

Rewriting not recommended

Dirk Haun

www.haun-online.de/accu/

Rewriting of
Applications

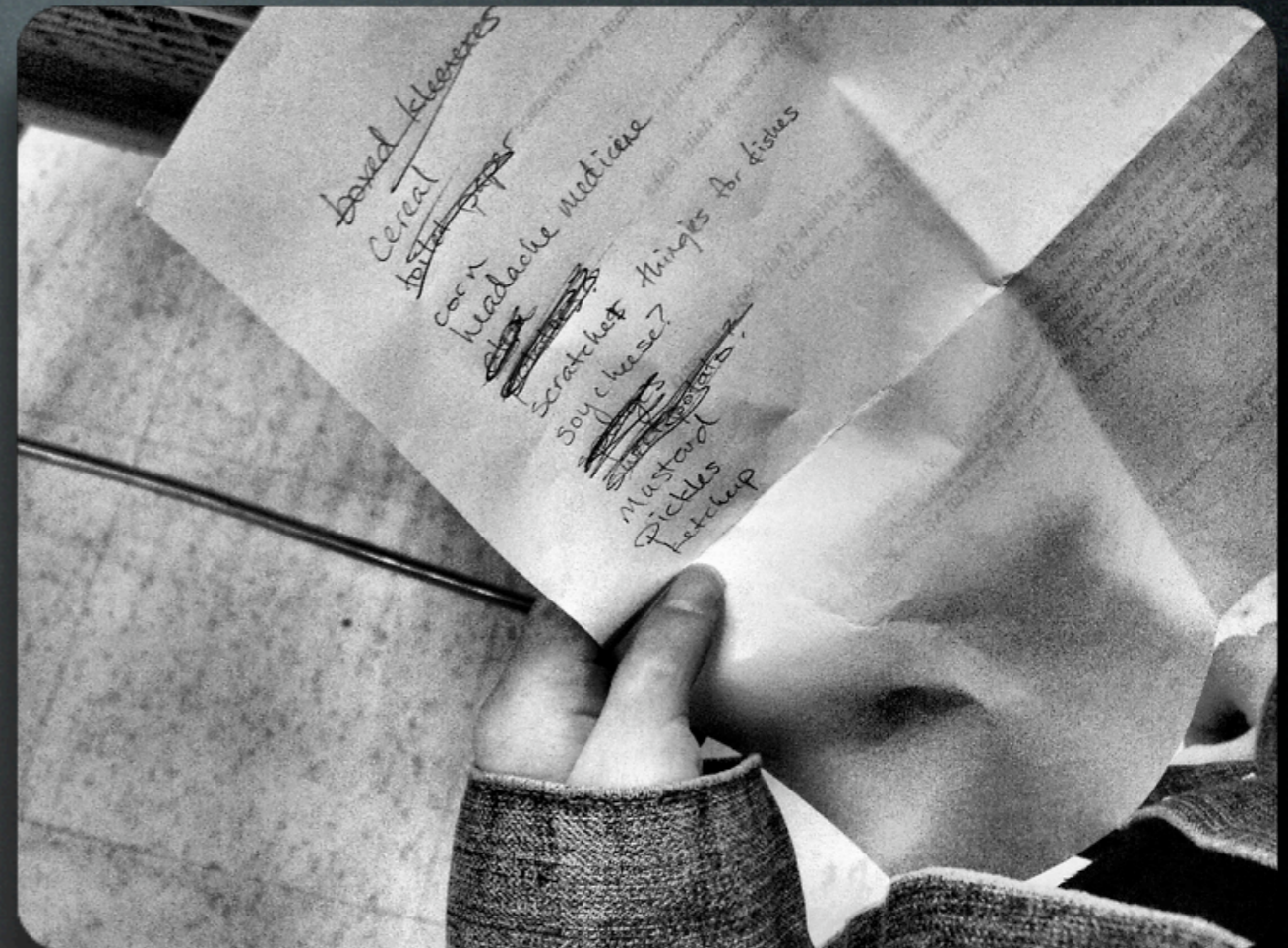
Vita

- Electronic Cash
- PDAs & Smartphones
- Service Level Management
- Document Conversion
- Open Source CMS



Agenda

- Motivation
- Don't do it!
- Remedy
- Prevention



Why do we want to rewrite something?

- **Rational:**

Problems with the **architecture**

- **Irrational:**

Programmer's **Ego**

Motivation: Architecture

- Started out with a clean design
 - Change requests after initial release
- ➔ Loss of clarity
- ➔ Solution(?): Rewrite!



Motivation: Architecture

Ideally:

