

COVID19 ANALYZER

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Abstract - In 2019, COVID-19 immediately spread across the world, tainting billions of individuals and disturbing the ordinary existence of residents in each country. States, associations, and examination organizations all around the world are devoting tremendous assets to explore compelling methodologies to battle this quickly spreading infection. With infection testing, most nations distribute the quantity of affirmed cases, dead cases, recuperated cases, and areas regularly through different channels and structures. This significant information source has empowered specialists worldwide to perform distinctive COVID-19 logical investigations like displaying this present infection spreading designs, creating avoidance systems, and concentrating on the effect of COVID-19 on different parts of society. However, one significant problem is that there is no normalized, refreshed, and great information item that covers COVID-19 cases information universally. This is on the grounds that various nations many distribute their information through novel channels and at various time spans which hinders individuals from getting vital information all together at one place. Although existing solutions such as, Aarogya setu and Mahindra Ecole Centrale Covid-19 tracker are broadly utilized, it is hard for clients to get to every one of the information and redo that information as per their necessities. To address this challenge, COVID19 Analyzer is created using HTML, CSS, JAVASCRIPT, REACT. This application depicts daily disease trends in India to improve the accessibility of basic COVID-19 related information around the world, especially for the general public and policymakers without a data science background. This application can be further extended to fulfil other purposes with its open-source nature.

Key Words: REQUEST, REPLY, DOM, REDUX, PROPS, COMPONENTS, HOOKS

1. INTRODUCTION

In December 2019, a small incidence of pneumonia was reported in Wuhan, China, due to unclear causes. Serious acute respiratory syndrome coronavirus was the disease's original name (SARS-COV-2). The World Health Organization later confirms Corona Virus Disease 19 (COVID-19), which is caused by a novel coronavirus, and declares COVID-19 a Public Health Emergency of International Concern (PHEIC). This ongoing pneumonia outbreak, which has claimed the lives of over 58,90,000 people worldwide, was quickly recognized as the result of a new coronavirus. More than 42,40,00,000 confirmed COVID-19 cases have been detected in INDIA as of February 20, 2022. Since then, no cure for the

disease caused by the lethal virus has been discovered, and social separation has been discovered to be a promising strategy to stop the disease's progress. As a result, most countries ordered state-wide lockdowns in order to halt the spread of the disease. However, it was discovered that 42% of the population was unaware of the pandemic, and the lockdown created a massive economic disruption. In the world, difficulties in precise data collection and analysis have made it difficult to estimate the disease's impact. Variable testing, inconsistent reporting, data sharing hurdles, and a lack of simple analytic tools have all led to a lack of clarity in defining and trending the pandemic's status. As a result, policymakers at all levels have been compelled to make major socio-economic decisions in the face of considerable uncertainty. To address this problem a new interactive visualization application COVID19 Analyzer is created that depicts daily disease trends in India to improve the accessibility of basic COVID-19 related information, especially for the general public and policymakers without a data science background.

For certain entertainers, similar to huge government establishments and others have sent off various portable applications that give important data to people in general with regards to the pandemic circumstance such as the number of confirmed cases, the number of recovered occasions, the number of deaths to date, and so on. These organizations have limited themselves to certain extent by not providing information about symptoms and essential services like free beds in the hospitals and free food services provided by the Government.

1.1 Literature Survey

In the wake of the pandemic, government agencies and others have introduced a number of applications that provide important information about the pandemic, such as the number of cases confirmed, the number of cases recovered, the number of deaths so far, and so on. The authors of this study are limited to analysing existing applications in India but our analyst provides relevant information about the world.

APOLLO, one of India's largest medical conferences, has created a scanner to assess the risk of COVID-19 outbreaks in INDIA, called "covid.apollo247." The tag line of this risk assessment scanner reads "Stay calm amidst the current paranoia around COVID-19," and has been successful in reaching a large portion of the population during the outbreak. By using machine learning methods, the solution

can predict the chances of coronavirus tress (Low, Medium, High) based on input features of multiple users. Mahindra Ecole Centrale erected a dashboard for a smooth stoner experience and high- quality visualization of real-time data with a platoon of about twenty persons (preceptors and scholars).

