

The background features a large, faint watermark of the Stanford University seal. The seal is circular and contains the text "LUDWIG STANFORD JUNIOR UNIVERSITY" around the top edge and "FREIHEIT WEHT" around the bottom edge. In the center of the seal is a tree, and the year "1891" is visible at the bottom. There are also several stars scattered within the seal's border.

HANDS OFF!

Best Practices for Code Handoffs

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ndushay

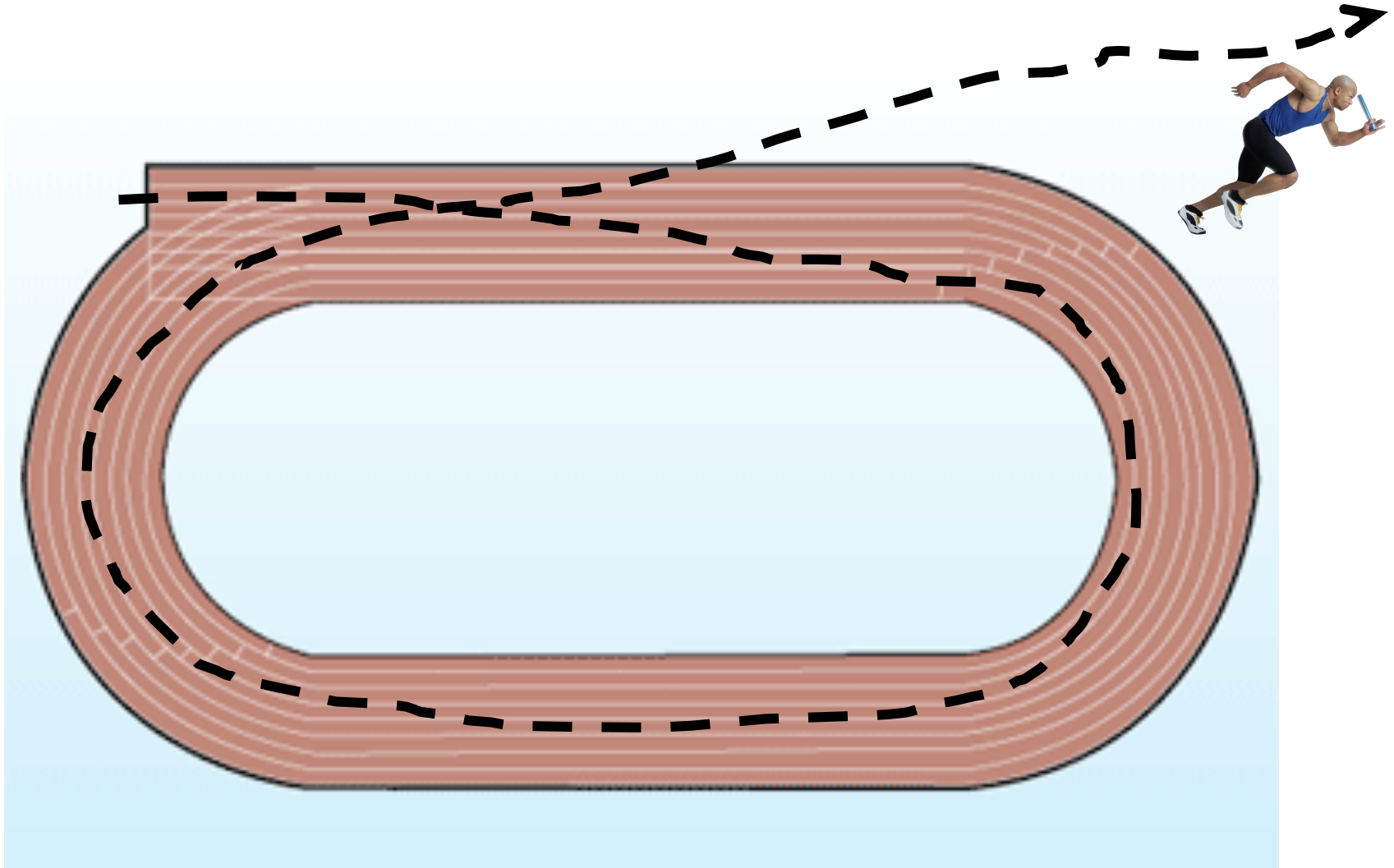
Stanford University Libraries

Code4Lib 2013

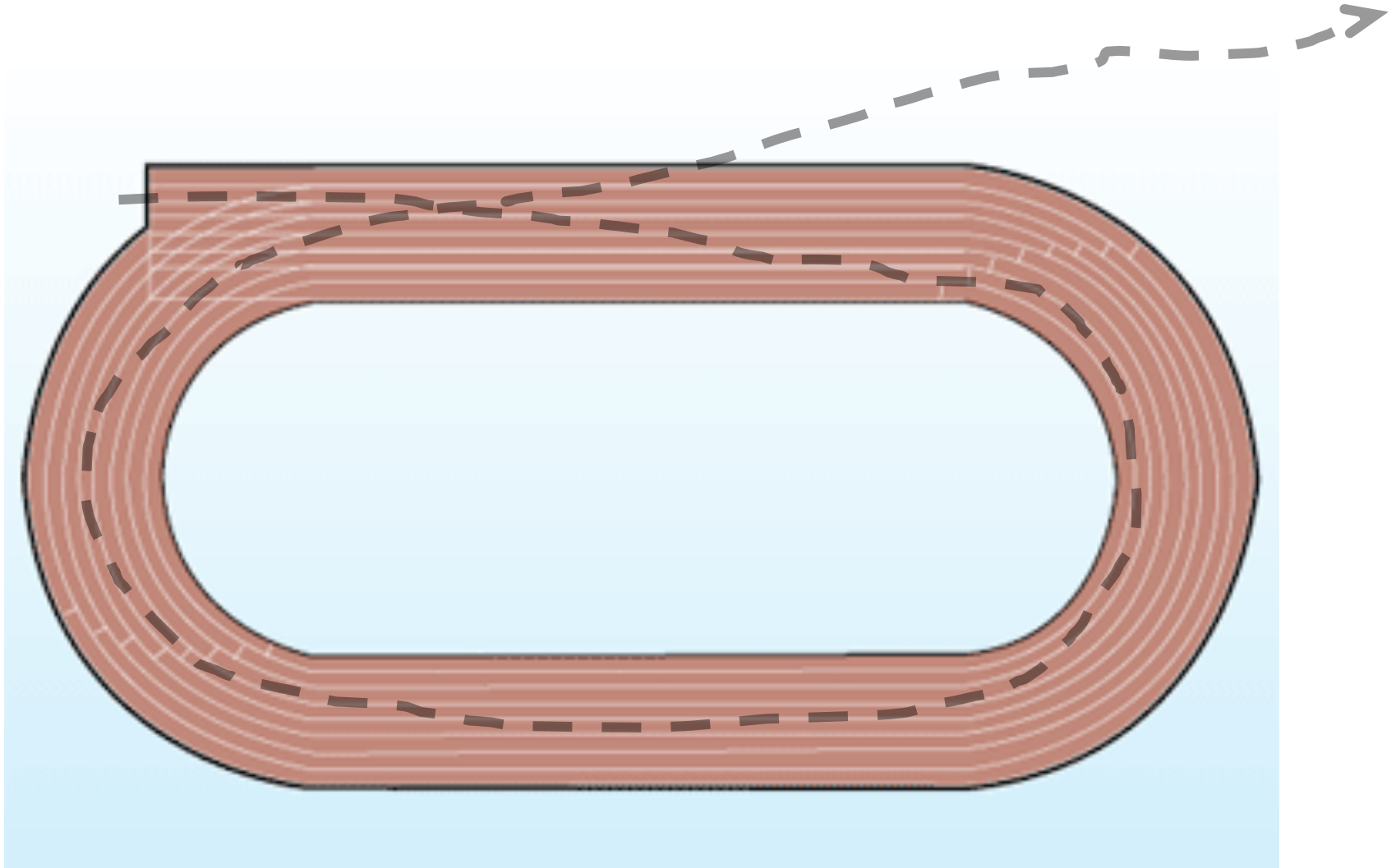
Code Handoffs Aren't Like This