- "Nicer" architecture
- Easier to maintain
- Learned from mistakes



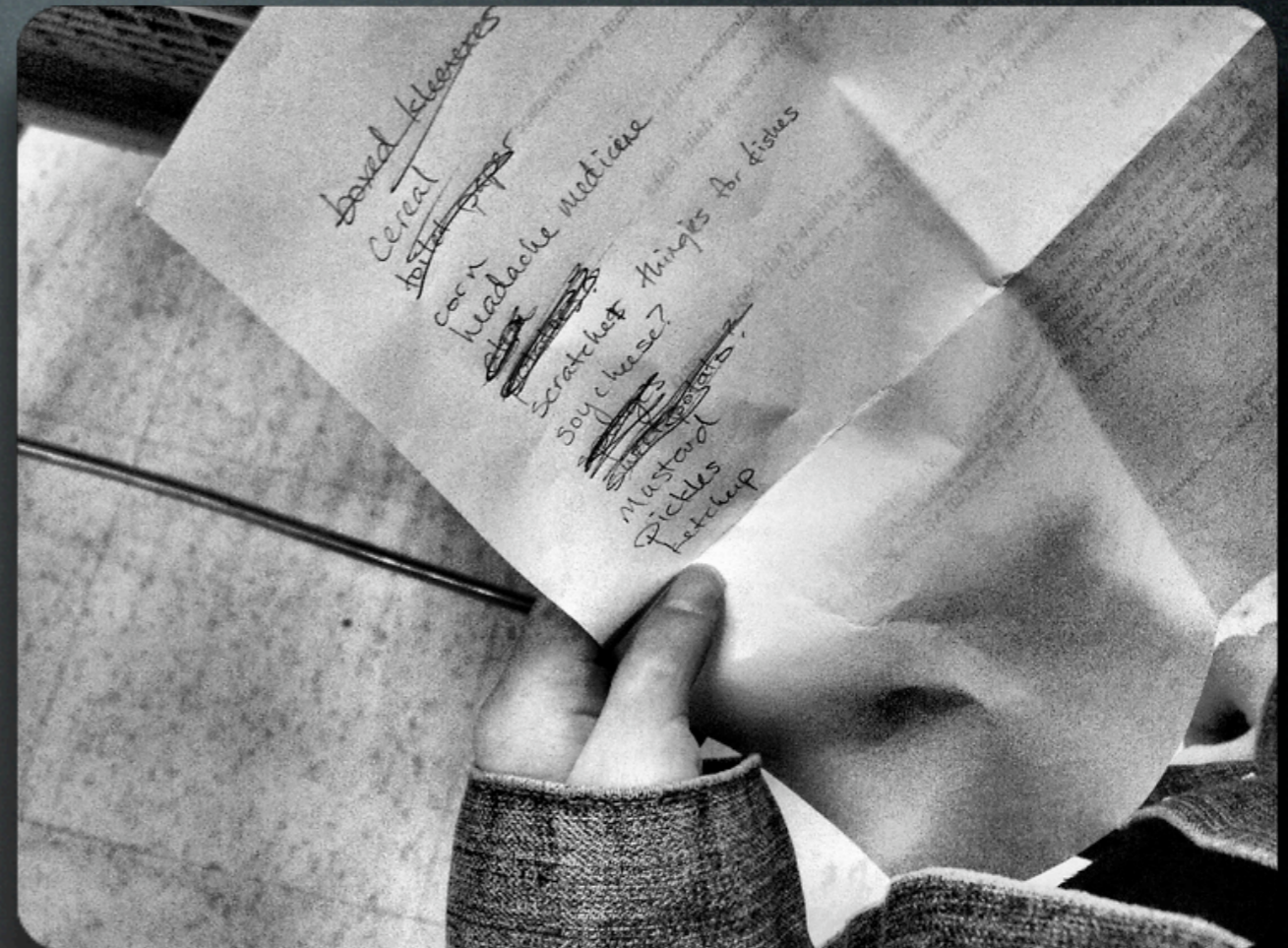
Motivation: Ego

- Old code just isn't "sexy"
- Having to maintain other people's code
- Personal preferences vs. existing code



Agenda

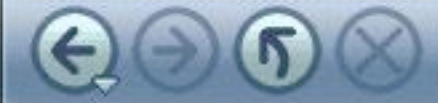
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Rewriting takes (more) time

- What do you ship in the meantime?
- Losing customers, market share, and money





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AOL	43.97	+1.07
Portfolio Total:	0	

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AP

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Yes, Bush has won

No, wait until the courts rule

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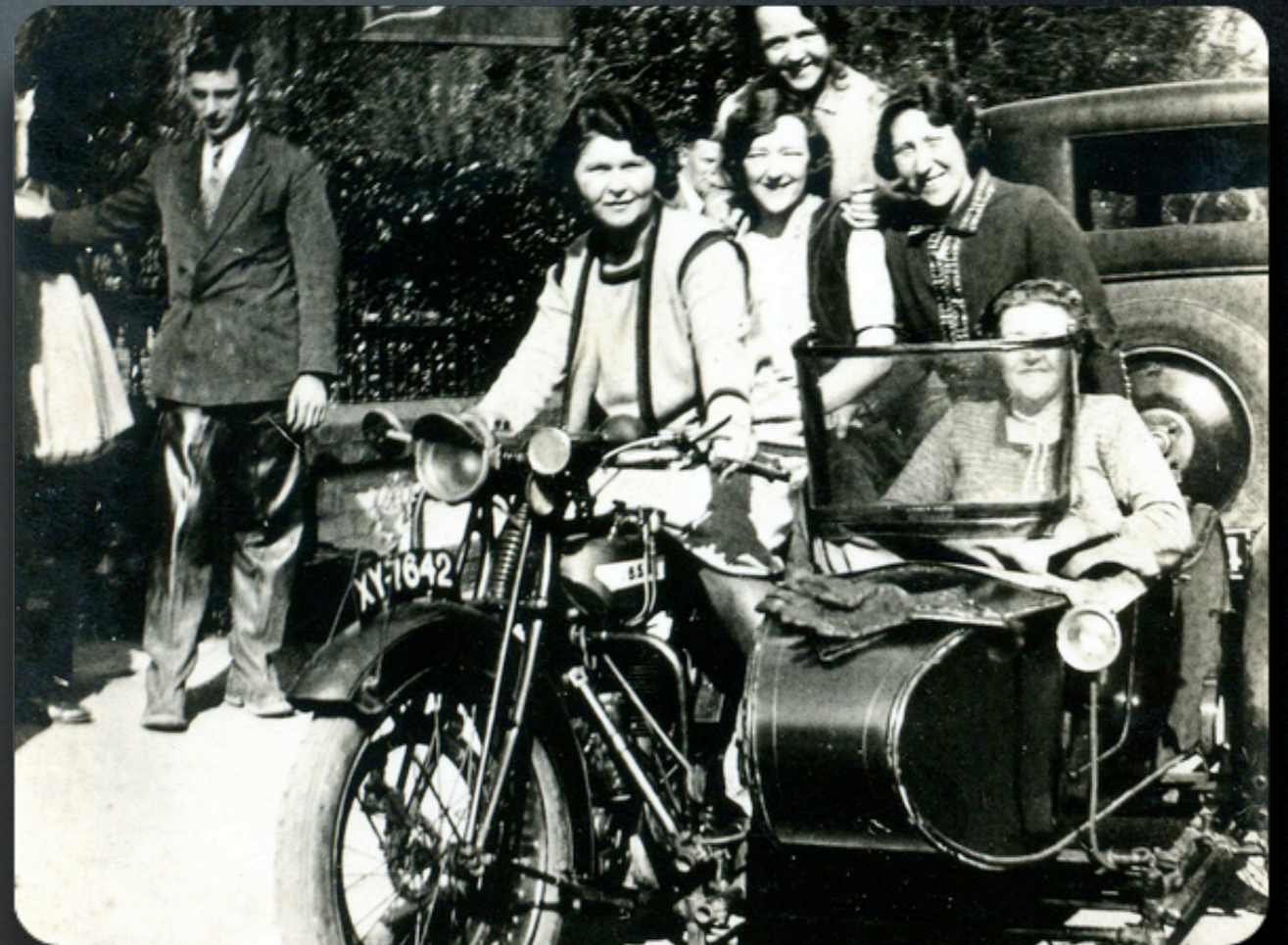
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[more business >](#)

