

Guest Editor's Introduction

Tools for AI

THE NEXT TWO ARTICLES WERE CHOSEN FROM AMONG THE WORK PRESENTED AT THE SECOND INTERNATIONAL CONFERENCE ON TOOLS FOR AI. THE CONFERENCE FOCUSED MIDWAY BETWEEN AI THEORY AND APPLICATIONS, SPECIFICALLY, ON THE SPECIFICATION, DESIGN, DEVELOPMENT, AND TESTING OF INTELLIGENT TOOLS. WORK PRESENTED AT THE CONFERENCE WAS GROUPED INTO SIX TRACKS: AI ARCHITECTURE, MACHINE LEARNING, AI AND SOFTWARE ENGINEERING, LANGUAGES, APPLICATIONS, AND NEURAL NETWORKS. THESE TWO ARTICLES ARE FROM THE SOFTWARE ENGINEERING TRACK.

IN "A TASK-BASED METHODOLOGY FOR SPECIFYING EXPERT SYSTEMS," JOHN YEN AND JONATHAN LEE DISCUSS A SPECIFICATION TECHNIQUE THAT HELPS TO DEVELOP RELIABLE AND MAINTAINABLE EXPERT SYSTEMS. THE TECHNIQUE SPECIFIES BOTH THE STATIC AND PROCESS ASPECTS OF THE SYSTEM, AND IT USES CONVENTIONAL SOFTWARE ENGINEERING TECHNIQUES, SUCH AS FUNCTIONAL DECOMPOSITION AND ABSTRACTION. THE BASIC SPECIFICATION UNIT IS A TASK (A FUNCTIONAL UNIT). YEN AND LEE ILLUSTRATE THEIR METHOD BY REVERSE ENGINEERING A SPECIFICATION FOR PART OF R1/SOAR. THEIR TECHNIQUE CAN ALSO BE USED TO VERIFY AND VALIDATE EXPERT SYSTEMS.

IN "KNOWBEL: A HYBRID TOOL FOR BUILDING EXPERT SYSTEMS," JOHN MYLOPOULOS, HUIQING WANG, AND BRYAN KRAMER DESCRIBE A TOOL THAT CAN REPRESENT AND REASON ABOUT APPLICATION KNOWLEDGE AT TWO LEVELS. THE FIRST LEVEL REPRESENTS AND ORGANIZES CONCEPTS USING THE TELOS KNOWLEDGE REPRESENTATION LANGUAGE; THE SECOND SUPPORTS THE MRS LOGIC PROGRAMMING SYSTEM AND CAN BE CUSTOMIZED AS AN INFERENCE ENGINE FOR A SPECIFIC APPLICATION.

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