

Experiment Management System for the SND Detector

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We present a new experiment management system for the SND detector at the VEPP-2000 collider (Novosibirsk). Substantially, it includes as important part operator access to experimental databases (configuration, conditions and metadata).

The system is designed in client-server architecture. A user interacts with it via web-interface. The server side includes several logical layers: user interface templates, template variables description and initialization, implementation details like database interaction. The templates are believed to have a simple enough structure to be used not only IT professionals but also by physicists.

Experiment configuration, conditions and metadata are stored in a database being managed by DBMS MySQL, ones being composed as records having hierarchical structure.

To implement the server side NodeJS, a modern JavaScript framework, has been chosen. A new template engine is designed. The important feature of our engine is asynchronous computations hiding. The engine provides heterogeneous synchronous-style expressions (including synchronous or asynchronous values or functions calls). This helps template creators to focus on values to get but not on callbacks to handle.

A part of the system is put into production. It includes templates dealing with showing and editing first level trigger configuration and equipment configuration and also showing experiment metadata and experiment conditions data index.

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Monitoring

Primary Keyword (Mandatory)

Databases

Tertiary Keyword (Optional)

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