INTERACTIVE HIKING MAP
of the National Park Paklenica

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Map is a coded image of geographic reality that aims to present selected objects of features resulting from creative selection made by authors and used when spatial relationships are of first-class importance (URL 1).

Paklenica National Park

Due to its unique natural features, magnificent forests and extraordinary geomorphologic structures, the area of Velika and Mala Paklenica was proclaimed a national park in 1949. The main reason for proclaiming this area a national park was the protection of the largest and best preserved forest complex in the territory of Dalmatia, which was threatened by overexploitation (URL 2).

Introduction

Maps have been produced in a similar way for centuries, according to well-established rules and only by educated persons, cartographers. There was a very clear difference between map authors and users in the past (Frančula 2005), however, today there is an ever increasing number of *laypersons* who engage in producing maps. It is of course caused by computers and Internet being an integral part of business and private lives, as well as by freely available cartographic data and free cartographic softwares.

Interactive maps

In a very short time, Internet has proven as its basic advantage to have the possibility of searching and publishing extremely large number of data available to a large number of users. Among many other data available on Internet, there are also a large number of various maps.

The availability of Internet maps is one of the basic advantages as related to traditional maps, and the other important characteristic is *interactivity*. Interactive maps make is possible for users to have the contents they are interested in presented in better laid out and more interesting way.

Some of the basic advantages of interactive maps are: the possibility of changing the scale, the possibility of changing the view, the possibility of selecting symbols or colours on a map, moving on a map, switching on/off the layers on a map, links to other maps or pages, etc.
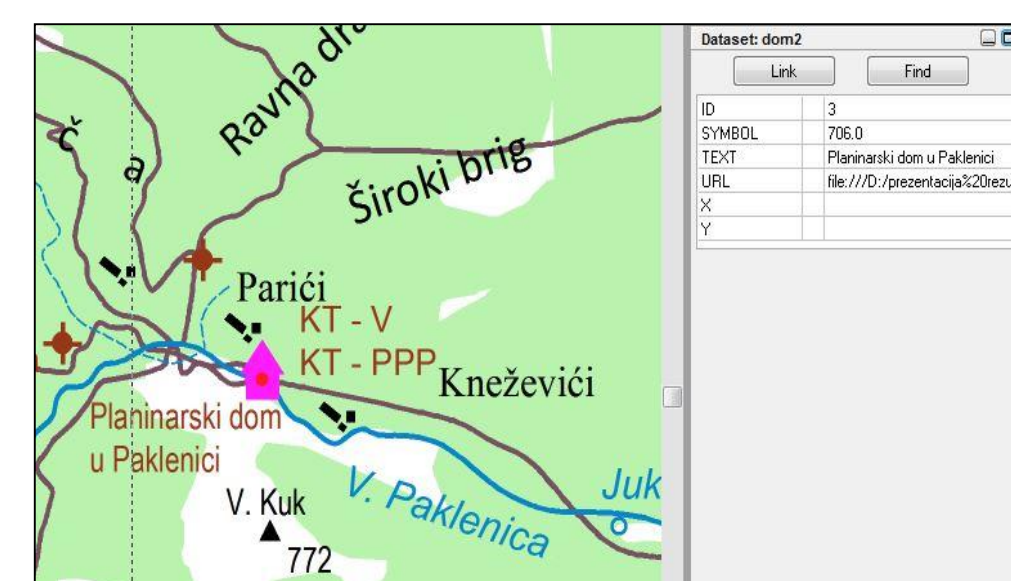
Hiking maps

