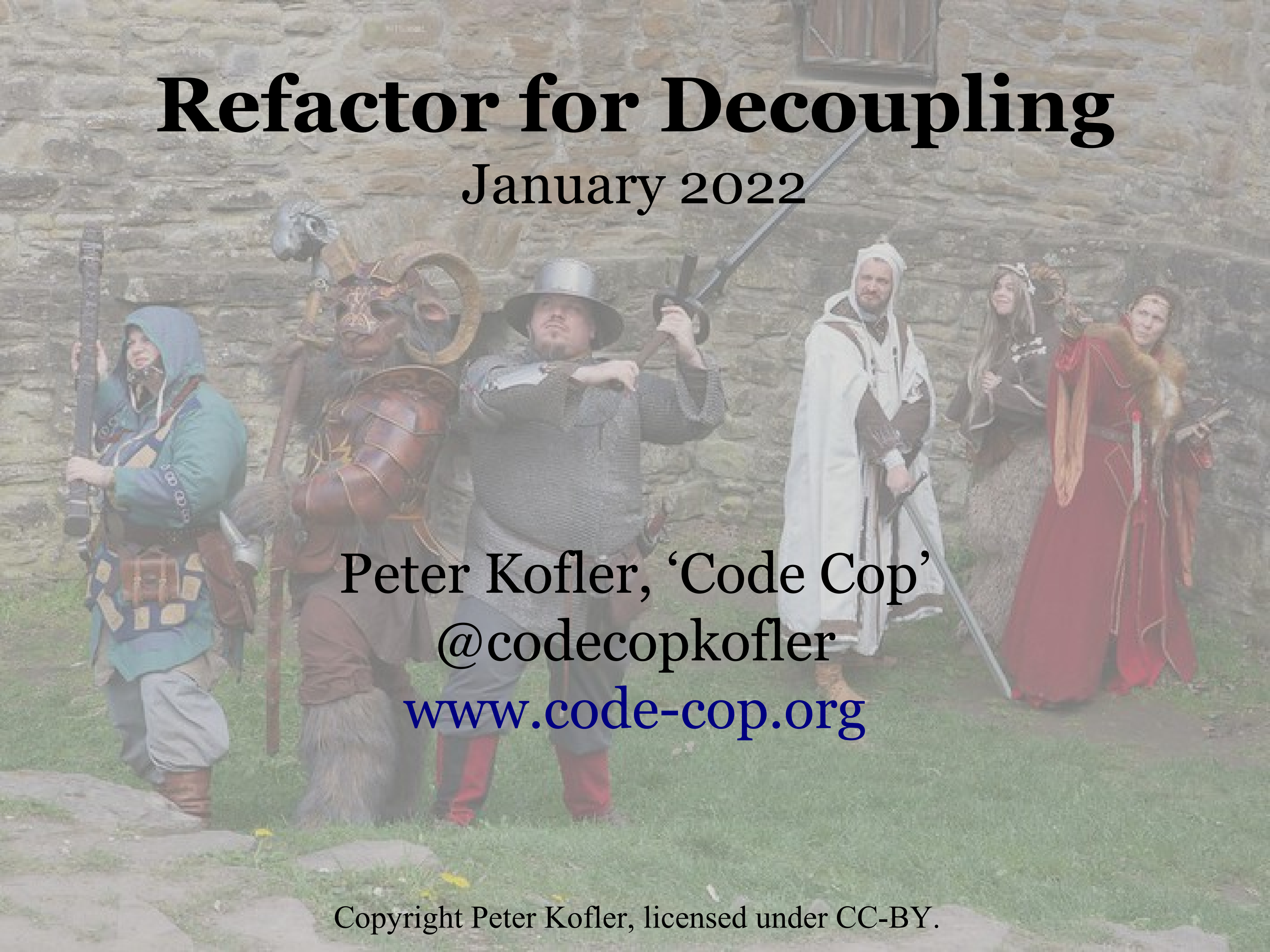

Refactor for Decoupling

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Peter Kofler

- Ph.D. (Appl. Math.)
- Professional Software Developer for 20+ years
- “fanatic about code quality”
- I help development teams

