https://blog.thebrain.com

Key Points FPSS
Lecture: 20.1.2016

Part 4B:

- *Specific* Resilience Architecture Principles
- Autonomic Computing

How do I find out which specific resilience *principles* and *patterns* are important for my application?

http://managementresearchdevelopment.com

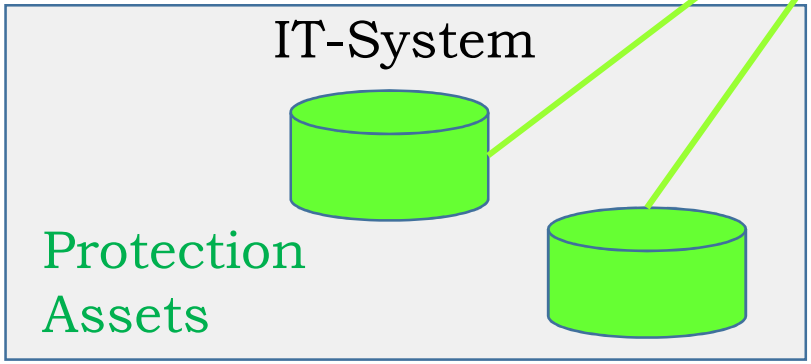
⇒ by executing a *risk analysis*

Risk Analysis

