Assignment 5: Group Project Interactivity

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June 17, 2020

1 Introduction

At present, where University, Organization, Institution, Restaurant etc... Completely shut but except Hospitals which are working 24*7, yes its **COVID-19**. A pandemic which has shaken the economy of the world. As battle continues, data sets corresponding to the virus disease is collected around the globe. This concept paper is on the Topic: COVID-19 as part of the Assignment to the subject Module: Interactive Data Visualization which we here summaries about the DataSet of covid-19 disease used and visualization plus interaction provided to the end user.

2 Data Characteristics

The dataset characteristics are described in the Table 2. The dataset comprises data from different sources mentioned in Table 1. All the data are comprised in the file *owid-covid-data.csv* and the data is available as comma separated strings. The dataset contains 22873 records and 33 columns (on June 12, 2020). Also, dataset containing the polygons, used to form a World Map for representing geo spatial mapping information is sourced from Natural Earth (Admin-0 Countries).

European Centre for Disease Prevention and Control	National government reports
Department of Economic and Social Affairs	United Nations
World Population Prospects: The 2019 Revision	Population Division
OECD	Eurostat
World Bank – World Development Indicators, sourced from Food and Agriculture Organization and World Bank estimates	UN Population Division, World Population Prospects, 2017 Revision

Table 1: Sources

3 User and Task

The owid-covid-19-data DataSet captures information of disease spread and fatalities caused around the globe and also counter measure taken by respective countries.
Tasks for the Visualisation can be as follows:

- Visualisation of the graph of disease information country-wise Infected people, Fatality, Number of Test Conducted.
- Visualisation by comparison between the medical infrastructure of the country, fatality count, cases reported.
- Visualisation of this multivariate DataSet taking into account the country, cases reported, fatality, gdp per captital, beds per million etc.

Visualisation targeted Users can be as follows:

- Medical institution can use the visualisation to study curve pattern of the infection spread, specific to region and prepare stratergies for the future similar infection outbreak.
- Monetary Institution like: World Bank can estimate the impact of the losses of the particular region and aid respectively.

Data	Data Type	Description
iso_code	String	ISO 3166-1 alpha-3 (3 letter country codes)
continent	String	Continent name
location	String	Country name
date	String	Date of observation
total_cases	int64	Total confirmed cases of COVID-19
new_cases	int64	New confirmed cases
total_deaths	int64	Total deaths attributed
new_deaths	int64	New deaths
total_cases_per_million	float64	Total confirmed cases per one million people
new_cases_per_million	float64	New confirmed cases per one million people
total_deaths_per_million	float64	Total deaths per one million people
new_deaths_per_million	float64	New deaths per one million people
total_tests	float64	Total tests conducted
new_tests	float64	New tests conducted
new_tests_smoothed	float64	New tests (7 day smoothed). For countries not reporting data on daily basis.
new_tests_per_thousand	float64	New tests per thousand people
new_tests_smoothed_per_thousand	float64	New tests per thousand people (7 day smoothed)
tests_units	float64	Units used by the location to report the testing data
population	float64	Population in 2020
population_density	float64	Number of people divided by land area, measured in square kilometers, most recent year available.
median_age	float64	Median age of the population, UN projection for 2020.
aged_65_older	float64	Share of the population that is 65 years and older.
aged_70_older	float64	Share of the population that is 70 years and older in 2015.
gdp_per_capita	float64	Gross domestic product at purchasing power parity (constant 2011 international dollars), most recent year available.
extreme_poverty	float64	Share of the population living in extreme poverty, most recent year available since 2010.
cvd_death_rate	float64	Death rate from cardiovascular disease in 2017.
diabetes_prevalence	float64	Diabetes prevalence (% of population aged 20 to 79) in 2017.
female_smokers	float64	Share of women who smoke, most recent year available.
male_smokers	float64	Share of men who smoke, most recent year available.
handwashing_facilities	float64	Share of the population with basic handwashing facilities on premises, most recent year available.
hospital_beds_per_thousand	float64	Hospital beds per 1,000 people, most recent year available since 2010.

Table 2: Data Characteristics

- Hospitals and Medical Institution can stratergies to priorities medical attention to particular age group or people with chronic disease.
- Better planning medical infrastructure by government body for the future days.

4 Visulization Technique

Rajath & visvash

5 Interaction

Rahul

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