Rea Sutter

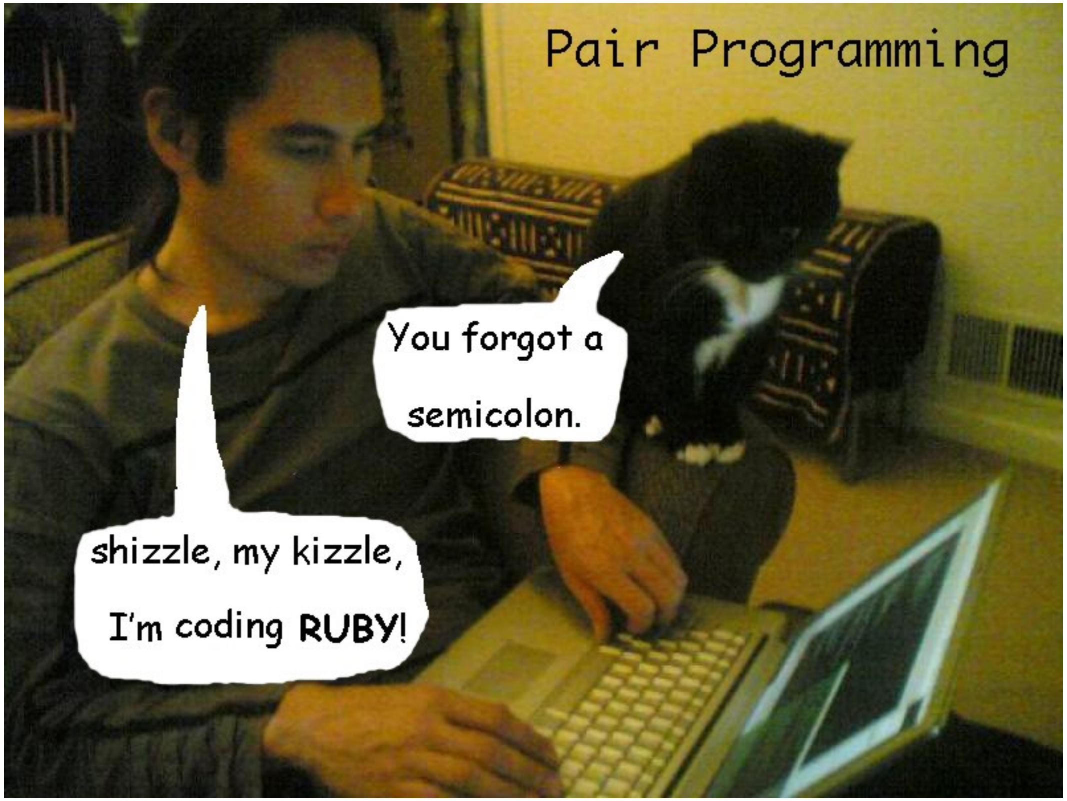
- Mag. Phil. (Linguistics) & BSc (Comp. Sci)
- Developer
- Educator for 10+ years

I help development teams with

- Professionalism
- Quality and Productivity
- Continuous Improvement

Mentoring

- Pair Programming
- Programming Workshops
- Deliberate Practice, e.g. Coding Dojos



Developing Quality Software Developers

What is Coupling?

- What is coupling and which types of coupling do we know?
- Is it a problem?

Goal: Loose Coupling

- “Minimize the number of classes with which another class collaborates.“
- “Minimize the number of messages sent between a class and its collaborator.“

- See Law of Demeter.
- See Interface Segregation Principle (ISP).

What is Cohesion?

- What is cohesion and which types of cohesion do we know?
- Is it a problem?

Goal: High Cohesion

- “Most of the methods defined on a class should be using most of the data members most of the time.“
- Related data and behaviour in one place.
- e.g. small classes with few fields.

The Couplers

List of Code Smells (Fowler)

The Bloaters
- Long Method
- Large Class
- Primitive Obsession
- Long Parameter List
- DataClumps

The Object-Orientation Abusers
- Switch Statements
- Temporary Field
- Refused Bequest
- Alternative Classes with Different Interfaces

The Change Preventers
- Divergent Change
- Shotgun Surgery
- Parallel Inheritance Hierarchies

The Dispensables
- Lazy class
- Data class
- Duplicate Code
- Dead Code
- Speculative Generality

The Couplers
- **Feature Envy**
- **Inappropriate Intimacy**
- **Message Chains**
- **Middle Man**

Hands-on Exercise

Coding Dojo Mindset

- Safe place outside work
- We are here to learn
- Need to slow down
- Focus on doing it right
- Collaborative Game

Assignment: Fantasy Battle

Fantasy Battle Refactoring Kata

- Players in the game will fight monsters using the equipment they are wearing.

- Create tests for the class Player.
- What is wrong with Player?
- Refactor the 'calculateDamage' method.
- Look through the TODOs in the code (if we have time).

Don't Focus on Getting it Done. Focus on Doing It Perfectly.

Closing Circle

- Name one thing you learned today?
- Name one thing that surprised you today?
- Name one thing you will do differently in the future?

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