

Reaching Out to Many Majors: A Database Approach

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With the pervasive role played by databases in our information-centric society and the increasing demand for students with interdisciplinary skills, the next challenge on the horizon for database educators may be the design of database curriculum materials for students of many majors. This goal is consistent with the enhanced consciousness of computational thinking, which introduces computational methods and models to non-computing majors. This poster shares experiences as well as future plans for reaching out to students of many majors using a database approach, including preliminary results of a collaborative NSF grant to introduce students with diverse backgrounds to database concepts using extensible FLASH animations.

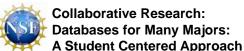


ACO 100 Overview of Applied Computing

- Alternative to conventional computer literacy course
- Networks: How does the Internet work?
- Databases and Information: XML, Spreadsheet, Databases
- Digital Media & Graphic Design: Composite image
- Project: Web site written in valid XHTML
- > awareness issue of the student's choice
- > incorporates their original composite image
- Offered annually with enrollment ~20

Introduction to Relational Databases





NSF DUE-0941584/NSF DUE-0941401 March 2010 - February 2012

FLASH Animations

- Introduction to Relational Databases:
 Data, Spreadsheet, Questions, Anomalies,
 Database, Breakdown, Relations, Keys, Queries
- Introduction to Querying: Query, Sets, Filtering, Joining, SQL
- Extensible: Exploring the use of XML to parameterize the animations with different examples
- Domain partners to specialize animations
- > ASU: Computational Molecular Biology
- Villanova: Geographic Information Systems
- Assessment: Pending
- Availability? Coming to the Web this summer



- Databases, Non-majors and Collaborative Learning:
 A Ternary Relationship, Don Goelman, Proc. ITiCSE 2008
- ➤ Teaching Computation to Undergraduate Students, D. Kaplan, Proc. SIGCSE Symposium, 2004
- Fluency with Information Technology: Skills, Concepts, & Capabilities, L. Snyder, Addison-Wesley, 2004.

http://databasesmanymajors.faculty.asu.edu/



CSC 1035 Databases for Beginners

- For math/csc group requirement
- Primarily for non-computing majors
- Collaborative learning as pedagogical approach
- Group semester project
- MS-Access platform
- Coverage: ERD's, MS-Access, SQL, and (semi-technical) relational design theory
- Offered every semester:2 sections with a total of 56 students
- Top majors: Economics, Political Science, Communication

Introduction to Querying

