M. Grootjen, M.A. Neerincx, J.C.M. van Weert, "Task Based Interpretation of Operator State Information for Adaptive Support", ACI/HFES 2006, San Francisco.

Task Based Interpretation of Operator State Information for Adaptive Support

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Abstract

In the last 2 decades, the application of new technologies in process control caused a radical change in the role of the operator. To cope with these changes, the operator needs personalized support that can vary over time. To realize this support, we present the design and first testing of a framework for adaptive support. First an analysis was done which data is necessary for the framework. After selection, data was collected during an experiment. Based on this data a software tool was designed to visualize task load of operators over time. Evaluation of the tool shows that combination of cognitive task load, effort and performance gives insight into the task load of an operator over time. Furthermore, it enables generation of critical and optimal task load work areas. Further implementation of the framework needs to be done to generate a real time adaptation plan.