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Covid-19 Symptoms Status and Vaccine Slot Availability Checker App

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Abstract :-

With its disturbing flood of impacted cases all over the world, lockdown, and the World Health Organization's declaration, the Novel Coronavirus, Coronavirus, 19 has been declared pandemic throughout the world by the WHO. Individuals are viewed as ready to forestall the spread of illness exclusively by bringing issues to light, friendly separation, cover use, and so forth. They don't know which areas of mainstream society are more impacted by this pandemic. After the vaccine arrives, everyone can take it very fast. In front of the government, the biggest problem is how to manage this vaccine process. It is not possible to get vaccinated completely in 10 to 15 days. There is a frenzy of circumstance between individuals of a country. We make programming to take care of these issues. This task produced for following COVID-19 antibody spaces accessible in your pin-code and region for the 18+ age category. Once available, it will send email notifications at periodic intervals to subscribers until slots are available. A android-based system is proposed for this business management page such as Automobile Service Center or Beauty Parlor / Saloons etc. to control the spread of social gatherings. The proposed system has features such as a single application for service providers and customers. Verification of real customers and service providers will be done through OTP and store-based photographs respectively. The owner can keep track of the details of his employees by registering and can track regular customers. It helps to book easily and cancel appointments. The customer can view non working days with the event calendar and the services provided and their cost, time required etc.We have added google maps in order to determine the most covid affected areas so that If your area is affected by COVID-19, you can use Google Maps to obtain relevant information on impacted places. The system also offers the option to handle customer payments, invoice production, analytics reports help maintain the website and give the customer a reminder of appointments. So the system will do the right planning and reduce the effort and time of both the client and the owner. Through this application we can view the details of covid and patients all over the world. It's difficult to schedule an appointment for Covid-Vaccine given that there are only a limited number of slots available each day, so this script

automates the whole process by checking the availability of slots every 3 seconds as well as booking it once it becomes available. This script needs only one configuration - entering your preferences once (pin code, district, center preference, slot timing, etc.) and then it takes care of everything else.

Keywords:- Android, Covid19 Cases & Vaccination Statistics, Check Vaccine Availability, Firebase Cloud Storage, Authentication, Identification, etc

1 Introduction

The contagious coronavirus, or more technically known as COVID-19, has spread all over the world and is listed as a pandemic by the World Health Organization. It started surfacing in China in November 2019 and has been on the rise in all major parts of the world. On 27th July, 2020, more than 16.52M cases of COVID19 were reported in about 187 countries and territories. On 30th January, 2020, the first case of coronavirus pandemic in India was reported, and the number of cases in India has now reached more than 1.48M . Most people infected from COVID-19 experience mild to moderate respiratory illness. If a person is tested positive for coronavirus, every individual who has come in contact with the infected individual is advised to go for self-quarantine for two weeks, so that the infection chain can be broken and the disease does not spread further. At present, there is no specific treatment or vaccine available for COVID19. Many countries are trying to develop contact-tracing techniques through which they can trace the person suspected of the infection. For example, in South Korea, the government is maintaining a database of known patients along with their details such as their age, gender, occupation, and so on. In Israel, the government has been allowed to track the mobile-phone data of people suspected with the infection. Singapore developed a mobile-based application which shows the number of cases of covid and also helps in finding covid vaccination slots. We have developed a similar type of application named Covid-19 Status and Vaccine Slot Availability Finder. This Application helps the user to keep a track on the covid-19 cases status in India. It shows the number of cases of covid positive patients and recovered cases and as well as the number of death cases each day. This is all done in the Covid-19 Statistics section of the application. The Statistics section allows you to stay up to date regarding the number of cases, both locally and nationally. The accurate numbers can help you assess your risk further. Additionally, the availability of official updates prevents rumors and misinformation from spreading. The Application also helps the users to find vaccine slots so that they can get vaccinated by finding vaccination centers nearby them and the slots available in the centers . Both the Statistics and the Vaccination Slot finder gets updated on a daily basis to provide up to date data to the users.

