Code as a Crime Scene

Uncovering complexity in large-scale software projects

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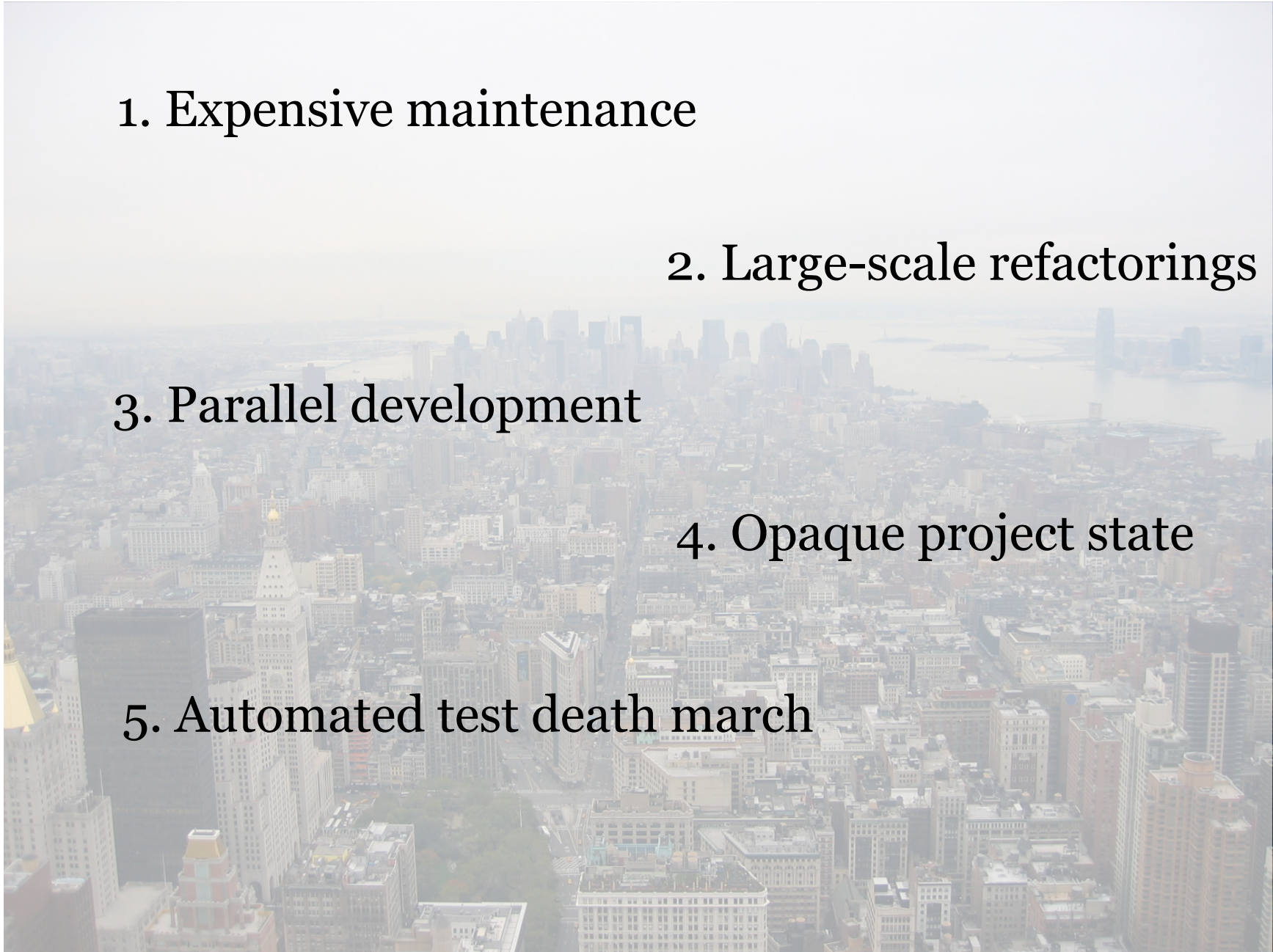**diversify**

