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Computer Science 171: Visualisation

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Goals For Final Project:

We aim to observe the correlation between energy consumption, GDP per capita, and potentially even pollution rates. We could even display trends throughout the years. Recent efforts to reduce energy consumption have led to decreased rates of C02 emissions in industrial countries. However, pollution and climate change are prominent problems that are destroying the environment as well causing serious health problems throughout the world. Our visualization seeks to shed light on these issues. We hope that our visualization(s) will encourage others to decrease unnecessary energy consumption (especially in first world countries) such as the US; we also hope to discourage the use of unclean energy (common among third world countries). Additionally, we hope to project future trends for electricity consumption and carbon emissions to better gauge how much damage climate change could cause if there is no unified effort for prevention in the near future.

We’d also like to determine if there is a significant correlation between C02 emissions and electricity consumption based on the GDP per capita for each country. We hypothesize that the higher the GDP per capita, the more C02 emissions and the more electricity consumption in each country. On the other hand, we hypothesize that the lower the GDP per capita, the lower the C02 emissions and electricity consumption per country. If this is in fact the case, we’d like to showcase this data in a bar graph (or possibly a some more advanced visualization) and highlight this correlation. We believe that allowing people to see how their countries contribute to energy consumption and C02 emissions in relation to other countries will encourage them to be more mindful about both of these issues.

There are a variety of different ways that we plan to tackle this visualization. At the moment we haven’t decided on all of them. However, we intend to do a choropleth map i.e. a topographic map, and make it colored (similar to the way implemented the midterm), add a legend, and be able to show GDP, Electricity Consumption, and C02 Emissions. If we can make it so it’s a globe that rotates when dragged that would be ideal, and perhaps an updating visualization also for new data could be a potential follow up. As of now, we’d created three different visualizations on paper that we would like to eventually implement. We’ve sketched the images out by hand and then shared them with each other so that each member of the team can try to create visualizations that compliment the other. The harder part will actually be implementing these visualizations.

As of now, we have yet to finalize the background design and the placement of all the information we would like to convey in this visualization. However, this step will naturally follow the creation of our actual visualizations. After many of them have been created, we’d like to work together to decide the layout of the project and the orientation of the images/visualizations that we end up including the final project.