DATA ANALYTICS PROJECT 2

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INTERACTIVE VISUALIZATION OF DATA

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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
  + <https://github.com/rfordatascience/tidytuesday/tree/master/data/2020/2020-12-08>
  + Women.csv ([*https://raw.githubusercontent.com/rfordatascience/tidytuesday/master/data/2020/2020-12-08/women.csv*](https://raw.githubusercontent.com/rfordatascience/tidytuesday/master/data/2020/2020-12-08/women.csv))
* World Records from World Athletics
  + <https://www.worldathletics.org/records/by-category/world-records>

1. 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 | * Country |
| * Category | * Role |
| * Description | * Image |

From the World Records data, we will webscrape the following from Women Outdoor and Women Indoor:

|  |  |
| --- | --- |
| * Competitor | * DOB |
| * Country | * 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   Graphical user interface, application  Description automatically generated<https://developers.google.com/chart/interactive/docs/gallery> | * Toast UI Chart Repo   **A picture containing chart  Description automatically generated**<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>  A picture containing text  Description automatically generated | * Twitter Sentiments Repo   **Graphical user interface, website  Description automatically generated**<https://github.com/Lissy93/twitter-sentiment-visualisation> |

1. 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:
  + Women by category
  + Women by continent (pie chart)
  + Female athletes by age (scatter plot)
  + Most commonly occurring roles (word map)

**Rough Draft of the deliverables:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Graphical user interface  Description automatically generated** | **Graphical user interface, website  Description automatically generated** | **Timeline  Description automatically generated** | **Graphical user interface, application  Description automatically generated** |