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INTEGRATION TEST HELL

ODER WIE INTEGRATIV SOLL ICH TESTEN?

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Schwerpunkte

- Test-Driven Development
- Softwaredesign & Clean Code
- Software Craftsman
  @softwerkskammer

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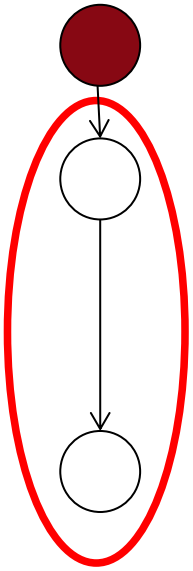
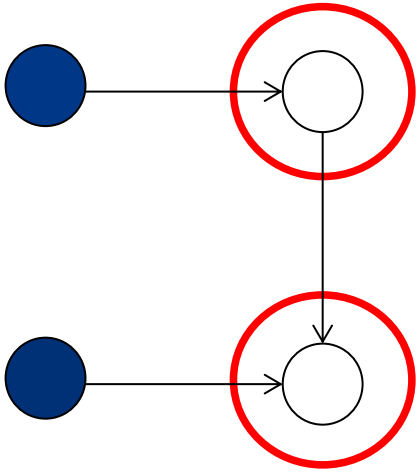
WIE INTEGRATIV TESTEN?

Integrative Tests



TEUER

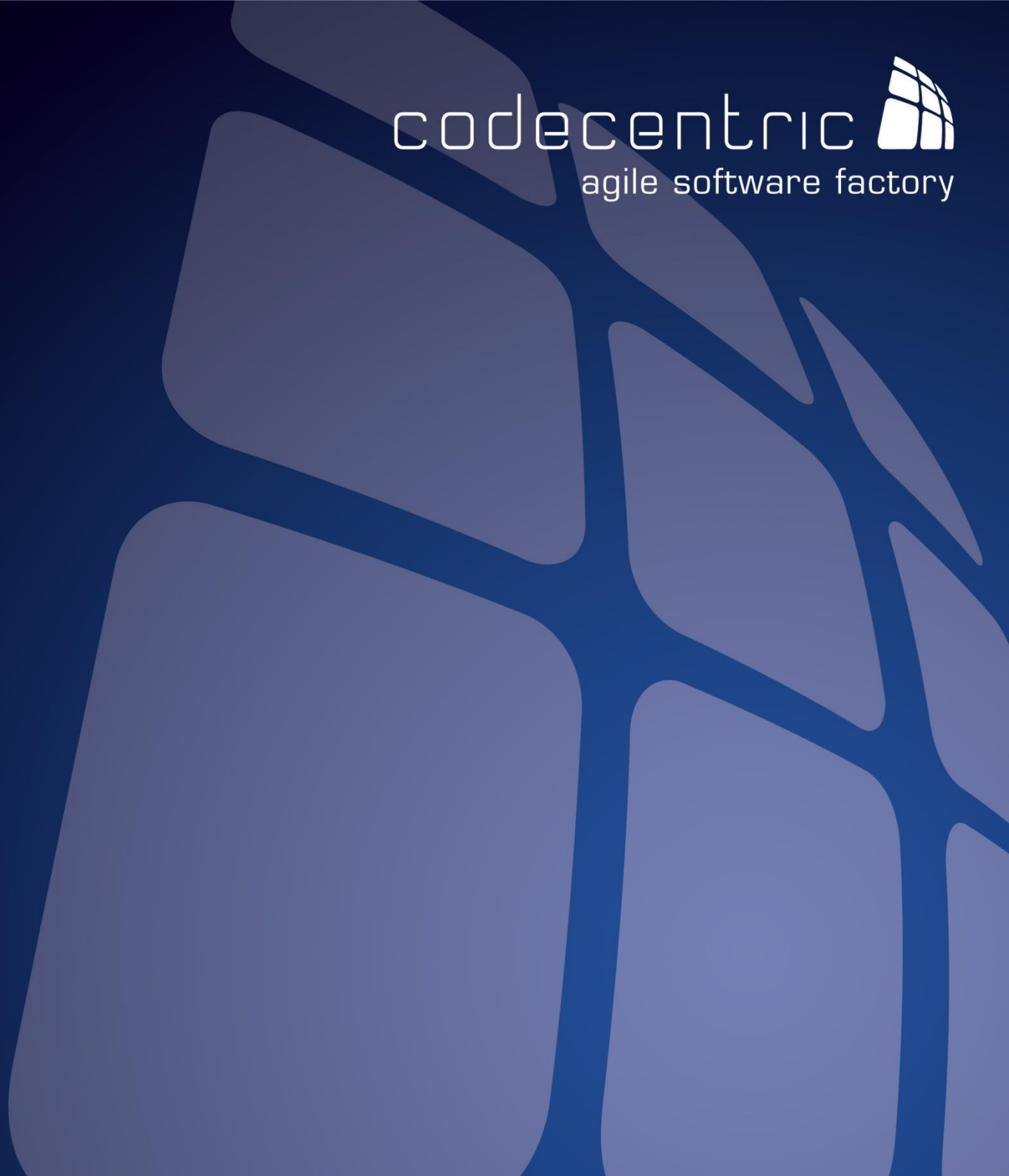
Isolierte Tests



REALITÄTSFERN

AGENDA

Isoliert vs. integriert
Testpyramide
Test Dekomposition
Fazit
Diskussion



QUALITÄTSLEVEL?

$(Tests) = Nutzen - Kosten

Senken von **Risiken**

Testauswahl

- 20% der Tests 80% Nutzen
- Zahl, Art, **Integrationsgrad**
- Risiko?
  - Domäne: Prototyp bis sicherheitskritisch
  - Verteilung in App

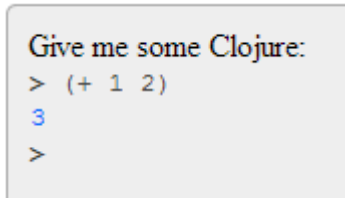
Tests an Risiken ausrichten!