Features:

• View Daily Covid19 Cases & Vaccination Statistics

• View State Wise Daily and Total Covid 19 Statistics

• Check Vaccine Availability in your area using your area Pin code
• Uses Firebase Cloud to store Data.
• Data Sync across different platforms and devices.

Flutter

In this app we use the Android studio with flutter mode. Basically, flutter is used to make the apps which run in both of the famous mobile phone processors like Android and iOS. Flutter is a cross platform UI toolkit designed to allow reuse of code across operating systems such as iOS and Android, while allowing apps to interact directly with basic platform services. The goal is to empower developers to bring the most efficient applications that feel natural to a wide range of platforms, covering the differences where they exist while sharing as much code as possible. During the upgrade, Flutter applications work with a VM that provides hot reloading of changes without the need for full integration. For download, Flutter applications are directly integrated into the machine code, either in Intel x64 or ARM instructions, or in JavaScript if it directs the web. The framework is an open source, licensed BSD licensed, and has a thriving environment for third-party packages that enhance the functionality of a central library.

Dart

In this project we uses the Famous languages Dart. It is use to increase the productivity of you app. And it also provide the fast access and run of apps. Strong languages have been created by the translator, without producing a machine language code. Of course, things eventually got worse. The concept of virtual machine (VM) became popular, which is actually an advanced translator that mimics hardware on software. The virtual machine makes it easy to send language to new hardware platforms. In this case, the input VM language is usually the intermediate language. For example, programming language (similar to Java) is integrated into intermediate language (bytecode) and rendered into VM (JVM). In addition, there are now timely compilers (JIT). The JIT compiler launches during the process, compiling instantly. Real producers who used during the creation of the system (pre-working time) are now called pre-programmers (AOT).

Google Analytics

For storage we have to use the google analytics or firebase cloud. In this the main role the firebase cloud to store the state wish data into a json file and connected through app. Firebase Analytics is a tool that lets you do just that - it helps us learn how our Android and iOS users interact with our app. From the setup, it will automatically start tracking a set of defined events - which means we can start learning in the first step. And if that is not enough, we might add our own custom events that we can track. All these events then appear with the Firebase Dashboard within the Firebase Console - our central access point for statistics reports and other firebase services. Once we have tracked and analyzed this data, we can make decisions about future changes in our app to better serve users. And if that were not enough, Firebase Analytics Incorporates Firebase Crash Reporting to create an

audience of users who have experienced a follow-up crash, Firebase Notifications to send alerts to the audience and track events based on notification interaction, Firebase Remote Config to change the look / feel. and our application behavior based on Audience, Big Query performs improved data analysis on our tracked events and Google Tag Manager in our Firebase Analytics settings remotely from another web application.

Data-Parsing-Script
Most important library is use to forming this app. For using this library we collected the specific type of the data from the whole table. JSON Analysis is a very common function for applications that need to download data online. Data Parshing is depend these thing:- Write all JSON transfer code in person automatically perform the process by generating code This guide will focus on how to transfer JSON manually to Dart code, which includes: coding and coding on JSON describing safe model model classes analyzing JSON into a Dart code using a factory builder dealing with invalid / optional values data validation edits back to JSON to decrypt complex / nested JSON data selecting deep values by deep pick package.

HTTP Protocol
HTTP is a protocol for fetching resources. It is the foundation of any data exchange on the Web and it is a client-server protocol, which means requests are initiated by the recipient, usually the Web browser. A complete document is reconstructed from the different sub-documents fetched, for instance, text, layout description, scripts, and more.

Shared Preferences
Shared Preferences object points to a file containing key-value pairs and provides simple methods to read and write them. Each Shared Preferences file is managed by the framework and can be private or shared.

2 Problem Formulation

COVID-19 is an ongoing pandemic, which has already claimed millions of lives worldwide. In absence of prior information about the virus the main challenges were how do people avoid areas which were affected most by the covid-19 virus to stop the chain reaction of the virus and stop it from infecting more people. From where can we get the vaccines and in which hospitals or camps the slots available for vaccination. How will real time statistics of positive, negative and as well as death cases around the user be provided to the user.

2.1 What comes in our mind

1. What data does the application collect from the user?
2. How will the App UI Work? How can it identify any individuals who are at Risk of COVID19 Infection? Should the App collect user location data continuously?

