



Research engineer / post-doc opening on workflow interoperability

CNRS/Creatis, Lyon, France

University College London/ Centre for Computational Science, London, UK

“A Virtual Imaging Platform for the Virtual Physiological Human”

Context

The Virtual Imaging Platform (VIP) is a French project aiming at integrating medical image simulators from the 4 main modalities (MR, US, CT and PET) in a web platform offering computing power and semantic facilities to share and reuse organ models, simulated data and simulation tools¹. In VIP processes involved in simulations are described as workflows to facilitate (i) semantic data annotation and (ii) deployment on computing infrastructures. During the first phase of the VIP project, core simulation workflows were developed using the MOTEUR software and they now run on the European Grid Infrastructure. The goal of this VPH Exemplar Project project is to make VIP workflows available to the VPH community by developing a tool to import MOTEUR workflows in the VPH ToolKit. In particular, the resulting solution will enable an end-to-end execution of MOTEUR workflows on the DEISA computing platform through the VPH ToolKit.

Detailed workplan

The detailed workplan is tailored for a year and consists of the following steps:

1. execution of VIP workflow components on DEISA through the VPH ToolKit
 1. (a) interface with DEISA authentication and access control system
 2. (b) data sharing between DEISA resources and the VIP
 3. (c) medical image simulation code porting to DEISA
 4. (d) wrapping as AHE/GSEngine components
 5. (e) MOTEUR invoker for AHE/GSEngine components
2. import of VIP workflows in the VPH ToolKit
2. (a) direct conversion from MOTEUR workflows to AHE/GSEngine workflows, or:
- 2.(b) export from MOTEUR to the Interoperable Workflow Intermediate Representation developed by

¹ <http://www.creatis.insa-lyon.fr/vip/>

the SHIWA European project² and import of the IWIR into AHE/GSEngine

3. exemplification on a VIP simulation

Required

- Master-level degree in computer science, engineering or image analysis with 3 years of experience **or** PhD in computer-science or image analysis
- Practical knowledge of distributed systems, including supercomputers and/or grids.
- Autonomous developer in Java

Appreciated

- Research experience with good publication records
- Experience with medical image simulation

Conditions

- Duration: 1 year
- The project being a collaboration between Creatis/CNRS and the Centre for Computational Science/ULC, the candidate is expected to spend 9 months in Lyon and 3 months in London.
- Expected start: first semester of 2011
- Salary: according to CNRS standards

Contact

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² <http://shiwa-workflow.eu>