ISOLIERT ODER INTEGRIERT?

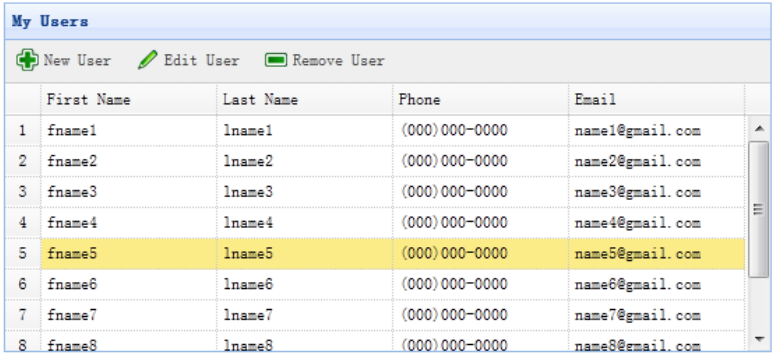
	Isolierende Tests	Integrierende Tests
Feedback	schnell	langsam
Fehlerfindung	einfach	schwer
Fragilität	gering	hoch
Kosten (inkl. Wartung)	billig	teuer
Aussagekraft Nutzer	gering	hoch

TESTOBJEKT?

	Isolierende Tests	Integrierende Tests
Stärken	**Logik, Komplexität, Breite**	**Integration, Datenflüsse, Tiefe**
Beispiel Domäne	**REPL**	**CRUD**

