Feedback Loops

in Practice

Marcus Denker

Talk held at ESUG2017

Two talks

ESUG14

https://www.slideshare.net/MarcusDenker/2014-esugcathedral

ESUG16

https://www.slideshare.net/MarcusDenker/perfection-feedback-loops-or-why-worse-is-better-65540840

(do not expect too much)

ESUG14


Toilets
FreeFoto.com

Scaffolding

ESUG16

Perfection

Feedback

Smalltalk can be feedback loop

Smalltalk should be feedback loop

TODAY

What does that mean in reality?

Examples for Pharo

What we do / what are the challenges

Goal: Getting feedback and ideas!

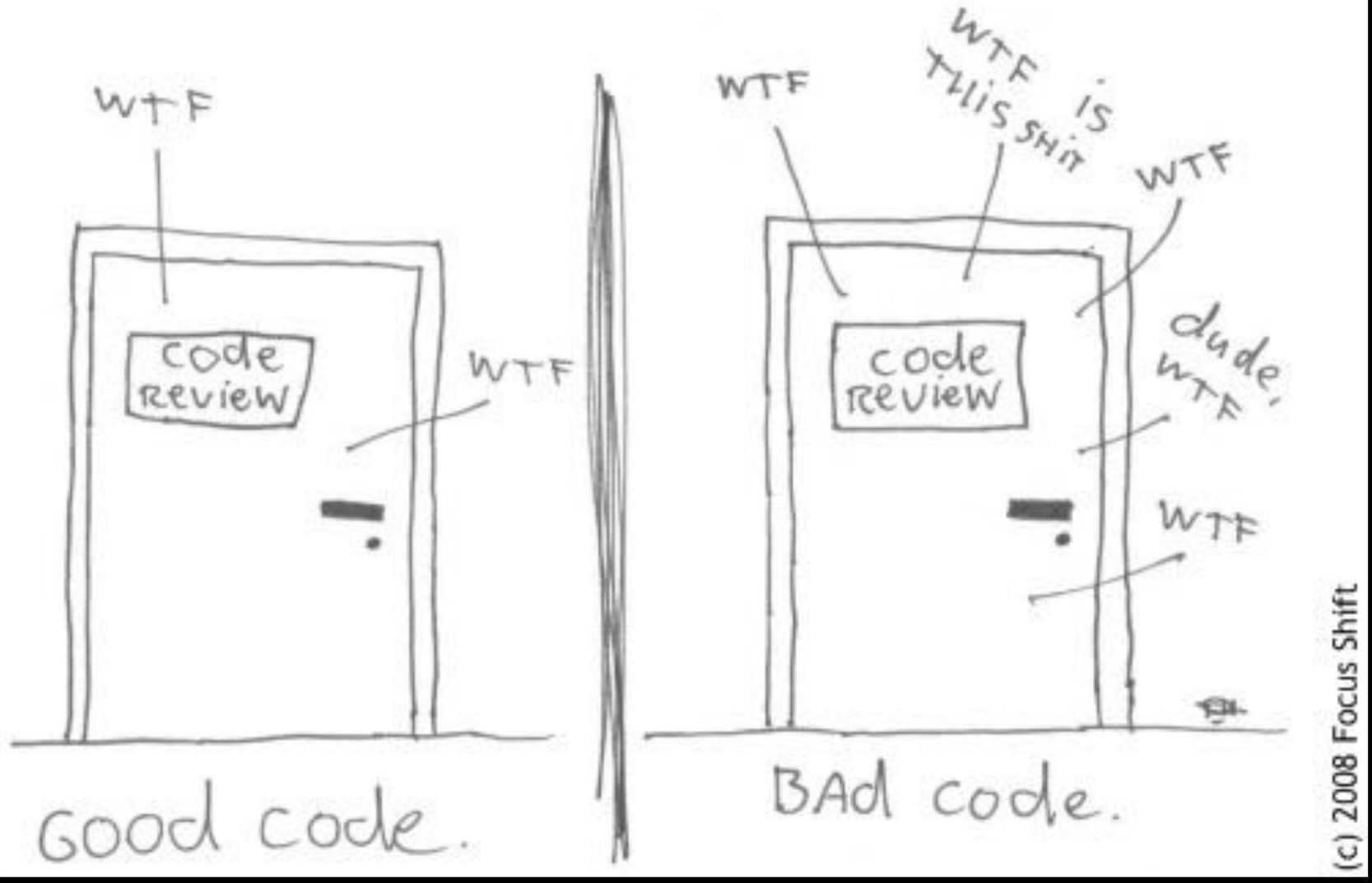
Trivial Changes

2014

Every improvement has an effect

2014

The ONLY VALID MEASUREMENT OF Code QUALITY: WTFs/MINUTE



2014

A small change fed back will have huge payout

2016

A tiny linear change now would be a **huge** change some iterations ago

2016

Trivial Change

- Issue tracker
- Make it easy to contribute
- Do not ignore contributions

Issue Tracker

- Fun: It was once thought as not needed

- Record issues people have
- Record contributions, too!
- Open: 651 Closed: **17459 (!!)**

Challenges

- Work needed to keep clean
  - Duplicates, already fixed, non-actionable…
- Reviewing / Getting in good state
- Actually fixing reported bugs

