International Journal of Scientific Engineering and Technology (ISSN : 2277-1581)
Volume No.3 Issue No.4, pp : 426-427 01 April 2014

Personal D2H Experience through Web Semantic Services

Manvendra Singh , Mr. Diwakar Yagyasen
Babu Banarasi Das University, Department Of Computer Science
manvendra4n@gmail.com

Abstract: ***Today D2H services have become an integral part of our everyday life. Countries across the world have announced for their citizens to compulsorily adopt it which has drastically reduced the cable TV system..There is cutthroat competition in the market for D2H service providers. Today when customer satisfaction is key to the success of your business, technology which can help in enhancing the quality of D2H services provided to the customer and can provide better and more interactive interface to the customer will definitely boost up the business of any service provider. Web semantics is such an emerging web services technology which can really bring about a drastic improvement in D2H services experience of the customer as well the service provider. With the increase in the number of services it is highly complex to manage them, being able to understand the customer preferences. Whereas much of the work in Semantic web Services discovery concentrated on the functionalities of the services, contextual information, personal preferences and more generally personalisation are more challenging areas in the Semantic computing arena. Today understanding customer preferences and providing her the preferred services anytime anywhere is the mantra to success for any Service provider. To illustrate our requirements , in this position we cite one of several use cases that is based on some earlier work in the field of Web Services selection which aims at leveraging Semantic web services for D2H applications. The use cases are based on our work on D2HOnt- a Semantic toolbox to explore D2H user centred services on the semantic web . Our vision is to take full advantage of future complex service offerings on limited client devices and to handle the need for personalised service discovery in D2H environments.***

Keywords : D2H, ontology, Intuitively

1 A Practical Use Case

In this we study the case of a future Videocon D2H Service scenario. D2H service has become increasingly popular in recent years with boosting numbers in D2H services, stations and subscribers. Already today, popular D2H service host thousands of live streams . The vision of universal D2H access through the World Wide Web is further accelerated through the mobile Web with wireless access to audio/video content from anywhere, anytime. In this context, personalized access to content is particularly important to accommodate both, varying technical as well as personal user needs and preferences. In our test bed we have modelled D2H services as Web services with varying service characteristics. D2H channels/services are described using D2HOnt, a D2H service ontology (a fragment of the Ontology is shown in Figure 2) that consists of concepts that describe and classify Web D2H services in terms of program,Format, origin, audio/video format characteristics and a time-based classification of streamed audio/video content. D2Hont content is then used for content. .Note that our D2H service scenario is only one of many possible applications for the D2HOnt framework. Parts of the D2H ontology are carefully exposed to the user through D2HXpl, the graphical front-end to our system. D2HXpl emulates different D2H terminals and consists of a D2H ontology browser with support for individual user views as well as an intuitive interface to user preferences. The idea is to only display selected concepts and sub-ontologies depending on the user's experience level and usage profile.

2 Profiling User Preferences

While browsing the service ontology, concepts that circumscribe services with key relevance to the user can be selected and combined to user preferences. In our preference framework , these (partially) ordered feature sets are directly handled without the use of explicit quality or ranking values : user preferences are introduced as a special relation with the semantics of considering some object (or class) A superior to another object (or class) B ("I like Music channels better than News channels"). Intuitively, during service discovery such user preferences have to be understood as wishes whose satisfaction should be maximized, but cannot always be fulfilled. In that sense, preferences indicate constraints that a service should fulfil to best meet its requirements. On the other hand if none of the indicated preferences are met, a service match can be possible. Subsequently these preferences are used during the service discovery to implement cooperative service discovery.

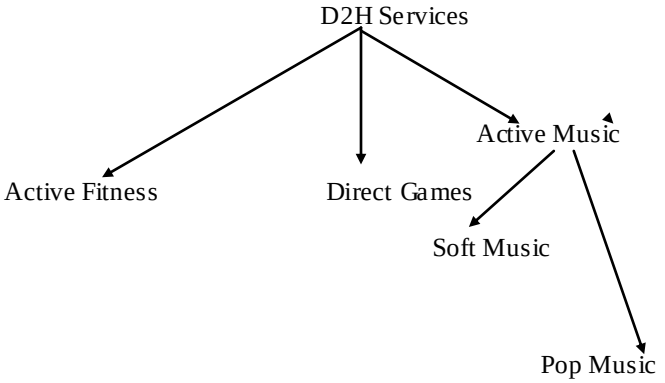

Figure 1: Profiling User Preferences

To manage multiple user preferences complex preferences can be inductively constructed from a set of base preferences by means of preference constructors. Figure 1 shows an example of a combined preference from the D2H scenario. Here a user has indicated that she generally prefers music programs over those Fitness and Games Programs. Still, the

latter two choices are her preferred choices over any other available program.

