
Supporting Multi-Modal Interfaces for Adaptive Tour Planning

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Abstract

Typical examples for mobile GI services include tour planning and maps for navigation support (Reuter, Zipf, 2004). We have developed several prototypes of mobile GI services for navigation tasks including innovative services like user-adaptive tour planning. We are also among the first to support multi-modal (i.e. graphical, natural language and gestures based) user interfaces for such GI related mobile services in several projects like Deep Map, Crumpet and SmartKom since several years. As the development of GI services that adapt to user and context parameters as well as multi-modal interfaces for mobile navigation support are relative new research areas for GIScience it was necessary to specify interfaces for the software components that have been developed. These—relevant parts of the so-called Deep Map Objects (DMO), the XML-based message objects of the Deep Map multi agent system—will be introduced in this paper. But only very recently also the OGC Open Location Services Initiative (OpenLS) has published a specification for similar services in the area of LBS—but yet without a focus on adaptation or multi-modality. Both representations include relevant data types for route planning and map generation and are based on XML. Therefore we will compare these two representations and discuss their applicability for developing multi-modal map interaction for adaptive tour planning.

Keywords

Multi-modal user interfaces, OGC OpenLS, Tour Planning
