

# COVID-19 Tracker & Vaccination Monitoring

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**Abstract-** The outbreak of Coronavirus also known as Covid-19 and SARS-CoV-2 was first reported in Wuhan Town, located in Hubei province in China and has spread to more than 50+ countries including India. On 30/02/2020, W.H.O declared SARS-CoV-2 or Covid-19 a “critical international public health” (PHEIC) also known as Pandemic like situation. Like the A / H1N1 Influenza also known as the Spanish Flu, it was declared the world's deadliest flu pandemic in 1918 that killed millions of innocent people. Covid-19 has also caused the deaths of millions of innocent people worldwide. The USA, India, China, Italy and Brazil are the worst affected by the virus. Apart from pre-existing technology and medical science. The spread of the virus has continued to cause great turmoil. In a world of 7 billion people, tracking the virus has become increasingly difficult and difficult. Therefore, it is very important to keep a public record and information on how many Covid-19 cases are reported, recovery and death. Our project is about to solve this problem, Our Project namely "Covid-19 Live Tracker & Vaccination monitoring" which follows a focus on the model that can be displayed on mobile phones and PCs with the help of a simple web link.

variant of Omicron, which caused the third wave of Covid-19 this winter, had not been found in India until now. The announcement about its discovery sparked concern about the possibility of a fresh wave of infections in India, where Covid-19 cases are in continuous decline, and are now at their lowest level in more than 2 years.

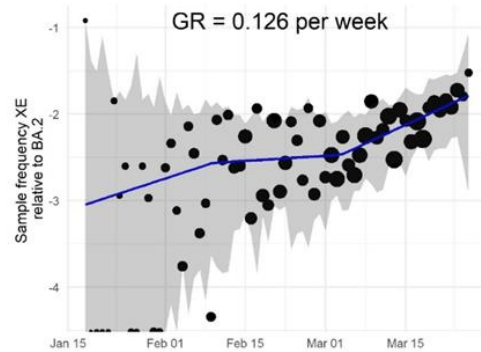


Fig.1

So, it's very important to aware & maintain social distance and also be aware about news related to Covid-19 cases & that's what is the our Project is about.

## I. INTRODUCTION

Variant Named by WHO	Scientific Name	Origin
Alpha	B.1.1.7	United Kindgom
Beta	B.1.251	South Africa
Gamma	P.1	Brazil
Delta	B.1.617.2	India
Omicorn	B.1.1.529	Multiple Countries
XE	BA.1 + BA.2	United Kingdom

Just in the month of April of 2022 another variant of Covid-19 has came called “XE Variant”. XE, a sub-

## II. METHODOLOGY

Accepted procedures include: general survey and covid-19 case documents and public health technical requirements of India; the idea of multi-platform model with needs, players, input, processing and output are defined.

We also studied the queried news, and classify the news into negative and positive sentiments, to acknowledge the influence of the news in people's mind & behaviour both politically and economically.

- Structure of our Project:

