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The Experiment Dashboard for medical applications

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Functional magnetic resonance imaging (fMRI) is a popular tool used in neuroscience research to study brain function.
The Virtual Lab for fMRI (VL-fMRI) is developed as one of the activities of the "Medical Diagnosis and Imaging" subprogram of the Virtual Laboratory for e-Sciences Project. VL-fMRI has taken steps to enable data management and analysis tasks for fMRI studies on the Grid infrastructure. Since spring 2006 the Experiment Dashboard is used for job processing monitoring of the VL-fMRI activities. The Experiment Dashboard provides an easy way to users to follow their jobs on the distributed infrastructure. Furthermore, the system allows to detect problems or inefficiencies of Grid sites or services and to understand the underlying problem. This functionality is important for site administrators and VO support teams.

3. Impact

fMRI studies are data intensive, since large amounts of data are stored, analyzed and manipulated. They require high throughput computation on demand for real-time image analysis and for large-scale studies. Collaboration and distributed computing are essential, in particular for multi-center studies, where data is distributed. Using the Grid infrastructure is a natural choice in order to satisfy the requirements mentioned above.
On the other hand the fMRI users (in particular psychologists, psychiatrists, radiologists, etc.) typically have limited background in computing and therefore need a user-friendly environment, which would enable the preparation, submission and monitoring of their jobs on the Grid. The Experiment Dashboard is providing the job monitoring functionality for the fMRI users and VO supporters.

URL for further information:

URL to the VLEMED dashboard:
http://opkamer.nikhef.nl/

4. Conclusions / Future plans

The first experience of using the Experiment Dashboard by the VL-fMRI community was positive. It was proven that the system, initially developed for the High Energy Physics community, is flexible enough and provides the necessary functionality to be easily adapted to the needs of users of completely different fields.

Provide a set of generic keywords that define your contribution (e.g. Data Management, Workflows, High Energy Physics)

monitoring, medical applications, functional magnetic resonance imaging

1. Short overview

The Experiment Dashboard is a monitoring system initially developed for
the LHC experiments to provide the view of the Grid infrastructure from
the perspective of the LHC virtual organization.
The poster describes the first experience of the deployment and usage of
the system outside the LHC community, for monitoring of medical applications on the Grid.

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