



Diploma / Master Thesis

Environmentally-aware Visualization of Business Processes

Beginning: Immediately

Background

Green IT is becoming an important issue in today's organizations. Customers and Government force them more and more to expose resources in a responsible and sustainable way. In order to positively improve their environmental impact, organizations need to optimize their processes and infrastructure with respect to their environmental impact. However, current approaches do not cope with green aspects and the trade-off between economic and ecological indicators in an adequate fashion [1]. A flexible and individual visualization of business process models, augmented with runtime information of both, economic and ecological aspects is an important step to analyze and dispose this trade-off.

Tasks

- Identification and development of a data format to augment process models with runtime information usable in process views [2]
- Development and evaluation of a Java-based prototype (Web Service) to:
 - augment process models with runtime information,
 - create business process views [2] based on pre-defined transformation steps,
 - render the augmented process view in Scalable Vector Graphics (SVG)
Note: Web Services that cover basic transformation and visualization tasks are already available and should be extended.
- Development of an End-user Web Interface to interact with the Web Service

Requirements

We assume a basic understanding of business process reengineering [3], business process management as discussed in the lectures on Workflow Management, and web service technology. Additionally, experience in Eclipse and especially in Java programming is required. The prototype may partially be based on already existing tools and technologies.

Literature

- [1] Nowak, A., Leymann, F., Mietzner, R.: Towards Green Business Process Reengineering. In: Proc. of the 1st Intl. Workshop on Services, Energy, and Ecosystem (SEE-2010). To appear (2011)
- [2] Schumm, D., Leymann, F., Streule, A.: Process Viewing Patterns. In: Proceedings of the 14th IEEE International EDOC Conference (EDOC 2010)
- [3] Hammer, M., Champy, J.: Reengineering the Corporation, Harper Business New York, 1994.

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