**Project Proposal: Interactive Dashboard on Global Inflation Trends**

**Group 1:** Uma Selvaraj (Team Lead), Bailey Strauch, Zejing Liang, Wendy Ware

**Project Overview**

Our project aims to create an interactive dashboard that visualises global inflation trends from 1980 to 2024. Utilising the dataset sourced from Kaggle, we will provide insightful visualisations that allow users to explore inflation data by country and year, as well as investigate factors influencing inflation.

**Dataset**

**Source:** Global Inflation Data on Kaggle (https://www.kaggle.com/datasets/sazidthe1/global-inflation-data)

**Records:** Approximately 196 countries

**Timeframe:** 1980-2024

**Objectives**

1. Visualise Global Inflation Trends:

* Create a dropdown selection for countries to display time series data from 1980 to 2024.
* Display country-specific statistics and metadata.

1. Heatmap Visualisation:

* Implement a dropdown selection for years to show a heatmap (Choropleth Map) scaled on inflation rates.

1. Research on Influencing Factors (time permitting):

* Conduct original research to identify and visualise factors influencing inflation.

**Key Features**

1. Title and Introduction:

* Title of the dashboard
* An introductory image
* A brief blurb about the project
* Links to data sources

1. Country-wise Inflation Trends:

* Interactive dropdown for country selection
* Time series visualization of inflation rates from 1980 to 2024
* Calculation and presentation of country-specific statistics and metadata

1. Year-wise Heatmap:

* Interactive dropdown for year selection
* Choropleth map to visualize global inflation rates for the selected year

1. Factors Influencing Inflation:

* Original research to explore and present factors influencing inflation
* Visual representation of these factors

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**Figure 1.** Dashboard Mock-up

**Technology and Tools**

* **Programming Languages:** Python, JavaScript
* **Libraries:** Matplotlib, Pandas, Plotly, Leaflet, and at least one additional visualization library not covered in class (e.g., D3.js or Bokeh)
* **Database:** PostgreSQL (for storing and querying the dataset)
* **Backend:** Flask (for serving the interactive visualizations)

**Ethical Considerations**

* Ensure data privacy and accuracy
* Transparent and ethical use of data sources
* Provide clear references and credits for data and code used

**Team Collaboration**

* Regular meetings and communication via Slack
* Task management using GitHub Projects
* Documentation and code sharing on a dedicated GitHub repository

**Deliverables**

* An interactive dashboard with the described features
* A comprehensive README.md file with project overview, instructions, ethical considerations, and references
* A group presentation summarising our findings and demonstrating the dashboard

**Timeline**

