Keynote Address I

CITRIS: The Center for Information Technology Research in the Interest of Society at the University of California

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This talk will give an overview of CITRIS and the unique approach to its research, interaction with industry, and the implications of its education programs.

The Center for Information Technology in the Interest of Society (CITRIS) was founded on July 1, 2001, as a collaboration among the University of California at Berkeley (UCB), Davis (UCD), Merced (UCM) and Santa Cruz (UCSC). The CITRIS mission is to sponsor and house collaborative information technology (IT) research to provide solutions to grand-challenge social and commercial problems affecting the quality of life of individuals and organizations. CITRIS is one of four California Institutes of Science and Innovation established by Governor Gray Davis to create a partnership between the University of California and state’s leading-edge businesses to lay the foundation for the “next New Economy.”

The CITRIS research agenda now embraces more than 200 faculty members from over 50 departments among the four participating U.C. campuses. It encompasses over 150 separate research activities, sponsored both by external funding agencies as well as through CITRIS seed funds. CITRIS has identified Societal-Scale Information Systems (SISs) as core research vehicles for addressing many of the societal problems of large scale that we face today and anticipate in the future. In this context, “societal”; refers both to the size and impact of the proposed system, as well as one of our most important metrics of success - it must improve people’s lives and the lives of organizations.

Whether it involves

- the simple act of buying an energy-efficient refrigerator or source of illumination, or monitoring buildings, bridges, and highways for structural integrity during an earthquake, or
- monitoring the status and delivering medications in home health care devices for the elderly, or
- delivering educational course materials over diverse geographies, or
- aiding fire and rescue teams in navigating safely through smoke-filled buildings, or
- guarding the quality of our food and water,

an SIS can be applied to collect, understand, and help people with the vast quantities of information needed to address these problems. This partial list of societal-scale applications is being addressed by an extensive, evolving, and diverse set of research projects within CITRIS, all linked by their relevance to societal impact.

Our initial vision for one of the most important SISs is that it will integrate vast numbers of tiny wireless sensors, hand-held information devices, large computing clusters, and large data sets into systems that make it easy for all citizens to monitor and gather data. The sensors themselves must be very cheap and operate without batteries so that they become widely used and require no maintenance. There must be a reliable network to connect the sensors to monitoring systems in a way that requires no action on the part of the user to install, activate or maintain. The network must be secure, so that privacy is respected and malicious use cannot occur. By thinking through these system requirements, from the highest user
interface to basic device and algorithmic structures, the CITRIS project portfolio is embracing all of these challenges and more.

CITRIS is a public-private partnership whose long-term success depends upon fostering an open and collaborative relationship between the State of California and the federal government (through grants and contracts), CITRIS industrial partners, and CITRIS University partners.

This is a dangerous number to quote. I’m sure we wouldn’t be precise. Does it include the CITRIS seeded projects as well as federal and state funded? We’d never get this right. I suggest leaving it out. GLB