

Living with Complexity, Part 1

Lecture 11 of *Researching People-Centred Design* with Tim Maciag



University
of Regina

Faculty of
Engineering and
Applied Science



**Attribution-ShareAlike 4.0 International
(CC BY-SA 4.0)**

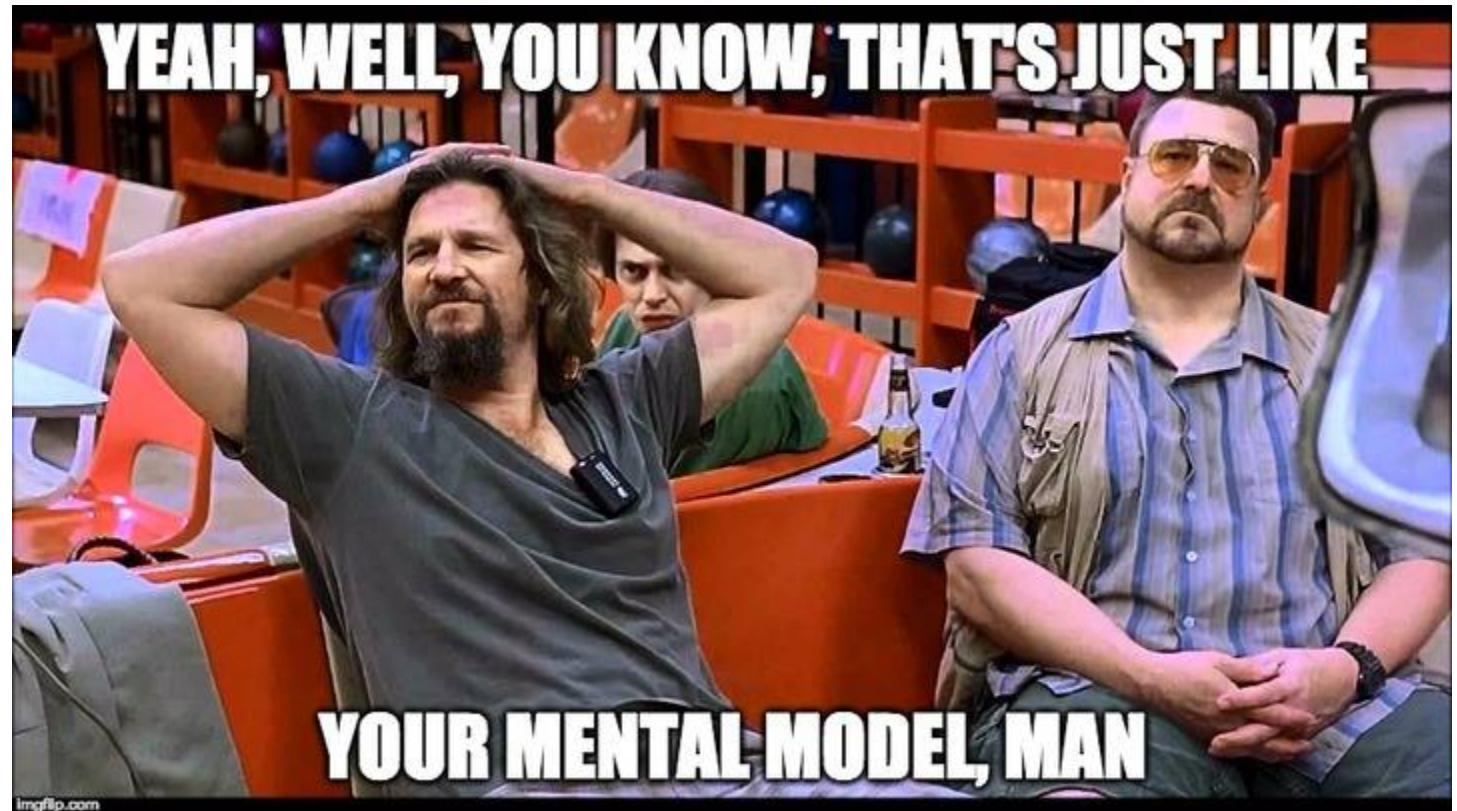
Outline

- Technology & complexity
- Complexity & joy
- Simplicity in the mind
- Misunderstandings of complexity
- Complication of simplicity