3. App supports which Mobile OS Versions?
4. How will the user find the nearest vaccination center?
5. How will the user's authenticity be verified?

3 Problem Solution

A android-based system is proposed for this business management page such as Automobile Service Center or Beauty Parlor / Saloons etc. to control the spread of social gatherings. The proposed system has features such as a single application for service providers and customers. Verification of real customers and service providers will be done through OTP and store-based photographs respectively. The owner can keep track of the details of his employees by registering and can track regular customers. It helps to book easily and cancel appointments. The customer can view non-working days with the event calendar and the services provided and their cost, time required etc. The system also offers the option to handle customer payments, invoice production, analytics reports help maintain the website and give the customer a reminder of appointments. So the system will do the right planning and reduce the effort and time of both the client and the owner. India's vaccination campaign is about to fall as it battles the second wave of the COVID19 epidemic. Although the government has finally agreed to increase the production capacity of the vaccine in the country. The Atmanirbhar Bharat 3.0 Mission has taken a significant step forward to promote COVID's indigenous policies by prohibiting COVID Suraksha from supporting the. As of 23 April 2021 approximately 13,41,80,854 of which 11,44,66,357 Volume 1 and 1,97,14,497 volume 2 vaccines have been given to the public. There are 68,395 vaccination centers out of which 61,836 are state and 6,559 are independent. There were 11,90,92,552 registrars and 1,38,82,605 were online, 8,10,50,255 logged in and 2,41,59,692 were FLW and HCW (senior staff and health workers). a total of 12,18,49,147 vaccine doses were given to Covishield and 1,23,31,706 were given to Covaxin. Following the same trends (1.38 crore doses per week) will take about 100 weeks to vaccinate nationwide in India, meaning that everyone in India will receive at least one dose of the vaccine by December 15th 2022. According to Johns Hopkins University of Medicine Coronavirus Resource Center, only about 1% of Indians in India are completely vaccinated. The COVID-19 vaccine is made in India by two companies. ICMR has granted a production license to Bharat Biotech and Serum Institute of India to produce Covexin, a product of the Covishield partnership with AstraZeneca.. According to Down To Earth, India is strong enough, with a panel of seven PSUs capable of producing goals. However, three production licenses from these PSUs - Central Research Center, Kasauli; BCG Policy Laboratory, Guindy; and the Pasteur Institute of India, Coonoor - were withdrawn in 2008 because they did not comply with the good production procedures set out in the regulations (DownToEarth, 2021). Bharat Biotech also received funding from the Union government to develop its facilities. It is projected that both initiatives

will double the current Vaccine production capacity by the end of May-June 2021, and that it will nearly double by July-August 2021. In April 2021, almost a crore of vaccines was produced; this amount is expected to rise to about seven crores in July-August 2021, and approximately ten crores by September 2021.

Table 1. COVID-19 Specific Characteristics of Application, N=14, N (%)

Symptom management 4 (28%)
Symptom assessment 8 (57%)
Resource information in app
Testing centers 6 (42%)
Preventative measures 5 (35%)
Regional/federal guidelines 2 (14%)
Those at higher risk 2 (14%)
Physical distancing 3 (21%)
Source of information supporting app
Not specified 2 (14%)
Research evidence 0 (0%)
Professional experience 2 (14%)
Personal experiences or stories 0 (0%)
National guidelines 2 (14%)
Coronavirus tracking feature 4 (28%)
Live chat room 3 (21%)
Training resources for clinicians 2 (14%)
Frequently Asked Questions (FAQ) forum 5 (35%)

Modeling projections for cases and deaths

Predicting the number of cases and deaths As a mathematical model, let Q1 be (v1, u1), Q2 be (v2, u2), and Q3 be (v3, u3), where u1 refers to the number of occurrences or deaths 30 days before the day of the experiment. The numbers for v1 and u2 correspond to the number of events or deaths that occurred 15 day prior to today, respectively, for v2 and u3 are 15 and 30 respectively for the current date. Based on the quadratic equation f(v) = av2 + bu + c derived in (1), (2), and (3), we can construct the equation system in (1), (2), and (3). u1=av21+bv1+c(1)u1=av12+bv1+c (1)

u2=av22+bv2+c (2)u2=av22+bv2+c (2) u3=av23+bv+c(3)

u3=av32+bv+c (3)

