

Object-Oriented Design Heuristics

Advanced Software Engineering
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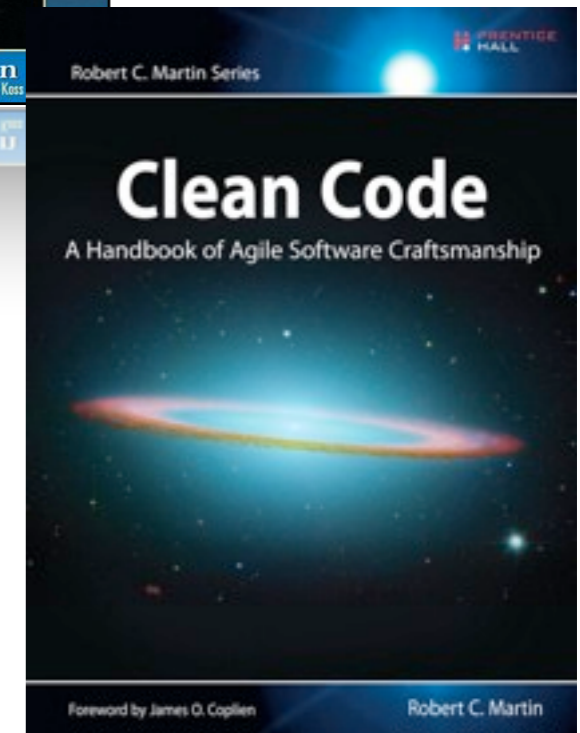
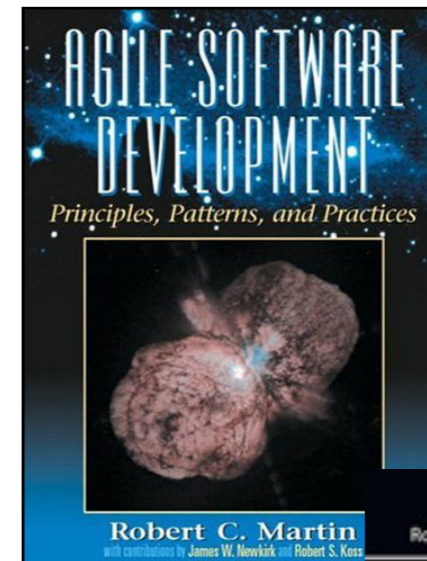
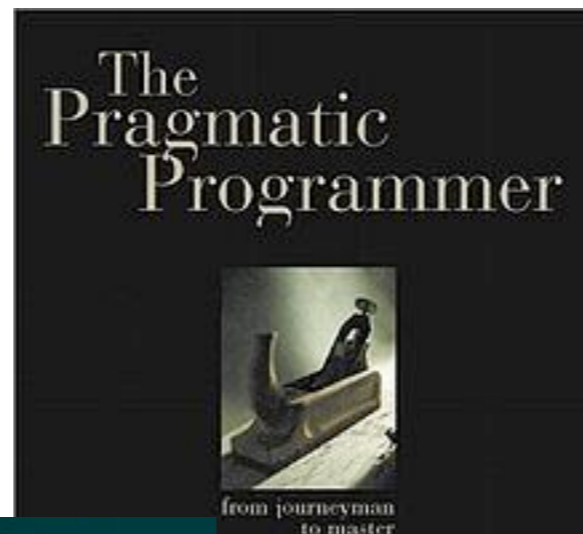
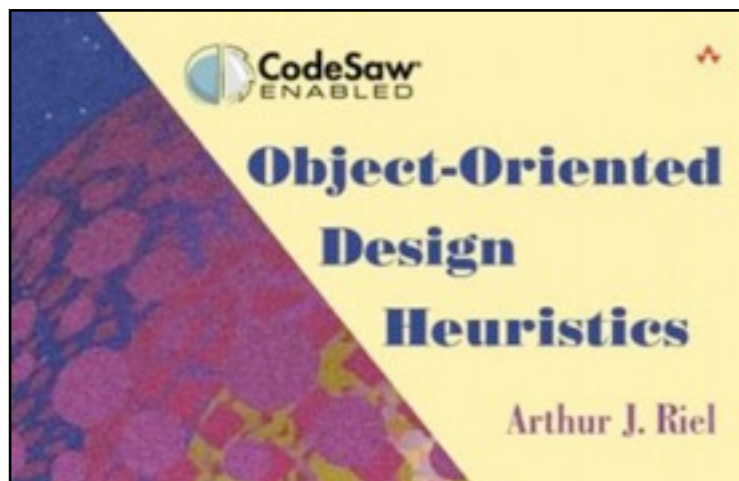
