ICT Improve
Part of ICT Group

This track is sponsored by:
ICT GROUP

Product

Machiel van der Bijl

Model Driven Design (MDD): A new approach to Living Documentation

17.05 – 17.50 – P030

Disclaimer: I will annoy you*

- I am not a BDD expert, so I use the wrong vocabulary
- I noticed that this irritates people, A LOT

- I am sorry, please have some patience, I'm just a developer/engineer that loves working software

* We program a lot in Ruby and that's how I got into contact with BDD. Kent Beck, Dan North, David Chelimsky, Martin Fowler.

What I like about BDD

- It works well to describe the problem space
- It can be understood by business and IT
- It is about examples
- It is executable and up to date

What I don’t like about BDD

- It’s about examples
- Hard to scale
  - For both documentation and testing
- Hard to maintain
- It’s less convenient from a software engineering perspective
- In practice it’s often more about testing than documentation

Who am I?

- Started in industry, Utopics, Ordina
- Formal methods background (University of Twente)
- Founded Axini with Menno Jonkers (2007)
- Axini makes a platform for automated testing, distinguishing features
  - Automated test-case generation including test-data
  - Specification models as the basis
  - Requirements/scenarios
- My mission: make software with evidence that it works

axini

Overview

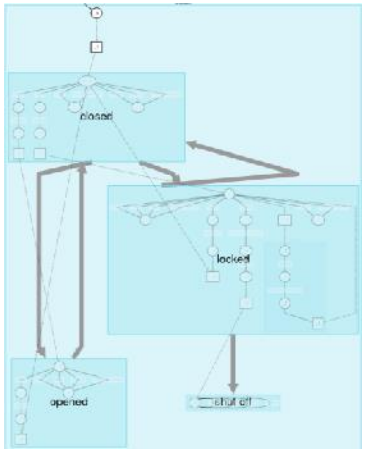
- MDD/MDT
- Demo
- MDD vs BDD
- Conclusion
- Discussion

axini

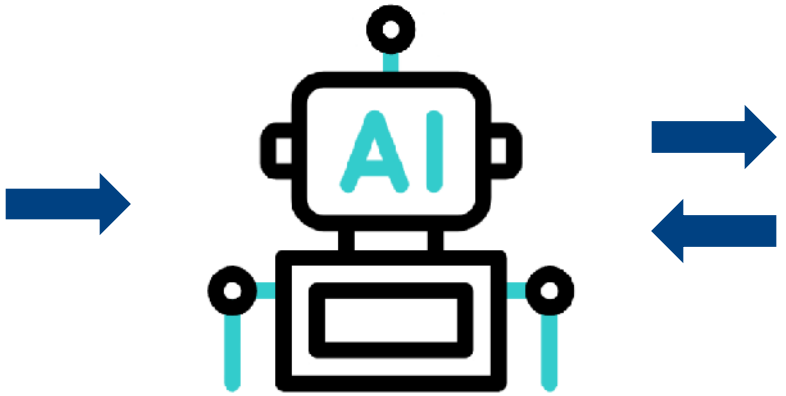
What do you want to hear?

MDD/MDT

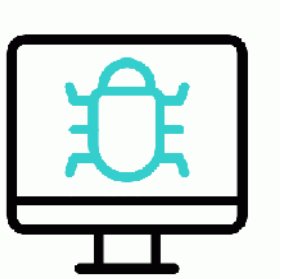
Model



AMP



System

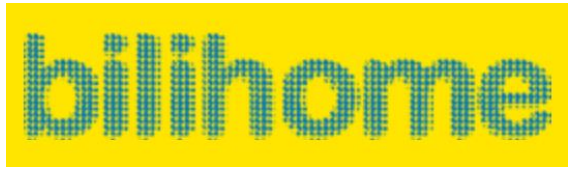


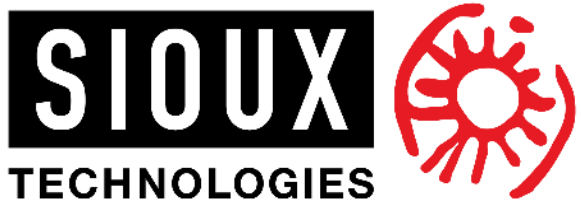
MDD/MDT automates the entire test process based on the specification model.

- Automated test-case generation (including test-data).
- Automated test-case execution.
- Automated test-case evaluation.

