

13E.1 | Utilizing a Mobile Smartphone Application in a Mountainous Environment (#1156)

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The use of mobile devices with navigational facilities is nowadays becoming ubiquitous in daily life. Practically all high-end smartphones have access to applications that possess map-based functionalities for spatial guidance. The question however arises whether the hardware on the one side and the software as well as the cartographic content on the other side are in combination appropriate for serious use in an outdoor mountainous environment. Utilizing an application is straight forward and results are easily reproducible in a clearly defined secure environment. However if the same procedure is carried out under serious conditions, such as in a snow covered mountainous environment with low temperatures, limited visibility, high humidity and gale force winds the outcome can be very ambiguous. This contribution deals with the theoretical as well as practical approach taken into consideration during the design process of a map-based mobile smartphone application for use in mountainous areas. In order to illustrate the proof of concept a prototype was developed and tested in field. At first the basic components that were required will be described and evaluated from a cartographic perspective. Thereafter the system design will be introduced with a strong emphasis on graphic design issues. In order to efficiently design a mountain compliant mobile smartphone application it is primarily important to understand the user's needs. Therefore results from a user evaluation will round up the contribution.