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Knowledge modeling and the creation of El-Tech: a performance support and training system for electronic technicians

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Abstract

This paper contains a description of a unique approach to the creation of an expert system to provide performance support and training for electronics technicians. The starting point for development of the system was the creation of a semantically rich knowledge model comprised of Concept Maps and other digital media. The knowledge model was used to create the inference part of the system, and then retained to furnish explanation of the inference component's behaviors, and as content for training. The paper starts with a survey of relevant approaches to knowledge elicitation and modeling for performance support, and a review of other systems that have been created to assist with electronics troubleshooting. Following this, El-Tech (Electronic Technician), an expert advisory and training system that was created as part of a joint research effort with the Chief of Naval Education and Training, Pensacola, FL, is described.



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Keywords

Knowledge elicitation; Knowledge modeling; Concept maps; Performance support system; Training

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