Five Symptoms of Complexity
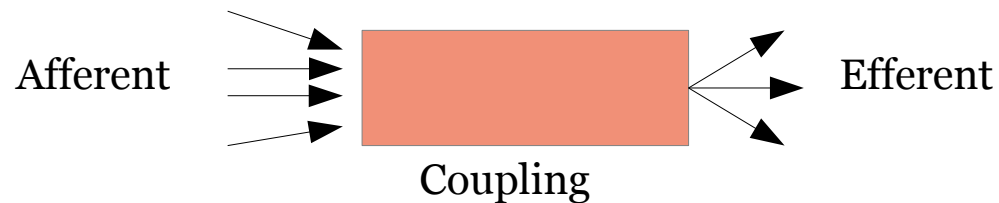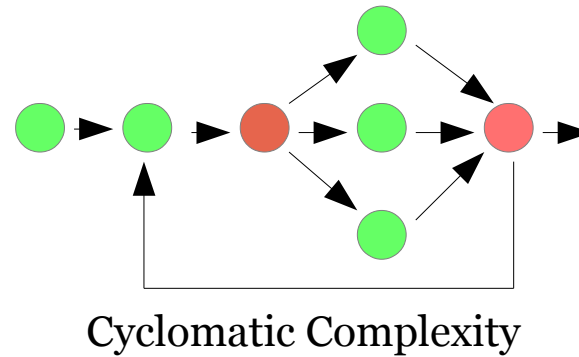
1. Expensive maintenance

2. Large-scale refactorings

3. Parallel development

4. Opaque project state

5. Automated test death march
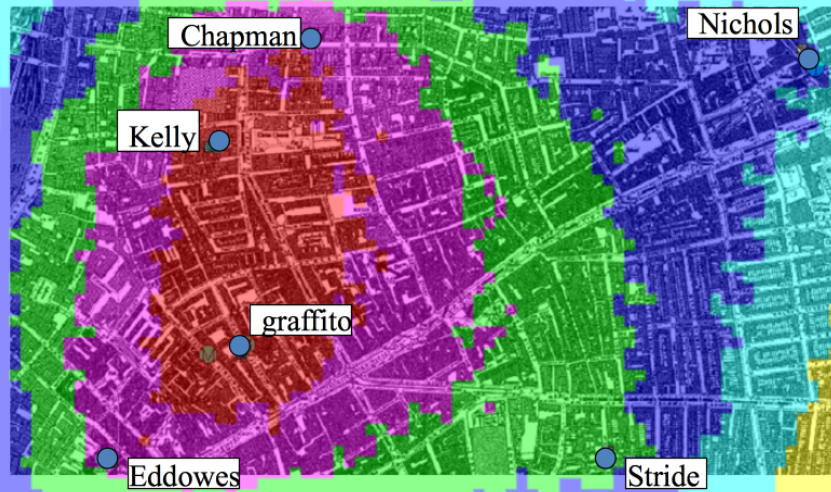
Complexity Measures to the Rescue?

Cyclomatic Complexity

Afferent → [ ] → Efferent

Coupling

"Syntactic complexity metrics cannot capture the whole picture of software complexity" (Herraiz & Hassan)

