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DATA STRUCTURES LAB

Project Report on

COVID - 19 - DATA VISUALISER

Submitted by

Abdul Hakkeem P A

Reg No : 80521001

Revathy M R

Reg No : 80521016

Submitted to

Dr. Madhu S Nair

Professor

Department of Computer Science
Cochin University of Science and Technology

PROJECT OVERVIEW

Covid - 19 has brought a worldwide pandemic period, which resulted in nation wise lockdowns across India. During the time of the pandemic, apart from state-wise visualizations, there were no visualizations of region-wise data.

The aim of our project is to develop a generalized solution which can visualize the Covid Daily Traffic which can provide valuable insights to the audience.

PROJECT OUTCOME

The Project has 4 modules,**first module** is for plotting a line graph that shows a daily count of the number of reported death cases and recovered cases on that day. With the help of a visualized line graph, it is easier to identify the spread of the disease.

In **second module**, we are trying to implement pie charts based on gender which will visualize the mortality rate and recovery rate.

In **third module**, pie charts are used to visualize the mortality rate and recovery rate based on the vaccination status of the patient. The second and third module is very effective in identifying the mortality and recovery rate, which helps to understand whether any gender is more prone to the disease, and also identifies the effect of the vaccine in lowering the disease intensity.

The **fourth module** is used for plotting the location of the patient over the Open Streets Map which will help us to identify the most affected area.

This project is a general solution that can be used to track the spread of any pandemic.

ALGORITHMS

```
GENDER_PLOT(DATASET)
    1. START
    2. set DATA['MALE_RECOVERED']=0
    3. set DATA['FEMALE_RECOVERED']=0
    4. set DATA['MALE_DEATH']=0
    5. set DATA['FEMALE_DEATH']=0
    6. TRAVERSE THROUGH GENDER AND VACCINATION STATUS IN THE DATASET
        a.IF GENDER = MALE
            i.IF STATUS = RECOVERED
                DATA['MALE_RECOVERED']++;
            ii.ELSE
                DATA['MALE_DEATH']++;
        b.ELSE
            i.IF STATUS = RECOVERED
                DATA['FEMALE_RECOVERED']++;
            ii.ELSE
                DATA['FEMALE_DEATH']++;
    7.END


VACCINATION_PLOT(DATASET)
    1. START
    2. set DATA['VACCINATED_RECOVERED']=0
    3. set DATA['NON_VACCINATED_RECOVERED']=0
    4. set DATA['VACCINATED_DEATH']=0
    5. set DATA['NON_VACCINATED_DEATH']=0
    6. TRAVERSE THROUGH VACCINATION_STATUS AND STATUS IN THE DATASET
        a.IF VACCINATION_STATUS = TRUE
            i.IF STATUS = RECOVERED
                DATA['VACCINATED_RECOVERED']++;
            ii.ELSE
                DATA['VACCINATED_DEATH']++;
        b.ELSE
```

```
            i.IF STATUS = RECOVERED
                DATA['NON_VACCINATED_RECOVERED']++;
            ii.ELSE
                DATA['NON_VACCINATED_DEATH']++;
    7.END
```

INPUT

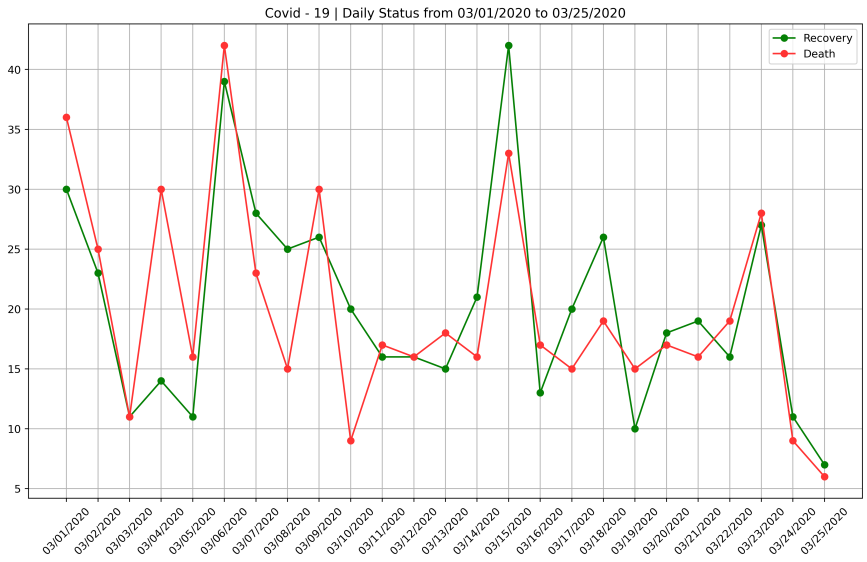
Input File : covidDataset.csv

	Date	Name of Patient	Age	Gender	Status	Vaccination Status	Latitude	Longitude
0	03/01/2020	Patty O'Furniture	25	Male	Recovered	Not Vaccinated	10.061928	76.331189
1	03/01/2020	Paddy O'Furniture	45	Female	Death	Vaccinated	10.060152	76.332410
2	03/01/2020	Olive Yew	2	Male	Death	Not Vaccinated	10.113783	76.356805
3	03/01/2020	Aida Bugg	72	Male	Recovered	Not Vaccinated	10.013015	76.367722
4	03/01/2020	Maureen Biologist	86	Male	Recovered	Not Vaccinated	10.031365	76.378523

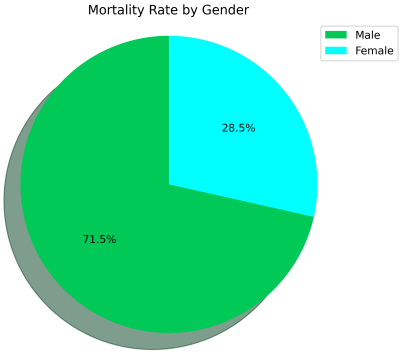
OUTPUT

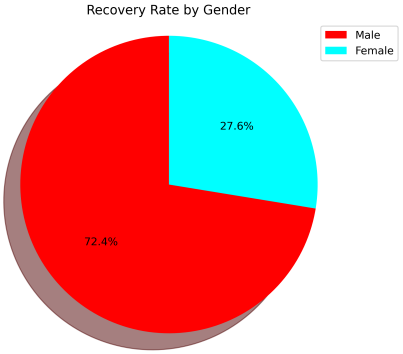
The project generates an HTML file with all the graphs, figures, and maps embedded in it.

Line Graph - Daily Analytic

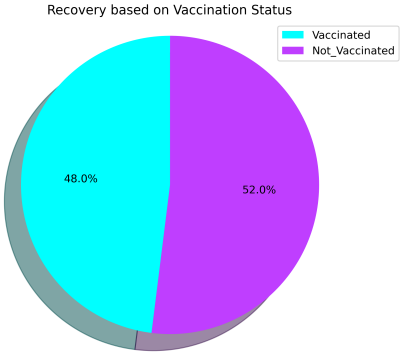


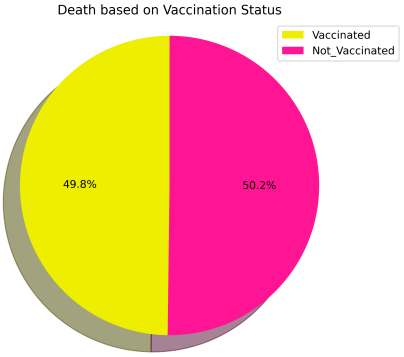
Pie Plot based on Gender





Pie Plot based on Vaccination Status





Map plotted with Covid Data