3D visualization of tourist trails in mobile applications - a study of user preferences

Stanisław Szombara[1], Małgorzata Zontek[1]

[1]*AGH University of Science and Technology, Kraków, Poland*

E-mail: szombara@agh.edu.pl

The paper presents the results of a study of the preferences of users of mobile applications. The application in question is showing selected tourist trail leading to the highest Polish peak, Rysy, visualized in various displays of 3D representations. The visualizations were created using Mapbox libraries and in the Android environment. The survey included 3 visualizations that differed in the way the altitude was shown (see Figure 1). Fifty-four people took part in the survey. The respondents used their own smartphones. Most of the respondents lived in or around the mountains. The results of the survey showed that a visualization that included, among other things, an interactive elevation graph was rated better than apps using other 3D visualization methods. A presentation using an animated terrain model with the trail plotted on it was rated best in terms of presenting tourist values and encouraging people to walk along the chosen trail. As an additional visualization, respondents were presented with an application showing the tourist trail to Rysy and a terrain model of the mountains in Augmented Reality. Due to the limitations of smartphones, not all respondents were able to use it. The results showed that the use of new technologies in cartography must be tailored to the needs of users and cannot be introduced unreflectively.

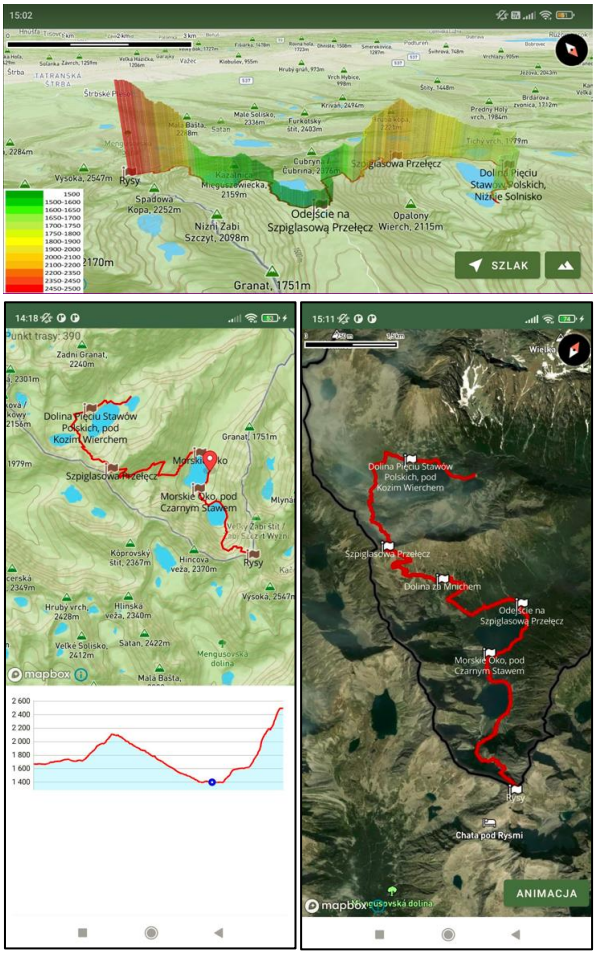

Figure 1. Three versions of the visualization of the tourist trail.