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25 years old

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**Ph.D. Student in High Performance
Computing and Interactive Application**

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Looking for PostDoctoral Position Starting from Fall 09

1 Education

Ph.D. in Computer Science (*from October 2006 to October 2009*)

Subject: Large Interactive Applications Scheduling
Keywords: High Performance Computing - Interactivity - Virtual Reality
Place: Grenoble Universities (INPG) - INRIA - Grenoble Informatics Laboratory (LIG)
Graduation expected in fall 09
Contributions: Development of a hierarchical component model that eases the description of a large interactive application. The model has been integrated in the FlowVR middleware.
On-going works: A mathematical model of the system to measure latency, ressources occupation or time incoherencies in an interactive application in the goal to optimize them.

My Ph.D. is supervised by Bruno Raffin.

MSc in Computer Science (*from 2003 to 2006*)

Specialisation: Distributed Systems
University: ENSIMAG (Ranked one of French *grande école* in topics of computer science and applied mathematics)

2 Software

FlowVR

FlowVR is a middleware that provides necessary tools to develop interactive applications for PC clusters and grids [3].

Keywords: High Performance Computing, Interactive Applications, Virtual Reality, Hierarchical Components, C++ Middleware
Contributions: Main developer from 2006 to 2009. Implementation of hierarchical component model (module flowvr-app) [2, 1]
Website: <http://flowvr.sourceforge.net>

3 Teaching Experiences

Teaching Assistant in Grenoble Universities (*from October 2006 to October 2009*):

Description: 192 hours to Master Students
Topics: Algorithmic (Ada language). Systems (C, ARM assembler, Java multithreadings). Distributed System Tutorial (Development of a VoD platform based on RTP protocol)

4 Projects

Grimage

Grimage is a virtual reality room located at INRIA Rhône-Alpes with a PC linux cluster and a camera network (up to 15 cameras).

Contributions: Development of the realtime demonstration (FlowVR and C++)
Website: <http://www.inrialpes.fr/grimage/>

Dalia

The goal of this project is to experiment telepresence. The Dalia experimental platform will gather the existing platforms located at Orléans (PC cluster and display wall), Bordeaux (PC cluster and reconfigurable multi-projector environment) and Grenoble (PC cluster, display wall and camera network).

Contributions: Development of VRST telepresence demonstrator [4, 5].
Website: <http://dalia.gforge.inria.fr/>

FVNano

In the FVNano project, we try to develop an experimental prototype that enables to interact with a molecular simulation. The project is a collaboration between Grenoble Informatics Laboratory (LIG) and Orléans Fundamental Informatics Laboratory (LIFO) and the Paris Theoretical Biochemistry Laboratory (LBT).

Contributions: Interface between Gromacs simulator and FlowVR. Cg shaders development.
Website: <http://www.baaden.ibpc.fr/projects/fvnano/>

5 Publications

International Journals

- [1] Jean-Denis Lesage and Bruno Raffin: A Hierarchical Component Model for Large Parallel Interactive Applications. Journal of Supercomputing (July 2008)

International Conferences or Workshops

- [2] Lesage, J.-D. and Raffin, B.: A Hierarchical Programming Model for Large Parallel Interactive Applications. In: IFIP International Conference on Network and Parallel Computing. Volume 4672 of Lecture Notes in Computer Science., Dalian, China, Springer (September 2007) 516–525
- [3] Lesage J.-D. and Raffin, B.: High Performance Interactive Computing with FlowVR. In: IEEE VR 2008 SEARIS workshop, Reno, USA, Shaker Verlag (March 2008) 13–16

Demonstrations or Videos

- [4] Petit B., Lesage J.-D., Franco J.-S., Boyer E. and Raffin B.: Grimage: 3D Modeling for Remote Collaboration and Telepresence. In: VRST, Bordeaux, France (October 2008)
- [5] Petit B., Lesage J.-D., Boyer E. and Raffin B.: Grimage: Interaction and Telepresence using Image Based 3D Modeling. In: ECCV, Marseille, France (October 2008)

Award

Excellent Student Paper for NPC07 [2]