

# Knucomp

## Forging a path to meaningful data in today's knowledge economy

**HOW CAN COMPUTING** better serve human needs? How can massive amounts of multimedia information be more useful for people? Those are the types of issues Knucomp, a Wright State Center of Excellence in Knowledge-Enabled and Human-Centered Computing, will be tackling.

Amit Sheth, professor of computer science and engineering and Lexis Nexis Ohio Eminent Scholar, will serve as Knucomp director. "Most of the new products and services are centered around the creation and use of new knowledge," said Sheth. "In a very broad sense, economies have moved from agricultural to industrial to service to a knowledge economy. The largest growth in all areas, including manufacturing and services, is in the knowledge service component of those."

With all of the data resulting from searches, the problem is no longer locating data but making sense out of the data through meaningful processing that leads to insights. Knucomp's semantic computing vision is to move from computing focused on data or information processing to productive thinking and decision making. Knucomp will transform the measures of success

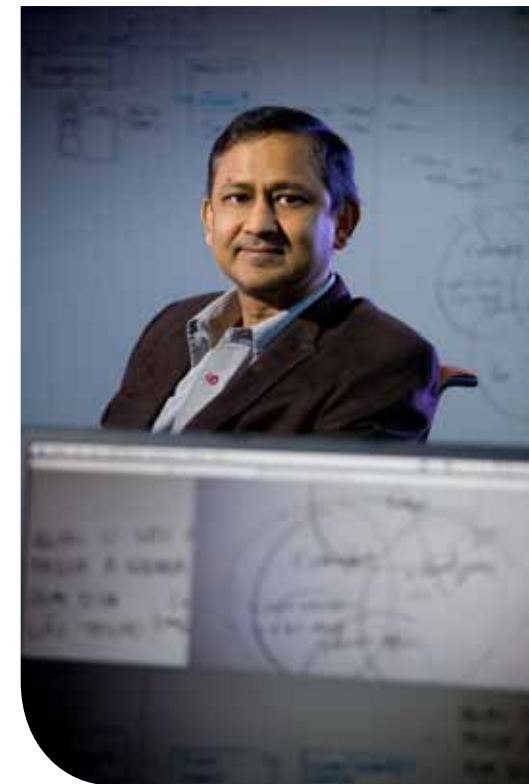
from storage capacity and processing speed to indices that reflect the quality of human experience and effectiveness, such as creativity and innovation.

"Through the use of knowledge, we are able to create tremendous value," said Sheth. "How do you make data meaningful? How do you go away from just number crunching to creating much higher, value-added services and products through the use of knowledge?"

Sheth sees an excellent fit with the military's increasing emphasis on projecting soft power, and the Air Force's increasing emphasis on cyberspace, which requires intelligent use of information and social computing. "When we fight a war, it's also about understanding the culture and how people react," he said. "Making Web 2.0 technology more meaningful—which is what we call Web 3.0 technology—is very important in how we fight today's nontraditional war." Some of Knucomp's work will focus on understanding social data and how culture affects thinking.

Knucomp's vision is inherently multidisciplinary, requiring synergy between advanced computing (including Internet and Web), knowledge

processing, visualization, and cognitive systems. Knucomp brings together the strengths of three existing Wright State centers: daytaOhio, the Kno.e.sis Center, and the Center for Healthy Communities. In the rapidly emerging area of Semantic Web/Web 3.0, Kno.e.sis has the largest group of researchers in the United States.



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Sheth is listed among the top 25 most-cited computer scientists in the world, and Knucomp's 15 faculty members from four colleges have more than 34,000 citations. "Dr. Sheth's work is recognized both nationally and internationally," said Jim Leftwich, president of the Dayton Development Coalition. "Knucomp is world class in Web 3.0, and its relevance to knowledge services can give this region a competitive advantage and generate an unbelievable number of jobs."

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