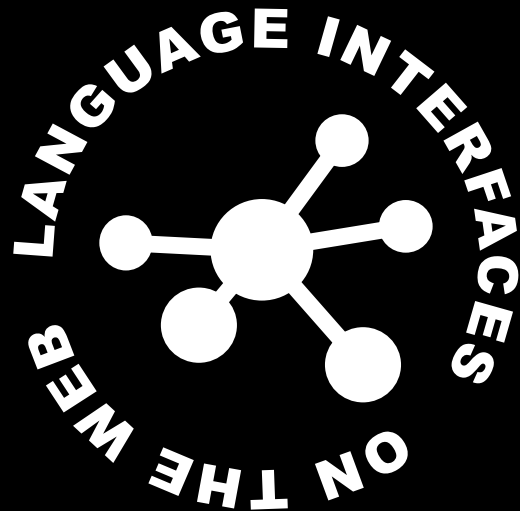
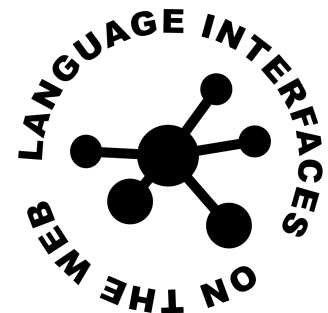




The LionWeb Initiative

at MODELS 2023 MTT
Niko Stotz



LIONWEB

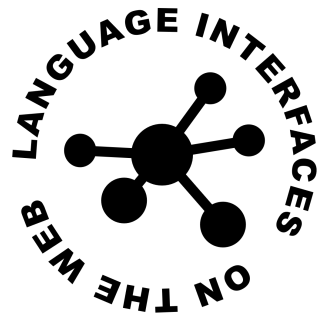
**Language
Interfaces
on the
Web**

<http://lionweb.io>
info@lionweb.io

Mission and Activities

To create an ecosystem of interoperable components for building language-oriented modeling tools on the web.

1. Primary: **define protocols**
 - ⇒ meta-metamodel
 - ⇒ reference architecture
2. Secondary: **programming language APIs**
 - ⇒ reference implementations
3. Also: **collaboration hub for components**