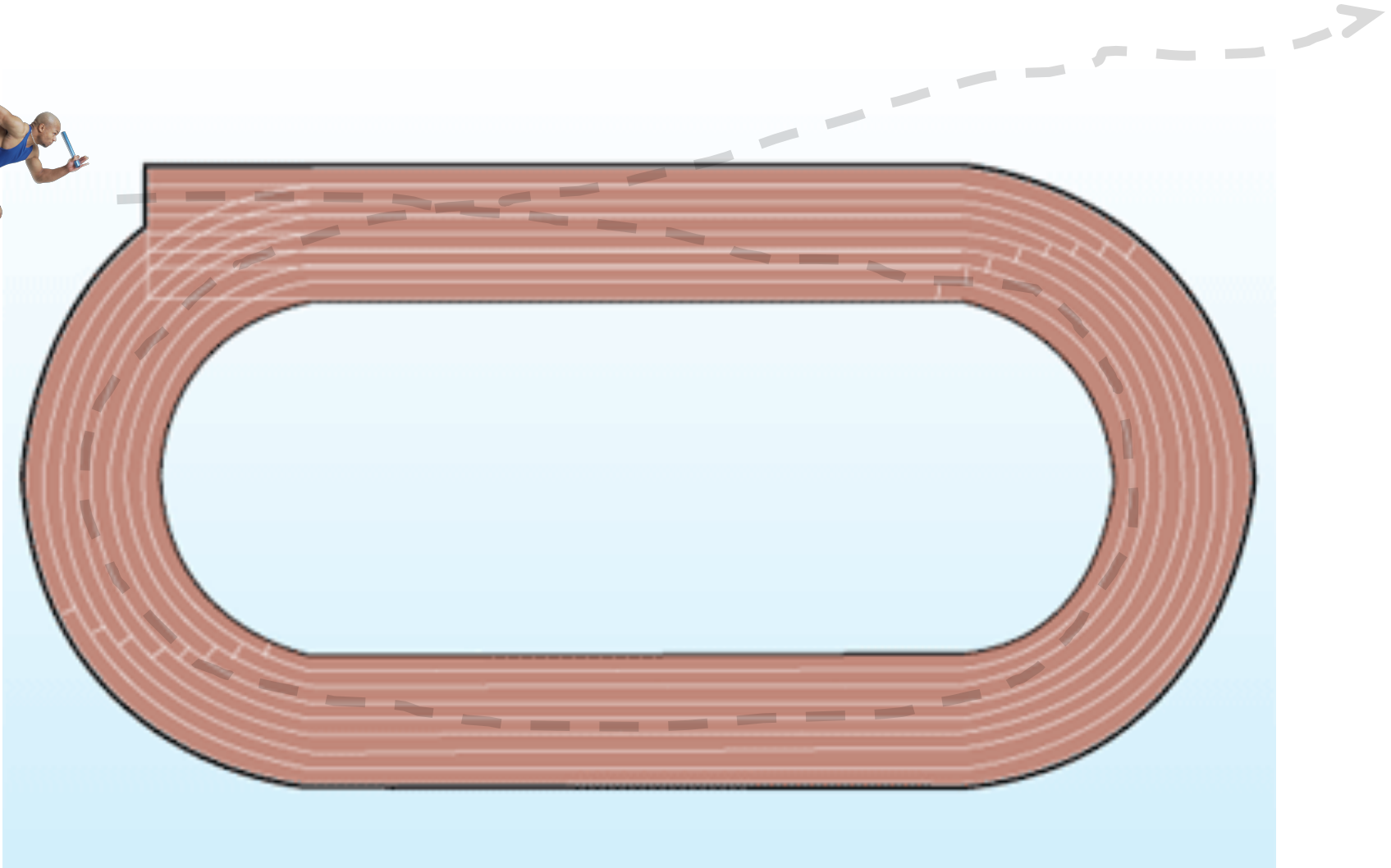
Code Handoffs



Code Handoffs



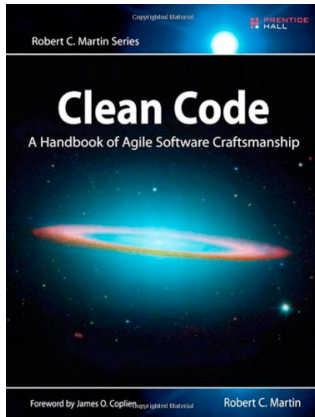
Code Handoffs



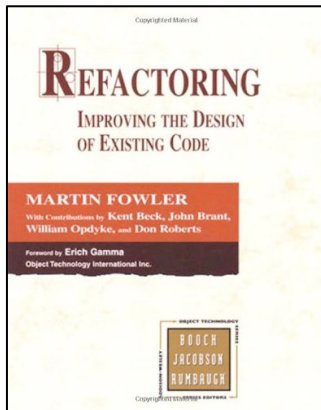
**I'm supposed
to take over
WHAT???**



Sources



Clean Code: A Handbook of Agile Software Craftsmanship – Robert Martin, Prentice Hall, 2008



