Team Members:

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Topic:

Project proposal: We are looking at data collected by the Food and Agriculture Organization of the United Nations (FAO) on <http://www.fao.org/faostat/en/#data>.

Primarily we are looking at the data set through 3 main categories namely Population of world, crop production and agricultural emissions. 3 categories are chosen as the complete data set is 20 gigabytes in size.

Before industrialization era all over the planet agriculture was and still is one of the most important area to explore its trends and its future. We will use backends, databases and frontend services to display data visualizations on a webpage.

Objective:

1) We want to explore patterns in crop production and population growth along with change in emissions over the period. Discovering interrelation and visualize on timescale.
2) Agriculture is also huge contributor to emissions of gases such as methane, carbon di-oxide etc. We want to visualize how it has changed over the period, and which country is biggest or least contributor.

Summary:

Population is increasing and so is their demand for food, this increasing population puts strain on available agriculture land for maximum production. This production triggers emissions. It is interesting to look at these inter-related subjects to uncover trends.

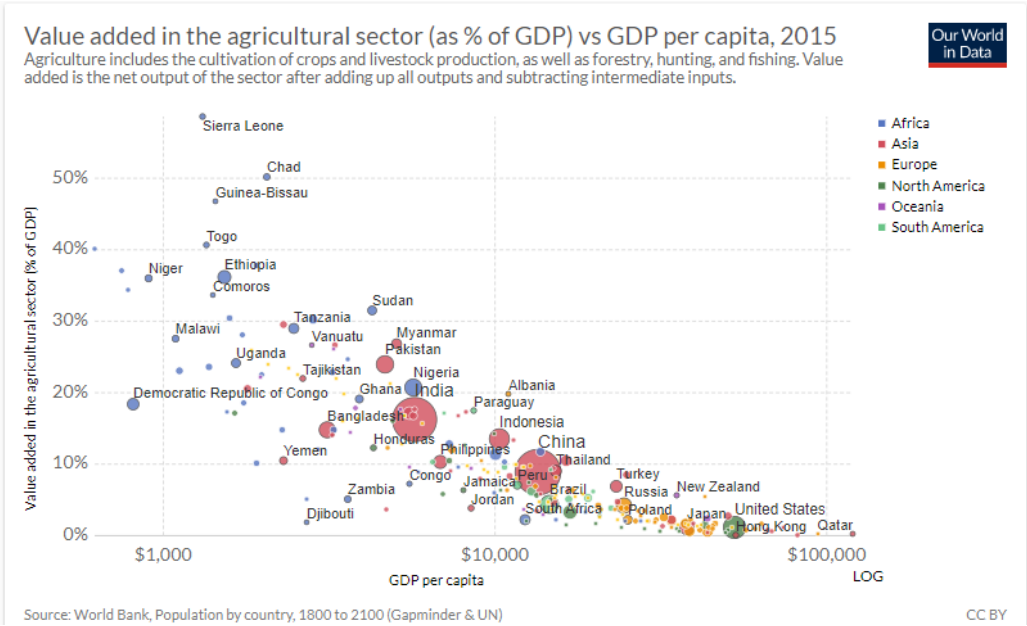
Technology we will use:

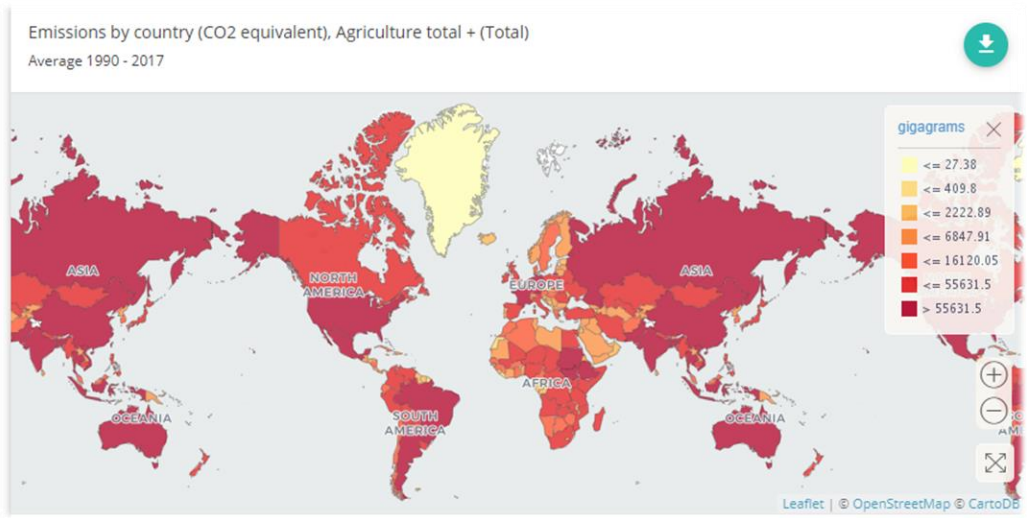
A) We will be using
    1) Python
        i. Pandas
        ii. SQLAlchemy
        iii. Flask
    2) PostgreSQL
    3) HTML/CSS/Javascript
        i. D3.js
        ii. Leaflet
        iii. Plot.ly.js
        iv. 1 additional library, to be found later

Visualization:

World map will be used, and our data will be visualized on top of it, we will use heat maps, sliders for timescale, chloral path for interactive mapping.

- Inspiration:





Data links:

1) Crops link and meta data

   a) http://www.fao.org/faostat/en/#data/QC
   b) http://www.fao.org/faostat/en/#data/QC/metadata

2) Population link and meta data

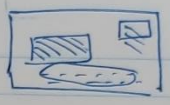
   a) http://www.fao.org/faostat/en/#data/OA
   b) http://www.fao.org/faostat/en/#data/OA/metadata

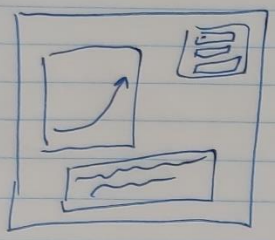
3) Total Agriculure meta data

   a) http://www.fao.org/faostat/en/#data/GT
   b) http://www.fao.org/faostat/en/#data/GT/metadata

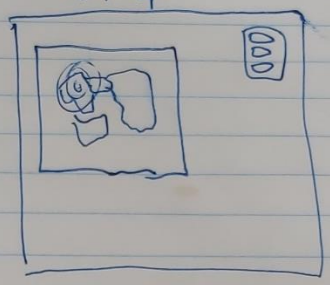
Project : 2.

Ideas :-

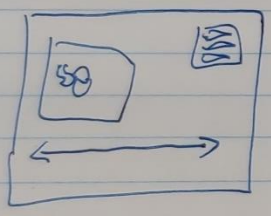




heatmap



slider



1) Population ✓
2) Crops ✓
3) emmission ✓ (CO_2 / Gas)
4) ~~meat & dairy~~
5) ~~Food aid~~

1) World wide visualisation
2) compare population, ~~emission~~, crops
3) → visualise increase in population & crops. how growth in population causes growth in agricultural production across countries?
   → total agriculture emission, uncovering relation between agricultural output & emissions.