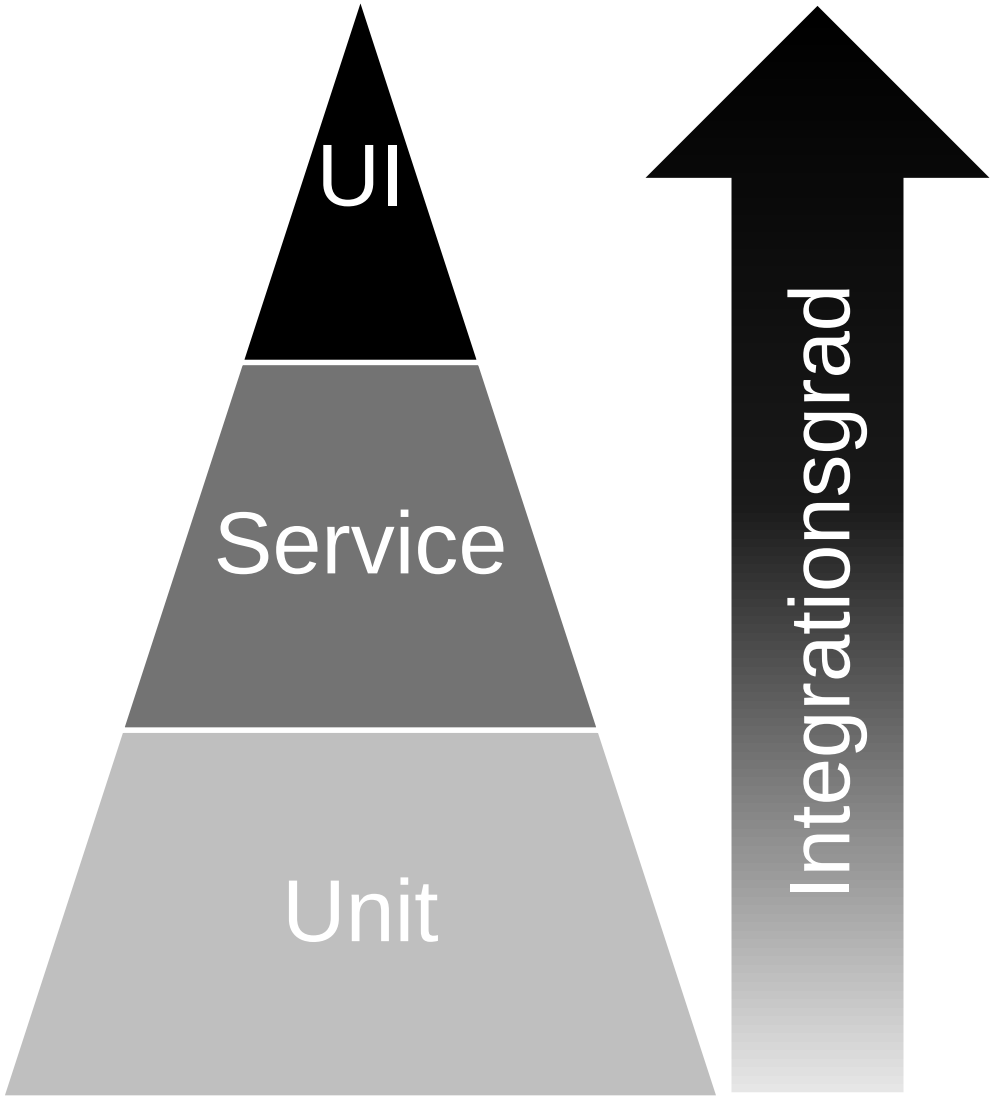


http://tryclj.com/

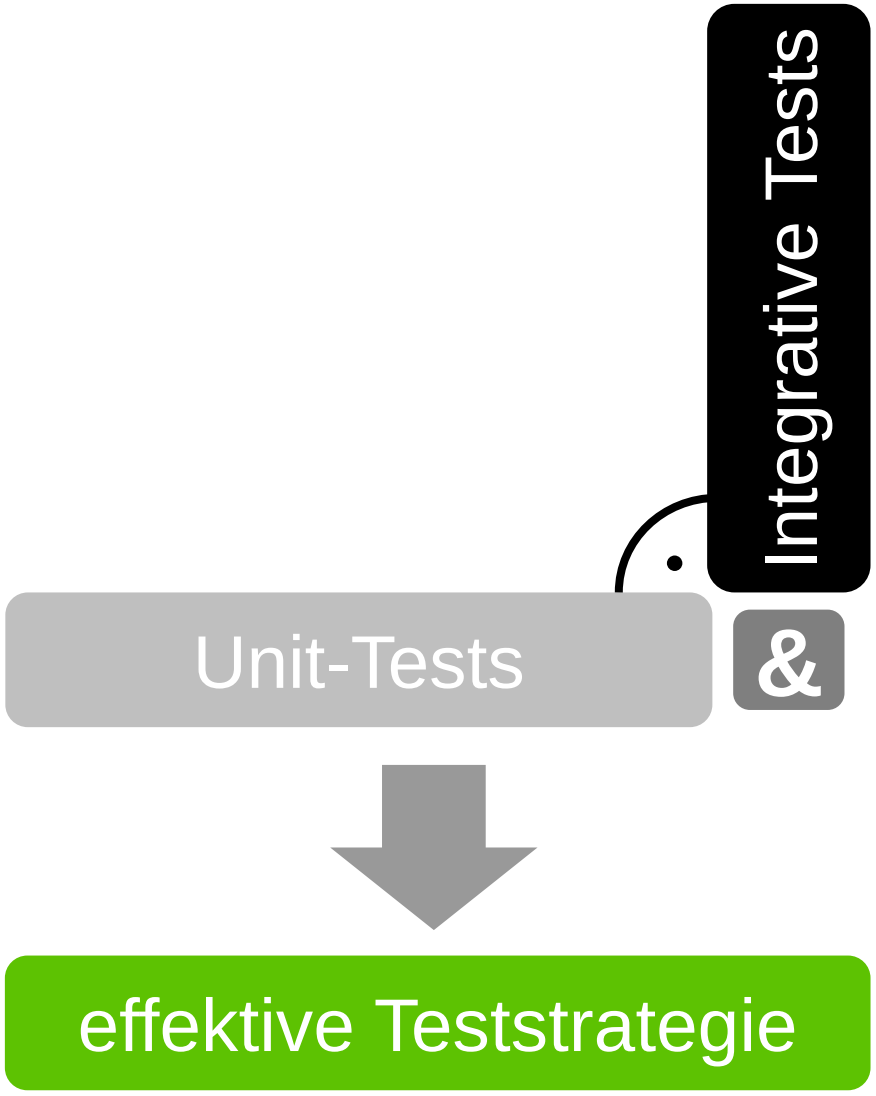


http://www.jeasyui.com/tutorial/app/crud.php

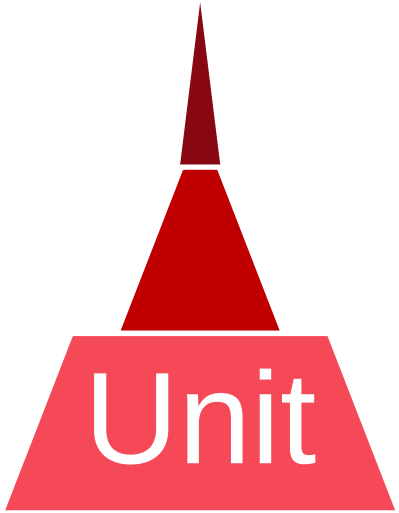
LÖSUNG: TESTPYRAMIDE

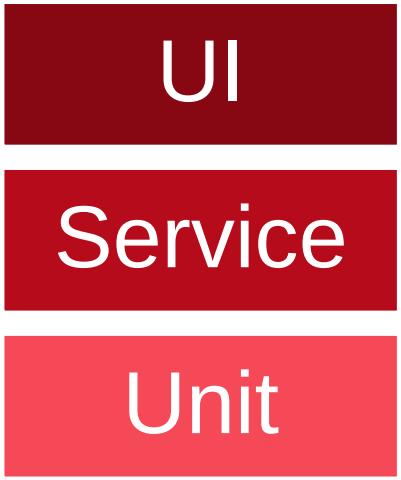


Pyramide nach Martin Fowler



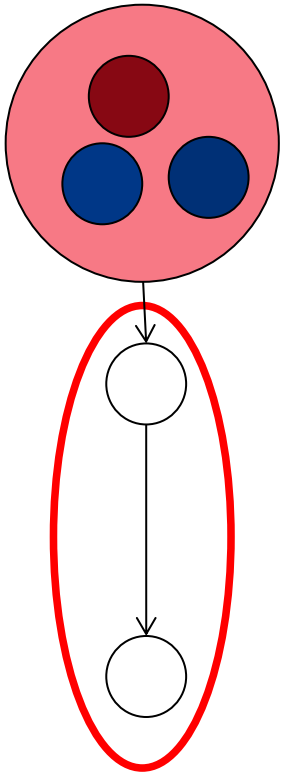
INTERPRETATIONEN





"Integrated Tests Are a Scam"	ATDD E2E
• J.B. Rainsberger	• z.B. GOOS, Continuous Delivery

