

# An automated meta-monitoring mobile application and frontend interface for the WLCG computing model

*Tuesday 11 October 2016 16:30 (15 minutes)*

Efficient administration of computing centres requires advanced tools for the monitoring and front-end interface of their infrastructure. The large-scale distributed grid systems, like the Worldwide LHC Computing Grid (WLCG) and ATLAS computing, offer many existing web pages and information sources indicating the status of the services, systems, requests and user jobs at grid sites. These monitoring tasks are crucial especially in the management of each WLCG site and federated systems across 130 worldwide sites, and accesses from above 1,000 active users. A meta-monitoring mobile application which automatically collects the information from such monitoring floods could give every administrator a sophisticated and flexible interface for the production-level infrastructure. We offer such a solution; the MadFace mobile application. It is a HappyFace compatible mobile application which has a user-friendly interface. MadFace is an evolution of a model of the HappyFace meta-monitoring system which has demonstrated monitoring several WLCG sites. We present the key concepts of MadFace, including its browser crawler, image processor, Bayesian analyser, mobile viewer and a model of how to manage a complex infrastructure like the grid. For the design and technology of MadFace it employs specifically many recent frameworks such as Ionic, Cordova, AngularJS, Node.js, Jetpack Manager and various Bayesian analysis packages. We also show an actual use of the prototype application. MadFace becomes very feasible in a meta-monitoring platform which automatically investigates the states and troubles from different sources and provides access of the administration roles for non-experts.

## Tertiary Keyword (Optional)

Computing models

## Primary Keyword (Mandatory)

Monitoring

## Secondary Keyword (Optional)

Virtualization

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**Session Classification:** Posters A / Break

**Track Classification:** Track 7: Middleware, Monitoring and Accounting