ISTER Atlas and Interactive Tool

The Geo-Tools in ISTER - ConnectIng hiSTorical Danube rEgions Roman routes

Clemens BEYER, BOKU Wien – University of Natural Resources and Life Sciences, Vienna, Institute of Spatial Planning, Environmental Planning and Land Rearrangement (IRUB), Austria
Blaž BARBORIČ, Geodetic institute of Slovenia
Tomaž ŽAGAR, Geodetic institute of Slovenia
Manfred SCHRENK, BOKU Wien – University of Natural Resources and Life Sciences, Vienna, Institute of Spatial Planning, Environmental Planning and Land Rearrangement (IRUB), Austria
Georg NEUGEBAUER, BOKU Wien – University of Natural Resources and Life Sciences, Vienna, Institute of Spatial Planning, Environmental Planning and Land Rearrangement (IRUB), Austria

ISTER Atlas and Interactive Tool

The Geo-Tools in ISTER - ConnectIng hiSTorical Danube rEgions Roman routes

ISTER is an EU co-funded multidisciplinary project within the Interreg Danube Transnational Program across the Danube Region.

The aim is to visualize and revitalize the ancient road network developed by the Romans along the Danube basin and to design eco-cultural routes from it, for example for the establishment and promotion of sustainable cultural tourism and support of regional development.

About 20 institutions from all over the Danube Region are working together on the project, among them Archaeological Parks, Museums, City governments, Regional Development Agencies, companies and Universities.

The bigger vision of the ISTER project is to generate an attractive cross-border network of local, regional and long-distance connections in the entire Danube region, especially for hiking and cycling, a VIA ISTER, which can certainly run in several strands.

A great model for this is the very popular Way of St. James, which also runs in numerous individual routes.

Nowadays, digital tools are indispensable for planning and carrying out tours, and the documentation of one's own activities and the sharing of experiences, the exchange with friends and like-minded people, is a very important part of the corresponding undertakings, and the ISTER INTERACTIVE TOOL will contribute to this.

There are two geo-applications in ISTER for collecting, storing, administering and promoting Roman network of routes and settlements.

* the GIS-based Territorial Atlas designed and coordinated by Geodetic Institute of Slovenia provides a spatial representation of the open inventory of Roman routes legacy in DR and relevant information regarding protection limits applicable to both Roman Settlements and Roads Network, retracing the history of the Roman Empire through Roman Roads Network in Danube Region (DR) and its relationship with the natural environment. GIS-based Territorial Atlas is the central collection, administration and storage point for georeferenced information on Roman Heritage in DR, including descriptions, photos and illustrations of Cultural Heritage Sites

* the Interactive Cross-Border Tool, developed by University of Natural Resources and Life Sciences, Vienna (BOKU) retrieves information from the Territorial Atlas, combines it with geo-referenced information from other sources (i.e. Open Street Map) and makes information available in a user-friendly way for experts as well as end-users, i.e. tourists. In addition to the information collected and stored in the Atlas, walkable and bikeable routes are generated, stored and promoted within the Interactive Tool and with supporting applications - and with contributions from all territorial partners.