Technology & complexity

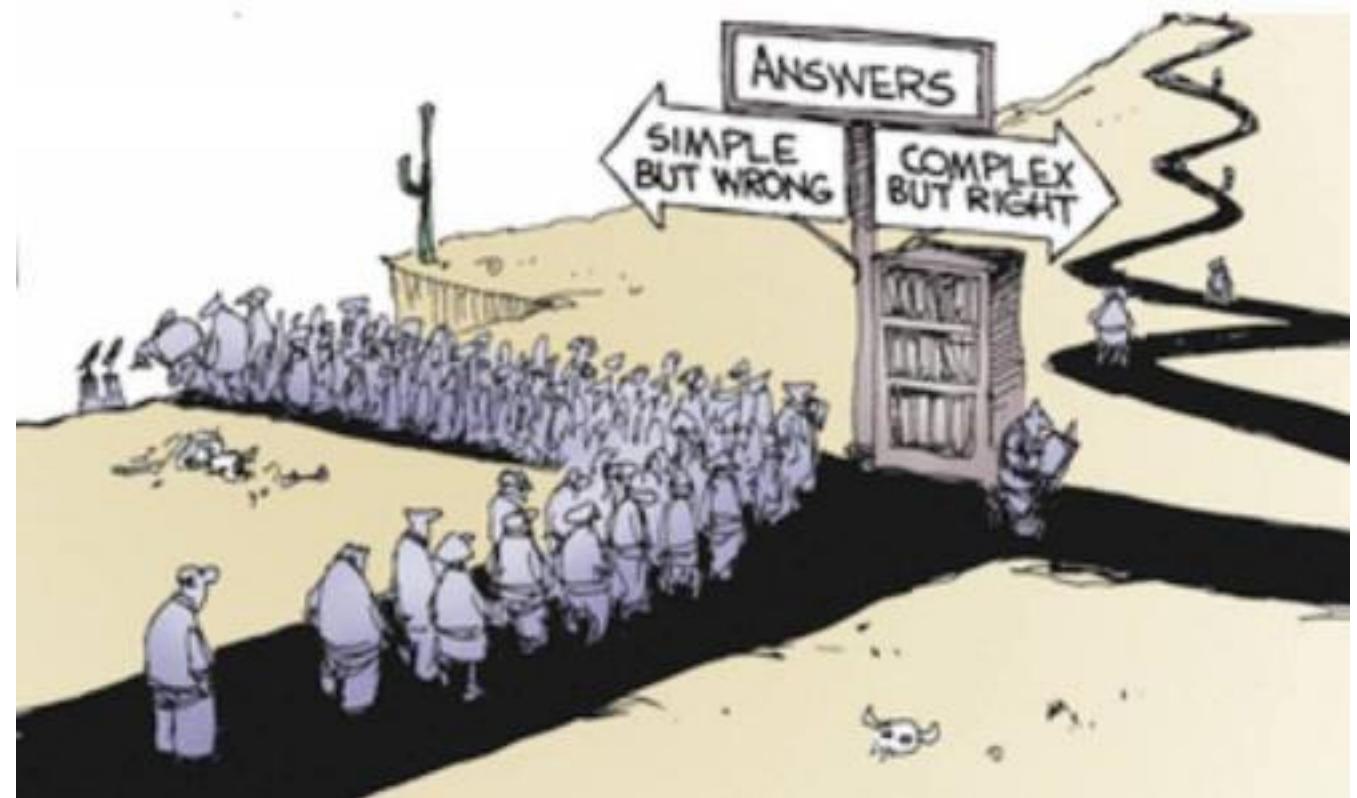
Technology & complexity

- Underlying structure



Technology & complexity

- Underlying structure
- Complexity vs confusion
(complicated)
 - A real distinction!



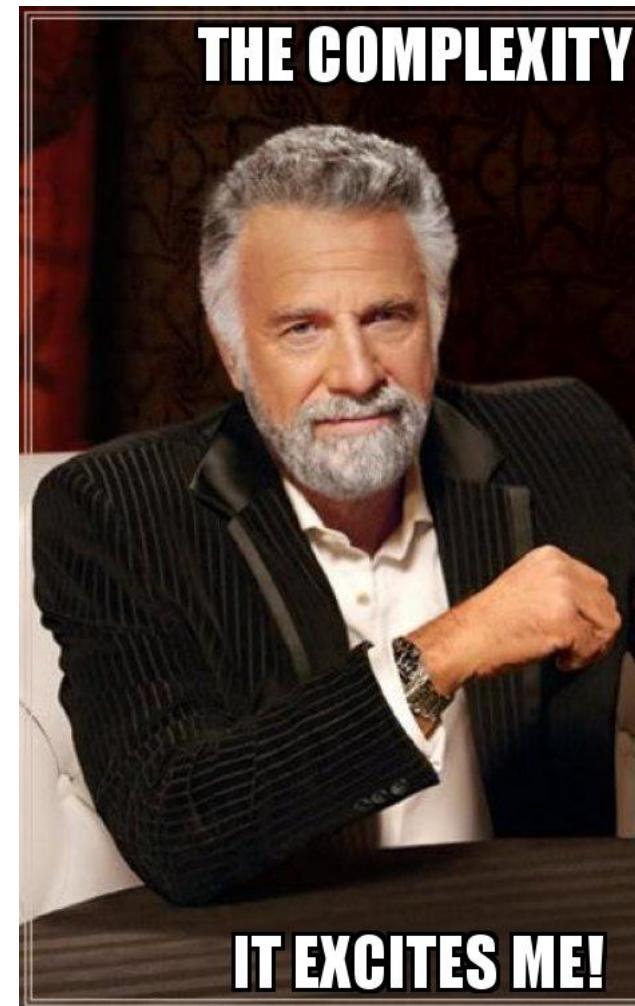
Technology & complexity

- Underlying structure
- Complexity vs confusion
(complicated)
 - A real distinction!
- Coping with complexity



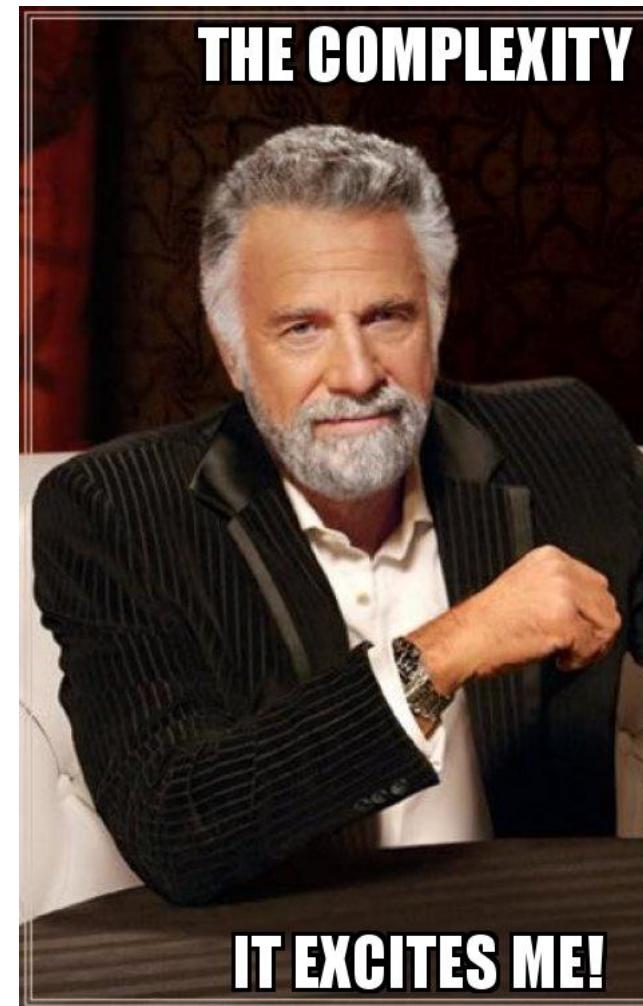
Technology & complexity

- Underlying structure
- Complexity vs confusion
(complicated)
 - A real distinction!
- Coping with complexity



