

# **Coding Dojo Vienna: Functional Calisthenics**

Session 20160120

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# Peter Kofler

- Ph.D. (Appl. Math.)
- Professional Software Developer for 15 years
- “fanatic about code quality”
- Freelance Code Mentor



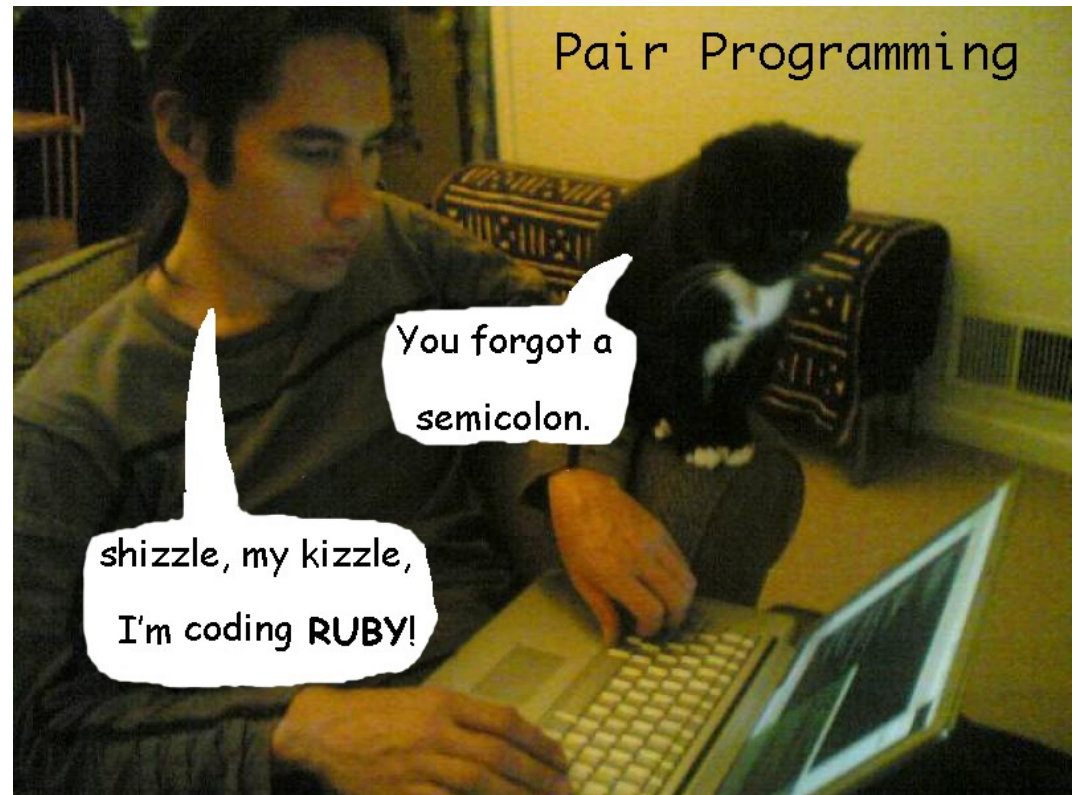
# I help development teams with

- Professionalism
- Quality and Productivity
- Continuous Improvement



# Mentoring

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



# Developing Quality Software Developers

# Coding Dojo Mindset

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



# Constraints

- Challenges during a dojo or coderetreat
- Moving to the extreme is a way of learning
- Examples
  - Missing Tool (No Mouse, ...)
  - Missing Feature (No IFs, ...)

# “Calisthenics” Constraint



# Functional Calisthenics

- Side effects only at the top level (outside domain)
- No mutable state
- Expressions not statements (and use return value)
- Functions should have one argument
- No explicit recursion
- Maximum type-level abstraction (generic argument types)
- Always use/allow infinite sequences
- No "if"
- Name everything (types for primitives, tuples, lambdas)
- Use intermediates (no chaining of function calls)
- Don't abbreviate (e.g. full verbs and nouns in names)

# Assignment



# Social Network Kata

- Implement a social networking application like Twitter.
- Use the console for input and output.
- Users submit commands to the application.
- Commands always start with the user's name.
  - **posting:** `<user name> -> <message>`
  - **reading:** `<user name>`
  - **following:** `<user name> follows <another user>`
  - **wall:** `<user name> wall`
- Ignore all user errors and exceptions.
- Assume all users will use the same terminal.

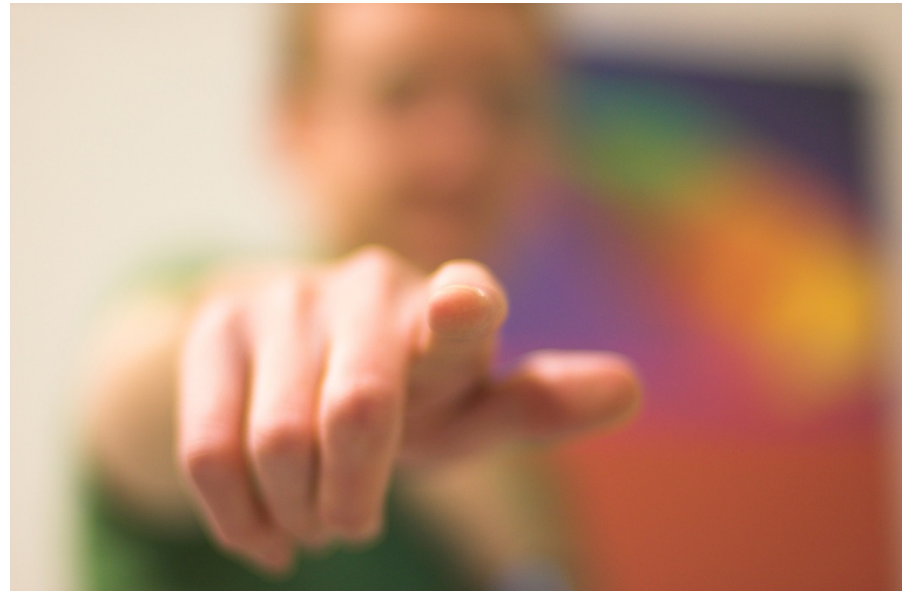
# Prepare

- Find a pair.
- Agree on a (functional) prog. language.
- Set up the environment.
  - Create new project.
  - Add a testing framework.
- Implement the Social Network.
- Obey the rules!

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

# Closing Circle

- What did you learn today?
- What surprised you today?
- What will you do differently in the future?





# Peter Kofler



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