"The use of metrics to manage software projects has not even reached a state of infancy" (Glass)
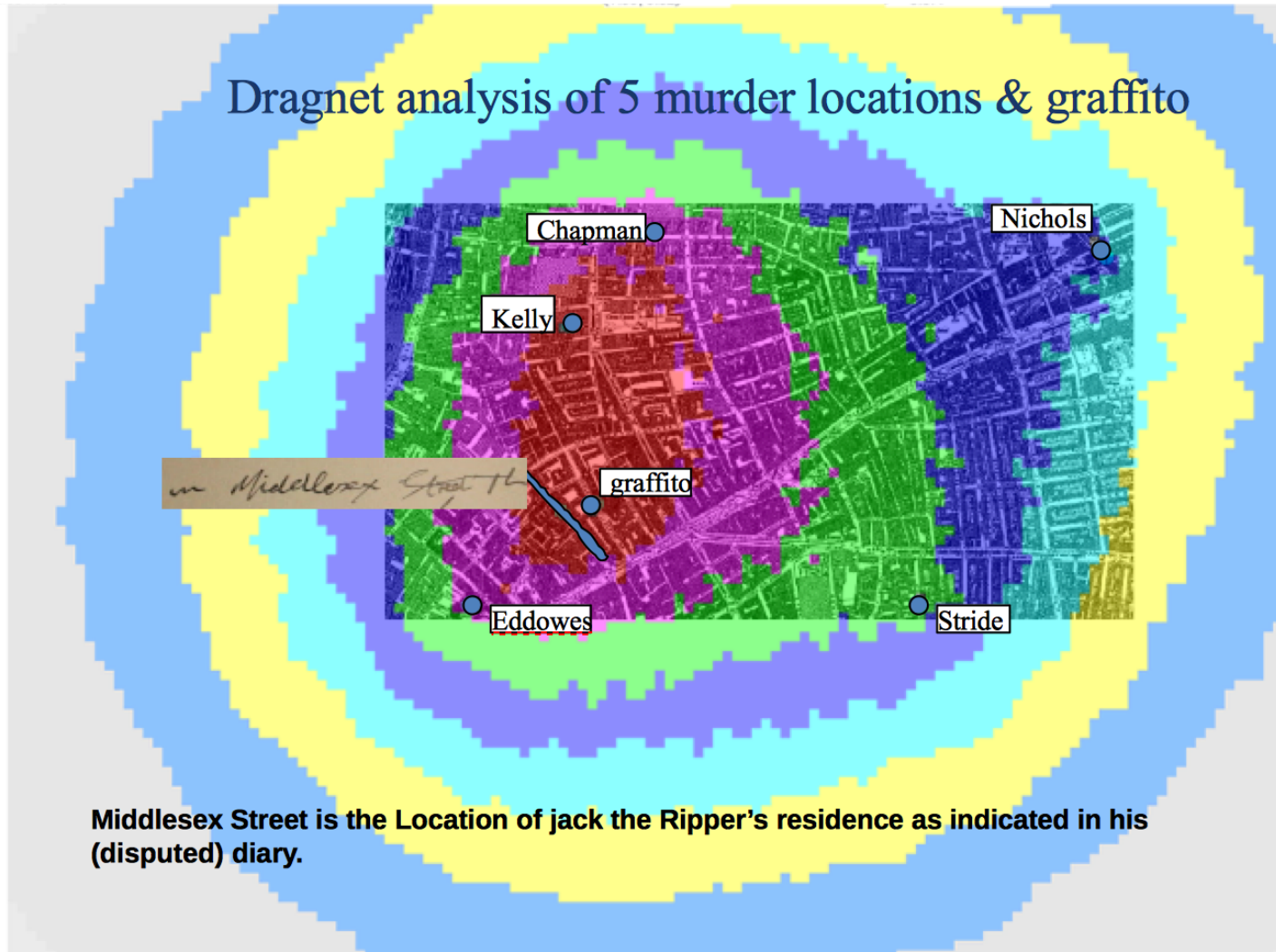
Profiling The Ripper