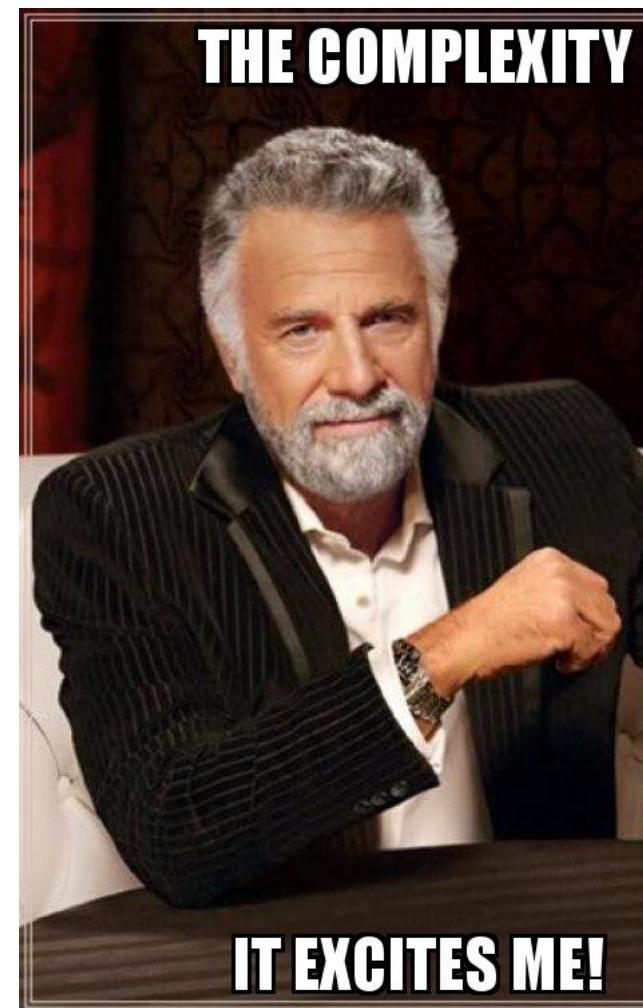
Technology & complexity

- Underlying structure
- Complexity vs confusion
(complicated)
 - A real distinction!
- Coping with complexity



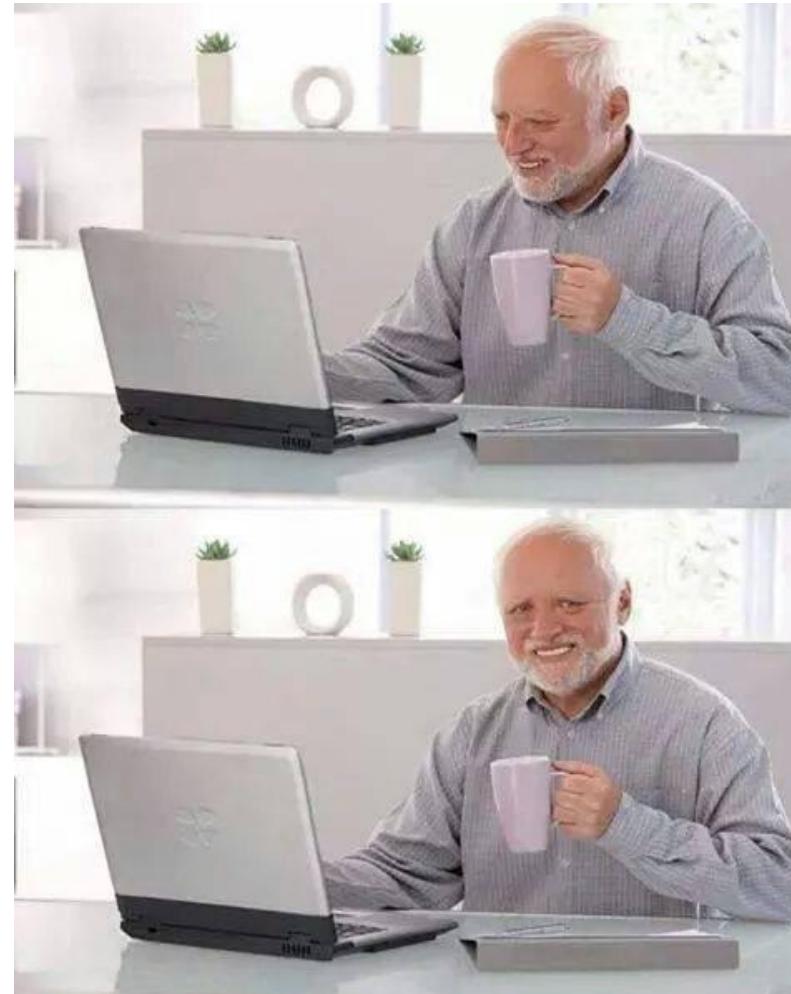
Technology & complexity

- Underlying structure
- Complexity vs confusion
(complicated)
 - A real distinction!
- Coping with complexity