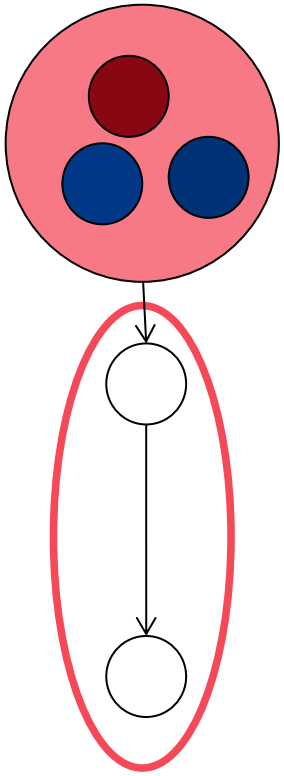
TEST DEKOMPOSITION



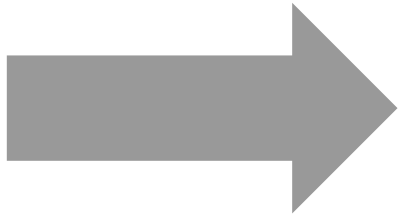
Problem überladene Integrationstests

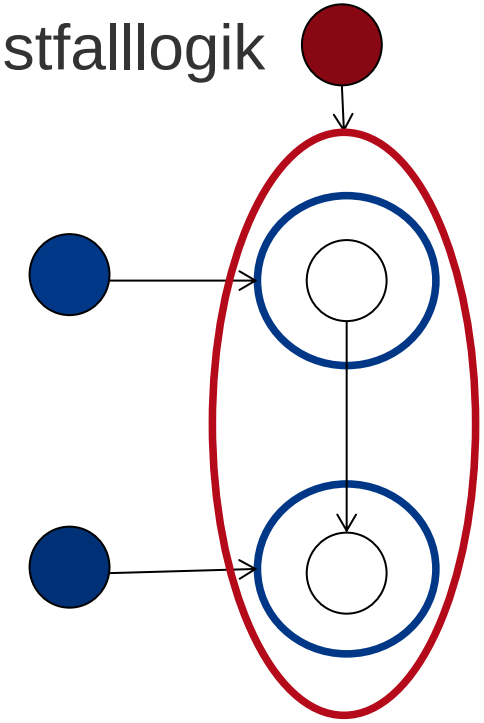
- Vermischung Verantwortlichkeiten
  - Integration
  - Logik (ggf. auch verschiedene)

TEST DEKOMPOSITION



- „**SRP für Tests**“
- Deduplizierung von Testfalllogik

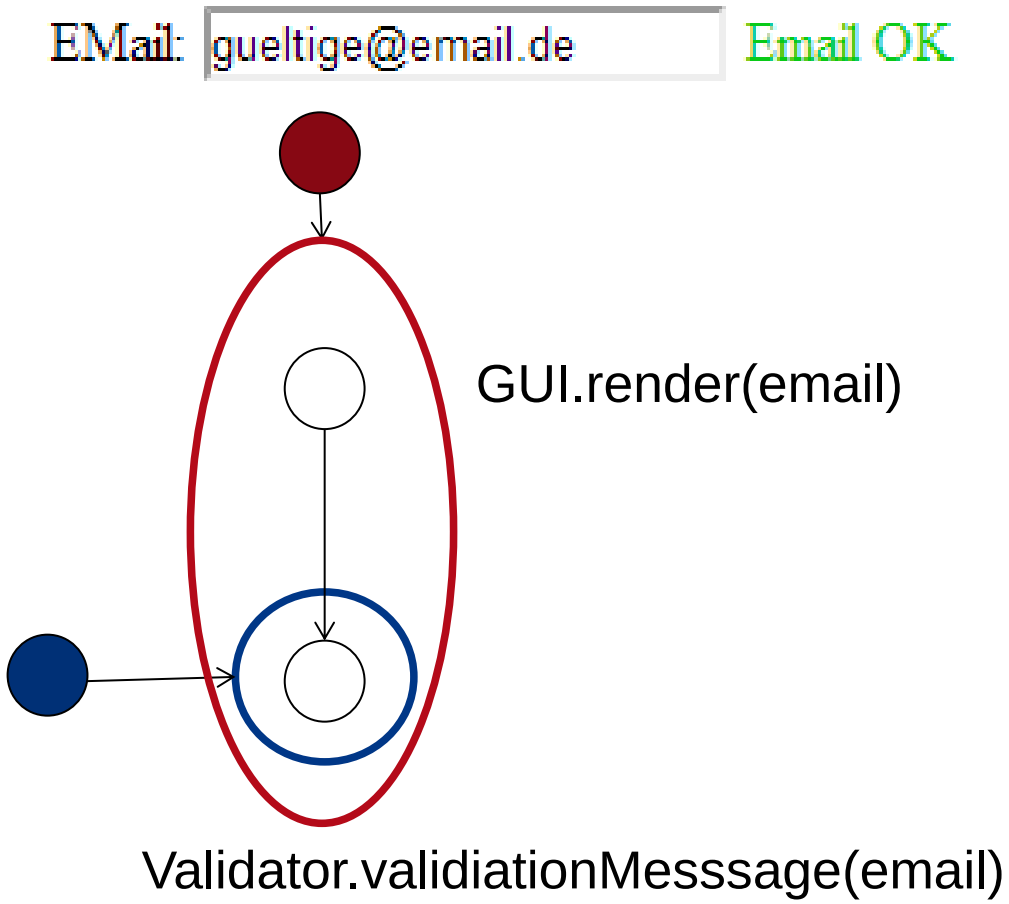




BEISPIEL EMAIL-VALIDIERUNG

- integrativer Webtest
- Unittest

Eingabe	Ausgabe
„gueltige@email.de“	„Email OK“
„mail.ohne@tld“	„Email ungültig“
„mail.ohne.at.de“	„Email ungültig“
„@ohne-user.de“	„Email ungültig“
…	