Dragnet analysis of 5 murder locations & graffito
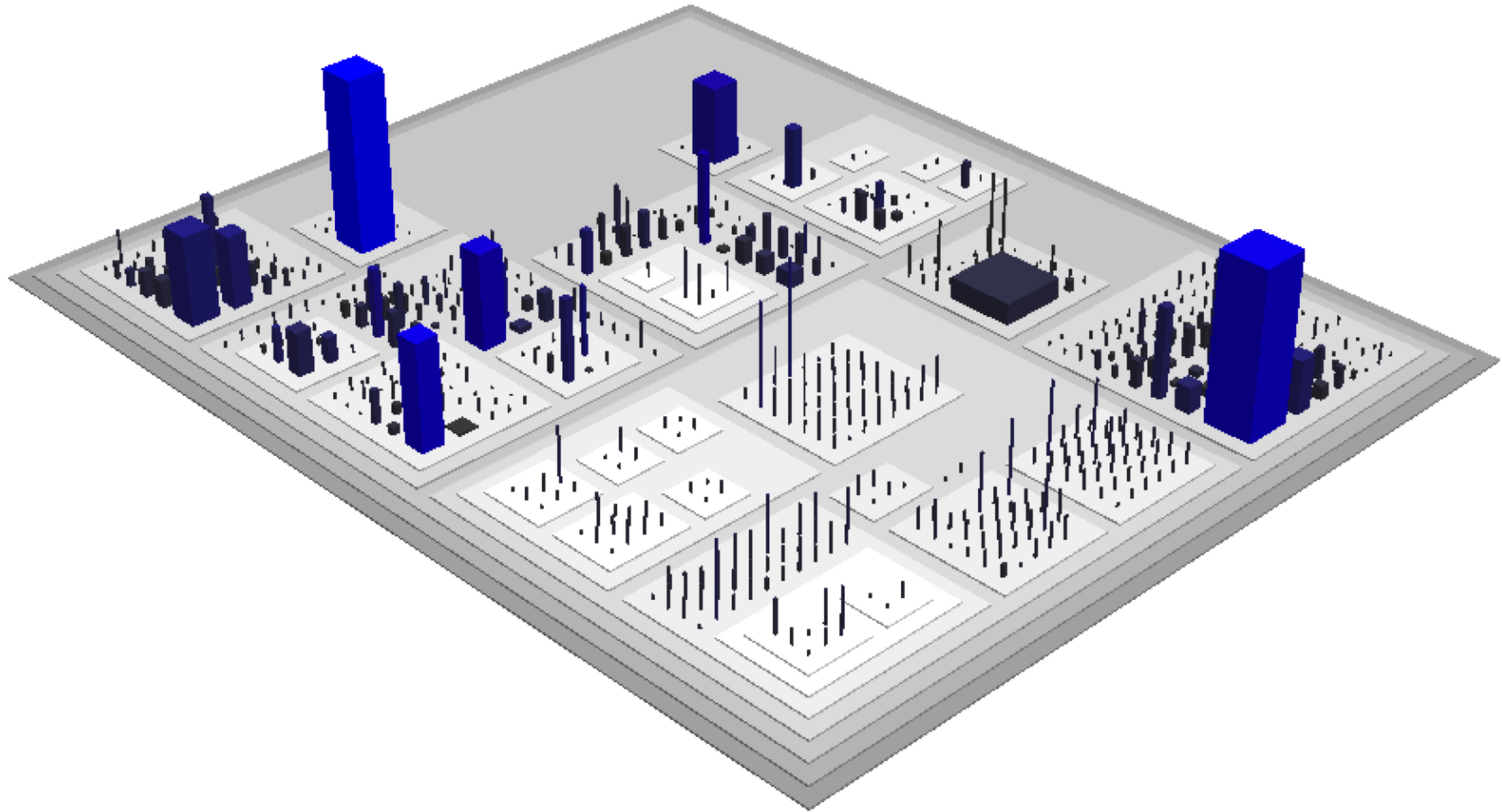
Chapman · Nichols · Kelly · graffito · Eddowes · Stride