How do you avoid a standstill?

- Two teams?
 - ▶ Where do all these people come from?
 - ▶ "Moving Target"



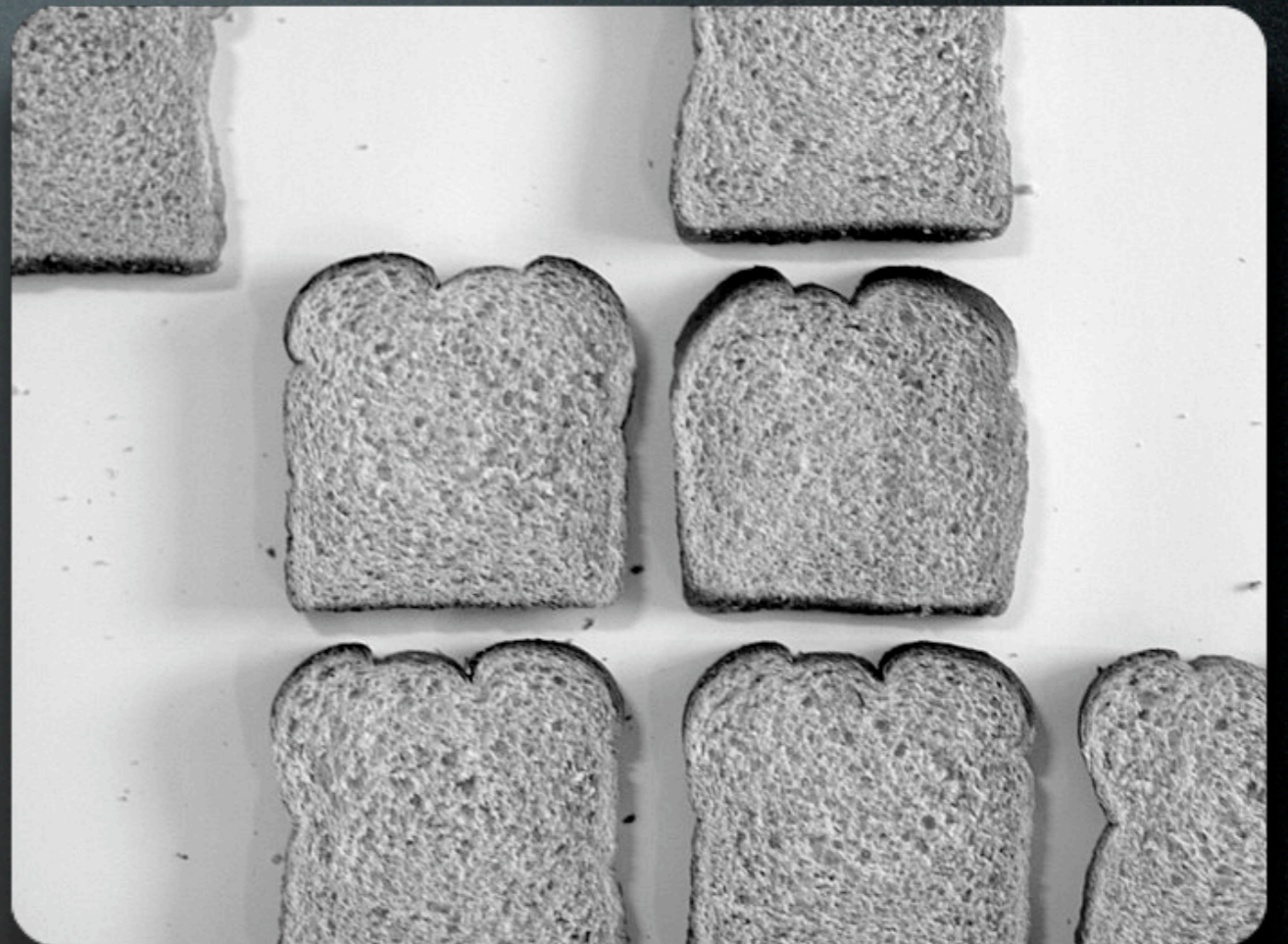
How do you avoid a standstill?

- Putting the old application in "Maintenance Mode"?
 - ▶ What's a bug?