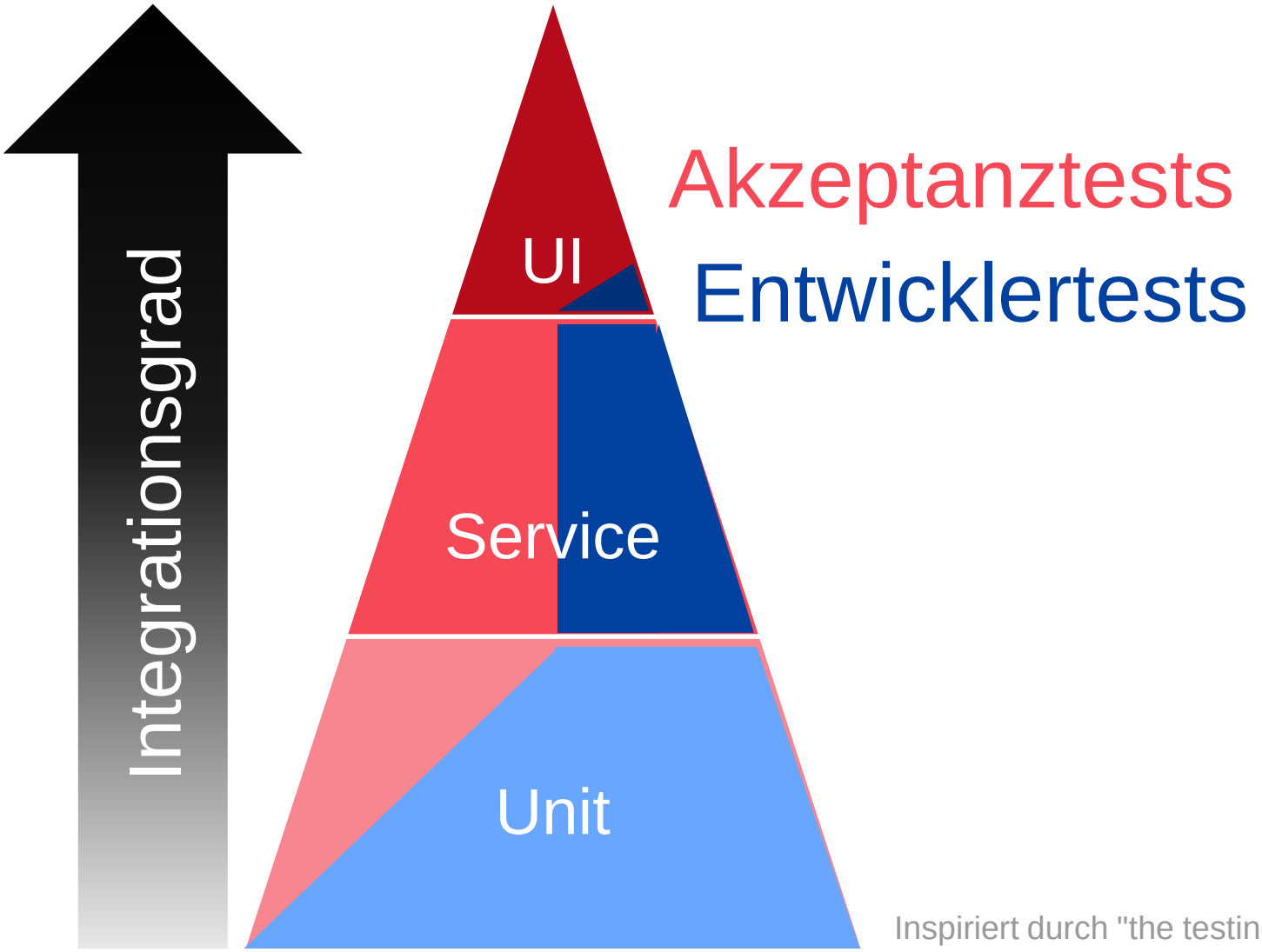
FACHLICHE DIMENSION

Akzeptanztests vs. Entwicklertests

– fachlich

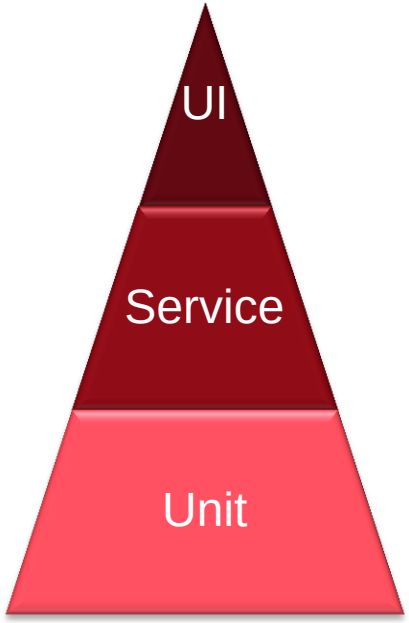
– technisch