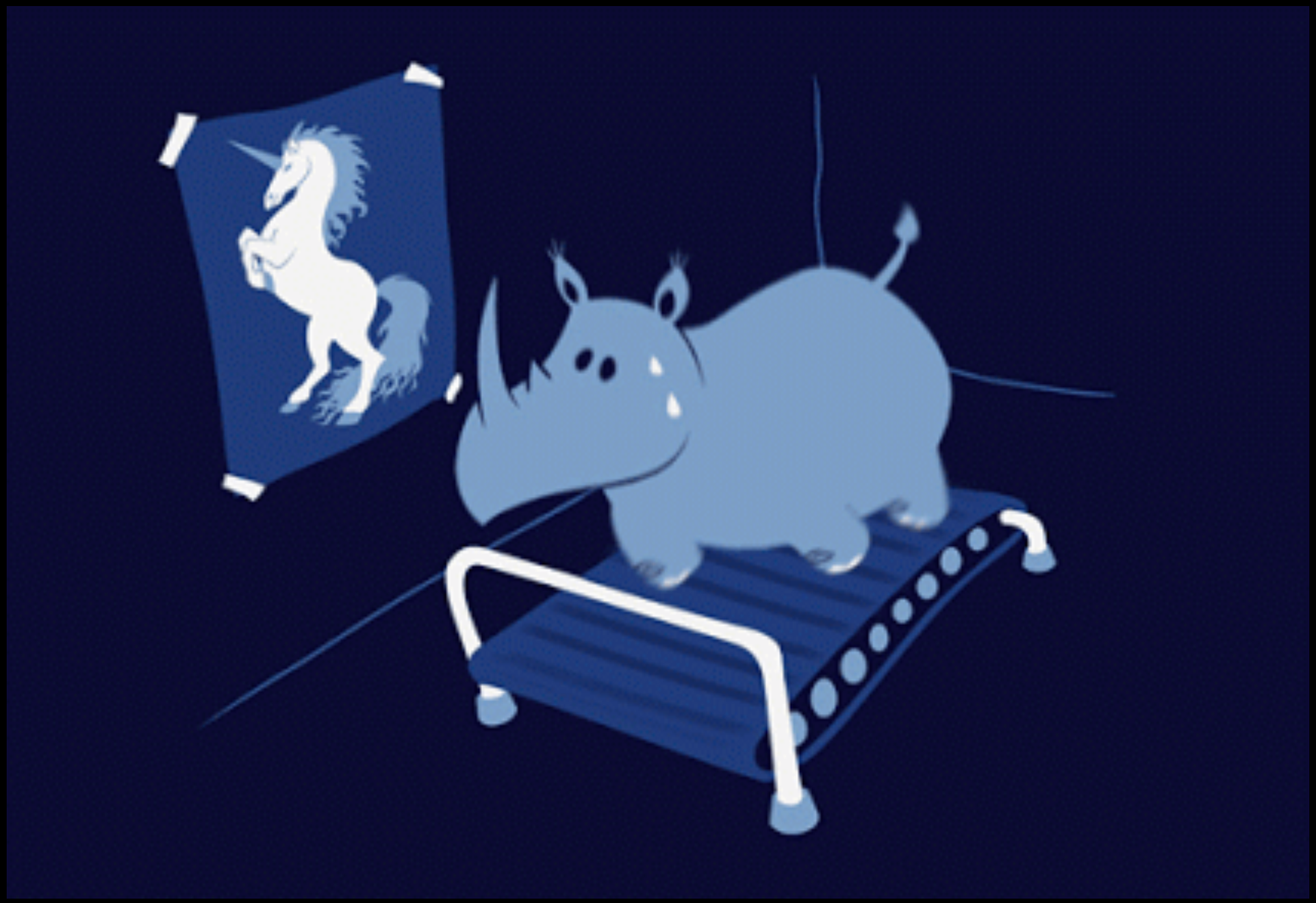
Solutions

- Automatic close after 1 year inactivity
  - Has to be automatic else people get upset
- Some people look **every** to keep things in check
- Regular Sprints: every last Friday the month
  - More fun to do together then alone!

Make it easy

- It should be very easy to contribute
- We are not there yet!

