

Covid-eye: Surveillance, Analysis & Prevention from Covid-19

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Abstract—The current COVID-19 epidemic has caught the world off guard, requiring lockdowns and putting a pressure on the public health care system. As a result, many nations have developed Covid-19 apps to aid in the onerous work of finding all recent contacts of newly discovered sick people. In this project, we're attempting to create an Android app that will notify you if you come into touch with somebody who tests positive for covid-19 within 14 days of the contact. We also give an overview of a number of potential tracing app examples, some of which have already been deployed around the country, and examine user concerns about their use. It will also show you the hospitals that are admitting Corona patients, the number of beds available in the hospitals/quarantine centres, the vaccination center details and the capacity and stock of oxygen cylinders in each facility. Our Android App has key attributes including reliability, performance, usefulness, security, privacy, flexibility, responsiveness, ease of use .

Keywords—Android App, privacy, security, reliability, performance, usefulness, flexibility, responsiveness, ease of use.

I. INTRODUCTION

The virus outbreak has changed people's lives all over the world, forcing governments to impose lockdowns, recommend self-isolation, mandate work-from-home policies, impose strict social distancing criteria, and deploy emergency health responses, the latter of which includes significant new infrastructure for the treatment and mass testing of the general population. Scientists have already warned us that the third wave of corona will be 10 times more dangerous than the second wave, and we still don't know the actual cause for the spread of this corona virus disease. The main cause for Covid-19's proliferation in India is a lack of public oversight and public negligence in crowded areas like as malls and market stalls. This project is focused on Android app development and data collection from an API server, and it includes both front-end and back-end components. If a detected individual in Covid-19 is attempting to enter a public location, an automatic alert sender and face detector will check from the

API server and trigger the buzzer. We will also aim to limit the spread of Covid-19 by encouraging and keeping a close eye on busy locations where the virus has a high risk of spreading, as well as the areas designated in red and containment zones.

II.

LITERATURE REVIEW

Recent phase out from the drastic pandemic spread all over the globe which has almost turmoil and shaken whole world's and almost every countries economy and working lifestyle and has snatched our loved ones from us and they all died mortally. In this modern era where we can find any type of thing from our smartphones we ran for beds in hospitals when Corona 2nd wave hits our country, since after May 2021 the effect of corona 2nd wave has breached out, but the danger is not over yet, scientists have already warned us that the third wave of corona is going to be 10 times more dangerous by the second wave and yet we don't know the actual cause for the spread of this corona virus disease.

TABLE I. SURVEY TABLE

Applications	GPS	Bluetooth	Alert Message	QR scanner	Vaccination Booking	Self-Assess	Payment Gateway
COVIDSafe	✗	✓	✓	✗	✗	✗	✗
Exposure Notification App (COVID Alert)	✓	✓	✓	✗	✗	✗	✗
Rakning C-19	✓	✗	✗	✗	✗	✓	✗
COVID Tracker	✗	✓	✓	✗	✗	✓	✗
NHS COVID-19	✗	✗	✗	✓	✓	✓	✓
Aarogya Setu	✓	✓	✓	✗	✓	✓	✗
NZ COVID Tracer	✓	✗	✓	✓	✗	✓	✗
COVID Alert	✗	✓	✓	✗	✗	✗	✗
CoWIN	✗	✗	✗	✗	✓	✗	✗
Jharkhand Sahayata App	✗	✗	✗	✗	✗	✗	✓
West Bengal Emergency Fund	✗	✗	✗	✗	✗	✗	✓

1. COVID Safe:

COVID Safe is a digital contact tracing app announced by the Australian Government on 14 April 2020 to help combat the ongoing COVID-19 pandemic.

Origin: Australia

Released date: 26th April 2020.

Features:

- Contact Tracking mechanism is executed using Bluetooth locally on an individual device.
- Storing all encounters in a contact history log chronicling contact for the past 21 days.
- Users in contact logs are identified using anonymous time-shifting "temporary IDs" issued by a central Department of Health (DoH) server.

II. Exposure Notification App (COVID Alert):

On July 31, 2020, the Canadian federal government launched their voluntary, "private, and anonymous" COVID-19 exposure notification app, called COVID Alert.

