Infrastructure 2002

NSF CISE/EIA RI and MII PI's Workshop

Snowbird, Utah
July 12-14, 2002

A workshop for the principal investigators of
NSF/CISE infrastructure awards, sponsored by the
CISE Research Infrastructure Programs, Division of
Experimental and Integrative Activities (EIA) in the
Directorate Computer and Information Science and
Engineering (CISE) of the National Science
Foundation

EIA-9711582: "Infrastructure for Research and Training on High-Performance Heterogeneous Distributed Database Management"

FLORIDA INTERNATIONAL UNIVERSITY
Investigators: Naphtali Rishe, Wei Sun, Shu-Ching Chen, Maxim Chekmasov
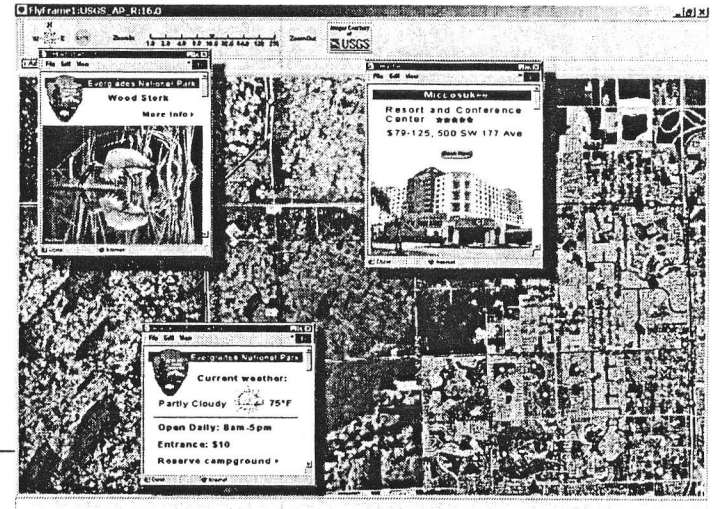
Project Goals: This award is focused on attracting and retaining minority students, encouraging research in database management and the Internet dissemination of data.

Outcomes:

Ideas: Algorithms for semantic wrapping of relational databases, including reverse engineering of relational into semantic schemas and translation of SQL queries from semantic to relational views.

Tools: TerraFly, http://terrafly.fiu.edu, a tool for disseminating heterogeneous spatial data via the Web receives 10,000 users per day and worldwide press including *Science* and *Nature*.

People: Supported 69 students, resulting in 27 Bachelors, 8 Masters, and 3 Doctoral degrees, nearly all to underrepresented minorities, who coauthored 42 of 98 MII-acknowledging publications

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Impact: TerraFly is an unexpected research outcome of our MII effort; we have leveraged our heterogeneous database research into a tool for disseminating heterogeneous distributed spatial data via the Web. TerraFly allows users of all levels to "fly" over spatial imagery overlayed with relevant and geo-coordinated hyperlinkable data using a standard Internet browser, and without the need for downloads of data or software. The TerraFly website has recently received wide media attention through features on television news programs and in the worldwide press. It has been covered by *Science* and *Nature* journals, won the *Miami Herald's* 2002 Business Plan Competition and *DM Review's* 2002 World Class Solutions award, and has been named Yahoo.com's top Pick of the Week and a *USA Today* Hot Site.

Barriers & Opportunities: We have found a great need for additional storage to accommodate the ever growing amount and variety of spatial data available. We have also found that student workstations need to be upgraded every other year in order to maintain the most productive environment for them.

We have a large number of underrepresented Computer Science and other students that we are unable to directly involve in our research effort due to limited resources; these students are exposed through lectures and classwork, but could benefit from a closer relation to the research being performed at FIU.

Website: http://hpdrc.cs.fiu.edu ; http://terrafly.fiu.edu