Large(r) Change



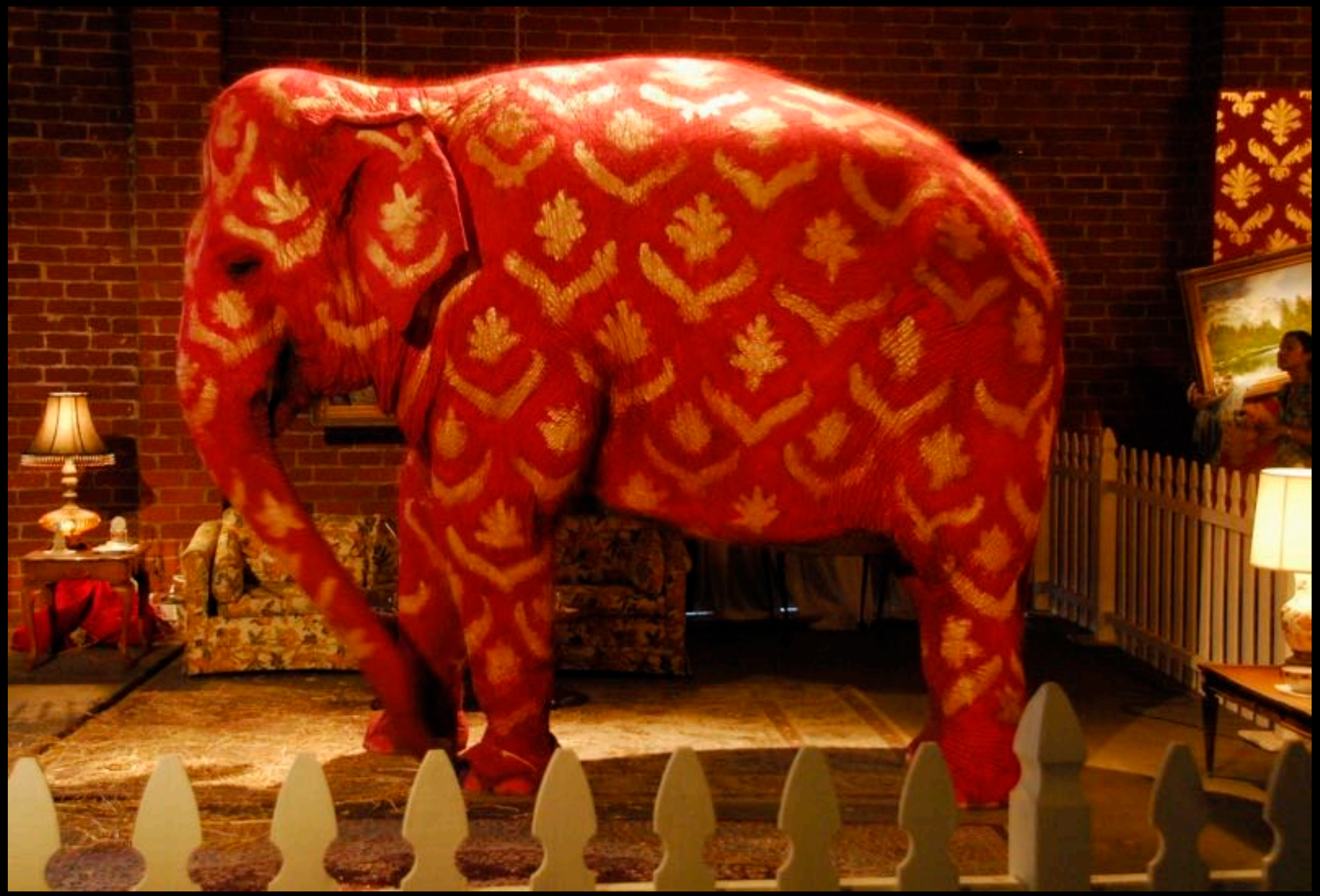
2014

Scaffolding

2014

Todays system is scaffolding for tomorrow

2014



