

CSC 2228 Topics in Mobile and Pervasive Computing

Fall 2008

www.cs.toronto.edu/~delara/courses/csc2228

Tuesday 3:00-5:00 PM

MS3268

Instructor

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Requirements

Research paper presentation

The research paper presentations will give you the experience of reading, synthesizing, and presenting other people's research. You will present at least one research publication over the semester. However, depending on the size of the class you may be asked to present more than once. Your presentation should last at most 30 minutes, after which you will be in charge a leading a 20 minutes open discussion. You should prepare in advance a short list of issues or questions that you would like to address over the discussion period. **I will be very strict regarding timing and will interrupt you after the 30 minutes mark.**

Research paper summaries

The intent of the research summaries is to familiarize you with the process of reviewing manuscripts. You will assume the role of conference reviewer, and write a 3 paragraph critical review for each paper that you do not get to present yourself (except those presented on Sep 9th). Briefly summarize the paper in the first paragraph. In the second and third paragraphs, provide at least one argument for accepting and rejecting the paper, respectively.

Research project

The goal of the project is to gain experience doing original systems research, synthesizing you results in written form, and presenting them in public. You are required to develop a group project (groups can include up to 3 people) in an area related to mobile or pervasive computing. The results of this project should be reported in a 5 page long manuscript following conference style guidelines (single space, double column, 8.5 X 11 inch paper, 10pt font). The project will also be presented to the class in a workshop-like session at the end of the semester.

Milestones	Date
Proposal (1 page) and Web page	Sep. 23
1st progress report (1 page)	Oct 21
2nd progress report (1 page)	Nov 18
Class presentation (20+5 minutes)	Dec 2
Final report (5 pages in proceedings format)	Dec 12

Grade Breakdown

Paper presentation 20%
Paper summaries 20%
Project report and presentation 50%
Class participation 10%

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Course Syllabus

Date	Topic	Reading
Sep-09	Introduction	Pervasive Computing: Vision and Challenges M. Satyanarayanan IEEE Personal Communications, August 2001 System Software for Ubiquitous Computing T. Kindberg and A. Fox IEEE Pervasive Computing, January 2002
Sep-16	Session Mobility	MobiDesk: Mobile Virtual Desktop Computing Ricardo Baratto, Shaya Potter, Gong Su, and Jason Nieh MobiCom 2004 Trustworthy and personalized computing on public kiosks Scott Garriss, Ramon Caceres, Stefan Berger, Reiner Sailer, Leendert van Doorn, Xiaolan Zhang MobiSys 2008
Sep-23	Cancelled	
Sep-30	Computation Migration	Transparent Checkpoint-Restart of Distributed Applications on Commodity Clusters Oren Laadan, Dan Phung and Jason Nieh Cluster Computing 2005. Live Migration of Virtual Machines Christopher Clark, Keir Fraser, Steven Hand, Jacob Gorm Hansen, Eric Jul, Christian Limpach, Ian Pratt, Andrew Warfield NSDI 2005
Oct-07	Infrastructure Support	Slingshot: Deploying Stateful Services in Wireless Hotspots Ya-Yunn Su and Jason Flinn MobiSys 2005 Simplifying Cyber Foraging for Mobile Devices Rajesh Balan, Darren Gergle, Mahadev Satyanarayanan, James Herbsleb MobiSys 2007
Oct-14	Sensors	Brimon: a sensor network system for railway bridge monitoring Kameswari Chebrolu, Bhaskaran Raman, Nilesh Mishra, Phani Kumar Valiveti, Raj Kumar MobiSys 2008 Experiences of designing and deploying intelligent sensor nodes to monitor hand-arm vibrations in the field Christos Efstratiou, Nigel Davies, Gerd Kortuem, Joe Finney, Rob Hooper, Mark Lowton MobiSys 2007
Oct-21	Opportunistic Sensing	The pothole patrol: using a mobile sensor network for road surface monitoring Jakob Eriksson, Lewis Girod, Bret Hull, Ryan Newton, Samuel Madden, Hari Balakrishnan MobiSys 2008

		Micro-Blog: sharing and querying content through mobile phones and social participation Shravan Gaonkar, Jack Li, Romit Roy Choudhury, Landon Cox, Al Schmidt MobiSys 2008
Oct-28	RFID	Cascadia: a system for specifying, detecting, and managing rfid events Evan Welbourne, Nodira Khoussainova, Julie Letchner, Yang Li, Magdalena Balazinska, Gaetano Borriello, Dan Suci MobiSys 2008 Sherlock: automatically locating objects for humans Aditya Nemmaluri, Mark D. Corner, Prashant Shenoy MobiSys 2008
Nov-04	Wireless Authentication	On Fast and Accurate Detection of Unauthorized Wireless Access Points using Clock Skews Suman Jana and Sneha Kasera MobiCom 2008 PARADIS: Physical 802.11 Device Identification with Radiometric Signatures Vladimir Brik, Suman Banerjee, Marco Gruteser and Sangho Oh MobiCom 2008
Nov-11	Privacy	Improving wireless privacy with an identifier-free link layer protocol Ben Greenstein, Damon McCoy, Jeffrey Pang, Tadayoshi Kohno, Srinivasan Seshan, David Wetherall MobiSys 2008 Anonymsense: privacy-aware people-centric sensing Cory Cornelius, Apu Kapadia, David Kotz, Dan Peebles, Minh Shin, Nikos Triandopoulos MobiSys 2008
Nov-18	Wireless Throughput	MobiSteer: using steerable beam directional antenna for vehicular network access Vishnu Navda, Anand Prabhu Subramanian, Kannan Dhanasekaran, Andreas Timm-Giel, Samir Das MobiSys 2007 ZipTx: Harnessing Partial Packets in 802.11 Networks Kate Ching-Ju Lin, Nate Kushman, and Dina Katabi MobiCom 2008
Nov-25	Multiple Radios	Wireless wakeups revisited: energy management for voip over wi-fi smartphones Yuvraj Agarwal, Ranveer Chandra, Alec Wolman, Paramvir Bahl, Kevin Chin, Rajesh Gupta MobiSys 2007 COMBINE: Leveraging the Power of Wireless Peers through Collaborative Downloading Ganesh Ananthanarayanan, Venkata Padmanabhan, Chandramohan Thekkath, Lenin Ravindranath MobiSys 2007
Dec-02	Project Presentations	