



## Learning Conference 08

The Fifteenth International Conference on Learning

UNIVERSITY OF ILLINOIS, CHICAGO, USA

3-6 June 2008

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## Performamatics: Experiences With Connecting a Computer Science Course to a Design Arts Course

By: [Dr. Jesse M. Heines](#), [Prof. Jim Jeffers](#)

Our work is based on a partnership between the a Computer Science (CS) and Art, Music, and English departments in the area of exhibition and performance technologies. We define these areas broadly to encompass all CS applications in the creative and performing arts. These areas not only resonate with today's media-rich culture, but reinforce the fact that virtually all computer applications now require the integration of creative elements. CS majors must learn to work with specialists in areas where the perspective is often quite different from their own. We believe that computer scientists have much to learn from those trained in the arts and vice versa. The common thread in performamatics projects is that many tasks, performed by multiple people, must come together on a tight schedule by a specific date to achieve a desired result. Performamatics also implies that each team member must "perform" his or her task(s) in a way that can be integrated into a final product, regardless of whether that team member participates visibly in the culminating event. Our paper reports on initial attempts to couple CS courses and integrate CS elements with courses in Art, Music, and Theater. We describe the techniques we used that were designed to increase the scope and level of creativity in student projects and the impact these techniques and the presence of interdisciplinary teams had on those projects. We discuss changes we will make to improve the experience for both groups of students in the future and suggest new techniques we may try to better achieve our goals. This work is supported by NSF Award No. CNS-0722161. Principal Investigator: Jesse Heines. Co-Principal Investigators: Fred Martin, Gena Greher, Jim Jeffers, and Karen Roehr. Senior Personnel: Sarah Kuhn and Nancy Selleck. Further information is available at: [www.performamatics.org](http://www.performamatics.org).

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**Keywords:** Interdisciplinary Programs, Computer Science and the Arts, Performamatics

**Stream:** Curriculum and Pedagogy; Student Learning, Learner Experiences, Learner Diversity

**Presentation Type:** 30 minute Paper Presentation in English

**Paper:** Performamatics

### Dr. Jesse M. Heines

*Associate Professor, Dept. of Computer Science  
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Jesse M. Heines is an Associate Professor of Computer Science at the University of Massachusetts Lowell. He specializes in the implementation and evaluation of interactive, user-centered programs with rich graphical user interfaces (GUIs), particularly those employing Dynamic HTML, JavaScript, Java, and XML and XSL and their related technologies. Jesse has a long record of applying and evaluating these techniques in educational settings. He has develop numerous computer-based instruction programs and course Web sites as well as traditional human-computer interfaces. Prior to joining the UMass Lowell faculty, Jesse spent ten years with Digital Equipment Corporation, where he founded the Computer-Based Course Development Group and developed a large variety of CBT courseware. He holds a B.S. in Earth Sciences from the Massachusetts Institute of Technology, an M.S. in Science Education from the University of Maine, and an Ed.D. in Educational Media and Technology from Boston University. He has done post-doctoral work at The Open University in Great Britain, Brown University in Rhode Island, and the Massachusetts Institute of Technology.

### Prof. Jim Jeffers

*Assistant Professor, Dept. of Art  
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Jim has a background in performance, computer art (including video, digital photography, and web art), and conventional static and environmental media. He is in his second year at UMass Lowell and has been teaching at the college level for over eight years at Rutgers Univ., Seton Hall Univ., Drew Univ. and New York Univ. He is a practicing artist and exhibits nationally and internationally. Jim teaches Web Art and Design and has large variety of interests.

Ref: L08P0269

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