VISIMAN
Development of a Flexible Visitor Management Tool for National Parks and Regional Natural Parks

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Summary

The main goal of the project VISIMAN is the development of a new IT-based tool for visitor management in national parks and regional natural parks. The product consists of a system-based management platform with interfaces to the four functional units; visitor monitoring, visitor information, data management and expert information. The IT tool can easily be extended with further functional units and applications. A visitor monitoring is implemented in all four project areas, which increases the precision of the gathered visitor numbers.

Keywords

IT management tool, visitor monitoring, visitor management

Introduction

Nature parks are in conflict between nature protection and tourist attraction. On one hand nature parks are very attractive tourism destinations with increasing visitor numbers (REINIUS & FREDMAN 2007); on the other hand protection is a crucial task of nature parks. The park management needs to find its way in between these differing interests (BORSDORF & KÖCK 2009). IT systems can efficiently support decision making and help to prepare and provide the needed information. Unfortunately, only few broad IT tools are currently available on the market. Therefore, an interdisciplinary project was launched to develop an IT tool that stores, processes and provides data, which are relevant to park management issues. The IT tool will be developed in collaboration with four project areas in Switzerland: the Swiss National Park, Wilderness Park Zurich, Regional Nature Park Pfyn-Finges and nature reserve Tanzboden.

Project Purpose

In the project regions there is a significant demand for visitor monitoring data and information for managers as well as for visitors. Therefore, visitor monitoring was launched or extended. The aim of the project is to design and develop an IT system that can be adapted to the specific requirements of the using parks. The IT tool provides quick access to visitor monitoring data, actual research results and provides detailed information for visitors. Fig. 1 gives a schematic overview of the IT tool's different work steps.

Project Design

Interviews with the project partners were performed in order to assess the exact requirements for park management software. Different workshops with park managers enabled the evaluation of the needs and possibilities. A number of options were analysed before choosing the best suiting IT system. The software is built iteratively using the feedback of the customer.
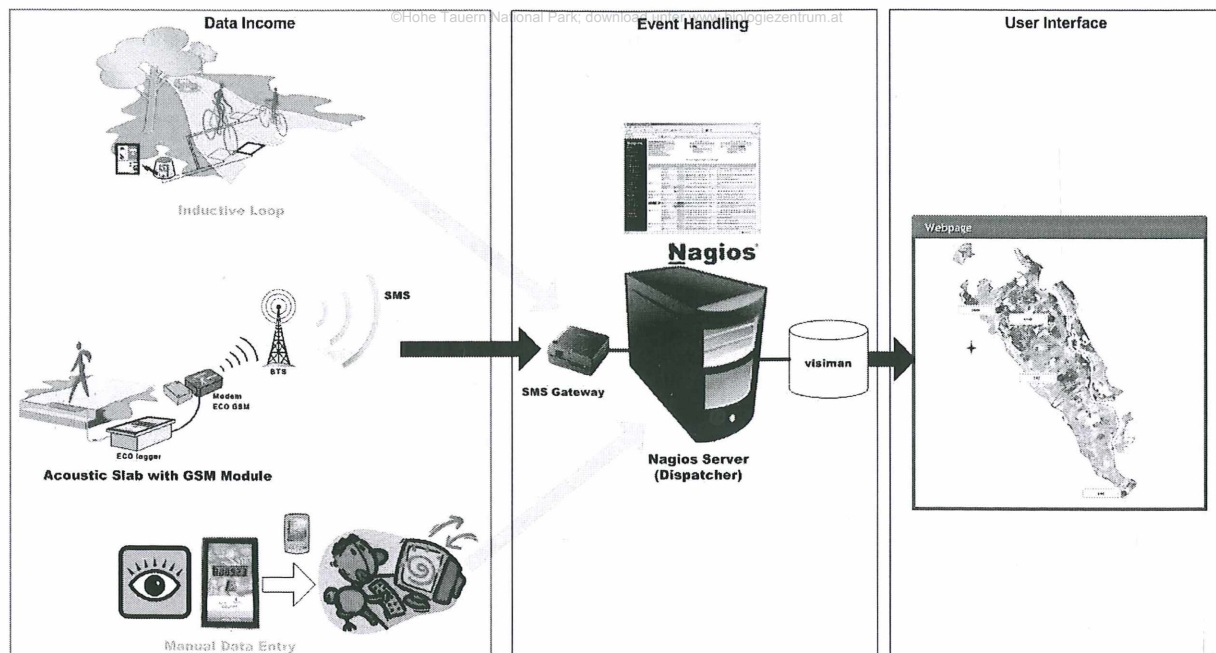
Figure 1: Operation scheme of the VISIMAN IT tool (modified from www.eco-compteur.com)

A visitor monitoring had to be designed for the remaining project areas, since it had already started and was methodologically improved in the Swiss National Park (RUPF et al. 2008) and in the nature reserve Tanzboden (ITEN & SIEGRIST 2006). An overview of monitoring methods is given in CESSFORD & MUHAR (2003). As automatic counting turned out to be less accurate than expected, special attention was paid to improve these methods (RUPF et al. 2006). Furthermore, external data like parking revenue, turnover of hotel and restaurant industry, public transport data etc. are also integrated into the monitoring.

Expected Results

The IT system is composed of different application modules and central data storage in order to keep the system extendable and adaptable. The central element of the system is constituted of the open source dispatcher system NAGIOS, distributed under the GPL license. The open code allows adaptation to special requirements. The central management platform is designed with open interfaces to the different modules, which are data management, visitor monitoring, expert information and visitor information. All incoming data is dispatched by the NAGIOS system and stored in a database and directly committed to the evaluation procedures (see Fig. 1). The user interface is built by using web-based technologies and can be run by any web browser. The system can therefore be used easily without further knowledge or costly training.

Visitor monitoring turned out to be the most important information for the project partners so far. Firstly, monitoring concepts are developed. Secondly, different monitoring methods, such as automatic counting, manual counting as well as indirectly collected data are applied with respect to the previously defined monitoring goals. Automatic counting has been optimized in the Swiss National Park (RUPF et al. 2008) and will be used in the other parks as well. In Parks with a complex path network, a visitor flow model, mainly based on manual counting needs to be developed. In combination with automatic counting methods, which provide continuous data over the entire measuring period, the visitor flow model can estimate the number of visitors and the visitor distribution at any time. By using data transfer on mobile technology, real time visitor numbers as well as crowding alarms can be submitted to the correspondent information centres.

Various park managers confirmed the need of visitor information in order to fulfil their missions of nature protection and education, as well as for tourism reasons. Therefore, a communication concept, which determines target groups, communication channels and content, needs to be developed. However, the need of visitor information in the partner regions is quite different. The Swiss National Park for instance offers plenty of visitor information, while other partners like the Regional Nature Park Pfyn-Finges and the Wilderness Park Zurich are still developing their information systems and contents.

The need for variegated information for different experts such as park managers, public relations responsibles or researchers is obvious. Different information systems in related fields already exist, e.g. ProClim-Info System or meta-meta-database. The main problem of these systems is their research oriented approach and the missing knowledge transfer to park management. This problem is faced by the deployment of a wiki system, which makes research results more exploitable for decision makers.

Aknowledgements

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