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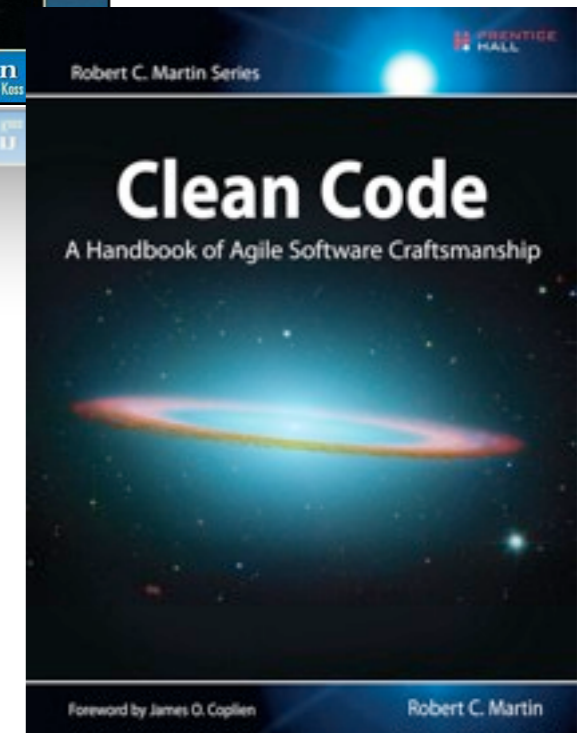
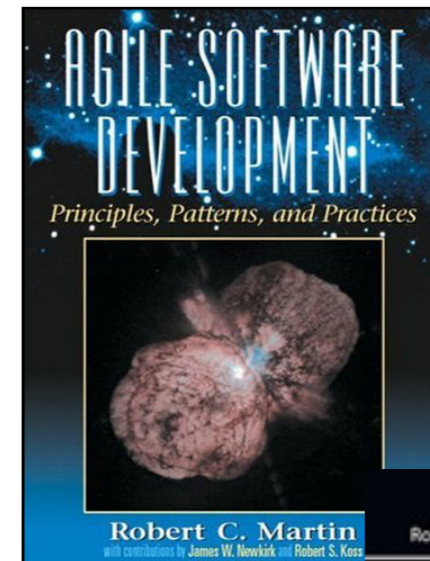
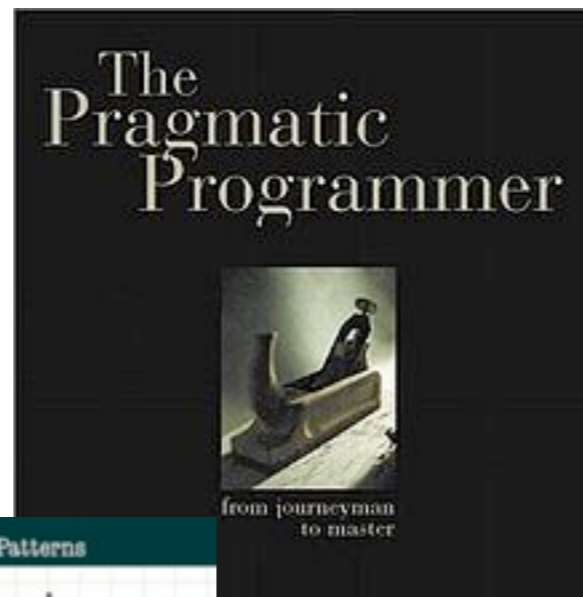
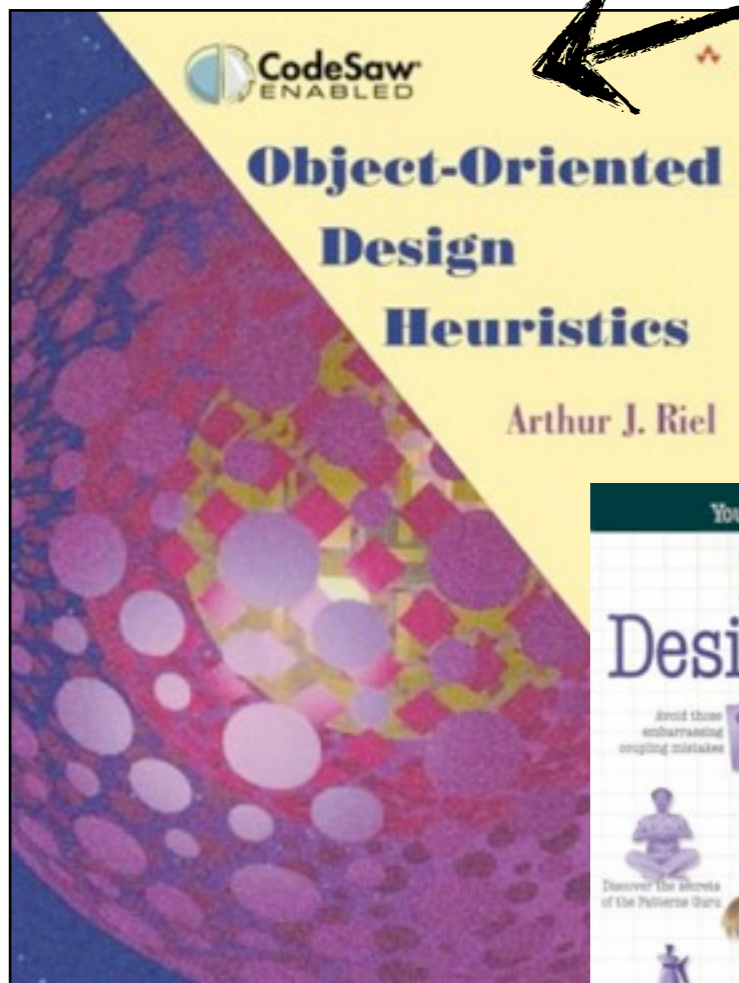
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Design Heuristics



