PANDEMIC TRACKER WEB APPLICATION USING DATA ANALYTICS

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ABSTRACT

Tracking of patients affected by the pandemic diseases all over the world is now a complicated process and also keeping track of the recovered, dead and affected people due to this pandemic is a tedious process. Here we are using Data analysis to keep track of these diseases. It is a process of inspecting, cleansing, transforming the data with the goal of discovering useful information, informing conclusions and supporting decision-making. This web application that will allow everyone visiting the website to see the up-to-date death records, recover and affected people details and also can see the future predictions of the increase and decrease rate of the dead, infected and recovered people using the graph given in the application by using predictive analysis. This process uses data along with analysis, statistics techniques to create a predictive model for forecasting future pandemic status. Predicting the future of the pandemic will be done by collecting the past few data and by using the prediction formula. The prediction will be to estimate the time period and probability such as how likely will be the drop or rise with respect to current situation. We are getting the details about these patients through different sources of Application Programming Interface.

Keywords: *Covid Tracker ,Data Analysis ,Predictive Analysis ,Data Virtualization ,Web App.*

I - INTRODUCTION

Data analysis is a process of inspecting, cleansing, transforming and modelling data with the goal of discovering useful information, informing conclusions and supporting decision-making. Data analysis has multiple facets and approaches, encompassing diverse techniques under a variety of names, and is used in different business, science, and social science domains. In today's business world, data analysis plays a role in making decisions more scientific and helping businesses operate more effectively. Tracking of patients affected by the pandemic diseases over the world is now an complicated process and also keeping track of the recovered, dead and affected people due to this pandemic diseases is a tidy process. So we planned to do an web application that will allow everyone visiting the website to see the up to date death records, recover and affected people details and also can see the future predictions of the increase and decrease rate of the dead, infected and recovered people using the graph given in the application. Predictive analytics is the process of using data analytics to make predictions based on data. This process uses data along with analysis, statistics, and machine learning techniques to create a predictive model for forecasting future pandemic status. The term predictive analytics describes the application of a statistical or machine learning technique to create a quantitative prediction about the future. Frequently, supervised machine learning techniques are used to predict a future value (How long can this pandemic diseases can affect people) or to estimate a probability (How likely this can drop or grow over time). Using the predictions algorithm it can graphically represent the details in a simple way for easy understanding. We're getting the details about these patients through different sources of Application Programming Interface (API).

II - METHODOLOGY

Using API's and Data Analysis we are collecting and analysing the complete updated data of the disease infected patients that can be view by all the people visiting our web application. With all this previously collected data, we are using those data to predict the future value of the pandemic disease.

Data Analysis:

The purpose of Data Analysis is to extract useful and updated information from data and taking the decision based upon the data analysis.

Predictive Analysis:

The predictive model is then used on current data to predict what will happen in the future, or to suggest actions to take for optimal outcomes of the rise in daily pandemic data.

Data Visualization:

Data visualization is the graphical representation of information and data. By using visual elements like charts, graphs, and maps, data visualization tools provide an accessible way to see and understand trends, outliers, and patterns in data.

III - MODELING

When a user accessing our web application a request to collect the up-to-date data can be sent to the web host server and the data will be fetched from the API and sends response to the user. The cache stores previously accessed data and file manager stores all the files used for the web application.

