

# COMPUTER SCIENCE COLLOQUIUM TWENTY SIXTH SERIES – SPRING 2007

Thursdays at 12:00

Darwin Hall, Room 102

## FEB 8 SCIENTIFIC-COMPENDIA-- A NEW, INTERNET-BASED COMMUNICATIONS-METHODOLOGY

*Don Jewett, Abratech Corporation, Sausalito.* Finding Scientific or Medical Information on the Web is like trying to find a needle in a haystack. In a literature-search the misses greatly outnumber the hits. Hence, there is a clear need for a guide to the current ideas and evidence in both Science and Medicine. As such a guide, we propose a Network of "Scientific Multi-Level Compendia", where each Compendium can be visualized as a Web-based, highly-organized and moderated Review-Article and Forum, with two critical additions: a Multi-Level Format that allows readers to access only those parts of the Compendium which interests them and Context-Containing Cytation-Lists which provide immediate access to any citing text on the Web that has cited a given Compendium-entry.

## FEB 15 JR: FLEXIBLE CONCURRENT PROGRAMMING IN AN EXTENDED JAVA

*Ron Olsson, University of California, Davis.* Java provides a clean object-oriented programming model and allows for inherently system-independent programs. Unfortunately, Java has a limited concurrency model, providing only threads and remote method invocation (RMI). The JR programming language extends Java to provide a rich concurrency model, based on that of the SR programming language. This talk presents a brief overview of the JR programming language and its implementation.

## FEB 22 FROM MANUAL REPORTS TO SQL TO AUTOMATED REPORTS DONE THROUGH ORACLE PL/SQL IN ORACLE APPLICATIONS

*Eric Levinson, Turin Networks, Petaluma.* Many reports are written and then requested to run at regular intervals, sometimes resulting in an email with an Excel file attachment with the output. This talk will demonstrate how a simple report written in Oracle Discoverer (or other similar report tool) can be converted into an automated, scheduled job in Oracle applications.

## MAR 1 CREATING WEB SITES THAT ARE COMPLIANT WITH 508 ACCESSIBILITY REQUIREMENTS

*Ginny Laughlin, California Institute on Human Services, SSU.* There are new legal mandates for accessibility in web sites. What are they? How will this affect your site? What do you need to do to bring your site up to the new standards? This talk will give an overview of the requirements along with some basic training in creating document conversions.

## MAR 8 SOFTWARE QUALITY IN TELECOM: PEOPLE, PROCESSES, AND TOOLS IN A GROWING COMPANY

*Joshua Melcon, Teknovus, Inc., Petaluma.* In telecom software quality boils down to whether customers hear a dial tone when they pick up the phone. In order to maintain these complex programs teams use static analysis tools, coding standards, code reviews, testing, applied software processes and 'good team dynamics' to manage what otherwise might be an incomprehensible labyrinth of features and behavior. In this talk, using real world examples, we will discuss good and bad practices that ultimately contribute toward software stability and maintainability.

## MAR 15 SECURITY ISSUES IN WIRELESS SENSOR NETWORKS

*Xiaoming Lu, University of California, Davis.* As wireless nodes are battery powered, many Medium Access Control (MAC) protocols have been proposed to reduce energy consumption. Security issues related to the design of energy efficient protocols have, however, been largely ignored. In this talk, we present a new generic attack (the synchronization attack) on listen-sleep MAC protocols.

## MAR 22 THAT WHICH DOES NOT STABILIZE, WILL ONLY MAKE US STRONGER

*H. Kazerooni, University of California, Berkeley.* In October 2003, the first functional load-bearing and energetically autonomous exoskeleton, called the Berkeley Lower Extremity Exoskeleton (BLEEX) was demonstrated, walking at the average speed of two miles per hour while carrying 75 pounds of load. BLEEX augments human strength and endurance during locomotion and has numerous applications. This talk gives a summary of the technical challenges on the control algorithm; biomimetic design, power source, and actuation system.

## MAR 29 IMPROVING HEALTHCARE QUALITY

*Ethan Stone, Corman Technologies, Santa Rosa.* The current state of healthcare is inefficient, inconsistent, and error-prone. This talk will present an overview of some specific ways in which information technology is being used to improve the situation.

## APR 5 PROGRAMMING FOR THE WEB

*Bradley Creamer, De Anza College, Cupertino.* AJAX programming, database programming, development and live Web server setup, and some general accessibility (section 508) usability techniques will be surveyed along with a comparison of browser technologies.

## APR 12 SPRING BREAK – NO LECTURE

## APR 19 AJAX AT WORK

*Jerome Coonan, Xetus Corporation, Mountain View.* This talk will consider how the AJAX web methodology bridges the chasm between community mortgage lenders and Wall St. investors. It will explore the potential of this pioneering methodology to solve a wide range of seeming intractable problems in the deployment of software in business.

## APR 26 BRIDGING THE GENDER DIVIDE

*Brigid Baron, Stanford University.* This talk will overview the latest research in understanding the "gender-divide" in the high-tech world and the efforts to draw girls into technology.

## MAY 3 ELEMENTS OF COMPUTER GAME DESIGN

*Jason Shankel, Maxis/Electronic Arts, Walnut Creek.* Computer game production is a complex, multi-faceted process. In this talk, the elements of a computer game design and explore how those elements interact to create the final product will be described and explored.

## MAY 10 STUDENT RESEARCH PRESENTATIONS

Student presentations on individual projects and research. Topics to be announced.



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Parking is usually available in Lots "E" and "F" and costs \$2.50.  
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