URN etd-0407109-183710-723
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Statistics This thesis had been viewed 38 times. Download 30 times.
Department
Year 2002
Semester 1
Degree Master
Type of Document Master's Thesis
Language zh-TW.Big5 Chinese
Title High Performance Search for Exception Handling in Workflow
Date of Defense 0000-00-00
Page Count 71
Keyword
Workflow
Exception Handling
Workflow Management System
Mobile Agent

Abstract
With the approaching of knowledge-based economy, in order to remain competitive, most of corporations are eager to develop knowledge management systems. In addition to managing knowledge, how to shorten the process time of various events along workflow and also provide prompt response to exceptions is one of the major issues to be addressed while facing global competitions in corporations. Because workflow management standard proposed by Workflow Management Coalition (WfMC) does not include exception handling, system implementations which follow the standard cannot effectively handle exceptions occurred along workflow. Although many researches have proposed Exception Handling mechanisms, they only provide a means of manual exception handling without automation. In search for the solution of Exception Handling, Similarity Search and Commonality Search are two methods being used. Since Similarity Search is based on the concept of search in an orderly fashion, it lacks efficiency. The purpose of this research is to propose two effective methods to solve Exception Handling issues: BCC (Binary Coordinate Computation) and PCC (Partition Coordinate Computation) and to find valuable Exception Handling to solve flow exception. Those two proposed methods will undergo complex computational analysis to evaluate the pros and cons in the area of solving Exception Handling. This thesis will also show those two methods are the most effectively ones through experimental evaluation. Besides proposing solution for Exception Handling, this thesis use AEHS (Automated Exception Handling System), a new method purposed by Mobile Agents to solve Exception Handling, and through UML to analyze this system. When the workflow encounters error, AEHS will automatic send a self direct Mobile Agents to Exception Handling database to search for similar solution to correct the workflow mistake and improve flow efficiency.
Advisory Committee Chow-Sing Lin - advisor

Files etd-0407109-183710-723-001.pdf

indicate access worldwide
Date of Submission 2003-08-25