Elephant in the Room

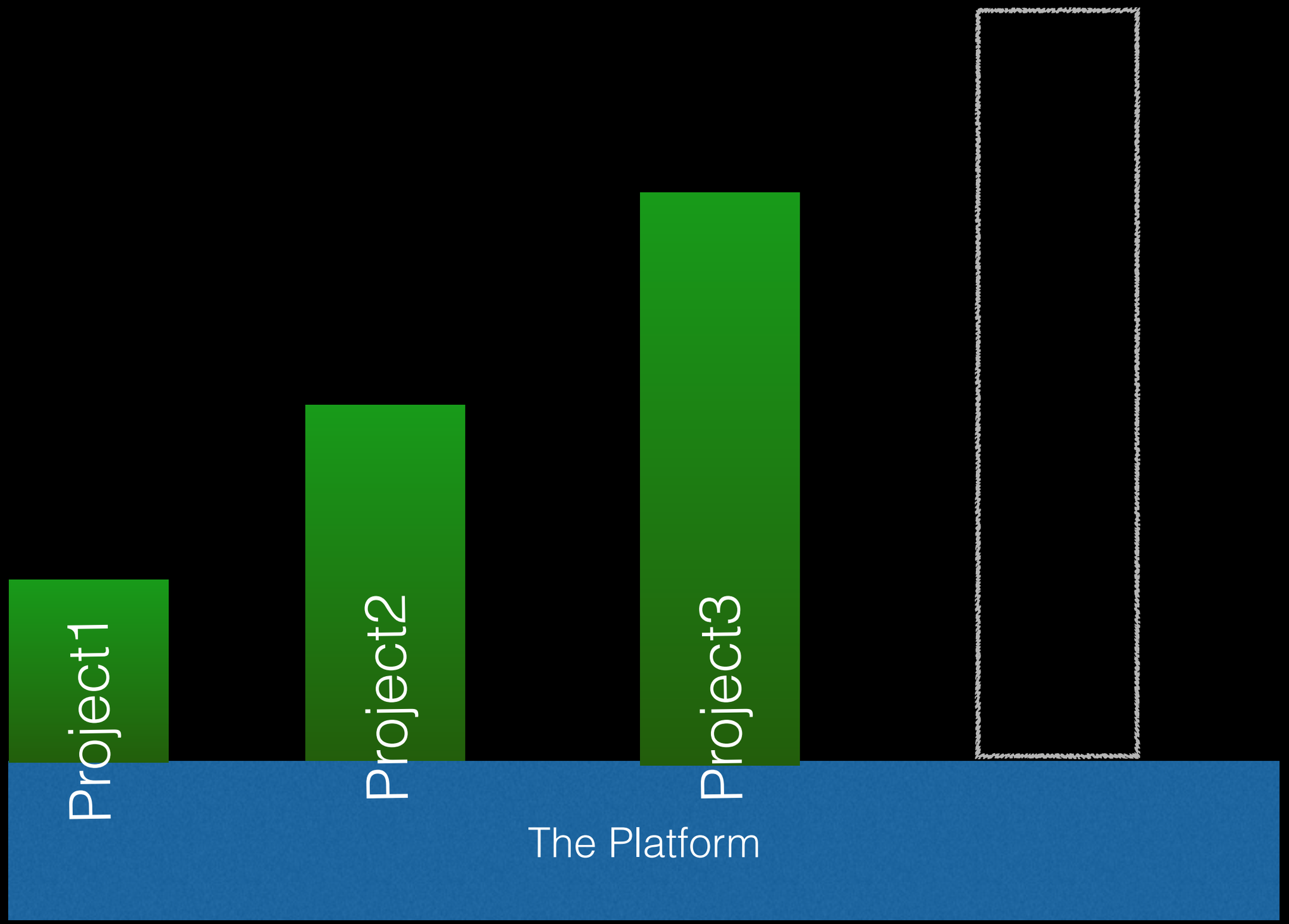
Backward Compatibility

Example: Bloc/Bric

You can not stay 100% compatible to