

INFOCHESS: A POWERFUL TEST BED FOR STUDYING INFORMATION OPERATIONS (IO) DECISION-MAKING

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Participants will receive an introduction into the domain of Information Operations (IO) and asymmetric warfare. This interactive session will use InfoChess™ to provide experiential learning in IO and explore decision-making. By integrating IO in the rich, yet well understood game of chess, the trainee's understanding of the synergistic effects of IO and maneuver warfare is internalized to a degree not shown with traditional instruction. The audience will then be asked to collectively work together, against an asymmetrically adversary. During the course of this session, observations will be collected on the decision-making activities of the participants.

OBJECTIVE

Our objectives for this session are twofold. First, this session will serve as a opportunity for participants to learn more about two fields of growing importance to homeland defense: Information Operations (IO) and Asymmetric Warfare. Second, this session will introduce an on-line training environment, InfoChess™, as a test bed can be used to conduct experiments to further understanding decision-making in IO. In this session we will reveal:

- how a rich test bed provides vastly superior in-situ decision making insights over typical 'toy problem' environments,
- how adding IO principles into a well understood environment dramatically impacts the nature of the decision making, and
- how difficult it is to "think as your adversary" when asymmetries are compounded with uncertainty.

SUBJECT MATTER

Simulations have long been used as a means for training complex knowledge and tasks. However, they tend to use well-bounded task domains, where all information is knowable, and a rule based framework that limits the problem space. Recent events have pointed out the necessity to train military decision-makers for less bounded and more cognitively demanding environments.

As the demands placed on trainees change so must the tools used to train them. Thus, there exists a need for a training tool that harnesses the power of the Information Age, especially through information operations (IO). InfoChess™ uses the ancient war game of chess as the context in which to learn IO. InfoChess™ deviates from traditional chess in that situation awareness is not directly perceived and must be constructed using IO techniques.

During this session a brief synopsis of IO will be provided and how its concepts have been adapted to impact a game of chess. InfoChess™ will then be used to make explicit the critical synergies between physical operations and information operations. This understanding is critical if the Human Factors community is to develop tools and decision aids to support military decision-makers in non-traditional forms of warfare.

After an introduction to the IO domain in general and the rules of InfoChess™ in specific, the participants in this session will be provided an opportunity to apply their knowledge against an on-line adversary. This simulation will be used to collect information on the impact of perception management on the decision-making of participants.

PRESENTATION FORMAT

This session will begin with a lecture on IO topics then rapidly move to an interactive session. During the interactive portion of the session, the test bed will be run and projected at the front of the room.

Initially the presenters will review some of the basic principles of Information Operations and Asymmetries while simultaneously showing the decision support features of the system that the audience will use during the following segment. The audience will be encouraged to ask questions about the various features and the principles being presented. By prompting the audience to nominate moves, request to see various information visualizations in order to make decisions, etc., a collaborative decision making session will occur.

EXPECTED ATTENDEE BENEFITS

Attendees will learn about a newly relevant aspect of warfare that has been traditionally overlooked by the Human Factors community. In addition, the audience will be able to see practical techniques for employing InfoChess™ as a rich test bed for the analysis of individual or collaborative decision making under conditions of uncertainty and asymmetric warfare.

