

Empirical Comparison of Language Workbenches

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Steven Kelly



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- Previous comparisons
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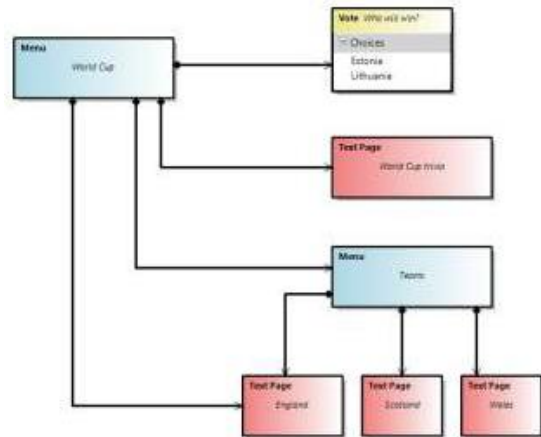
Previous comparisons

	# of Tools
■ Marttiin et al. 1993	3
■ Isazadeh 1997	5
■ Kelly and Rossi 1998	2
■ Kelly 2004	2
■ Pelechano et al. 2006	2
■ Ozgür 2007	2
■ MDD-TIF 2007	10
■ De Smedt 2011	3
■ El Kouhen et al. 2012	5
■ LWC 2011-2013	10

