

PERSONALIZED LOCATION-AWARE SERVICE IN SPATIAL-TEMPORAL CONSTRAINT

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Abstract:

Location-aware service (LAS) has raised its popularity in recent years for its utility of automatically providing users tailored information of their nearby area based on push mechanism, thus LAS is also considered as a recommender. Except for the importance location is for LAS system, the main concern is also about the personalization when it comes to the issue of recommender system. There are many approaches take user's context into consideration to achieve personalization, such as tracking of the location user frequently been, social community services that search for the friend of user's according to his or her current location, etc. The developed system in this research are regarded as pushing schedule system that offer the information of ordered events which can be done by the user in his free time.

We propose a system named personalized location-aware system (PLAS) which uniquely consider users' daily schedule as the main context by accessing their online calendar account, to help user fill their leisure time, namely the time besides of the activity he/she already planned on the calendar, with tailored nearby events. PLAS utilize push mechanism to automatically offer the set of selected events from database to the user, which takes several procedures to achieve the objective. Spatial-temporal constraint rules are purposed to select the event that can be done by the user within their leisure time interval and output a temporary event list. In order to take user's preferences into concentration, ontology model is supposed to predict user's preference level of a specific event by generate a weight for each event. Allocation process calculates the total time of event's participation time and travel time cost to see if the summation within the threshold and use as a basis of sorting. Finally push

the recommended event list order by either shortest time consume, maximum amount of events or degree of preference based on user's choice.

Our PLAS system offer a better solution to recommend events that user's is interested in by additional taking user's schedule and profile into consideration, therefore users can easily find out sets of events that meets their personal favor which also can be done within their leisure time in order to make the effective utilization of user's leisure time.

Keyword: GIS, Location-based service, Location-aware service, Schedule