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Travel Information System

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Abstract- The goal of this project is to design a system that will work on most of smart phones and palms which will be helpful when visiting any new place or cities. This system finds a route using user conditions and criteria . Those above mentioned criteria should be simple and natural, like, for example: a list of museums, the most famous historical objects, , constraints to travel by bus and by walking. The system should find a solution that fulfils those criteria, show it on screen, show names of objects, some short descriptions and photos of them and possible entrance costs.

I. Introduction

Nowadays people use smart phones and other mobile devices. Most of us have a small computing device that is always with us. People use it, for example, to make calls, reminders in a calendar and as an organizer. Such devices with GPS receiver are also used to find paths in navigation.
The main disadvantage of those systems is that we have to know places which we want to visit and also they usually do not store any valuable, usable information about points of interest except contact numbers and addresses.
The system should be able to find a path that fulfils those given criteria, show it on screen, display names of objects, some short descriptions and photos of them and possible entrance costs.
This is when Artificial Intelligence comes into picture. Where as other industries have a stronger grip on doing things traditional way, but the travel and tourism industry has always been open to new technologies.
For example, back in the 1960s, airline centralized its reservation system and it was then among the first worldwide computer networks.
A new type of user comes into play who doesn't just try one or two services but all kinds of travel and leisure services. Such users don't mind becoming their own travel agents, but given the extensive use of distributed networking systems on the internet, there simultaneously emerges the urgent need to find, combine, and sift through the right pieces of data intelligently.

II. Modules

The travel information system integrates the following modules:
• Travel Recommender Systems(MIS and DBMS)
• Location awareness for Mobile Users(GIS)
• Personalised tour proposals
    -User's physical condition
    -Available transportation
    - Weather
    -Task
    -Travel Speed
    -Familiarity with the region
    -Terrain
• Filtering and Language Generation :

Nevertheless, it is an arduous task. The industry's prominent features are its heterogeneous and worldwide distributed nature and its strong SME base. Another latent characteristic is mobility, where the entire tourist life cycleis integrated with the respective supplier processes.
Obviously, suppliers' processes cross company borders, leading to enhanced B2B and B2C (business-to-business and business to-consumer) applications, enforcing cooperation between companies, and supporting mobile communication with the consumer.

Given such a prototype, future systems should :
1) Be heterogeneous, distributed, and cooperative.
2) Support the entire consumer life cycle and all business phases
3) Allow dynamic network configurations
4) Provide intelligence for customers and suppliers
5) Focus on mobile communication enabling multichannel distribution.

Examples can be given of some recommendation systems like Vacation Coach. It exploits user profiling by explicitly asking the user to classify himself other self in one profile (for example, asa ―culture creature ―beach bum,or ―trail trekker), which induces implicit needs that the
user doesn't provide. The user can even input profile which is precise information by completing the appropriate form.
However, there are certain problems with them. The system does not support the user in building a ―user defined trip, consisting of one or more locations to visit, the place and plan to stay,
and plans to visit additional attractions (a fort, the theatre, and so on). Although travel planning is a complex decision process, the systems described above support only the first stage—deciding the destination.
Researchers have proposed several choice models, which identify two groups of factors that influence destination choice: personal preferences and travel features.
The first group consists of both socioeconomic factors (such as age, education, and income) and psychological and

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cognitive ones (experience, personality, involvement, and so forth). The second group might enlist travel , travel-party size, length of travel, distance, andtransportation mode.
These various factors affect the stages of the traveler's decision-making process, which is a complex constructive activity.

• Catching user requirements and decision style :

Amazon.com, for instance, immediately recognizes the user's identity and recommends a book, without asking for any user input.

• Speaking the right language :

Systems which recommend must carefully manage the human–machine interaction such that even a naive user can effectively use the system.
For instance, asking if the user needs a ―hot shoe or a ―manual white balance in a digital camera could be a ―hard to say question for a naive photographer.
On the other hand www.activebuyersguide.com involves a user's search for a vacation in a multistage interaction. First, the site asks about the vacation's general characteristics (type of vacation, activities, accommodation, and so forth). Then, it asks for details related to these characteristics, then for trade-offs between characteristics. Ultimately, it recommends destinations.
Both approaches have drawbacks, but an adaptive approach, where questions are fine-tuned as the human–machine interaction unfolds, has more potential.

• Processing and displaying recommendations :

An effective travel recommender system should not only notice the user's main needs or constraints in a top-down way but also allow the exploration of the option space and support the active construction of user preferences (in a bottom-up way).

