

ALICES—AN ADVANCED SOFTWARE WORKSHOP FOR SIMULATORS

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ABSTRACT

The construction and maintenance of a training simulator is a labour intensive task, that requires the use of highly skilled personnel. As an example, the development costs of a middle size training power plant simulator can be estimated around 80% of the total simulator price.

Reducing software development and maintenance costs, while improving the simulator's quality, is then a major target for the simulator manufacturers. In order to reach this goal, specific software tools have been developed, with the purpose of easing and then speeding up the simulator software production.

The paper deals with the presentation of a new software workshop, ALICES, which opens a new generation of such development. ALICES takes into account all the various tasks that are necessary to build and maintain various types of simulators at the lowest possible costs. Indeed, apart from offering powerful and modular modelling tools that allow the process models to be developed by non-computer-specialist personnel, ALICES takes also in consideration important simulator development aspects such as the management of process input data, testing of the produced modules, assisted realisation of the documentation, the project development organisation and follow-up, and the vital coordination between the possible different developers. The paper will first introduce the structured and the general characteristics of the software workshop. Then different points of the simulator development are considered, starting from the presentation of the primary needs, discussing them, and ending with the solution that has been adopted in the frame of the software workshop. We conclude with present and future uses, as well as with possible improvements of the simulator workshop.