LIONWEB

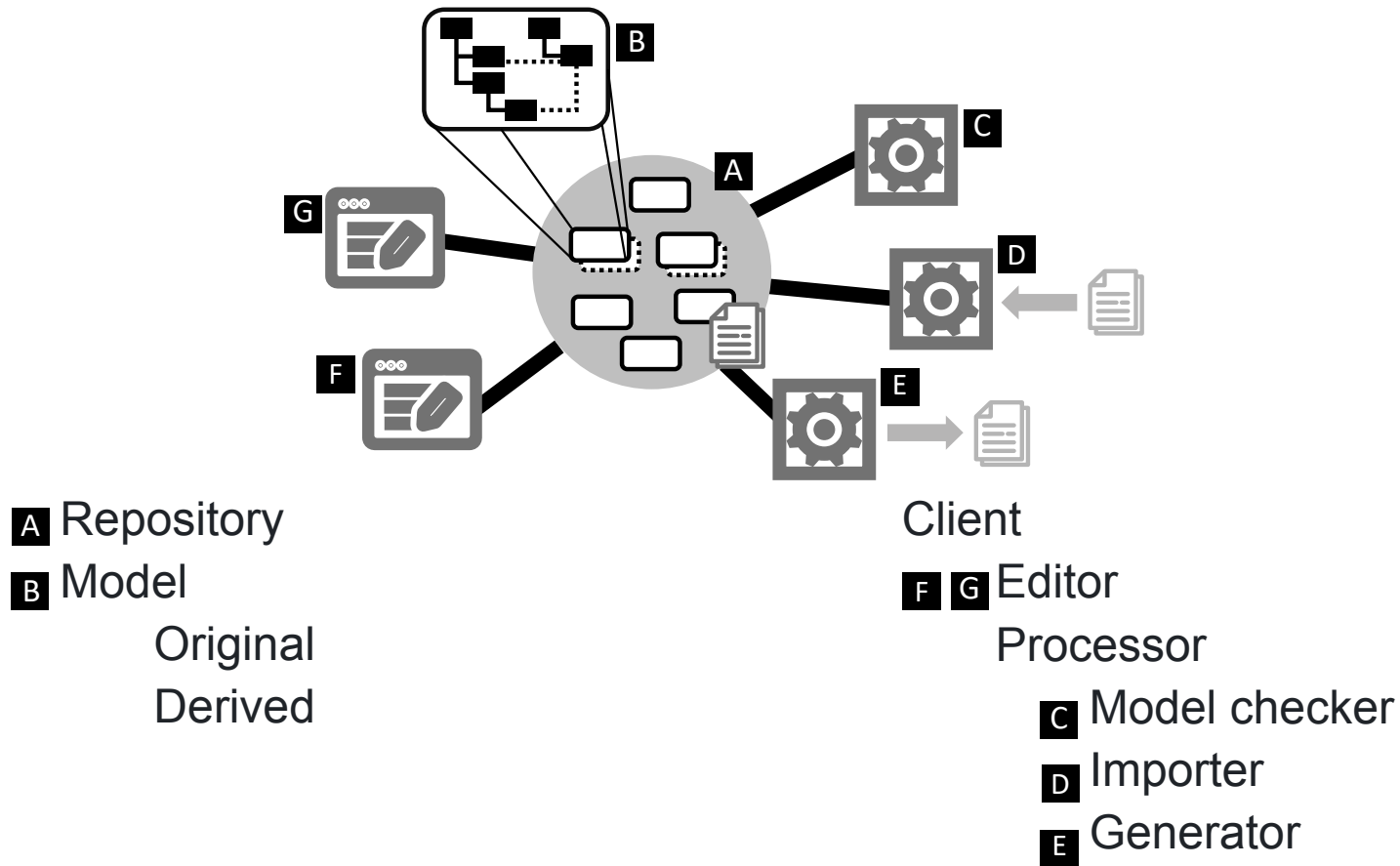
Language Interfaces on the Web

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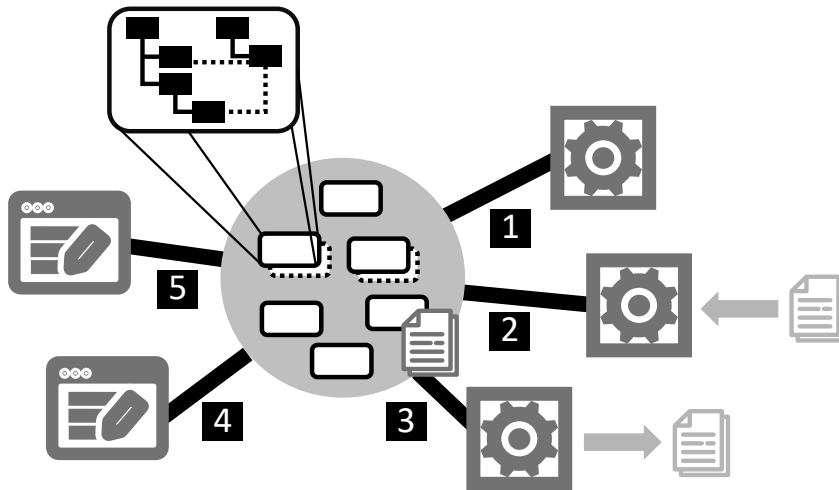
Principles

- Don't re-invent the wheel for each LWB
 - ⇒ Focus on strengths, reuse other parts
- LionWeb as boring, reliable base
 - ⇒ Innovate on top
- Rough consensus and running code
 - ⇒ Adopt IEEE approach
- Business-friendly Open Source
 - ⇒ Apache 2.0 license
- Everything is a model
 - ⇒ Markus Voelter's [Whitepaper](#) "A Platform for Systems and Business Modeling"