The website shows real-time statistics of people infected with the virus, who are being treated and killed in INDIA, or there are inaccuracies in their application. Several graphs and charts are used on the website to illustrate data at regional level, although their results should be more accurate.

The Indian government has taken action and created the AarogyaSetu app, a smartphone app that integrates essential health services to Indian citizens. Although a mobile app, web view usage is detected in the statistics display dashboard. They also developed a geo-tracking feature that allows the system to track coronavirus-infected people and establish a collection.

MICROSOFT BING has taken the extraordinary step of trying to find a software solution for the COVID-19 outbreak worldwide to increase data visibility and tracking. Bing Maps has an interactive forum focused on world map. It was used to provide the COVID-19 (Certified Cases, Active Cases, Death, Detectives) of various nationalities while circling over them. Statistics even at the regional level of selected nations, such as INDIA, are displayed in the Bing Maps web application.

1.2 Methodology

The produced system's system model as shown in Figure 1; for the built interactive dashboard INDIA COVID-19, it employed a decoupled architecture. The front-end and back-end make up the whole model. The user is presented with a cross-platform application (mobile/web) on the front-end, which gets data from the client-side cloud and shows it to the user.

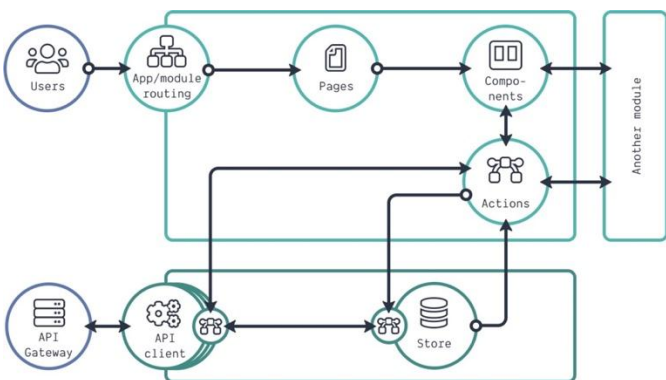


Figure -1: Decoupled Architecture of developed application

Following that is the back-end, which consists primarily of a website and a cloud-based server. Data is downloaded and stored on a website in public APIs, web scratches, and real-time data sets. The cloud next to the server and the 12 International Journal for Modern Trends in Science and Technology databases both respond to requests in the same way. On the other hand, the REST APIs are responsive, maintaining a data connection between the client side cloud and the server-side cloud. As a result, the whole system is unique, useful, secure, and easy to use, and all the functions available to users have been maximized.

The solution is based on a cross-platform application that is created as a means of raising public awareness about the global pandemic caused by COVID-19 on a national basis. Figure 2 depicts the created system's Entity-Relationship Diagram (ERD). The suggested solution's architecture is decentralized, with the frontend or client-side logic isolated from the backend or server-side logic.

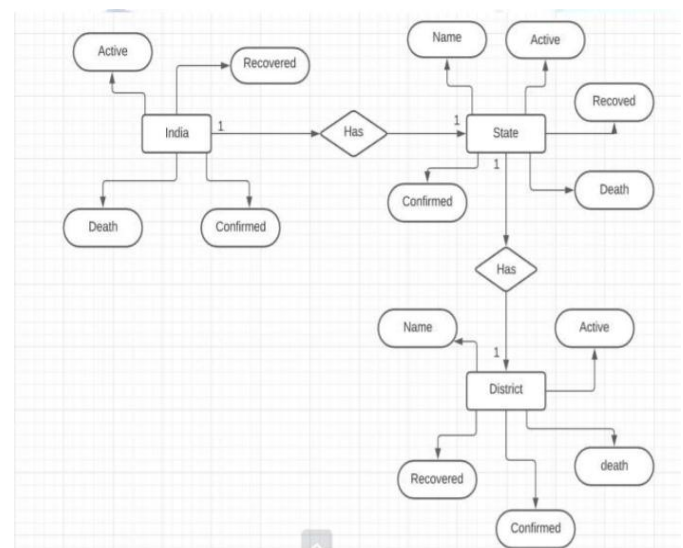


Figure -2: E-R Diagram of Application

This method makes the system faster, more efficient, and scalable. Both the frontend and the backend are installed on separate cloud computing platforms to connect them. When interacting between the client-side server and the database, the use of Representational State Transfer (R.E.S.T.) APIs is critical. The overall number of active cases, confirmed cases, active cases, and deaths are displayed on the main page utilizing data from the backend database in our proposed solution.

