

PCVIA–Program Comprehension by Visual Inspection and Animation Project

Acta da Reunião nu^o 11

3rd November, 2006

Meeting Details

Date

31 Oct to 3 November, 2006

Team Elements

- Pedro Henriques
- Maria João Varanda
- Eva Oliveira
- Daniela Cruz
- Mário Béron
- Ruben Fonseca

Visitors

Juergen Ebert / UKoblenz (Germany)

Meeting Purpose

The main purpose of this meeting was to discuss and assess the R&D project PCVIA.

Financial Support / Grant

FCT under contract No. POSC/EIA/57662/2004.

Meeting Report

Aims & Objectives

The objectives were:

1. to introduce both research groups and their main areas of interests
2. to discuss tasks involved in PCVIA:
 - Alma architecture and implementation and its use as a program understanding tool
 - Implementation of an understanding and evaluator tool for routing algorithm
 - Proposal of WebAppViewer, implementation and guidelines
3. to have the consultant's comments on PCVIA project
4. to identify common topics for future cooperation

Achievements

The reported working visit was very successful, as the above objectives were completely attained:

- Concerning the first item:
 - Pedro Henriques gave an extensive talk about University of Minho, Informatics Department and the language processing research group.
 - Maria João Varanda presented PCVIA project, the tasks involved, the work undergoing and the results achieved.
 - Juergen Ebert gave an overview about the Institute of Software Technology and his work at the University of Koblenz and the main research topics.

- Juergen Ebert also gave a talk to a larger audience on *Graph Technology in Software Engineering*, to point out similarities between the approach followed in Koblenz based on TGraphs and the research done in the gEPL.
- Concerning item 2:
 - Eva Oliveira presented a synthesis of her master thesis work, emphasizing the requirements for tool to help in the comprehension of web applications; this presentation was accompanied by a talk by Ruben Fonseca on the strategy of implementation
 - Mario Berón demonstrated the first prototype of EAR system incremented with debugging and comprehension features and explained the approach followed to implement the inspector strategy and the relation between Problem and Program Domains.
 - Daniela da Cruz talked about Alma architecture and showed full implementation of the PCVIA strategy on an example of visualizing a Domain Specific Language by Abstract Syntax Trees and their operational semantics.
- Comments mentioned above in item 3 are:
 - The consultant was impressed by the power of PCVIA approach for generating visualizing tools for different applications.
 - He pointed out that this approach might also be used to build a bridge between program debugging and program understanding.
 - He gave the advice: to think about building more different example prototypes; to make use of aspects as an implementation means; to integrate the prototypes into a broadly accepted environments, like Eclipse.
 - He encouraged the group to concentrate more on the fact that PCVIA is meant to be a real generic approach for building visualizers and to point out its generality in their publications (as opposed to the single-purpose tools on the market).
- Future cooperation as in item 4
 - The groups identified common interest in the use of discrete structures like TGraphs and plan to cooperate in that respect.
 - The groups are planning to start an initiative to apply data mining knowledge in reverse engineering.