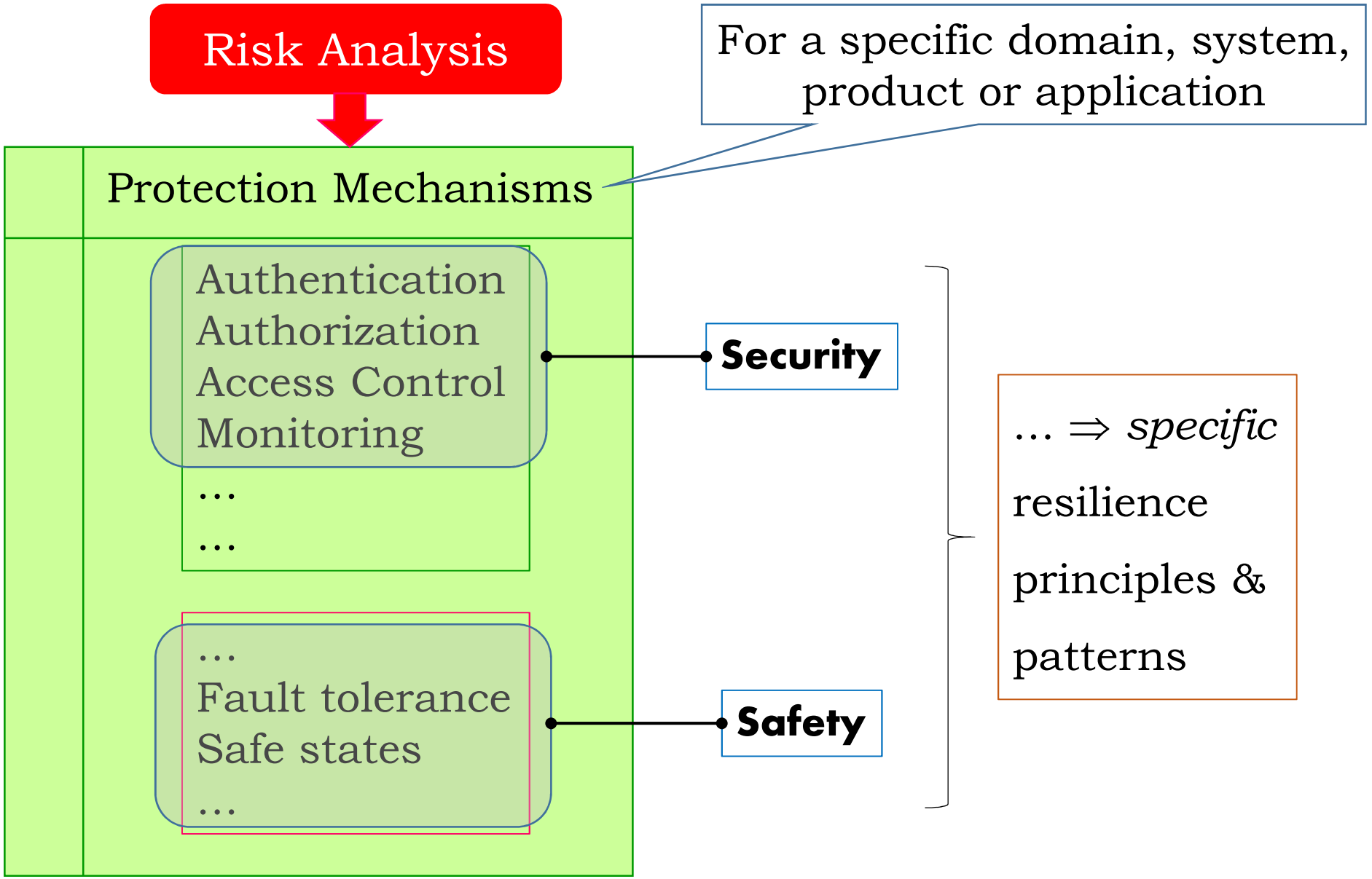
Step 1:
Asset Evaluation

Step 2:
Threats & Vulnerabilities

Step 3:
Risk Assessment & Mitigation



Future-Proof Software-Systems: Summary



What can we learn in this lecture?

https://www.npmjs.com

We cannot become full **Resilience Engineers** in this lecture

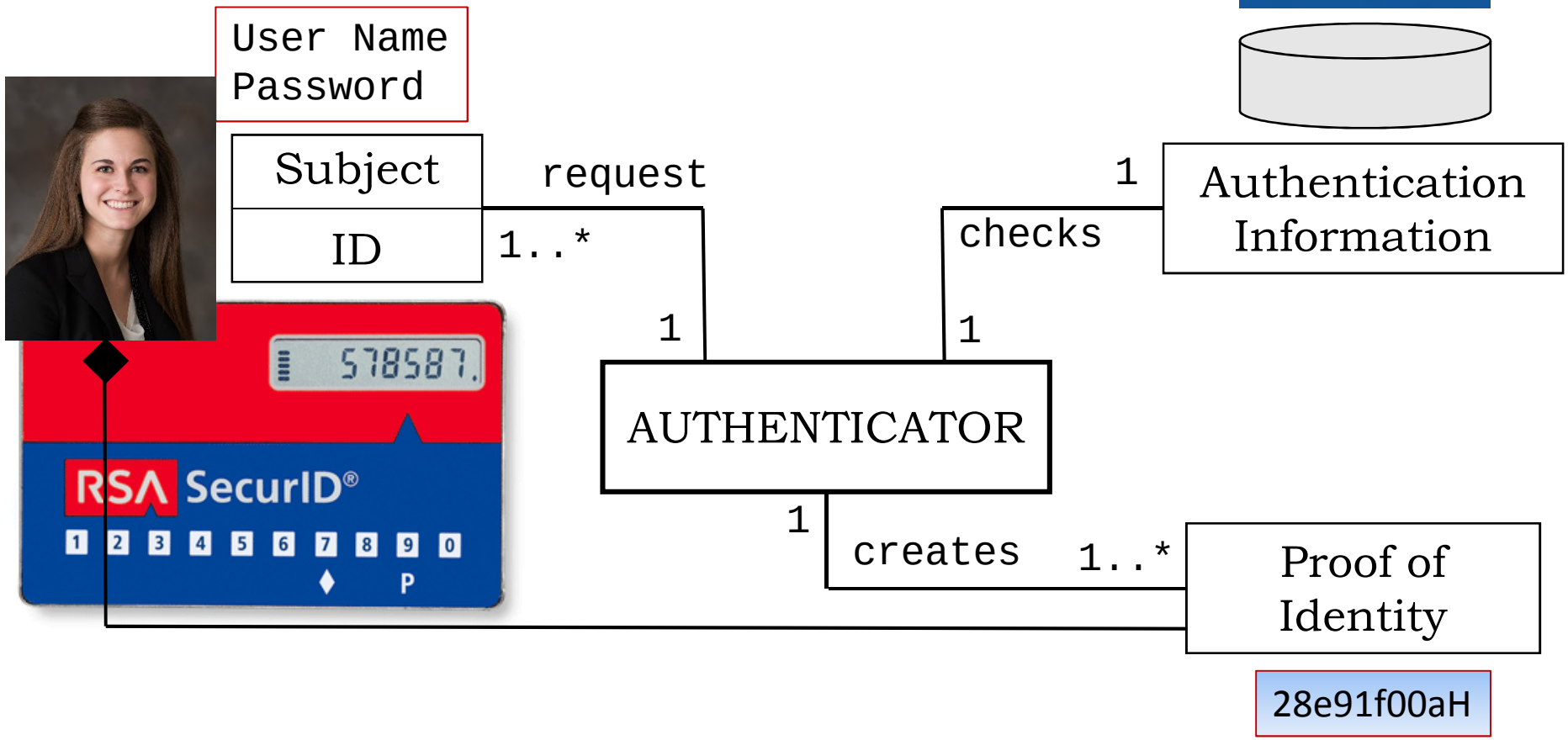
… but we can learn:

