Working Session Description and Goals

The main goal of the working session is to discuss the main issues and critical problems involved in Application Portfolio Management (APM), which can be supported through advanced reverse engineering techniques and to promote interactions among the international community both from Universities and industry.

APM has been defined by Forrester Research analysts as:

“A set of technologies that reads source code artifacts from across the enterprises, records the relationships between them in a knowledge base and augments the knowledge base with business information to develop management intelligence about applications” (Forrester Research Inc, APM Tools).

From this definition it is easy to see how the area of reverse engineering can be of great support at different levels and in different phases of the transformation cycle performed during APM.

APM plays a strategic role within IT departments. The analysis of millions of lines of code that make up legacy applications delivers value at many levels for the IT departments. There is a combination of factors that raises the issue of how and why large organizations should assess the need of efficient APM.

The aim of the workshop is to explore and discuss experiences and new ideas on how techniques, tools and methodologies proposed in reverse engineering can be used to enhance the different activities involved in APM. These activities include program comprehension, complexity and quality analysis, maintenance support, software architecture reconstruction, legacy modernization and transformation to IT governance, activity planning and application management and assessment.

The working session aims to discuss how applications operate, what maintenance effort is required, how to make strategic decisions on the future of the portfolio, how to evaluate the ROI adopting APM, how to mitigate coordination and communication problems driven by outsourcing. The working session will emphasize how it is almost impossible to build an accurate picture of complex legacy applications operations without the right tools.

Working session topics

Contributions include, but are not limited to the following topics.

- Evaluation criteria for IT portfolio management
- Evaluation of metrics collection tools, metrics-based reengineering
- Products vs. projects portfolio management
- Portfolio-based approach in changing decision making
- Software architecture reconstruction
- Migrating legacy components towards SOA
• Application assessment
• Application outsourcing and business process outsourcing
• Business/IT alignment
• APM to support IT governance
• Metadata profiling
• Quality of service reverse engineering
• Process and data mining
• Ontologies for reverse engineering
• Data reverse engineering
• From relational schema to high level conceptual schema
• Quantitative analysis of long-term evolution of software systems
• Source code analysis, program comprehension
• Software quality management
• Integration and migration issues
• Reengineering, refactoring techniques
• Legacy transformation and modernization
• Measures for maintenance efforts
• Quantitative and qualitative analysis of large software systems and repositories

**Working Session Format and Organization**

We actively seek a format which emphasizes fruitful interactions and discussions. This typically involves brief presentations of position papers in order to leave more time for discussions on the new ideas, projects and research directions proposed. To ensure lively discussion and encourage the exchange of ideas among the participants, a community Wiki has been created and all the accepted contributions will be made available in advance over the Web.

The working session will be a half day meeting and will start with an invited talk, which aims to introduce some of the main critical issues on Reverse Engineering techniques for Application Portfolio Management.

Afterwards, the working session will be devoted to the paper presentations and to the interchange of ideas among participants. The session will end with a discussion to summarize the open issues as well as to establish new collaborations between research groups by maintaining the working session community Wiki.

**Intended Audience**

The working session is intended for software engineering professionals, both from the university and industry sector, with experience in software maintenance and in reverse engineering. As the main topics involved in large application portfolio management are strictly bound to the industrial world, industry contributions are especially desired. The intended audience is also composed of people who are actively engaged in large reengineering projects, or people who develop or research methodologies and tools. Each participant is kindly requested to read all the submitted material in advance, so that the working session will be dedicated more to discussions instead of presentations.

**Information for Authors, Submission & Selection Process**

We are soliciting research papers, experience reports and position papers that concisely describe ongoing works, new ideas, tool demonstrations, etc. Submissions will be evaluated on their relevance to the workshop and on their potential for fostering new research activities and innovative
approaches on key workshop topics. Papers must not have been previously presented, published or concurrently submitted elsewhere.

Submissions can be of two types: position papers of at most 8 pages in PDF format or very short papers (e.g. 2-4 pages) along with a detailed slides presentation in PDF format. The first page of each submission must include the following information: title of the paper; name(s) and affiliation(s) of the author(s); postal address, phone and fax numbers, and email address of the corresponding author.

Accepted contributions will be made available on the working session website in advance (http://essere.disco.unimib.it/re4apm/wiki). Informal proceedings will be available during the workshop. Best papers and presentations will be selected for consideration to be published in a special journal issue, after a review process of the extended version of each selected contribution.

Moreover, a web-based archived e-mailing list will be used to continue discussions after the workshop, as well as a dedicated forum (or possibly a website) to share ideas and resources and to maintain a long-term community Wiki.

**Important Dates**

Submission deadline: **September 18th, 2007**  
Notification date: **26th September, 2007**  
Publication of the program: **30th September, 2007**  
Workshop date: **October 5th, 2007**

**Contact Information:**

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Workshop website: http://essere.disco.unimib.it/reverse/re4apm.html  
Community Wiki: http://essere.disco.unimib.it/re4apm/wiki  

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**Workshop Committee**

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