Editorial

Interfacing in Heterogeneous Digital Environment

Heterogeneity is the character of the distributed environment and it affects the digital environment in a large scale. When objects are heterogeneous in distributed environment, it affects the functionality to a greater extent. Sources hosted in digital environment are from different service providers and these sources differ considerably with respect to their subject domain, their document genre, indexing schema, content, format, media, link and so forth. Users face the loss of context that occurs when a variety of independent sources are fused together. More paradoxically, growing barrage of information is reflected when voluminous collection of files often coincides with broadly scoped searches. This is compounded by the fact that when users of the heterogeneous digital world are challenged by the lack of cohesion that occurs when multiple, independent sources are retrieved against a single even a depth query, all in a single facet. Very seldom, digital environment is collaborative.

Challenges in searching a heterogeneous digital environment include both communicating with the sources and communicating the results back to the user. Methods have to be introduced to provide users with the ability to launch a single query-based search to multiple, heterogeneous sources and to view the ensuing results in a unified way. User interface construct can help them for browsing items on metadata form to view citations and articles. Thus, users need to have a uniform interface aggregation metaphor for viewing results at a higher level of granularity. With the technological improvement in digital information research, the scope of access to a large and distributed collection is increased.

The digital information world has been looking at the ways to meet these new challenges and develop ways to integrate the distributed sources in searching and retrieving them in the common way. The interfaces can answer these issues provided the semantic aggregation metaphor that allows classification, clustering, and grouping of all distributed information and related into clusters based on their naturally existing similarity.

We need a system that allows a single open and metadata-based one with coexistence of harvesting, database and user interface. All components can be distributed across networked computers, thus supporting scalability. The system is metadata aware and thus allows searches on several fields and metadata, particularly at source level, and it can be a prerequisite to achieve interface.

Various interoperability protocols are proposed for interfacing issue; what is needed is the protocol grid so that features of several interfacing protocols can be unified and form incremental to the efforts in the interface issue. Shift from uniform to universal interface will reap the benefits in a much better way.

Wrapping the external collections is proposed in various testbeds. Extending the prototype interfaces and making them uniform across several distributed repositories pave the way for ideal metasearching.

P.Pichappan