- The *methodology*
- Some important *principles & patterns*

Authentication

Authenticator Pattern

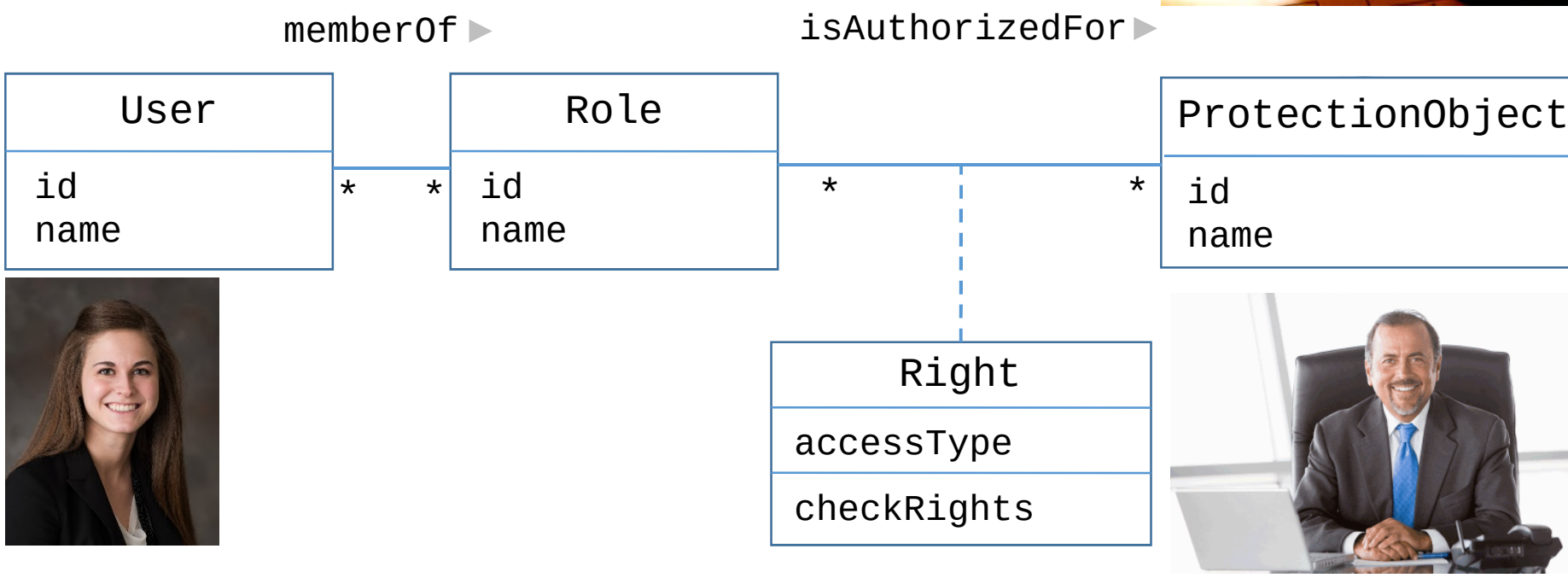
[Schuhmacher, ISBN 978-0-470-85884-4]



Authorization

RBAC Pattern

[Fernandez, ISBN 978-1-119-99894-5]