Hiking maps are special type of thematic maps where hiking infrastructure and connected contents are specially emphasized. It refers first of all to relief, peaks, passes, control points of hiking trails, accommodation, water, traffic and tourist contents interesting to hikers.
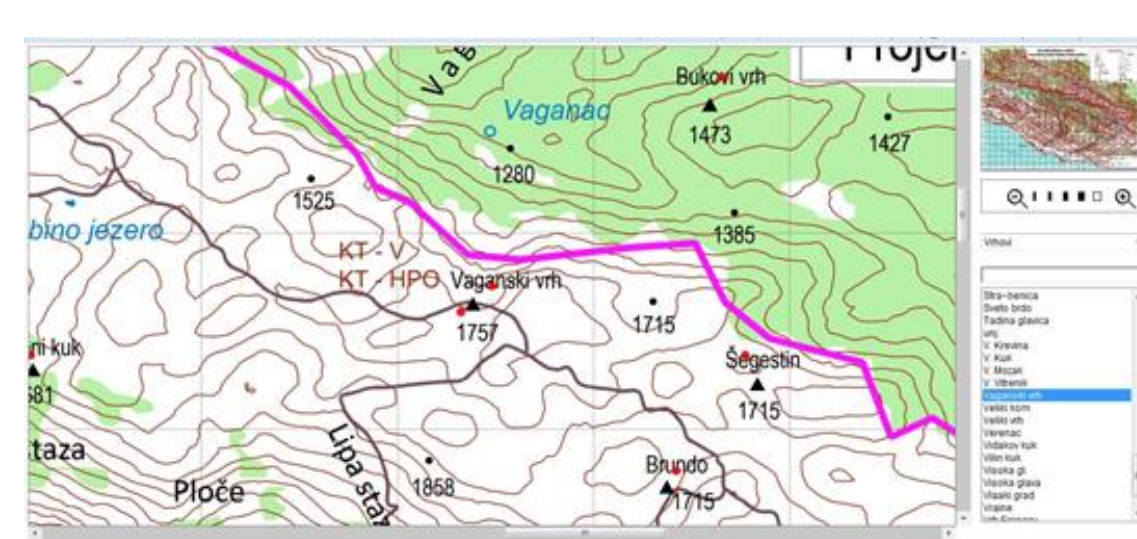
In order to increase the accuracy of hiking infrastructure presentation, and to provide better map reliability for users, the data about the hiking infrastructure are collected by means of GNSS devices.

Interactive hiking maps provide in well laid out manner the data about the existing hiking trails, their length, weight, the time needed to pass them, trail marking, hiking infrastructure (shelters for hikers, mountain lodges, control points with trails, etc.), the interesting phenomena that can be seen on a trail, drinking water wells, and all other data that might be of interest to hikers during their trips.
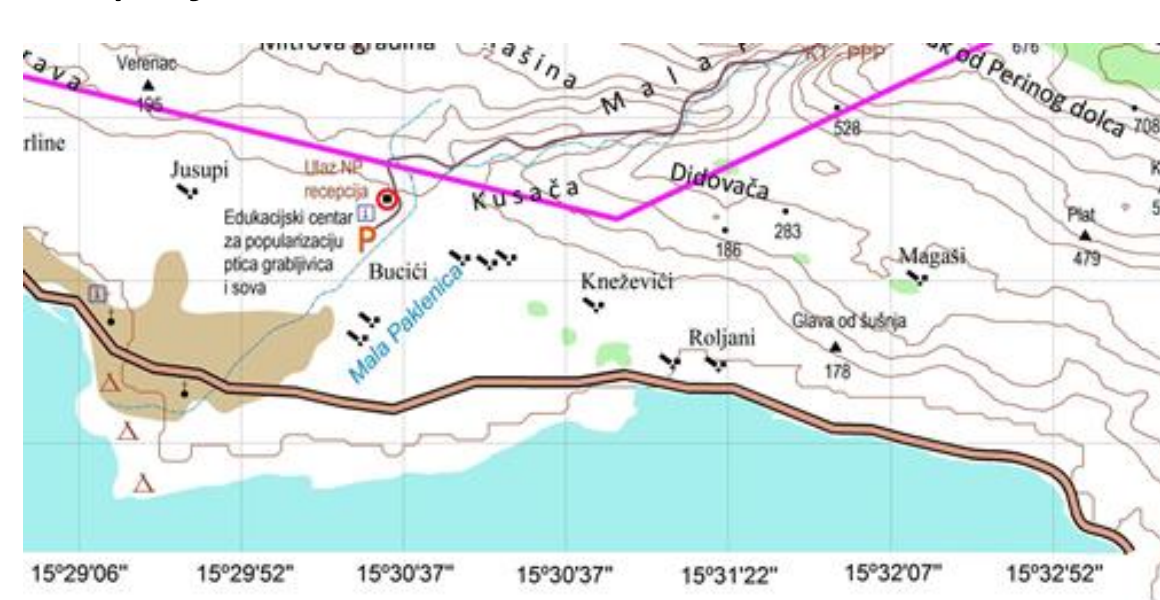
Interactive hiking map of the National Park Paklenica was made within the frame of the diploma thesis prepared at the Chair of Cartography at the Faculty of Geodesy, University in Zagreb in 2013 (Smukavić, 2013). Various programmes were used in individual phases of the work (OCAD 9.0.1; Quantum GIS 1.8.0, GRASS GIS 6.4.2., Dynamic HTML Editor 1.9, CoordTrans 2.3), and the database was created in OCAD.

