Open Source GI Solutions for the Management of Geological Data and Mining Cadastre

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GIMCS
Geological Information and Mining Cadastre System
GIMCS - GEOLOGICAL INFORMATION AND MINING CADASTRE SYSTEM

- The Geological Information and Mining Cadastre System (GIMCS) is one kind of implementation of the national geodata centre concept to support decision making and promote the possibilities to invest in the country.
- Capacity building is an essential part of the project.

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Geological Information Management

- Web site
- Web Map for the distribution of geological, geophysical and exploration data
- Web Shop
- Metadata Application
- The design of the scanning process for the digitization of old data
- Geodatabase (PostGIS), File share
- Desktop GIS (QGIS)
- Server GIS (GeoServer)
- Training
GIMCS - GEOLOGICAL INFORMATION AND MINING CADASTRE SYSTEM

Mining Cadastre

• Identity Management Module
• External Web Application for Applicants
• API (backend system)
• Internal Web Application for RMB employees
• Geodatabase
• Database
• Training
Use of FOSS4G software in GIMCS

FOSS4G = Free and Open Source Software for Geospatial
Open Source GIS Stack

Desktop
- QGIS
- GRASS GIS
- gvSIG
- OpenJUMP
- uDig

GIS Server
- GeoServer
- MapServer
- GeoWebCache
- MapProxy

Database
- PostGIS
- PostgreSQL
- Spatialite

Front End and Libraries
- OpenLayers
- Leaflet
- GDAL
- GeoTools
- ORFEO ToolBox
- cnes

FOSS4G: Free Open Source Software for Geospatial
QGIS - Desktop GIS application
QGIS in GIMCS

• Tool for GIS experts
• Data import, export
• Geological information analysis
• Creating maps, reports
• Data management
Geoserver - GIS application server

Data Sources
- Vector files: Shapefile
- Database: PostGIS, Oracle, and others
- Servers: WFS, ArcSDE

Services
- Vector data: Shapefile, GML2, GML3, GeoRSS, GeoJSON, CSV/XLS
- Styled maps: PNG, GIF, JPEG, TIFF, GeoTIFF, SVG, PDF, KML/KMZ
- Raster data: GeoTIFF, NetCDF, ArcGrid, ECW, ImageMosaic, JPEG2000, WorldImage and others
- Web Feature Service
- Web Map Service
- Web Coverage Service
- KML
- Google: KML superoverlays
Geoserver in GIMCS

- Creating and managing WMS, WFS, WMTS services
- Data visualisation
- Data sharing
OpenLayers

- Interactive maps on the web
- High-performance, feature packed Javascript library
OpenLayers in GIMCS
PostGIS

- Extension to PostgreSQL database
- Manage and shares geospatial data
- Support vector and raster data
- Over 200 spatial functions
PostGIS IN GIMCS

- Data storing, management and sharing
- Vector and raster data
- Store of metadata information
Training of FOSS4G softwares in GIMCS
Murakoze
Kiitos
Thank you
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