

Nondisruptive Data Logging: Tools for JFCOM Large-scale Simulations

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ABSTRACT: *A persistent series of issues and problems in training, simulation and education are those associated with the efficient and effective collection of information. These issues become exacerbated as the data being generated increasingly outstrips the human capacity to sense, remember and analyze the results of the effort. These shortcomings can occur in several dimensions, including volume of information (data glut), speed of transmission to the analyst (input overload), and geographical dispersion of the data (distributed data). The authors have been wrestling with these issues for more than a decade and present both a theoretical overview and a practical set of lessons learned based on those experiences. A review of the problems and a survey of various approaches to their solution will be presented. One of the issues most problematic is the need to reliably collect all of the germane information that is required or desired by the user or analyst without negatively impacting the training, simulation or education that is the primary focus of the activity. Acknowledging theoretical limits to non-intrusive observation, the goal is held to be: maximize the data and minimize the disruption. The authors lay out with specificity their development of the JLogger system to collect needed information out of the Joint Forces Command's experimentation that typically uses Joint Semi-Automated Forces (JSAF) simulations for analysis and evaluation. Examples of problems faced in achieving the goals of the experiments, the approaches used to resolve these and the solutions developed are all presented with a view toward assisting other similarly-tasked professionals with assessing their needs, their problems and their opportunities. The authors conclude by laying out the way the data were collected, then were structured to optimize their usability by the warfighter participants. Then they look to the future of data collection during live, virtual and constructive events..*