KNOWLEDGE-BASED SYSTEMS BUILT USING GENERIC COMPONENTS BASED EXPERT SYSTEM SHELL

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Abstract

This paper focuses on the construction of automatic diagnosis / guidance system called Expert Guide System (EGS) for the launch process of unmanned aircraft and Automatic Fault Diagnosis System (AFDS) for the Flight Control Computer of LCA. Traditional expert systems had been constructed using single monolithic software program for specific application and are capable of handling single knowledgebase only. In traditional / commercial expert system either the knowledgebase is hardcoded into the program or the linkage of the expert system modules with the knowledgebases takes place during the compilation time. These commercial expert system shells cannot be used for applications like EGS and AFDS because they demand the usage of multiple knowledgebases. These systems are built using complex, competent shell called Generic Components Based Expert System Shell (GCESS) designed and developed at ADE for avionics applications. This paper discusses the role of GCESS and the construction of EGS and AFDS systems using this expert system shell.

Keywords: Knowledge based systems; Expert system shell; Artificial intelligence; Unmanned aircraft