Department of Mathematics, Statistics and Computer Science
St. Francis Xavier University
Presents

A framework for automated verification of workflow using timed temporal logic in a distributed memory environment

by
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Thesis Proposal Presentation

Thursday, October 14th, 2010 @ 2:30 in Ax23A

Workflow management systems (WfMS) provide convenient ways of visualization, analysis and automation of work processes. Safety critical systems like health care must ensure an error free workflow execution to ensure the safety of the patients. We wish to improve the quality of workflow systems by applying formal verification techniques. While Petri nets are a popular tool to model workflow, tools to model Petri nets lack verification facilities. We present an automatic translation of workflow models designed as Petri net models to a state space, and we develop a tableau based model checking algorithm to verify properties of that model. Tableau based theorem provers are both computationally and resource intensive. Introducing a timed and temporal logic increases the complexity. To cope with this problem we discuss a mechanism to distribute the verification procedure among multiple processors.

Refreshments will be served before the talk in AX24A