Cartographic visualization of historical source data on AtlasFontium.pl

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Extended Abstract

The scientific project in the form of a website "Atlas of Sources and Materials for History of Old Poland" also called the “AtlasFontium.pl” was created in order is to establish a platform aimed at collecting, disseminating and visualizing historical sources and materials, primarily those with spatial reference (Słoń 2015). The key objective of the project is to elaborate a consistent spatial and digital model of historical sources editions which combines several elements including: direct access to the scanned manuscript; ability to analyse the data within the spatial database and visualizing the outcomes in Web-GIS application as a digital map.

At this time (October 2015), AtlasFontium.pl includes 7 projects of historical sources editions, but three of them are the most important: Polish Territories of the Crown in the 16th century – database and digital map; Two digital editions of tax registers: Kalisz and Poznan Voivodeship 16th century tax registers – manuscript, database and digital map and the digital edition of the Court registers of Wschowa from 1495-1526 – manuscript, database and digital map.

Resources published on the website are available through a three-tier architecture which consists of a database, digital map and manuscript viewer. The modules are linked together and thusly all data can be accessed through either of these. Information about features’ geometry and attributes is stored in the spatio-relational database (PostgreSQL9.3 + PostGIS 2.0). The website supports two applications for content depiction. The first (PMapper 4.2) is a Web-GIS application used for cartographic visualization of spatial data, while the second (INDXR) allows to view scanned manuscripts on-line.

PMapper presents spatial data both in vector and raster formats, as well as allows to join external source layers through spatial data services such as WMS (Web Map Service). Application functionality also includes toggling layers visibility along with their descriptions, changing transparen-

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cy, identifying individual features, as well as performing search queries based on SQL syntax. The second application (INDXR) was created for the electronic edition of the Wschowa Court Book in 1495-1526 and serves as the browser for scanned manuscripts. Its main functionality involves not only scanned material visualizing, but also a capability of its indexing with the application of a database and visualizing the outcome on the digital map.

Source information acquired from 16th century manuscripts are put into the database along with its geometry (point for settlements and polygon for boundaries) and attributes. The attribute table schema is derived from the specificity of each data source in order to maintain its structure but also allow it to be used in a statistical analyses. In general, there are two types of descriptive data – source and critical (Szady 2013). For tax registers which were created for each settlement in 16th c. there are critical columns for settlements' name, size, and type. The source columns include data acquired directly from the manuscript: e.g. settlement name in the register, parochial affiliation, ownership, the date of tax payment, and the amount of tax paid, taxed acreage, economic facilities, professional groups, etc. If some information is missing or uncertain it is noted in "varia" column. In addition to the database form of tax registers, original manuscript is also provided in order to make it possible to verify data consistency and correctness by website users. Access to the manuscript is available either from the database or digital map. It is also possible to download all data in *.mdb file format (ArcGIS personal database).

Such an approach of historical sources publishing along with their cartographic visualization provides historical data in its original form. It allows users (historians, geographers, archaeologists) to work not only with the outcomes and results of historical-geographical research, but also to explore the potential of raw historical data either in the form of the geotagged manuscript or its database edition. In addition, all of the data is visualized on the digital map in order to provide spatial context.

References

Słoń M (ed.) (2015) *AtlasFontium.pl: Atlas Źródeł i Materiałów do Dziejów Dawnej Polski*. http://atlasfontium.pl/. Accessed 15 July 2015

Szady B (2013) Czasowo przestrzenne bazy danych jako narzędzie w geografii historycznej. Acta Universitatis Lodziensis - Folia Geographica Socio-Oeconomica 14:17–32.