III. Location awareness for users

As mobile devices decrease in size, weight, and price and exponential growth in power, storage, connectivity, and positioning capabilities, tourists will increasingly use them as electronic personal tour guides. However, to make such mobile tourist services a success, a range of factors must work together, from technical issues (such as bandwidth, position in availability, and supported interaction paradigms) to user interface and security issues. We must also consider issues such as the availability of accurate, timely, and localized data, end user costs (business models), and trust.

GIS can handle spatial and topological questions, allowing navigation and routing easier. More advanced GIS data models aid us to store and retrieve historical information, which gives much more power to possible queries regarding a region or site's development and history—knowledge that an electronic tour guide should be able to provide.

Mobile systems for travelers can strongly benefit from the power of GIS. Information appealing to tourists is location-dependent by nature, climate, terrain, etc. and GIS can offer this data in a location-aware way. The tourist's position then acts as a filter and parameter for systemqueries.

The system must use more than the user's position and the location of objects to deliver suggestions. Even resolving what 'nearby'means to the user in the current situation involves a wide range of personal parameters and contextual information. Parameters that might influence the definition of 'nearby' include :

- The user's physical condition
- Familiarity with the region
- Available transportation
- The weather
- The task
- Travel speed
- The region's structure
- Terrain

IV. Database Thinking

Users typically must express their needs about travel destinations (accommodation, transportation, attractions, activities, and so forth) as highly structured queries or choices among search options that more or less reflect cells in which the data is stored. Even when systems support database logic, natural language processing, still largely drives the output'sstructure. The resulting display of bits and pieces of data in the form of item lists or collections of hyperlinks can only meet specific, functional information needs.

V. COHERENCE

All these systems need to work in a coherent manner to act as a smooth working machine.
GIS is most effective when it's mobile and the app is small, however personalized tour proposals require the user's need to be stored in database so that later, the information can be accessed via appropriate queries. The bigger and heavier the database, the better the tour proposal system.
This is where conflict occurs and AI comes into play, specific algorithms are used to schedule the processes to effectively manage the resources so that all the applications work smoothly.

VI. PROTOTYPES IN THIS CONTEXT

TRAVEL ASSISTANT, a system developed by University of Southern California. It is an integrated travel planning and monitoring system. This system provides an interactive

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approach to making travel plans where all the information required to make informed choices is available to the user. For example, if the user is deciding whether to park at the airport or take a cab, the system compares the cost of parking and the cost of a cab given the choice of airport, the selected parking lot, and the traveler's starting location.

Once a traveler has planned a trip, the system monitors various aspects of the trip using a set of information agents that can attend to details for which it would be impractical for a human assistant to monitor.

For example, beyond simply notifying a traveler of flight delays, an agent also sends faxes to the hotel and car rental agencies to notify them of a delay and ensure that the room and car will be available.

These innovations in travel planning and monitoring are made possible by two underlying AI technologies. The first is the Heracles interactive constraint-based planner, which captures the interrelationships of the data and user choices using a set of constraint rules. Using Heracles, we can easily define a system for interactively planning a trip.

The second is the Theseus information-agent execution system, which facilitates the rapid creation of efficient information gathering and monitoring agents. These agents provide data to Heracles and keep track of information changes relevant to the travel plans.

REFERENCES

1. H. Werthner and S. Klein, Information Technology and Tourism—A Challenging Relationship, Springer-Verlag, New York, 1999, p. 323

2. H. Werthner et al., ―Information Society Technologies for Tourism,‖ Report ofthe Strategic Advisory Group on the 5th Framework Program on Information Society Applications for Transport and Associated Services, 1997.

3. H. Werthner, ―Just Business—Shouldn't We Have Some Fun?‖ Proc. 3rd Int'l Conf .Electronic Commerce & Web Technologies (Proc. ECWEBDEXA),Springer-Verlag, New York, 2001

4. J.B. Schafer, J.A. Konstan, and J. Riedl, ―ECommerce Recommendation Applications,‖Data Mining and Knowledge Discovery,vol. 5, nos. 1–2, Jan.–Apr. 2001, pp. 115–153.

5. D. Fesenmaier et al., Tourist Decision Model, tech. report D2.2 DieToRecs IST-2000-29474, EU IST project, 2002; http://dietorecs. itc.it/PubDeliverables/D2.2-V1.0.pdf.

6. M. Jöst and W. Stille, ―A User-Aware Tour Proposal Framework Using a Hybrid Optimization Approach,‖ to be published inProc. 10th ACM Int'l Symp. Advances in Geographic Information Systems, ACM Press, New York, 2002, pp. 329–338.

Society Best Symposium Paper Award in 2011, and the American Geophysical Union Outstanding Student Paper Award in Fall 2005.