Computer Science/Engineering Seminar on Internship and Capstone Project

Jonathan Levine
Sabbir Liakat
Beata Chojnowska
Bashar Al Shboul

11:15 – 12:15 Wednesday, December 10th, 2008
Room 200, Adams Hall
ALL STUDENTS AND FACULTY ARE INVITED

1. Internship Experiences at CHIPS Computer Consulting by Jonathan Levine [CSC195 Internship, Advisor: Dr. Ammari]

Over the past semester I completed an internship at CHIPS Computer Consulting LLC, in Syosset New York. My basic job was to provide support for our clients, as well as troubleshoot hardware issues onsite. For my presentation, I will give an overall view of exactly what my tasks were, what I learned, and how the company works.

2. The Use of Finite Element Modeling to Model Ultrasound Wave Propagation in Multilayered Media by Sabbir Liakat [ENGG143J Senior Design, Advisor: Dr. Ghorayeb]

The bulk of this project involves using the program COMSOL Multiphysics to model an object which is to be divided into many smaller elements. Doing so will allow the solving of partial differential equations governing ultrasonic wave propagation along all the nodes. If we are successful, we will be able to garner expected results from ultrasound testing without doing the actual testing. Furthermore, from analyzing the behavior of ultrasound within an object, we may be able to realize how vibration therapy works to heal tissue. One big constraint we have come across is system memory. Because it involves relatively large wavelengths, a very fine mesh is required to correctly solve the function that is the best model of ultrasound (that we have found so far).

3. VM-LAN (Virtual Monitor for Local Area Network) by Beata Chojnowska [CSC300 Independent Project, Advisor: Dr. Fu]

VM-LAN is a monitoring tool that can be used for system administrators to monitor state of a network. VM-LAN works well for those with no special computer knowledge, because the graphical user interface makes it user-friendly. Green or red nodes of the tool represent the state of hosts. Nodes colored green or red indicate whether they respond to the ping diagnostic utility. When a node is unreachable, it changes color to red. A node that responds to a ping is one that is up and remains of color green. In addition, an email is sent to an administrator to inform about disconnection.

4. Run-time Protection against SQL Injection Attack via Bytecode Instrumentation by Bashar Al Shboul [CSC290 Independent Project, Advisor: Dr. Fu]

We developed a tool which can automatically instrument Java web applications. The extra run-time protection code inserted by our tool into java web application can automatically defend SQL injection attack at run-time, by throwing exceptions and hence blocking the execution of malicious SQL command.

Refreshments will be served following the talk