Morphic and do something better

Morphic is scaffolding to develop the next step

Jump to large



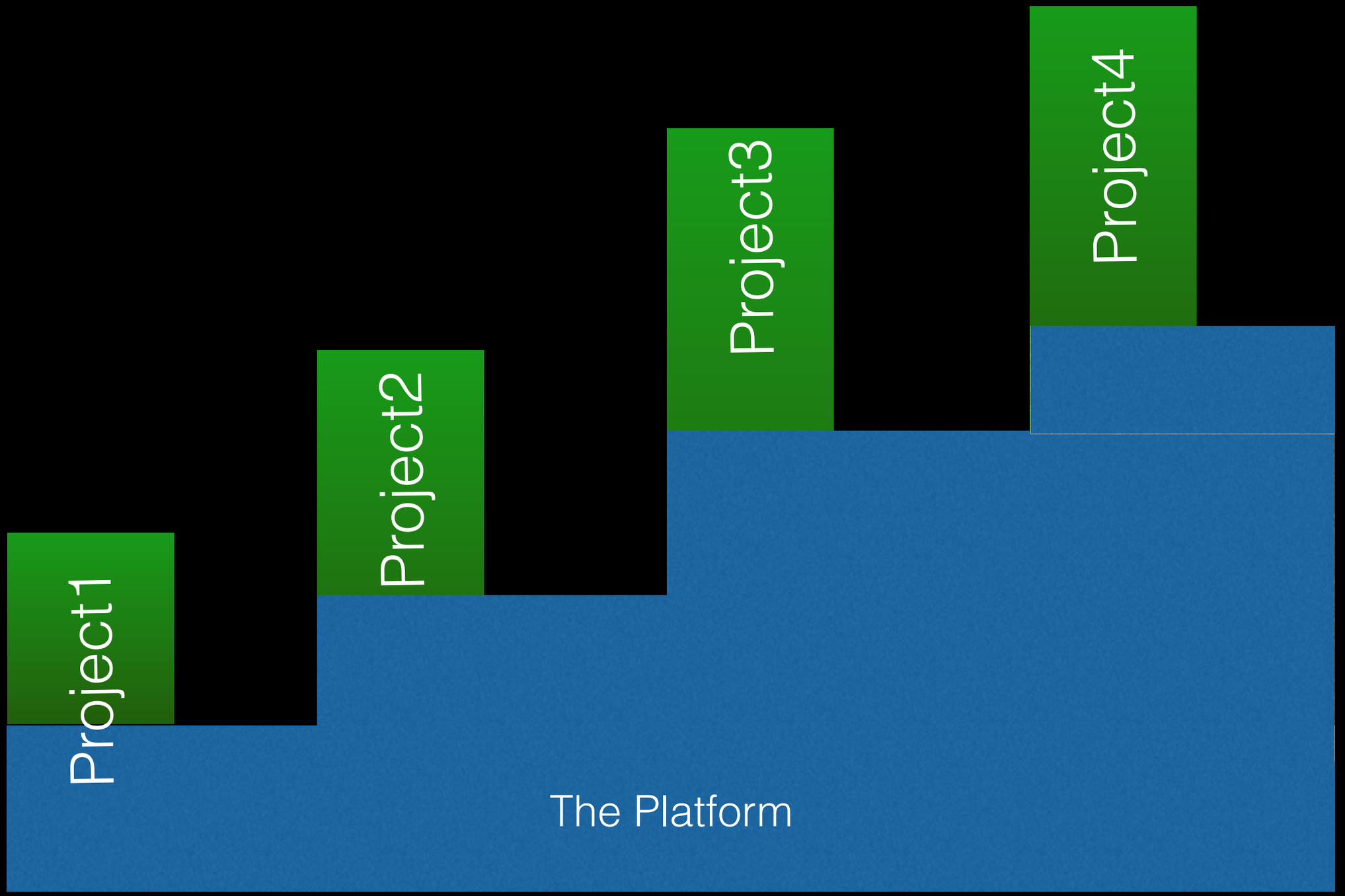
