

## **Department of Information Systems**

### **Strategic Overview**

**July 2007**

#### **Vision Statement**

NJIT's Department of Information Systems will be an international leader at the intersection of human, technological and organizational systems. Through educational innovations, research, and strategic collaborations, we shall achieve wide recognition by current and prospective students, the NJIT and regional communities, organizations, colleagues worldwide and major funding agencies for advancing the state-of-the-art of our discipline.

We shall do this by building and sustaining a diverse community of top-quality students, educators, and internationally-acclaimed scholars who will work together towards realizing this vision.

#### **Mission Statement**

The mission of the Department of Information Systems is to discover and disseminate fundamental knowledge concerning the design, use and evaluation of interconnected human, technological and organizational systems. Two highly synergistic research foci emphasizing people's interaction with and through systems, and their informational content, respectively will provide the foundation for realizing this mission:

*Human-Centered Computing (HCC)* research centers on people (individuals, teams, organizations or societies) in all stages of information and communication technology development and use. HCC includes studies on collaboration and technology design in areas such as social networking through web and pervasive (wireless) applications, game design, cognitive-based decision support, emergency management, and educational innovation.

*Information Integration and Informatics (III)* research centers on the science of information and information processing. It focuses on the development and utilization of digital content, ranging from text in documents and web discussions to multimedia. III includes biomedical text mining, search engines and recommender systems, security and pattern matching analysis, knowledge engineering, and digital library integration.

To fulfill this mission, the department will

- conduct and disseminate world-class research to advance the state-of-the-art in HCC and III;
- design an innovative, comprehensive and exciting curriculum which leverages our research and which prepares a wide variety of students to enter the workforce at the edge of knowledge curve;
- provide service to the NJIT community, as well as local, national and international businesses, governments and other key organizations.

## **Actualizing the IS Department's Strategic Mission**

Actualizing our mission and thereby achieving our vision requires pragmatically and effectively engaging with our university and the broader community.

(1) Rebranding: We understand that there may be a need to alter how we do things, reorganize our systems and structures, and possibly consider a change to the department name to reflect clearly our unique mission, strengths and contributions.

(2) Communication for Engagement: We must communicate our strategic focus, objectives and broad inclusiveness with the important stakeholders in our immediate and wider communities. This involves conveying our knowledge, sharing our expertise and actively highlighting the unique strengths we can offer to strategic partners.

(3) Exploiting Synergies Across NJIT: As a department focusing on HCC and III, we shall take advantage of the tremendous potential for both pedagogical and research partnerships across campus. Our researchers bring expertise in design and evaluation focused on HCC and III systems, processes and technology, as well as integrating research and teaching. Our existing undergraduate, masters and Ph.D. programs welcome elective specializations applying a HCC or III focus to other disciplines. This could extend to providing a collaborative home for disciplines without a doctoral program, which concern aspects of interconnected human, technological and organizational systems. We also shall actively seek partners for new interdisciplinary degree programs focusing on synergies between IS and other disciplines.

(4) Build External Partnerships: To enhance external collaborations, visibility and outreach, we shall develop an industry advisory board for guidance in keeping the leading edge in both our education and research programs relevant to industry, government and non-profit organizations. In the longer term, we shall develop an industry consortium to engender a sustained environment of external collaboration. We shall also build upon relationships with our alumni.

(5) Strengthen Innovative, Leading-Edge Education: Our faculty is committed to an engaging, relevant, comprehensive curriculum. We shall seek ways to bring the exciting research in HCC and III to the classroom, and utilize technology and student-centered pedagogical techniques to deeply engage students in learning. Research-infused classes and activities will entice the best undergraduate and masters students to continue to the doctoral level. Students should flock to IS at NJIT due to our reputation, quality and focus.

(6) Supporting Core Competencies: Faculty teaching and conducting research in both HCC and III will enable us to be effective in conducting our funded research, mentoring cadres of undergraduate and graduate students in research, pursuing new research opportunities, exploiting synergies across NJIT, participating in external partnerships, staffing a majority of classes with full-time faculty, fully meeting service obligations in the NJIT community, and enhancing visibility through high-level commitments to the research community (e.g., serving as program officers and research conference chairs).

## Appendix: Background Information on the Strategic Foci of HCC and III

The Information Systems Department is very different from other departments with similar names. HCC and III result from an ideal mapping to NSF categories, reflecting research and funding opportunities, as well as informing our teaching choices.

- Human-Centered Computing
  - o [NSF definition of HCC](#)
  - o The May 2007 Issue of IEEE Computing includes a [special issue on HCC](#)
  
- Information Integration and Informatics
  - o [NSF definition of III](#)

Information Systems at NJIT most closely reflects both the area of *Informatics* at other universities:

- [UC Irvine](#)
- [Indiana University](#)

and [Schools of Information](#):

- [University of Washington](#) (where Informatics focuses primarily on HCC, but other departments study III)
- [University of Michigan](#)

We believe strongly in the need for university-wide collaboration, both to create exciting academic programs that significantly reflect real world synergies. Other universities that embrace information systems within this spirit of collaboration include:

- Stanford University ([design thinking](#))