Evaluating a Web-based Platform for Eco-Tourism

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Abstract

In this paper we focus on the first results of the evaluation experiment of a web-based platform. The platform is called EcoZante and supports the needs of individual eco-travelers of Zakynthos. It presents the local products, businesses as well as other information about the natural and cultural environment of the island. The main aim of the system is to become a useful tool for travellers that want to virtually explore a place that has not visited before. The main difference of the proposed system is it that makes personalised recommendations to its users. In order to evaluate its performance, for the last year the interaction of all different users of EcoZante was monitored. The factors (variables) that where monitored and contrasted during the study where: Type of content (accommodation, sightseeing, restaurants, local products) and type of exploration services (recommendation agent, search wizard, forms of tag cloud, interactive map, interactive tags).

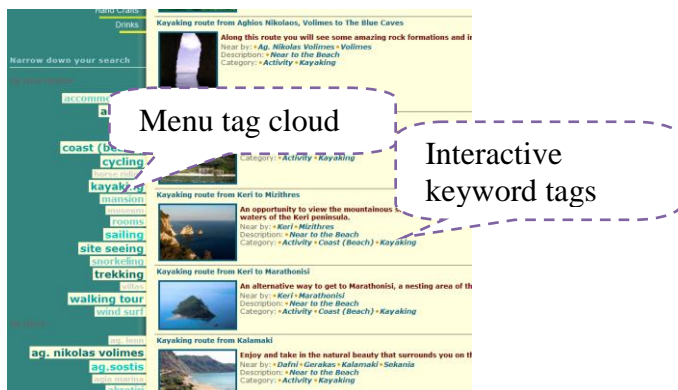*Keywords: Ecotourism, e-tourism, recommendation systems*

1. Introduction

A common tool for promoting eco-tourism is Internet. Travelers search information relative to their trip, make online air-ticket bookings, online room reservations, plan trips and make other online purchases themselves instead of relying on travel agencies to undertake this process for them (Morrison et al. 2001). Indeed, as Gretzel and Yoo (2008) point out, three-quarters of travelers, in general, have considered online consumer reviews as an information source when planning their trips. Therefore, many different web sites have been developed for eco-travelers around the world (e.g. Halvatzaras et al. 2009, Dorsey et al. 2004)

In view of the above, we have developed EcoZante, a web based platform supporting the needs of individual ecotravelers. EcoZante was implemented for the eco-travelers of Zakynthos, presenting the local products, hotels and businesses of the island. The main aim of the system is to become a useful tool for travelers that want to virtually explore a place that have not visited before and do not have any prior knowledge about it. The innovation of the platform is that it improves human-computer interaction by providing services like interactive map, a Recommendation Agent, an Automated Classification system etc.

This paper focuses on the first results of the evaluation experiment of EcoZante. More specifically, we describe the experiment and the analysis of the first results and present some of the conclusions drawn.

2 Description of the system

In this section we give a short overview of EcoZante. EcoZante has been designed for presenting local businesses that promote the ecological profile of Zakynthos to possible travelers. For this purpose the platform present hotels and pensions, restaurants, shops with local products etc.

In the web platform six main services were implemented that aim to deliver valuable content to the user by different interaction methods. In many cases the services overlap in terms of goal. The variety of the services was decided due to the fact that ecotravelers have a wide variety of ideas and motivations for ecotouristic experiences (Chirgwin & Hughes 1997).

The six main services are:

- Information tagging: In the data model are included fields such as: Photos, GPS coordination, Textual information, etc. The crucial fields of the design are the tag metadata fields. These fields are used by different services of the system in order to achieve a more advanced user interactive experience.

- Views and indexing: Users can navigate and search for information through lists that contain items of information in the form of thumbnails, keywords and short descriptions. Each list contains records of information of the same type such as Accommodation, Activities, Flora, etc.

- Automatic classification system: An innovative feature of the platform is the automatic classification system. The platform can create indexes automatically based on any field of metadata.

- Search wizard: The search wizard can be perceived as a direct interaction recommendation system, where search results are ordered based on the satisfaction of the user's search criteria.

- Interactive Map: The interactive map enables users to explore virtually a geographic area. On the interactive map users are able to view records of information as clickable icons on a map.

- Recommendation agent: EcoZante's recommendation agent has been implemented as a list of summarized records that might interest the user.

- Content generator: Content generator is the main component of the web platform. It is able to handle users' requests and in response to deliver the desired content accompanied with recommendations.

- Interactive keyword tags and tag clouds: These tags are presented as characteristics of the presented content. The visitor can click on them in order to refine his/her search based on the specific keyword

3. Evaluation

During 2009 and early 2010, we went through an interface evaluation process of EcoZante where its interface was optimized. So the improved web platform was further evaluated in order to capture users' interests about the island of Zakynthos. This evaluation experiment took place from 1st of May 2010 and for almost a year. Evaluation data were collected using a web service provided by Google (Google Analytics).

A main problem that many times occurs when analyzing network traffic is that netrwork data, in many cases, contain "noise", e.g. interactions recorded that do not correspond to potential ecotravelers. For this purpose, first, the data collected, were filtered by subtracting the interactions that has our labs' IP and those interactions that were less than a half a minute long. The latter kind of interaction possible indicated users that visited the website but were not interested on the content of the site at all.

The evaluation experiment involved the navigation method used by the users for acquiring the information they need. More specifically, user preferences in terms of navigation were evaluated at the front page. Classic and alternative methods were presented at the home page of the website where the users are free to choose any of the available navigation methods. The alternative navigation methods include: menu, navigation map, tag cloud and a search wizard.

Most users (35% of all interactions) preferred the classic menu for searching information in EcoZante. What is rather interesting is the low percentage of search wizard's use, which was only 12% and the high percentage of use of alternatives methods of navigation such as tag cloud and navigation map. More specifically, 24% of the users preferred navigation through the map and 29% of the users had used tag clouds.

Additionally, the evaluation experiment revealed the kind of information that interests a user visiting a web-based platform for ecotourism. The most popular category of search was accommodation and restaurants. The less interesting category was local businesses. What was rather interesting was that 38% search for information about

nature, sightseeing or ecological activities. A more detailed analysis of the results is presented in figure 1.
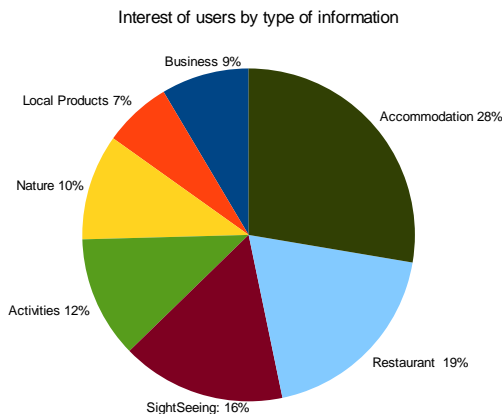
Interest of users by type of information

Figure 1: Analysis of users' interests in EcoZante

5. Conclusions and Future work

In this paper we have described the first results of the evaluation experiment of EcoZante. EcoZante is a web-based platform that presents information for eco-tourism in Zakynthos. The evaluation experiment mainly focused on the methods of navigation used for information search as well as the kind of information that interests a potential traveler of the island. The analysis of the results regarding the navigation method revealed an increasing interest for alternative methods of interaction that provide a more interactive user experience in human-computer interaction. Concerning the users' interests, more traditional accommodation is high in travelers' interests. Increasing is also the interest about alternative activities that involve nature or specific sights. It is among our future plans to complete the evaluation experiment and analyze further its results as well as making the improvements that will derive by this process.

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