Is Web-site Management a Database Problem?

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Several recent events have heatedly discussed the applicability of database technology to the Internet and the World-Wide Web (e.g., DeWitt's VLDB-95 talk, a 1996 DIMACS Web/DB workshop, ICDE-98 panel). One of the areas that has emerged from these discussions as a candidate for impact of the database community is that of of Web site construction and management. In parallel, several research projects have been started with the goal of addressing this problem (e.g., Strudel (AT&T Research), Araneus (University of Rome), YAT (INRIA, France) and WebOQL (University of Toronto)). The common theme of these projects is the declarative management of the content and structure of web sites. These projects feed off previous relevant work on management of semistructed data and on data integration. In addition to the research activity, there has been a flurry of activity among database vendors to develop tools for serving data that is stored in databases. Other web site management tools are being developed by non-database companies (e.g., products such as FrontPage, NetObjects, and many others). These products are starting to provide more and more features to incorporate data from multiple external sources and for managing the structure of Web sites.

The purpose of this panel is to discuss whether Web site managment is a database problem (in whole, or at least in part). The panel will put forward several contradictory opinions on the topic. In particular, we expect some of the following opinions to be represented:

1. Web-site management is *not* a database problem. Even though it has some data management elements to it, these are minor. Web site management will remain mostly a combination of user interface issues and building flexible tools for writing CGI bin scripts. An analogy that often comes up here is with the area of network management where database technology did not contribute much.
2. Web-site management is a *solved* database problem. The best Web site management tools are already out there. They're called Oracle, Informix, DB2, Sybase, O_2, etc. Adapting current database management systems to the problem of Web site management involves only minor twiddles and user interface additions to current systems.
3. Web-site management *is* (to a large extent) a database problem. However, when building a Web site management system based on database concepts, we need to rethink many of the assumptions we make in traditional database systems. For example, we need a new data model that also supports the modeling of the Web site structure, we need new query languages, design principles for Web sites, new data warehousing techniques, and new methods for embedding such systems in a programming environment.

Panelists[1]**:**

- Paolo Atzeni (University of Rome)
- Mike Carey (IBM Almaden)
- Sophie Cluet (INRIA, France)
- Mary Fernandez (AT&T Research)
- Alberto Mendelzon (University of Toronto)

Proceedings of the 24th VLDB Conference
New York, USA, 1998

[1] Confirmed at time of printing.