

A GEOPORTAL FOR THE SCHELDT ESTUARY

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Keywords: *Geoportal, data, metadata, standards, open source*

ABSTRACT

Over the years, a lot of data has been collected with regard to shapefiles, raster images, salinity, temperature, species observations, and many more. This data is however usually stored in proprietary formats and often only accessible to the collector of the data. In this paper we present the Scheldt GeoPortal. This tool allows easy access to the raw data, as well as a simple way of representing this data visually. The goal of the GeoPortal is to provide users and scientist with a straightforward centralised method to obtain specific data. By following the standards of the Open Geospatial Consortium and using open source programs, our portal is easy extensible and data can easily be added.

Overview of the approach

The purpose of the Scheldt Data Portal was to offer the user data about this area of research. Previously, datasets were described using an information system. To have access to the data, the person responsible for the dataset usually had to be contacted. In rare occasions the data could be downloaded. Another drawback of that approach is that every dataset was described in a separate way. This means that the user has to search through the entire information system in order to find the relevant information on a particular topic. We mitigated this issue, by grouping all data and allowing the user to visualise this data on the data portal. Moreover, it is possible to download in one step this data if the license allows it.

During the implementation of the GeoPortal, interoperability and compatibility were very important. Next to showing the data we received or own, it was also important to be able to display images from other servers, through Web Mapping Services (WMS), and Web Feature Services (WFS). This was greatly facilitated by the fact that the system obeys the Open Geospatial Consortium Standards (OGCS).

GeoServer is the tool used to display the shapefiles and raster images we have at our disposal. Moreover, it is also possible to plot data, linked to geographic coordinates, from an integrated database.

So far we have only discussed how data is being displayed. With regard to easy access and interoperability, an adequate description of the data is also required. To achieve this goal, GeoNetwork was used. This open-source application allows for intensive descriptions of metadata.

The structure of the entire system is displayed in Figure 1.

The combination of the external data, provided by web services, the internal data from the integrated database, the shapefiles and raster images from PostGIS/GeoServer and the metadata descriptions from GeoNetwork are all managed in a central database. In this database it is also possible to add a flag, indicating the permissions that exist on the data. i.e. can the data be downloaded or is it proprietary.

The layout of the GeoPortal uses the Central Code Library, together with OpenLayers and the Yahoo! User Interface Library (YUI). OpenLayers is an open-source JavaScript library for displaying map data in web browsers.

YUI is also an open-source JavaScript library for building richly interactive web applications using techniques such as Ajax, DHTML and DOM scripting.

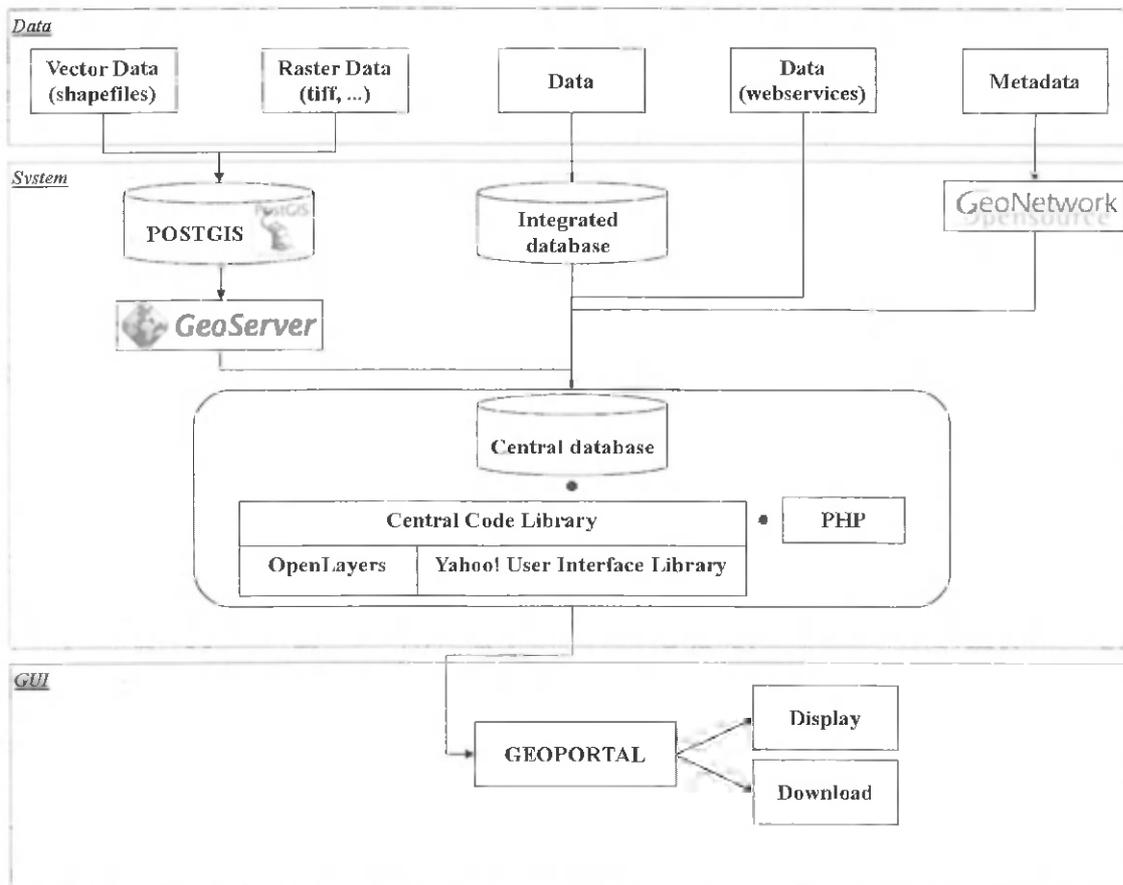


Fig. 1: Schematic representation of the Geoportal system

In closing, we would like to encourage everyone to visit the Geoportal via the web on <http://www.scheldemonitor.be/dataportal/> and contribute new data to expand the range of applicability of the portal.