# LESPROJEKT *služby*

HUB4EVERYBODY

Do you have various digital maps piling up on your PC? It could be scored student papers, emotional maps, results of in-field research or scientific experiments. Would you like to publish your results and activities, promote, or discuss them among different target audiences? All these requirements can be handled by a system for publishing and sharing of geographical data. We can offer a unique, scalable solution, which is suitable for all kinds of organizations (from national institutions, over different types of schools and universities, up to SME's or public authorities).
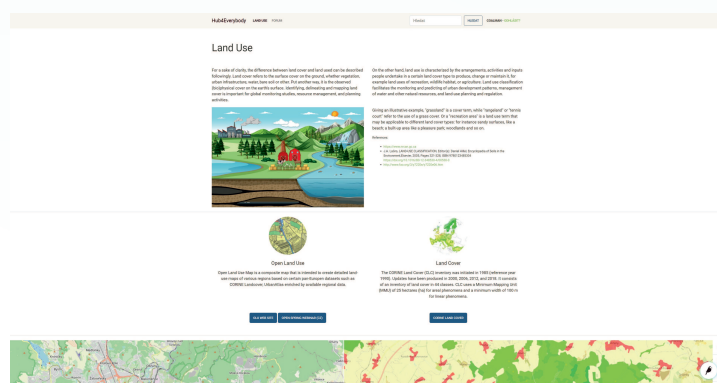
What is Hub4Everybody?

Hub4Everybody is a one-of-a-kind solution for publishing, sharing and cooperative management of geographical datasets, such as professional data and measuring, results of research projects or student papers, educational materials, emotional maps, visualization of in-field research and other maps, tables, or databases. You can easily upload or update your data as well as adjust the parameters of sharing among different audiences. Hub4Everybody is an alternative tool combining online office software with an editorial system for spatial data. It is also an Open-Source alternative to already existing commercial solutions, while offering additional extending options.

Who can use Hub4Everybody?

Hub4Everybody can be used by whoever wants to publish and present their data while there is no need to invest into professional GIS or into developers programming and updating their own solutions. Hub4Everybody is designed for SME's, high schools and universities, research organizations as well as public authorities, NGO's and many others.

Why should you use Hub4Everybody?

Hub4Everybody offers all usual functions of geoportals (working with a map, linking of external data and services) but on top of that it offers a possibility to link desktop and mobile solutions for geographical data processing, data visualisation in form of storyboard and communication components via social networks. The solution is scalable and fully adaptable to the end-user needs. You can store your data directly on Hub4Everybody cloud or in your own infrastructure. All technologies used for Hub4Everybody are open source, which enables you to communicate with all kinds of users all over the world while no costs are necessary.

Where can you test Hub4Everybody?

Hub4Everybody can be tested here: testing web pages, but it is also possible (and recommended) to test it within the international 2022 AgriHub Hackathon. Challenge Nr. 9 - A new social space for geographic information sharing and education is dealing with testing and publishing of geographical data through Hub4Everybody. A series of webinars will be organized to present different components of solutions.

What we offer

We are delivering the results of our development – a unique and adaptable solution based on open sources, which can be easily used in any kind of organizations (from national institutions, over different type of schools and universities, up to SME's or public authorities), that needs to manage and publish geographical data.

- Hub4Everybody comprises of following elements:
- geoportal
- social communication
- storyboard
- communication with desktop as well as mobile solutions
- tool for creating and editing of maps
- data management
- support of legislative measures, incl. the INSPIRE directive

You can use Hub4Everybody on our Hub(hub4everybody.lesprojekt.cz), if you wish to share your data publicly. If you wish to keep your data available only for a specific audience, we can offer you a tailor made solution. We are able to open your own instance in our cloud or even in your own infrastructure.

If you want to learn more about our solution, register for the International AgriHub INSPIRE Hackathon, Challenge Nr. 9 - A new social space for geographic information sharing and education.

