THE RUN CONTROL IN THE ATLAS PROTOTYPE-1 DAQ/EVENT FILTER PROJECT

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The run control software within the Atlas Prototype-1 DAQ/Event Filter project is designed as a hierarchy of controllers reflecting the division of the detector and the data acquisition system into logical entities mapped in the Object Oriented configuration database. Control commands are given to the root controller by the operator and passed through the hierarchy to any number of sub-controllers. Controllers, modelled using state charts, change state depending on the successful command execution by the controlled component. In the case of a failure, the controllers offer the possibility of accessing the state of any component or group of components and acting upon them with commands to recover the system. The facility is being extended by the Error recovery module currently being developed using an expert system. This module finds the cause of failure and acts to minimize run-time loss. If the passively collected information is not sufficient the related diagnostic system actively undertakes tests on components. The activity is embedded in a well defined software process using object oriented design and development technologies such as C++, CORBA for platform independent communication, Motif and Java for graphical user interfaces on multiple platforms.