Origin: Canada

Released date: 31st July 2020.

Features:

- Encounter logging and infection reporting.
- The system uses Bluetooth Low Energy to send tracking messages to nearby devices running the protocol to discover encounters with other people.

III. Ranking C-19:

Ranking C-19 route tracking is a GPS logger app for Android and iOS, with a user interface and content from the national COVID-19 web page. When infection is confirmed the route data is used to support more traditional contact tracing

Origin: Iceland

Released date: 11th May 2020.

Features:

- GPS based tracking system.

IV. COVID Tracker:

The official COVID Tracker app was launched by the Irish government on 7 July 2020. Within two days of launch, the app had been downloaded by one million people. The Health Service Executive subsequently made the code behind the app available to other countries.

Origin: Ireland

Released date: 7th July 2020.

Features:

- The COVID Tracker app uses Bluetooth Low Energy and Google's and Apple's Exposure Notifications System to generate anonymous IDs to log:
 - ✓ Any phone users are in close contact with that also has the app installed.
 - ✓ The distance between users' phone and another app users' phone.
 - ✓ The length of time users' phone is near another app users' phone.
- Every two hours the app downloads a list of anonymous codes which have been shared with the Health Service Executive (HSE) by other people using the app who have tested positive for COVID-19.
- If a user have been closer than 2 metres for more than 15 minutes with any of these phones, that user will get an alert notification on their phone.

V. CoWIN:

CoWIN is an Indian government web portal for COVID-19 vaccination registration, owned and operated by India's Ministry of Health and Family Welfare. It displays booking slots of COVID-19 vaccine available in the nearby areas and can be booked on the website.

Origin: India

Released date: 1st March 2021.

Features:

- It displays booking slots of COVID-19 vaccines available in the nearby areas using pin code and can be booked on the website.

III.**METHODOLOGY**

Registration Page: From this page new user can register for using the app.

Home Page: This is the home page of the app where various details will appear e.g., Helpline numbers useful resources, important news etc.

Slot booking Page: In the slot booking page user have to enter the inputs like pin-code and district name along with the data and month and it will display number of vaccine centers available for vaccination along with their address and vaccine details.

FAQ's Page:

Users can find the answer of their questions which they want to know in this FAQ's Section.

Search Page:

This page appears after clicking on regional tab, here user can see and search various country corona case details.

Hospital Booking Page:

Hospital booking page this page appears when the user wants to book hospital bed according to his/her requirements.

Donation Page:

This page redirects the user to the official PM care fund official website.

QR Scanning Page:

QR Scanner Page which allows users to create their QR code and Scan their QR Code.

Survey Page:

This page appears for the self-assessment of the patient according to his/her symptoms where the user can determine whether they are safe from covid-19 according to their inputs.

IV.**RESULTS**

Results for the respective modules can be summarized as:

1. Welcome Page: This page will appear when user start the app.

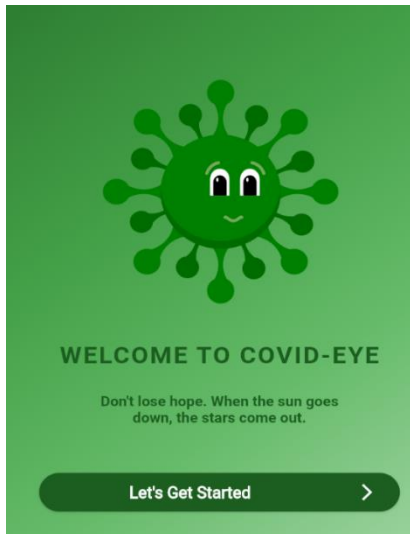


Fig. 1. WELCOME PAGE

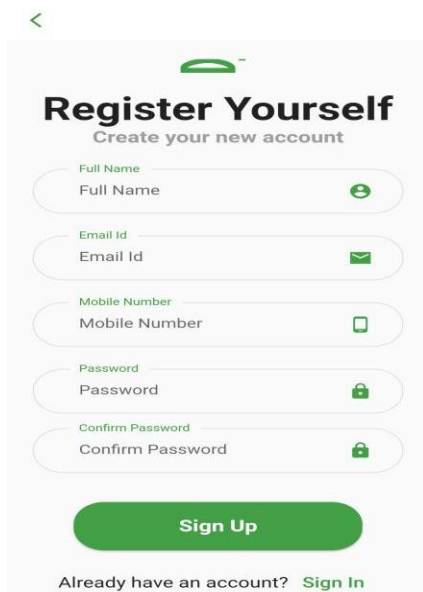


Fig. 2. Registration Page

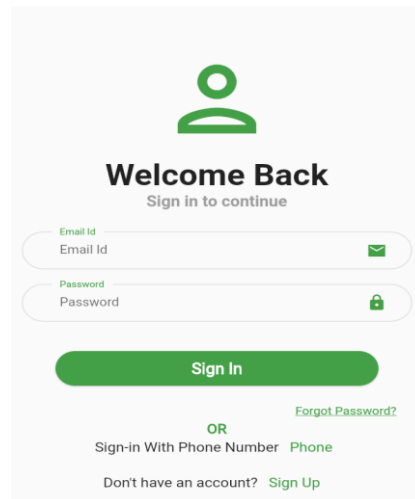


Fig. 3. Login Page

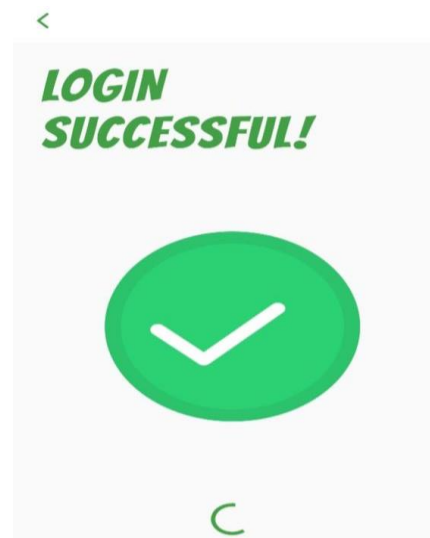


Fig. 4. Login Successful Page

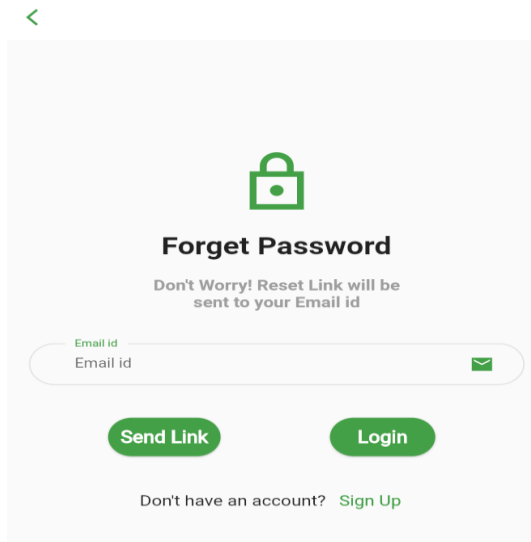


Fig 5: Forgot Password Page

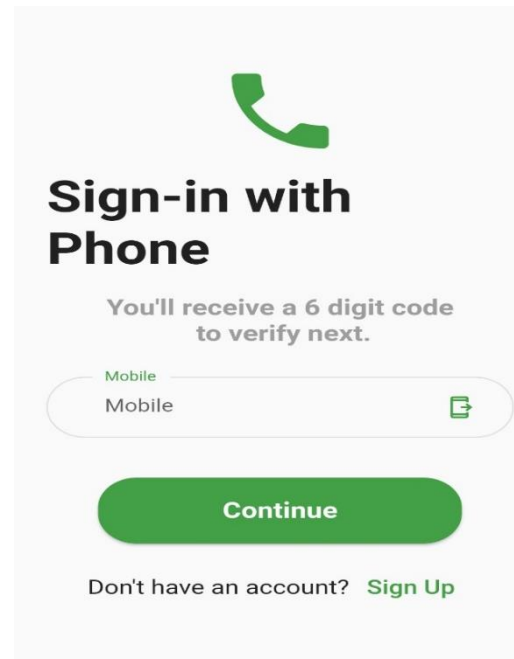


Fig 7: Sign-in using OTP

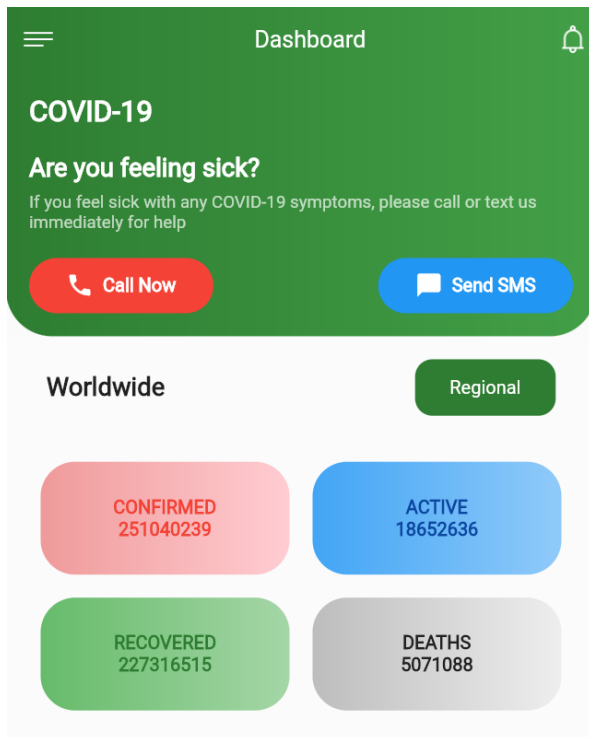
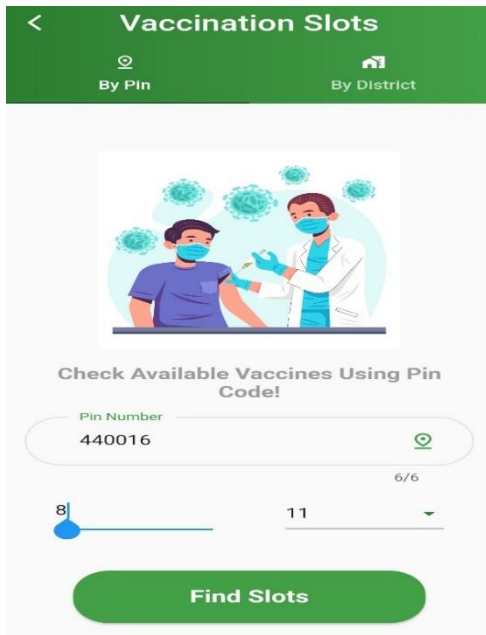


Fig 6: Dashboard



Fig 8: Dashboard



Vaccination Slots