VIA ISTER interactive cross-border tool is designed to promote the georeferenced information on Roman sites and routes collected and stored in Territorial Atlas based on interactive maps. Explanatory descriptions, illustrations and photos from Roman sites are also derived from the Territorial Atlas. The interactive tool combines it with other relevant georeferenced information from external sources (i.e. Open Street Map) and provides helpful services to end users, as well to experts as for example to tourists. Interactive tool also provides routes for hiking and biking and accompanying information. Those routes are generated by all territorial partners. Interactive tool provides the option for multilingual support, but therefore it is necessary to have the content described to the various languages by territorial partners. In a first step information will be provided in English and local language.
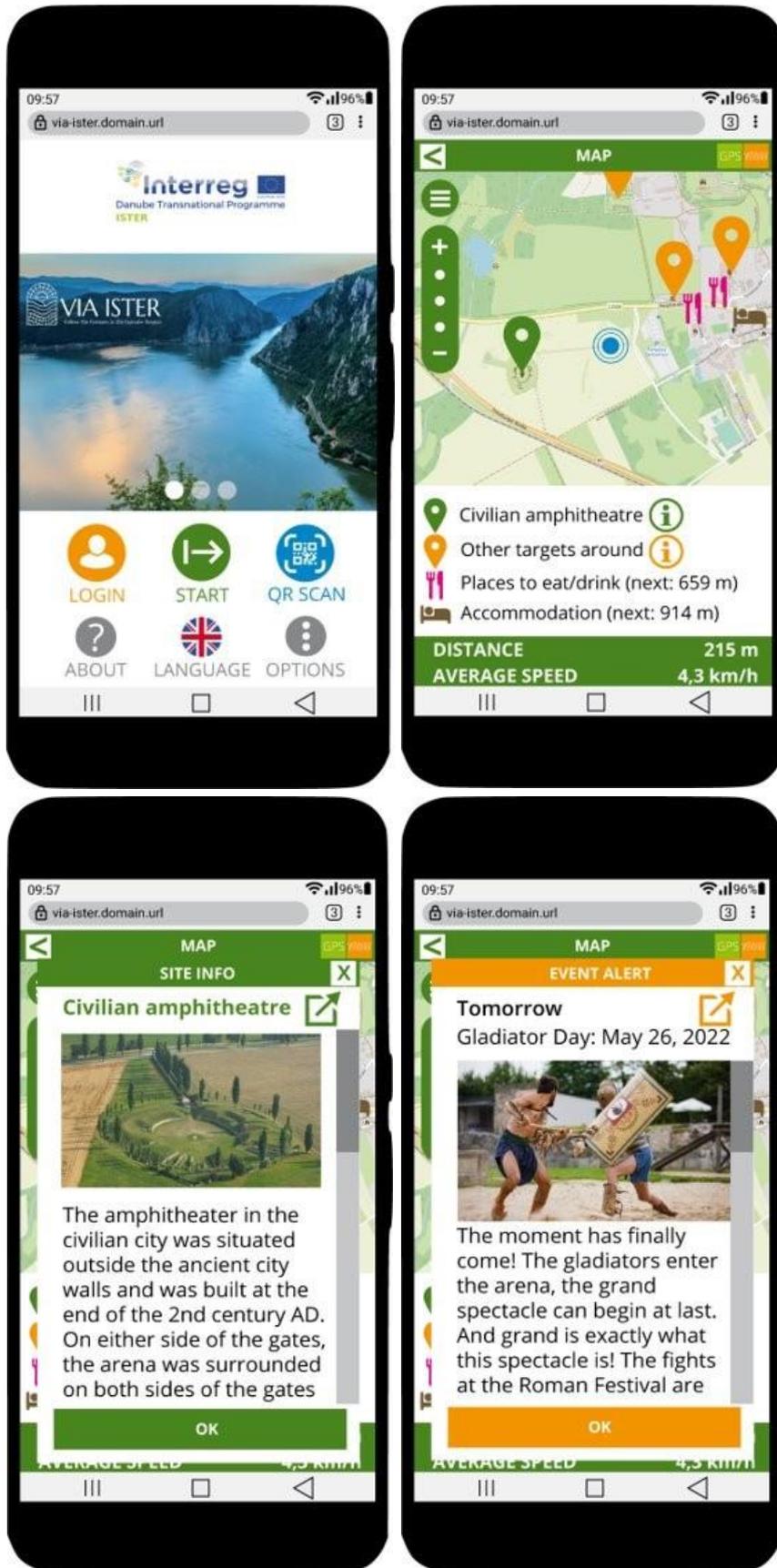
Funding

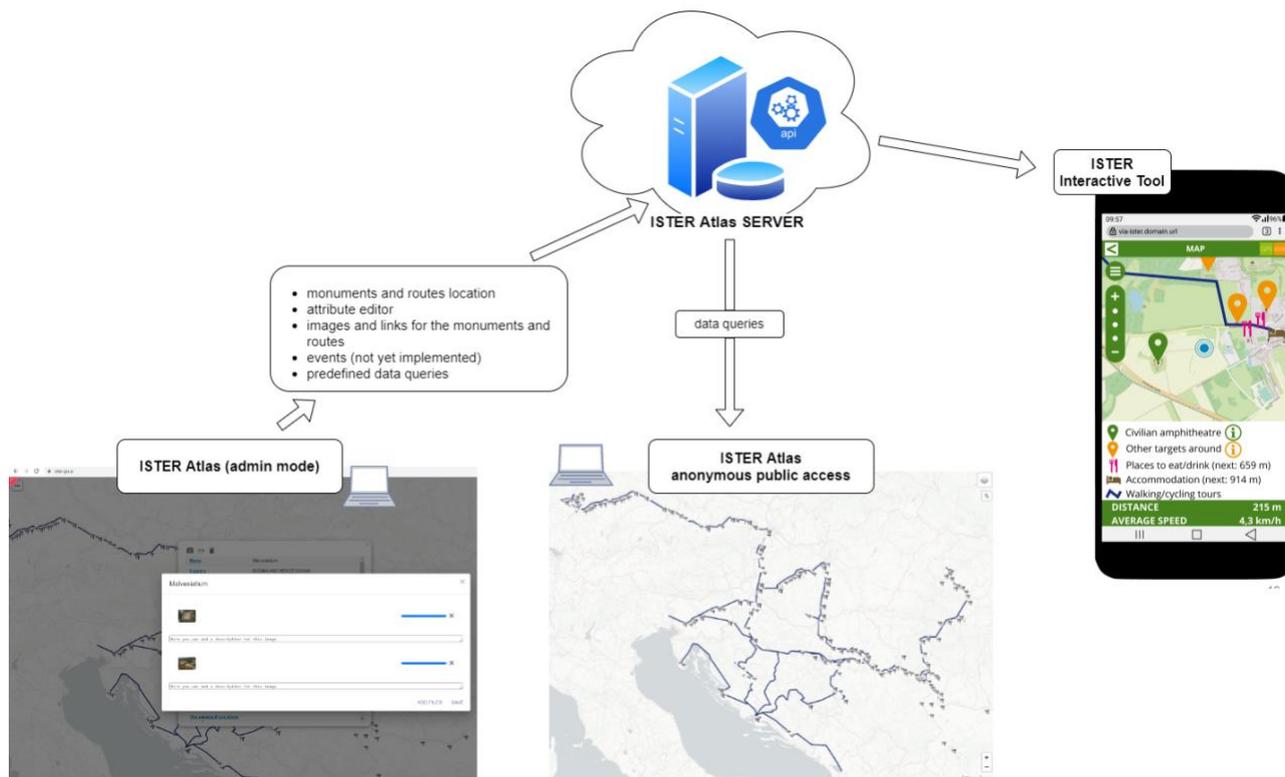*Fig. 1. ISTER interactive tool, mockup / prototype*

