

Information and Navigation System for Mountaineers: the Paramount Project

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PARAMOUNT project aims at the development of a Location Based Service (LBS) for mountaineers and hikers in the Alps and Pyrenees. Within the project it is anticipated to deliver various kind of useful information to tourists in the mountains and also to increase their safety. To achieve these objectives several services are developed. During the design, development and implementation of them, the state of the art of some technologies like GIS, GPS, Internet and GPRS are considered.

The main objective is to contribute to the improvement of user friendly info-mobility services, especially for mountaineers, by combining: Satellite Navigation (GPS) and Telecommunication (GPRS) with Geoinformation (GIS) technologies. In the frame of the project a prototype for those services is developed and evaluated in specific test areas. The main milestones/goals are the following ones:

- Development of prototype for mountaineers, to be evaluated in test areas in the Alps and Pyrenees.
- Integration of positioning, navigation, communication, coordination and information services
- Implementation of safety features (Search and Rescue functionalities; safety relevant information) allowing immediate help from outside in critical situations
- Integration of appropriate information and coordination functionalities for mountain rescue teams
- Development of a procedure for capturing/updating GIS data involving the users
- Demonstration and proof of feasibility of such a LBS in mountainous terrain

The system is based on three main service packages:

INFOTOUR provides different kinds of information and functionalities, as topographic maps, routing functions, tourist information on points of interest, avalanche forecasting and local weather forecast. Those information could be displayed in different ways -even in 3D- on the mobile device.

SAFETOUR aims at increasing the safety of the users and providing assistance to search and rescue (SAR) teams during their operations. Therefore on the one hand it offers functionality like tracking of the user or sending an emergency call (incl. position). On the other hand it provides special features for the control/coordination of SAR missions.

DATATOUR has been designed to reduce maintenance costs for updating the database of the whole system. Data from willing users will be captured and automatically verified against the information already in the database. This information can e.g. be used to derive new trails from the captured data and update the database.

This paper gives an overview of the PARAMOUNT project and presents some preliminary results of the field tests.