Group Name : Team India

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Render URL: https://groupindia.onrender.com/

Introduction

Django is a python-based open-source web framework that adopts MTV's framework pattern, namely model M, view V and template T. Django has complete functions and complete elements, comes with a large quantity of tools and frameworks, and has powerful database access components. It has outstanding advantages and is very suitable for making web pages. Using this architecture, programmers can easily and quickly create high-quality, maintainable, database-driven applications. Our task is to complete the development of a web app under the framework of Django based on the given open data.

Data and Processing

The open data we are assigned is a set of monthly climate data from 1880 to 2016 at different longitudes and latitudes around the world. Each piece of data contains three variables, time, precision, and dimension. There are tens of thousands of data samples. Since the task limit is 2,000 to 7,000 pieces of data, it would be seriously exceeding the standard to treat each climate data as a piece of data, but we do not plan to cut a part of the data. We choose to treat the global data of each month of the calendar year as one, so that the data sample size just falls within the required range.

Web page structure and implementation

The webpage we designed includes a homepage, years, climate data, dashboard and we have included the downloading option for the data's of the specific years. The home page briefly explains the source, context, content that are available in the database. The years page shows the years which contains the temperature data. The dashboard page shows the comparison between the temperature of the two different years. Those comparisons are shown in the line graph. The line graph shows the climate change trend of the selected year, and the map shows the change of the current month's climate with latitude and longitude. Most of the code is written in python, and the parts containing images we used JavaScript. We have used Django for handling the datasets because Django has a built-in ORM framework, it does not need to be directly oriented to database programming, but to define model classes, and complete the addition, deletion, modification, and query operations of data tables through model classes and objects.

Reference

https://groupindia.onrender.com/years/ the website of the data we used.
Run our code using the codio of our team member: TAMUNOIBI MIEBAKA-OGAN(52214410)