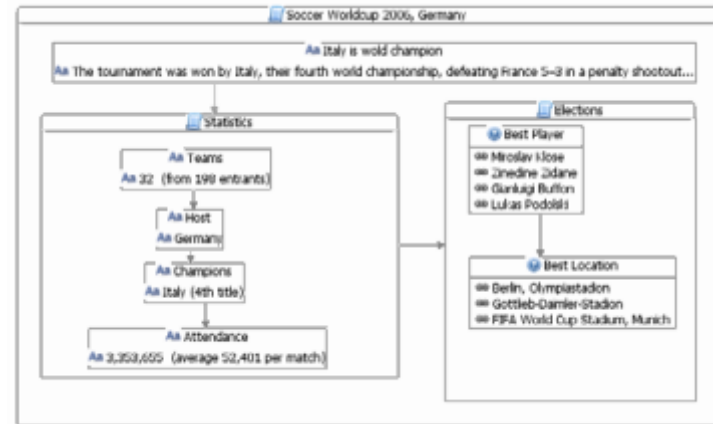
Previous comparison: MDD-TIF07

dsmforum.org/events/mdd-tif07/

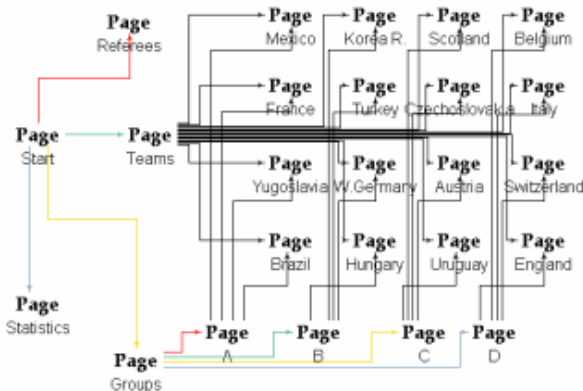
Microsoft DSL Tools



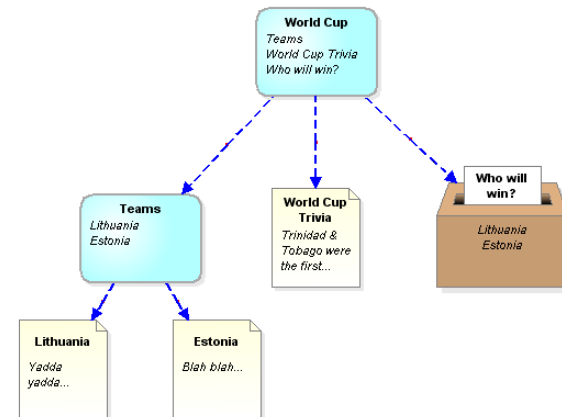
Eclipse EMF/GMF/oAW



GME

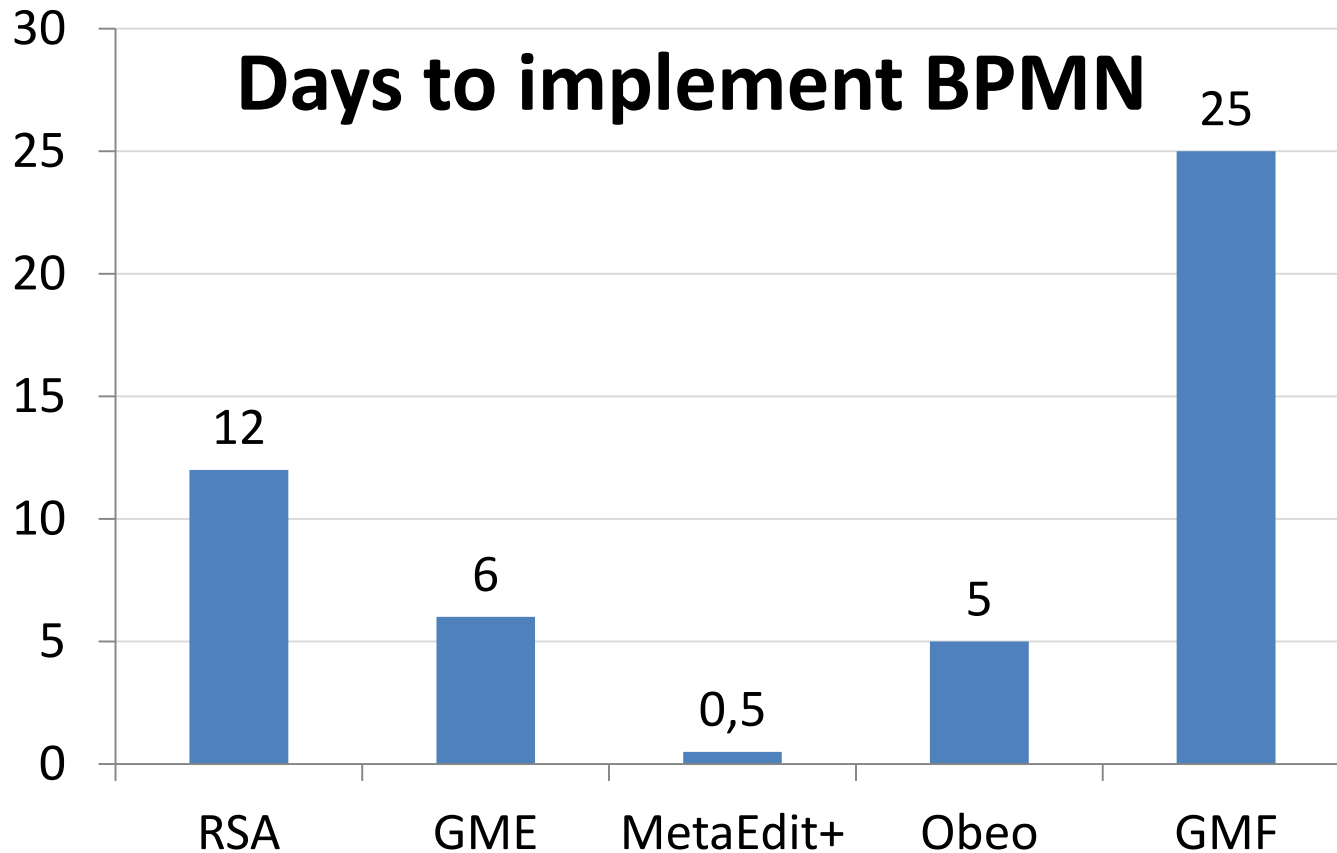


MetaEdit+



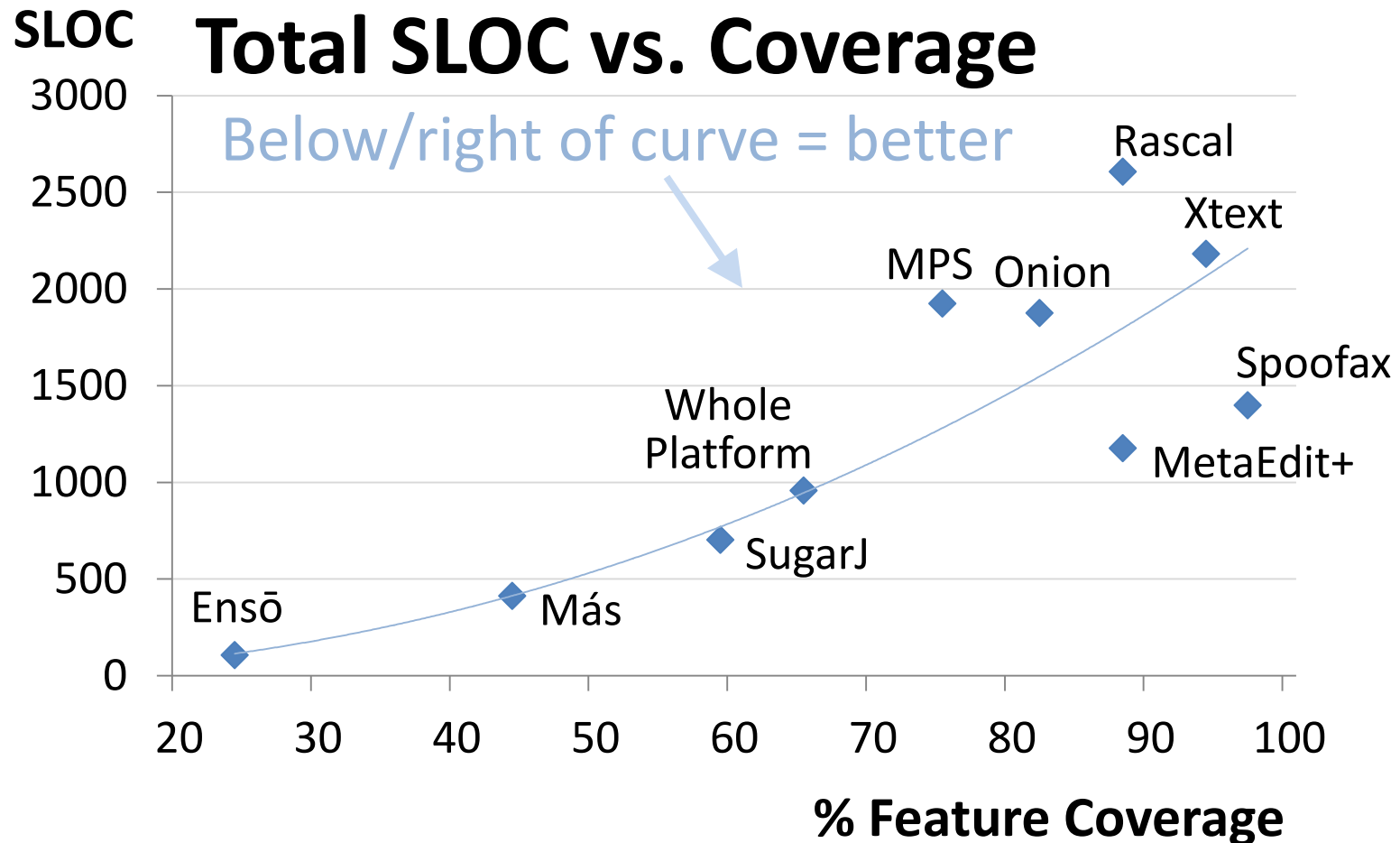
Previous comparison: El Kouhen et al. 2012

tinyurl.com/gerard12



Previous comparison: LWC 2013

<http://erdweg.org/publications/language-workbench-state.pdf>



What to compare?

	MDD-TIF	El Kouhen	LWC 2013
Domain analysis			
Language design			
Language implementation			
Generators			
Application implementation			
Maintenance			

How to compare?

- Feature coverage
 - Subjective, influence on productivity unknown
- Lines of code
 - + Objective, easy to measure
 - Not comparable across languages, styles
- User satisfaction
 - Strongly influenced by comfort zone
- Time
 - + Objective, language-independent
 - + Directly interesting variable
- Cost