Refactoring: Improving the Design of Existing Code – Martin Fowler, ..., Addison-Wesley Professional, 1999

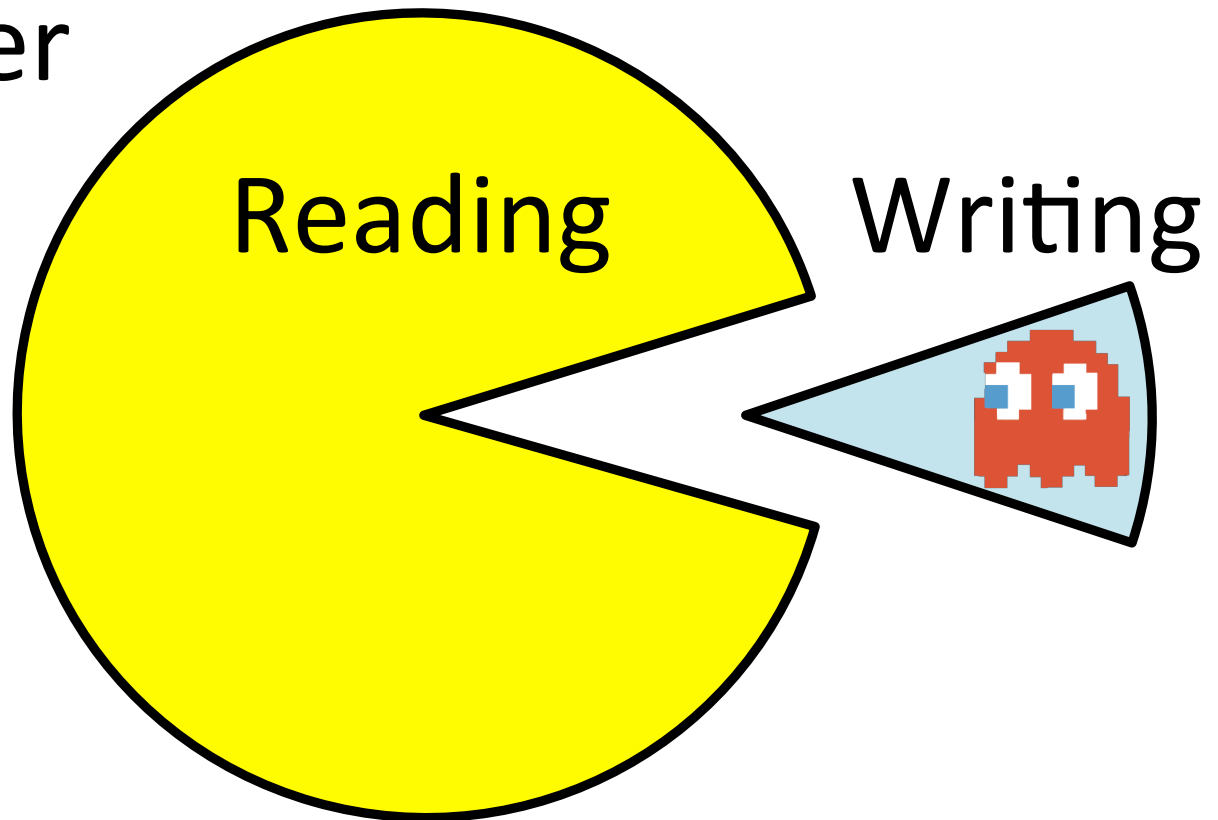
“The ratio of time spent

reading vs. writing

is well over

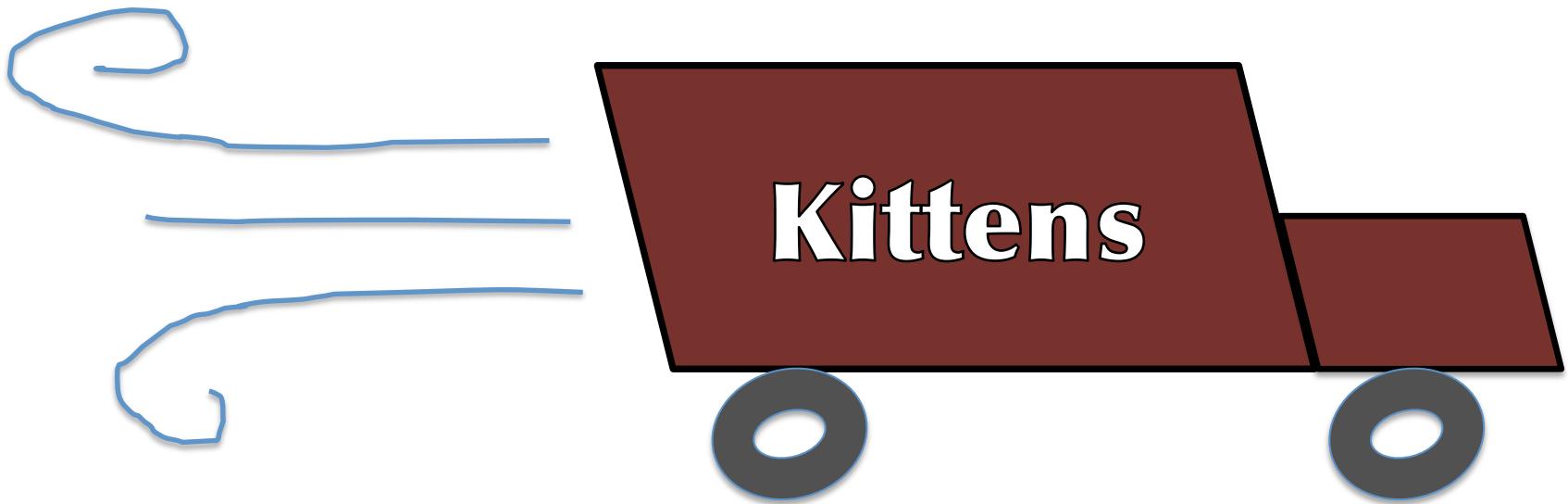
10:1”

– Clean Code



The Truck Test

“What if I were run over by a truck?”



**Write code as if a
stranger will need to
understand it.**

**My code doesn't
have to age long for
me to be a stranger.**

The Boy Scout Rule

“Leave the code cleaner than you found it”

paraphrased from Clean Code

**“The code needs to be kept
clean over time”**

- Clean Code

It's More Than Code

- Servers
- Configurations
- ...

Servers

Consider Naming By Purpose



- **bacon-dev:** **development**
- **bacon-test:** **testing**
- **bacon-prod:** **production**

Config Files

1. **Inline documentation on what config file expects**
 1. **purpose/use of value**
 2. **syntax expected (examples!)**
2. **Try to group settings likely to vary**
 1. **e.g. server name, web service url, ...**

Settings for BnF Images

You will want to copy this file and change the following settings:

1. coll_fld_val

2. log_name

3. default_set (in OAI harvesting params section)

4. blacklist or whitelist if you are using them

the value of the "collection" field in the Solr document