Losing details

- Reinstating the original functionality
 - ▶ Do you really have everything documented?
 - ▶ Workarounds for real-world problems



No software is an island

- Software doesn't exist in a vacuum
- Compatibility with 3rd-party applications
- Your software as a part of a process



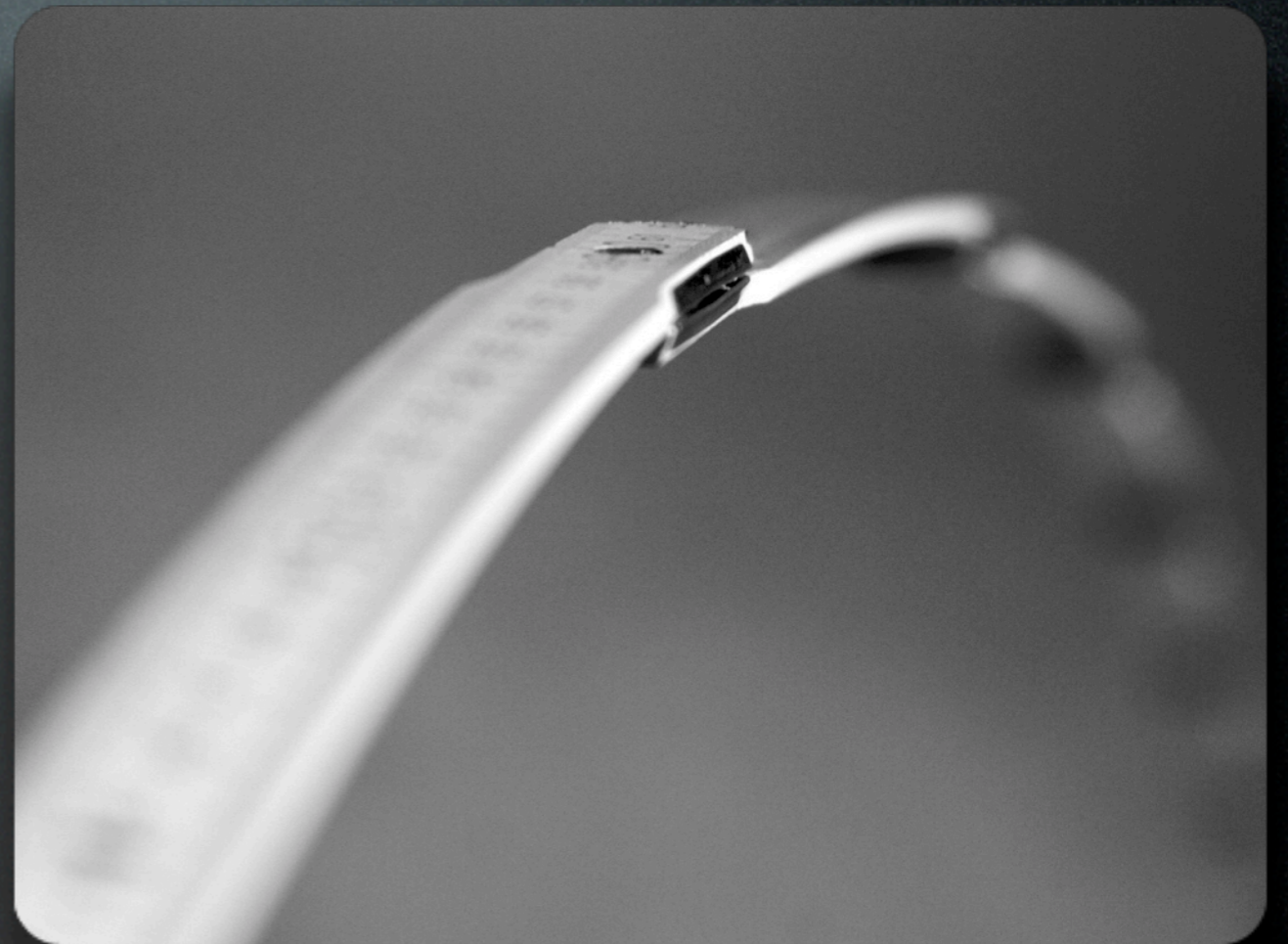
Can it really only get better?

- Sometimes there isn't a better solution
- Old mistakes
 - ▶ Environment, Time pressure
- New mistakes
 - ▶ Learning process



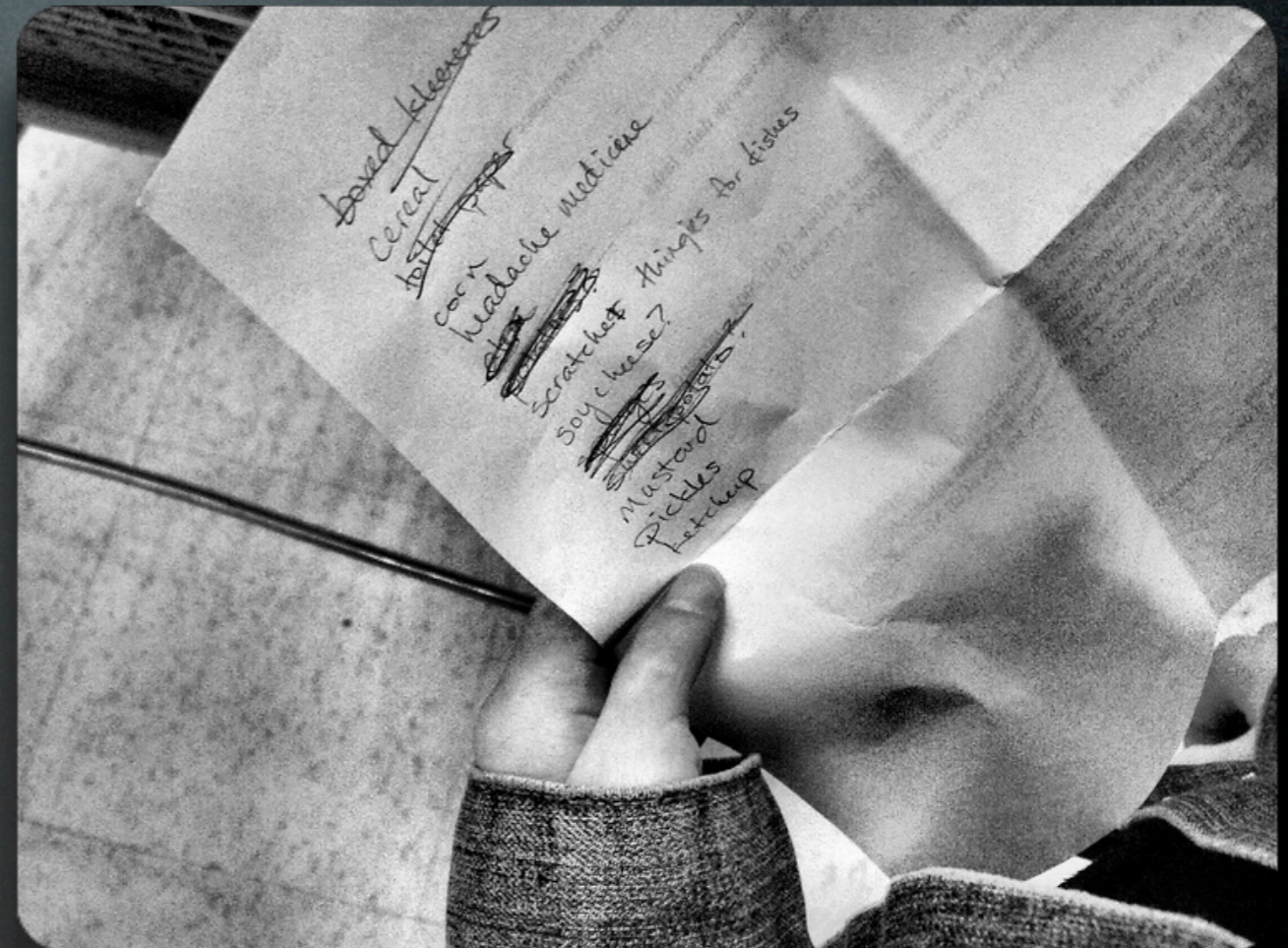
Exceptions?

