

Introduction to GIS web application

Inlämningsuppgift - 1

Purpose:

The purpose of this assignment is to learn how to perform basis GIS operations using web application.

Submit:

You need to submit the source code and video recording illustrating code. Each function should be performed using buttons as shown during workshop. Also make sure you use **FLASK** framework in showing the below tasks.

Functionalities to perform for G (All the tasks should be displayed using Buttons)

Task 1) Create point, line, and polygon features in any area using Leaflet (i.e., without using geojson). Display information of these features using pop-up along with an image. (Check Leaflet documentation for help)

Task 2) Choose a city and show 5 locations of interest (*example: retail stores, museum, school, etc.*) using points. Display information like name, location and other information using sidebar for each location. Use “polylineMeasure.seed” to display distances between these locations (i.e., from PolylineMeasure Plugin).

Task 3) Load “supermarket.geoJSON” file to the map. Display names of the supermarkets using pop-up. Create a buffer for the locations of supermarkets. The buffer radius should be 1 KM. Highlight supermarkets that are not overlapping.

Task 4) Use an image to overlay on the basemap. Choose any location in Sweden.

Task 5) Add “fuel.geoJSON” file to the map. Then add “Leaflet.markercluster” plugin to your web application and display the data from fuel.geoJSON. Display name of the fuel station when clicked on the marker.

Additional functionality for VG

Task 6) Using a weather API, display real-time and forecast weather information for 5 cities using pop-up and sidebar.

Task 7) Add “school_locations.csv”, perform k-means clustering. Display these clustered points on the map.

VG conditions:

- Design of the web application should be neat and clear
- VG will be given only for the first attempt. Revised submissions will get a G. So, make sure, you understand all the tasks.
- Video recording explaining the code and design of the web application

Inlämningsuppgift 1 needs to be submitted no later than **3/May 23.59** in the submission folder on Canvas.

Material: All material for the tasks can be found in Inlämningsuppgift-1.zip in Canvas.

Grade:

This assignment is graded as U/G/VG.

Note: In this task you can work individually or in group. Do not forget to enrol yourself in groups. Group should have a maximum of 3