**Data Visualization Final Group Project Documentation**

**(Group Members: Gagandeep, Rohit)**

The group has successfully met all the requirements of the project rubrics as described below, along with specific examples.

**Quantity**

-We have satisfied the criteria of atleast 4 graphs (we are displaying 8)

**Quality/ Uniqueness**

-We have satisfied the criteria of atleast 3 unique graphs not from inclass or book. Our unique graphs are:

CircularBarplot, LollipopDiagram, TransmissionLifeCycle, CurveGraph and to an extent Globe Graph

**Overall Appeal**

-We have tried to organize and structure the project using a dashboard approach

-use of a menu bar for easy navigation, to navigate from anywhere to anywhere

-use of an external CSS, styling, html organizing elements as well as h1, p tags

-focussing on color schemes, ensuring contrast

-use of images that suitably reflects the topic/main theme of the project

-use of separate file/folder structure (eg: data subfolder) for .json, csv, external CSS file

-We have highlighted insights from the data depicted for getting comparative, qualitative analysis.

**Data Collection**

-We have used authentic genuine source of data researched from different sources like **Worldometer, WHO stats,**

**and stats researched from internet, google.**

-All json, csv files are neatly organized under the data sub-folder of our project

-**The csv file named usa.csv has 89 entries made through custom entries after researching for data, and carefully analyzing, grouping them on weekly basis. Likewise each graph has it's own data source, either json or csv with proper data structuring.**

-We have highlighted insights from the data depiction for analytical, comparative, qualitative analysis.

-There is significant interaction with data :- scaling, resizing of graphical elements as per numeric weight of data; eg: area under pie chart slices(PieChart), rise/dip of curves(CurveDiagram), height of lollilop sticks(LollipopDiagram), radius of circles(CircleDiagram), labelling of elements using data-fields(GlobeGraph), branching of data through parent-child relationships of hierarchal data(CoronaVirusFamily) etc

-**d3.nest function** is used in graph of CoronaVirusFamily to show nested hierarchies.

**Data Visualization**

-We have used multiple graphs and layouts like slices in PieChart; nodes and edges in CoronaVirusFamily tree diagram; GeoJSON and spatial presentation in GlobeGraph; vertical strands in Lollilop Diagram; radial sectors in CircularBoxPlot diagram, comparative circle radii in CircleDiagram etc

-We have used type of graphs that best match to the type of data we want visualize in each case. Example: using branched tree diagram for showing Coronavirus family; GeoJSON for spatial/topographial analysis; lollilop strands/circles for comparing numeric weights; a curve for showing rate of increase/ decrease

-We have satisfied the criteria of atleast 3 unique graphs not from inclass or book. Our unique graphs are :

CircularBarplot, LollipopDiagram, TransmissionLifeCycle, CurveGraph and to an extent GlobeGraph;

and incorporated layouts not seen in the class such as CircularBoxPlot; a week-by-week basis CurveDiagram; an animation/ transition for depicting lifecycle; use of lollipop strands with button clicks for comparisons, analysis and insights.

**D3 Component Use**

-We have used multiple D3 components such as d3.nest, labels and textual elements, axis(both X and Y) with appropriate tick-sizes, legends etc.

-We have used color coding of labels for both informative and styling purposes such as red color labelling in GeoJSON GlobeGraph; color coding of circles in animation of Transmission Lifecycle Diagram(from green to red via yellow and orange); all nodes at the same depth of the tree diagram having the same color

**Interactivity and Transitions**

-There is significant interactivity. Example:- Each circle in the Circle Diagram is clickable with display of it's specific information;

the Coronavirus Family tree diagram has pan, zoom functionality.

In the Lollipop diagram, user can compare Indian and Canadian scenarios through two button clicks events.

Creation of lollipop strand are animated.

Coronavirus Lifecycle Diagram is animated.

Also, there is use of beautiful, meaningful transitions and animations. Example: In the Coronavirus Lifecycle Diagram where the user can easily understand the sequence of virus spread and the corresponding severity through color coding( change of color from green to red through yellow and orange); In Lollipop Diagram, two adjacent buttons are placed to quickly switch between and compare/analyze Indian and Canadian scenarios.

**Others**

-We have chosen a contemporary topic/theme with contemporary real-world value/utility

-Research on data source, nesting, grouping, comparisons etc. was carried out

-We have brought forward contrasting features, comparisons, analysis, and trends and explicitly mentioned them. Example: In Lollipop Diagram, In week-by-week basis Curve Diagram, multiple insights in Circular Boxplot Diagram

-We neatly documented, structured, and presented our work

**Conclusion: -**

Thus we have incorporated features of data research, structuring , visualization, data analytics, presentation, documentation, interactivity and transitions, d3.nest, exceeding minimum number of graphs and minimum number of unique graphs; focused on overall appearance , design and layout; appropriate usage of file, folder, directory structures in project work etc. besides meeting other requirements of the project rubrics.