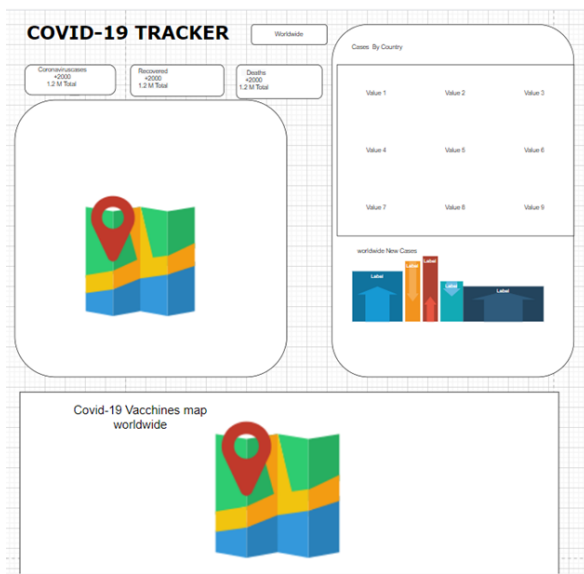
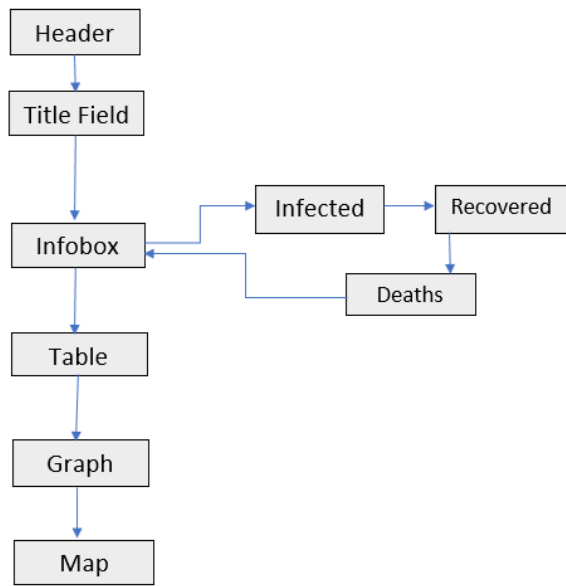


Fig.2 Graphical Representation of Project Structure

- Data Source: Data is extracted from verified sources such as JHU Maryland, WHO and Online APIs. The sites reported confirmed COVID-19 cases, as well as recovered and deaths for affected countries and regions.
- FINDINGS: At the time of writing this paper, the number of confirmed Fresh cases including XE Variant was 13,166. Based on the news queried in our system, we found that there are more negative

articles than positive articles, and displayed similar words for both negative and positive sentiments, which affected the mental & psychic behaviour of news watchers.

- Data Visualization: The fetched data will be stored in relational database. The micro-services will crawl the data every 15 minutes and store it in table form. The data mostly will be stored in raw format before being aggregated for visualization. Aggregate functions are built using data statement like below snippet [Fig.3]. Aggregation is important to show latest of the sum values for every country in the table.

```

SELECT
  CAST(SUM(confirmed) AS UNSIGNED) AS confirmed,
  CAST(SUM(deaths) AS UNSIGNED) AS deaths,
  CAST(SUM(recovered) AS UNSIGNED) AS recovered,
  MAX(posted_date) as created
FROM
  arcgis
WHERE
  posted_date = (SELECT MAX(posted_date) FROM arcgis)
LIMIT 1
  
```

Fig.3

Example of the data in the databases is shown in Fig. 4. We also geo-coded the location for easier mapping during visualization.

	123 agg_confirmed	123 agg_death	123 agg_recover
21	60,441	1,370	6,280
22	64,541	1,384	7,171
23	67,178	1,527	8,578
24	69,337	1,669	9,624
25	72,338	1,775	11,396
26	73,773	1,875	13,124
27	75,905	2,012	15,084
28	76,389	2,130	16,882
29	77,424	2,248	18,864
30	78,560	2,362	21,259
31	79,568	2,466	23,386
32	80,826	2,699	27,683
33	81,922	2,770	30,311
34	83,226	2,810	33,252
35	84,540	2,867	36,686
36	86,361	2,933	39,761
37	88,123	2,990	42,670
38	89,948	3,050	45,394
39	93,005	3,134	48,192
40	94,955	3,216	51,041
41	96,887	3,305	53,638
42	100,312	3,408	55,690

Fig. 4

For every 15 min, the cumulative case counts will be updated for all provinces and other affected countries. In the beginning, we found that WHO and JHU data are relatively slow compared to other sources, thus we implement manual update to our system after verifications to allow more real-time data.