Since v1 = 0 from (1):

u1=c(4)u1=c (4)

Subtracting (2) from (4): ul−u2=−av22−bv2(5)ul−u2=−av22−bv2 (5)

Isolating the variable b from (5): b=ul−u2+av22−v2(6)b=ul−u2+av22−v2 (6)

Subtracting (2) from (3):

u3−u2=a(v23−v22)+b(v3−v2)(7)u3−u2=a(v32−v22)+b(v3−v2) (7)

Replacing b in (7):

u3−u2=a(v23−v22)+ul−u2+av22−v2(v3−v2)u3−u2=a(v23−v22)+(ul−u2)(v3−v2)−v2−av2(v3−v2)u3−u2=a((v23−v22)−v2(v3−v2))−(ul−u2)(v3−v2)v2(8)u3−u2=a(v32−v22)+ul−u2+av22−v2(v3−v2)u3−u2=a(v32−v22)+(ul−u2)(v3−v2)−v2−av2(v3−v2)

u3−u2=a((v32−v22)−v2(v3−v2))−(ul−u2) (v3−v2)v2 (8) Isolating the variable a from (8):

a=u3−u2((v23−v22)−v2(v3−v2))+(ul−u2)(v3−v2)v2((v23−v22)−v2(v

3−v2))(9)a=u3−u2((v32−v22)−v2(v3−v2))+(u1−u2)(v3−v2)v2((v32−v22)−v2(v3−v2)) (9)

Finally, isolating the variable c from (4): c=u1(10)c=u1 (10)

Therefore, based on the a, b, and c used in Accordingly, the estimated cases and deaths are calculated using the a, b, and c values used in quadratic calculations. Moreover, when new information is provided by WHO, the quadratic calculations will be adjusted. In addition, the COVID-19 Dashboard provides a 90- day guess; however. It is possible for some countries to have quadratic equations of a higher order than the 90-day estimate; in these cases, the algorithms stop counting, and therefore the estimated days will fall below the 90-day estimate. Therefore, the COVID-19 Dashboard allows for the analysis of confirmed cases, death rates, and death rates as well as speculative cases and the submission of death information: a) geographical charts to understand the spread of the disease in the country, b) bar charts d) line charts to illustrate disease occurrences over time, and c) columns of charts for disease occurrence over time.

Data availability Basic data

The data used for this project is taken from the following public sources available in the JSON format and commas comma sequences (csv) respectively: 1. As of 13 August our API repository and api.covid19india.org have been withdrawn. Redirecting api.covid19india.org to data.covid19india.org

Files are available

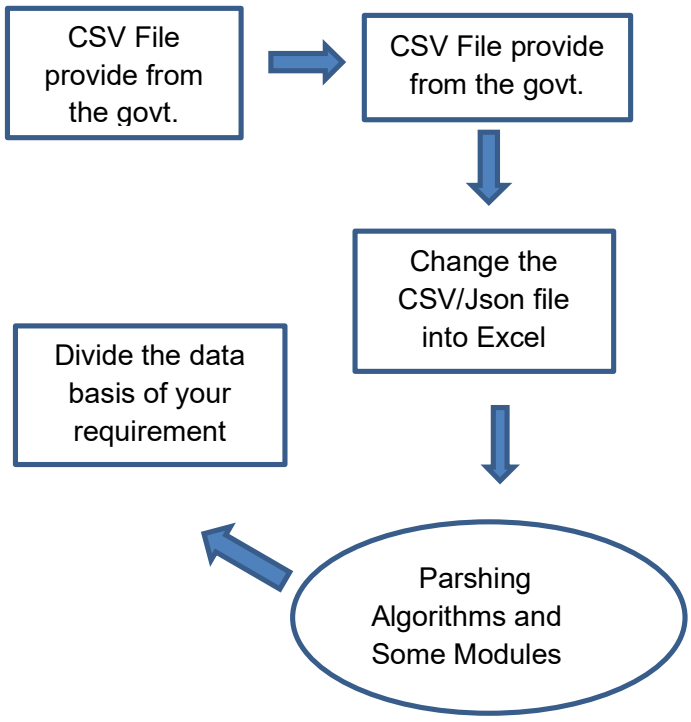
• Combined sheets provide integrated data at regional / regional level in csv format.