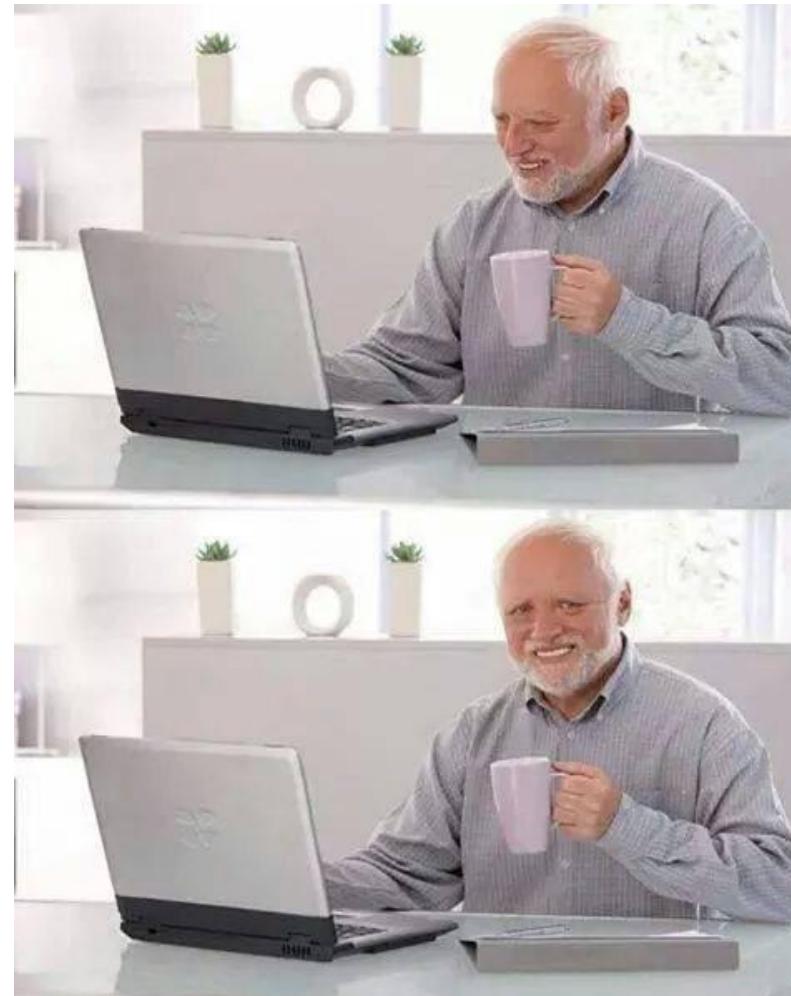
Technology & complexity

- Underlying structure
- Complexity vs confusion
(complicated)
 - A real distinction!
- Coping with complexity
- Technology & confusion
and difficulty



Technology & complexity

- Underlying structure
- Complexity vs confusion (complicated)
 - A real distinction!
- Coping with complexity
- Technology & confusion and difficulty



Complexity & joy?

- K.A. Ericsson et al. The Role of Deliberate Practice in the Acquisition of Expert Performance. *Psychological Review*, v100,n3, 1993. Online: <http://graphics8.nytimes.com/images/blogs/freakonomics/pdf/DeliberatePractice%28PsychologicalReview%29.pdf> (Accessed Mar 2019)

Complexity & joy?

- Complexity is desirable?



- K.A. Ericsson et al. The Role of Deliberate Practice in the Acquisition of Expert Performance. *Psychological Review*, v100,n3, 1993. Online: <http://graphics8.nytimes.com/images/blogs/freakonomics/pdf/DeliberatePractice%28PsychologicalReview%29.pdf> (Accessed Mar 2019)

Complexity & joy?

- Complexity is desirable?
- Medium-level complexity sweet spot



- K.A. Ericsson et al. The Role of Deliberate Practice in the Acquisition of Expert Performance. Psychological Review, v100,n3, 1993. Online: <http://graphics8.nytimes.com/images/blogs/freakonomics/pdf/DeliberatePractice%28PsychologicalReview%29.pdf> (Accessed Mar 2019)

Complexity & joy?

- Complexity is desirable?
- Medium-level complexity sweet spot
- Seeking out complexity



• K.A. Ericsson et al. The Role of Deliberate Practice in the Acquisition of Expert Performance. *Psychological Review*, v100,n3, 1993. Online: <http://graphics8.nytimes.com/images/blogs/freakonomics/pdf/DeliberatePractice%28PsychologicalReview%29.pdf> (Accessed Mar 2019)

Complexity & joy?

- Complexity is desirable?
- Medium-level complexity sweet spot
- Seeking out complexity
- Measuring complexity
 - L. Isaac: [10000 hours – Sitting with Failure](#)



illustrations @swatercolour ~ joke u/Oreasmoochy

- K.A. Ericsson et al. The Role of Deliberate Practice in the Acquisition of Expert Performance. *Psychological Review*, v100,n3, 1993. Online: <http://graphics8.nytimes.com/images/blogs/freakonomics/pdf/DeliberatePractice%28PsychologicalReview%29.pdf> (Accessed Mar 2019)

