

Coding Dojo Challenge XP2013

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The Coding Dojo

- The dojo is the place where you go every week to practice and learn karate



Practical Coding Skills

- using IDE keyboard shortcuts
- Pair Programming
- Test Driven Development
- Refactoring
- Designing good Test Cases
- Working incrementally, committing code often
- Designing using SOLID principles
- Object Oriented Paradigm
- Functional Programming



Learn on-the-job



Attribution: flickr user Lisamarie Babik

Pair Program & Get Stuff Done

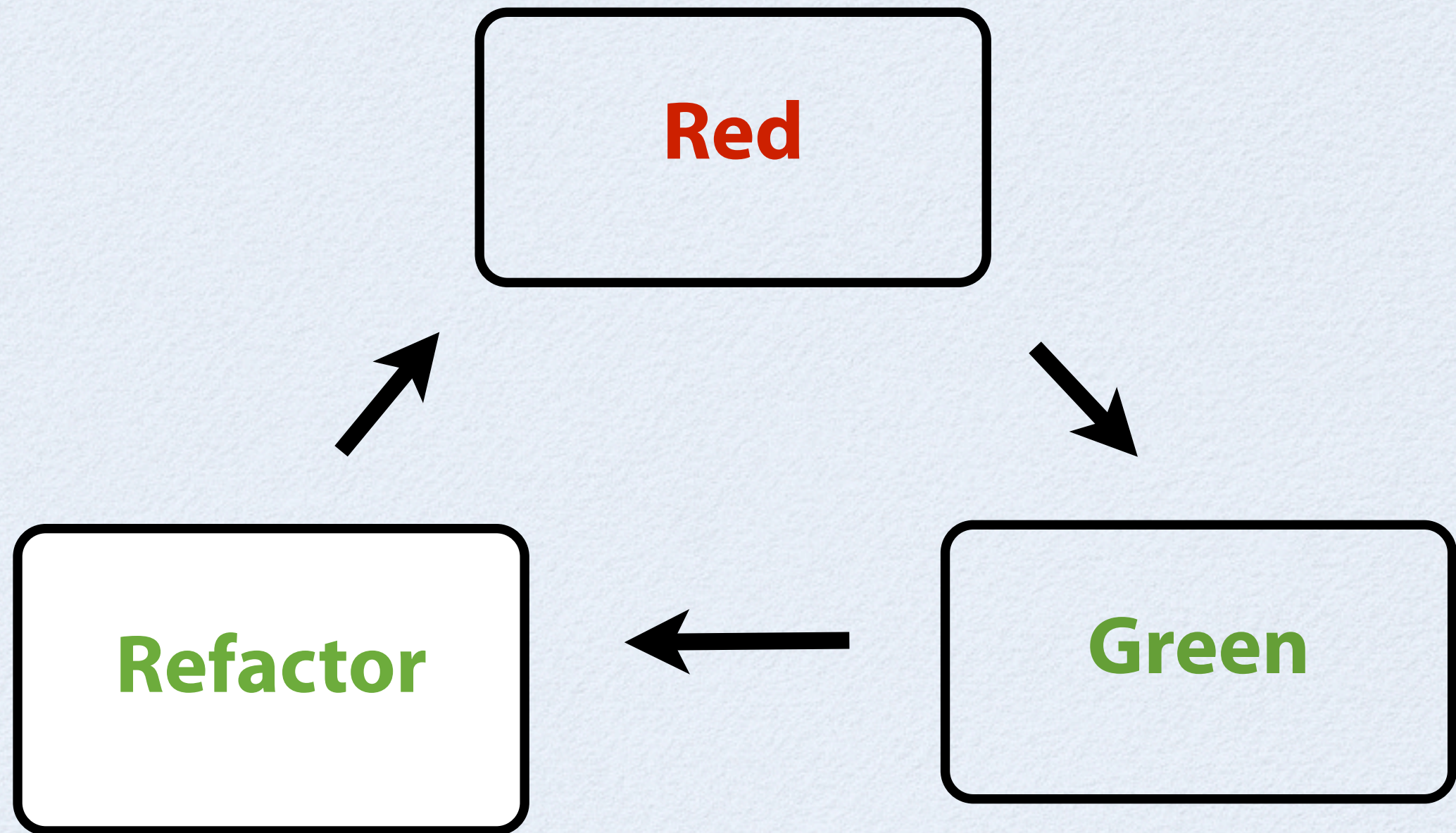
Learning to Ski



flickr user fiction300

Snowplow vs Parallel Turns

Test Driven Development



Incidental vs Deliberate

Incidental Practice:

Repeatedly doing something you can already do

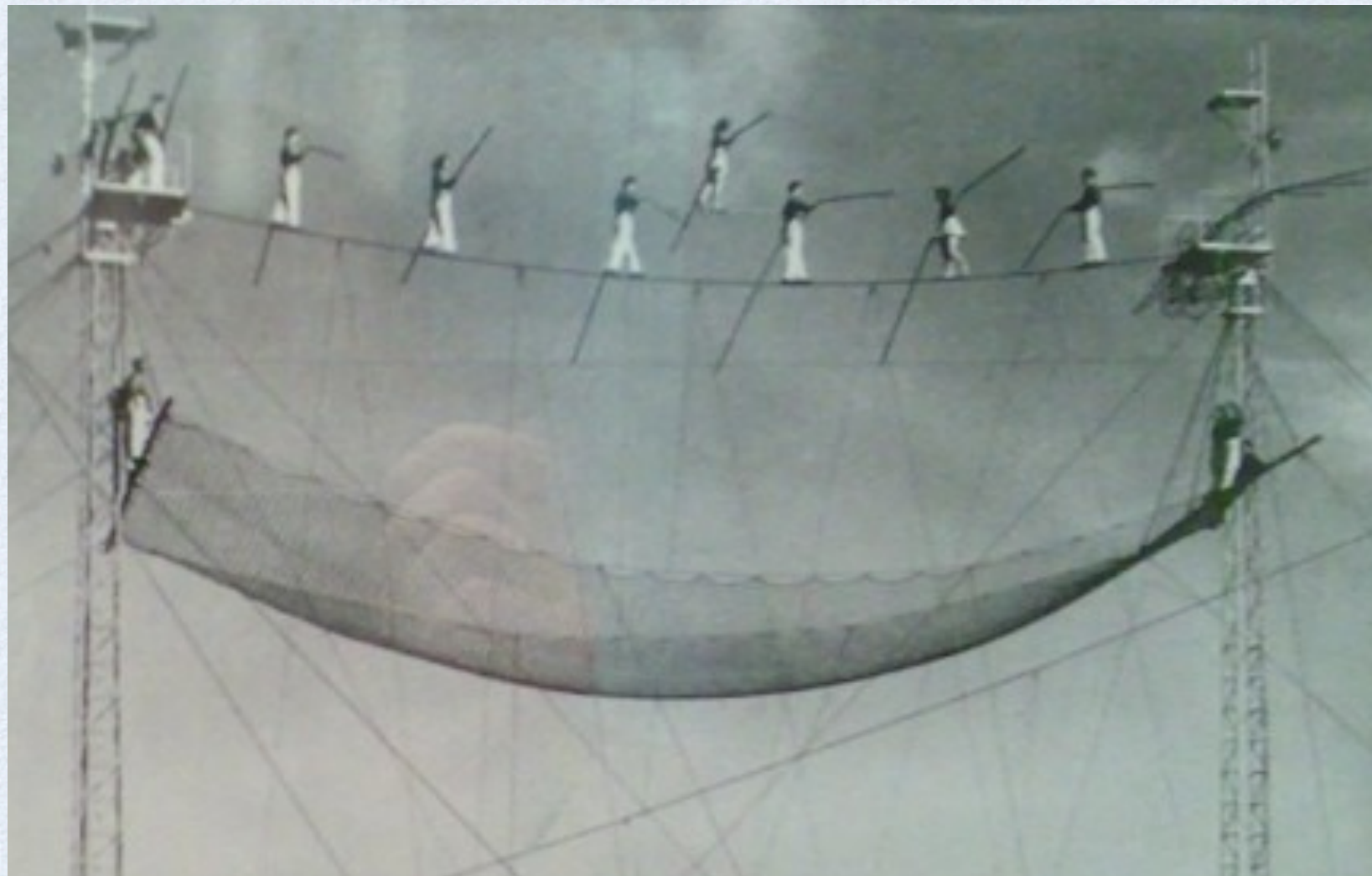
Deliberate Practice:

