

# Graphic design and placement of map tools in mobile map application

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## Abstract:

**Research problem:** The analysis of the user's preferences concerning the layout and graphic design of mapping tools in the mobile mapping application is the problem touched upon in the research. The authors focused on six public web mapping services (Google Maps, Bing Maps, Here WeGo, ArcGis Maps and the Polish geoportal: [geoportal.gov.pl](http://geoportal.gov.pl)), analyzing them in terms of their graphic variability and the functionality of their mapping tools.

The **aim** of the research carried out was to test the user's preferences concerning the number and layout of buttons in the web mapping service. The research also touched upon the issue of variability in graphic web design of mapping tools in mobile cartography. The authors concentrated on the following six mapping tools, also referred to as buttons: Geolocation, Change layers, Search, Default range maps, Measure, Route. Those functions most frequently occurred on selected web mapping services. The authors could learn about their usefulness through subjective choices of respondents.

**Method:** One hundred respondents took part in the research and, by means of the anonymous online questionnaire, they answered some questions and decided upon the number, layout and visual aspect of buttons. The comparison of subjective user's preferences in the layout of mapping tools to the system of public web mapping services has made the research innovative.

The **results** obtained allow one to draw the conclusion that the user's preferences differ from the solutions utilized on mapping portals and have been employed for the comparative analysis of the eight most popular global web mapping services. The study conducted by means of the eye-tracking method demonstrated that objective functionality (time and method of specific task execution) differs from subjective evaluation made by map users on smartphones and large desktop display screens.