Simplicity is in the mind

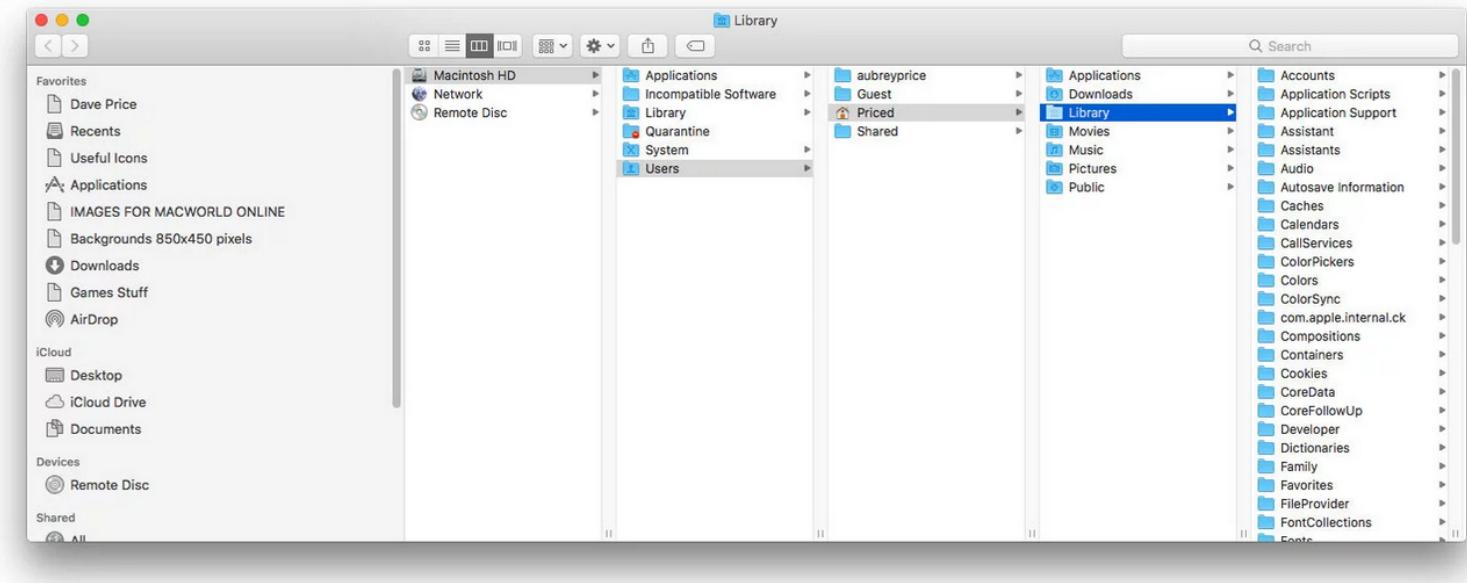
Simplicity is in the mind

- Conceptual models
 - Video: [Delicate Boundaries](#)



Simplicity is in the mind

- Conceptual models
 - Video: [Delicate Boundaries](#)



Simplicity is in the mind

- Conceptual models
 - Video: [Delicate Boundaries](#)
- Why can't things be simple?



Simplicity is in the mind

- Conceptual models
 - Video: [Delicate Boundaries](#)
- Why can't things be simple?
- Taming complexity



Simplicity is in the mind

- Conceptual models
 - Video: [Delicate Boundaries](#)
- Why can't things be simple?
- Taming complexity
- Tessler's "law of the conservation of complexity"



The complication of simplicity

The complication of simplicity

- E.g. Passwords

Password



>Password strength:
Weak

Confirm password



Passwords match: no

To make your password stronger:

- Make it at least 6 characters
- Add uppercase letters
- Add numbers
- Add punctuation

To change the current user password, enter the new password in both fields.

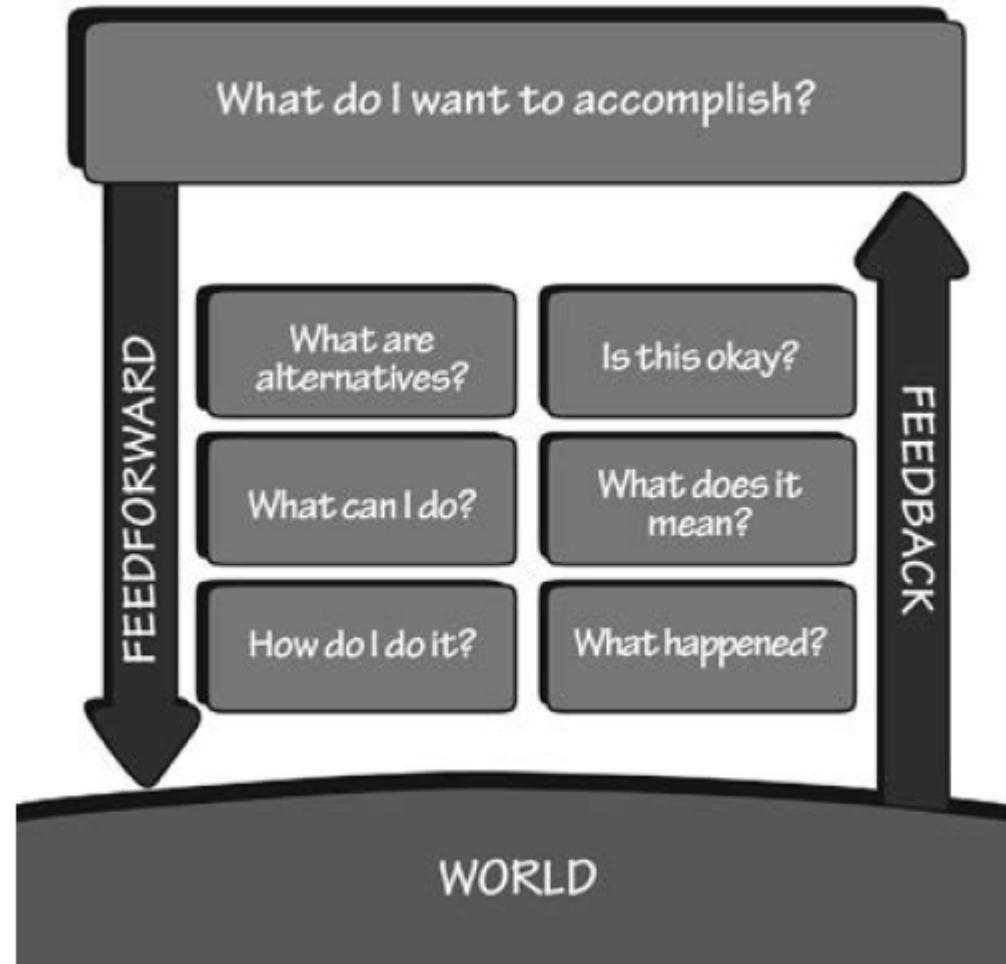
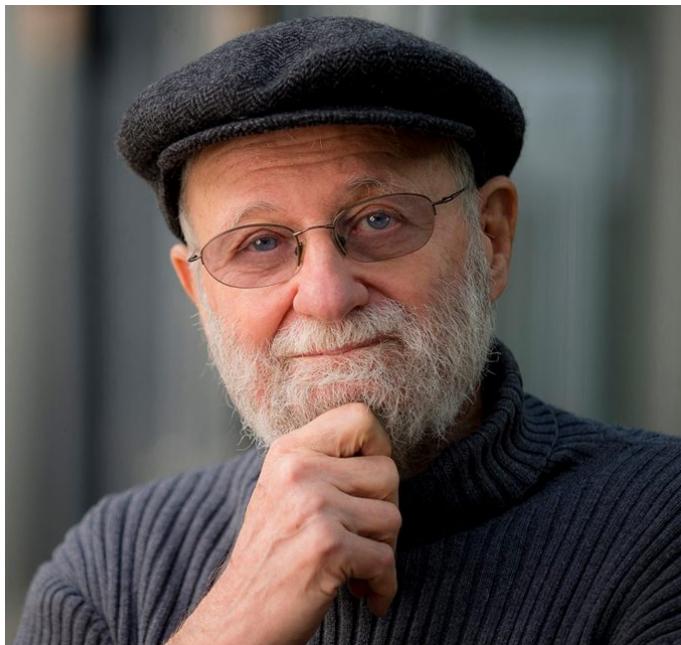
The complication of simplicity