### III. IMPLEMENTATION

Our Project Namely “Covid-19 Live Tracker & Vaccination Monitoring”. It is would be a portable system usable on different platforms (Web, Smartphones and Other Digital platforms). Web front end is developed using Firebase Core on Microsoft Visual Studio 2019 platform. Our Project system comprises Several modules like Online APIs, Firebase, case tracking module, Death tracking Module, Live Vaccination Module are taken in used Respectively.

- **Firestore:** Firestore is a Backend-as-a-Service (Baas). We used it to show Our Project on its Interface. It provides Coders & developers with a variety of tools and services to help them develop Attractive & quality apps. It is built on Google’s infrastructure
- **Disease.sh:** We can Build anything from console widgets to mobile applications, with our free and easy to use APIs. We used of Disease.sh on current global outbreaks, including COVID-19 and for other Influenza.
- **React Leaflet:** Leaflet is a very powerful tool, and we can create a lot of different kinds of maps. This tutorial will help you understand how to create an advanced map along with the help of React and Vanilla JS.

- **Material UI:** It’s a CSS Framework. We used it give customized design to our projects to look more attractive.

react-map-gl is a component of React components designed to provide React API libraries with Mapbox GL JS. More information on online documents.

Our Project’s Designed Philosophy.

- **Installation**  
Using react-map-gl requires reaction > = 16.3.  
npm faka --save react-map-gl mapbox-gl

- **For example**  
import \* as React from 'react';  
import map from 'react-map-gl';

```

application () {
  replace <Map
    initialState = {{
      length: -100,
      width: 40,
      Zoom: 3.5
    }}
    style = {{width: 600, height: 400}}
    mapStyle = "mapbox: // styles / mapbox / streets-
v9"
  />;
}

```

Using Mapbox Tokens

Starting with v2.0, mapbox-gl requires a Mapbox token for any use, with or without Mapbox data service. See about Mapbox tokens for your options.

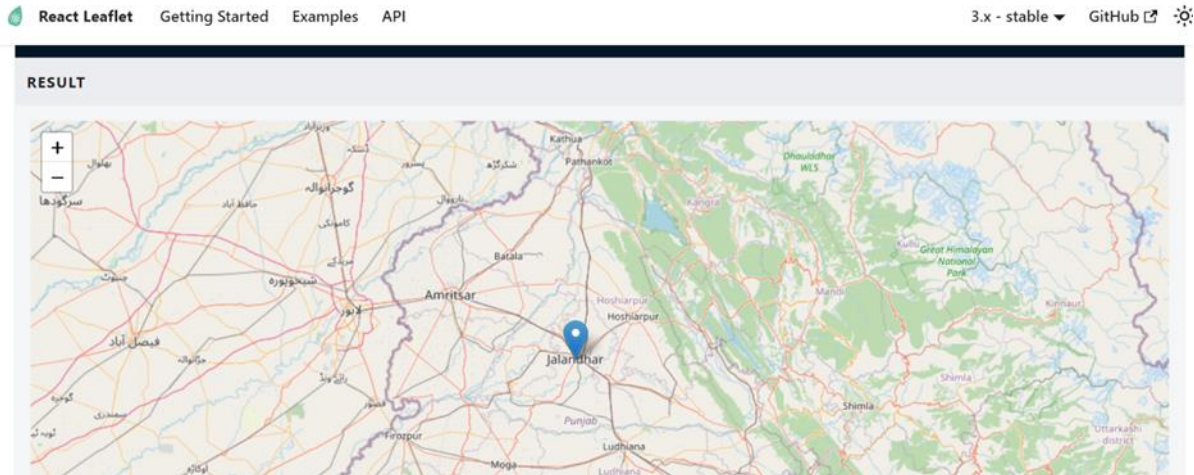


Fig.5 Showing Particular City

To view maps from a service like Mapbox you will need to register on their website to get the access token required by the map section, which will be used to

identify you and start providing map tiles. The service will be free until a certain level of traffic has passed.

