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Requirements Engineering Platform

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Agenda



- Overview
- Background & Motivation
- Technologies
- Rodin Integration
- Outlook / More Information

ProR – Overview



- Platform for managing natural language requirements
- Industry interoperability
- Extensible (Eclipse / EMF-based)
- Rodin Integration (RE Traceability)
- Usefulness (hopefully) beyond Academia



ProR GUI (running in Rodin)

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Background & Motivation

Goals & Approach



• Goals

- Realization of WRSPM Traceability
- Useful beyond Rodin
- Useful in Industry
- Approach
 - Requirements Platform (vs. specialized Tool)
 - Use of EMF
 - Use of RIF / ReqIF
 - Find Collaborators

Requirements in Rodin (today)



- Comments not adequate
- Current Plug-in barely used
- Why not improve the existing Plug-in?
 - No EMF
 - No RIF / ReqIF

Eclipse Modeling Framework



- Modeling Framework
 - Extensible
- Code generation facility
 - For Data Model
 - For GUI
- Adapter for Rodin Available
 - Used by UML-B
 - Used by Camille

RIF /ReqIF Standard



- Emerging Standard for Requirements Exchange
- Driven by Car Industry
- Data Model + XML Exchange Format
- RIF I.0 created in 2004
 - RIF 1.2 in 2008
 - ReqIF I.0 currently in development
- Already supported by a number of tools
 - Including IBM DOORS



ReqIF: Top Level





ReqIF: Core Content





ReqIF: Attributes



Extending ProR







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Demo

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ProR & Rodin

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Goals (Rodin Integration)



- Method drives Tool
- First Method: WRSPM
 - Reference Model for Requirements and Specifications

WRSPM



Artifacts are:

- W-World
- R (Proper) Requirements
- S Specification
- P Program
- M Machine

Phenomena are:

- e_h hidden environmental
- e_v visible environmental
- $s_v visible system$
- s_h hidden system

WRSPM	Event-B	
e and s	Constants, Sets, Variables + Typing	
e _h	Typically not Modelled	
W	Invariants & Axioms	
R and S	Invariants, Axioms, Dedicated Refinements, Other Formalisms	

WRSPM Prototype



- "Proof of Concept"
 - Highlighting of Event-B phenomena
- Current work on Traceability model
 - Implementation after Model is done



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Collaborators



- Deploy
 - Partly funds ProR Development
 - Main driver
- ITEA Verde
 - Represented by itemis AG
 - Provides RIF Core
- ISYPROM
 - Represented by ModelAlchemy
 - General Interest
- OMG
 - Represented by HOOD GmbH
 - Provides RIF expertise



More Information at www.pror.org



- Downloads
- Documentation
- Tutorials
- Bug / Feature Tracker
- Forum
- Blog

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	 Use the forum to discuss user and developer aspects 	of ProR.		-			
	 If you find bugs or have feature requests add them t 	to our issue	tracker.				
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Future Plans



- Integrate RIF-Engine from itemis
- Complete GUI
- Validation
- Continue work on Traceability (WRSPM)
- Implement WRSPM-Support
- Recruit Industry Pilots for ProR

Thanks & Acknowledgements



- Work supported in Part by Deploy
- Thank you
- Questions?

