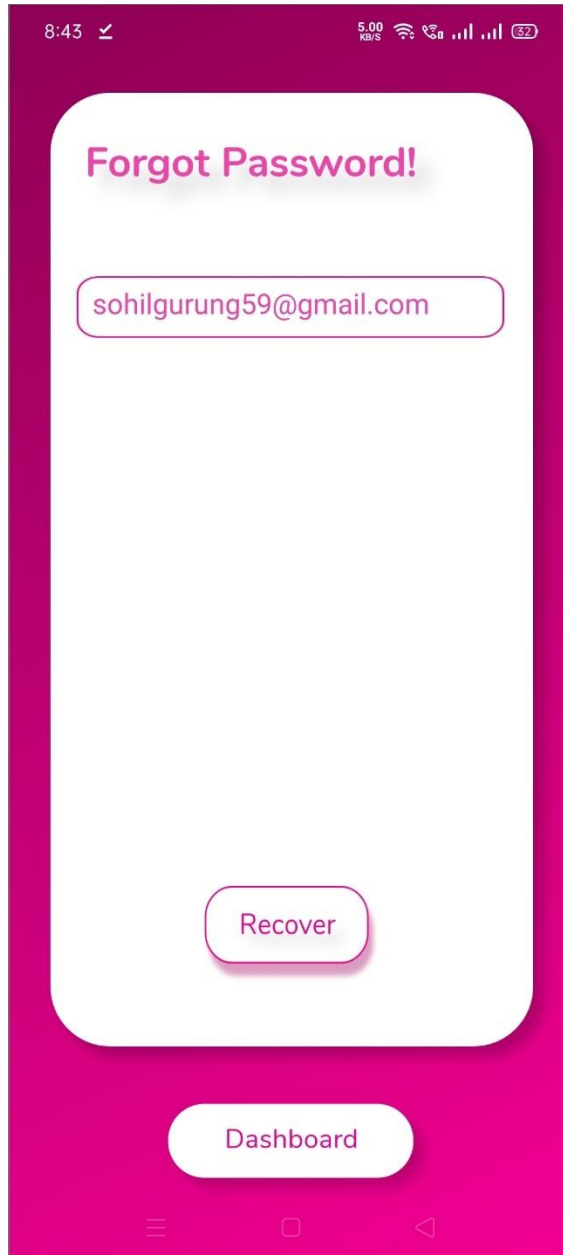
10. Result



10.1 Dashboard Activity



10.2 Login Activity



10.3 Forgot Password Activity

8:43 4.00 KB/S

Register!



Sohil Gurung

8286506191

226, Andheri West

sohilgurung59@gmail.com

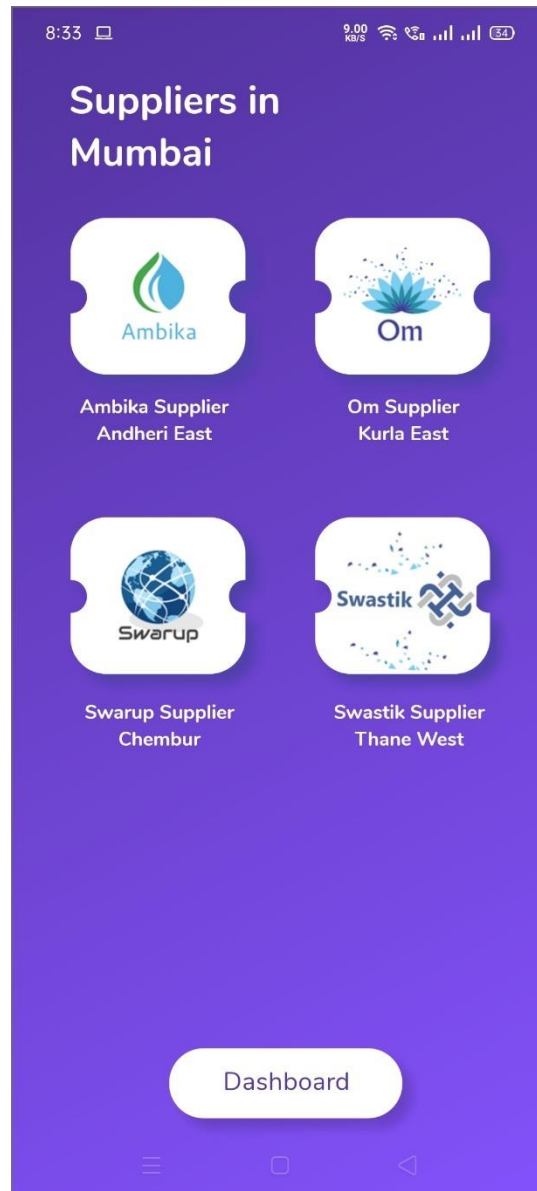
.....