Description of the technological line
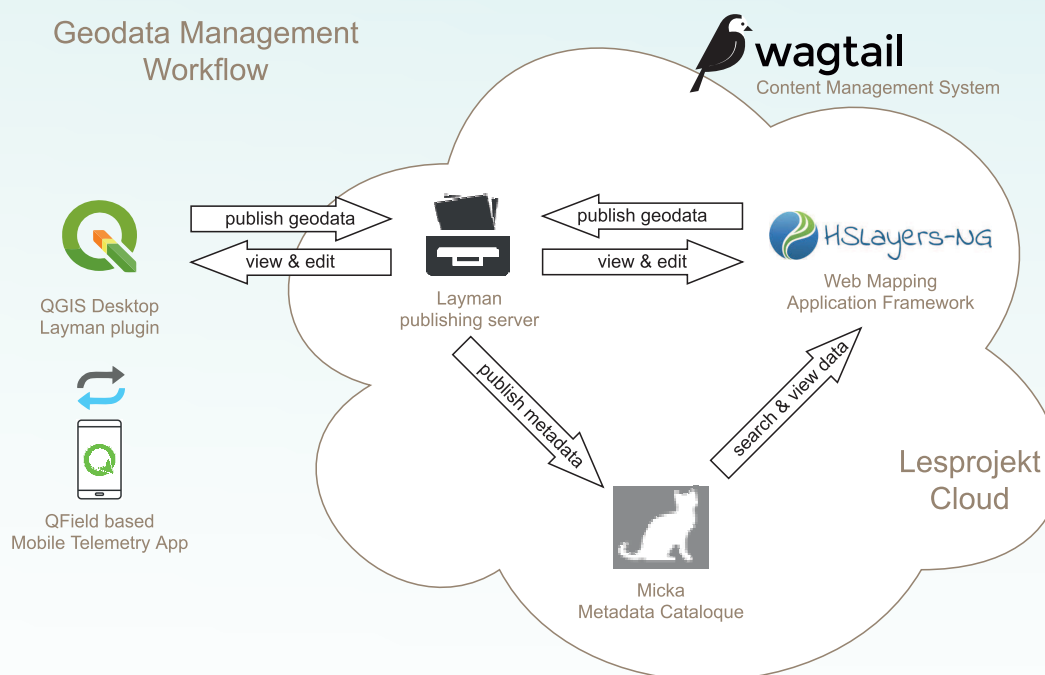
Wagtail CMS

Editorial system represents a basic unifying element for geodata processing. This system is able to create a web portal and also represents a natural junction for other parts of the system. The editing system solution is based on Wagtail CMS (Content Management System) Platform, extended by CodeRed CMS. It is one of the leading open source CMS used by small as well as large organizations (Google, NASA, British NHS). Wagtail is based on the Django system and the main programming language is Python. It enables a very easy extension of the functionalities in forms of widgets, web pages templates, or extending of authorization and other system parameters. It is therefore possible to integrate it with other systems used within the organization (e.g. geoportal of a city), if such demand occurs. There is a huge community of developers behind the system, where more complements and extensions can be developed.
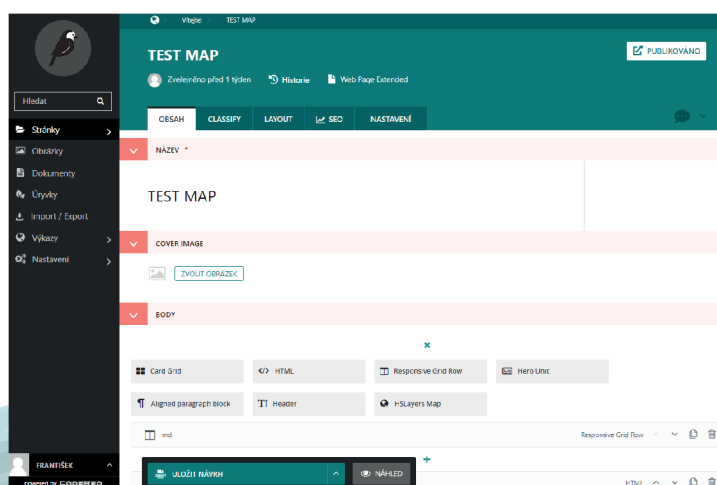

The CMS includes all other parts of the system at the authentication level to ensure Single Sign On (SSO).

In particular, Wagtail CMS will provide within the solution:

- general web content management tools including easy integration of maps, videos, images into HTML pages
- web content styling options
- user authentication for the CMS and other components
- options for setting rights for individual content types, differentiating the display of content based on who is viewing it
- map window with advanced functionality integrated into HTML pages (see HSLayers)
- in the case of integration to other systems, it will allow the following connectors to be set up
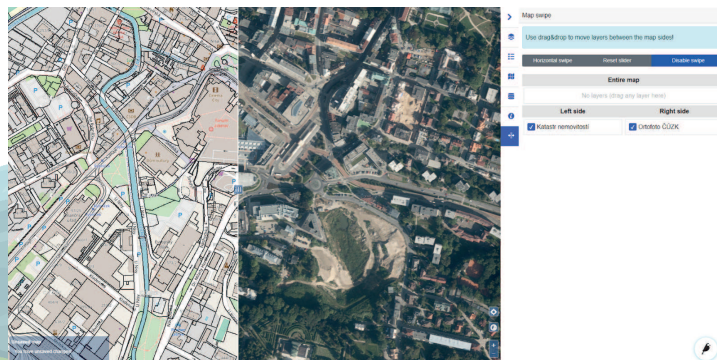
HSLayers

