CT30A2910 Introduction to web programming

Project 2 Statistic portal

Miro Rahkonen 0561542

For this project I created an interactive map using the Leaflet library with a possibility to show charts for different municipalities showing their election data of support for 8 of the main Finnish political parties. For showing the chart I used the javascript library Frappe. I used the open data API [Tilastokeskus](https://statfin.stat.fi/PxWeb/pxweb/en/StatFin/) to get election data about the different Finnish municipalities. I combined the municipality data with the Leaflet library and Frappe chart to visually show the data to the user.

For showing the map I used the Leaflet library which makes it quite easy to make customizable maps with varying information. To add the borders for the Finnish municipalities I used the geoJson-data supplied by a geo.stat.fi API, which was featured in exercise 5. Using this API, I was able to fetch the borders for every Finnish municipality and I added additional information into the regions. I used the Leaflet library’s bindPopup-feature to show the most important information about that region when clicking on it which also includes a link to a separate website showing a chart about relevant information. To show the municipality name when hovering over a region I included the bindTooltip-feature to popup a message.

To get the data for the elections map I used the Statfin (Municipality party support elections data for 2017) API, which provided the voting percentages for each of the 8 main parties within Finland. After fetching the provided data, I set the data into each of the individual municipalities and noted some of the most important data, such as the percentage of voters, biggest party, and votes for the biggest party. I colored the overlay of the municipality regions based on their biggest supported party, so the municipalities are colored differently indicating which party is supported there the most.

For creating the chart, I used the Javascript-library Frappe. By clicking the link inside the list in the map’s municipality, the page is changed to the chart website and a parameter of the municipality’s name is used to search for the appropriate data for that municipality. I used the Statfin-API to get that municipality’s yearly election data about the 8 main parties from the years between 1976 and 2017 and plotted them on the frappe chart. Below the chart I also included buttons for the user to select which parties to show on the chart. Upon loading the page all the parties’ lines are shown by default and the user can hide/show lines by checking the checkboxes and pressing the update button which will re-create the chart. Using the Frappe’s built-in feature to export the chart as an SVG-file I added the functionality to download the map chart the download button at the bottom.

|  |  |
| --- | --- |
| Feature | Max points |
| Application is responsive and can be used both on desktop and on mobile | 4 |
| Application works on Firefox, Safari, Edge, and Chrome | 2 |
| The application shows relevant data on a map and user has a chance to change the data | 3 |
| The application shows relevant data on a chart and the user has a chance to change the data | 3 |
| By clicking the map, the user has an option to get additional charts covering that area | 4 |
| There are more than two items of data available (e.g., elections data, employment rate and number of residents) | 2 |
| Able to download the visualization | 2 |
| Appropriate website styling | 2 |