- Change of technology
- In-house tools
- Refocussing



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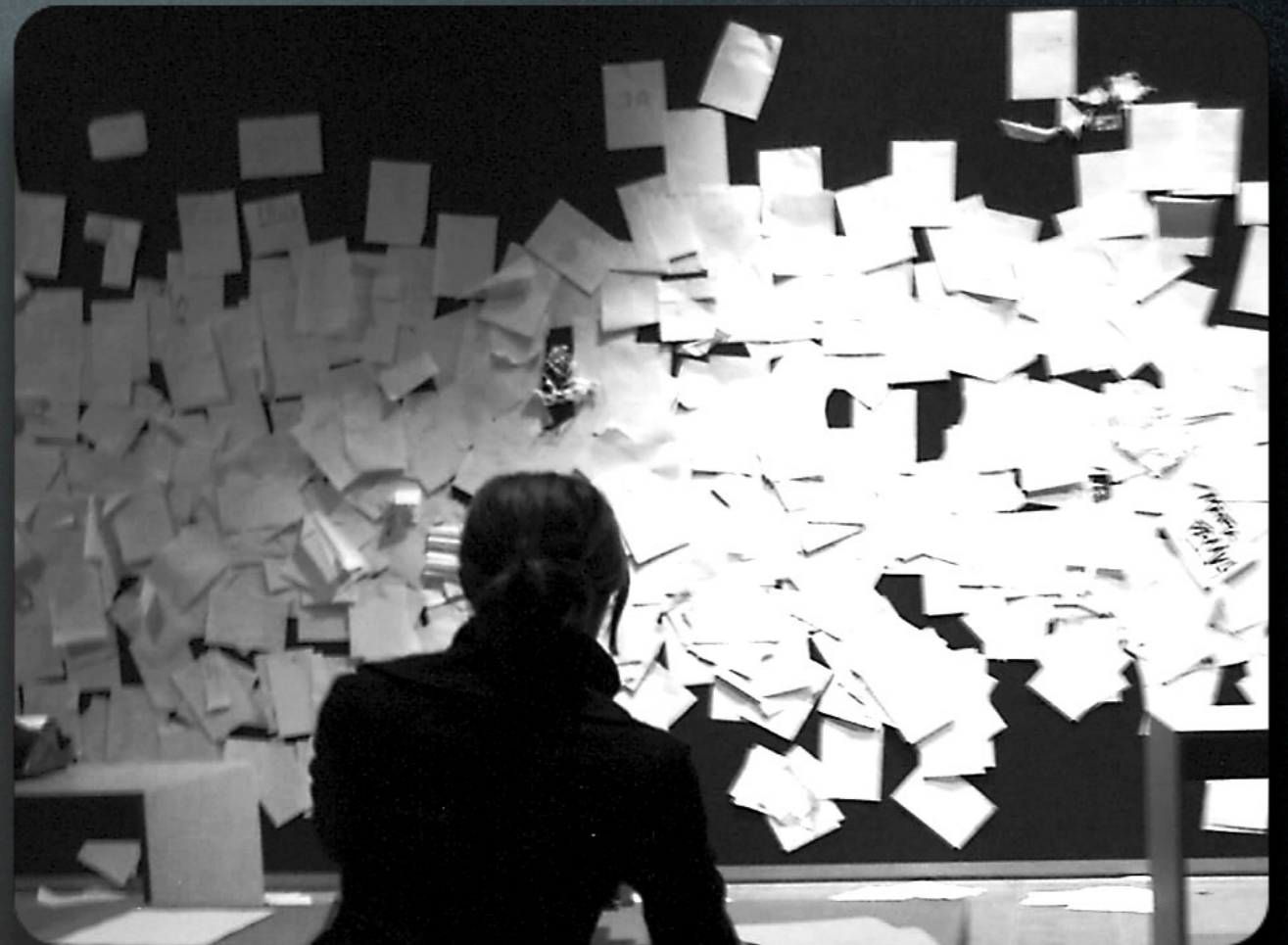


Personally I believe that some systems just require some love, and radical refactoring, to breathe new life into them.