axini

Our customers and partners





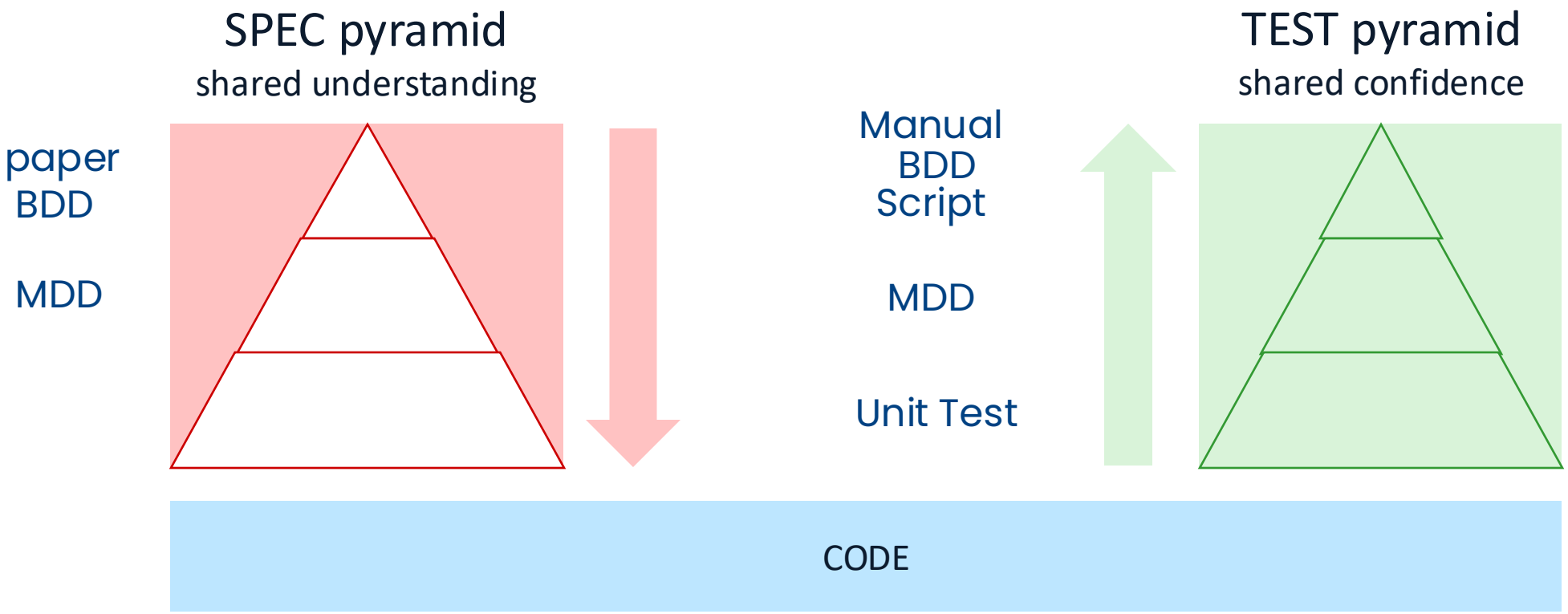
Summary (effect of MDD/MBT)

- Improvement:
  - time to delivery: 25-50%
  - effort: 25-50%
  - quality: more bugs found, and more bugs found before integration (i.e., less bugs late in the Increment/Interval).
- Challenge in MDD/MBT: change in the way of working
  - Requirements are not always clear.
  - Who does the modeling?
  - Combination of architecture and testing.
  - Change management needed.
  - MBSE tool support.