Trying to do something you can't comfortably do

Breaking down a skill into components you practice separately

Deliberate Practice

- Need to feel safe
- Need to feel motivated



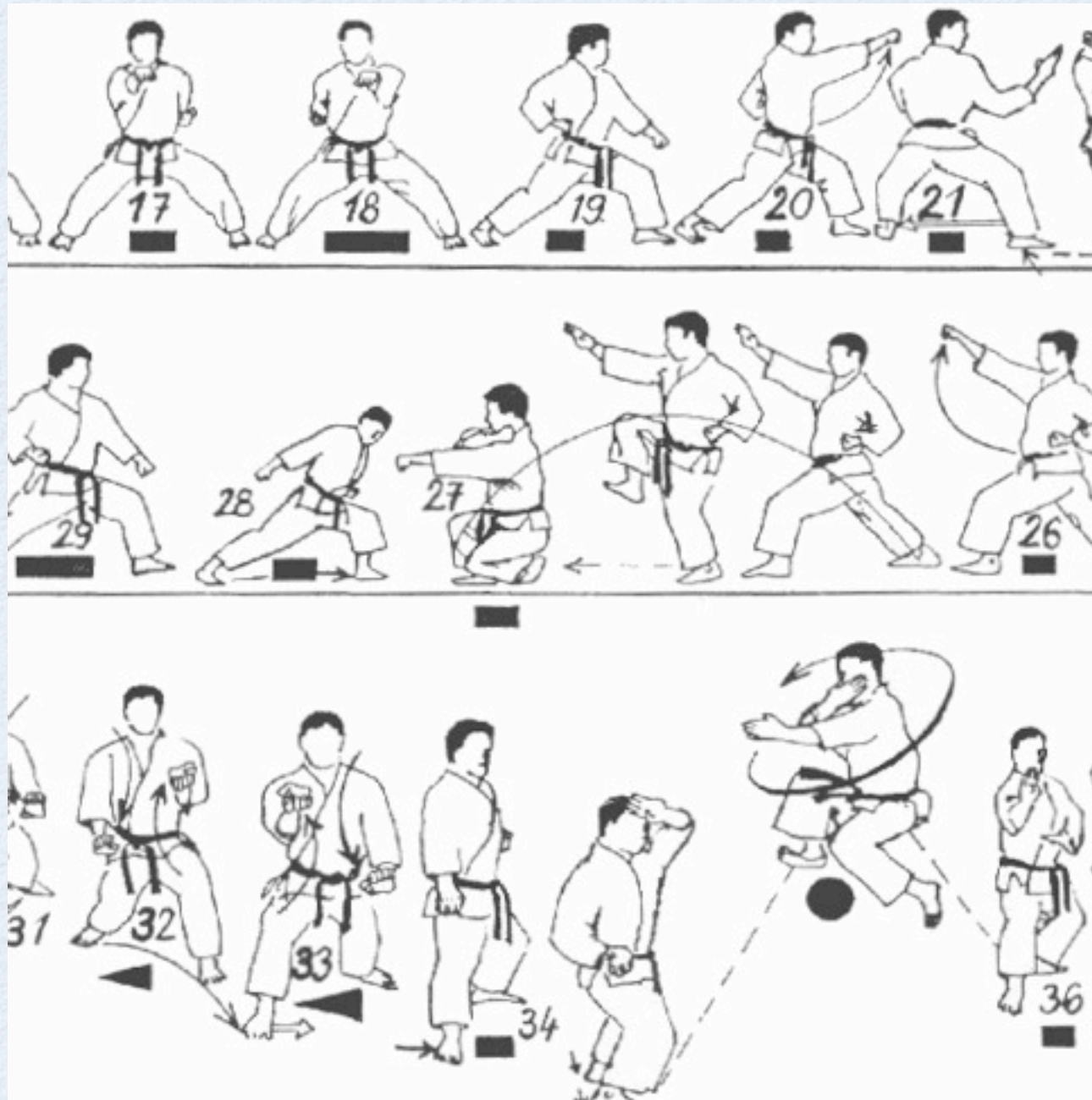
Training

“Under pressure, you don’t rise to the occasion, you **sink to the level of your training.**

That’s why we train so hard”

*-- A US Navy Seal
(according to twitter)*

