Travel Report

Project PCVIA

4th October, 2007

Travel Details

Destination

SCAM'2007 Conference,
Paris,França

Date

29th September - 3rd October, 2007

Visitors

Pedro Henriques / UM (Portugal)
Maria João Varanda / IPB (Portugal)
Daniela da Cruz/ UM (Portugal)

Travel Purpose

This visit has several purposes: attend the conference, to make a tool demo, to discuss future trends of Alma in the context of PCVIA project, to meet people of code-analysis/program-maintenance community, and to look for a consultant inside the experts of this community to assess the final stage of PCVIA.

Financial Support / Grant

This visit was supported by:

- PCVIA, a FCT supported research project under contract POSC/EIA/57662/2004

Travel Report

Aims & Objectives

The objectives for this travel were:

- To participate in SCAM'07, the "Software Code Analysis and Manipulation"International Conference, a satellite event of ICSM, the "International Conference for Software Maintenance";

- To demonstrate our visualizer/animator system Alma in order to get some feedback from those experts above mentioned, and to discuss improvements that we should include in Alma to make it a useful tool for program analysis/understanding;

- to meet people of code analysis community and understand the most important research topics motivating investigators in this area, as well as to figure out its current state-of-the-art;

- to find out a consultant among those experts to invite for the assessment of the final PCVIA achievements;

Achievements

All the objectives listed above, were achieved:

- We attended SCAM conference. The papers presented and the tool demos were very interesting; although some work was not so developed as could be supposed, talks were well focussed and clear. The conference follows a presentation model that rises up the opportunity for long, fruitful, and very participated discussions.

- The SCAM community presented several code analysis projects. Almost of them use Java and are based on Eclipse plug-ins. Their tools are used for very large programs, what constitutes a real challenge for the parsers and code instrumentation techniques used to extract static information. The subjects under discussion are related with new ways to show information (usually in a textual manner); code slicing and new query languages specific for repositories containing data about software systems. In some sessions, it was also discussed the extraction of dynamic information and the importance of keeping historical information.

Some more specific projects, were also presented, concerned with source code composition, string analysis, new metamodels, code cloning, and software metrics.

- Alma was introduced and demonstrated during session breaks to some of the attendees, allowing us to understand that there are no problems in the underlying architecture, neither in the development method, nor at the implementation level; the feedback received made clear the need for a strong argumentation about the differences between Alma and a debugger (namely, DDD). We also collected opinions and suggestions that will be very useful for future developments of the system; namely, we have identified other kind of visualizations that could be generated in order to improve Alma's usefulness (for instance, mapping a program into its class-diagram, or animate the state or collaboration diagrams, could bring considerable benefits).

- We met an Hungarian research team (led by Tibor Guimothy) that has experience in language processing, attribute grammars and logic programming, ad that is working at present on code slicing; we decided to invite one element of this team to visit us till the end of the year as a PCVIA consultor. In this visit, we will discuss PCVIA results and the possibility of start a join project related with program comprehension (for instance, to investigate the use of code slicing in Alma).