The application of Dragnet software developed by David Canter to the main crimes attributed to Jack the Ripper. Further details from dvcanter@btinternet.com   www.davidcanter.com

James Maybrick – The Ripper?

Dragnet analysis of 5 murder locations & graffito

Middlesex Street is the Location of jack the Ripper's residence as indicated in his (disputed) diary.

Picture and permission provided by Professor David Canter, http://www.davidcanter.com

Welcome to Code City

Code City: http://www.inf.usi.ch/phd/wettel/codecity.html

A temporal dimension
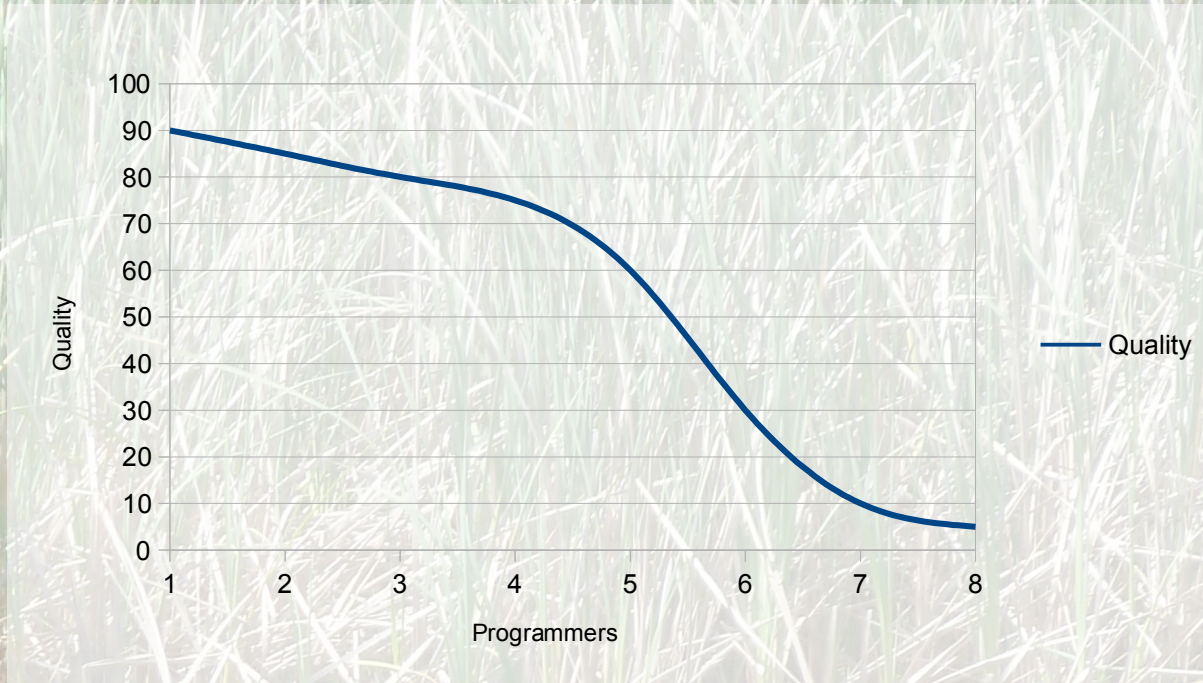

https://github.com/adamtornhill/MetricsTreeMap

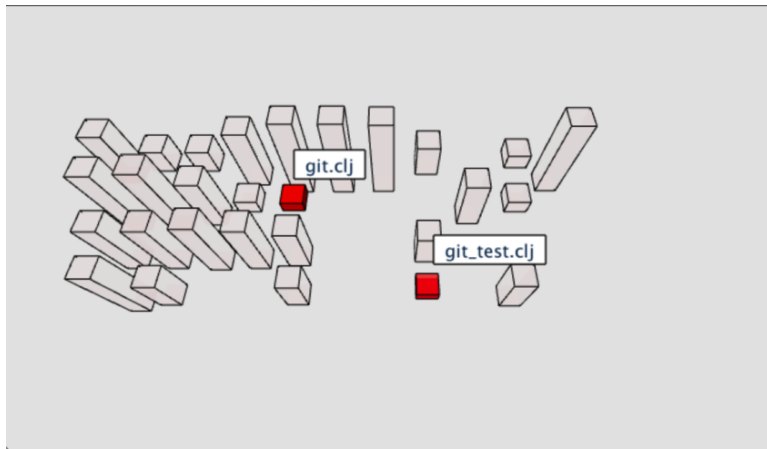# Geographic Profiling of Code
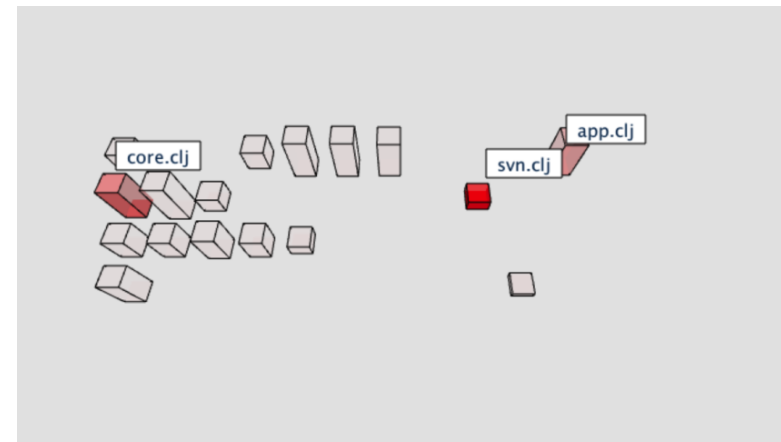
Parallel Work: Quality and Defects
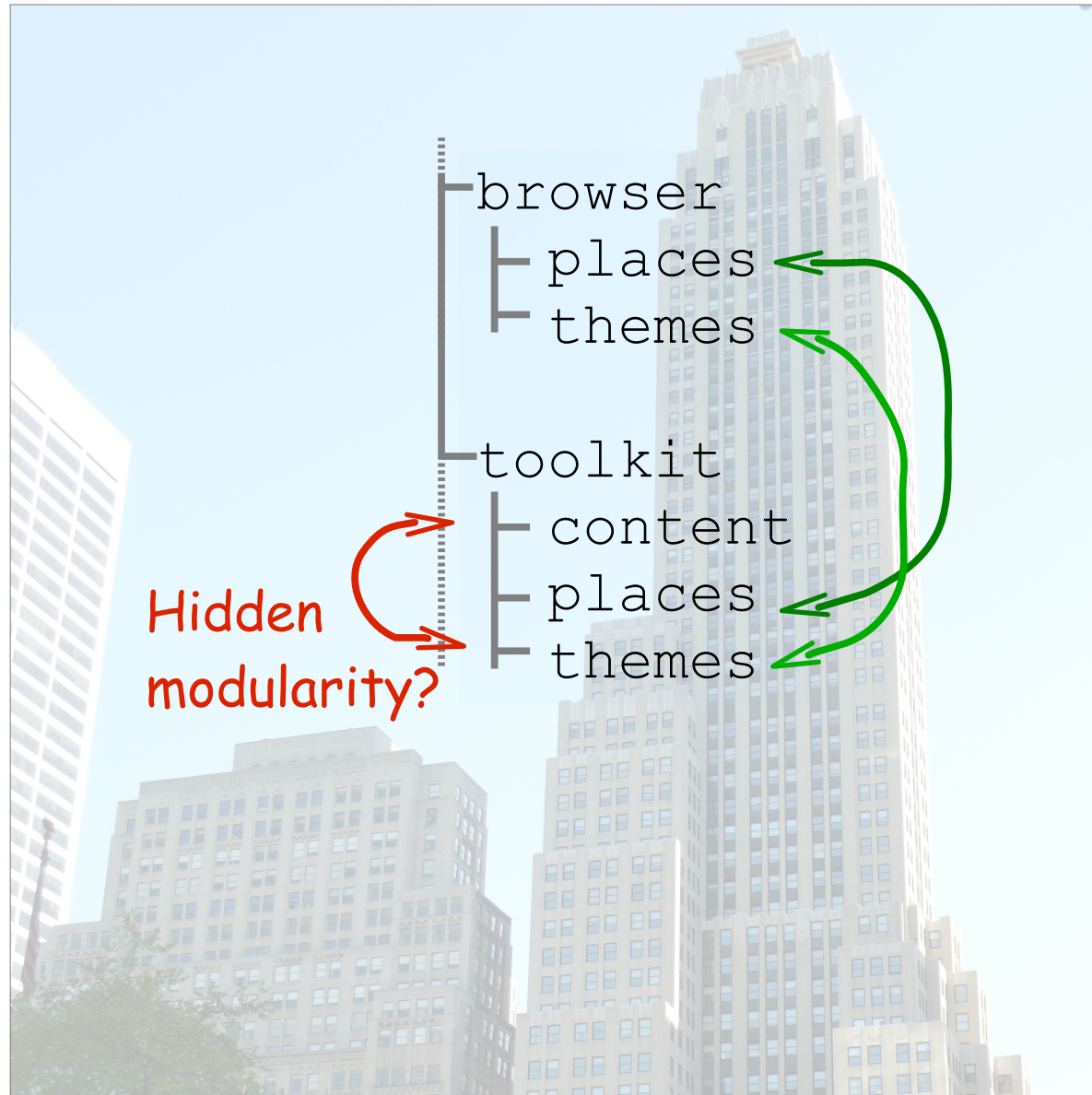
Code Life