Code Kata: TDD moves



‘Pragmatic’ Dave Thomas

Coding Dojo Summary

- Better coding skills
- Deliberate Practice
- A safe environment
- Discuss actual code
- have fun!



THE CODING DOJO HANDBOOK

Available from:
<http://leanpub.com>

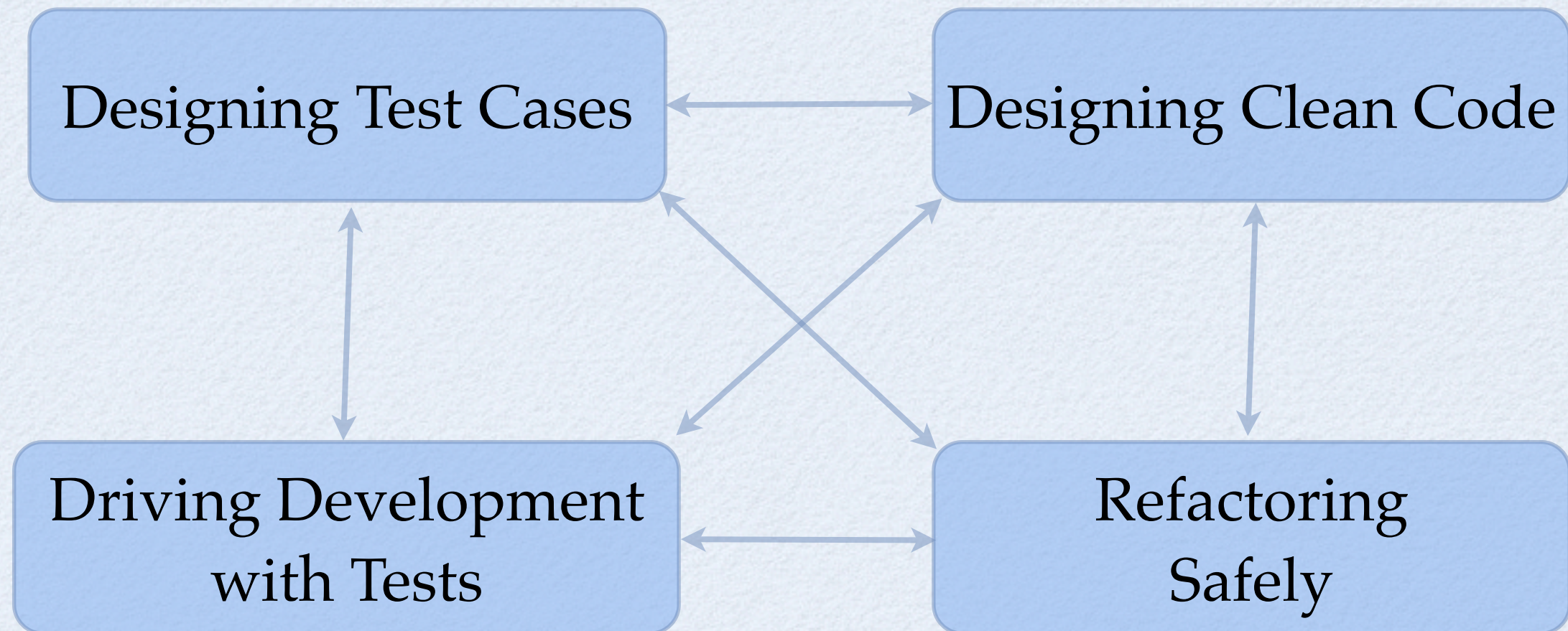
*a practical guide to
creating a space
where **good** programmers
can become **great** programmers*



