PREPARED BY TERRAFRAME

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GEOPRISM® REGISTRY

COLLABORATORS

GEOPRISM REGISTRY (GPR)

Location and time are dimensions that bind information together. GeoPrism Registry uses semantic technologies to enable data and information from multiple organizations to be properly contextualized in both space and time to support geographically based planning, decision making, cooperation and coordination among agencies of federal governments, local governments, non-profits, and the private sector. Collaboration across sectors is needed to promote public health, economic development, environmental protection, flood zone research, disaster recovery, education, agriculture, infrastructure, and other public and private services.

BEYOND TRADITIONAL GIS AND DATA CATALOGS

GeoPrism Registry is an open-source Common Geo-Registry (CGR) implementation that utilizes spatial knowledge graphs to provide a single source of truth for managing geographic data over time across multiple organizations and information systems. It is used to host, manage, regularly update and share lists, associated hierarchies, and geospatial data through time for geographic objects core to spatial data infrastructure, sustainable development, and public health (e.g., administrative divisions, settlements, health facilities, schools, and other relevant physical and non-physical geographic features).

Common Geo-Registry (CGR) concept: **https://healthgeolab.net/DOCUMENTS/Guidance_Common_Geo-registry_Ve2.pdf**
GeoPrism Registry: **https://geoprismregistry.com**
Github: **https://github.com/terraframe/geoprism-registry**

ENABLES GEOSPATIAL INITIATIVES AND INFRASTRUCTURES

Integrated Geographic Information Framework (IGIF)[1]

At the technical level, GeoPrism Registry contributes to the standards strategic pathway of the IGIF by supporting data interoperability.

Global Statistical Geospatial Framework (GSGF)[2]

GeoPrism Registry supports the operationalization of the first three principles of the GSGF: 1. Use of fundamental geospatial infrastructure and geocoding; 2. Geocoded unit record data in a data management environment; 3. Common geographies for the dissemination of statistics.

Geospatial Knowledge Infrastructure (GKI)[3]

GeoPrism Registry aligns with the GKI concept by helping to place geospatial knowledge at the center of tomorrow's sustainable digital society.

Health Information Exchange (HIE)

GeoPrism Registry strengthens HIEs and disease intervention programs by enabling data interoperability across health information systems using common geographies and managing multiple organizational hierarchies and relationships between locations as they change over time, which is essential for microplanning and trend analysis. GeoPrism Registry is interoperable with DHIS2[4], Global Open Facility Registry (GOFR)[5], supports Fast Healthcare Interoperability Resources (FHIR), Reveal[6], and supports a RESTful API.

National Spatial Data Infrastructure (NDSI)

GeoPrism Registry supports the operationalization of the National Spatial Data Infrastructure (NSDI) to host, manage, regularly update and share the lists, hierarchies and spatial data needed to properly contextualize any data or information attached to the geographic objects core while respecting the curation mandate of the organizations officially in charge of this data and information.

Sustainable Development Goals

GePrism Registry helps address the geographic dimension of the *Sustainable Development Goals (SDG)* by providing a common geography to support cross sectoral planning and decision making.

Open Source

GeoPrism Registry has been released under the Lesser General Public License (LGPL) and was developed using only open-source components including OpenJDK, MapboxGL, PostgreSQL, OrientDB, Solr, GDAL, and GeoServer. GeoPrism Registry can be deployed in the cloud or on premises.

CAPABILITIES

GeoPrism Registry provides a unique set of data management capabilities to enable the contextualization of data from different sources in both space and time, facilitate trend analysis, aggregate data according to different hierarchies, use geographic objects as the common link between data sources and support the creation of GIS-based applications and maps based on a common geography.

MULTIPLE HIERARCHY MANAGEMENT

GeoPrism Registry provides a multi-organization environment that supports data governance among these organizations. At the same time, it manages data dependencies between organizations. Data are curated by the organization with the authoritative mandate and updates are automatically propagated to other organizations that reference them.

INTEGRATING OFFICIAL AND UNOFFICIAL DATA

Data curated by official and unofficial groups can be harmonized to create a more complete picture of available data.

HISTORICAL EVENTS

GeoPrism Registry allows capturing the necessary information to rebuild how specific geographic objects like administrative units have evolved through time by being splitted merged, upgraded or downgraded. This information presents an accurate historical picture key to conduct trend analysis.

CHANGE OVER TIME

GeoPrism Registry tracks attributes, geometries, and relationships (including hierarchies) between geographic objects as they change over time. Historical views of data can be generated for any point or period in time depending on the considered geographic object type.

ACCESSIBILITY

Each organization can decide if the content they are managing is to be accessed outside of their organization or not. Lists and geospatial data can be published for different periods of time or dates based on a given frequency. Historical versions are maintained for reference.

UPDATING MECHANISM

GeoPrism Registry allows the operationalization of the updating mechanism associated with each geographic object it covers by providing a change management workflow that allows authorized users to submit change requests for approval.

1 *https://ggim.un.org/IGIF/*

2 *https://unstats.un.org/unsd/statcom/51st-session/documents/The_GSGF-E.pdf*

3 *https://geospatialmedia.net/pdf/GKI-White-Paper.pdf*

4 *DHIS2 is owned and maintained by the University of Oslo*

5 The Global Open Facility Registry (GOFR) is owned and developed by IntraHealth. *Funding provided by Digital Square, a PATH-led initiative funded and designed by the United States Agency for International Development, the Bill & Melinda Gates Foundation, and a consortium of other investors, in support of the Facility Registries project.*

6 *Reveal is owned and maintained by Akros*