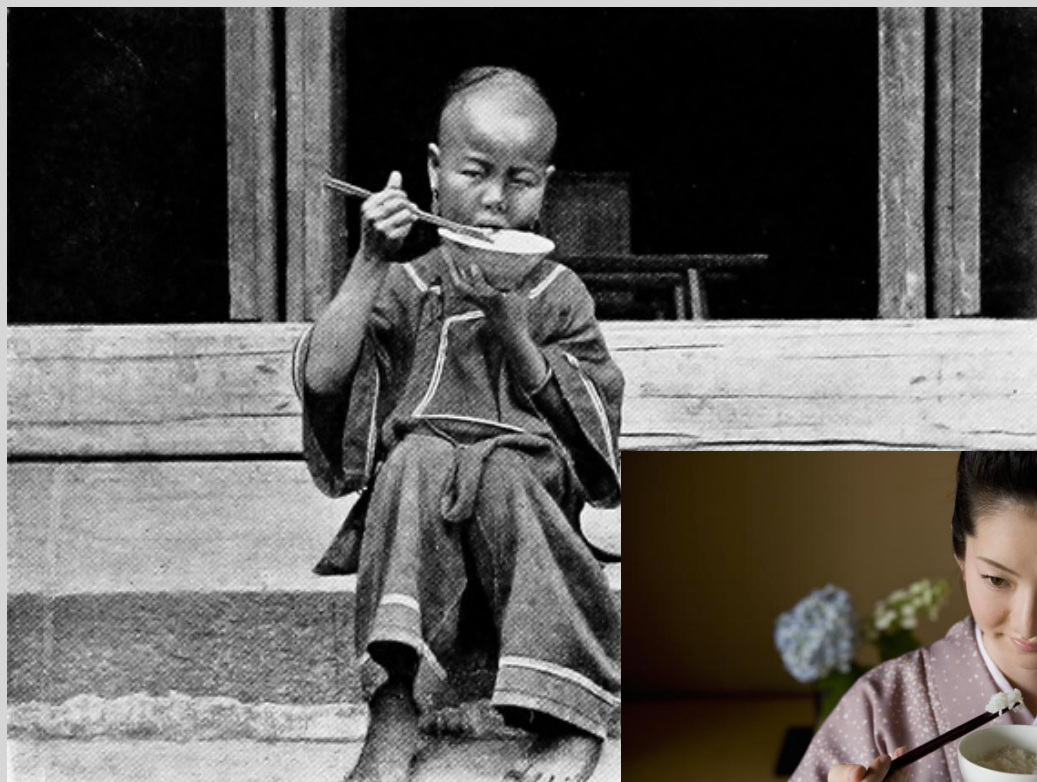**Technical Excellence in LeSS**
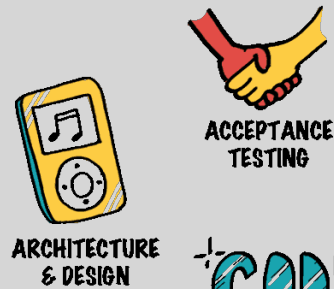
Why So Hard?

terry@odd-e.com

Who Am I

- I am Terry Yin
- Work at Odd-e
- Experienced Scrum Master
- Focus on technical coaching
- Love programming
- A father

Me

Organizational Agility is constrained by Technical Agility

Why Is Adopting Technical Agility So Hard?

Spoiler: it's a people problem

My Story

R&D Focusing on Productivity

It's all about the full utilisation of what people already knew —

KNOWN-KNOWN

Formal and dedicated roles are often created each time a "common" problem is found.

The complexity of the problem transform into organisational complexity and it eventually breaks the feedback loops of the team.
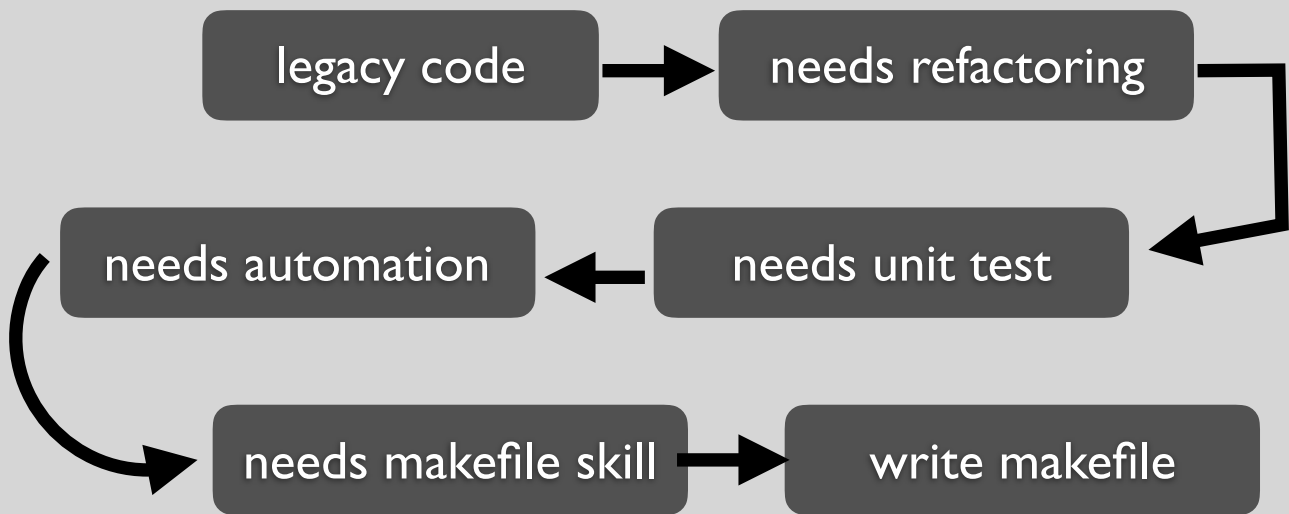
Technical coaching sometimes feels like cheating …