.....

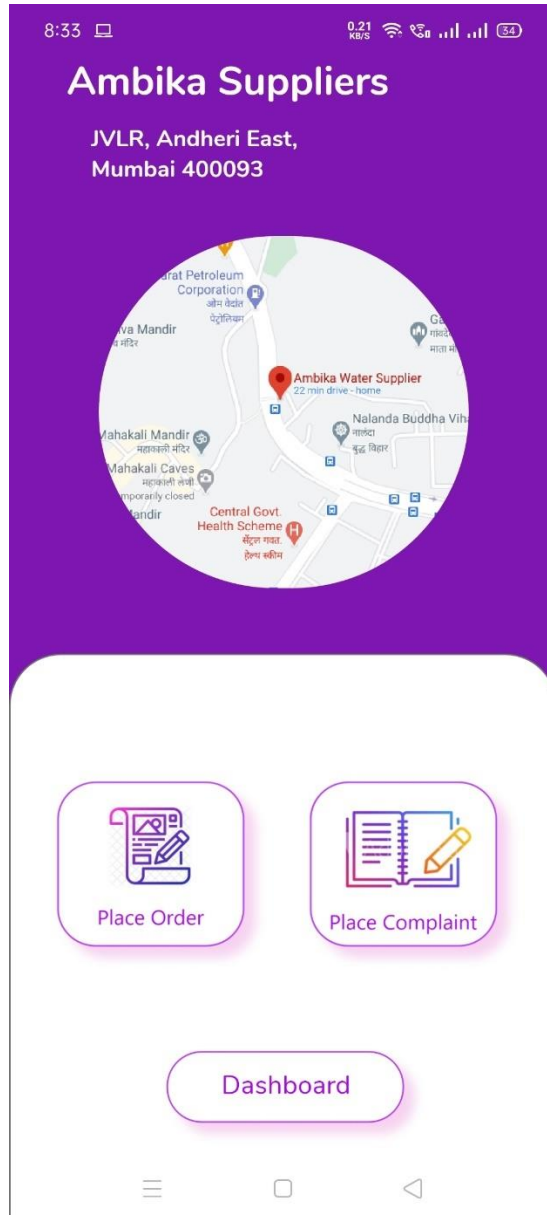
Register

Dashboard

10.4 Register Activity



10.5 Supplier List Activity



10.6 Supplier Activity

8:34
7.00 KB/S

Ambika Suppliers

5 tons BMC Water
Rs. 2,500

5 tons Well Water
Rs. 1,250


Qty: 01


Qty: 01

1 ton BMC Water
Rs. 750

1 ton Well Water
Rs. 500


Qty: 01


Qty: 01

Total: 5000

[Click Here To Finalize Order](#)

[Place Order](#)

10.7 Place Order Activity

Ambika Suppliers Complaint

Sohil Gurung

sohilgurung59@gmail.com


8286506191

856

The order was damaged.