- E.g. Passwords
- How we cope



The complication of simplicity

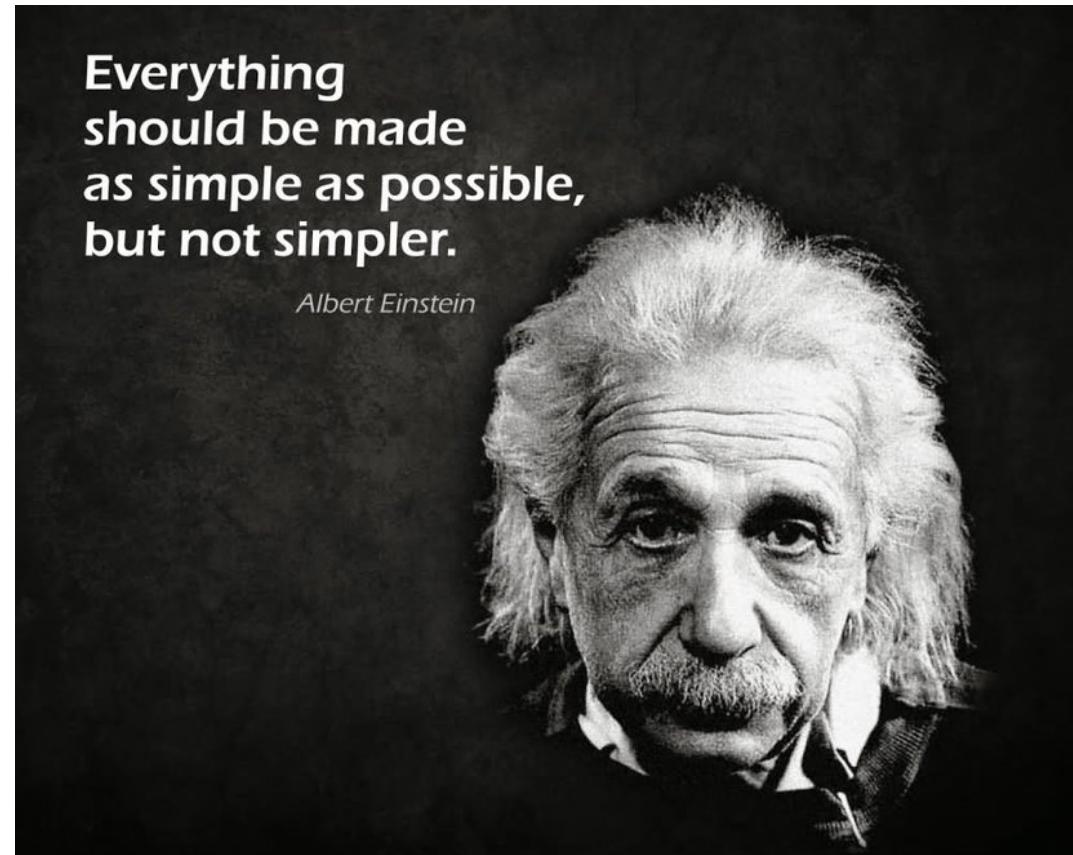
- E.g. Passwords
- How we cope
- Back to design principles