But How Do You Know
It's The Right Way?

Yak Shaving

Agile Coach Writing Makefile

```
legacy code  →  needs refactoring
                       ↓
needs automation  ←  needs unit test
      ↓
needs makefile skill  →  write makefile
```

Style vs. Intent

Abstraction In Code

https://github.com/terryyin/lizard

```
select: function (element) {
    var that = this;
```

Abstraction

"The essence of abstractions is preserving information that is relevant in a given context, and forgetting information that is irrelevant in that context."

—John Guttag

All non-trivial abstractions, to some degree, are leaky.

The Law of Leaky Abstractions
by Joel Spolsky

"When you need to hire a programmer to do mostly VB programming, it's not good enough to hire a VB programmer, because they will get completely stuck in tar every time the VB abstraction leaks."
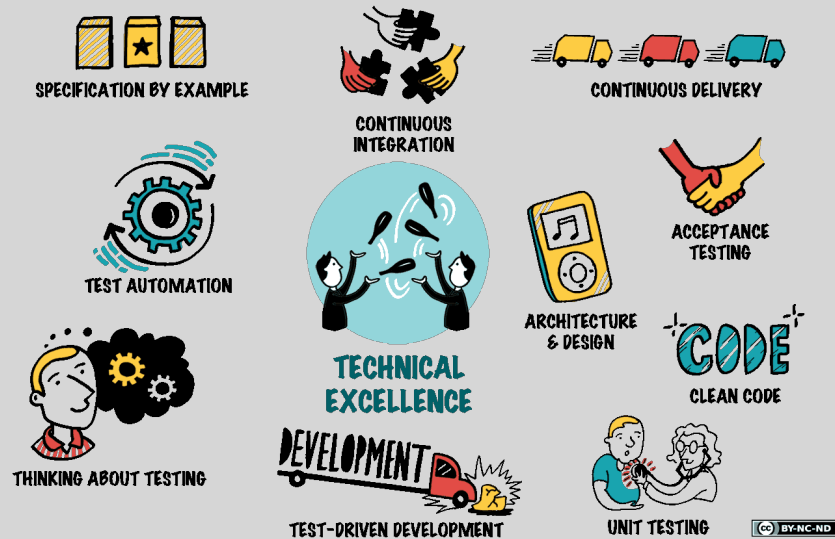
Programming 101

Computer Architecture

Discrete Math

Calculus

It is the ability to operate and think in terms of mental models, acknowledge their utility while being mindful that they intentionally omit certain details, and knowing what to do when they inevitably leak.

Technical coaching sometimes feels like cheating …

But it's something we don't have?

It Takes A Village To Raise A Child

- Help people to close the gap
  - reading books, create communities
  - Serendipity, On-demand learning is totally ok
  - See how other people work
  - …

Technical coaching sometimes feels like cheating …

But I cannot type as fast as you?

Craftsman model

Master

Journeyman

Apprentice

SPECIFICATION BY EXAMPLE

CONTINUOUS INTEGRATION

CONTINUOUS DELIVERY

TEST AUTOMATION

TECHNICAL EXCELLENCE

ARCHITECTURE & DESIGN

ACCEPTANCE TESTING

CLEAN CODE

THINKING ABOUT TESTING

TEST-DRIVEN DEVELOPMENT

UNIT TESTING

CC BY-NC-ND

Practice and Practice

Take Away

Organisation	• Self-leading teams instead of maximising "resource" utilisation • Focus on KNOWN-UNKNOWN instead of KNOWN-KNOWN
Education	• Help people to overcome the CS Cliff • Be the village
Model	• Adopt the craftsmanship metaphor • Don't cheat too much

Thanks:)

references

- https://medium.com/@chancancode/rethinking-computer-science-education-319a60709b30#.6hrk21hjc
- The Design of Everyday Things