

Military Applications of the Disciple Learning Agent

To Mihai Draganescu, at his 75th anniversary.

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Abstract

Disciple is a theory, methodology, and family of agent shells for the development of intelligent agents by subject matter experts, with limited assistance from knowledge engineers. In the last few years the development of the Disciple approach has been a direct result of its application to three military challenge problems used in the DARPA's "High Performance Knowledge Bases" and "Rapid Knowledge Formation" programs: center of gravity analysis, course of action critiquing, and workaround planning. This chapter introduces each of these innovative military applications of Artificial Intelligence, and the corresponding Disciple agent that was built to address it. Disciple-RKF/COG is used in two courses at the US Army War College. In one course the students use a trained Disciple agent as an aid for learning about center of gravity analysis, and for developing a report containing a case study analysis. In another course the students use personal Disciple agents that were not yet trained, as subject matter experts, teaching them their own problem solving expertise in center of gravity analysis. Disciple-COA critiques military courses of actions with respect to the principles of war and the tenets of army operations. Disciple-Workaround plans how a convoy of enemy vehicles can circumvent or overcome obstacles in their path.