VISIMAN. Development of a flexible visitor management tool for national and regional natural parks

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Abstract

Within the scope if the VISIMAN project a new IT-based tool for visitor management in national and regional natural parks will be developed. The product comprises a system-based management platform with interfaces to the four functional units: 'visitor information', 'expert information', 'visitor monitoring', and 'data management'. By keeping the interfaces open, the management can be extended for other functional units and applications on demand. Visitor monitoring was implemented and counting methods advanced.

Introduction

Nature parks are in conflict between nature protection and tourism attraction. On one hand, nature parks are very attractive as tourism destination with increasing visitor numbers (Reinius & Fredman, 2007); on the other hand,nature protection is an important task of nature parks. The park management must find a way between the interests of protection and adding value out of tourism. Park management is a very complex mission. IT systems can support decision making and help prepare and provide the information needed in an efficient way. Unfortunately few broad IT-tools are existent on the market. Therefore an interdisciplinary project was launched to start data collection and develop such IT software, storing and processing data for park management uses. The IT tool will be developed in collaboration with four project areas in Switzerland: the Swiss National Park, Wilderness Park Zürich, Regional Nature Park Pfyn Finges and nature reserve Tanzboden. The requirements of the different regions will be worked out and the tools will be adapted for these partners. The project is co-financed by CTI, the Swiss innovation promotion agency.

Project aim

In the project areas there is an important demand on visitor monitoring data and information for managers and visitors. In this project visitor monitoring will be started respectively extended. The aim of the project is to design and develop a working IT-system that can be adapted to the special requirements of the user parks. With this IT-tool it will be possible to get quickly required information about visitor monitoring data, actual research results and to prepare and provide detailed information for visitors. Fig. 1 gives a schematic view of the IT-tool. A software system alone does not satisfy the needs of the project partners. A broad package consisting visitor monitoring, data management and support is needed.

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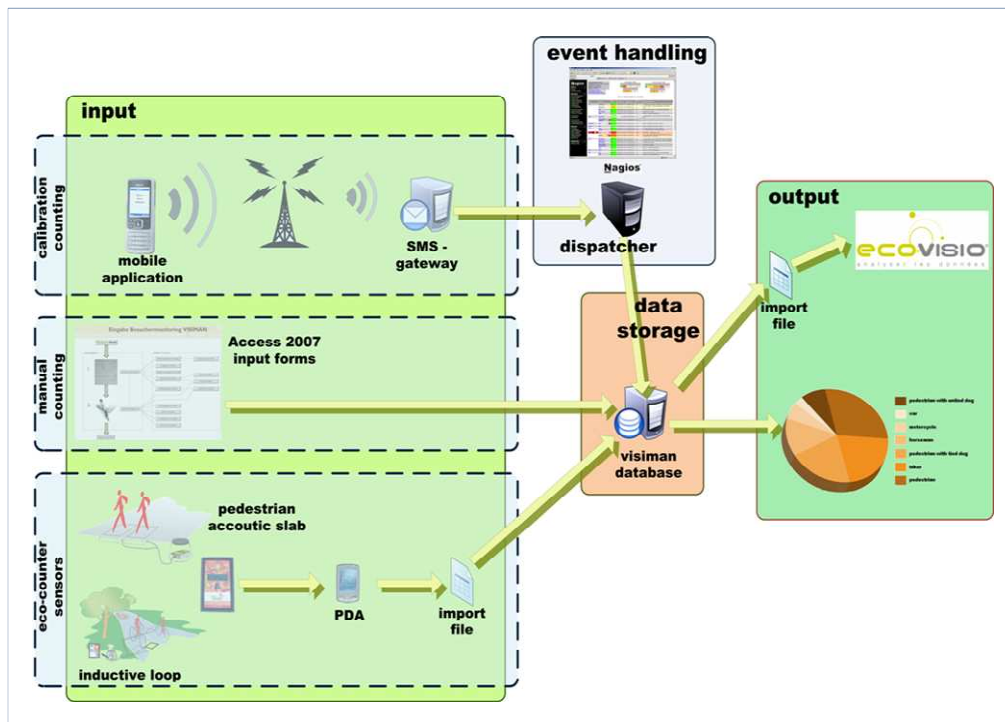
Fig. 1: Scheme of the IT working tool VISIMAN

Project design

Firstly, interviews with project partners were conducted to get to know their requirements for the product. Visitor monitoring had to be designed for the project areas. In the Swiss National Park visitor monitoring had already started, but methodological perfection was performed (Rupf et al. 2008). In the nature reserve Tanzboden, mountabike monitoring has been started (Iten & Siegrist 2006). An overview of monitoring methods is given in Cessford & Muhar (2003). As it is not possible to count every person visiting the park, it is necessary to formulate the main purpose and questions to be answered. Regarding these definitions, counting sites and methods were defined in each park. Manual counting, automatic counting with accustic slab sensors and pyro lenses of ecocounterTM took place. As automatic counting turned out to be less accurate than expected, special attention was paid to these methods (Rupf et al. 2006). External data like parking revenue, restoration turnover, data of public transport use etc. will be used and integrated in monitoring. In areas with complex path networking it will be necessary to build a visitor flow model based on manual and automatic counting.

Expected Results

The functionality of the IT-system is designed in different modules and centralized data storage to keep the system extendable and adaptable for special park requirements. Nagios was chosen as the central element of the system. The nagios system is freeware, distributed under the GPL license and therefore the source code is available and the system offers maximum oflexibility for adaption of special requirements. The central management platform will be designed with open interfaces to the different modules, data management, visitor monitoring, expert information and visitor information. All incoming data, for example monitoring data or even an email notification, is dispatched by the nagios system. In case of monitoring data, the central management will call an appropriate event handler and stores the monitoring information in a database (MySQL) or committed directly to evaluation procedures (see Fig. 1). The user interface is designed for park rangers or managers and realised as a web application. Therefore there are, apart from the server installation, no additional installations on client side. That means, the system can be easily used with any browser and without further knowledge or costly training.

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