2014

Nomadic Solution

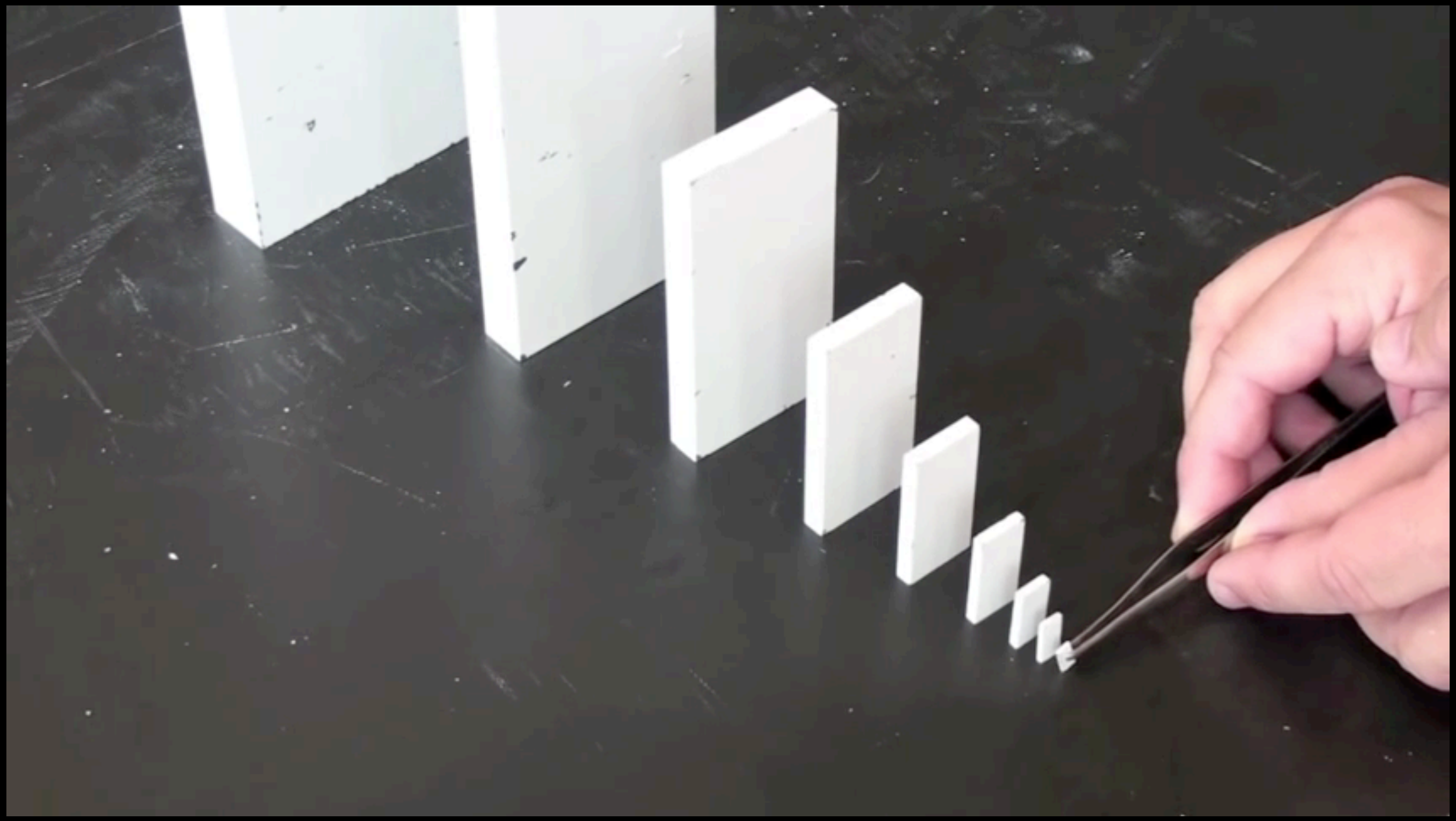
- Do not build infrastructure
- Use resources until depleted
- Move on