• V4 json end points. These are json apis used by the website to display all the statistics on the site. This can be used by engineers and analysts with knowledge of json separation (recommended method). All of our v4 conclusions have been improved and usable as this gives the impression of frontend Documents the same.

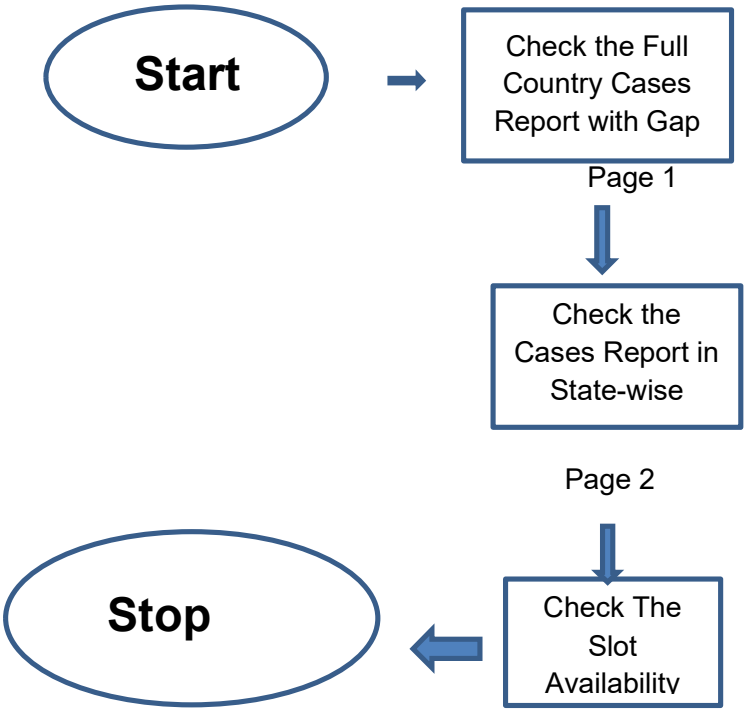
• The latest data from google sheet (10-20 minutes delay) is available in the latest archive. These are located under the green files section below. (Not recommended as the number of files is large and no additional information is available on these compared to the conclusions mentioned above.)

Design UI/ER Model

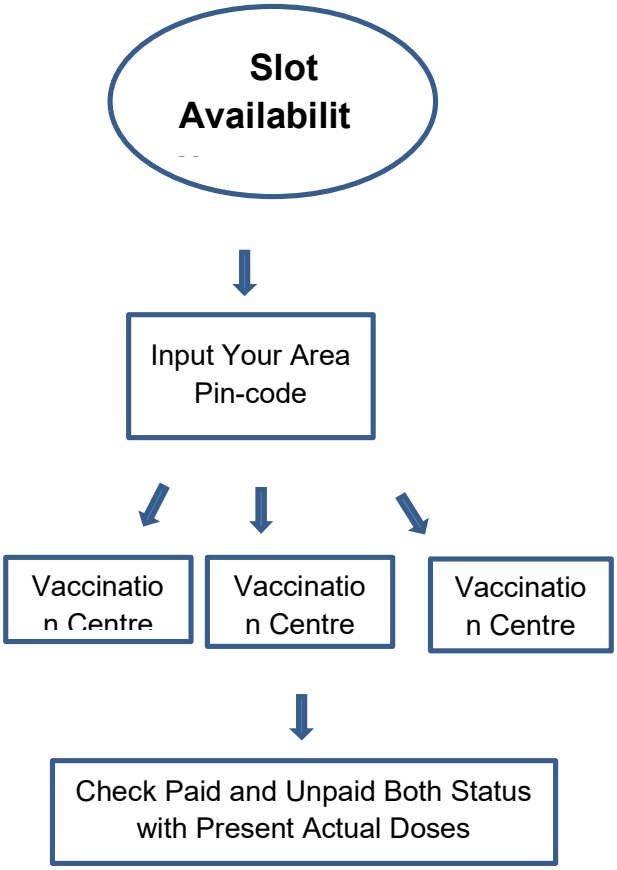
Data Parsing process:



