Published on *CERN openlab* (http://test-static-05.web.cern.ch)

Online syntax highlighting and checker for Control Unit Type of Finite State Machine [1]

Date published:
Thursday, 25 August, 2016
Document type:
Summer student report
Author(s):
F.C. Schiavi
CERN describes the Detector Control Systems (DCSes) of the experiments of the Large Hadron Collider using finite state machines organised in a hierarchical directed acyclic graph structure. These systems are huge and impossible to understand only with human intervention, so computer checking is needed. Before the introduction of the tool described in this document, the analysis of the code controlling the DCSes was performed few times a week, introducing problem solving delay. The tool proposed allows an online time checking of the detectors? Control Units, thanks to the integration with the WinCCOA panel. WinCCOA is a SCADA (Supervisory Control and Data Acquisition) system tool that is used to develop the Control System applications at CERN. Chapter breakdown: Chapter 1: introduction to the environment, explaining why the project has been proposed and what is the aim of the tool in solving current problems. Chapter 2: description about the framework that manage the control environment at CERN, and main concepts of the language that must be controlled by the tool. Chapter 3: general illustration of the employed tools, ACE and PEG.js Chapter 4: description on how the work has been implemented, from the setting up of the work environment, to the syntax rules and error reporting Chapter 5: future development of the tool Chapter 7: conclusions
Report on ZENODO:
Document on ZENODO [2]

Links
[1] http://test-static-05.web.cern.ch/publications/technical_documents/online-syntax-highlighting-and-checker-control-unit-type-finite
[2] https://zenodo.org/record/60913