**Development of Web Based Geospatial Application**

**Using FOSS4G for Matara District of Sri Lanka**

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***ABSTRACT***

This study presents the development of a web-based geospatial application for the Matara district of Sri Lanka, employing Free and Open Source Software for Geospatial (FOSS4G) to enhance the accessibility and analysis of spatial data. By integrating with Geo-Spatial Science and Geographic Information Systems (GIS), the application addresses critical needs in natural resource management, disaster management, tourism, and governance. The methodology involved a three-tier architecture with Apache Tomcat as the web server, GeoServer as the GIS server, and PostgreSQL/PostGIS for geospatial data management. The MapStore framework was used to build the application, providing a flexible platform for data visualisation and interaction. Key features include a Geospatial Viewer that supports OGC-compliant Web Map Service (WMS) standards for detailed layer visualisation and map generation, and a Geospatial Dashboard that enables interactive data exploration, filtering, and interaction with charts and widgets. The application enhances geospatial data management by allowing non-programmers to engage with complex spatial datasets effectively. The outcomes underscore the potential of FOSS4G tools in creating scalable and user-friendly GIS solutions that support informed decision-making in the Matara district.

**Keywords:** Web-Based Geospatial Application, FOSS4G, Geospatial Viewer, Geospatial Dashboard, Geo-Spatial Science, GIS, Matara District, Sri Lanka