Data Visualization

Phase 2

Group – 15

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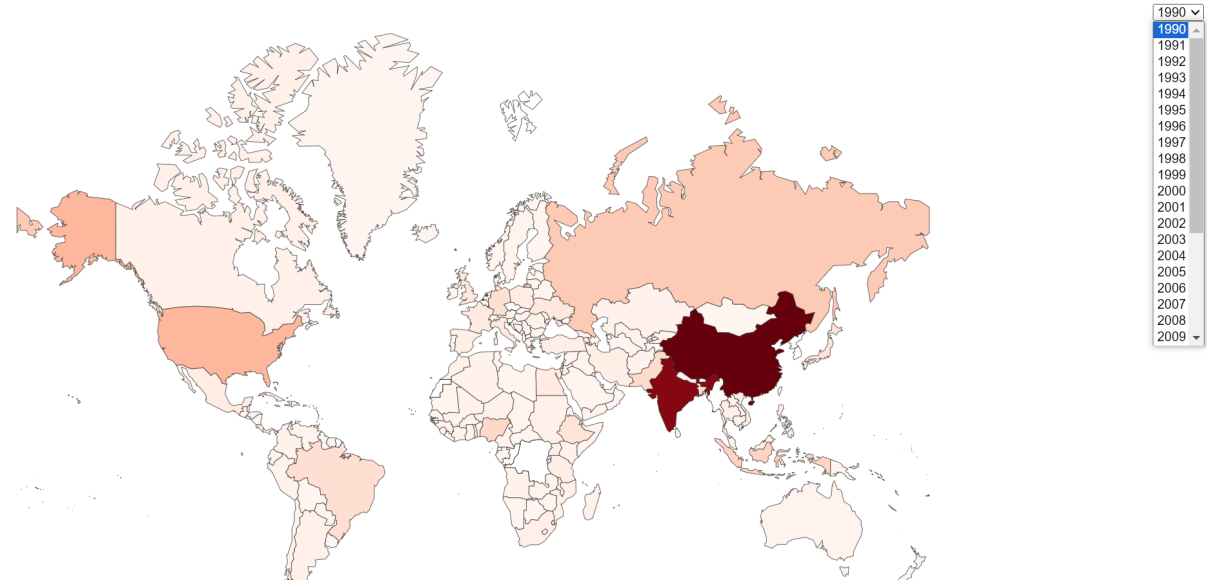
Title: Global Disease Mortality & Economic Impact: A Country-Level Analysis

