

Needs, Concepts and Realization of a Mountain Compliant Mobile Smartphone Application

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ABSTRACT

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. However problems start arising if urbanized areas are abandoned, off-road terrain is encountered or even rugged mountainous environment is penetrated. Technical restrictions such as GPS signal strength and network coverage are not the only obvious problems that decide whether an application is accepted or refused by the user. Technical efficiency, usability, layout, design, cartography and even esthetics play an essential role in the overall acceptance of a navigational mobile smartphone application.

In order to design a map-based mountain compliant mobile smartphone application it is primarily essential to understand the user's needs. Based on derived user constraints a tailored concept must be adopted to fulfill all prerequisites before final realization is contemplated.

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 and retraces the chronology from the initial idea to a functional prototype.