Misunderstandings about complexity

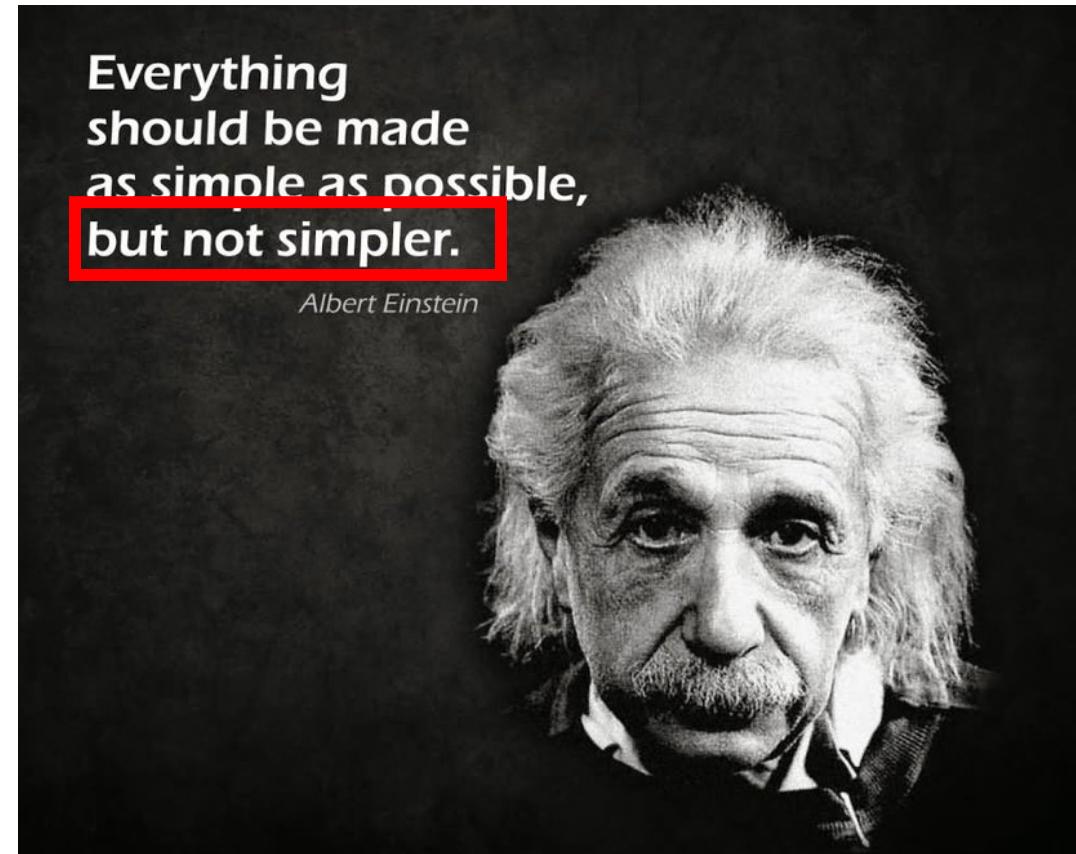
Misunderstandings about complexity

- Einstein and Ockham (paraphrased)



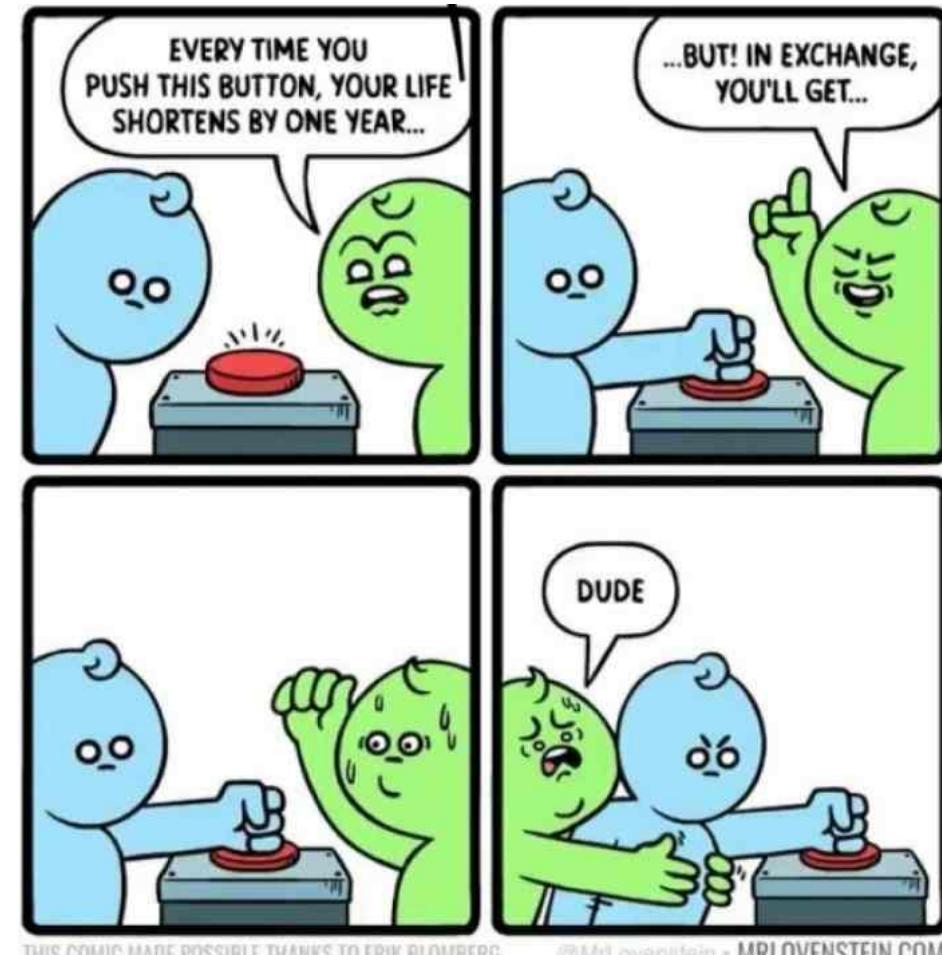
Misunderstandings about complexity

- Einstein and Ockham (paraphrased)