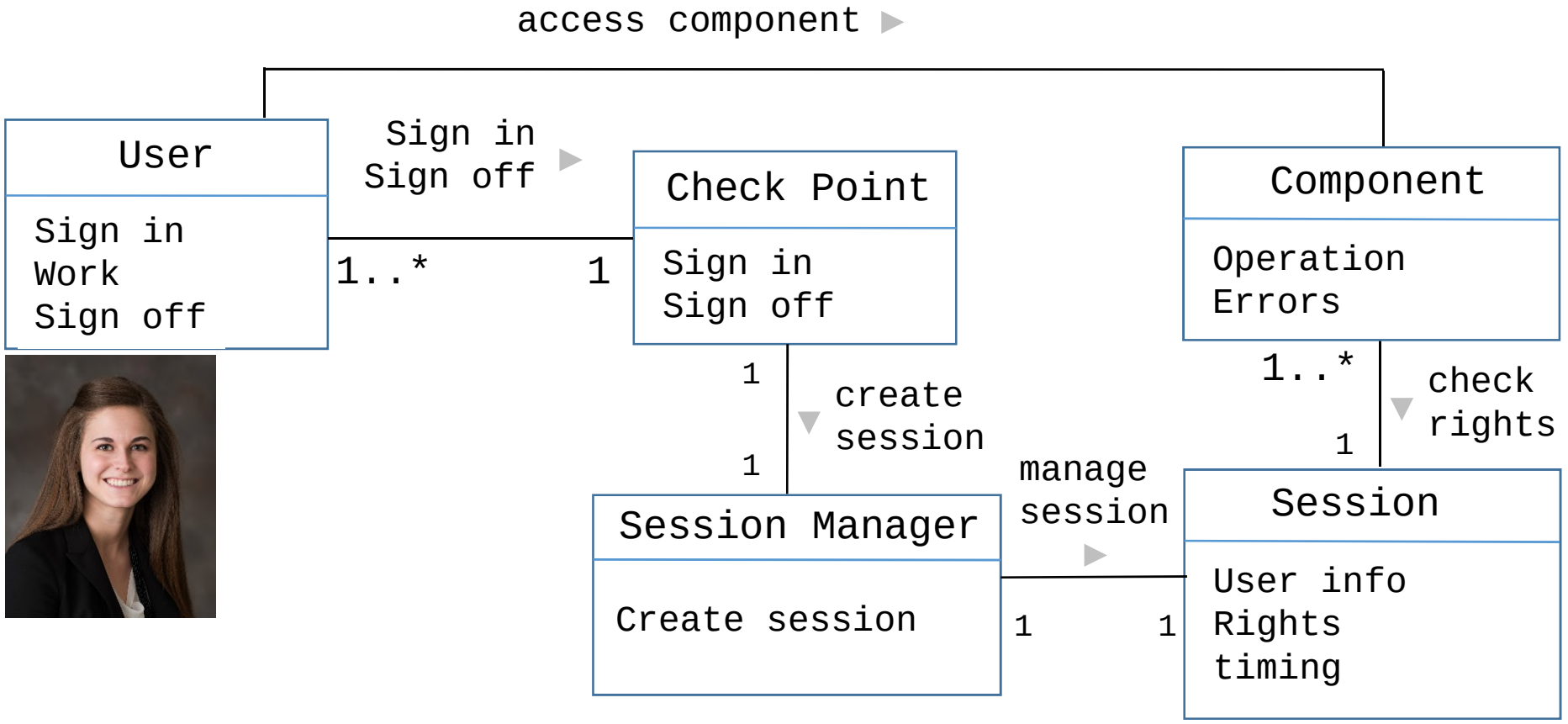


The `User` and `Role` classes describe registered users and their predefined roles. Users are assigned to roles, roles are given rights according to their functions

Access Control

Security Session Pattern

[Schuhmacher, ISBN 978-0-470-85884-4]