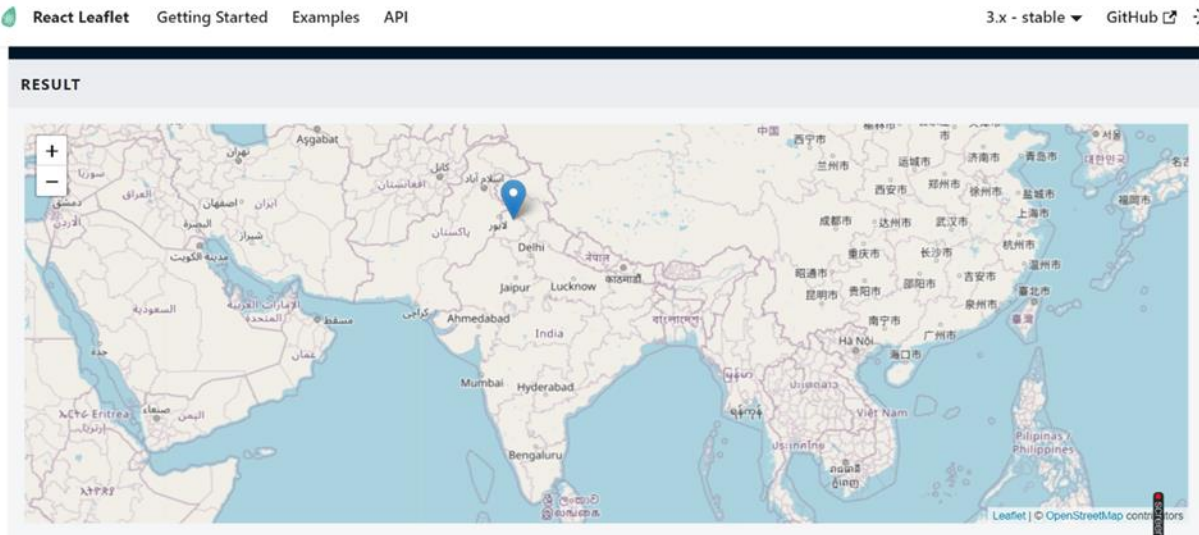


Fig. 6 Showing Indian Sub-Continent

There are several ways to provide a token in your app, as shown in some example folders:

- Provide mapboxAccessToken prop in the map section
- Set the MapboxAccessToken variable environment (or set

REACT\_APP\_MAPBOX\_ACCESS\_TOKEN when using the Create React App)

