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Exploitable Results by Third Parties

ITEA 2 11013 PROMES
Processes Models for Engineering of Embedded Systems

Project details

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Website:	http://promes-itea2.eu/index.php?title=Main_Page

Name: Decision Architect		
Input(s):	Main feature(s)	Output(s):
▪ Architecture decisions	▪ Enterprise Architect add-in that allows the documentation of architecture decisions. ▪ Export of decision reports to Microsoft Office. ▪ Traceability of decisions to other architectural elements (within Enterprise Architect)	▪ Decision Views ▪ Decision Reports (Word, Powerpoint, Excel)
Unique Selling Proposition(s):	▪ High industrial applicability ▪ Increases quality of decision documentation and improves productivity of architects ▪ Seamless integration of decision documentation into the work of software architects ▪ Conforms with ISO/IEC/IEEE 42010	
Integration constraint(s):	▪ Enterprise Architect ▪ Microsoft Office (only for reporting)	
Intended user(s):	▪ Software and System Architects	
Provider:	▪ University of Groningen. ▪ Code and documentation available at https://decisions.codeplex.com	
Contact point:	▪ Christian Manteuffel - christian@manteuffel.info	
Condition(s) for reuse:	▪ Licensed under Eclipse Public License http://www.eclipse.org/legal/epl-v10.html	
	Latest update: 07/09/2015	

Name: PROMES Process Framework		
Input(s):	Main feature(s)	Output(s):
▪ Process description to be modeled	▪ A meta-model defining the fundamental types of process elements, and how they are related to each other. ▪ A repository of process element instances (actual descriptions of each instance). ▪ Process framework usage guidelines on how to reuse, i.e. selecting and integrating, and customizing, process element instances from the repository to produce project-specific processes.	▪ Process model
Unique Selling Proposition(s):	▪ Adaptable to different types of processes (both high level and project-specific processes). ▪ Supports reusability of existing processes, by adding, removing or modifying existing process components. ▪ Models variability via a set of control elements ▪ Considers embedded engineering aspects like multi-organization, multi-site, multi-discipline and multi-lifecycle development. ▪ Usable and with short learning curve.	
Integration constraint(s):	▪ None	
Intended user(s):	▪ Process Engineers, Managers	
Provider:	▪ PROMES consortium	
Contact point:	▪ Sofia Charalampidou – s.charalampidou@rug.nl	
Condition(s) for reuse:	▪ Free ▪ S. Charalampidou, A. Ampatzoglou, and P. Avgeriou. A process framework for embedded systems engineering. 40th Euromicro Conference on Software Engineering and Advanced Applications (SEAA). IEEE Computer Society, pages 137–140, 2014.	
	Latest update: 08/10/2014	

Name: Pareon		
Input(s):	Main feature(s)	Output(s):
▪ C/C++ application ▪ Application test data	▪ Analyze the application for workload, concurrency opportunities, and implementation errors ▪ Predict performance figures for other target platforms	▪ Application performance views on CPU and memory ▪ Implementation faults
Unique Selling Proposition(s):	▪ Provides insight on memory traffic and performance ▪ Reveals implementation bugs in large applications regarding memory usage and multi-threading ▪ Designed for continuous integration ▪ Corporate support	
Integration constraint(s):	▪ Application analysis platforms are Linux and Android versions on ARM and X86 processors. ▪ Application is mostly in C/C++/C++11, with source code available	
Intended user(s):	▪ Embedded application developers	
Provider:	▪ Vector Fabrics BV, the Netherlands	
Contact point:	▪ http://www.vectorfabrics.com	
Condition(s) for reuse:	▪ Licensed product with free trial	
	Latest update: 15/10/2015	

Name: Industrial Process – process component		
Input(s):	Main feature(s)	Output(s):
▪ Industrial Process by manufacturing company	▪ Reference model available in Promes Wiki ○ Supplier collaboration methodology ○ Usage of Model-based tools to support collaborative engineering ▪ Apply and modify reference model in own business environment	▪ New way for Management of manufacturing process ▪ How to utilize model based tools in own industrial process ▪ Inproved supplier collaboration in industrial process

Unique Selling Proposition(s):	▪ Model take care of different actors in industrial process, including suppliers ▪ The usage of model-based tool internally but also in supplier collaboration
Integration constraint(s):	▪ Component is tested in engineer-to-order business environment, not e.g. in mass production ▪ Process model is a reference model and process definition tool
Intended user(s):	▪ Product managers, production line managers, other production line related operators
Provider:	▪ Free usage, definitions and model available in Wiki
Contact point:	▪ Wiki
Condition(s) for reuse:	▪ Can be utilized in different production lines
	Latest update: 15/10/2015