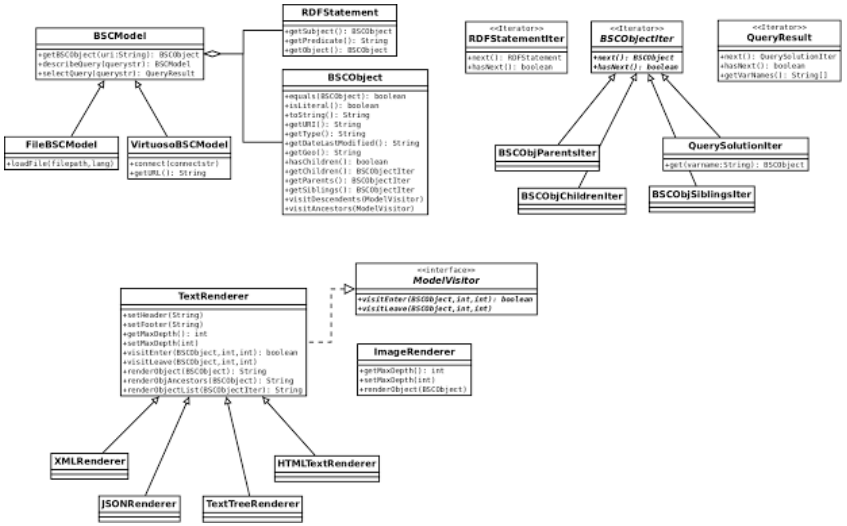


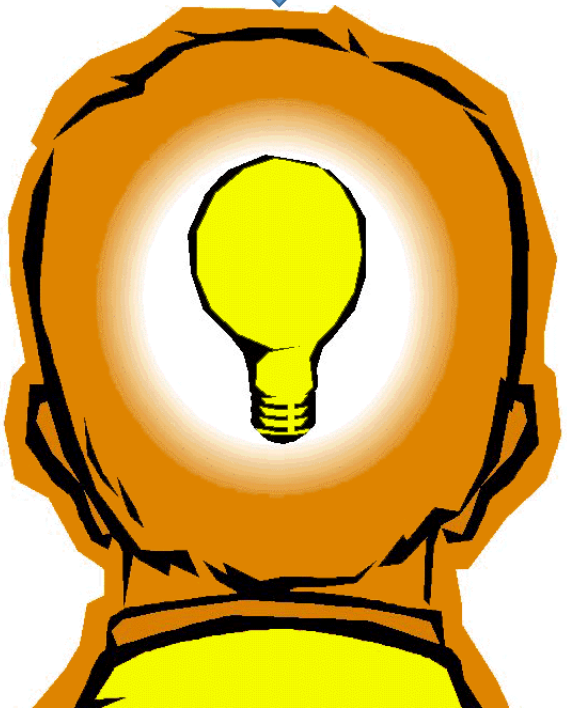
Future-Proof Software-Systems: Summary

Use *Patterns* as a source of:

