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# Distributed Soldier Representation: Implementing Cohesion in Combat Simulations

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**Abstract:** Distributed Soldier Representation (DSR) is a project aimed at making constructive combat simulations more realistic by integrating the human component of soldiering. Constructive simulations like One Semi-Automated Forces (OneSAF) are used by Army leaders to design a combat experience and simulate the effectiveness of their troops in a combat environment. However, DSR components like cohesion and stress are not currently integrated into these simulations. Therefore, the perceived outcomes of combat simulations are far less realistic than what may occur in a real-world combat scenario. This research examines unit cohesion in constructive simulations, and how its relationship with stress can be integrated into existing simulation tools to represent a unit's combat performance (accuracy). What this project has produced is framework for the incorporation of cohesion and a mathematical formula for the effect of cohesion on unit performance.

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