Design Heuristics

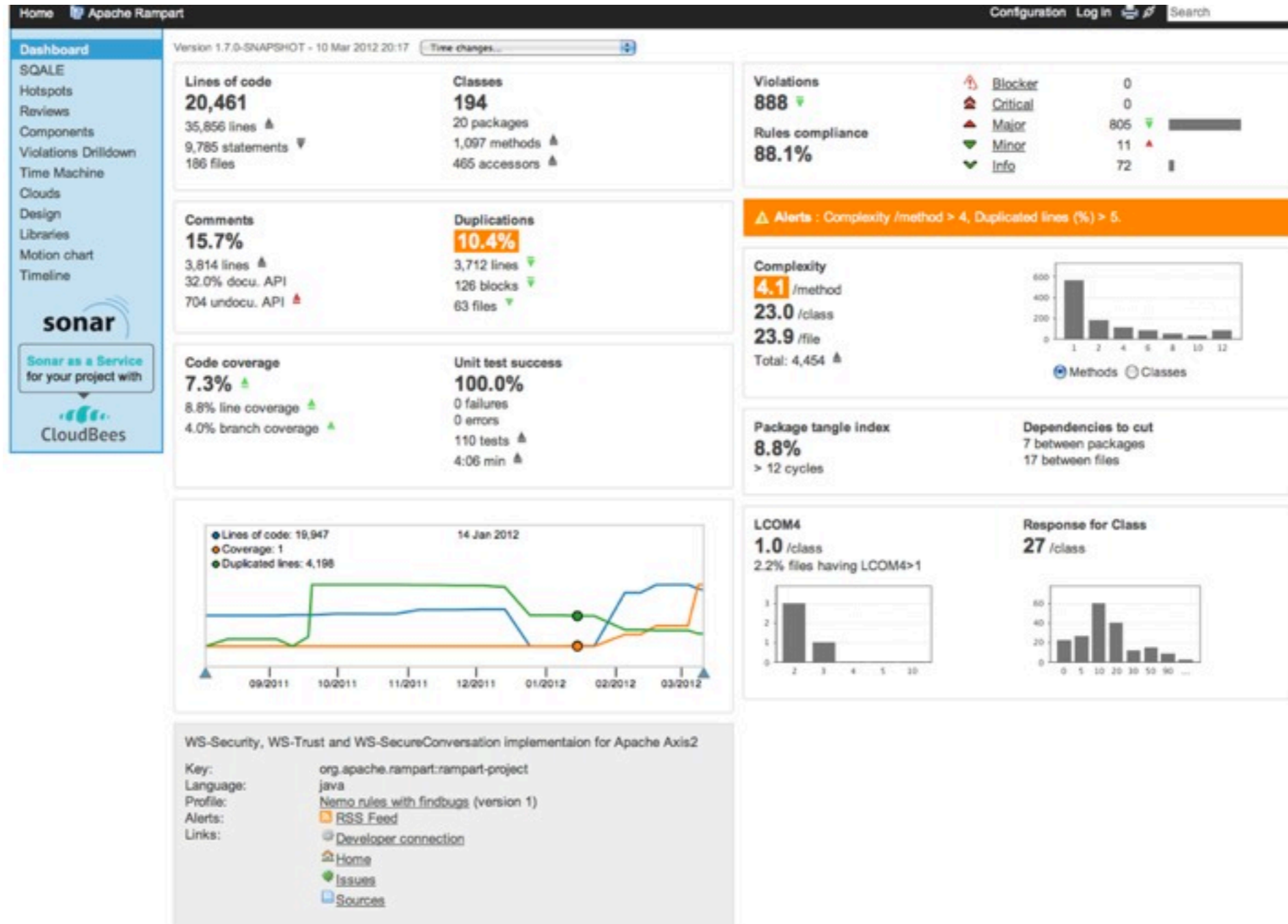


What are Design Heuristics?