+

Upload Image



Upload

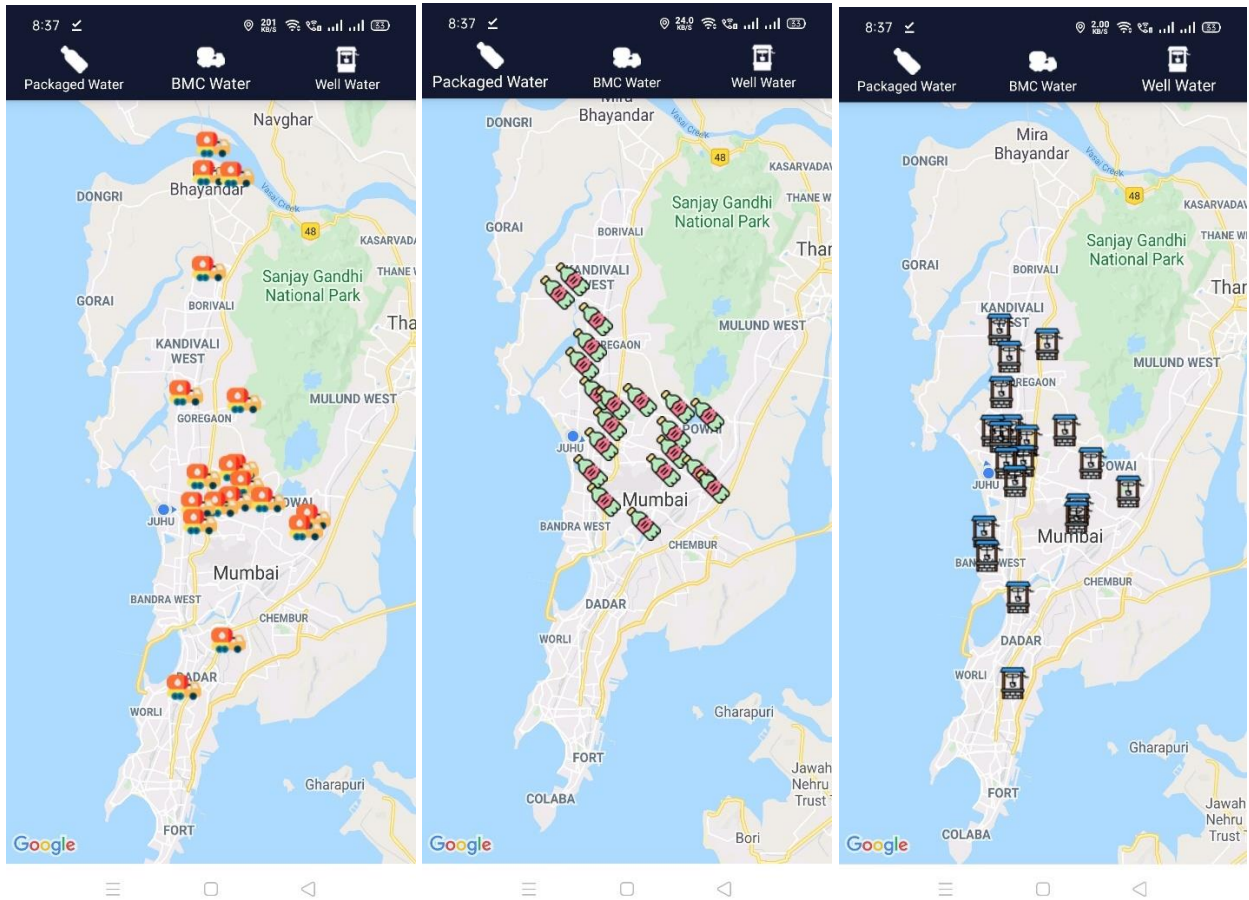
Place Complaint

☰

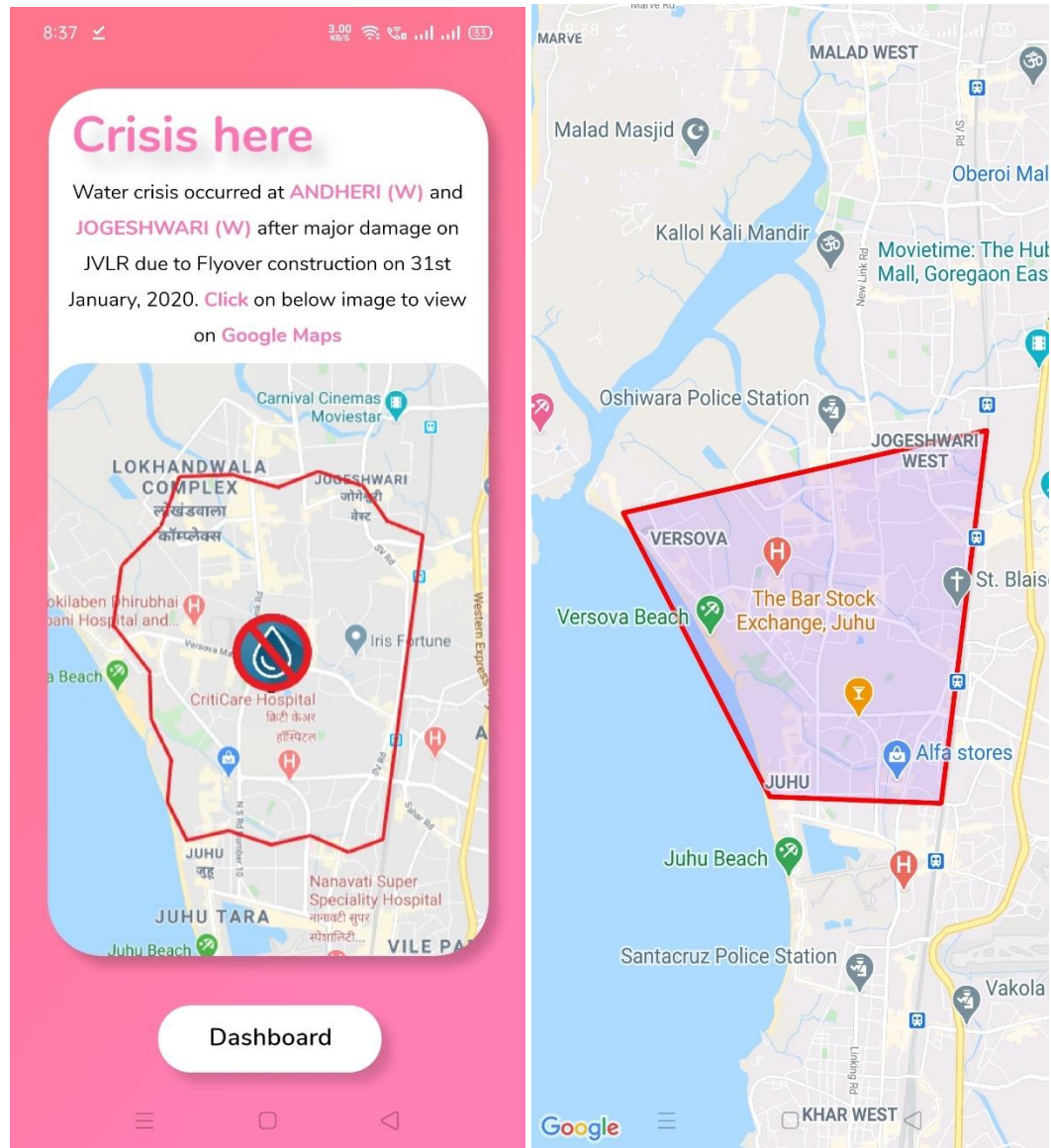
□

◀

10.8 Complaint Activity



10.9 Nearby Supplier's Location



10.10 Crisis marking Activity

8:39

0.00 KB/s

3.5

Get in Touch!



VIT, Sangam
Nagar,
Wadala (E)



