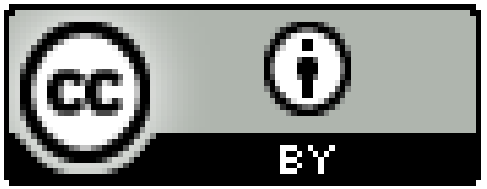
Software Engineering

Empirical Results



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Unnecessarily

ames Lind (1716-94)

747: first controlled medical

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Allowed British ships to be effective on long patrols during the Napoleonic Wars

1950: Hill & Doll study comparing smokers and non-smokers

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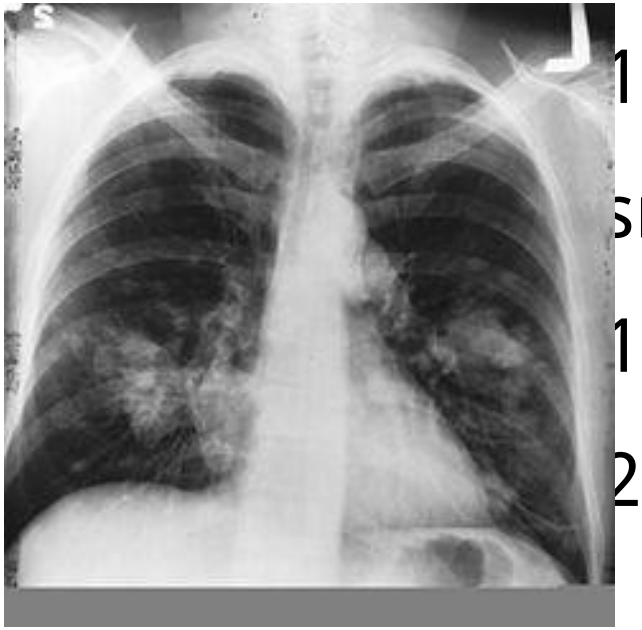
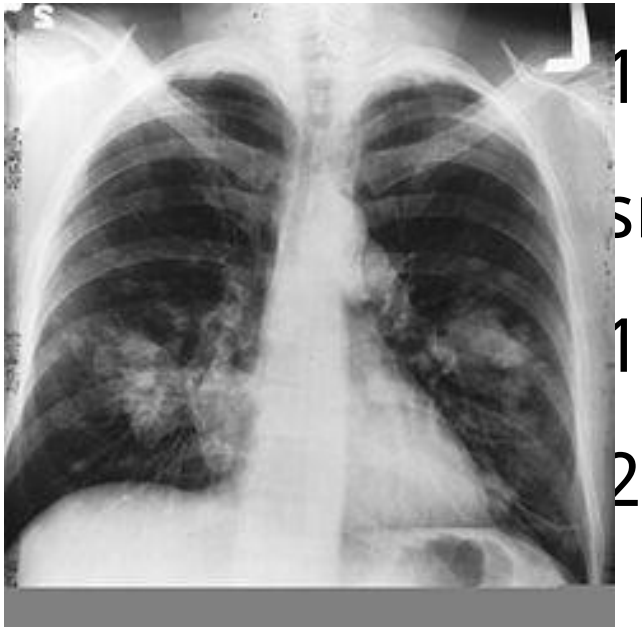
1. Smoking causes lung cancer



1950: Hill & Doll study comparing smokers and non-smokers

1. Smoking causes lung cancer
2. Many people would rather fail than change



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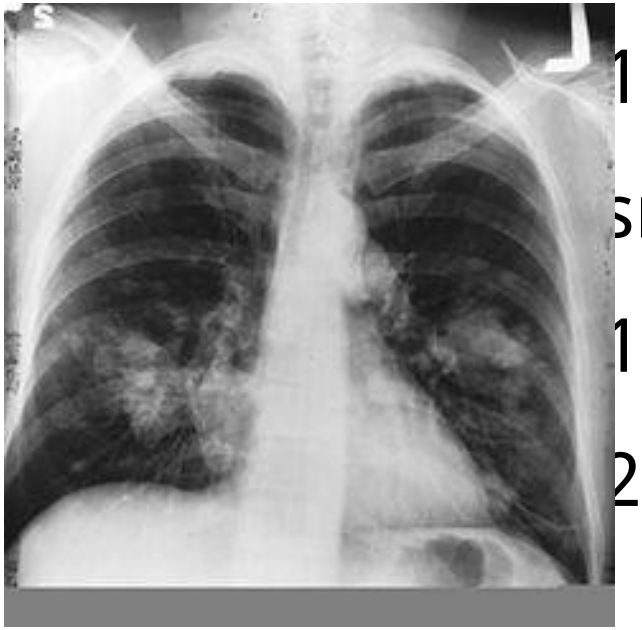

