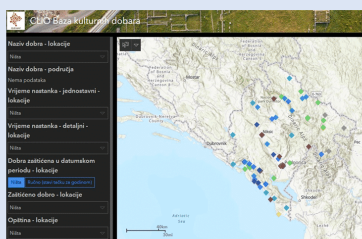# Mapping Cultural Heritage: CLIO MAP, Montenegro
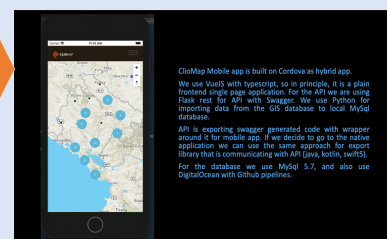
Olga Pelcer-Vujačić, Marko Krevs, Zerina Ćatović

CLIO MAP implies creation of commercial mobile application, multi-layered GIS data base as a comprehensive atlas of Montenegrin cultural and historical heritage The planned activities consist of the desk (archival, librarian, and other collections) and field (location survey, drawing plans, taking the photo and video material, interviews) researches. It is envisaged to have 500 monuments and artifacts of both tangible and intangible cultural-historical heritage on the territory of Montenegro selected according to the chronological, thematic, problem, and territorial dimension. This type of digitalization aims to promote education and valorization of our common heritage, as well as preservation in cases of natural disasters and human activities.

The project team comprises of scholars and experts from many different fields of human sciences – historiography, linguistics, history of art, GIS, photography, architecture, law, and political sciences
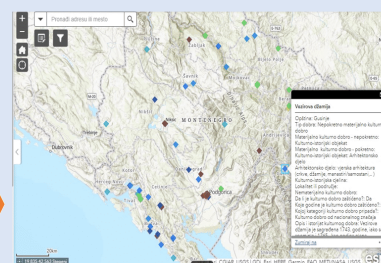
The creation of the multi-layered GIS database, containing wider contents of cultural heritage entries, will become a national hub for this category, online available and accessible, with the support of national stakeholders. It will cover all the major types of operative systems that contemporary smartphone and tablet devices use, so it will be readily available to the widest group of users possible, both in Montenegrin and English language, with an open possibility to be translated into other world languages

ClioMap Mobile app is built on Cordova as hybrid app.

We use VueJS with typescript, so in principle, it is a plain frontend single page application. For the API we are using Flask rest for API with Swagger. We use Python for importing data from the GIS database to local MySql database.

API is exporting swagger generated code with wrapper around it for mobile app. If we decide to go to the native application we can use the same approach for export library that is communicating with API (java, kotlin, swiftS).

For the database we use MySql 5.7, and also use DigitalOcean with Github pipelines.

Among the functionalities within the project we are working on basic data collection, including (collaborative) mapping; editing capabilities for content-related and geographic information; map-based presentation of the database, including capabilities of detailed inspection of individual items in the database, their selection, classification; maps, tables, photos, and other online information. All the information is in visual form (text, maps, photos).

The future national database includes audio materials (like recordings of speech in dialects, storytelling) or multimedia (like video, interactive video). The application will be continued to be updated and upgraded with new entries and data after the project expiration, bearing in mind its sustainability and prolonged relevance.

We analyze the reality in multidimensional and integrated approaches, fostering at the same time the "socialization" of spatial information. Special challenge is the interoperability of the cultural heritage data – between different institutions or disciplines as well as between national information systems, and the integration of one heterogeneous heritage dataset. We are especially aware of the importance of collaboration between all the interested sides, both in the creation and the evaluation of digital map, in order to avert possible dominance of one category or specific identity narrative about the past.

CLIO MAP

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