022
2237 2237



sohil.gurung
@vit.edu.in

Sohil Gurung

8286506191

sohilgurung59@gmail.com

I have this query

Send

Dashboard

10.11 Contact Us Activity

8:39

0.12 KB/S

33

Feedback

Sohil Gurung

8286506191

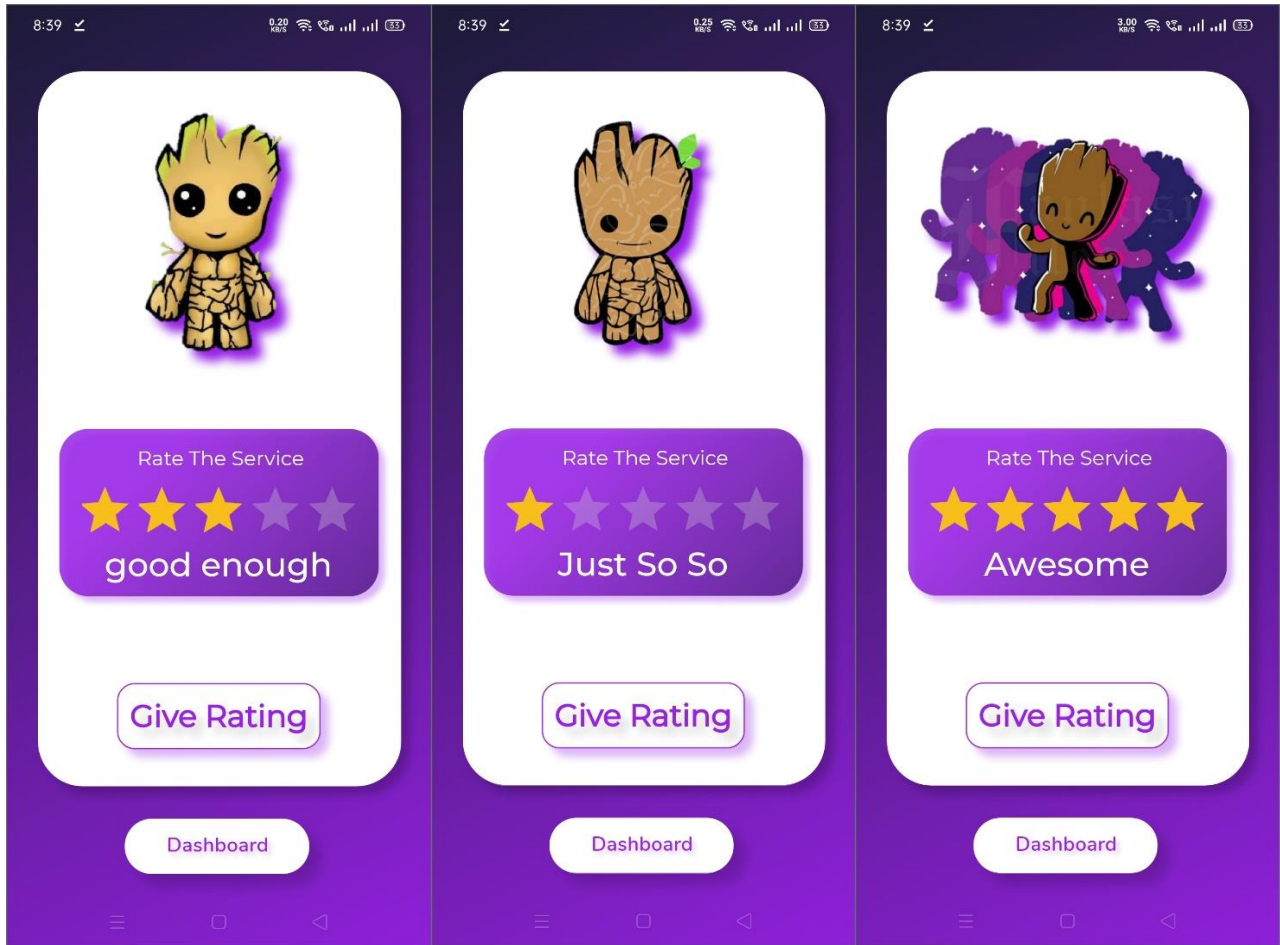
sohilgurung59@gmail.com

I like this app.