With the operation of API, this operation can also represent statistics on the number of verified cases on a global, public, and state position. It also generates two additional charts for improved data display using chart.js, an open-source JavaScript charting library. At originally, this operation used a line map with colourful axes to represent the number of verified cases, recovered cases, and deaths.

This method gives the user quick and easy access to facts in a comprehensible format. The backend database provides all of the relevant information.

2. Workflow and Result

The COVID19 Analyzer was created to gather spatiotemporal COVID-19 information given by the government in an automated and systematic manner. Various forms of COVID-19 case data from public APIs are supported by the Analyzer.

The COVID19 Analyzers entire workflow is as follows (Figure-3):

1. A request call is made from client's' API endpoints.
2. The server handles the request and forwards it to the appropriate components.
3. Data is retrieved from an open web API.
4. Axios is then used to parse the data.
5. Using props export, data is obtained and exported to the homepage component (Figure-4).
6. The fetched data's received response is delivered back to the endpoints.

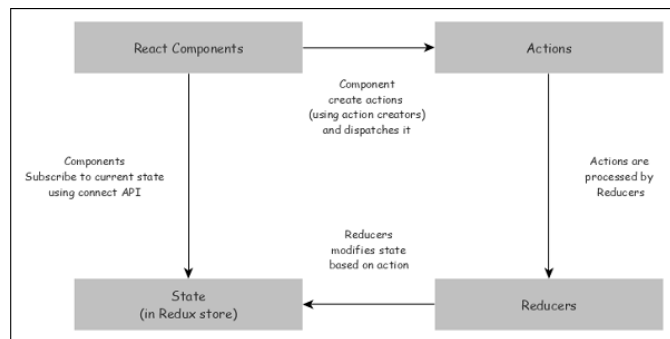


Figure -3: Workflow of Application

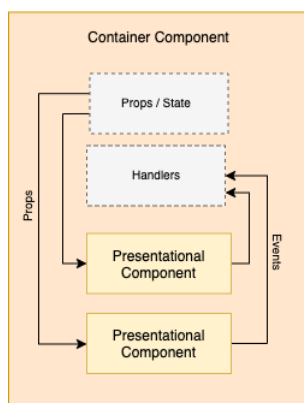


Figure -4: Props Export

Features with Result:

The resultant web application(Figure-5) serves as a great example of software that incorporates all of React JS features and provides the greatest user interface possible.

The data representation is accurate and well-managed, and the colour combinations employed in the project are well-managed in both dark and light settings(Figure-6&7).

