GeoEDGE Map Engine: Data visualization Tool for collaborative Map Editing

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1. General Instructions

1.1. Abstract Length

GeoEDGE Map Engine (www.geoedgemaps.com), a product initiated from Sri Lanka is a simple GIS tool enable with online web mapping services to create modify, analyze, visualize and share spatial data working as a team. The first version of the tool had being installed and commissioned in the Asian Disaster Preparedness Center (ADPC) and GeoInformatic Center (GIC), Thailand, to support the disaster management activities way back in 2015.

GeoEDGE has basic GIS component such as facilities to add/upload new layer(s), create new maps, layer overlay, layer transparency, layer/map styling, map printing and functionality for basic spatial analysis (clipping, buffering and intersection) and sharing the whole work process among a group of team members who are working in a same project. This collaborative work support is a useful feature not only related to disaster management but to any mapping process where several members in different locations need to share data and prepare maps.

Several open source technologies are used for the development of GeoEDGE. PHP and Python are mainly used for backend development with HTML(5), CSS(3), JavaScript, jQuery(1.7), JSON and Bootstrap(3.3) are used for frontend development. System runs on Apache web server and PostgreSQL, an object relational database management system is used for data management. GeoEDGE Map engine can integrate with multiple formats of base maps such as OSM, Google Maps, OpenLayers and Bing Maps and vector layers in shape file and GeoJSON formats. MapFish is used to provide print support. New version of GeoEdge is being developed with more functionalities, increased performance and security using the Python framework Django (v1.11). Using the Django framework helps to use more python extensions and packages to achieve expected performance with more features.

The development workflow and the features of the GeoEDGE will be presented by the development team in this presentation.

2. Author/s Biography

Mr. Anuradha Rajanayake

Anuradha Rajanayake, Director and Chief Executive Officer, has more than 15 years professional experience in Information and Communication Technology as a Software Architect and a senior software engineer. Specially, he has focused to provide his knowledge and guidance to develop Database Management Systems, Information Management Systems and Web Application development to several projects in both local and international. He led as a project manager to develop Agro-meteorological information and Flood/Drought indication system (ADB-GMS System), Principal Data Analysis Node (PDAN), Statistical Data Analysis System with the collaboration of Asian Institution of Technology (AIT), Thailand. Furthermore, He worked as a Software architect to several projects for Disaster Management Center and World Bank in Code for Resilience (CfR) Sri Lanka, Riskinfo Spatial Information System Upgrade and Improvement Project.

He hold a BSc.Hons.in Information Technology and, at the present he is reading for MSC.in Geoinformatics. He is the CEO, Director and Co-founder of GeoEDGE Pvt. Ltd. and Founder and Managing Director of OZI Solutions Pvt Ltd. He has more than 10 years of Business management experience in handling several companies successfully.

Mr. Dimesh Dharmathilake

Dimesh Dharmathilake, specialist with more than 10 years of senior management experience, providing strategic and technical leadership in the fields of Information Management, DBMS, GIS, DRR, Monitoring & Evaluation (M&E) in challenging post-conflict, Development and business environments uniquely. Academically, he has completed a MSc. in Geographical Information Systems (GIS) & Remote Sensing (RS) and BSc. in Information Technology graduated with Honors.

At present, he is working at GeoEDGE (Pvt) Ltd. as Managing Director. He worked at GeoInformatics, Thailand as a Research Officer and International Air Transport Association, Jordan as System Management Engineer. He also worked at International Organization for Migration and HALO Trust as GIS and IT Specialist. Furthermore, in the area of knowledge management and innovation, he worked as the IT Manager at the Ministry of Resettlement under the supervision of UNHCR during the post conflict development activities in Sri Lanka. HALO Trust International provided him the ability to expertise his skills in high resolution satellite image processing, developing and maintaining spatial data repositories and GIS databases, and advance GIS analysis. He provided technical advisory and support to the relevant government authority in terms of space data processing and visualization and managed IMSMA information management system.