By Pin By District


Check Available Vaccines Using Pin Code!

Pin Number
440016

8 11

Find Slots

Fig 9: Vaccination slots



Available Slots

Center ID - 648609
Center Name - NILDH SUBCENTER HINGNA
Center Address - RAIPUR HINGNA

Vaccine Name - COVISHIELD

Slots - [09:00AM-11:00AM, 11:00AM-01:00PM, 01:00PM-03:00PM, 03:00PM-05:00PM]

Center ID - 669142
Center Name - MC G Mahatma Gandhi Samaj Bhav
Center Address - Shitla Mata Mandir Hingna Road Nagpur

Vaccine Name - COVISHIELD

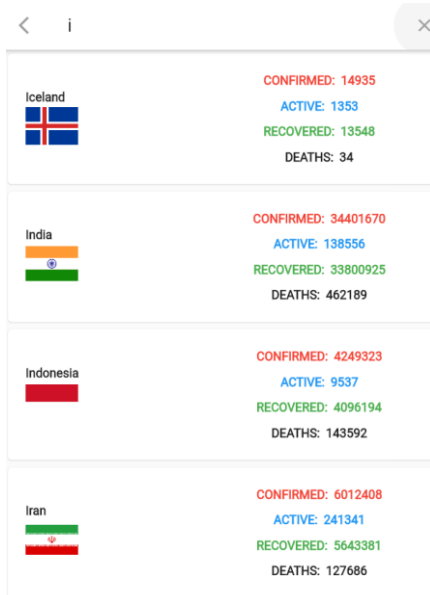
Slots - [10:00AM-11:00AM, 11:00AM-12:00PM, 12:00PM-01:00PM, 01:00PM-03:00PM]

