

Database Research for the Current Millennium

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Introduction

Y2K came and left, unnoticed. For some strange reasons, I (as many others) was expecting some change in the routine of our research lives in the new millennium. This panel is born out of my own curiosity: will this new millennium bring any novelties to the database research and to database researchers, or will we continue to study our favorite research topics for the next 30 years?

The database world today (or better—the information world) is totally different from the peaceful days when the database research field was created. Moreover, it is in constant movement. Lets list some of the changing factors. First the Internet forever changed our lives. Then came XML as an innocent character-by-character UNICODE syntax, and that changed all the rules. Then Web Services arrived, invented by marketing departments in the middle of the boom, and only later taken seriously by vendor capitals and technologists. Now mobile computing and messaging are pervasive. And, finally, we see a shift in perspective due to the dramatic reduction of hardware costs.

In this new world, information is not just in databases. Information is mobile, flexible, mirrored in a variety of logical and physical forms, moving from platform to platform, evolving, being copied, modified and replicated, and later reintegrated. Information is alive and active. Web services are awake and listening, automatically capturing data, sending and receiving data to and from one another, triggering automatic actions. Databases as we know them are only a resting place for data at the end of a long journey.

So where are we in this changing world? And where are we going?

Questions for panelists

1. What do you think will be the architecture of the future? How will Computer Science change in the next decades?
2. Which role will the database field play in this general architecture? Will the database field still exist? If so, will the database field be more then advanced engineering?
3. Among the traditional database techniques/principles that students learn in school, which ones will endure the test of time and remain important in the next 30 years? Which classical database techniques will be totally forgotten (and for good reason)?
4. Which major research problem would you like to solve in your future career?

Panelists

I have the pleasure to invite 5 panelists that have something in common: they all started their research carrier in this millennium. The panelists are: Ioana Manolescu (INRIA, France), Anastassia Ailamaki (Carnegie Mellon University), Jai Shanmugasundaram (Cornell University), Zack Ives (University of Pennsylvania) and Arnaud Sahuguet (Bell Labs).

They are encouraged to make outrageous (both optimistic and pessimistic) statements and to publicly express their wildest research dreams.