- **Sketch of the design in D3JS (HTML)**

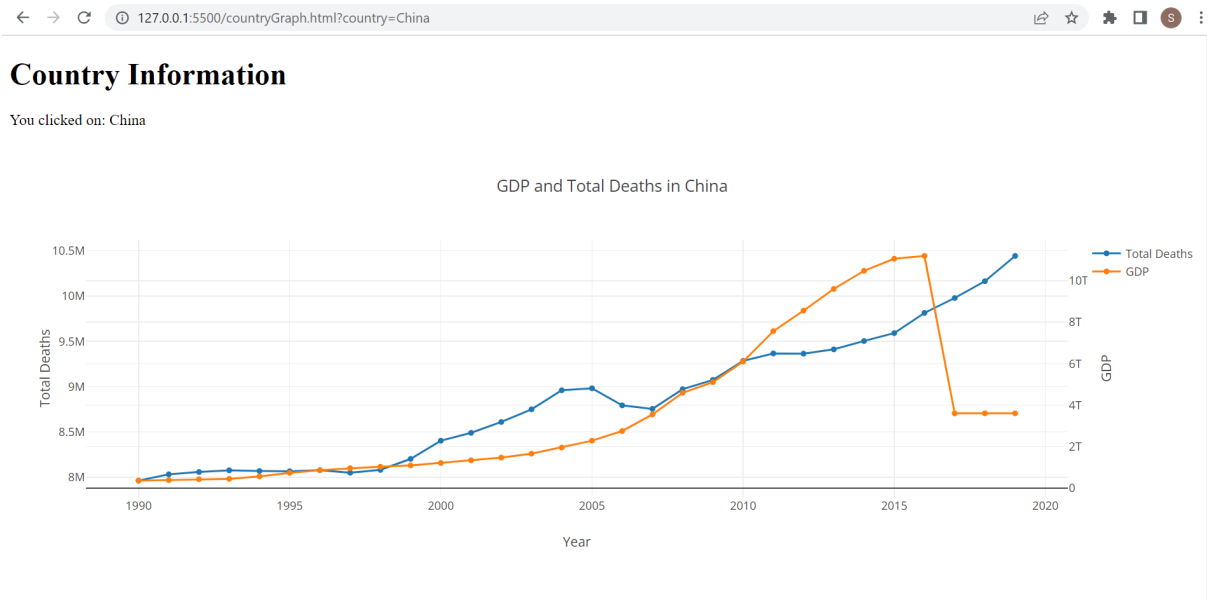


The figure above represents a world map on the **index page**, color-coded with the **total number of deaths** for the selected year, which defaults to 1990. **Mark** : Area 2-D(Countries on the map); **Channel** : Color

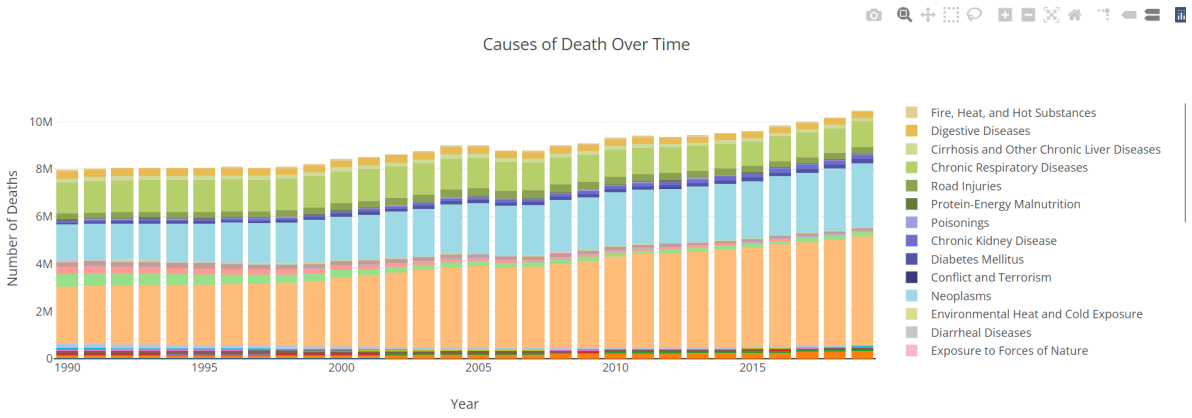
On click of any country, the **countryGraph.html** is displayed which contains two maps for the selected country:

(1)GDP and total deaths

(2) Causes of death over time



Marks - Text, Point, Line; **Channel** - Position on unaligned scale



Mark - Line, Area; **Channel** - Color hue

- **User interaction (HTML)**
  - Used HTML dropdown menu where the users can select the year for which the total deaths across each country is color coded.
  - Used Vanilla js to add mouse events “mouseover” and “mouseout”. When the user hovers over any country, the country name and total deaths in that year is shown in the tooltip.
  - Also added a click event where the user can click on any country it is navigated to another webpage where we show 2 graphs i.e GDP vs Total deaths and Cause of deaths over the years for that country.
- **Progress report document (.doc) + code (.py, .ipynb, .js or java)**
  - Data Collection - Collected data “world.geojson” - to draw the geo map, “cause_of_death.csv” - containing the number of deaths caused 32 different diseases across the countries over the years 1990 - 2016, “gdp_csv.csv” - containing GDP values of all countries over the years.

    - Data Preprocessing - (1) Looked for Null or duplicate values in the in each of the datasets. (2) Merged the “causes_of_deaths.csv” and “gdp_csv.csv” based on Country Name using left join. (3) We encountered Null gdp values for some counties and populated it with the mean values. (4) We sorted the dataset by year, grouped by country.
    - We used this final dataset and produced visualisations using d3.js.
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- **Description of the steps or tasks remaining from the complete project (.doc)**
    - User interaction like zoom, hover effect, transforms for map and graphs.
    - Visualisation positioning like size and placement of graphs and maps.
    - Additional visualisation - planning to add one more graph for the effect of obesity on total deaths.