Center ID - 705959
Center Name - SRPF 4 UNIT HOSPITAL HINGNA
Center Address - STATE RESERVE POLICE

Vaccine Name - COVISHIELD

Slots - [09:00AM-11:00AM, 11:00AM-01:00PM, 01:00PM-03:00PM, 03:00PM-05:00PM]

Fig 11: Available slots







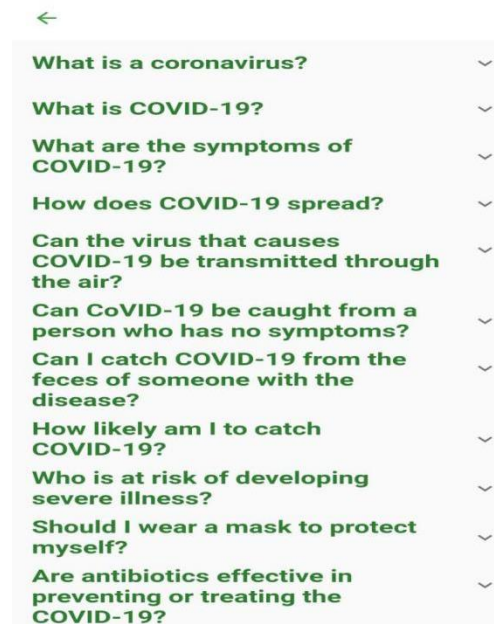
	CONFIRMED: 14935 ACTIVE: 1353 RECOVERED: 13548 DEATHS: 34
	CONFIRMED: 34401670 ACTIVE: 138556 RECOVERED: 33800925 DEATHS: 462189
	CONFIRMED: 4249323 ACTIVE: 9537 RECOVERED: 4096194 DEATHS: 143592
	CONFIRMED: 6012408 ACTIVE: 241341 RECOVERED: 5643381 DEATHS: 127686

Fig 10: Search Covid details country wise



What is a coronavirus?

What is COVID-19?

What are the symptoms of COVID-19?

How does COVID-19 spread?

Can the virus that causes COVID-19 be transmitted through the air?

Can CoVID-19 be caught from a person who has no symptoms?

Can I catch COVID-19 from the feces of someone with the disease?

How likely am I to catch COVID-19?

Who is at risk of developing severe illness?

Should I wear a mask to protect myself?

Are antibiotics effective in preventing or treating the COVID-19?