 - Not comparable across countries, time, scale

Experiment design

- Users: Experienced: tool makers, consultants
 - Measure tool use, not learning curve
 - Spread cost of experiment
- Tasks: Focused on LWB use
 - Language implementation + generators
- Compare: Time
 - Video of completing each sub-task
 - Can't reliably capture actual time, only time to repeat
 - Videos serve as advertising & tutorial for tool
 - Useful result, avoids users clicking and typing too fast
- Objective, repeatable, checkable, economical
 - Need to complement with broader + softer approaches

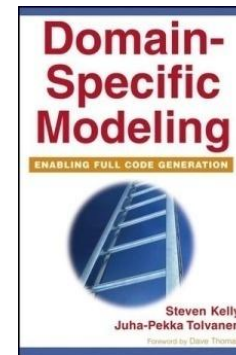
Thank you!

Questions?



info@metacase.com
www.metacase.com

USA:
MetaCase
5605 North MacArthur Blvd.
11th Floor, Irving, Texas 75038
Phone (972) 819-2039
Fax (480) 247-5501



"Very practical and highly recommended"
Computing Reviews

★★★★★ "Excellent", Amazon review

Europe:
MetaCase
Ylistönmäentie 31
FI-40500 Jyväskylä, Finland
Phone +358 14 641 000
Fax +358 420 648 606