Biodiversity & Ecosystem Informatics
Research, Technology Transfer, App Dev?

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The BDEI Panel Session

• *BioDiversity & Ecosystem Informatics*
  VLDB 2000 and the US NSF BDEI Initiative

• Panelists consider DB research in BDEI

• Additional questions for panelists

• Discussion

• Summary, follow-up and outcome
What is BDEI?

VLDB 2000

- Ebbe Nielsen’s Keynote: *Biodiversity Informatics: The Challenge of Rapid Development, Large Databases, and Complex Data*

- Schnase’s Session on Research Directions in Biodiversity Informatics suggested current state of the art is not adequate

  www.vldb.org/dblp/db/conf/vldb/Schnase00.html


http://bio.gsfc.nasa.gov
Does solving these problems entail:

- More ecologists to do the work?
- Work in the domain by ecologists, e.g.,
  - training in existing technology,
  - infrastructure for community databases,
  - infrastructure to support reuse?
- Applying existing DBMS technology?
- Applying DBMS research?
- Conducting original DB research?
- Identifying new DB research questions?
### NSF BDEI Research Initiative

**DB Research Areas →**

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What are DB research areas?
## NSF BDEI (draft) Research Profile

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Mostly as web services, much App to App and PtoP
Panelists to Present

- Ecosystem problem and/or Ecosystem Informatics problem(s)
- Why it’s hard
- Corresponding DB research area(s)
- Motivation & barriers for DB researcher

*Is the DB research “fundamental” or applied, or is it “only” application development?*

*How is the work of value to commercial world?*
Panelists’ Remarks

Kathleen Bergen
University of Michigan, USA

Jessie Kennedy
Napier University, U.K.

Renée J. Miller
University of Toronto, Canada

Yannis Ioannidis
University of Athens, Greece
Discussion

• Who should do BDEI research?
• How could a database researcher get involved?
• What is involved in doing this research?
• Other questions for panelists and audience
• What BDEI hopes to gain from VLDB Panel
• What VLDB might gain from BDEI....
• Follow-up to VLDB Panel
Who should do the work?

• Ecologists should work on these problems, and come to us once CS research is defined.

• Private industry should do the work, because there is commercial value to the data.

• Only well established CS researchers can afford to work on these problems.

• Only interdisciplinary teams of computer scientists and ecologists who develop applications, create new technology, conduct research, can do it right.
Additional Questions to Panelists

- Should funding agencies set aside funds for interdisciplinary teams to do this work, and monitor PI’s for “interdisciplinary compliance”?
- Should we set up departments or centers of BDEI research, with majors and students?
- Should journals/conferences set aside “slots” and extra space for applied research in scientific DB (incl. ecosystem informatics)?
- Should DB tenure decisions “count” BDEI research?
- Other?
Follow-up

- Summary will be posted on the VLDB web site
- Feedback to NSF, NASA, USGS
- November BDEI PI’s workshop
- NSF Digital Government Discussion Forum
- Contact one of us:
  - judyc@evergreen.edu
  - kbergen@umich.edu
  - j.kennedy@napier.ac.uk
  - yannisdi.uoa.gr
  - miller@cs.toronto.edu
BDEI hopes from VLDB

- DB Researchers willing to work in BDEI
- Help in refining the DB research issues (Nov. 2002)
- Resources to do our work -- money, products
- Opportunities to present our work and get feedback

What BDEI offers VLDB....

- Demonstrate where economic / social value lies
- Define research questions -- most overlap with traditional industry, new ones may be ultimately useful
- Publish our (clean and documented) schemas and data sets that you might use in your research
- Use your products, prototypes, results and give feedback

Help preserve this world for you & yours!