world happiness by brimless-yankee

Project objective

Our objective for this project is to look for patterns relating national 'happiness' levels with a number of other indicators and datasets—including concentration of top-ranked world universities within a country, terrorist incidents, GDP/GDP per capita, and so on. We plan to use D3.js to visualize our data, and Bootstrap as our front end framework.

Datasets used

QS World University Rankings (2016-2017)
The Human Freedom Index (2013-2016)
Global Terrorism Databse (1970-2017)
World Happiness Report (2015-2019)
Unemployment, total (% of total labor force) modeled ILO estimate)
      (1991 - 2019)

All datasets are stored in the GitHub repository.

Roles

> Ahmed Sultan (AS) : Project Manager, frontend
> Joseph Yusufov (JY): D3, backend, data management
> Vishwaa Sofat (VS): D3, backend
> Nahi Khan (NK): D3, backend

  I.   Minimum Viable Product
        A. FRAME OF REFERENCE: 2016
        B. Statistical unit: country, happiness vs. X
              1. Happiness vs. Number of Terrorist Incidents
              2. Happiness vs. Unemployment, Total
              3. Happiness vs. Concentration of Top Universities
              4. Happiness vs. GDP per capita (and GDP Effect)
              5. Happiness vs. ROL (Rule of Law)
 II.   Extra Features
        A. QS World University Rankings
              1. Geographical heatmap of world university concentrations
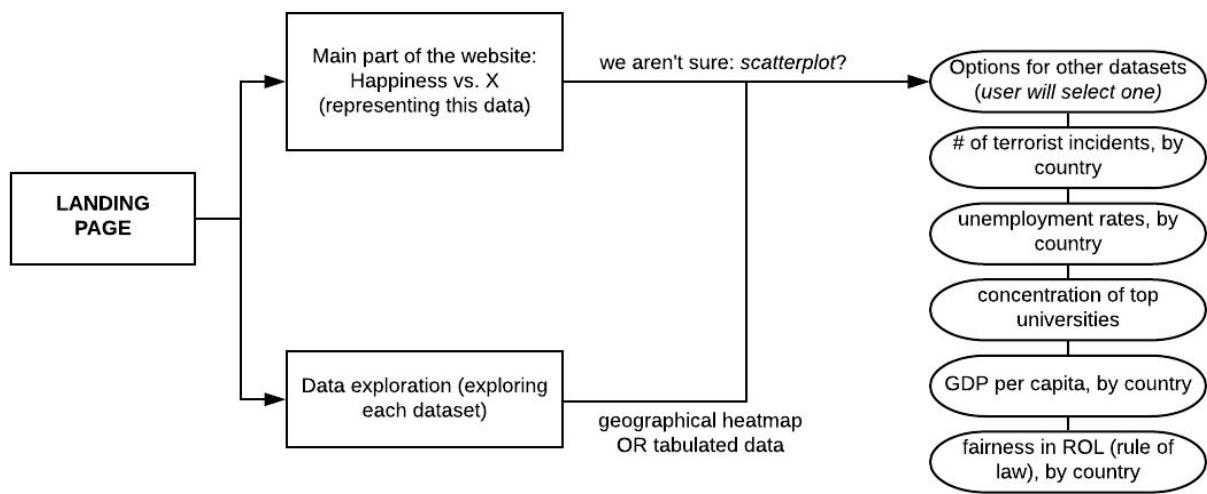   B. Global Terrorism Database
              1. Line graph depicting trend of terrorism
              2. Geographical heatmap of terrorist incidents
        C. World Happiness Report
              1. Geographical heatmap of 'happiness' levels

SITEMAP

```
                    ┌──────────────────────────┐
                    │  Main part of the website:│   we aren't sure: scatterplot?    ╭──────────────────────────╮
              ┌────▶│  Happiness vs. X          │─────────────────────────────────▶│ Options for other datasets│
              │     │  (representing this data) │                                   │ (user will select one)    │
              │     └──────────────────────────┘                                   ╰──────────────────────────╯
┌───────────┐ │                                                                     ╭──────────────────────────╮
│  LANDING  │─┤                                                                     │ # of terrorist incidents, by│
│  PAGE     │ │                                                                     │ country                   │
└───────────┘ │                                                                     ╰──────────────────────────╯
              │                                                                     ╭──────────────────────────╮
              │                                                                     │ unemployment rates, by    │
              │                                                                     │ country                   │
              │                                                                     ╰──────────────────────────╯
              │     ┌──────────────────────────┐                                   ╭──────────────────────────╮
              └────▶│ Data exploration (exploring│                                  │ concentration of top      │
                    │ each dataset)             │                                   │ universities              │
                    └──────────────────────────┘                                   ╰──────────────────────────╯
                          geographical heatmap                                      ╭──────────────────────────╮
                          OR tabulated data                                         │ GDP per capita, by country│
                                                                                    ╰──────────────────────────╯
                                                                                    ╭──────────────────────────╮
                                                                                    │ fairness in ROL (rule of  │
                                                                                    │ law), by country          │
                                                                                    ╰──────────────────────────╯
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COMPONENT MAP

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┌────────────────────────────┐        ┌────────────────────────────┐
│        __init__.py          │        │                            │
│ D3 will plot the data that is│◀──────│        data.py             │
│ requested (happiness vs.    │        │ Reads through the .csv files.│
│ various options, dataset    │        │                            │
│ representation). Flask app  │        │                            │
│ will manage routing, etc.   │        │                            │
└────────────────────────────┘        └────────────────────────────┘
              ▲                                       ▲
              │                                       │
              ▼                                       │
┌────────────────────────────┐        ┌────────────────────────────┐
│        HTML/Jinja           │        │        /data               │
│ Front-end framework         │        │ Our datasets are all stored │
│ presents the pages to the   │        │ in this directory, in the form│
│ user and provides a way     │        │ of .csv files.             │
│ for users to interact with  │        │                            │
│ the data and D3's           │        │                            │
│ visualizations              │        │                            │
└────────────────────────────┘        └────────────────────────────┘
```