Fig 12: FAQ Page

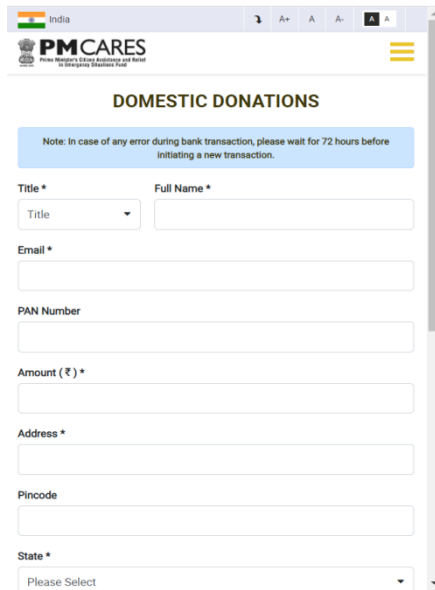


Fig 13: Donation Amount Page

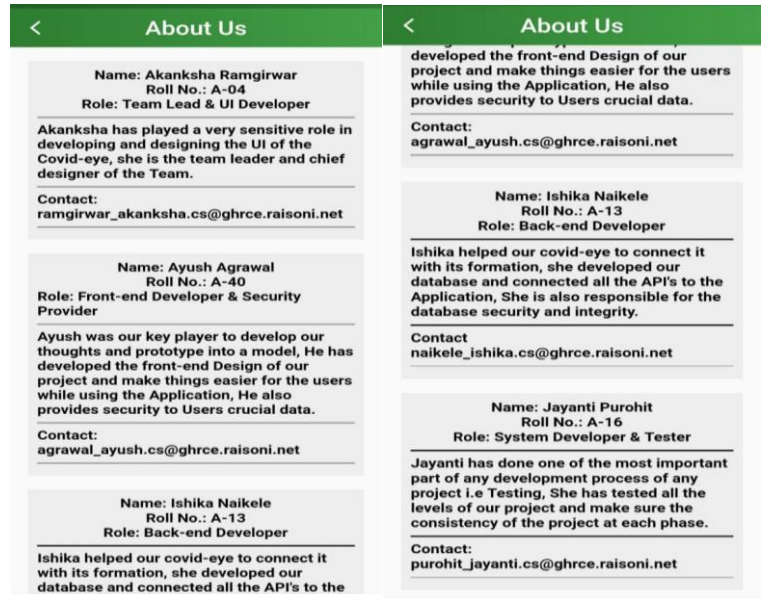


Fig 15: About Us Page

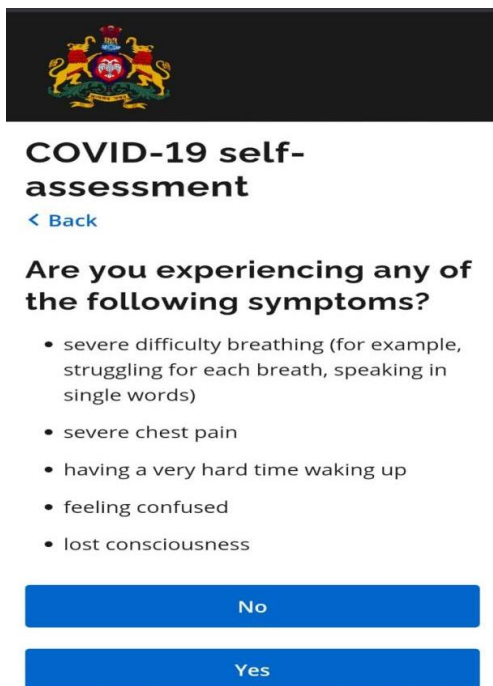


Fig 14: Self-Assessment Page

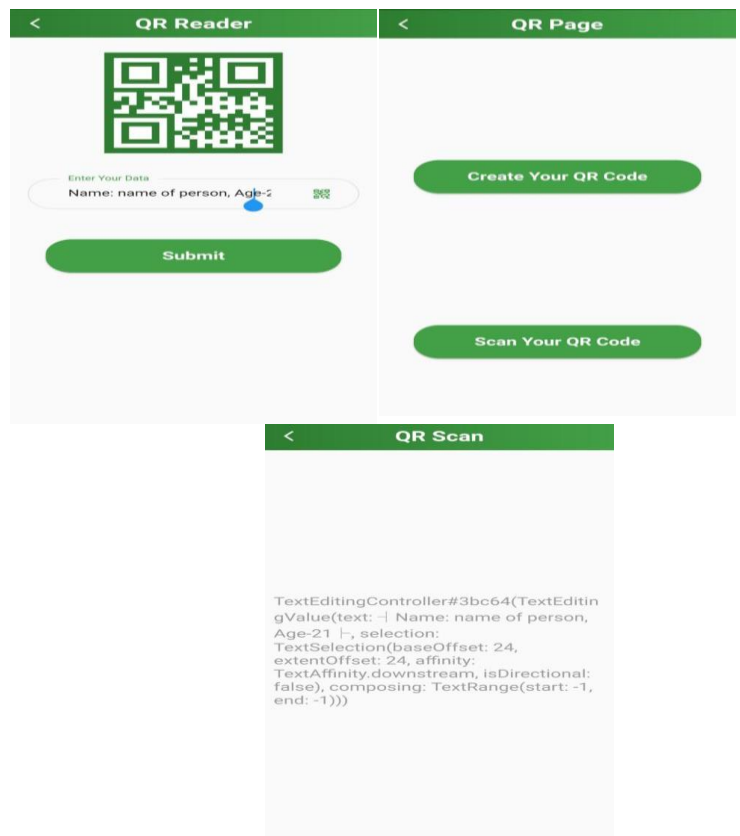
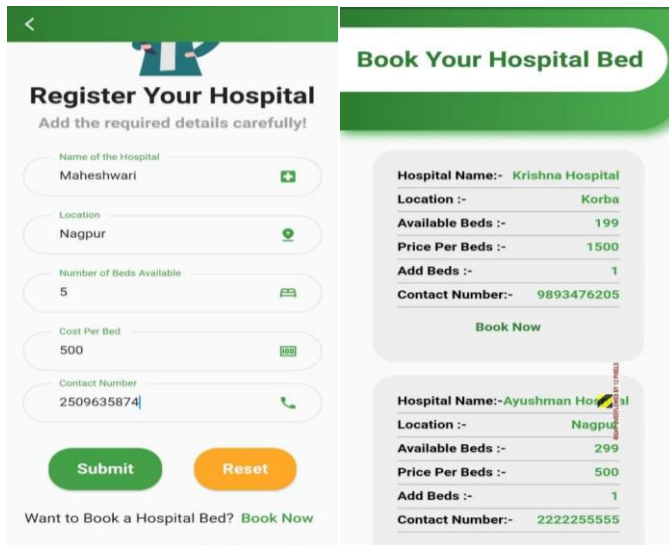


Fig 16: QR Page



Register Your Hospital
Add the required details carefully!

Name of the Hospital: Maheshwari

Location: Nagpur

Number of Beds Available: 5

Cost Per Bed: 500

Contact Number: 2509635874

Submit **Reset**

Want to Book a Hospital Bed? **Book Now**

Book Your Hospital Bed

Hospital Name:- Krishna Hospital

