

Statistic portal.

This project involved utilizing various web programming techniques to create a Statistics Portal, designated as Project No. 2. The project is deployed on GitHub. README file and this documentation is in the repository of this project.

Declaration of AI usage.

One model was used for all operations. ChatGPT o1-mini

- AI systems were used in the development of this project. As mentioned, in debugging, error handling, commenting and verification of code correctness.
- AI systems were used to help with English grammar while writing this document. Checking semantic and syntactic correctness of document and providing suggestions for handling the errors in writing.

The project features an interactive map of Finland where users can:

- **Explore Municipalities:** Click on a municipality to view detailed statistics.
- **View Charts:** Select “View Chart” to see statistical data visualized. Users can download charts in PNG or SVG formats or return to the map view.
- **Customize Data Display:** Drag and drop data boxes from the sidebar onto the map to update displayed information. This action changes map colors and updates chart data accordingly.

Tools:

- **HTML5:** Markup language for structuring web pages.
- **CSS:** Styling and responsive design.
- **JavaScript:** Dynamic functionalities, including data fetching, chart rendering, and interactivity.

Libraries:

- **Frappe Charts:** Used for rendering line, bar, and pie charts to visualize population trends, birth and death rates, migration statistics, and employment rates.
- **Leaflet.js:** Facilitates the creation and management of interactive maps, handling map initialization, tile layering with OpenStreetMap, GeoJSON data integration, and user interactions.

API:s

- **StatFin:** Provides real-time access to a wide range of statistical data, including population, birth and death rates, migration, and employment statistics.

- **OpenStreetMap:** Serves as the base tile layer for maps created with Leaflet.js, offering geographic context.

Used development tools:

- **GitHub:** Version control and repository management.
- **VSCode:** Code editing and development environment.
- **ChatGPT Model 01-mini:** Assisted with debugging and error handling, commenting and verifying the code correctness.

Justification of points

- **Well-Written PDF Report (+3):** documentation covering all project aspects.
- **Responsive Design (+4):** Ensures usability on both desktop and mobile devices. On smaller screens, functionality adapts from drag-and-drop to click-based interactions for ease of use.
- **Cross-Browser Compatibility (+3):** Application functions across different web browsers.
- **Clear Directory Structure (+2):** Organized file distribution based on functionality.
- **Drag'n'drop new data to charts/maps (+4):** Enables users to display different datasets by drag and dropping the boxes.
- **Application shows relevant data on map and on chart +6:** Showing data of each municipality by clicking on them. If proceeded to click on the chart, will view data in frappe charts.
- **By clicking the map user has an option to get to additional charts covering that area (+4).** Created chart view.
- **There are more than 3 items of data available, 4 API calls (+7).** In project description for 3 API calls there would be a possibility to get 5 points, adding one more, with displayable data and displayable charts and colors justifies 7 points (+2 points for additional API)
- **Downloadable Visualizations (+2):** Users can download charts in PNG or SVG formats.
- **Additional Features:**
 - **Dynamic Color Grading (+3):** Map and municipality colors change based on the selected dataset. 4 different color patterns of a map.
 - **Active user notification,** if new info is added in the right bottom corner (+1).

By summing up all these points, I would like to get from this project a “39” points if additional points are calculated.