

DEPAUL UNIVERSITY



Research @ CDM

- Learn about some of the faculty research at CDM
- Pizza and Beverages will be provided

A Summary of Topics:

1) User interfaces provide a range of options for selecting commands or items on modern desktop applications. These options include drop-down menus, toolbar buttons and keyboard shortcuts. Purportedly, toolbars are effective for novices while keyboard shortcuts are most efficient for practiced users. But is this really the case? And how well do these methods work when the user needs to choose among more than just a few items? For my talk, I'll present results from an experiment that timed human participants using a drop-down menu, toolbar or keyboard shortcut to activate a window in an application. The experiment ran for 90 trials and required people to choose from 20 items. We will discuss the findings and their implications for designing user interfaces.

Bio: Craig Miller is a computer scientist with interests in cognitive modeling and human-computer interaction. His research includes studying how people navigate web sites and other hierarchical menu systems. He is currently an Associate Professor in the School of Computing at DePaul University.

2) The wireless communication devices we use every day (cell phones, for example) often require an existing, fixed, wired infrastructure network (antennas and router devices connected by ethernet cables, for example). This infrastructure network may not be available in remote regions (for rescue work communications, say) or in foreign countries (for battlefield applications, for example). When no infrastructure exists, the solution is for the wireless devices to organize themselves into a network. They can do that by letting each device create and maintain a "connection" to every other device in its communication range. The set of all these connections makes up an ad-hoc wireless network. Devices in each others communication range can then communicate directly, whereas devices that are further apart will communicate to each other by using other devices as intermediaries.

There are several problems such ad-hoc wireless networks, however. There could be more devices in the listening range than a device can handle. It is unclear how a message between distant nodes is to be routed. And if a device is to receive and forward other devices' messages and not just its own, what happens to the device's battery life? In this presentation, I will discuss the problem of constructing a topology, i.e. a sub-network, of the original ad-hoc network that is amenable to routing or other networking applications.

Bio: Ljubomir Perkovic joined the CDM School of Computing faculty in September of 2000, after two years on the faculty of the Mathematics and Computer Science department at Drexel University in Philadelphia. Dr. Perkovic obtained his Ph.D. in Algorithms, Combinatorics and Optimization at the School of Computer Science at Carnegie Mellon University, and he holds a B.A. degree in Mathematics and Computer Science from Hunter College of the City University of New York. His research interests include distributed and wireless computing, computational geometry, graph theory and algorithms, probabilistic analysis of algorithms, and computational thinking. He is Co-PI on an NSF funded project to expand Computational Thinking across the Liberal Studies curriculum. He is also the coach of the DePaul Programming teams.

3) In this talk, I present a new method for search personalization in Folksonomies which utilizes ontological user profiles. A folksonomy is a social tagging system, such as Delicious, where users assign tags to resources to categorize content. Notably, our method builds a folksonomy tag ontology in which the tags are disambiguated. Then we match the tag profile of a target user against the ontology and retrieve web resources which are ranked and personalized to the user. The experimental results showed our method achieved significant improvements over other approaches.

Bio: Noriko Tomuro is an Associate Professor, and has been teaching at DePaul CDM since 2000. She obtained an M.S. and a Ph.D. in Computer Science from DePaul University, and a B.A. in English Language from Sophia University in Tokyo, Japan. Her research interests are in Artificial Intelligence, in particular, Natural Language Processing, Information Retrieval and Machine Learning.

4) Our research focuses on the current practices and challenges of eliciting and gathering requirements from stakeholders who are located at multiple distributed locations. We propose five different requirements-gathering collaborative network models and to explore how both rich media and scalable forum-style elicitation tools can be adopted. As our research progresses we want to refine and enhance our RGCN models with specific roles and tasks of the requirements engineering process in order to develop a process framework for Distributed Requirements Gathering.

Bio: Ms. Laurent is a Computer Science PhD student. Her research areas of interests are Human Computer Interaction and Requirements Engineering. She has over 16 years of IT industry experience in a variety of roles including coder, business analyst, trainer, system support specialist and project manager.

-The schedule is as follows:

3:30-3:50: Dr Miller
3:50-4:10: Dr Perkovic
4:10-4:30: Dr. Tomuro
4:30-4:50: Ms. Laurent