Misunderstandings about complexity

- Einstein and Ockham (paraphrased)
- Simplicity != fewer features

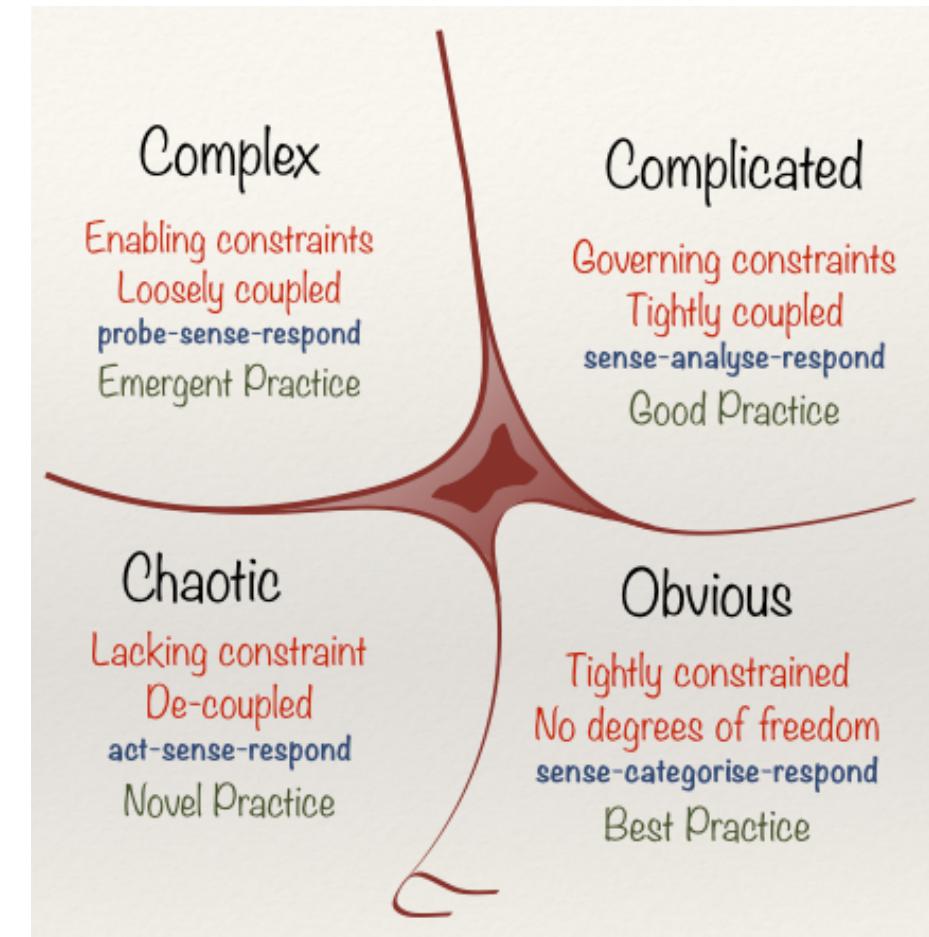


THIS COMIC MADE POSSIBLE THANKS TO ERIK BLOMBERG

@MrLovenstein - MRLOVENSTEIN.COM

Misunderstandings about complexity

- Einstein and Ockham (paraphrased)
- Simplicity != fewer features
- The wrong focus



Questions/discussion

- Desk
- Interface
- Device 1
- Device 2
- Complexity vs confusion (complicated)
- Simplicity
- A designer's/developer's focus

Image refs

- Underlying structure, https://stdaily.ghost.io/content/images/2015/09/11539701_10153479151219861_877624621169523541_n.jpg
- Complex complicated, https://henrykotula.files.wordpress.com/2017/09/cf06e-answers_simplevscomplex-500x301.jpg?w=1400
- Coping with complexity, <https://media.makeameme.org/created/the-complexity-it.jpg>
- Flip phone, https://images-na.ssl-images-amazon.com/images/I/61q4V3IKiaL._SX569_.jpg
- Blackberry, https://images-na.ssl-images-amazon.com/images/I/81am5bb0DAL._SL1500_.jpg
- Galaxy, https://www.androidcentral.com/sites/androidcentral.com/files/styles/xlarge_wm_brw/public/article_images/2015/06/galaxy-keyboard.jpg?itok=TpGLGLgM
- Harold, <https://imgflip.com/s/meme/Hide-the-Pain-Harold.jpg>
- Complexity is good, https://pbs.twimg.com/media/CiO6uaNW0AAPg_V.jpg
- Controller, https://i5.walmartimages.com/asr/b9a9d6a0-791d-45b6-8851-3c85b978ac15_1.8e6462f837bc160aa56bcb3b7058d684.jpeg?odnHeight=450&odnWidth=450&odnBg=FFFFFF
- Controller, <https://i5.walmartimages.ca/images/Large/659/031/999999-04549659031.jpg>
- Measuring, <https://pics.me.me/dad-jokes-gag-what-are-you-doing-im-measuring-your-4412380.png>

...image refs

- JavaScript, <https://pbs.twimg.com/media/CLWv31DWgAAvvsj.jpg>
- Hipster, <http://www.quickmeme.com/img/9e/9eac8803f8e0abad93ec737a6ad3a0c346666fb70f85d36fb003bf303626182d.jpg>
- Mac, https://cdn2.macworld.co.uk/cmsdata/features/3520878/how_to_find_hidden_files_library_folder_mac_1500.jpg
- Easy hard, <https://media.makeameme.org/created/work-is-easy-5a472d.jpg>
- Einstein, <https://static1.squarespace.com/static/560c056fe4b0eff8597d8fa8/t/5bf6eb25352f534626accb48/1542908721921/Everything-should-be-made-as-simple-as-possible-but-not-simpler.-Albert-Einstein.jpg?format=1000w>
- One button, <https://meme.xyz/uploads/posts/t/l-29275-every-time-you-push-this-button-your-life-shortens-by-one-year.jpg>
- RPO, https://1.bp.blogspot.com/-TPc1p59KTQg/Ww96va2qcHI/AAAAAAAAMQ/1tUT3YpvNrE5qzUhTa5JHjoZ9WfQzdd2QCK4BGAYYCw/s1600/sorrento_pod.jpg
- RPO1, <https://i.stack.imgur.com/K7bxu.png>
- Social signifier, <https://helix.northwestern.edu/sites/helix/files/images/image-7.jpeg>
- Tessler, <http://www.designinginteractions.com/img/interviews/LarryTesler.jpg>