Process Model App



Slot Availability Process:-



SUGGESTIONS

On the other hand, as the world struggles with the COVID-19 virus, its proliferation and flexibility lead to new challenges for governments and research communities. In this regard, the number of patients worldwide is growing by the second wave of the COVID-19 outbreak and many countries are re-using closures and curfews to prevent infection. In addition, noncompliance with the rules of social isolation, security and privacy concerns, high level of anonymous cases, etc., suggests that COVID19 mobile applications should be integrated with new features, not limited to COVID-19 management, but also in providing information on health services such as diagnosis, consultation, treatment, procedures, procedures, and more. These apps can be very effective in raising awareness about prevention strategies such as social isolation, hand washing, and keeping information related to health issues and tracking contacts. It is worth mentioning that most of the studies focused on the goals and approaches to improving mobile applications, quality, and technological advances were made in the early days of the COVID-19 epidemic. With the rapid development in the context of the epidemic, with new signs and cases, as well as new technologies emerging, there is a need for regular global updates of mobile applications. Although there are studies that focus on feature analysis and performance, their analysis is limited to common features of applications such as ease of use and ease of use, but did not include performance with specific features of COVID-19. Generally,

studies have only examined mobile applications used to detect COVID-19 outbreaks infrequently. COVID-19 brings new challenges, making it essential to review and evaluate these mobile applications so that these gaps can be closed. In this regard, the findings of this paper may have a positive impact on medical professionals, software developers, social organizations, science centres, and technology organizations. App developers can benefit from a comprehensive review of COVID-19 mobile applications, as they will be able to identify some of the barriers and utilize various functions and technologies to improve future applications. Clinicians can also review a variety of applications, and propose more efficient patient programs that can aid patients in improving their health management and adopting COVID-19 reduction strategies thanks to increased awareness of mobile appliances. With reference to a functional application, health care services such as diagnostics, consultation can be managed online, which not only saves time and money, but also helps prevent the spread of COVID-19 by reducing mobility

Conclusion

SWOT analysis allows us to understand more about this app since we can assess its strengths, weaknesses, opportunities, and threats. We believe that experimentation and creating such an app during a time like this is our greatest asset. The lack of awareness among people, especially in rural areas, and the inability to find solutions for this problem is certainly a drawback. There is a chance to collaborate amongst newer minds to develop an app that will facilitate the management of vaccine programs; this may provide an opportunity to many new minds, as well as inspire people to head in a better direction. We took the first step toward a better future when we developed Covid 19 Status and Slot Finder. This study reviewed the best applications used during the outbreak of COVID-19 to provide health care services, contain the spread of the new coronavirus, and facilitate human migration during the return home to Saudi. Arabia, India, Italy, Singapore, United Kingdom, United States of America, and Australia. Analysis pointed out that different programs are designed for various activities such as contact tracking, awareness, booking an appointment, online consultation, etc. However, only a few applications such as Arogya Setu as well Path Check have integrated a variety of functions and features such as self-assessment, consultation, support and access information in a single app, which makes it easy for users to access services. Also, most apps are focused on tracking a contact, while very few are dedicated to growth to raise awareness and share information about COVID-19, important to combat the spread of COVID19. Similarly, most apps rely on GPS as well Bluetooth technology for tracking a contact and other essentials. There are no identified applications with the built-in community media features. In addition, one of the biggest challenges identified lack of integrated application with many features and functionality analyzed in this read. In this sense, users rely on different programs: medical care, mobility, diagnosis, followup, and awareness, etc. Therefore, an effective solution to solve this problem could be

designing and improving integrated cell life applications, which allows access to all of these functions. Using a single system can reduce costs and improve health data management, and decision-making

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