-- Tim Penhey

Refactoring

- (Re-)Identify modules
- Identify problematic areas of the code
 - ▶ Bottlenecks
 - ▶ Cluttered code



Refactoring: Tests

- Unit / Component Tests!
 - ▶ For every bug
- ➔ Benefits for current development
- Rewrite modules, one after another



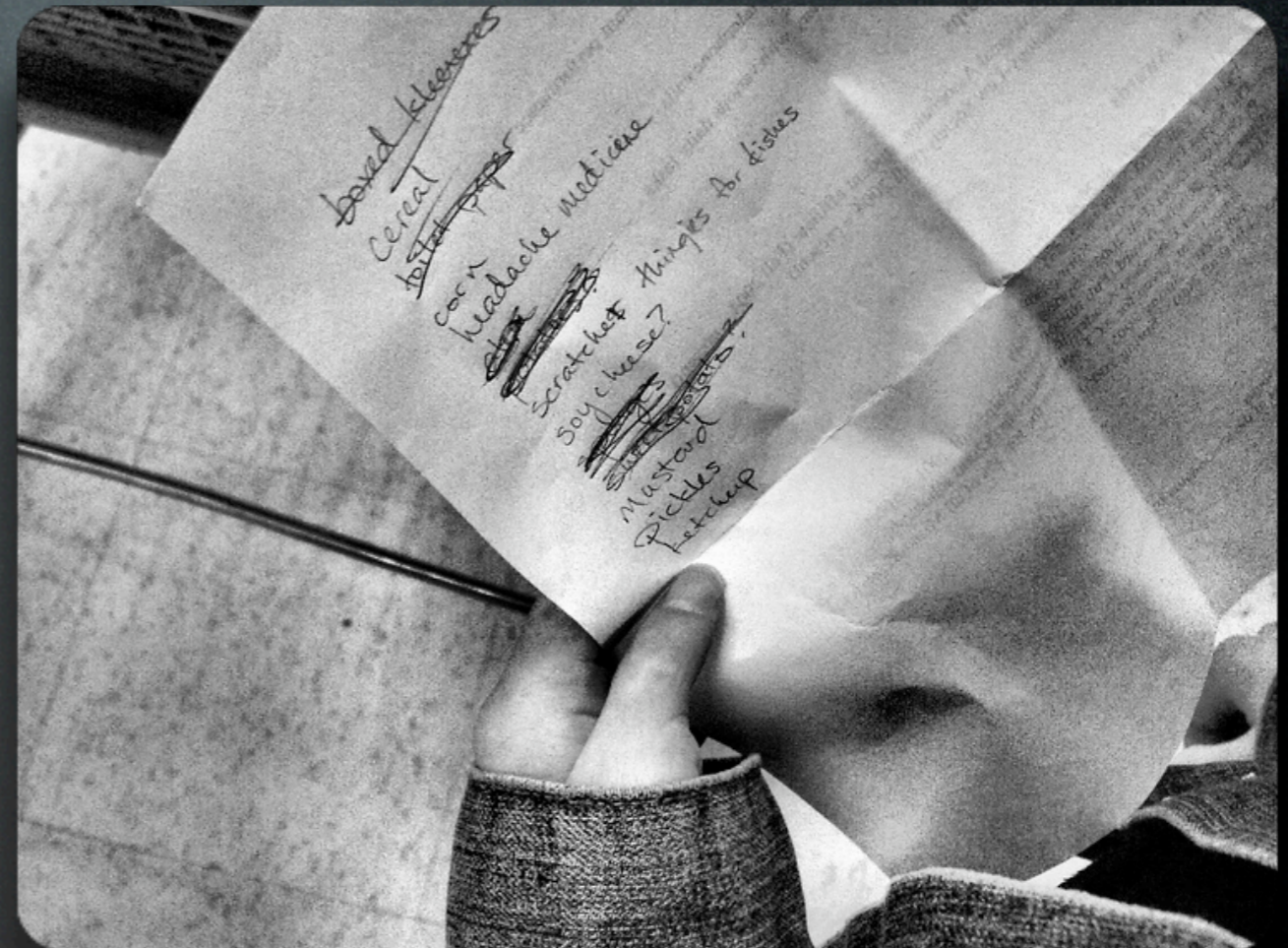
Benefits and side-effects

- Better understanding of the current system
- Better estimates for changes / fixes



