SIMATS ENGINEERING

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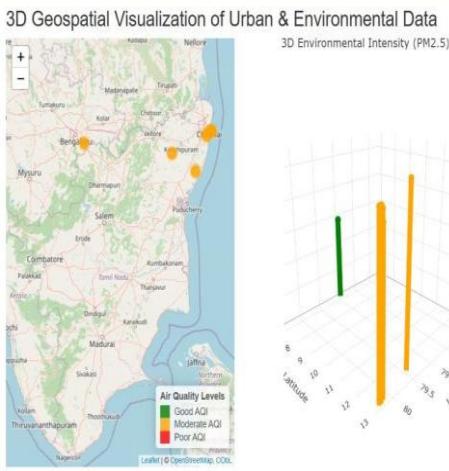
Course Code: DSA0613   **Slot: A**

Course Name: Data Handling and Visualization for Data Analytics

Course Faculty: Dr. Kumaragurubaran T & Dr. Senthilvadivu S

Project Title: 3D Geospatial Visualization for Urban and Environmental Data

Module Photographs:

Project Description:

Building interactive 3D models and visualizations involves developing detailed three-dimensional representations of urban and environmental data that users can explore freely to gain a deeper understanding of spatial information. These models are created using geospatial datasets such as satellite imagery, GIS layers, digital elevation models, LiDAR data, and real-time sensor inputs to accurately represent buildings, terrain, vegetation, water bodies, and infrastructure. Interactivity features like zooming, rotating, panning, filtering, and layer selection allow users to view data from different perspectives and focus on specific areas of interest. Compared to traditional 2D maps, 3D visualizations clearly show height, depth, density, and spatial relationships, making it easier to analyse urban growth, environmental changes, and potential risks. Overall, interactive 3D models transform complex geospatial data into intuitive visual experiences that enhance analysis, improve communication, and support informed decision-making in fields such as urban planning, environmental management, disaster response, and smart city development.

Student Signature   **Guide Signature**