(a way to query this OAI harvest only); default is the default_set

coll_fld_val: bnf_images1

log_dir: directory for log file

(default is logs, relative to harvestdor gem path)

log_dir: logs

...

**production config files
should not point to boxes
named "dev" or "test"**

It's More Than Code

- ...
- **Tools Chosen**
 - Deployment
 - Automated Monitoring
 - Issue Tracking
 - User Feedback
- ...

It's the Tools You Choose

“I'm probably not the first person to ...”

- ... Parse XML**
- ... work with jpeg2000**
- ... Write deployment scripts**
- ... Parse MARC**

When NOT to Roll Your Own

- Is there already local expertise?
- What solutions have your colleagues adopted?
- Are there existing tools for this work in this context?
- Which solutions are widely adopted?
- Which solutions are under active development?

It's More Than Code

- ...
- **Scripts**
- ...

Scripts

- **Named Well**
 - “harvest_set” vs. “get”
- **Begin With Comments Explaining Purpose, Arguments Expected, Results**

```
#!/bin/bash  
# pullThenIndexSirsiIncr.sh  
# Pull over the latest incremental update files  
from Sirsi, then  
# Remove deleted records (per file of ids) from  
index and update index (with marc records in file)  
#  
# updated for Naomi's FORK of solrmarc  
2011-01-23  
# Naomi Dushay 2010-04-09  
...
```

It's More Than Code

- ...
- **Documentation**
- ...