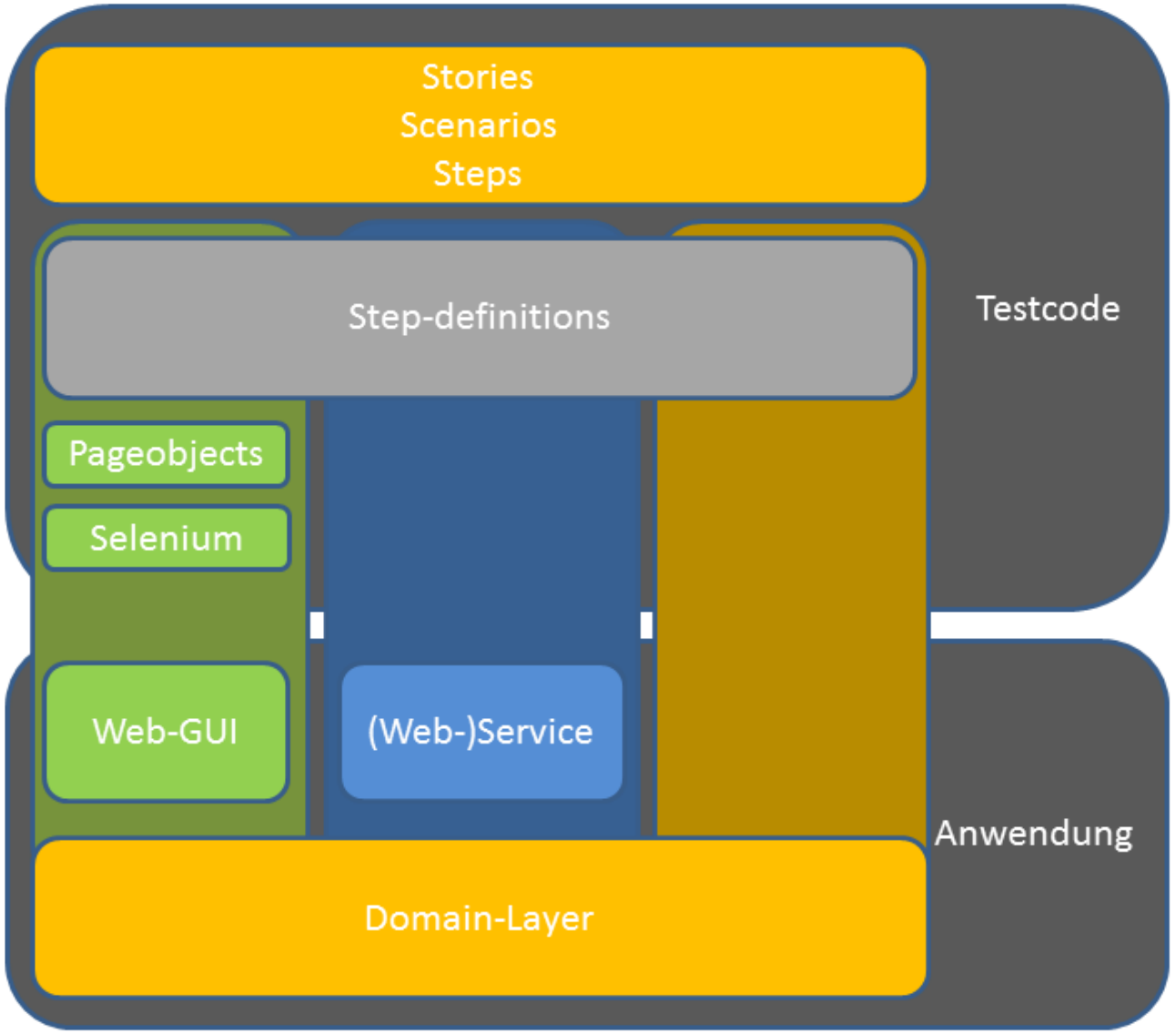
THE TESTING ICEBERG



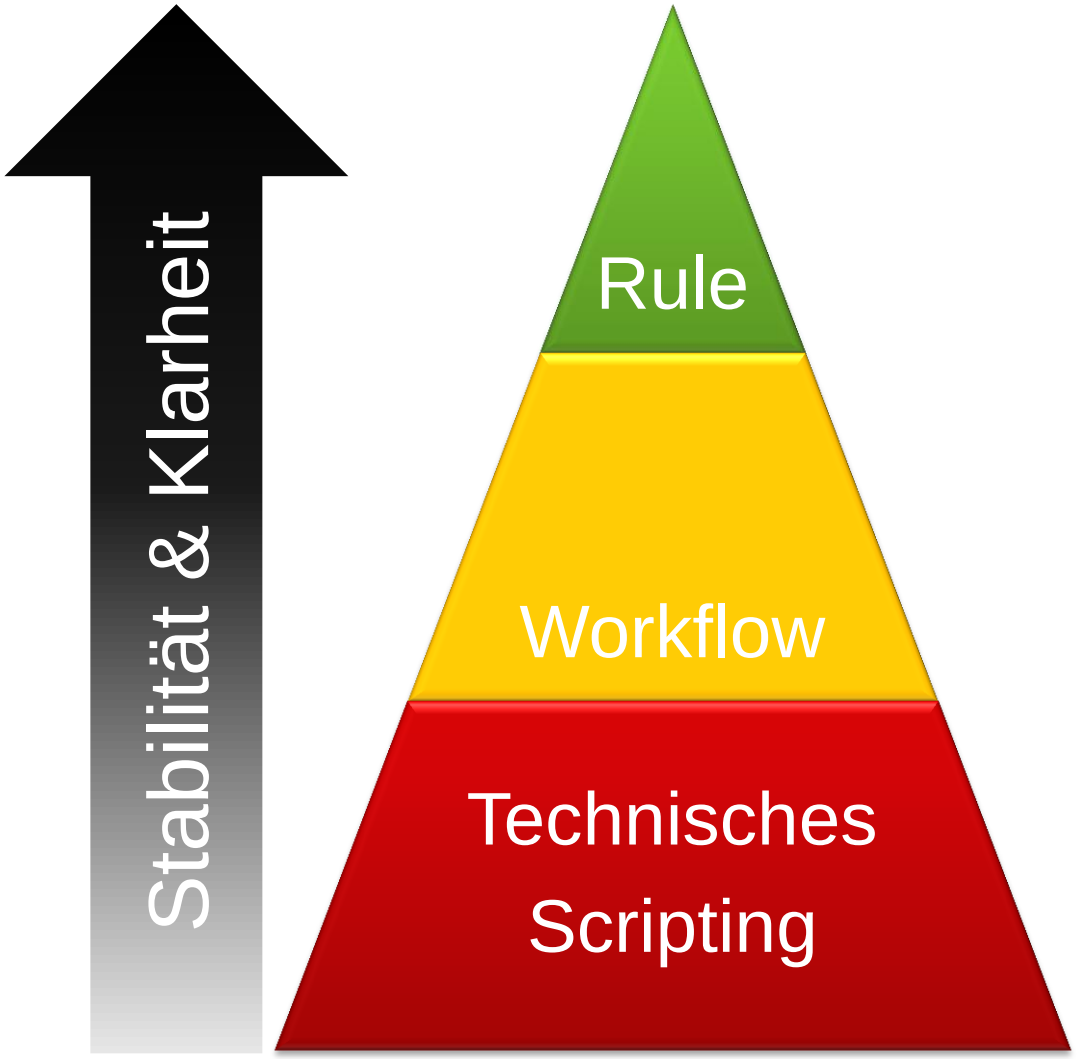
Inspiriert durch "the testing iceberg“ von Seb Rose / Matt Wynne