- Provide it at the URL, eg? Access\_token = TOKEN

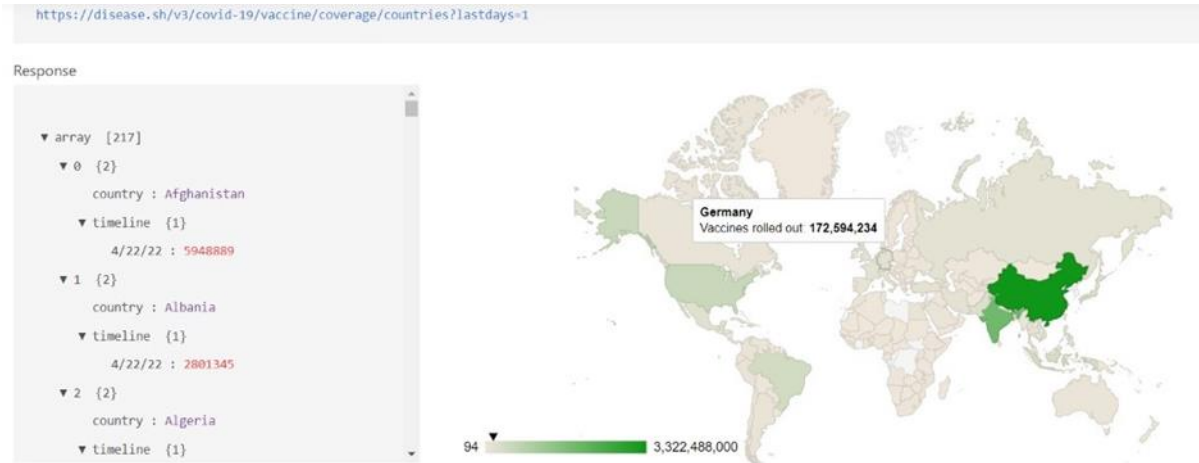


Fig 7. Green Coloured Area showing Vaccinated Region

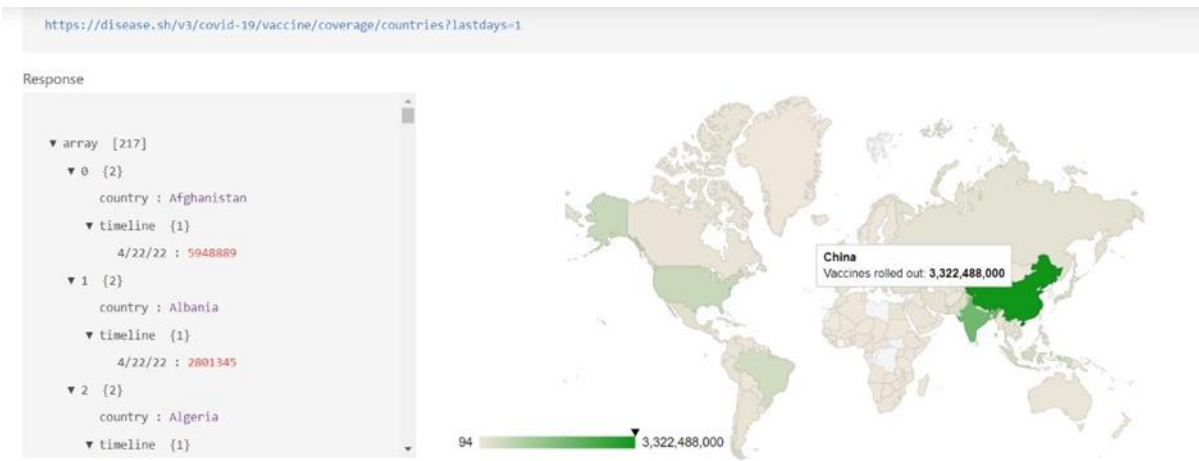


Fig 8. Number of Vaccinations done in China

Packages that we used for our project

"name": "covid-19-tracker & Vaccination Monitoring",

"version": "0.1.0",

"private": true,

"dependencies": {

"@emotion/react": "^11.4.1",

"@emotion/styled": "^11.3.0",

"@material-ui/core": "^4.12.3",

"@mui/material": "^5.0.0-rc.1",

"@testing-library/jest-dom": "^5.14.1",

"@testing-library/react": "^11.2.7",

"@testing-library/user-event": "^12.8.3",

"browserslist": "^4.17.1",

"chart.js": "^3.5.1",

"i": "^0.3.7",

"leaflet": "^1.7.1",

"numeral": "^2.0.6",

"react": "^17.0.2",

"react-chartjs-2": "^3.0.5",

"react-dom": "^17.0.2",

"react-leaflet": "^3.2.1",

```
"react-scripts": "4.0.3",  
"react-select": "^4.3.1",  
"web-vitals": "^1.1.2"  
},
```