As the primary cartographic source of origin, the topographic map 1:25 000 from the State Geodetic Administration was used that was taken over by means of wms-service from Geoportal of SGA. The relief was presented with contour lines that were interpolated from ASTER digital terrain model.

Conclusion

Interactive maps have found their application in hiking as well. More and more hikers use *smart devices* for orientation that contain topographic and/or other cartographic products adapted to moving around certain terrain. This trend has not been fully developed in Croatia, but the increased number of users of *smart devices* and applications adapted to them shall certainly lead to a larger number of interactive hiking maps. *Web GIS of mountain lodges and shelters in Croatia* presents a very important contribution. It was made by the member of hiking section at the Faculty of Geodesy (URL 3).

Although interactive maps and *smart-devices* make the orientation in the field much easier, one should consider possible problems with signals in remote and sheltered areas. Still, if the map should make the work possible without Internet connection, it could be a far more practical way orientation in the nature, because it is smaller, easier to search and simpler to handle.

Interactive hiking map of the National Park Paklenica

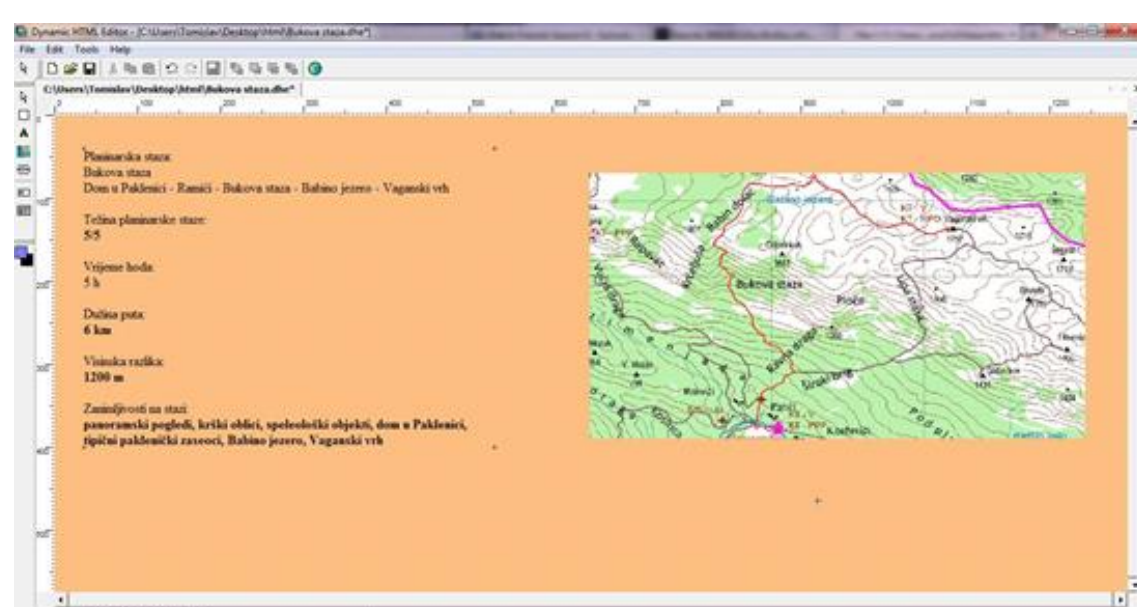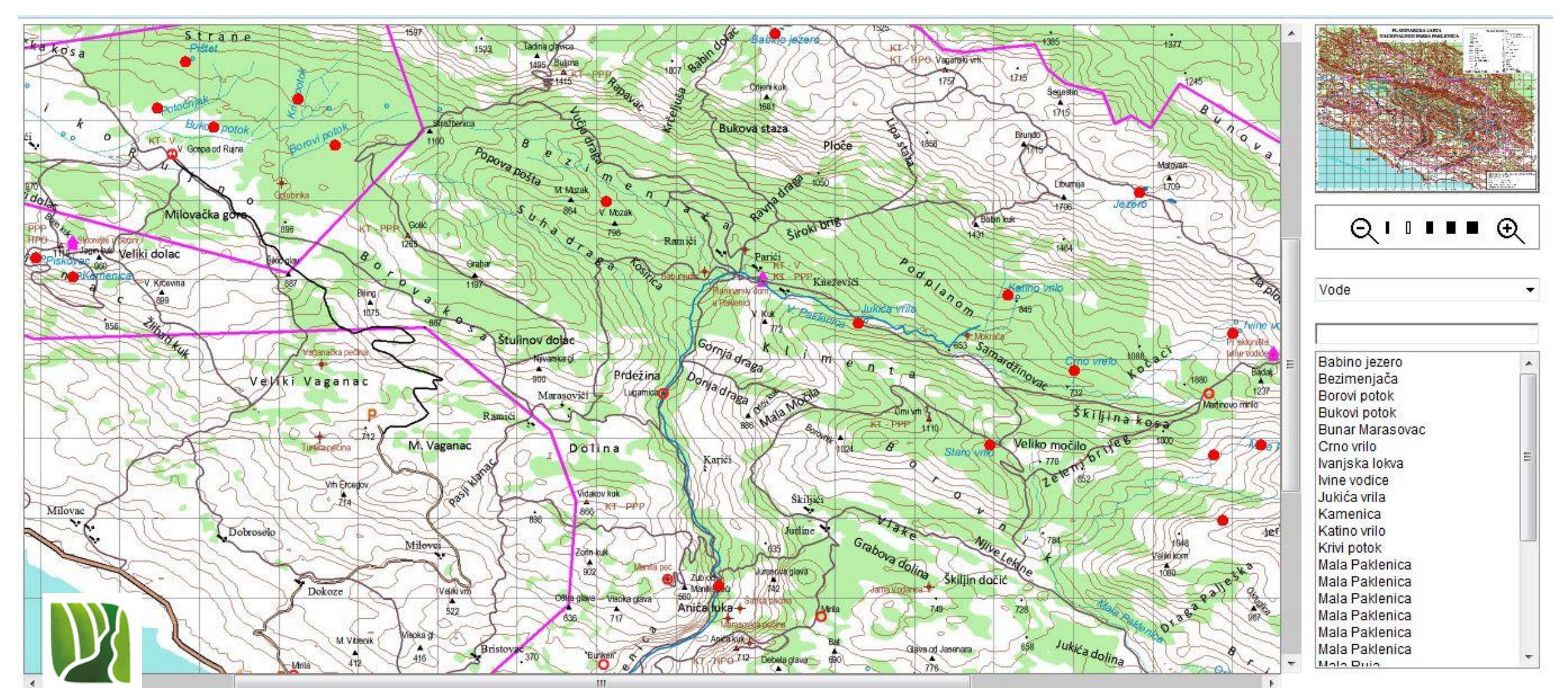*Presentation of the information from database after selecting an object*

Presentation of map search

Presentation of coordinates on the hiking map of the National Park Paklenica

Presentation of additional information about hiking trails

Literatura:

Frančula, N. (2005): Kartografija u 21. stoljeću, *Kartografija i geoinformacije*, Vol. 1 No. 4.

Smukavić, M. (2013): Interaktivna planinarska karta Nacionalnog parka Paklenica, diplomski rad, Sveučilište u Zagrebu, Geodetski fakultet, Zagreb.

URL 1: International Cartographic Association, http://icaci.org/ (25.03.2013.)

URL 2: National Park Paklenica, http://www.paklenica.hr/en/, (23.06.2014.)

URL 3: Web GIS planinarskih kuća, domova i skloništa u Hrvatskoj, http://planinarski-portal.org/.