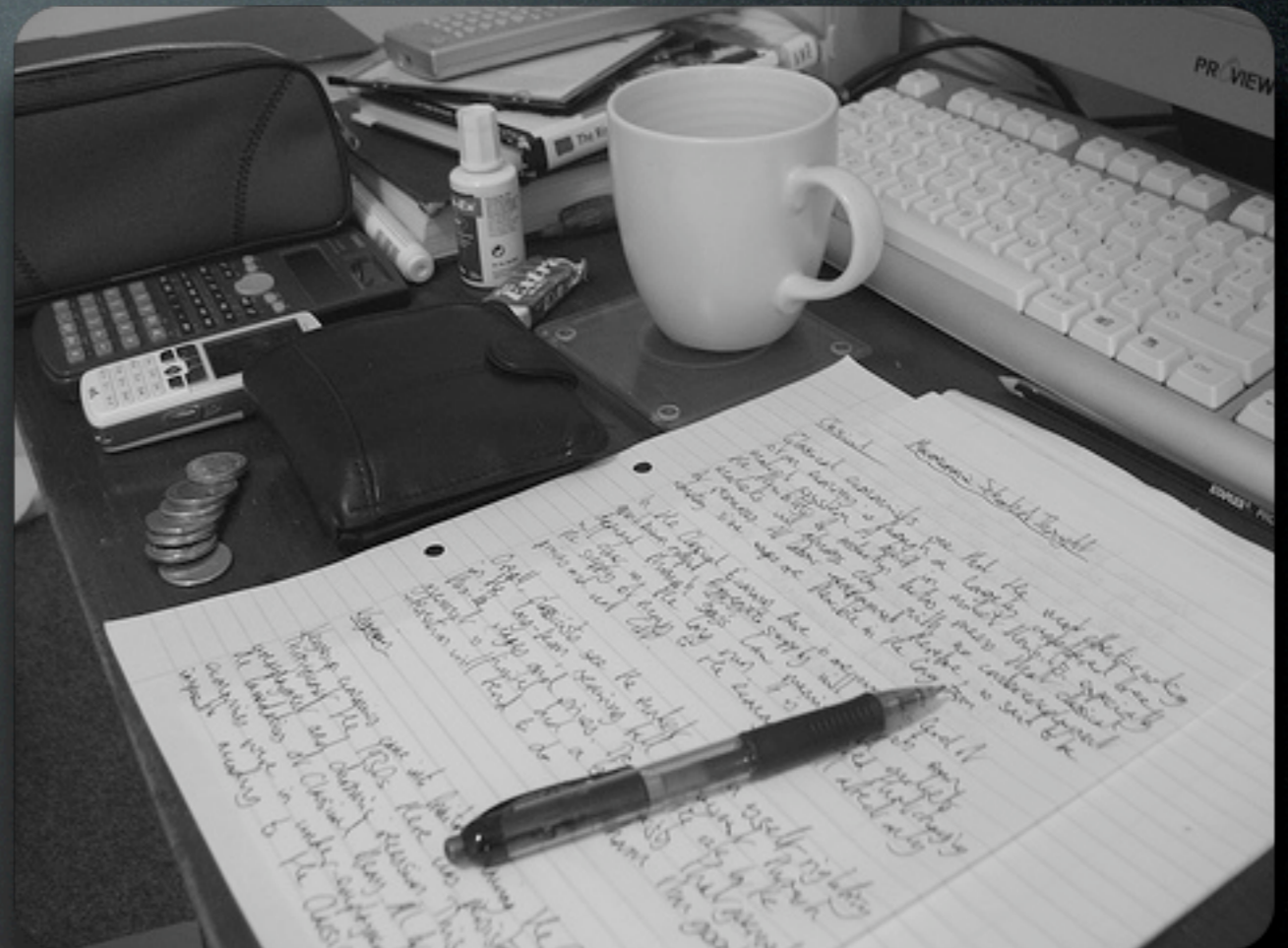
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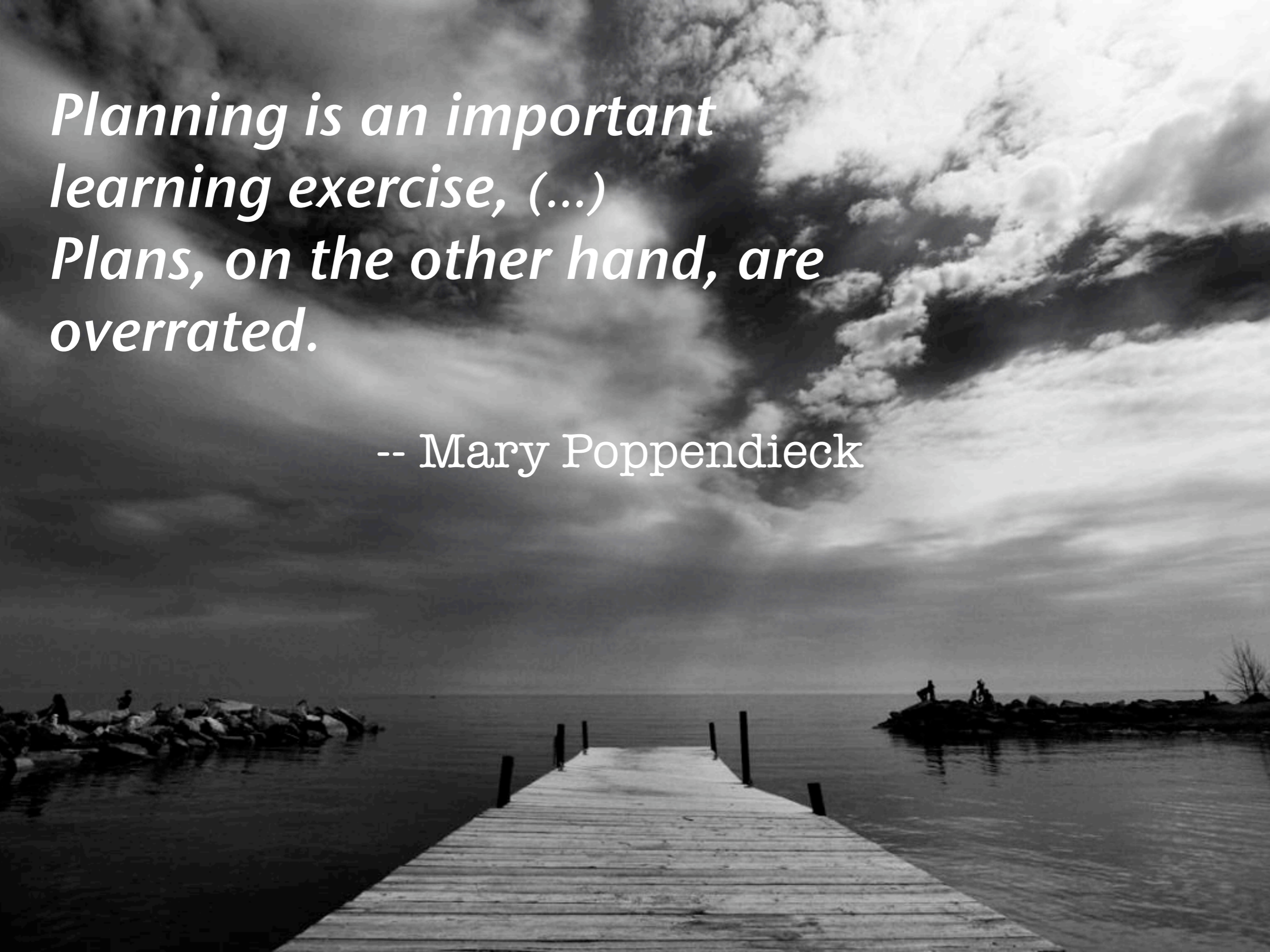
Specifications?