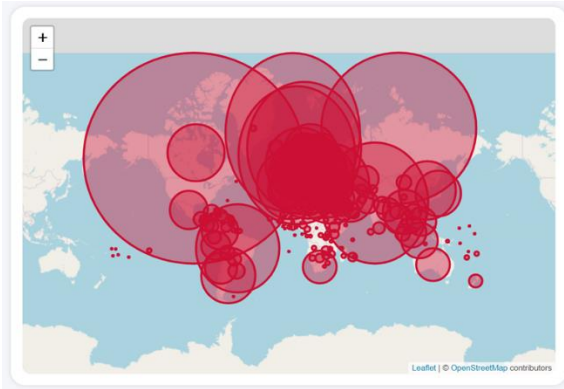


Fig 9. Red Circles are the highly infected Region by Covid-19

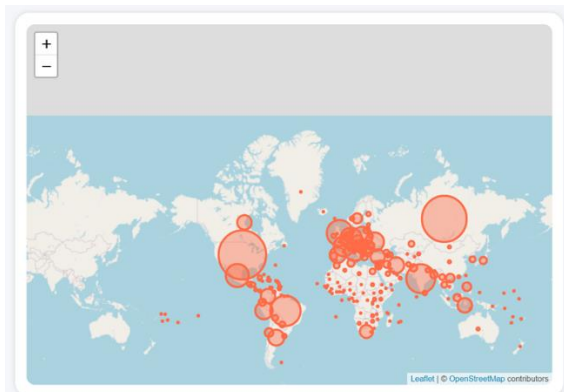


Fig 10. Orange Circles showing number of deaths by Covid-19

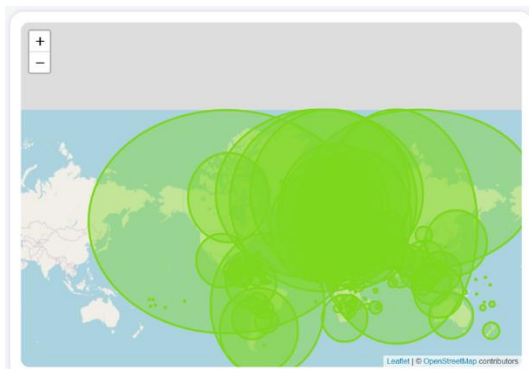


Fig 11. Green Circles showing Patients Recovered from Covid-19

- Getting Started with Create React App  
This project was bootstrapped with [Create React App](<https://github.com/facebook/create-react-app>).

#### ## Available Scripts

In the project directory, you can run:

```
### `npm start`  
Runs the app in the development mode.  
Open [http://localhost:3000](http://localhost:3000) to  
view it in the browser.
```

The page will reload if you make edits.  
You will also see any lint errors in the console.

```
### `npm test`  
Launches the test runner in the interactive watch  
mode.  
See the section about [running  
tests](https://facebook.github.io/create-react-  
app/docs/running-tests) for more information.
```

```
### `npm run build`  
Builds the app for production to the `build` folder.  
It correctly bundles React in production mode and  
optimizes the build for the best performance.
```

The build is minified and the filenames include the  
hashes.  
Your app is ready to be deployed!

See the section about  
[deployment]([https://facebook.github.io/create-react-  
app/docs/deployment](https://facebook.github.io/create-react-app/docs/deployment)) for more information.

```
### `npm run eject`
```

\*Note: this is a one-way operation. Once you `eject`,  
you can't go back!\*

If you aren't satisfied with the build tool and  
configuration choices, you can `eject` at any time. This  
command will remove the single build dependency  
from your project.

Instead, it will copy all the configuration files and the  
transitive dependencies (webpack, Babel, ESLint, etc)  
right into your project so you have full control over  
them. All of the commands except `eject` will still

work, but they will point to the copied scripts so you can tweak them. At this point you're on your own.

You don't have to ever use `eject`. The curated feature set is suitable for small and middle deployments, and you shouldn't feel obligated to use this feature. However we understand that this tool wouldn't be useful if you couldn't customize it when you are ready for it.

### ## Learn More

You can learn more in the [Create React App documentation](https://facebook.github.io/create-react-app/docs/getting-started).

To learn React, check out the [React documentation](https://reactjs.org/).