Coupling by Interaction Patterns

Physical (intentional)

Logical (incidental)

Emergent Modularity
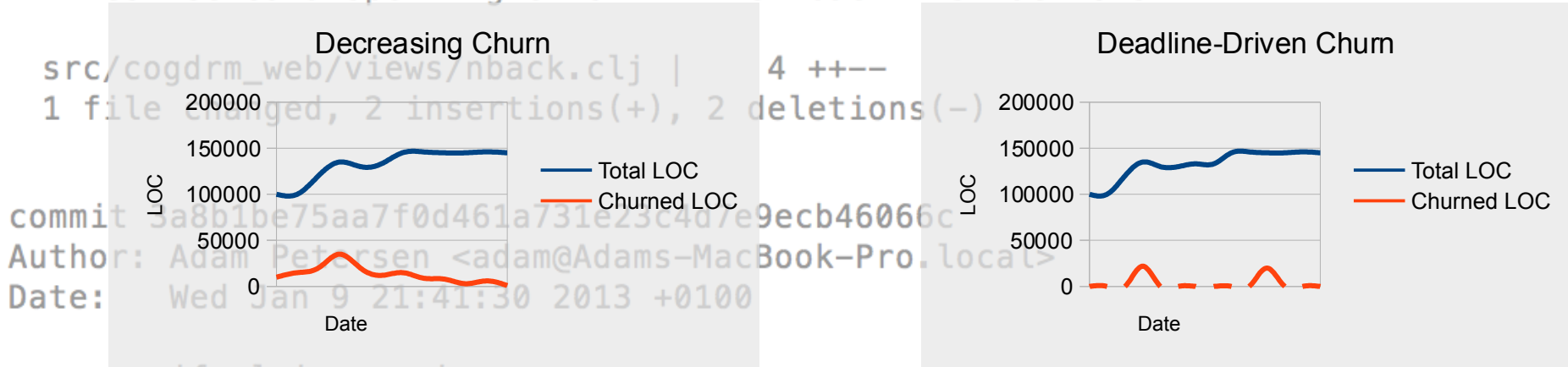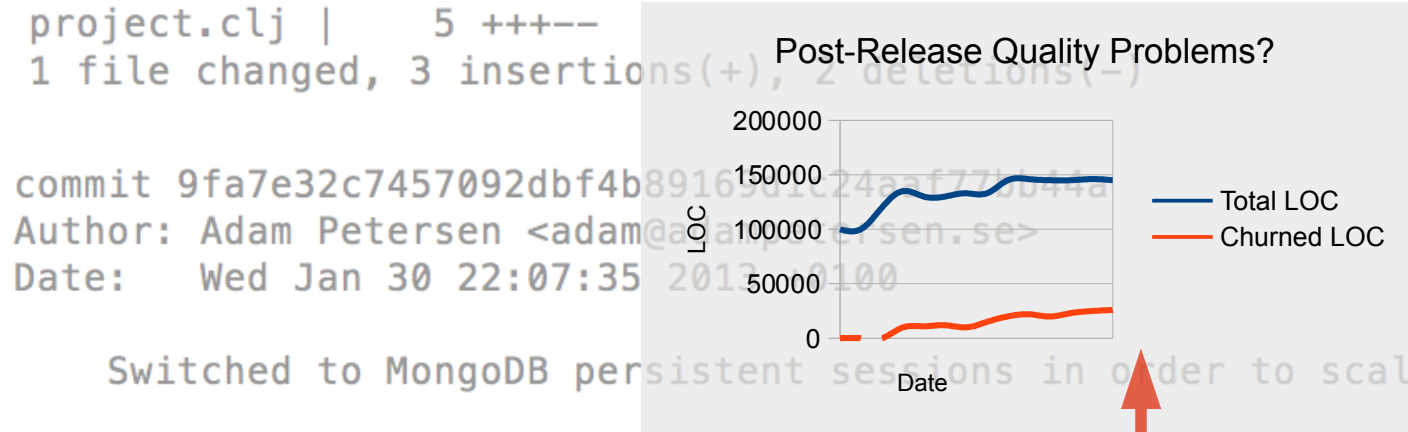
Feedback on Automated Tests