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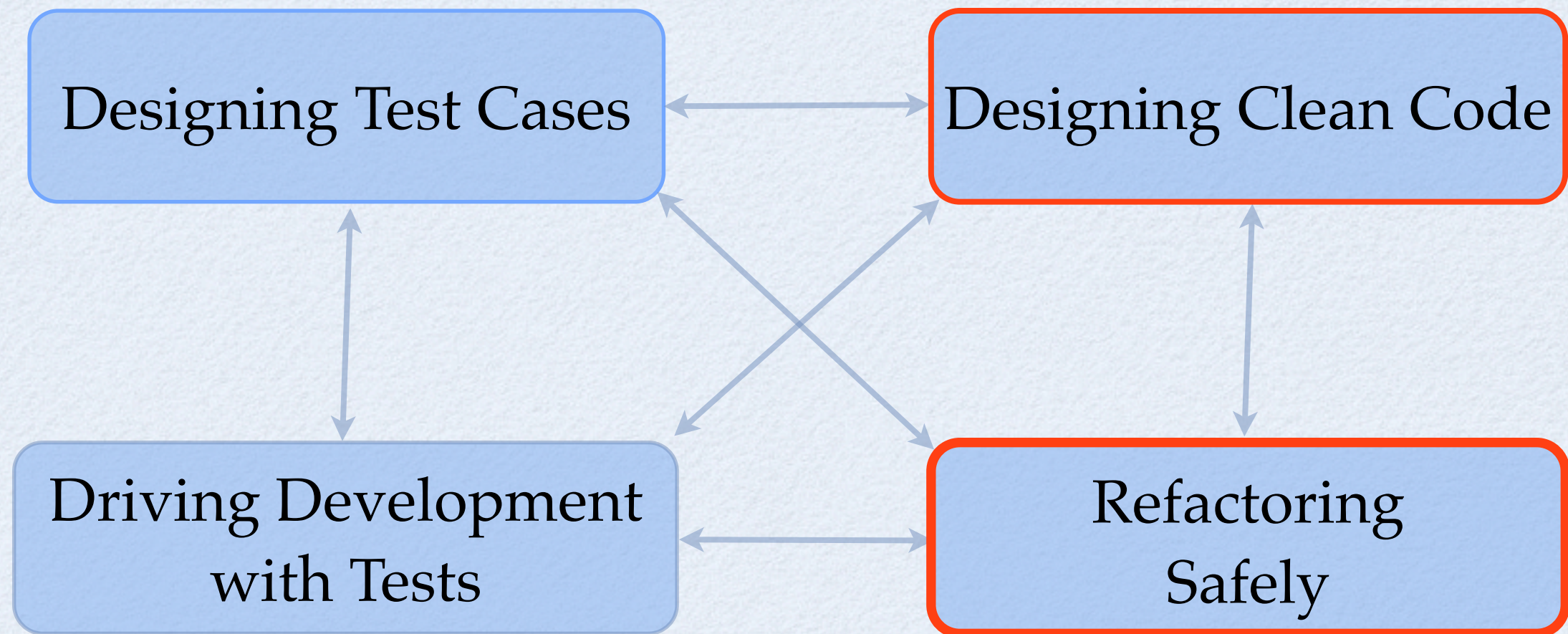
Foreword by Robert C. Martin