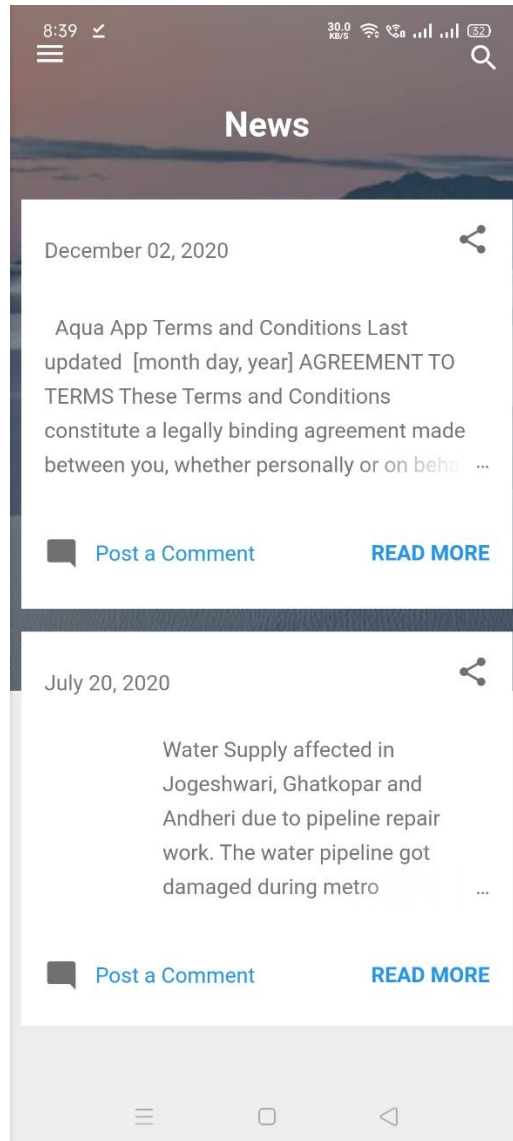
Send

Dashboard

10.12 Feedback Activity



10.13 Rate Us Activity



10.14 News Activity

FAQs!

How will I track my order?

The seller will update order status on your email.

How I can pay for my order?

For now, you can only pay by cash on delivery.

How long will it take to deliver my order?

It totally depends on the seller, but estimated time is before 40 mins.

Which products can I order from this app?

Each seller may have different products, but majorly you can order water.

For any other query, please contact us by clicking below.

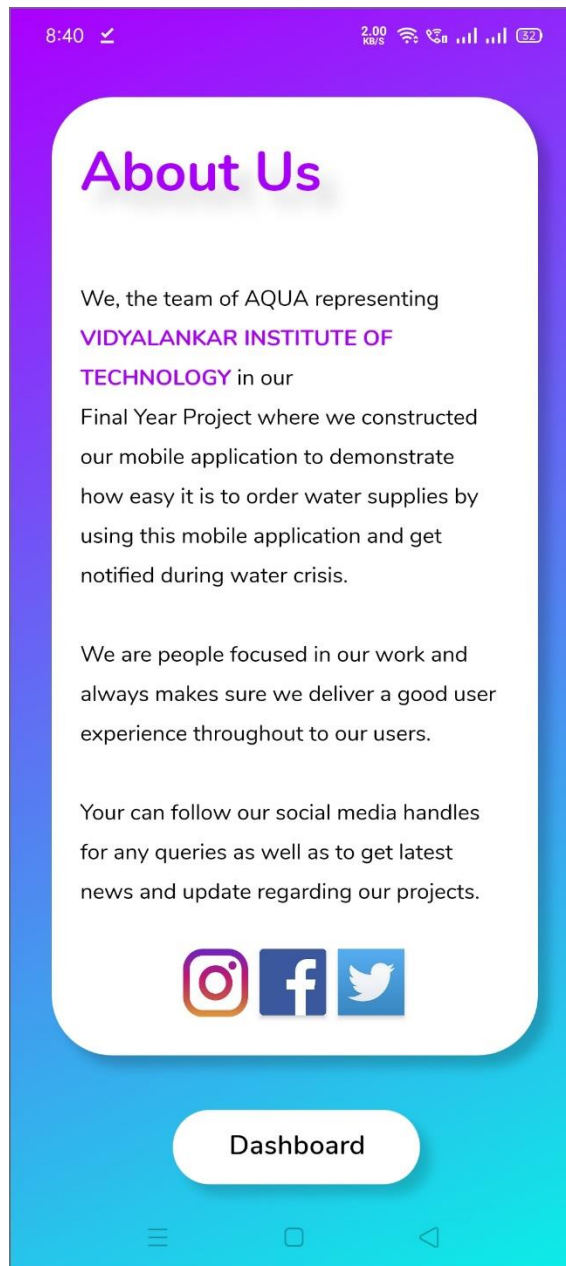
Contact us

[Click here to read full terms and policies.](#)