2014

Jump Possible



2014



https://www.youtube.com/watch?v=y97rBdSYbkg

Backward Compatibility

- Especially problematic for portable projects
- Why improve the Platform if projects can only use a 100% backward compatible subset?

- Is that a good situation?

Backward Compatibility

- We need better tools and structures to support evolution of client code

- Some experiments: rewriting deprecations (fun!)

Accept Imperfection

2016

DONE IS BETTER THAN PERFECT

POSTER BROUGHT TO YOU BY YOUR FRIENDS AT THE FACEBOOK ANALOG RESEARCH LABORATORY

2016

True for both small and big small

Good enough to integrate

- Deciding to integrate is very **very** hard
- You do not want to reject everything
- But accepting blindly is wrong, too
- **Lots of work!**

Involve the community

- Make it easy to review and test
- Delegate reviewing to subsystem maintainers
- Accept that nothing is perfect and mistakes can happen.

Accept Chaos

- You can not control everything. There is not enough time in the day.
- Things can get to be a bit chaotic at times
- Yet better than limiting activity to what is controllable

Feedback + Chaos

- Many examples where systems got into loop based exponential growth are examples lack of control:
  - The web vs. online services
  - Many examples at companies
    - e.g Unics vs Multics, even X86 (often examples of perfect vs. DONE).

Release =! Perfect

- Until Pharo 6: Lots of critic from outsiders about releasing something not perfect.
- But: Releases are done every year, not when everything is perfect.

Learned helplessness

- Smalltalk is open, can be changed
- Clients are programmers
- People do change tools/environment
- But “Smalltalk, the system” did not learn

Structure for Feedback

Structure for Feedback

- Example: GT Inspector
- Extending the inspector is easy
- There are lots of examples
- It can be done in a modular way

Structure for Feedback

- Future Example: Sista
- Implement Optimizer of the VM in the Image

- Makes it easier (hopefully) for Smalltalkers to contribute

… round 1,000 times the global production of rice in 2010
(464,000,000 metric tons)

2016

If it really works…

… we have a problem

Growth: everything gets “more”

Challenge: Growth

- More Boring tasks
- More complex tasks
    - Require full time, long term attention

Solution for Scaling

- Technical
  - e.g. Git for reviews and submissions, more people can get involved.
- Community Structure
  - Example: Consortium
  - Even better solutions can be invented!

Input needed!

- Now

- At the Conference

- Later by Mail or in Discord

Twitter: @marcusdenker

http://marcusdenker.de