Reference Architecture: Parts



Reference Architecture: Protocols



Bulk

- 2 5** Load model, modify, store it back
- 3** Load, derive something else

Delta

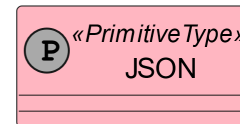
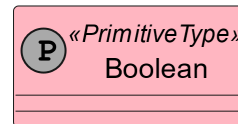
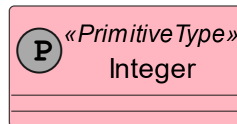
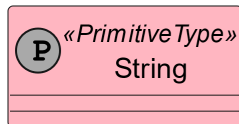
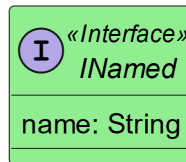
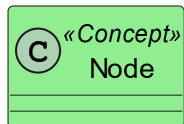
- 1 4** Initialise with model, get notified of changes, write back changes continuously

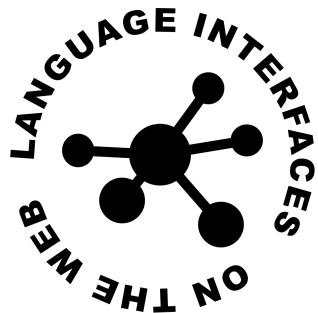
Appendix



Built-in Standard Library

Language
Interfaces
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**Language
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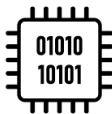
[http://lionweb.
info@lionweb.io](http://lionweb.info@lionweb.io)



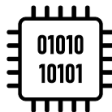
communication protocol specifications
+ meta-metamodel



reference architecture for cloud-based
modeling tools

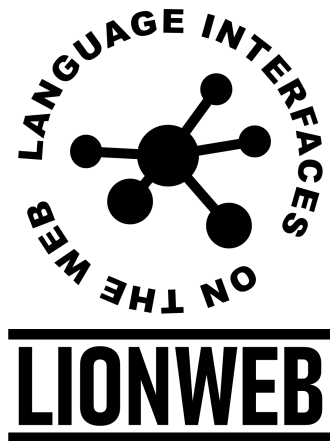


bindings in several programming languages



reference implementations and examples

Priority



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What NOT – Out of Scope

- Yet another Language Workbench



glamorous**toolkit**

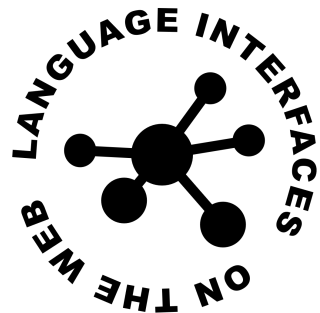
mendix



Xte**x**t

 langium

- Plug-and-play component system
- Deployment scheme



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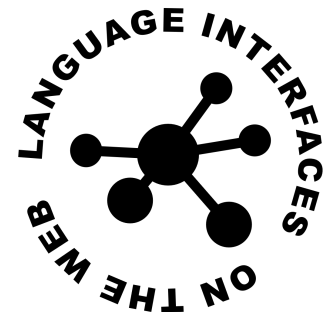
<http://lionweb.io>
info@lionweb.io

Who – Participation

- [Meinte Boersma](#), Freelancer, The Netherlands
- Norman Koester, [itemis \(modelix Team\)](#), Germany
- [Sergej Koscejev](#), Freelancer, Czech Republic
- Sascha Lisson, [itemis \(modelix Team\)](#), Germany
- Eugen Schindler, [Canon Production Printing](#), The Netherlands
- Alex Shatalin, [Jetbrains \(MPS Team\)](#), Czech Republic
- Niko Stotz, [F1RE](#), The Netherlands
- Federico Tomassetti, [Strumenta](#), Italy
- [Markus Voelter](#), Freelancer, Germany
- Jos Warmer, [openmodeling \(Freon Team\)](#), The Netherlands



And you?



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Where – Current Status

- First release 2023.1 planned around November 2023
 - ⇒ Serialization format, meta-metamodel
- APIs
 - ⇒ Java, JavaScript, MPS, (C#)
- Integrations
 - ⇒ EMF, Freon, Kotlin, MPS, *Lasu