

**12<sup>TH</sup> ICCRTS**  
**“Adapting C2 to the 21<sup>st</sup> Century”**

**A human-centered approach for C3ISR software development**

Suggested Topics:  
C2 Technologies and Systems  
C2 Concepts, Theory, and Policy  
Cognitive and Social Issues

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– ABSTRACT –

The quick and accurate identification of contacts of interest is essential for the successful fulfillment of nowadays naval missions. Especially in the littorals, there is a very high density of objects, entailing the possibility of various different asymmetrical threats. Modern sensors provide loads of data and information, based on which decisions have to be made in extremely limited time. When 21st century C3ISR software is being developed, these aspects must be particularly considered. The authors design and implement an exemplary system for surface warfare, yielding a demonstration facility and guidelines for future procurement specifications. In order to disencumber human decision makers, the main focus is on designing a graphical user interface that is as easy to use and as easy to learn as possible. To reach this objective, a highly user focused approach is chosen. Subject matter experts are asked frequently throughout all phases to examine the system and give feedback, based on which it can be optimized and enhanced. Furthermore, experimental tests with experienced officers are conducted under realistic service conditions. The acquired results are used for further optimization. The paper explains the methodology and presents results and lessons learned from an earlier project featuring this approach.