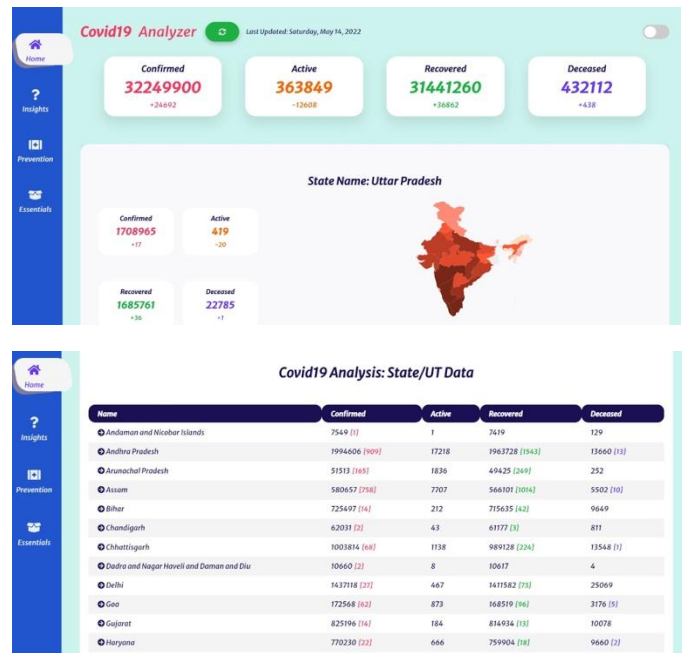


Figure -5: Homepage of Application

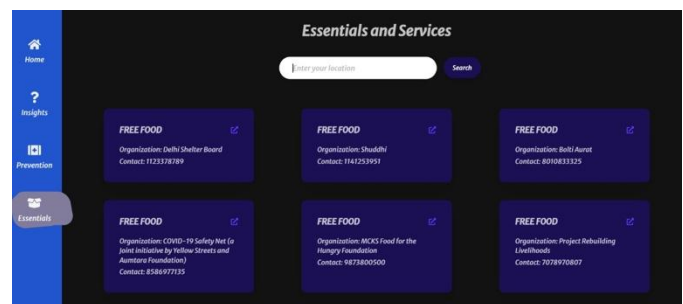


Figure -6: Dark Theme Essential Page

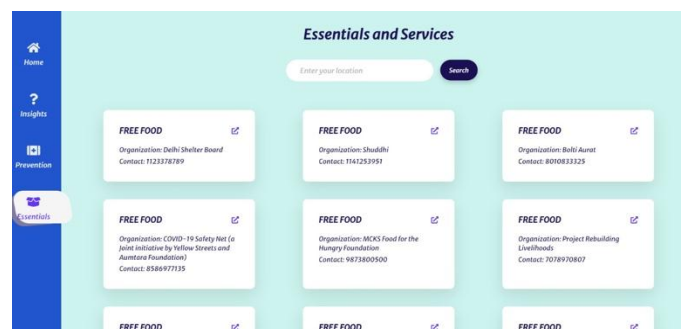


Figure -7: Light Theme Essential Page

This application allow users to see the current state of covid instances in India as well as in their own local District (Figure-8).It also helps in quickly accessing the data about free food and housing programs provided by the federal and state governments in their local areas(Figure-7).



Name	Confirmed	Active	Recovered	Deceased
Andaman and Nicobar Islands	7549 (1)	1	7419	129
Andhra Pradesh	1994006 (909)	17218	1963728 (1543)	13660 (13)
Arunachal Pradesh	51513 (165)	1836	49425 (249)	252
District	Confirmed	Active	Recovered	Deceased
Anjaw	985 (3)	48	934 (3)	3
Changlong	3621 (5)	71	3530 (6)	20
East Kameng	1066 (5)	35	1031 (3)	0
East Siang	2936 (3)	102	2817 (5)	17
Kamle	460 (2)	60	400 (6)	0
Kra Dadi	256	7	249	0
Kurung Kumey	507	2	504 (5)	1
Lepo Rada	762 (3)	41	719 (3)	2
Lohit	2656 (11)	144	2486 (5)	26 (1)
Longleng	728 (2)	14	712 (3)	2

Figure -8: District wise covid statistics

One of the distinctive feature of the application is it provides information about available free beds. All of these features make this web application simple to use and add to its responsive and appealing user interface.

These details are regulated by Indian and State Governments.

3. CONCLUSIONS

Proposed and erected the COVID-19 online application with the aim of adding society's mindfulness of the nation's present pandemic situation as a result of the COVID-19. It can deliver essential information to individuals with the simplicity of obtaining it wherever they want it thanks to technological innovation. It is intended to expand the dashboard's functionality and impact in light of its utility and impact. We are convinced that, in its early stages, this application will play a critical role in disease awareness and would assist them in getting immediate aid in searching for beds & foods supplements in their local areas. As a result, the innovative technology- grounded web application plays an important part in spreading consciousness against COVID-19.

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