Software Analytics for MDE Communities

James Williams\textsuperscript{1}, Nicholas Matragkas\textsuperscript{1},
\textbf{Dimitris Kolovos}\textsuperscript{1}, Yannis Korkontzelos\textsuperscript{2},
Sofia Annaniadou\textsuperscript{2}, Richard Paige\textsuperscript{1}

\textsuperscript{1}University of York, \textsuperscript{2}University of Manchester
Empirical Assessment of MDE in Industry

John Hutchinson, Jon Whittle, Mark Rouncefield
School of Computing and Communications
Lancaster University
[j.j.hutchinson, j.whittle, m.rouncefield]@lancaster.ac.uk

Steinar Kristoffersen
Agder University College and Manufakturholmen Hotel-O

ABSTRACT
This paper presents some early empirical research findings of an ongoing empirical research study of MDE adoption in industry. Using largely qualitative research methods, we have investigated and documented a number of social factors that appear to influence MDE adoption in industry—specifically, the perceived benefits and organizational intervention. We present our findings and learned. Whilst, as with all research, our findings should be interpreted with caution, we believe they provide a greater understanding of the issues surrounding MDE adoption.

Industrial Adoption of Model-Driven Engineering: Are the Tools Really the Problem?

What will it take? A view on adoption of model-based methods in practice

Bran Selic

Adopting Model Driven Software Development in Industry – A Case Study at Two Companies

Miroslaw Staron

Software Engineering and Management
Department of Applied IT
IT University in Göteborg, Box 8718
SE-402 75 Göteborg, Sweden
miroslaw.staron@ituniv.se

Abstract. Model Driven Software Development (MDD) is a vision of software development where models play a core role as primary development artifacts...
MDE OSS Project Analysis

• Several open-source MDE tools
  – Many of them under Eclipse.org

• Publicly-available information sources
  – Source code
  – Forums
  – Bug trackers
• Activity monitoring platform for OSS projects
• Currently developed in the context of an EC co-funded project
  – www.ossmeter.org

• Scope
  – Source code
  – Communication channels (forums/newsgroups/mailing lists)
  – Bug tracking systems
Overview

• Analysed 22 modelling-related Eclipse forums

• Tools and frameworks
  – EMF, GMF, Xtext, Epsilon, M2T, OCL, Graphiti, EMFT, ATL, IncQuery, GMT, UML2, UML2 Tools, Papyrus, MOFScript, Modisco, VIATRA2, UMLX, QVTd, QVTo, MMT and Sirius

• Calculated average number of posts/month from 2005 – 2014 (projected)
FORUM TRAFFIC ≈ ACTIVE USER COMMUNITY SIZE
Special cases: EMFT

- EMF Technology
- Forum for several projects including
  - EMF Compare
  - Henshin (GT engine)
  - CDO
  - EMF Client
  - Teneo
  - EMF Forms
  - EMFStore
- Further analysis required to allocate posts to individual projects
Special cases: MMT

- Forum related to model-to-model transformation languages
- Mostly ATL and QVTo
- Very few messages (139 since 2012)
Special cases: M2T

• Forum related to model-to-text transformation languages
• Mostly Acceleo, Xpand and JET
• Preliminary classification (7831 posts)
  – JET: 998
  – Xpand: 1671
  – Acceleo: 2700
  – Unclassified: 2462 (≈30%)
• Further analysis required
Graphical Modelling Frameworks

- GMF
- Graphiti
- Sirius
Graphical vs. Textual Modelling

• Graphical: GMF + Graphiti + Sirius
• Textual: Xtext
UML in Eclipse

• UML2
• UML2 Tools
• Papyrus
Model Management Languages

• Forums: ATL, M2T, Epsilon, IncQuery, QVTo, OCL
• Analysed but not included in the graph: UMLX, QVTd, VIATRA2, MOFScript
• Which was the busiest year for Eclipse modelling-related forums?
  – 2009
  – 2010
  – 2013
Observations

- Textual modelling > graphical modelling
- Xtext and EMF still dominate the Eclipse modelling community
- GMF has lost 90% of its forum activity since 2007
- Overall forum activity seems to be declining since 2010
  - Steep drop in 2014
  - Maturity?
  - Stackoverflow?
  - Wider Eclipse issue?

@kolovos isn’t forum activity dropping overall just because forums are going out of style anyway? #models14 #oss4mde