A Feature-based Model to Analyze Mobile Location Services

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Extended abstract

As precursors of fully contextual and personalized services, a significant number of mobile location applications have appeared in the last years. The variety of their technological approaches and the peculiarities of their supporting business models have led us to propose a model to analyse location based services (LBS) from their main differential features.

In order to build the model, an exhaustive analysis of the current LBS commercial offer has been accomplished. Basing on it, a primary classification of “horizontal LBS” (services that can be customized for niche applications or market segments) into categories, has been proposed. These categories cover navigation services, tracking, group management, finders, location based content delivery (considering directory search or push based delivery), geotagged content making, social networking, location enhanced communications (e.g. location-enabled push to talk), location based billing and proximity applications activation (M2M). Among all these services, there are divergences about which of them will be real market demand pullers, but some analysts bet for navigation, family trackers and location aware billing. Apart from those, multimedia downloads (music, audio and video) with location related reproduction rights, information in mass entertainment shows (live statistics or sport replays) or pervasive games seem to be other valuable proposals for final users.

The model is basically articulated to evaluate the user experience while considering technological and business issues (as sketched in Fig. 1). It has been partially applied to the analysis of ten currently available location based services, representative for the categories identified above.

From this analysis, we can state that in this moment, mobile operators are key players in the value chain: cellular technologies together with GPS enable many of the available LBS. Due to the high penetration of cellular devices many application providers usually develop and offer their services by partnering and sharing revenues with mobile operators. Anyway, independent service providers are common in navigation systems and in new Wi-Fi or Bluetooth based LBS. From the user point of view, pull or authorized push content provision is the most adopted scheme possibly due to privacy concerns.

Regarding technological aspects, we can say that if the statement that a more accurate positioning will enable the deployment of more useful applications is probably true, there is a bundle of applications not requiring accuracy in the range of the centimeter. Of course, extended precise heterogeneous seamless systems will be able to provide high precision indoors and outdoors (through triangulation mechanisms but also through proximity activation), enabling new services and enhancing the existing ones.

On the other hand, value chain analysis shows the great amount of partners (content and GIS makers, hardware providers, operators, software integrators, etc.) involved in the development and deployment of location based services. With respect to business, fragmented distribution channels can be one of the reasons for non-homogeneous pricing schemes for the final user and sophisticated revenue models among the different stakeholders composing the value chain.

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