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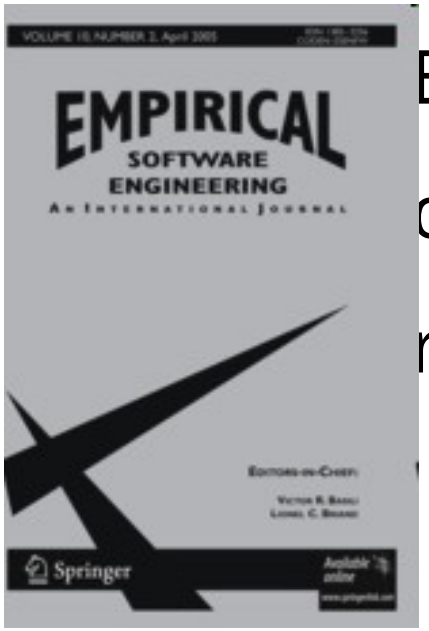

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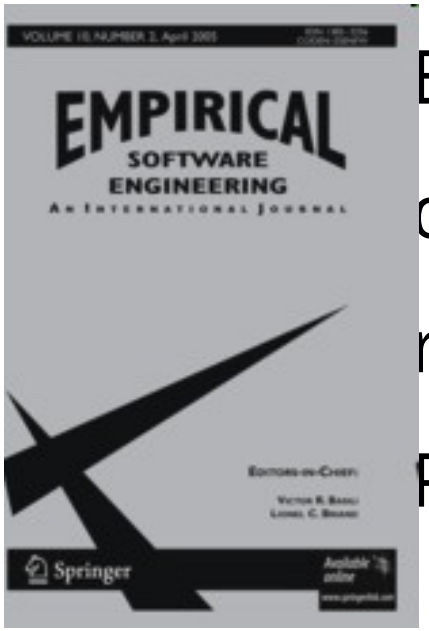

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Particularly ones by young researchers

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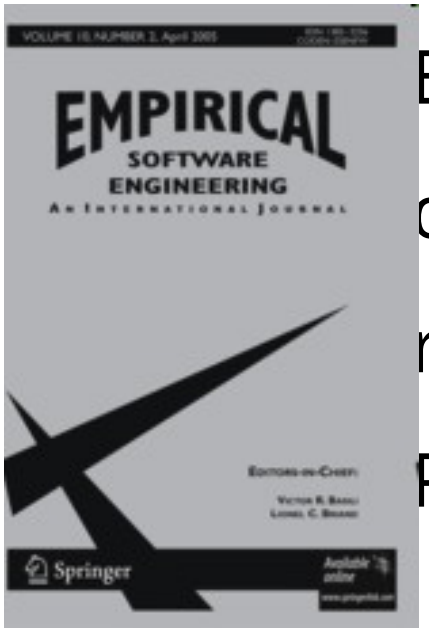

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Many are flawed or incomplete,

but standards are constantly improvin


Windows Vista

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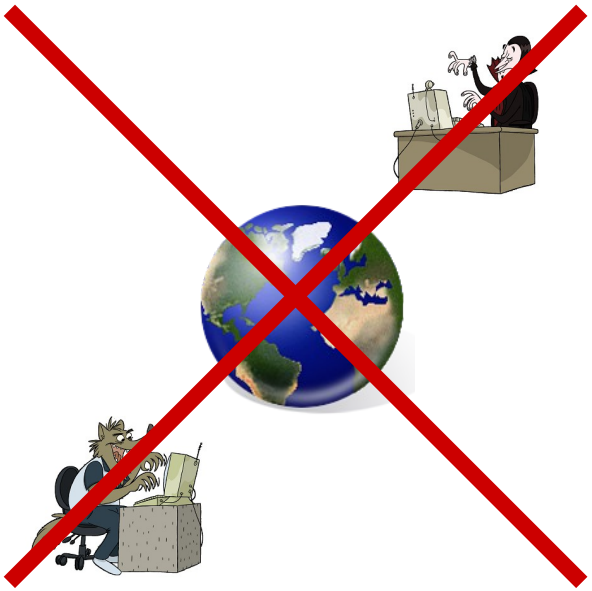