- ✓ Knowledge
- ✓ Inspiration

Patterns
Pattern Catalogs

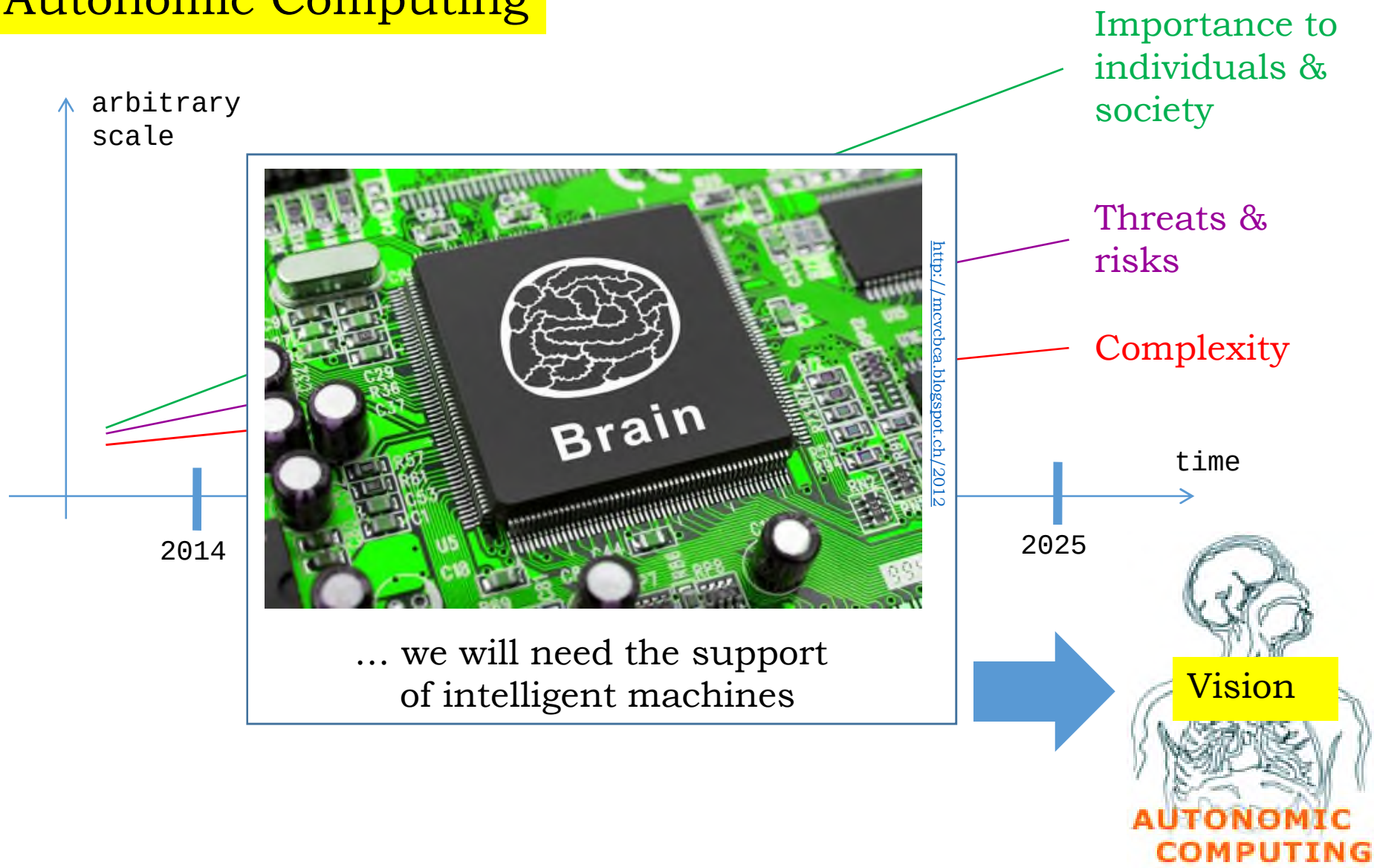




http://bodychronic.blogspot.ch

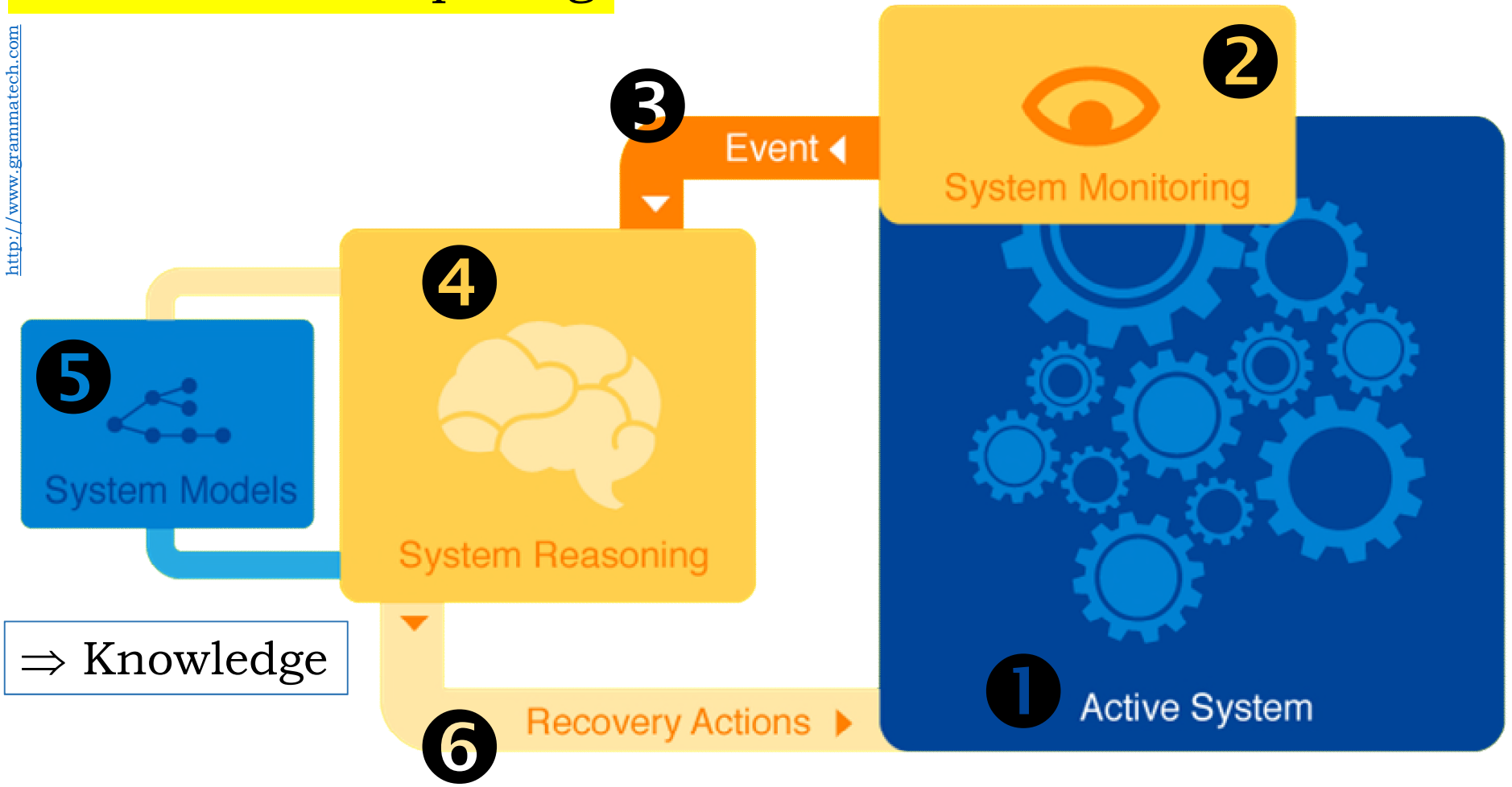
Good resilience implementations

Autonomic Computing



Autonomic Computing

http://www.grammatech.com

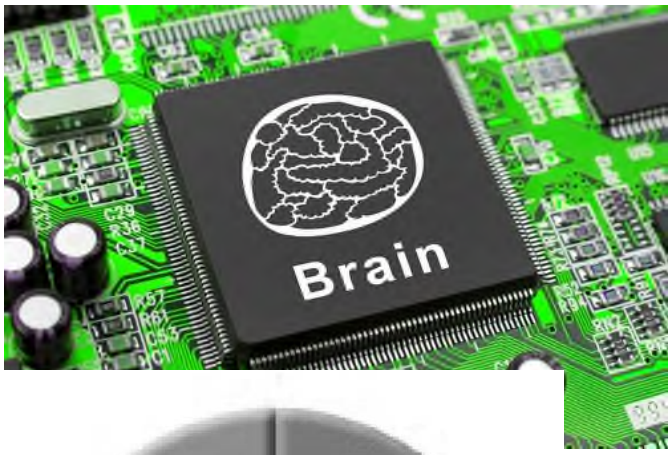


⇒ Knowledge

Summer Term 2016:

Hauptseminar «Autonomic Computing»

Prof. Dr. Frank J. Furrer



http://mcvcbca.blogspot.ch/2012

For the mastering of the computer-challenges of the future we need a stronger paradigm:
AUTONOMIC COMPUTING

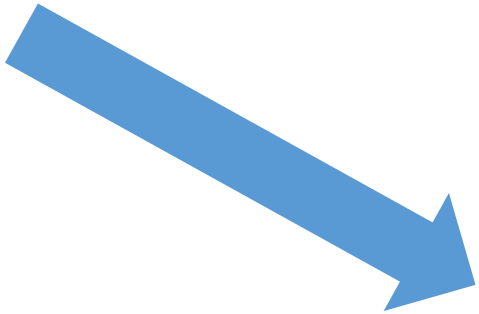
http://flylib.com

Computers must develop Self-* properties

Part 4B:

- *Specific* Resilience Architecture Principles
- Autonomic Computing

Technology



Human Skills

Part 5: The Future-Proof Software-System Engineer