Modeling by the people, for the people

Steven Kelly, MetaCase
GRAND, 21 July, 2017
Number of new product features implemented in a given time (productivity proportional to Assembler)

- Programmers
- Computers
- Moore
- Population
Modelling functionality vs. modelling code

Domain Idea

- Solve problem in domain terms
  - Map to code, implement
  - Map to code, implement
  - Map to UML

UML Model

- Generate, Add bodies

Model in DSM language

Domain Framework

Generate code

Finished Product

Assembler
Domain-Specific Modeling: 5-10x faster than coding or UML

![Bar chart showing productivity for different domains.]

- Heart rate monitor: 1000%
- Call processing services: 600%
- Touch screen UI applications: 500%
- Home automation: 600%
- Mobile phone applications: 1000%
- Phone switch features: 750%
- Financial web application: 500%
Productivity of development compared to hand-coding

- **extra products**
- **base products**

### Chart:
- **code**
- **UML**
- **MDA1**
- **MDA2**
- **DSM-min**
- **DSM-max**
### DSM Solution Development Time

- **Call processing**: 63 language concepts, XML generator
- **Touch screen UI applications**: 60 language concepts, C, HTML, build script generators
- **Voice control application for microcontroller**: 36 language concepts, Assembler generator
- **Mobile phone applications**: 77 language concepts, Python generator
- **Automotive infotainment systems**: 143 language concepts, Java generator for simulation
- **Insurance product specification and management**: 143 language concepts, J2EE generator
Number of language concepts defined per day

A. El Kouhen, C. Dumoulin, S. Gerard and P. Boulet

BPMN (n=50)

tinyurl.com/gerard12
Thank you!
## Referenced DSM Cases
(for more see [www.dsmforum.org](http://www.dsmforum.org))

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<td>Mobile phone applications</td>
<td>Nokia</td>
<td>MetaCase</td>
<td><em>Nokia case study</em>, 2000</td>
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