TEST-PYRAMIDE FÜR AKZEPTANZTEST



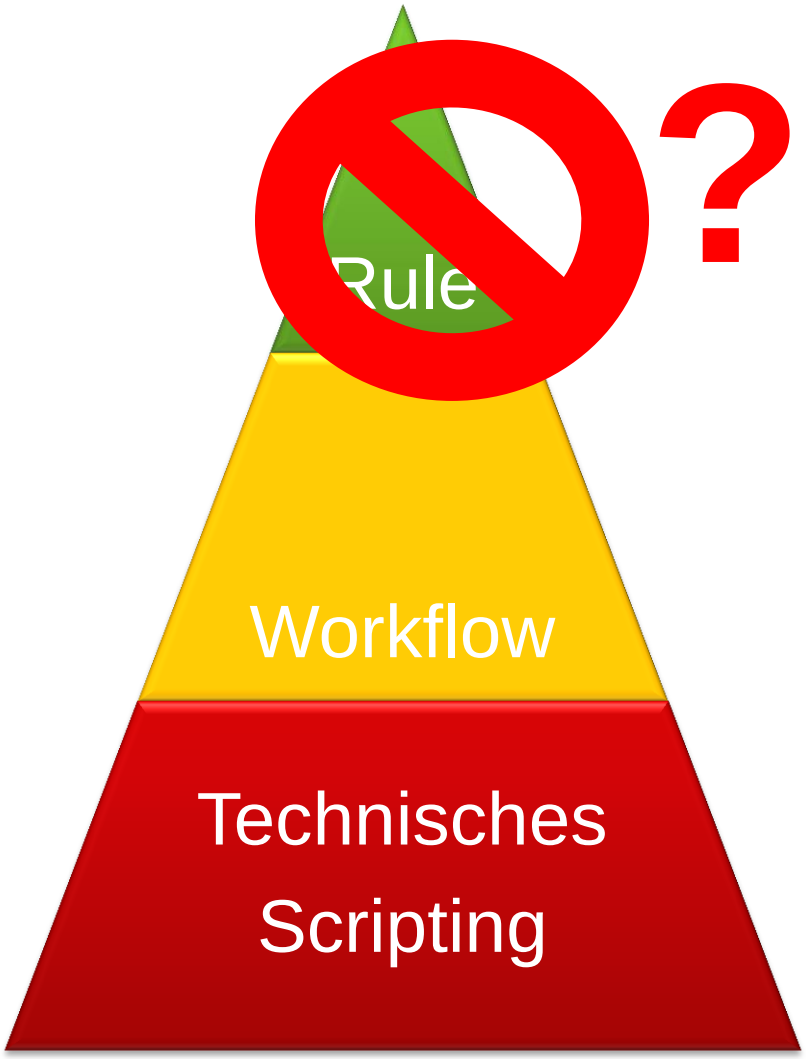


GUI-TEST-LAYERING



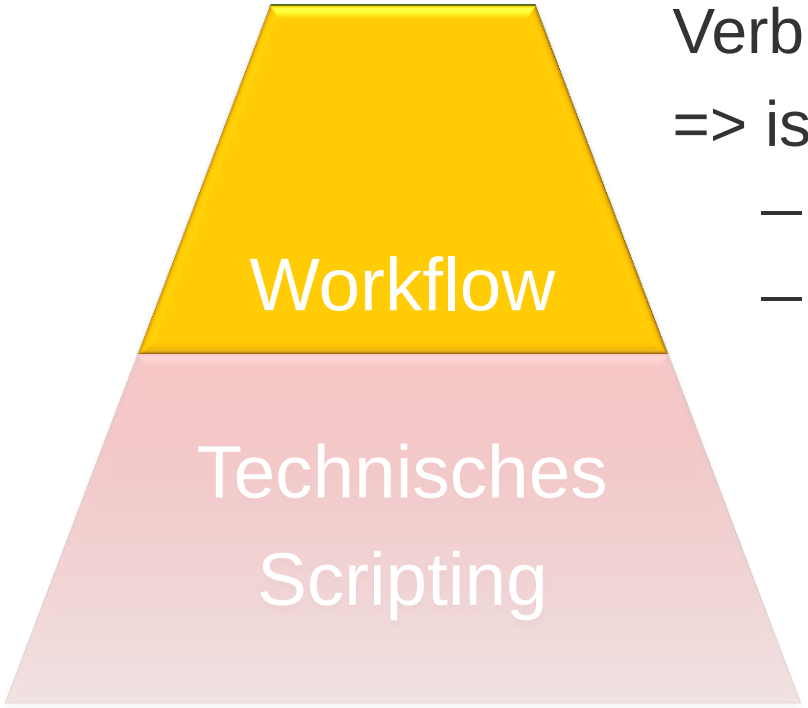
Gojko Adzics "UI testing without shooting yourself in the foot"

RULE-TESTS GEGEN UI?



Gojko Adzics "UI testing without shooting yourself in the foot"

ISOLIERTE GUI TESTS?



