# Project : Data Visualization With D3

# Overview: Interactive Map of UK with Town Data and Animation

This project is an interactive web application that uses Leaflet.js and D3.js to display a dynamic map of the UK. It allows users to explore towns with real-time interactivity, animations, and data fetched from a backend API.

## Key Features

1. **Dynamic Map Display:**

* A map of the UK is rendered using Leaflet.js.
* Towns are visualized as animated circles based on their geographic coordinates (latitude and longitude).

1. **Interactive Controls:**

* A slider lets users adjust the number of towns displayed dynamically.
* A reload button fetches updated town data from the backend.

1. **Town Information:**

* Hovering over a circle displays a tooltip with the town's name, population, and county.
* Circles "bounce" on initial appearance and expand/contract when hovered over for visual engagement.

1. **Backend API Integration:**

* The backend API provides town data based on the requested count ([http://34.147.162.172/Circles/Towns/{number}](http://34.147.162.172/Circles/Towns/%7bnumber%7d)).
* The API returns the town data in JSON format, including:
  + Latitude and longitude.
  + Town name.
  + Population.
  + County.

1. **Responsive Layout:**

* The layout includes a fixed title at the top and controls at the bottom, ensuring the map is fully interactive in the remaining space.

A map of the uk

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