Name: Design Framework (architecting method + tool)		
Input(s):	Main feature(s)	Output(s):
▪ Early (predominant multi-disciplinary) architecting phase of high tech systems ▪ Architecting community with a strong model-based system engineering process focus	▪ Focus on usability: simplicity, ease-of-use, generic expressivity, architectural-centric. ▪ Supports integrating models from other tools. ▪ Versatility with respect to ways of working, no prescribed process or workflow. ▪ Provides insight in the rationale for design decisions that matter the most. ▪ Mixing and matching models and experimental data. ▪ Supports “what-if” architecting.	▪ Architectural sound (multidisciplinary) system design ▪ Model repository including the design rationale for all architectural relevant trade-offs ▪ Coherent set of (quantitative) models: single point of (architectural) truth

Unique Selling Proposition(s):	The Design Framework method is a conceptual modelling and reasoning framework explicitly addressing the rationale management for, and guarding the design consistency within, model-based system engineering. It provides a generic architectural formalism (i) to support the architectural process as effective and light-weighted as possible, (ii) to fulfil the needs of system architects cooperating in a predominant multi-disciplinary design environment, (iii) supporting the use of (quantitative) models during system development, and (iv) cost-effective architectural consistency during architectural and system design phases where architectural teams deal with a typical relative small but design-decisive set of key relationships and trade-offs over multiple disciplines.
Integration constraint(s):	▪ Windows and/or Unix system with administration privileges ▪ PHP 5.5 + Phalcon 2.1 ▪ MySQL 5.5 ▪ Tomcat 8 ▪ (optional) Windows server for MS Excel / server for Mathworks Matlab
Intended user(s):	System and domain architects interacting in predominant multidisciplinary high tech system development environments.
Provider:	Embedded Systems Innovation by TNO (TNO-ESI) www.esi.nl
Contact point:	Bas Huijbrechts – bas.huijbrechts@tno.nl
Condition(s) for reuse:	license / support model – for the method, the tool, embedding in architecting consultancy models - to be discussed

Latest update: 15/10/2015

Name: Service processes – process components		
Input(s):	Main feature(s)	Output(s):
▪ Existing service processes or need to model service processes and/or service/R&D collaboration	▪ Reference model available in Promes Wiki o Upgrade process o Audit process o Service/R&D collaboration process ▪ Apply and modify reference process description in own business environment	Company specific processes: ▪ Upgrade process ▪ Audit process ▪ Service/R&D collaboration process

Unique Selling Proposition(s):	▪ Process descriptions present both the service process and service/R&D collaboration. ▪ Processes are industrially validated.
Integration constraint(s):	▪ Component has been piloted in automation industry ▪ User has to adapt the processes to their business environment
Intended user(s):	▪ Process/method engineers, Service managers
Provider:	▪ VTT (Jukka Kääriäinen, jukka.kaariainen@vtt.fi) ▪ Valmet (Antti Välimäki, antti.valimaki@valmetpartners.com)
Contact point:	▪ Wiki ▪ Publications (see below)
Condition(s) for reuse:	▪ Free to use. Process descriptions available in Wiki ▪ Kääriäinen, J., Teppola, S., Välimäki, A. Building a concept solution for upgrade planning in the automation industry, Fourth International Workshop on Information Systems in Distributed Environment (ISDE), Graz, 9 - 13 Sept. 2013, 2013. Springer, Heidelberg, LNCS : 8186 ▪ Kääriäinen, J., Teppola, S., Vierimaa., M., Välimäki, A. The Upgrade Planning Process in a Global Operational Environment, Fifth International Workshop on Information Systems in Distributed Environment, ISDE 2014, 27 - 31 October, Amantea, Italy, On the Move to Meaningful Internet Systems: OTM 2014 Workshops. Lecture Notes in Computer Science: Vol. 8842, 2014. Springer ▪ Kääriäinen, J., Teppola, S., Välimäki, A. Collaboration between Service and R&D Organisations – Two Cases in Automation Industry, ACSIJ Advances in Computer Science: an International Journal. ACSIJ. Vol. 4 (2015) No: 4 , Pp. 51-59

Name: KE-chain		
Input(s):	Main feature(s)	Output(s):
▪ Description of process that is to be executed and product that is to be designed	▪ Implementation of (part of) the PROMES meta model ▪ Web-based (i.e. multi-user-, multi-site) engineering workflow management system ▪ GUI-based configuration and execution of products and workflows	▪ Process template that can be executed, resulting in the design of the product specified
Unique Selling Proposition(s):	▪ Provides insight into the engineering processes. Formalizes these processes, thereby reducing waste. ▪ Supports reusability of existing processes, by means of process templates ▪ Is fully GUI-based, i.e. requires no programming skills to model the processes.	
Integration constraint(s):	▪ Can be deployed on a cloud-based infrastructure or local servers ▪ Coupling to specific tools is custom-made	
Intended user(s):	▪ Engineers, project managers	
Provider:	▪ KE-works BV, the Netherlands	
Contact point:	▪ Wiki ▪ http://www.ke-works.com	
Condition(s) for reuse:	▪ Commercial license on a per-user, per-month basis	