Location :- Korba

Available Beds :- 199

Price Per Beds :- 1500

Add Beds :- 1

Contact Number:- 9893476205

Book Now

Hospital Name:- Ayushman Hospital

Location :- Nagpur

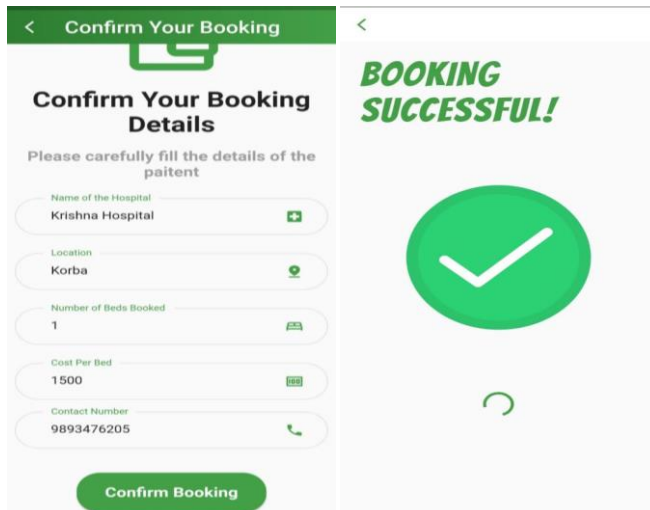
Available Beds :- 299

Price Per Beds :- 500

Add Beds :- 1

Contact Number:- 2222255555

Fig 17: Hospital registration page



Confirm Your Booking

Confirm Your Booking Details

Please carefully fill the details of the patient

Name of the Hospital: Krishna Hospital

Location: Korba

Number of Beds Booked: 1

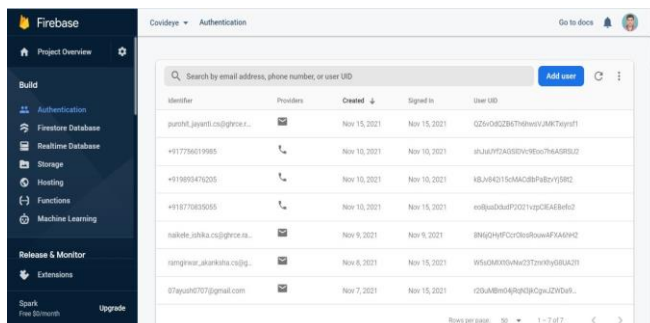
Cost Per Bed: 1500

Contact Number: 9893476205

Confirm Booking

BOOKING SUCCESSFUL!

