

Architecture Design of the Robots Operability Assessment Simulation Testbed

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Abstract : This paper presents the architecture design of the robot operability assessment simulation testbed (called "ROAST") for the resolution of robot operability problems occurred during interactions between human operators and robots. The basic idea of the ROAST architecture design is to enable the easy composition of legacy or new simulation models according to its purpose. ROAST architecture is based on IEEE1516 High Level Architecture (HLA) of defense modeling and simulation. The ROAST architecture is expected to provide the foundation framework for the easy construction of a simulation testbed to order to assess the robot operability during the robotic system design. Some of ROAST implementations and its usefulness are demonstrated through a simple illustrative example.

Keywords : robotic system, modeling and simulation, simulation architecture, operability assessment

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