TDD skills



In the dojo we can focus on one at a time

Tennis Kata



Tennis

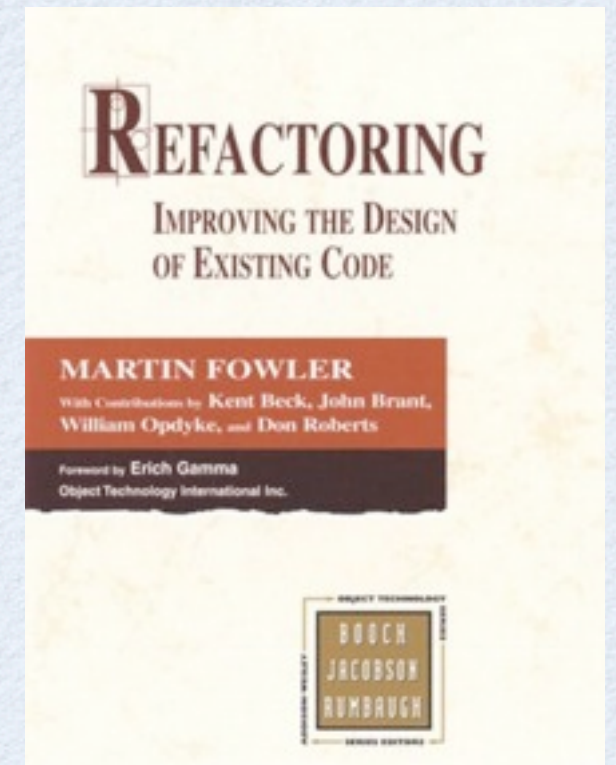
- Your colleague wrote this code for the Tennis Society.
- “Tidy it up and give him feedback” says your boss



Refactoring

Refactoring (noun): a change made to the internal structure of software to make it easier to understand and cheaper to modify without changing its observable behaviour.

(Martin Fowler, Refactoring p53)



Extract Method

The screenshot shows a code editor with a Java snippet. A context menu is open over the code, with the 'Refactor' option selected. A sub-menu is then displayed, showing 'Extract Method...' as the chosen action. The code in the background includes variable declarations for `byteStream`, `zipOut`, and `tempOut`, followed by a comment and a `write` call.

```
51 ByteArrayOutputStream byteStream = new ByteArrayOutputStream()
52 GZIPOutputStream zipOut = new GZIPOutputStream(byteStream)
53 OutputStreamWriter tempOut = new OutputStreamWriter(zipOut)
54
55 // Compress original output and put it into byte array.
56 tempOut.write(new String(responseChars));
57 tempOut.write("/<!-- Compressed -->");
58
59 // Gzip stream is explicitly closed.
60 tempOut.close();
61
62 // Update response with header.
63 res.setHeader("Content-Length", String.valueOf(byteStream.size()));
64
65 // Send response to client.
66 tempOut.getOutputStream().write(responseChars);
67 tempOut.flush();
68
69 // System.out.println("Response size: " + byteStream.size());
70 }
71 }
72
```

Tasks (1 item)

| C | ! | Description |
|---|---|--|
| | | The import millhouse.keytopic.tools.codeparser.KCode |

Tasks Ant Search

Extract Method

- ❑ Create a new method, name by intention
- ❑ Copy extracted code from source method to new target method
- ❑ Scan for local variables.
- ❑ Temporary variables local to method?
- ❑ Local-scope variables modified? Return changes back to parent method.
- ❑ Pass local-scope variables as parameters.
- ❑ Compile.
- ❑ Replace extracted code in source method with call to target method.
- ❑ Compile and test.

Take small steps

- Stay close to green
- Follow refactoring steps
- One small change at a time
- Don't rewrite it from scratch



flickr user San Diego Shooter

Lean on the Tests



flickr user ell brown

- For this kata - the tests are pretty comprehensive
- Run tests often!

Cyberdojos

<http://cyber-dojo.com>

- Python - 328D36
- Ruby - 9800B7
- Java - 21BC8B
- C++ - C05A79
- C# - 5F612E

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