Exploring the Interplay of Health, Wealth and Demographics

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Project goal: This project aims to develop an interactive web-based visualization that allows users to investigate the complex relationships between a nation's population, its economic output (GDP), its investment in health (Health Expenditure), and the overall well-being of its citizens as reflected in Life Expectancy. By presenting multiple interconnected views of this data, we intend to uncover potential correlations, highlight disparities, and illustrate development trends across countries and over time.

Project scope:

1. **Dataset**: The project will be powered by a dataset sourced from the World Bank Open Data platform (https://databank.worldbank.org/source/world-development-indicators). This platform provides historical data for numerous countries across the selected indicators, ensuring a dataset well exceeding 100 records. The primary data source focusing on the following indicator categories:
    a. Population (Total)
    b. GDP (Current US$)
    c. Health Expenditure (% of GDP or Current US$ per capita)
    d. Life Expectancy at Birth (Total)
2. **Database:** Data on Population, GDP, Health Expenditure, and Life Expectancy will be stored in and extracted from an SQLite database for efficient data management and querying.
3. **Visualization:** Present data through interactive charts built using JavaScript.
4. **User-Driven Interaction:** The project will include several levels of user interaction: Our initial ideas are:
    a. **HTML Dropdowns:** To allow users to select specific countries or regions for comparison across different visualizations.
    b. **Interactive Charts:** Enabling zooming, panning, and displaying tooltips with detailed data points on all charts.
    c. **Time Range Selection:** Potentially incorporating a slider or dropdown to filter the data displayed within a specific time period.
5. **Three views:** Our initial ideas on the final visualization will incorporate at least three distinct views:
    a. **Time Series View:** Interactive charts displaying the trends of Population, GDP, Health and Life Expectancy for selected countries over time, allowing users to compare their trajectories.
    b. **Correlation View:** Interactive scatter plots visualizing the relationships between pairs of indicators (e.g., Health Expenditure vs. Life Expectancy, GDP per Capita vs. Life Expectancy) for a chosen year or across a time range, with countries as data points.
    c. **Global Distribution View (Leaflet Integration):** An interactive map of the world where users can select an indicator and a year to see the geographical distribution and potential clustering of high and low values.

Breakdown of Tasks:

No	Tasks
1	Project ideation / Data Exploration
2	Data Extraction / Data Cleaning
3	Data Integration and Database Population
4	Basic Interactive Charting
5	ReadME / GitHub Management
6	Presentation