Code Churn – The DoneDone Link

Corrected a spelling error in the nback instructions

src/cogdrm_web/views/nback.clj | 4 ++--
1 file changed, 2 insertions(+), 2 deletions(-)

commit 5a8b1be75aa7f0d461a731e23c4d7e9ecb46066c
Author: Adam Petersen <adam@Adams-MacBook-Pro.local>
Date: Wed Jan 9 21:41:30 2013 +0100

    specify lein version

project.clj | 5 +++--
1 file changed, 3 insertions(+), 2 deletions(-)

commit 9fa7e32c7457092dbf4b89169d1c24aaf77bb44a
Author: Adam Petersen <adam@adampetersen.se>
Date: Wed Jan 30 22:07:35 2013 +0100

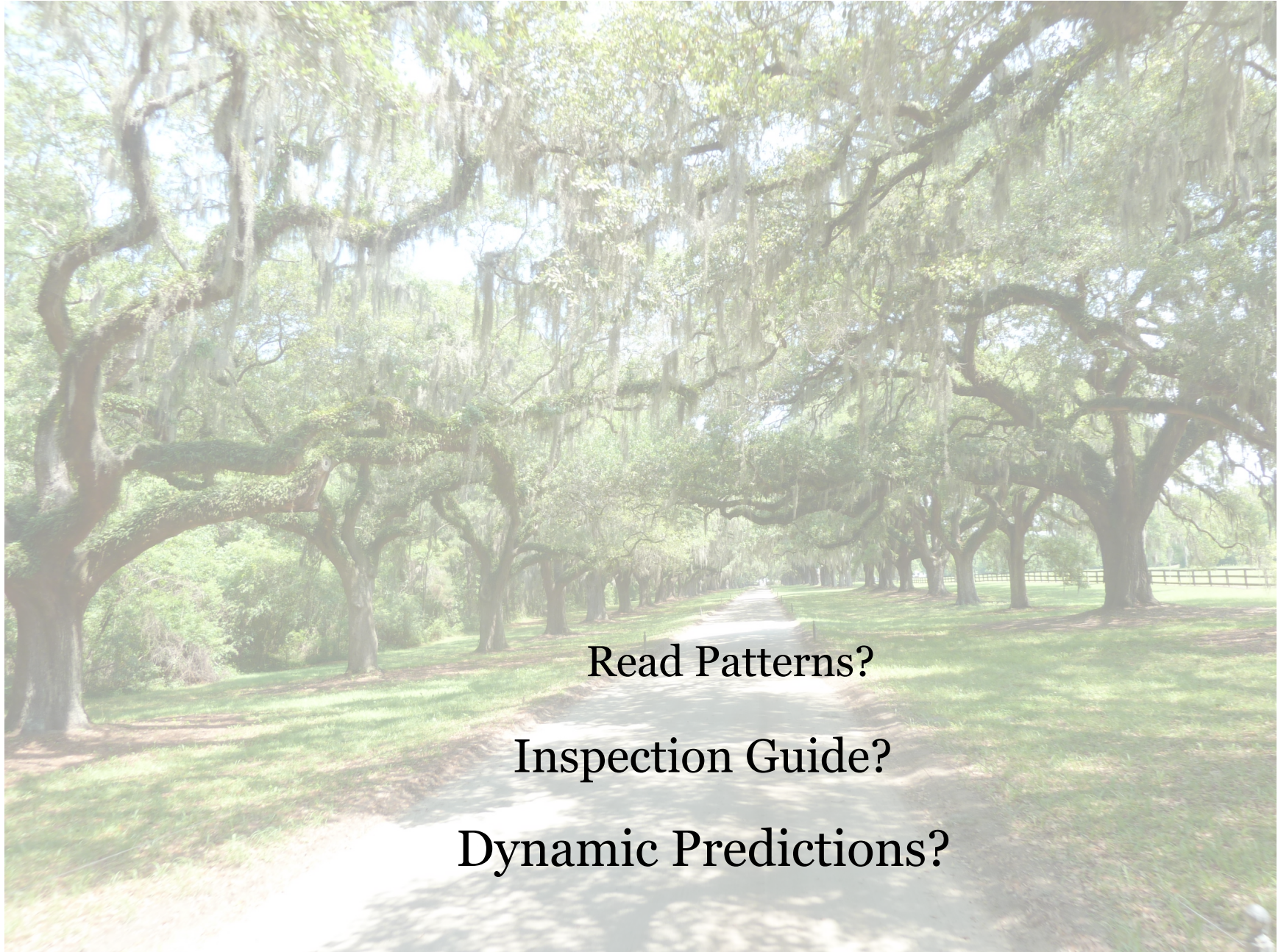   Switched to MongoDB persistent sessions in order to scale on several web dynos

src/cogdrm_web/models/experiment_session.clj | 94 ++++++++++++----------------
src/cogdrm_web/models/storage.clj | 24 ++++++++
src/cogdrm_web/server.clj | +-
test/cogdrm_web/models/storage_test.clj | 2 +-
4 files changed, 79 insertions(+), 54 deletions(-)

Modus Operandi

The Road Ahead
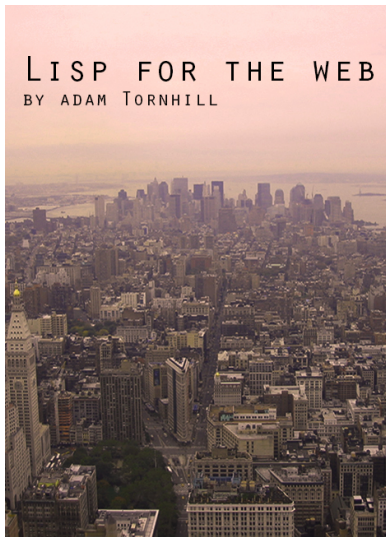
Read Patterns?

Inspection Guide?

Dynamic Predictions?

Thanks!

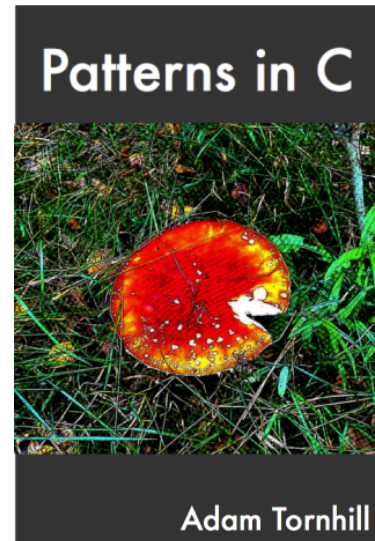The accompanying article: http://adamtornhill.com/articles/crimescene/codeascrimescene.htm

Code Maat: https://github.com/adamtornhill/code-maat

Code City: http://www.inf.usi.ch/phd/wettel/codecity.html

LISP FOR THE WEB
BY ADAM TORNHILL

Patterns in C

Adam Tornhill

https://leanpub.com/lispweb

https://leanpub.com/patternsinc

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diversify