### ### Code Splitting

This section has moved here: [https://facebook.github.io/create-react-app/docs/code-splitting](https://facebook.github.io/create-react-app/docs/code-splitting)

### ### Analyzing the Bundle Size

This section has moved here: [https://facebook.github.io/create-react-app/docs/analyzing-the-bundle-size](https://facebook.github.io/create-react-app/docs/analyzing-the-bundle-size)

### ### Making a Progressive Web App

This section has moved here: [https://facebook.github.io/create-react-app/docs/making-a-progressive-web-app](https://facebook.github.io/create-react-app/docs/making-a-progressive-web-app)

### ### Advanced Configuration

This section has moved here: [https://facebook.github.io/create-react-app/docs/advanced-

configuration](https://facebook.github.io/create-react-app/docs/advanced-configuration)

### ### Deployment

This section has moved here: [https://facebook.github.io/create-react-app/docs/deployment](https://facebook.github.io/create-react-app/docs/deployment)

### ### `npm run build` fails to minify

This section has moved here: [https://facebook.github.io/create-react-app/docs/troubleshooting#npm-run-build-fails-to-minify](https://facebook.github.io/create-react-app/docs/troubleshooting#npm-run-build-fails-to-minify)

## IV. SENTIMENT ANALYSIS

This paper also presents the people's sentiment analysis of Authentic news to understand peoples' reaction Mentally, politically and economically. It was found that both sentiments have the word "Wuhan" and "China" but it is also necessary to check the sequences of used words to identify whether sentences that contain the word "Wuhan" or "China" are considered as positive or negative.



Fig 12. Number of keywords used by Social Media users

COVID-19 English-related tweets sent from January 28 to April 9, 2020, compiled a standard Twitter search feature using "Wuhan," "corona," "nCov," and "covid" As search keywords. These keywords were chosen because they were widely used during the preliminary testing of COVID-19 status. Publicly

accessible tweets from any type of account containing any keywords are collected.

20,325,929 tweets were collected, including 7,033,158 unique users from more than 170 countries. The daily portion of emotionally charged tweets was regularly edited.

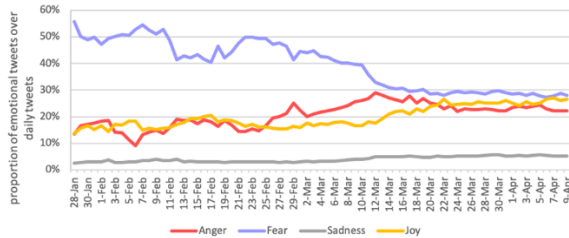


Fig 13. Emotions trends during the Covid-19 Pandemic

- Economic and politics: the effect of COVID-19 spreads at an astonishing rate and has devastating effects. Cases are growing at an alarming rate in South Korea, Italy, Iran, the United States and more than 50 other countries. Governments are being tested by the rising cost of living and the cost of outbreaks of public-sectoral and economic dependence. Any misconduct can be politically charged, as its legitimacy and legitimacy will be questioned by the people. Transparency is important and begins within government. When the first outbreak broke out, the public responded to the public, complete and timely information and data provided. Explicit guidance in reducing rashes is needed. Accurate and reliable information is based on ensuring that the prevention effort is used aggressively and is disseminated on any form of social media to alert the public. In the absence of facts and trust, rumors and panic cannot be avoided as people have become emotional. These feelings created anger and fear that threatened the government.

At the geopolitical level, travel restrictions, border closures, trade controls, and other forms of content are urgently developing the global preparedness needed in response to Covid-19. The effects of disease outbreaks and epidemics are not evenly distributed and economic impact is also less certain.

CONCLUSION

worldwide. Socially and economically, the burden on governments and communities is enormous. No government takes chances. there is every inclination that it can cause unforeseen harm to people. Recognize the potential damage caused by the epidemic.

In this epidemic, providing the public with timely information is of paramount importance. CoronaTracker is built outside the public obligation to disseminate awareness to the general public by providing data-based data analysis, speculation and validated news. Our Platform has attracted more than 1000+ users who view our page at once. Our forum not only has CoronaTracker but also provides information about how many vaccines are being performed in which country. Our main goal is to provide current guaranteed statistics to viewers.

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