

UW CENTER FOR PATTERN ANALYSIS AND MACHINE INTELLIGENCE

GRADUATE SEMINAR SERIES

Axon: a Middleware for Robotics

Speaker: Michael Morckos

Date: August 8, 2012

Time: 4 pm – 4:30 pm

Place: E5 (5128) Refreshments will be served

Abstract :

The area of multi-robot systems and frameworks has become, in recent years, a hot research area in the field of robotics. The need to integrate different heterogeneous robotic components and systems has led to the birth of robotic middleware. In this thesis, we tackle the robotic middleware problem from a different perspective. The aim of this work is to develop a robust middleware that is able to handle multiple robots and clients within a laboratory environment. In our proposed middleware, we introduce a high-level representation of robots in an environment. We also introduce the notion of structured and efficient data exchange as an important issue in robotic middleware research. We designed and developed our middleware using rigorous methodologies and leading edge technologies. Moreover, we tested and evaluated the middleware's ability to integrate different types of robots in a seamless manner, as well as its ability to accommodate multiple robots and clients.