

## E-TOURIST: A PERSONALIZED TRIP PLANNER – VIRTUAL TOURIST GUIDE

### Fields of use

Artificial Intelligence (AI), Knowledge Management, Process Management, Applications for Tourism, Applications for Transport and Logistics, eGovernment, Databases and on-line information services, Hotels and resorts, Travel agencies and services, Advertising and public relations, Other services (not elsewhere classified)

### Current state of technology

The e-Tourist platform is already operational.

### Type of cooperation

Technical cooperation

### Intellectual property

While the technology could be duplicated by others, this would involve considerable investment in time and money, as well as expertise not widely available.

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### Summary

Slovenian research in institute has developed a system for planning a personalized trip, and guiding tourists using a mobile application with written and spoken descriptions of sights. The system employs artificial intelligence to learn the preferences of a user from his ratings of sights, and from ratings of users with similar tastes. The system brings value to tourist information providers and municipalities. The research institute is seeking technical cooperation and local adoption of the system.

### Description of the invention

The e-Tourist brings value to the tourists who need a carefully designed itinerary, to tourist information providers who want to offer their information effectively, and to tourist service providers to get more customers for their services.

A tourist who wants to make the most of his trip needs a carefully designed itinerary. However, many travelers do not have the knack or time for that. This is where the eTourist service comes in – the tourist only needs to provide it with his interests (culture, nature ...) and time constraints (start on Thursday at 13:00, finish on Friday at 17:00), and the service prepares a personalized itinerary that maximizes his sightseeing enjoyment in the time available. It achieves this by learning his preferences from his past trips and trips of similar users, using intelligent recommendation and planning methods. Since almost all tourists use the Internet to plan their trip, and increasingly many use it on their smart phone during the trip, the number of potential users is huge. Despite that, such services are currently scarce and technologically less advanced than ours.

The obvious beneficiaries of the system are tourists, who get itineraries tailored to their wishes. Satisfied tourists of course also benefit tourist information and service providers, such as tourist agencies, municipalities, restaurants, museums, entertainment parks and other stakeholders, because such tourists see more, spend more money doing so, and are more likely to return.

The service also makes it possible to subtly steer tourists towards specific sights, which can help manage the crowding of main attractions and expose less known sights.

The service can reduce the need for human resources, such as employees in tourist information offices. And finally, since it can be integrated with most existing tourist information, it allows providers of such information to quickly gain a competitive advantage.

## Stage of Development

The e-Tourist platform is already operational. The pilot system consists of a server and clients. The server contains a recommender system utilizing collaborative filtering and other techniques, an itinerary planner, a database of tourist information for two Slovenian regions, and a web interface for the management of such information. Clients are mobile applications for Android, iOS, Windows Phone and BlackBerry, and a web application. The mobile applications can guide a tourist during his trip.

Future development will be in three main directions. First, the recommendation and itinerary planning part will have to be fully uncoupled from the rest of the system for easy integration with third-party sources of tourist information, and third-party clients. This is a relatively simple engineering problem. Second, adequate scalability will have to be ensured. This is also mainly an engineering problem, although some modifications of recommendation and planning methods may be needed. And third, the recommendations and itineraries will have to be refined to fully meet the needs tourists.

The authors are internationally recognized researchers in the field of artificial intelligence and intelligent systems. The main focus of their work is ambient intelligence, human behavior analysis and context-sensitive services. They have experience not only with research, but also commercial projects. They can tackle all research and engineering challenges to bring the service to a stage where it can be marketed on a small scale.

## Main Advantages

- Recommendations and planning based on artificial intelligence methods.
- Use of data from various public databases and social networks for better learning of user preferences and creating better itineraries.
- Spoken human-like communication for better user experience.
- Modular architecture allows the use of the whole system or only parts, enabling various business models.
- Innovative business models enabled by the technical solution bring value to the various stakeholders (e.g., tourist agencies, municipalities, restaurants, museums, entertainment parks).

## Partner Sought

The research institute is looking for joint venture partners and partners for technical cooperation.

The partner should be able to introduce the system in the local area/city/region with cooperation of municipalities, tourist agencies and tourist service providers. We would prefer to transfer part of further development to a business partner (possible joint venture), who would take care of engineering and support work, as well marketing and other non-technical activities.