1. INTRODUCTION

1.1 Travel decision making

Travel planning is a multi-faceted decision process consisting of choosing a destination and grouping together tourism products and services (attractions, accommodations, and activities) closely related to the destination (Dellaert, Ettema, & Lindh, 1998; Jeng & Fesenmaier, 2002; Moutinho, 1987).

The complexity of the concepts used and of the decision process involved in travel planning poses challenges for the design of usable and effective decision support tools. For instance, the terms destination and travel plan refer to fuzzy concepts that lack a commonly agreed definition. Furthermore, the spatial extension of a destination is known to be a function of the traveler’s distance from the destination area. Italy could be a destination for Japanese, but a European traveler may focus more specifically on a particular region, such as Tuscany.

Moreover, a travel plan may vary greatly in its structure and contents, and different strategies can be used to construct it. For instance, some people may search for pre-packaged solutions (all-inclusive) while “free riders” may prefer to select each travel component separately. It is possible to start from a destination and then to search for other items (for example in a nature-oriented leisure holiday) or, alternatively, to focus on a particular activity or event (e.g., a conference or an exhibition) and then extend the plan taking into account the constraints brought about by this event. The same person may use different strategies in different contexts.

Travel decision making is one of the most comprehensively investigated areas in tourism research. In particular, many conceptual approaches to travel destination choice have been proposed. These approaches can be classified into four different frameworks: (1) choice set models (Crompton & Ankomah, 1993; Um & Crompton, 1990), (2) general travel models (Woodside & Lysonski, 1989), (3) decision net models (Fesenmaier & Jeng, 2000), and (4) multi-destination travel models (Lue, Crompton, & Fesenmaier, 1993). This literature classifies the variables used to predict the destination into the two broad categories of personal features and travel characteristics. Personal features include socioeconomic factors as well as...
psychological and cognitive traits. Travel characteristics comprise the situational variables that shape the travel, such as travel purpose, length the travel, distance to the destination, and travel group composition.

Despite the richness of travel decision making literature, only a very limited number of contributions have dealt with the topic of integrating decision models into travel recommender systems. This might be because the majority of existing models are based on traditional studies of consumer behavior, which are not focused on web technology or on travel interactive decision aids. These studies provide only general and limited guidance, because they do not take into account the unique characteristics and constraints associated with each specific communication medium and support tool. Therefore, trying to fill the gap between the travel decision models and “digitized” decision behavior is a valuable but difficult task, which requires the design and test of new models and aids.

1.2 Recommender systems

A recommender system helps the user to make choices when there is no sufficient personal experience of the available options. These kinds of systems can aid the consumer in various ways. They can simplify the information search process and facilitate the comparison of products (e.g., activebuyers.com), report the reviews of other users (epinions.com), or exploit the consumers’ history to suggest products similar to those purchased in the past or previously selected by users with a similar buying behavior (Amazon.com).

eCommerce web sites make use of recommender systems to suggest interesting and useful products and to provide consumers with information that is intended to support their decision processes (Kobsa, Koenemann, & Pohl, 2001; Schafer, Konstan, & Riedl, 2001). Recommender systems are mainly required in order to cope with information overload and lack of user knowledge in a specific domain. In general, they try to optimize some cost-benefit trade-off (for example, between the usefulness of the recommendation and the users’ search and interaction costs).

Building real world recommenders demands a concerted effort and requires careful elicitation of user requirements, task analysis, development and tuning of the recommendation algorithms, and the design and testing of the graphical user interface.

Recommendation technologies are based on the implicit assumption that users’ needs and preferences can be mapped into product selections, by employing the appropriate algorithms and the knowledge embedded in the system (Ricci, 2002).

Burke (2000) describes three different types of recommendation approaches: (a) collaborative-filtering or social-filtering, (b) content-based, and (c) knowledge-based. Here we will consider only the collaborative and the content-based methods, because they are integrated in our hybrid approach.

In the content-based systems, the user expresses some preferences on a set of products. Then the system retrieves from a catalogue the items that share common features with the products that have been judged interesting by the user. The results are typically sorted according to the degree of match with the user’s preferences.