- Better specifications?
 - ▶ Yeah, sure ...
- Can't do without them but get away from fully-fledged specifications
- Be flexible!
 - ▶ TDD, Agile



*Planning is an important
learning exercise, (...)
Plans, on the other hand, are
overrated.*

-- Mary Poppendieck



Rotting Code

- How did that happen?
 - ▶ Pressure,
Lack of time?
 - ▶ Incompetence?
- Cause study
 - ▶ What can you do
about it?



More communication!

- Internal (project)
- With customers / users
- Development ↔ Marketing ↔ Customers



To summarize ...

Risks

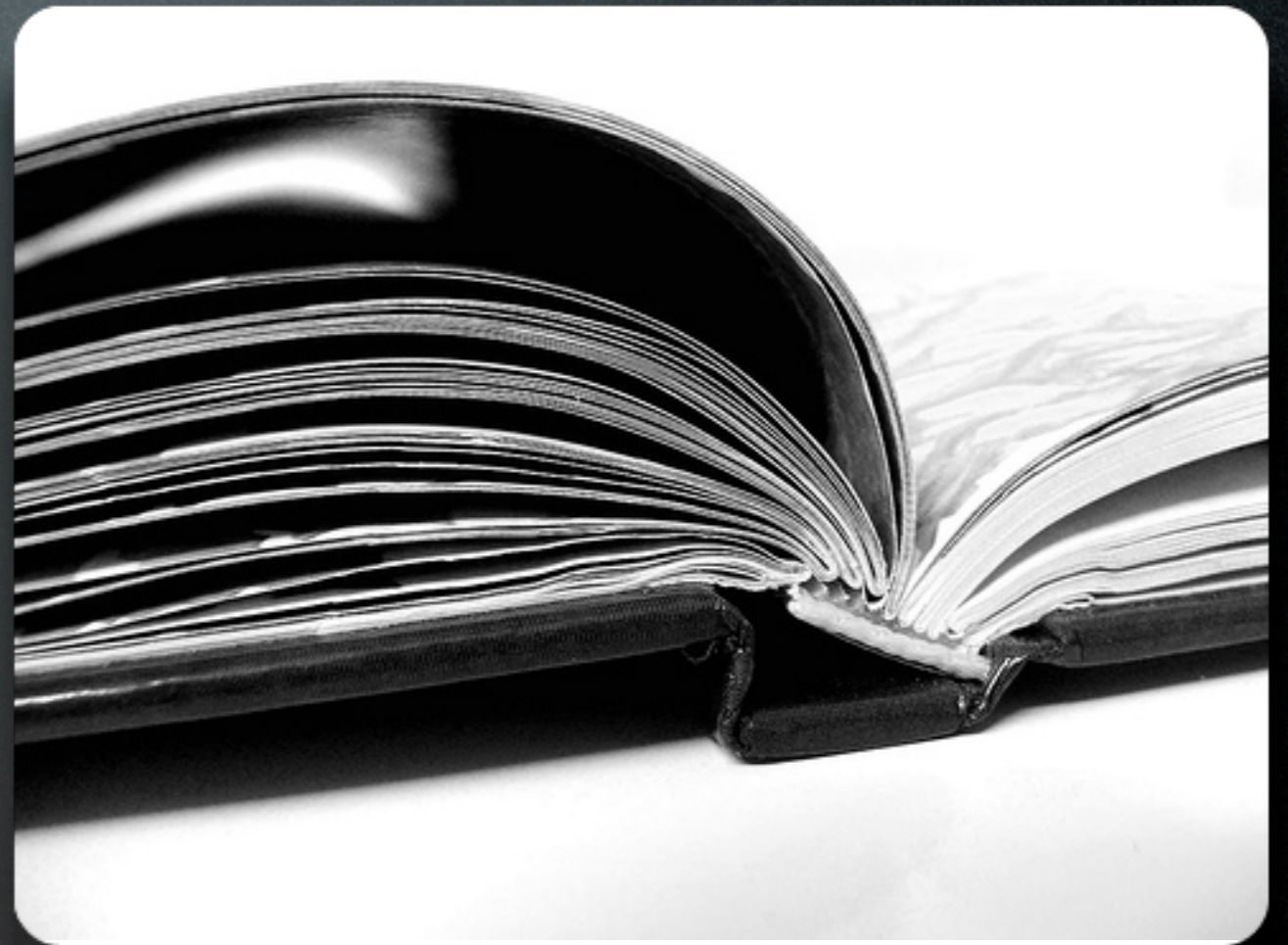
- Loss of ...
 - ▶ Customers / Market Share / Money
 - ▶ Functionality
 - ▶ 3rd-party applications
- repeating old mistakes
- new architecture, new mistakes

Remedies

- Refactoring instead of Rewriting
- Test Driven Development, Agile
- Cause studies:
 - ▶ What went wrong the last time?
- Improve communication

Resources

- Joel on Software
(Book and website)
- Agile Software
Development
- Lean Software
Development



P.S. Keywords are links.

Credits

- Photos via flickr.com, thanks to: Hopkinsii, striatic, paul goyette, Kazze, adrenalin, ikelee, Auntie P., Regorio, frozenchipmunk, Kevin Labianco, fallsroad, photo.bugz, tim_d, lagiuspo, Nathan James, ladyphoenixx_1999, Grim Reaper With A Lawnmower, re-Verse, amuk2006, Pathfinder Linden, Gigglesjuice, manuki