The web mapping component uses the open source mapping framework HSLayers-NG, see https://ng.hslayers.org/. This tool has been developed for a long time. It enables significant customization or functional additions depending on the requirements of the system. At the same time, there is already a functional integration to the Wagtail CMS in the form of a map widget, which will allow easy creation of maps within all HTML pages of the content management system, including detailed configuration of map layers and tools if required.
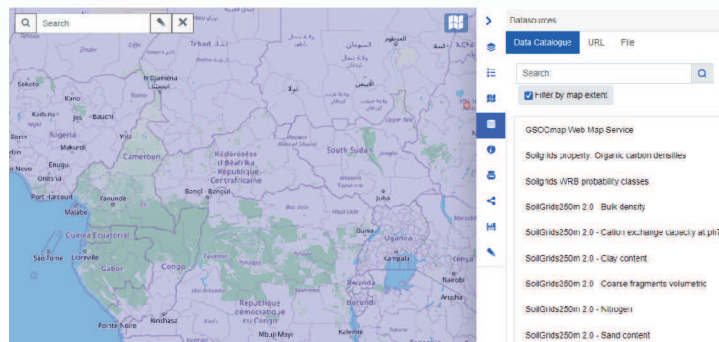

The HSLayers mapping component will ensure above all:

- map field for data visualization
- publication of map layers and full maps
- viewing map outputs of others users
- possibility of user adding additional map layers or services (also external)
- possibility of user plotting and editing of data
- export or print map content including added or plotted data
- comparison of two or more map layers within one window with the slider tool.

Nowadays, so-called dashboard systems are gaining importance. These tools provide an analytical view of data. Just the combination of data and spatial view is useful. That's why the HSLayers map module is ready for the popular open source dashboard Grafana, see https://grafana.com/oss/grafana/ .
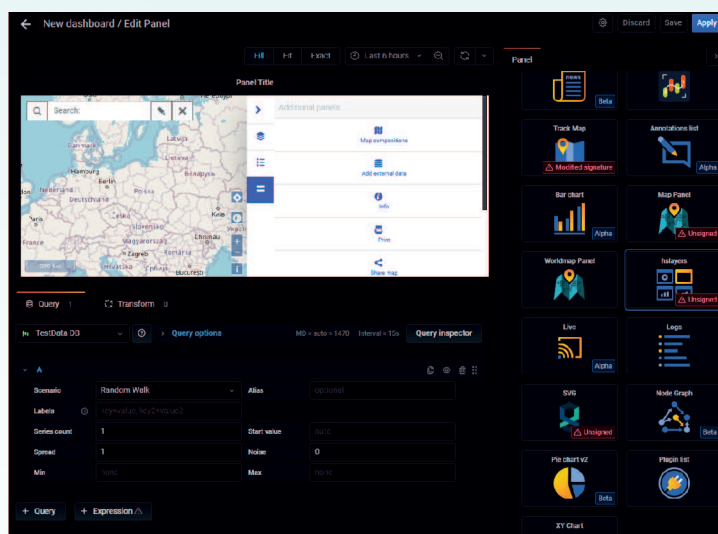
Layman

Layman is the publishing server that automatically converts your geodata into web services in OGC WMS and WFS standards. Data publishing is enabled by a web client based on HSLayers or a desktop tool for the popular open source QGIS.

Micka

Micka is the detailed metadata catalogue with INSPIRE standard support. All geodata published by our tools is automatically metadata-recorded. The metadata can be searched back through the HSLayers web client or the QGIS desktop tool.

QGIS + Qfield

To manage your geodata in a desktop environment, we have prepared a plugin for the popular open source QGIS software. It allows you to publish data layers and complex map compositions. It does not matter whether you work in the web client or in QGIS. Your data is still accessible from both environments. Mobile apps based on QField are new in our solution pipeline. It is an exaggeration to say, that it is a mobile QGIS, which also allows you to view published maps on your mobile phone and offers tools for data collection in the field. And all this can be extended according to your requirements.

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