Verbleibende UI-Workflowtests

=> isolierte UI-Tests

- Subcutanuous Tests
- Backend-Mocking
  - Fat Client
  - Client-Side Javascript + REST

FAZIT

Test Pyramide

- Orthogonal & spitz
  - Integrative Tests: Integration, Tiefe, einen je Integrationspunkt
  - Isolierte Tests: Logik, Komplexität, Breite
- Beschaffenheit d. Applikation
  - Art & Risiken

Test Dekomposition

- Integrative Tests dekomponieren
- Rules-Tests raus aus UI
- Isolierte UI-Tests möglich?

QUELLEN

- Bücher
  - "Continuous Delivery" - Jez Humble, Dave Farley
  - "Growing Object-Oriented Software, Guided by Tests" - Steve Freeman, Nat Pryce
  - "Specification by Example" - Gojko Adzic
- GOOS Mailingliste
  - https://groups.google.com/forum/#!forum/growing-object-oriented-software
- "Integrated Tests are a scam" - J.B. Rainsberger
  - http://www.jbrains.ca/permalink/using-integration-tests-mindfully-a-case-study
  - http://www.jbrains.ca/permalink/integrated-tests-are-a-scam-part-1
- "The Testing Iceberg" - Matt Whyne und Seb Rose
  - http://claysnow.co.uk/the-testing-iceberg/

QUELLEN

- End-to-end Tests?
  - http://www.higherorderlogic.com/2010/01/responding-to-brian-marick
- Testing-Pyramide im Kontext Continuous Delivery, James Crisp
  - http://jamescrisp.org/2011/05/30/automated-testing-and-the-test-pyramid/
- Wartbare Akzeptanztests, Jez Humble
  - http://de.slideshare.net/jezhumble/creating-maintainable-automated-acceptance-tests
  - http://skillsmatter.com/podcast/agile-testing/the-long-term-value-of-acceptance-tests
- „The Three Amigos“, George Dinwiddie
  - http://www.nxtbook.com/nxtbooks/sqe/bettersoftware_1111/#/19

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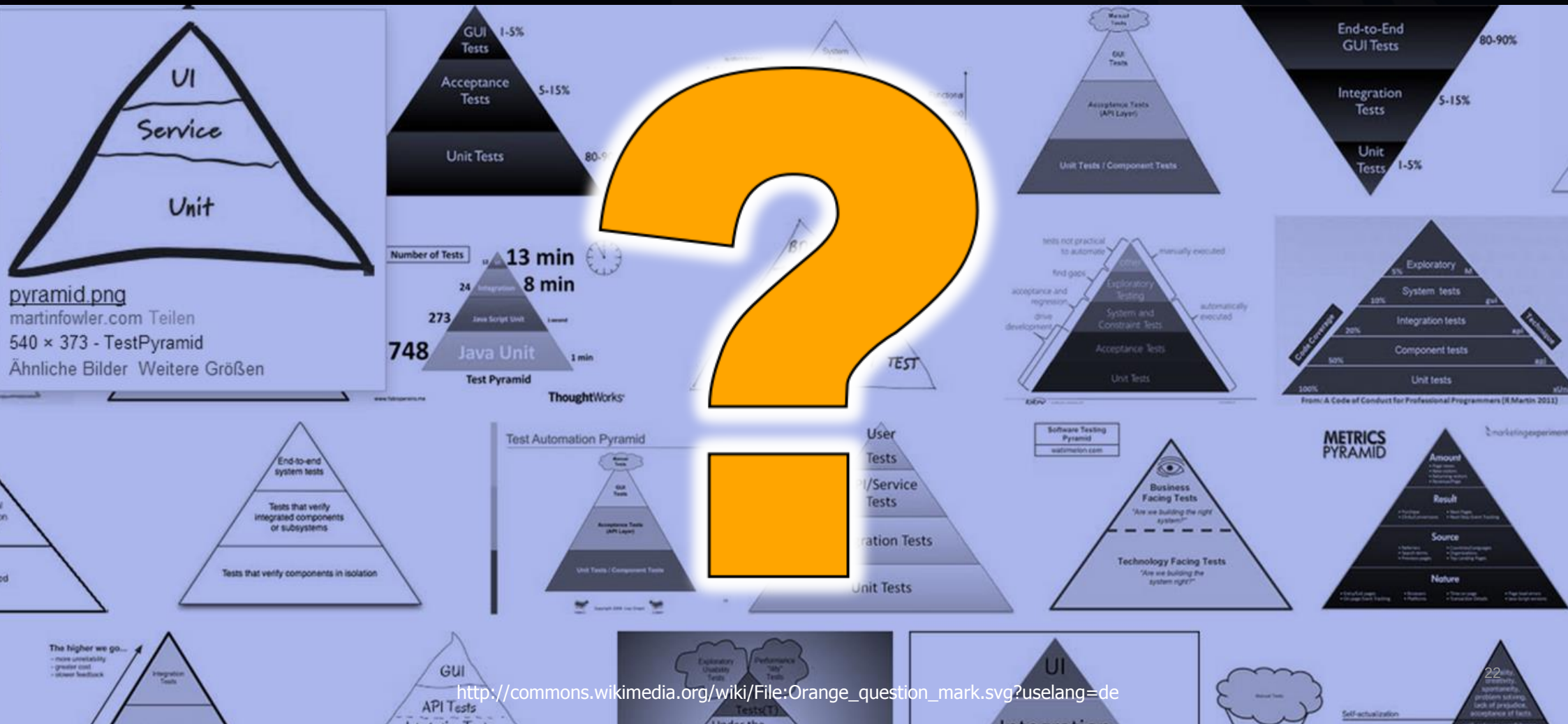
FRAGEN UND DISKUSSION



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