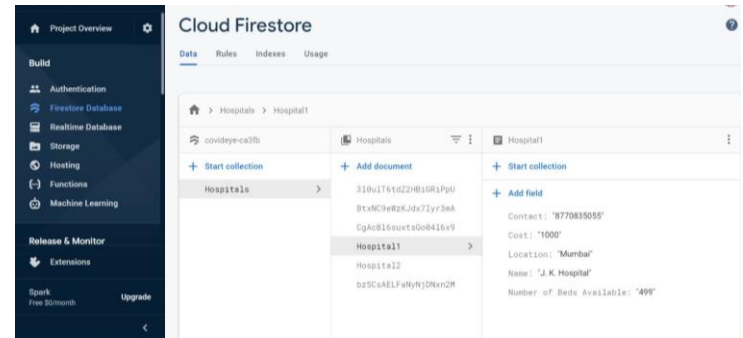
Fig 18: Booking Page



Search by email address, phone number, or user UID

Identifier	Providers	Created	Signed In	User UID
punshi_jayanti.cs@gnec...		Nov 15, 2021	Nov 15, 2021	62b0c622b7b4b4b4b4b4b4b4b4b4b4b4
+917796019985		Nov 10, 2021	Nov 10, 2021	6b4b4b4b4b4b4b4b4b4b4b4b4b4b4b4b
+919893476205		Nov 10, 2021	Nov 10, 2021	6b4b4b4b4b4b4b4b4b4b4b4b4b4b4b4b
+918776030055		Nov 10, 2021	Nov 10, 2021	6b4b4b4b4b4b4b4b4b4b4b4b4b4b4b4b
sakete_sakita.cs@gnec...		Nov 9, 2021	Nov 9, 2021	6b4b4b4b4b4b4b4b4b4b4b4b4b4b4b4b
rsinghwar_sakita.cs@gnec...		Nov 8, 2021	Nov 10, 2021	6b4b4b4b4b4b4b4b4b4b4b4b4b4b4b4b
07yash0707@gmail.com		Nov 7, 2021	Nov 15, 2021	6b4b4b4b4b4b4b4b4b4b4b4b4b4b4b4b

Fig 19: Firebase login



Cloud Firestore

Data Rules Indexes Usage

Hospitals > Hospital1

+ Start collection

+ Add document

+ Start collection

+ Add field

Contact: "8770835055"

Cost: "1000"

Location: "Mumbai"

Name: "J. K. Hospital"

Number of Beds Available: "499"

Fig 20: Firebase booking details

V. CONCLUSIONS

In this paper, the authors have targeted the problems caused by the absence of a better covid-19 monitoring app. So, we developed a monitoring system for the colleges, malls, market shops, offices and other surveillance domains using REST API which will keep a track of people entering and leaving the domain and send alerts if anyone contacted with Covid positive patient. Automatic alert sender and face detector which will check from the API server and trigger the buzzer if the detected person in Covid-19 and trying to enter to the public place. Our main aim is to minimize the spread of corona virus and make everyone ready, safe and alert if such disease hit us.

VI. FUTURE SCOPE

- In this pandemic situation it is important that there should be a monitoring system for detection of covid-19 affected patient in crowded areas. We have covid-19 tracing apps but there is no QR scanning feature in it which reduces their efficiency as compared to covid-eye because the fast developing world it is important that app should be fast and easier to access.
- Researchers said that Contact tracing apps helped a lot in reducing COVID infection and therefore Covid-eye can be great advantage for covid control with the alert message sending feature it just enhances the efficiency of the covid-eye application.

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