.4 Cooperative Service Discovery

preferences constructed during preference building define a service request that ultimately needs to be mapped to the underlying service ontology. D2HOnt therefore implements a flexible service discovery algorithm that can be extended through different discovery strategies. The goal of service discovery is to retrieve those service instances from the ontology that represent the best matches to given preferences. The proposed and implemented preference- based service matching is performed along the lines of the determined preference order to implement cooperative behaviour: if the search for a perfectly matching D2H service fails, the initial query is gradually relaxed along the path of the (complex) preferences until a next-best match can be found. Thus, if in our example from above during service discovery no match could be found in D2H programs in MP3 encoding, the next discovery step consists of trying to match D2H services that broadcast music or entertainment programs and News programs. If neither of these two second-best choices is available, any other program is matched.

5 Conclusion

The vision of a D2H Web in which the computing environment will be composed of various devices that are carried by different users as they go through their daily routine might soon become a reality the other hand, our experience shows that, to make this vision a reality, we need to combine the service-oriented approaches as put forwards by the Web services community, and methods from the Semantic Web. Only this way it can become possible to provide on provision different services and information sources in machine understandable and truly intelligent ways.

Semantic Web services provide a natural technology to make this vision a reality. Even though the capabilities of today's Web-based services are still relatively simple, their sophistication and diversification will grow with the improvement of wireless networks, bandwidths and client device capabilities.

Providing the adequate services will become a more and more demanding problem for the individual service providers.We advocate that making an informed choice of the right service will essentially include matching the individual user's preferences

Web service discovery [1] and selection [2](extended in [3]). Based on this work, basic yet very intuitive user preferences can be defined, accumulated and taken into account during service provisioning by various D2H service providers. To make Semantic Web services a viable technology for the marketplace, there is a need to achieve agreed standards.

References

i. *Handler, James, Berners-Lee, Tim and Miller, Eric "Integrating Applications on the Semantic Web," Journal of the Institute of Electrical Engineers of Japan, Vol 122(10), October, 2002, p. 676-680.*

ii. *Michael Compton Payam Barnagh, Luis Bermudez, Raúl García-Castro, Oscar Corcho,Simon Cox, John Graybeal The SSN ontology of the W3C semantic sensor network incubator group http://dx.doi.org/10.1016/j.websem.2012.05.003*

iii. *Thomas Baker Sean, Bechhofer Antoine Isaac, Alistair Miles Guus Schreiber, Ed SummersKey choices in the design of Simple Knowledge Organization System (SKOS)*

iv. *http://dx.doi.org/10.1016/j.websem.2013.05.001Radio Locator. http://www.radio-locator.com/.*

v. *NullSoft SHOUTcast. http://www.shoutcast.com.*

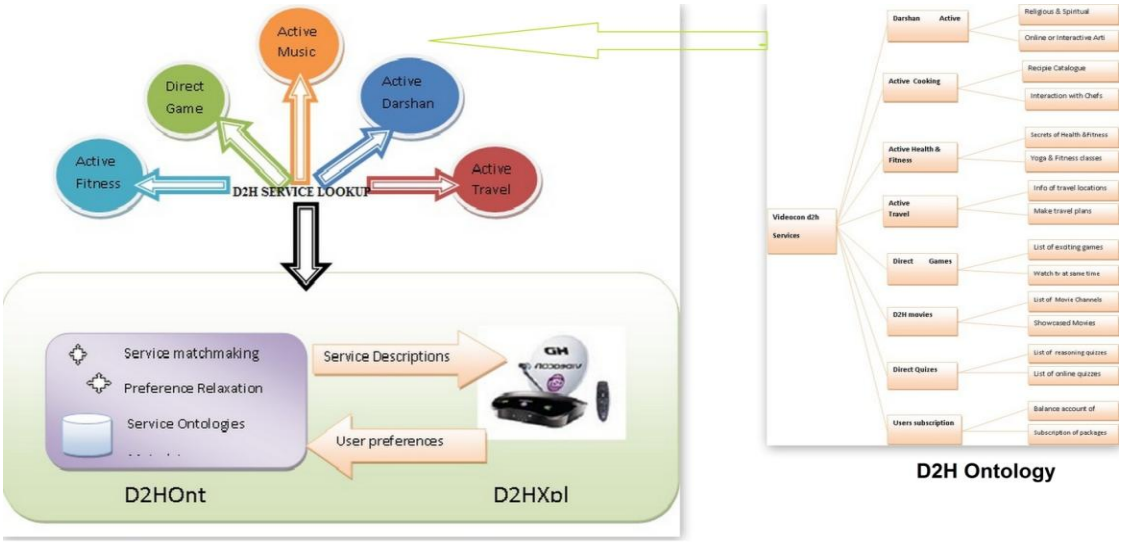

Figure 2: D2HOnt / D2HXpl – A testbed for D2H semantic-based services.