Data Extraction- Exploiting The Semantics (Yissum)

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Interactive Route Planning

BRIEF

In recent years, systems that provide access to geographic information through a mobile phone or in a car-navigation unit (GPS/ PND) have become common. Typically, these systems allow Location-Based Services (LBS) such as location-aware search and point-to-point navigation. Our technology allows a sophisticated combination of quick location search and multi-points route search. The first layer of the technology is integration of location-related data in real-time, and the second layer is conduction of user interactive route search. This helps offer a more accurate navigation tool to the user, reduce implementation costs for service providers and increase revenue from commercial promotions.

BACKGROUND

Recently, many Location-Based Services (LBS) have been developed. These services provide access to geographic information via a cellular phone or a car navigation unit. In addition, there is a rapid growth in the proliferation and availability of geographic information on the Internet. Current geospatial search technologies are not flexible enough to deal with imprecise queries, such as "an italian restaurant" or with time dependant and changing information like traffic data, parking availability and hazard alerts like car accidents. Moreover, current technologies offer rigid point-to-point route search and lack the ability to introduce a route that changes with response to the user's feedback.

METHOD

Our technology enhances location-based systems by allowing more flexible route planning, easier integration of real-time data from multiple sources and interactive route search.

In the first step, the data is collected from the different sources and processed. Engine algorithms find the most efficient route which includes the required waypoints, such as an ATM, and can cross-reference with real-time databases, such as ATMs currently out of cash. Our technology possesses *efficiency* and *scalability* in order to resolve queries immediately over large amounts of data. It enables the processing and integration *heterogeneous* data from multiple sources, such as flower store location from yellow pages, and traffic data from a news website.

In the second step, an interactive route search is conducted. Upon arrival at each entity, the user provides feedback specifying whether the entity is indeed relevant to the search. Computation of the next entity to be visited may be done based on the feedback so far.

ADVANTAGES

- **Reaction to real-time events along the route**
- **Able to process imprecise and probabilistic data into database and as user queries**
- **Allows a route search over several heterogeneous data sources simultaneously**
- **Allows interaction with the user.**

APPLICATIONS

Location Based Search: **search engines, Yellow Pages, local search sites (e.g. Yahoo).**

Interactive Route Planner: **map sites (with traffic directions), real estate, shopping.**

Traffic Planner: **supply chain management vendors, mobile resource management vendors, traffic sites.**

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