axini

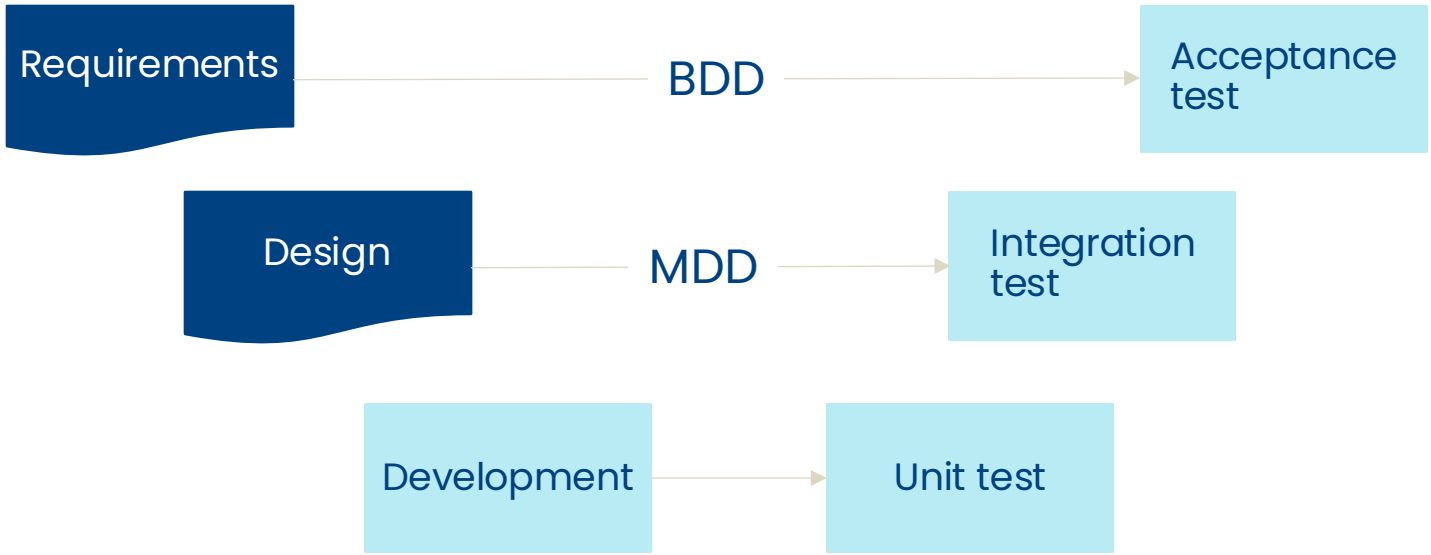
Demo

SPEC Pyramid and TEST pyramid*



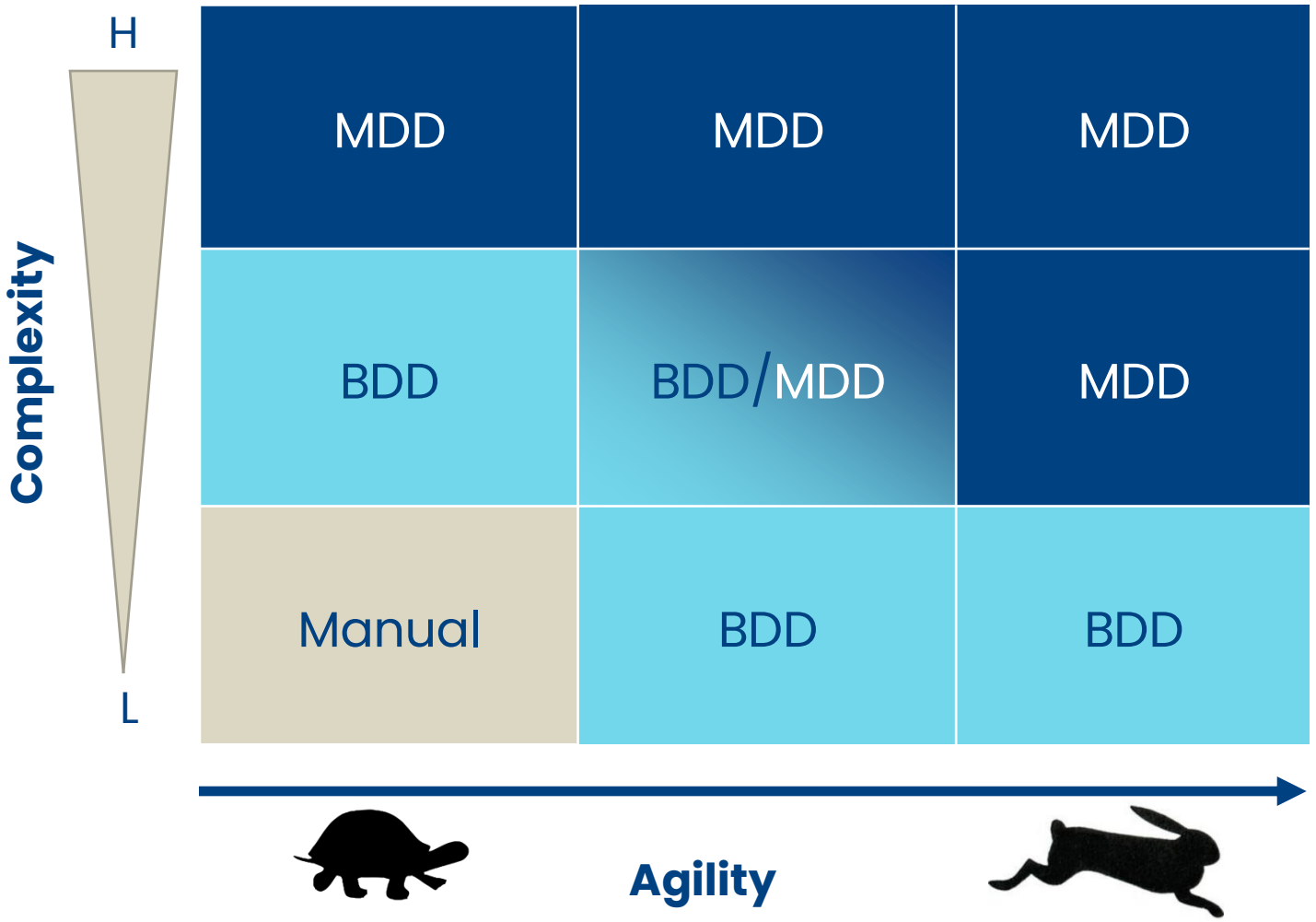
*credits to Jennek Geels of CPP

BDD and MDD/MDT



axini

MDD vs BDD



axini

Conclusion

- BDD and MDD both
  - Relate documentation to implementation
  - Are executable and therefore up to date

What we see working in practice

- BDD for a shared understanding of the problem space
  - Test coverage of the typical intentional cases
- MDD for a shared understanding of the behavior of the solution
  - Additional documentation of intended and not-intended behavior
  - Test coverage of both good weather and bad weather
- Unit tests for evidence for the developer

ICT Improve
Part of ICT Group

Thank you for your attention!

Share your insights using the hashtag **#LDE25** and tag **@ICT Improve**!