Fig. 2. ISTER Atlas and interactive tool, workflow for editing content

There are two geo-applications in ISTER for collecting, storing, administering and presenting data and information on Roman monuments, routes and settlements and promoting the network of Roman routes as well on an expert level as for end users (e.g. tourists), the ISTER ATLAS and the ISTER Transnational Interactive Tool

ISTER Atlas

The GIS Atlas of Roman routes in DR represents an innovative cartographic web application of the Roman routes in the entire DR, aimed at mapping, increasing their online and triggering digital preservation of their historical values.

It provides a spatial representation of the open inventory of Roman routes legacy in DR and relevant information regarding protection limits (if applicable to both Roman Settlements and Roads Network, retracing the history of the Roman Empire through Roman Roads Network in Danube Region (DR) and its relation with the natural environment.

The atlas provides:

- Query tool over database items;
- Possibility to share the predefined queries;
- API interface for sharing the data (machine access and download of the data);
- Ability to add multimedia material for individual features (e.g. photos, articles, descriptions);
- Overview of the database and associated media material.

https://ister.gis.si

ISTER Transnational Interactive Tool (Mock-Up)

The transnational Interactive Tool retrieves information from the Territorial Atlas, combines it with geo-referenced information from other sources and makes information available in a user-friendly way as well for experts as for end-users, e.g. tourists.

VIA ISTER transnational interactive tool is designed to promote the geo-referenced information on Roman sites and routes collected and stored in Territorial Atlas based on interactive maps. Explanatory descriptions, illustrations and photos from Roman sites are also derived from the Territorial Atlas. The interactive tool combines it with other relevant geo-referenced information from external sources (e.g. touristic information like places to eat, places to stay, potable water fountains, toilets, public transport from Open Street Map) and provides helpful services as well to experts as to end users, e.g. tourists.

In addition to the information collected and stored in the Atlas and external sources, walkable and bikeable routes are generated, stored and promoted within the Interactive Tool by all territorial partners (using supporting applications). Interactive tool provides the option for multilingual support, in a first step information will be provided in English and local language.

The Interactive Tool provides:

- interactive geo-referenced maps of Roman Cultural Heritage (sites and monuments, roads and routes)
- descriptions, pictures, illustrations, multimedia-elements on Roman Cultural Heritage
- up-to-date information about the surroundings, especially touristic information (places to eat, places to stay, potable water sources, toilets, public transport, events, other attractions)

walkable and bikeable routes related to Roman Cultural Heritage

hyperlinks to VIA ISTER homepage and it´s sub-pages:

https://www.via-ister.eu/

References

Bentley, J. (1993). The Way of Saint James, 144 pages, ISBN: 978-1857930023

Schade, S., Granell, C., Vancauwenberghe, G., Keßler, C., Vandenbroucke, D., Masser, I., Gould, M. (2020) Geospatial Information Infrastructures, In: Guo, H., Goodchild, M.F., Annoni, A. (eds) Manual of Digital Earth. Springer, Singapore. https://doi.org/10.1007/978-981-32-9915-3_5 https://link.springer.com/chapter/10.1007/978-981-32-9915-3_5

Živković, L., Barborič, B. (2018). ATTRACTIVE DANUBE Project – Territorial Attractiveness Analysis of the Danube Region, Proceedings of REAL CORP 2018 conference (Editors: Schrenk, M., Popovich, V., Zeile, P., Elisei, P., Beyer, C., Navratil, G.), pp. 101–112, ISBN 978-3-9504173-5-7 https://conference.corp.at/archive/CORP2018_7.pdf

ŽIVKOVIĆ, Ljiljana, MARANI, Stefano, BERK, Sandi, DEŽMAN KETE, Vesna, TRAPANI, Francesco, ESPOSITO, Gianandrea, ŠPEH, Natalija, MILIĆ, Đorđe, ŽIVANOVIĆ, Tijana, BARBORIČ, Blaž (2015) Towards a Monitoring Information System for Territorial Attractiveness Policy Management in South East Europe. Geodetski vestnik, Vol 59, No 4, Ljubljana, Slovenia, pp 752-766. DOI: 10.15292/geodetski-vestnik.2015.04.752-766, http://issuu.com/mfoski/docs/gv_12015_4