Port-based Agent Architecture for Self Adaptive Software

New Ideas:
• Architecture for Port-based Agents
• Using Runtime Simulations for Adapting and Reconfiguring Agents
• Acquiring an Agent’s Skill from Observation
• Interactive Software Components that connect design agents with their runtime counterparts.

Impact
• Port-based Agents will result in the development of new real-time control software composition methods based on “real-time agents”
  • Will allow real-time software to be configured in real-time
  • Will result in new control schemes that cannot be created using conventional methods
  • Will result in rapid evaluation and integration of adaptation algorithms based on run-time execution

Schedule
Year 1:  - Develop Port-based agent architecture
          - Develop Algorithms for Primordial Learning
Year 2:  - Design and Demonstrate “Design Agents” and ‘Expertise Agents”
          - Demonstrate a Graphical User Interface and Design Agents to configure Applications
Year 3:  - Demonstrate Software Adaptation at run-time

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