Project Proposal

Title: Visualizing Global COVID-19 Spread

Team Members:

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Overview

The goal of this project is to illustrate the global spread of COVID-19 since its outbreak in early 2020. It will use interactive data visualizations and scrollytelling to depict the progression of confirmed cases and deaths across different countries over time. The goal is to develop a compelling graphic that will help visitors comprehend the scope and severity of the pandemic.

Data

The main dataset will be the COVID-19 dataset from Our World in Data, which contains daily time-series data on confirmed cases, deaths, and tests for different countries. Additional data on government responses and mobility may be incorporated to show their impact. The data will be preprocessed for analysis and visualization.

Here is some candidate dataset from web:

https://ourworldindata.org/coronavirus

https://www.kaggle.com/datasets/imdevskp/corona-virus-report

https://health.google.com/covid-19/open-data/

Tasks

- Compare growth trends of COVID cases and deaths globally
- Analyze differences across geographic regions and countries
- Explore impact of policy interventions in different countries
- Examine trends for specific countries based on user selection

Idiom

Visualizations

- Animated choropleth map to show spread over time
- Interactive line chart to compare cases and deaths for different countries
- Bar/column charts to compare regions
- Scatterplot to show testing vs case growth

Interactions

- Hover tooltips and markers
- Time slider to animate over time
- Dropdowns to filter by country and metrics
- Details on demand to drill down on country-specific data

Innovative Visualization

- A bubble map that sizes bubbles based on case counts and animates to show change over time. This can showcase relative sizes and growth in an intuitive way

Algorithms

- An algorithm used to smooth transitions between two time steps.
- Sort algorithm to sort data by time.
- A logarithmic function to calculate color differences.

Schedule

- Week 11: Data collection and preprocessing
- Week 12-13: Initial visualization design and development

- Week 14: Program testing
- Week 15: Adjust visualization and interactions

Team Roles

Data collection and process: Hao Zhen

Data Visualization: Hao Zhen

Data Interaction: Akki Kishore

Html framework: Akki Kishore