WebGRAMServer Web Based GIS Planning tool

Deepak V. CHOKSI[a], P. VENKATACHALAM[b] and J. MOHANTY[c]

[a b c] Centre of Studies in Resources Engineering, Indian Institute of Technology Bombay, CSRE, IIT Bombay, Powai, Mumbai-400076, India;

Tel – 91-22-25767665;
E-mail: deepakchoksi@iitb.ac.in,pvenk90@gmail.com,jyothirmoymohanty@gmail.com

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ABSTRACT: Geographic Information Systems (GIS) are actively deployed on the World Wide Web, thanks to the developments in Internet technology. Prominent among them are MapObjects Internet Server, ArcView Internet Map Server, GeoMedia WebMap and MapXtreme. This abstract describes a web-based GIS tool built named Web GRAM Server.

Web GRAM Server (WGS) is a web based Geographic Information System developed in IIT Bombay to run under various flavors of the Microsoft Windows/ Linux operating system servers. The package supports superimposing GOOGLE Earth Street/Satellite/Hybrid/Physical over the spatial data along with the projection. It also supports functionality of data upload, publish and analyze such as attribute query, thematic mapping, info tool, raster/ GeoTiff overlay and spatial query.

The tool built as web-based tool to help view, query and render various data sets using standard web browsers. This tool runs on the Windows / linux platforms and requires Apache tomcat for serving the client requests. The structure of this tool is divided in three modules.

1) Client
2) Server
3) Spatial Database

1) Client: The client module is built using Java technology have functionality of info tool providing onclick information of the spatial features on the web, have thematic mapping features generating various chloropleth maps of pie chart, bar chart, Range based and symbol based classification. The module also has a query renderer which allow user to perform attribute query over the map. The spatial query utility of the tool is provided to allow user to query across the spatial layers.

2) Server: The server module allows user to upload files in shp, GML and GRAM++ vec file format, create users and its rights to access various functionality of the client module, select the style of layers display and publish the map over the client. The module is written using Php.

3) Spatial database: The database of webGRAMServer is divided in two sections of Spatial and Non-Spatial data display. The spatial data storage is divided in the tables to store the layer details, co-ordinate information and projection information in separate tables. The spatial database in designed in MySQL.