User Interaction and Design Issues for the Tyrolean Avalanche Warning Center Portal

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ABSTRACT

The main objective of the "Tyrolean Avalanche Warning Center Portal" that is embedded within a project between the Avalanche Warning Center of Tyrol and the University of Vienna, Department of Geography and Regional Research, is to communicate and visualize avalanche relevant information with a strong cartographic spatial emphasis to the general public. The major focal point of research lies in adequate geo-communication of spatial, temporal and thematic content. This content embraces avalanches, snow profiles and mountain casualties that are recorded respectively occur during the snow covered winter season in the Tyrolean Alps.

The information system that is being adopted to host this content has the goal to spread avalanche relevant facts to the general public. The main research task is to develop a framework that can focus on how users interact with the system in an efficient and sustainable way in order to satisfy their needs.

Besides technical and thematic issues, an important area of focus lies in usability and design aspects of the system. Solutions related to graphic design, color management, visualization guidelines as well as problems regarding spatial, thematic and temporal navigation and how they interact together are subject of discussion.

The system realization is twofold primarily focusing on a public approach for efficient information retrieval. In addition to the public version, there is also an internal secured section for administration with the possibility to manipulate and manage avalanche events and snow profiles. User management offers restricted functionalities to different users. Furthermore focus is also directed on standardization such as the creation of prototypes that can be transformed to similar International projects. User-centered design provides flexible usability for future developments such as multilingualism and expert snow profile creation in order to enhance the overall handling of the system.

This paper deals with the conception and implementation of an Avalanche Warning Portal and how information for decision support can be communicated efficiently utilizing maps and graphic depictions.