**Documentation isn't
cheating.**

Comments and Other Documentation

- **Inform**
- **Explain**
- **Clarify**
- **Warn**
- **Need Maintenance!**

Use a comment to explain non-obvious, or tricky, or warnings

README

- **What is this?**
- **How do I install it?**
- **How do I get it running?**
- **How do I use it?**
 - **Examples for most common cases**
- **How do I deploy it?**
- **Where should I look for more info?**

To set up:

1. create a yml config file for your collection going to a Solr index.

See config/bnf-images.yml for an example.

You will want to copy that file and change the following settings:

1. coll_fld_val

2. log_name

3. default_set

4. blacklist or whitelist if you are using them

...

To run:

./bin/indexer config/(your coll).yml

It's More Than Code

- ...
- **TESTS**
- ...

Tests Should

- **demonstrate how code should work**
- **be fast**
- **contain their test data (or have it in the test file, as close to test code as is practical)**
- **...**
- **be viewed as code: readable, maintained ...**

Tests Should

- ...
- **be viewed as code: readable, maintained ...**

It's More Than Code

- ...
- **Continuous Integration**
- ...

Continuous Integration

- **Builds Should**
 - Run tests
 - Run test coverage
 - Be triggered by new code
- **Failures Should**
 - Be addressed ASAP

KISS

K e e p

I t

S imple

S tupid

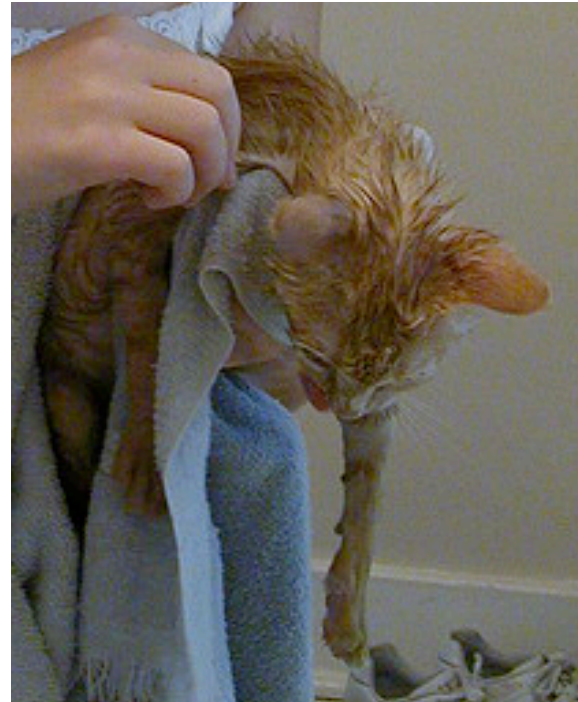


DRY

D on't

R epeat

Y ourself

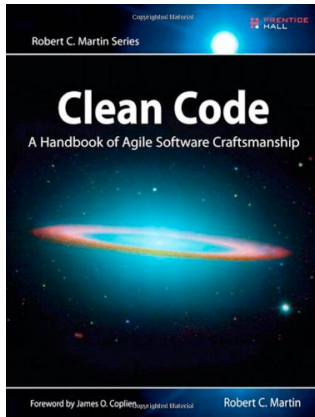


Readable Code

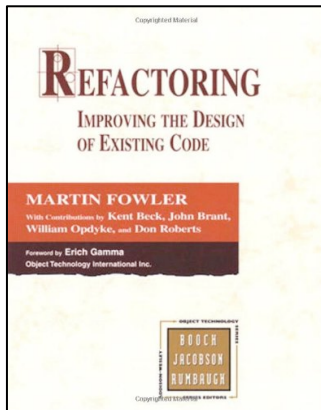
- **Follow Conventions**
- **Meaningful Names**
 - Variable
 - Method
 - Class
 - File
- **Small, single purpose methods**

**Cleverness that reduces
readability isn't clever.**

Sources



Clean Code: A Handbook of Agile Software Craftsmanship – Robert Martin, Prentice Hall, 2008



Refactoring: Improving the Design of Existing Code – Martin Fowler, ..., Addison-Wesley Professional, 1999

Errors and Corner Cases

- **Exceptions, not Error Codes**
- **Test exception expectations**

```
it "should log a warning when it finds direct non-whitespace  
text content" do
```

```
  x = stuff
```

```
  @logger.should_receive(:warn).with("Found direct text  
content: 'mistake' in page geeby-deeby")
```

```
  @rsolr_client.should_receive(:add)
```

```
  @parser.parse(x)
```

```
end
```

Thank You!