

### **An extensible data acquisition and controlling system**

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Data acquisition systems are indispensable in modern scientific research and in industrial automation. However, good general purpose data acquisition systems are rare and very costly. Another problem found in many such systems is lack of flexibility. The work reported in this paper is an attempt to develop a generic, extensible low cost data acquisition system. The flexibility of the hardware design has been achieved by relying on Complex Programmable Logic Devices (CPLD). In addition, a fully customizable and extensible software package has been developed. Software extensibility was achieved by providing a high-level API while flexibility was achieved by providing a fully configurable software application. The application allows controlling the output under predefined events, mathematical formulae or user plug-ins. It also provides data logging and analysing capabilities. In addition, a web interface is provided to maximize accessibility.