Development and Configuration Software for Continuous Data Acquisition System

Abstract

Data Acquisition systems of scientific projects are often a continuous process for storage, archival and retrieval of large scientific data. Many large experiments required the o the feedback controls which can be also a part of data acquisition systems. These systems are designed specifically to cater the experimental/process requirement in real time being fast as well as for slow data. The data acquisition hardware is supported by a vast open-source software platform which are constantly developed and maintained over a period to perform the desired operation.
Th defined project involves various task such as study of certain open-source software packages required for continuous data acquisition system. It also involves configuration of the open-sourced software's to perform various functions such as standalone continuous operation for acquisition, long-term storage, and future retrieval in a customized format. The stored data shall be retrieved for scientific analysis using python/C++ as per defined requirement. The designed utility shall be capable of continuously plotting the data to the end users for better data analysis.

Pre-requisite:
- Knowledge of C/C++ /Python programming skills
- Basic knowledge about MATLAB, Simulink, Python and its plotting libraries, databases
- Familiarity with Linux operating System (Basic Linux commands)

Academic Project Requirements:

1) Required No. of student(s) for academic project: 2

2) Name of course with branch/discipline: B.E./B.Tech. Computer Engineering/IT/MCA

3) Academic Project duration:

(a) Total academic project duration: 18 Weeks
(b) Student's presence at IPR for academic project work: 5 Full working Days per week

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