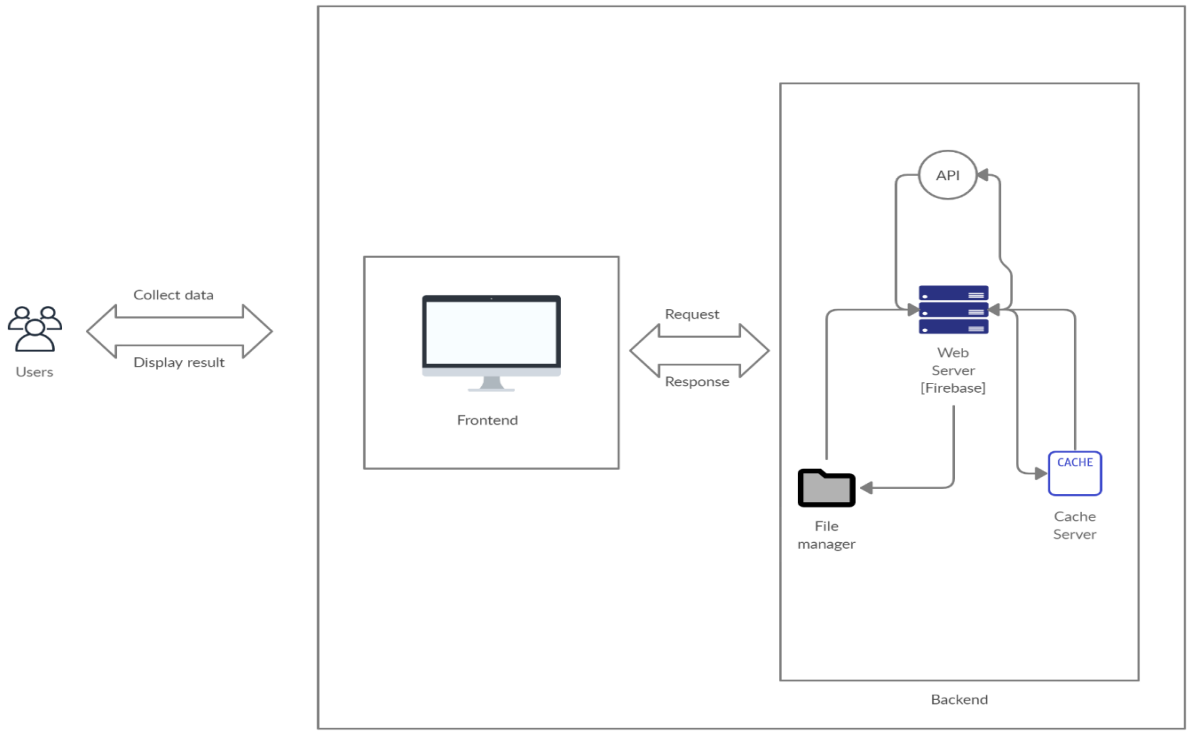

Figure 1: ER-Diagram of web application

IV – ANALYSIS

For (i.e.) study the number of cases for 15 days interval.

Find the daily Consecutive growth rate to get growth factor.

Growth Factor = Cases of Day n+1/Cases of Day n (take two consecutive intervals).

Then find average growth factor from the 15 days cases.

To find the next 30 days cases from the data of past 15 days.

y = ab power x.

a = Number of cases from which day we want to find.

b = Average growth factor.

x = to how many days we want to predict.

V - RESULT AND DISCUSSION

The data that displays in the web application can be easily visualize the infection spread all over the world and a particular country in the form of graph and map. We can also get data by country wise, through this data we use prediction formula to predict the increase and decrease of the pandemic outbreak in the forthcoming days to take necessary measures.

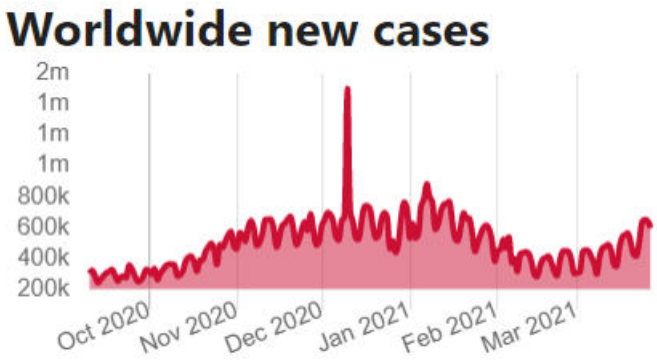

Figure 2: Graphical visualisation of worldwide data.

VI - CONCLUSION

Fetching the data from Application Programming Interface and by using the Data Analysis process we provide the accurate and updated daily count of the pandemic infections and also predicting the forthcoming causes with historical data by doing Predictive Analysis. Through the data virtualization users can easily see the grouth rate of the pandemic cases and take necessary measures in the required places.This approach will go for all the people because this web application is available in internet and almost everyone have internet and also this service is free of cost for everyone.

VII - REFERENCES

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