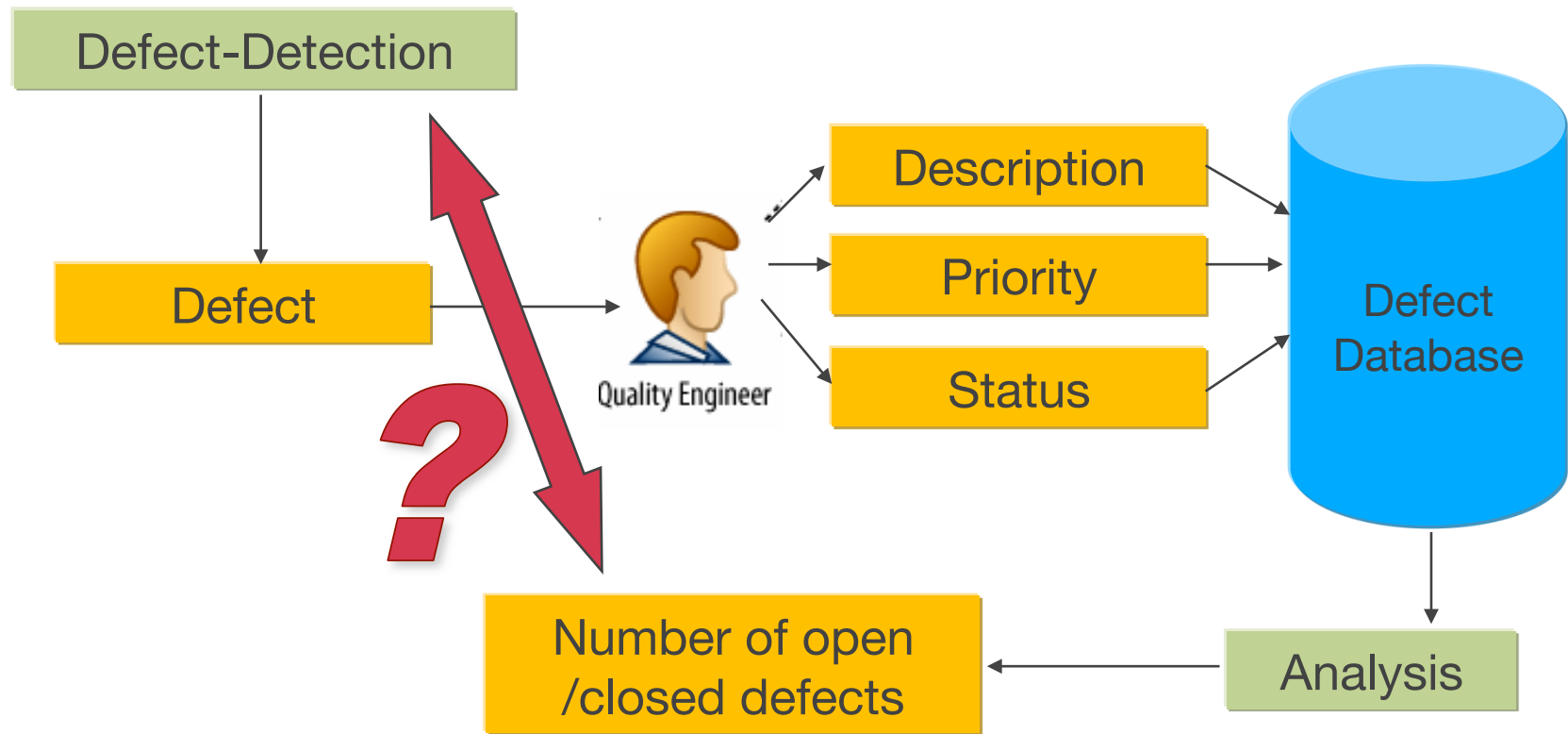


Defect Classification and Defect Types Revisited

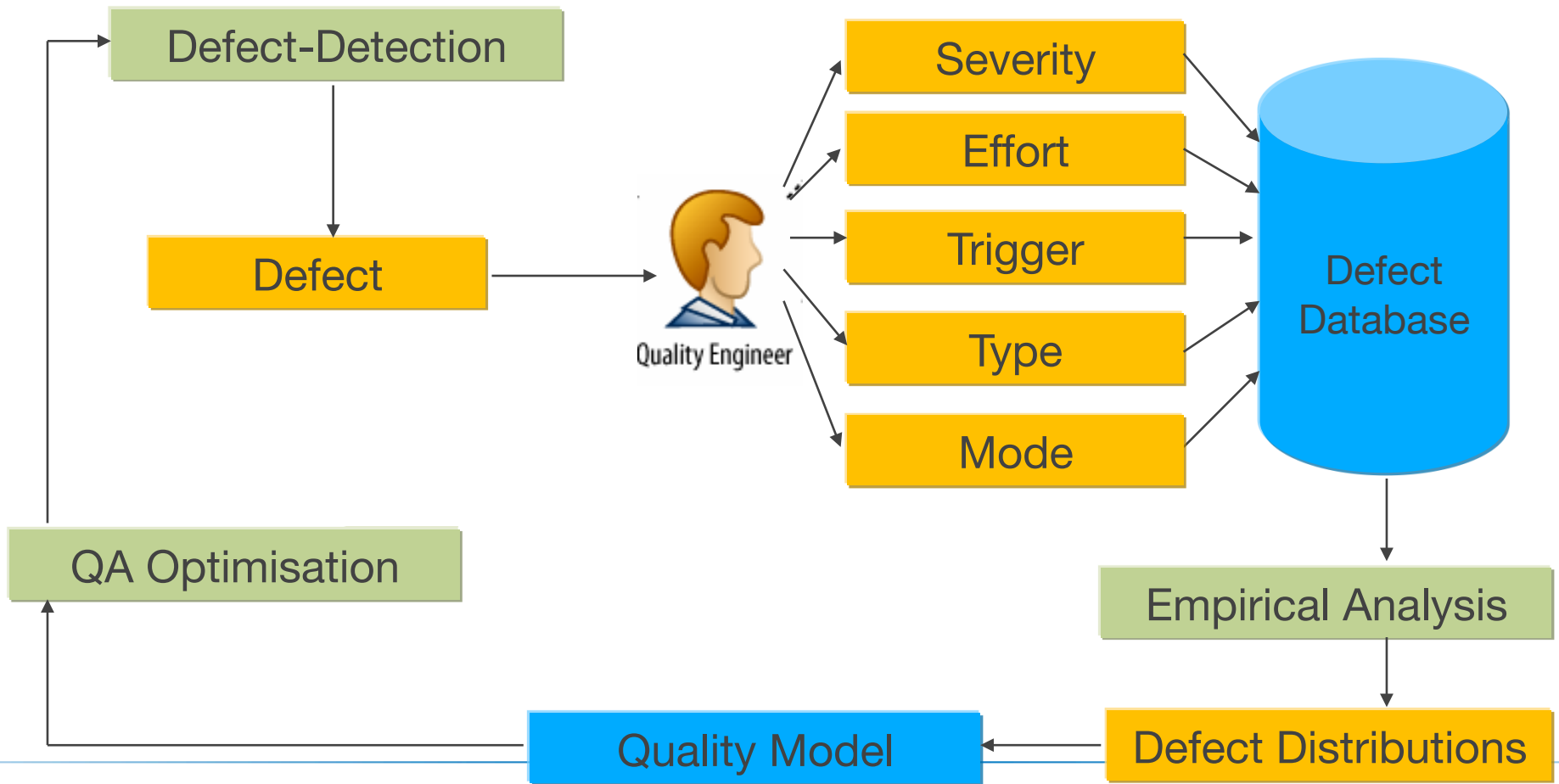
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The Real Defect-Detection Process



The Ideal Defect-Detection Process



State of the Art

- Defect Taxonomies
 - Implementation solution
 - Beizer
- Root Cause Analysis
 - Analysis of developer mistakes
 - Fault prevention
 - IBM
- Defect Classification
 - Classification along several dimensions
 - IEEE Std 1044-1993
 - IBM's ODC
 - HP's Defect Origins, Types, and Modes

Challenges

- Different Artefacts
 - Similar classifications?
 - Propagation?
- Dimensions
 - Basic set?
 - What can be reasonably expected to be documented?
- Defect Type Distributions
 - General distributions?
 - What factors do they depend on?
 - Domain-specific distributions?
- Connection to Quality Models
 - What quality attributes are affected?
 - Classifications as part of a quality model or vice versa?
- How can we justify the effort for the quality engineer?

Conclusions

- Useful quality assurance optimisation only possible using defect classifications intensively
- We need to
 - find the important dimensions
 - for different artefacts
 - provide empirical data
 - relate classifications to quality models
 - better integrate the classification in the QA process
 - Convince practitioners of the value of defect classification