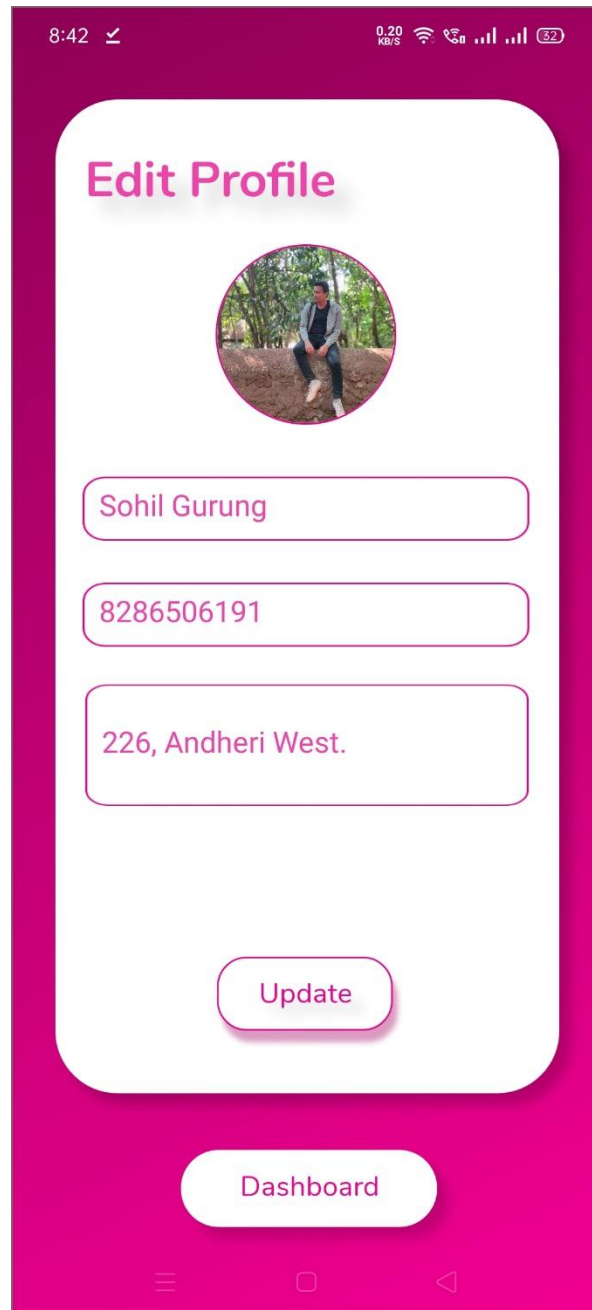
Dashboard



10.15 FAQ And Policy Activity



10.16 About Us Activity



10.17 Edit Profile Activity

References

- Documentation on Android by Google
(<https://developer.android.com/reference/org/w3c/dom/Document>)
- Challenges in Android Application Development: A Case Study
(<https://www.ijcsmc.com/docs/papers/May2015/V4I5201557.pdf>)
- Development of Native Mobile Application Using Android Studio
(https://www.ripublication.com/ijaer18/ijaerv13n16_17.pdf)
- Beginning Android™ Application Development
(https://teams.microsoft.com/?culture=en-in&country=IN&lm=deeplink&lmsrc=homePageWeb&cmpid=WebSignIn#/pdf/viewer/teams/https%3A~2F~2Fviteduin59337.sharepoint.com~2Fsites~2FINFT_BE_MAD_IND_UANOOP~2FClass%20Materials~2Ftextbooks~2FT3_Beginning_Android%20Development.pdf?threadId=19:47869613773c4388ba98ee34891bc513@thread.tacv2&baseUrl=https%3A~2F~2Fviteduin59337.sharepoint.com~2Fsites~2FINFT_BE_MAD_IND_UANOOP&fileId=4a137edb-42e9-4f0a-a9a9-c8bbe03c5cfa&ctx=files&rootContext=items_view&viewerAction=view)