- ▶ Conserved senior developer experience
- ▶ Guidelines / Rules of thumb
- ▶ Warning bells that ring when violated
- ▶ Can be checked by tools



Sonar



FindBugs

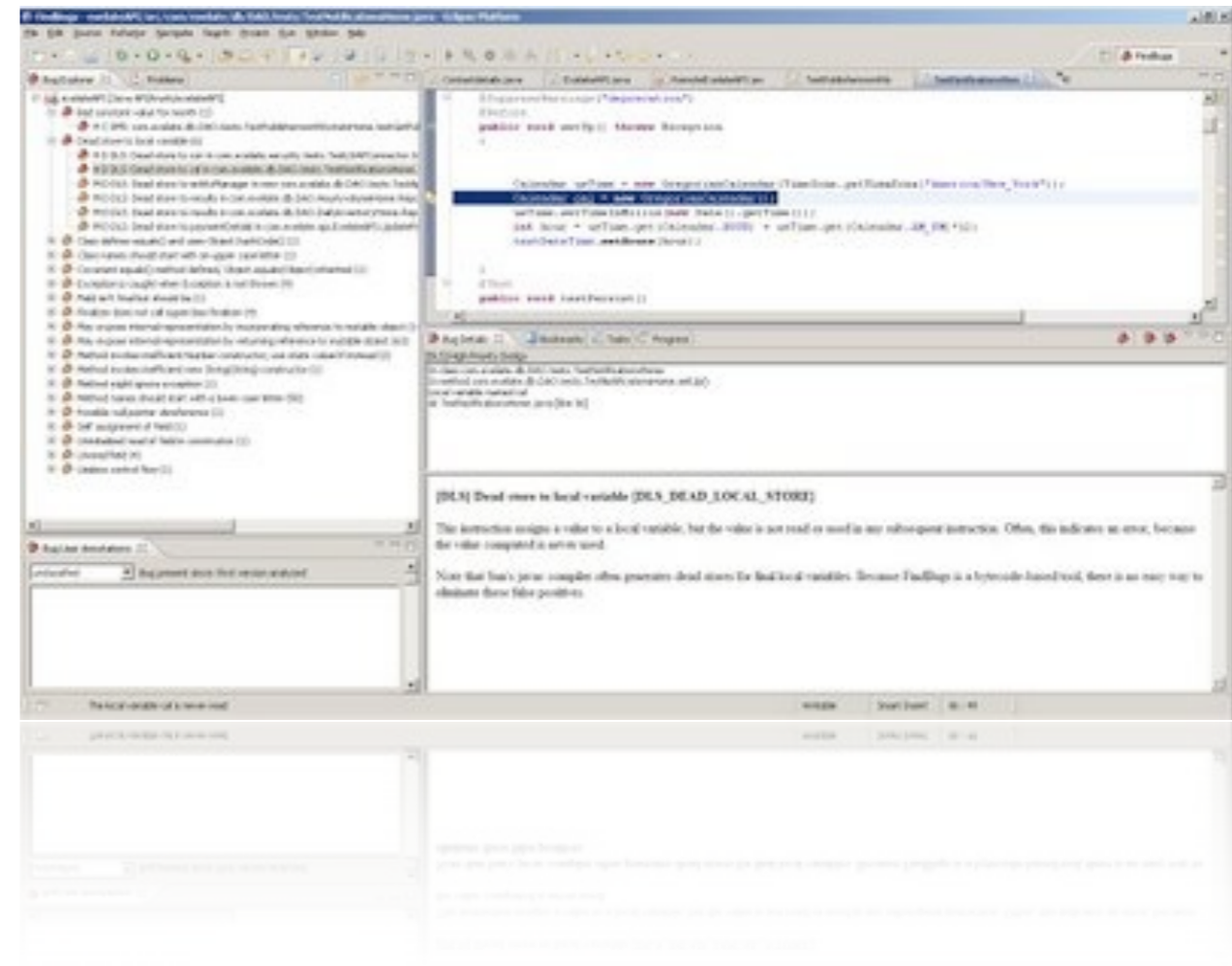


FindBugs

because it's easy

because it's easy

FindBugs



Examples

- ▶ A class should capture one and only one key abstraction.
- ▶ Classes should not contain more objects than a developer can fit in his or her short term memory. A favorite value for this number is six.

Goals of this Lecture

- ▶ Get familiar with Riel's design heuristics
- ▶ Learn how to **find** real **design violations** in real software with common software engineering tools
- ▶ **Improve** the object-oriented **design** of an existing system



Excercise / Homework

- (a) Short (written) discussion
- (b) Trade-Offs between heuristics
- (c) Come up with (automated) detection strategies
- (d) Find design violations in the wild...
- (e) ...and re-factor them!



👉 hand in your solutions until 21.03, giger@ifi.uzh.ch