DATA ANALYTICS PROJECT 2
INTERACTIVE VISUALIZATION OF DATA
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Cesar Serrano
Yeonjae Riyoon
Maria Sierra Lizarazo
Jeongdae Kwak
Aaron Gold

1. Project Background and Description

Our group set out to create a dynamic, user-interactive dashboard showcasing inspiring women from around the world through the means of the world map, graphs, and other visually pleasing tools.

Our most up-to-date data sources:

- BBC 100 Women 2020

  o *https://github.com/rfordatascience/tidytuesday/tree/master/data/2020/2020-12-08*

  o Women.csv (*https://raw.githubusercontent.com/rfordatascience/tidytuesday/master/data/2020/2020-12-08/women.csv*)

- World Records from World Athletics
  o https://www.worldathletics.org/records/by-category/world-records

2. Project Scope

Applicable Skills
Mapbox, HTML/CSS, D3, Javascript, Matplotlib, MongoDB

Extract Data
We will webscrape these data sources to extract the select necessary data and translate these into an interactive and intuitive visualization tools.

From the BBC data, we will webscrape the following:
- Name
- Category
- Description
- Country
- Role
- Image

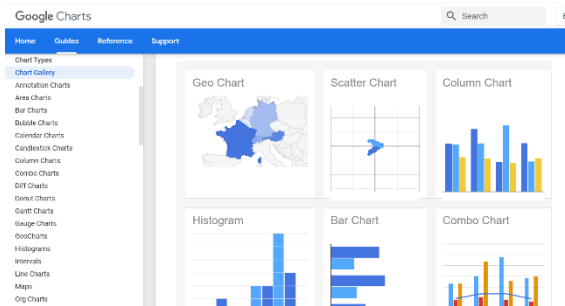From the World Records data, we will webscrape the following from Women Outdoor and Women Indoor:
- Competitor
- Country
- DOB
- Date

With the extracted Data, we will then use D3, HTML/CSS and possibly Matplotlib to create visually pleasing graphs, Mapbox to create an interactive map, and Javascript to create the overall look of the dashboard.

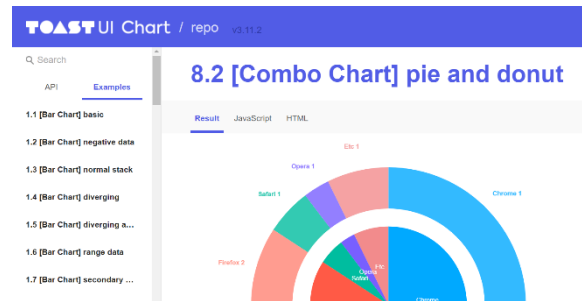# Create Visualization Tools using the following resources and inspirations:
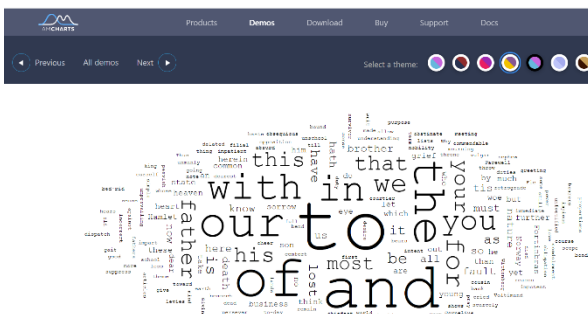
- **Google Cart Gallery for Developers**
  https://developers.google.com/chart/interactive/docs/gallery

- **Toast UI Chart Repo**
  https://nhn.github.io/tui.chart/latest/tutorial-example08-02-combo-chart-pie-and-donut

- **amCharts**
  https://www.amcharts.com/demos/word-cloud/?theme=kelly

- **Twitter Sentiments Repo**
  https://github.com/Lissy93/twitter-sentiment-visualisation

3. Deliverables

Dashboard

This dashboard will be developed in a Flask application with the following pages:

- Index page:
  The index website will contain a word cloud with inspirational and motivational words. Also, it will have 3 cards than will allows the navigation to the other pages.

- Maps page:
  The maps page will allow to load the data and displays a map with the location of each woman in the Woman of 2020 list. It will also have Ice cream cones with pop-ups containing the women's pictures and profiles

- Timeline page:
  A webpage that will allow the scrapping of the data from World Records from World Athletics, and will display a timeline of female athletes' achievements over the years, with description pop-ups.

- Graphs and statistics page:
  o Women by category
  o Women by continent (pie chart)
  o Female athletes by age (scatter plot)
  o Most commonly occurring roles (word map)

Rough Draft of the deliverables:

INSPIRATIONAL WOMEN

WORD MAP

MAP | Time line | Plots and statistics

INSPIRATIONAL WOMEN
2020 WOMEN

MAP

picture | description

INSPIRATIONAL WOMEN
SPORTS DATA

Timeline

Achievement

INSPIRATIONAL WOMEN
STATISTICS

GRAPHS
- Women per category
- Women per continent (pie)
- Age (athletic) – Scatter