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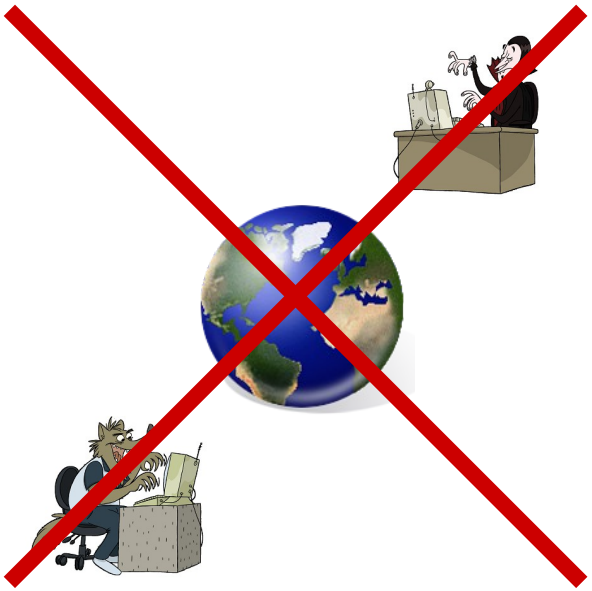
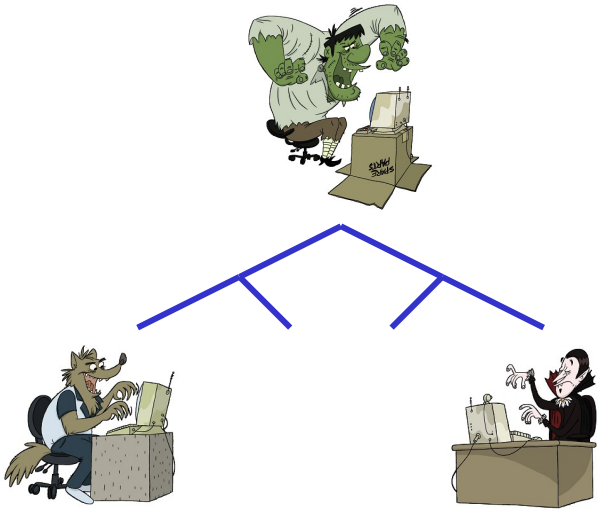
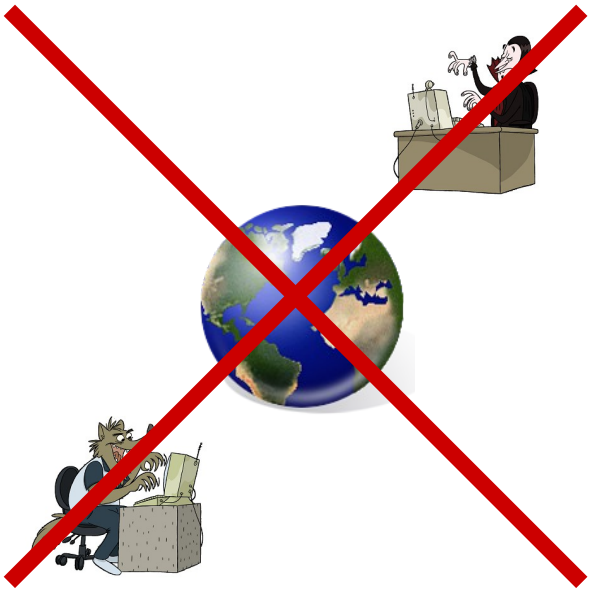
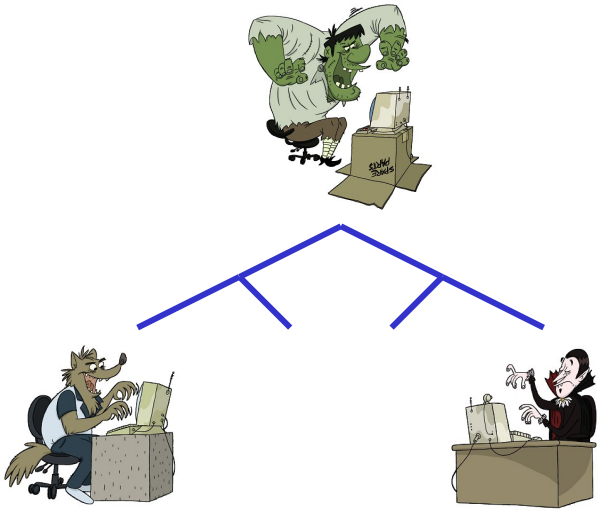
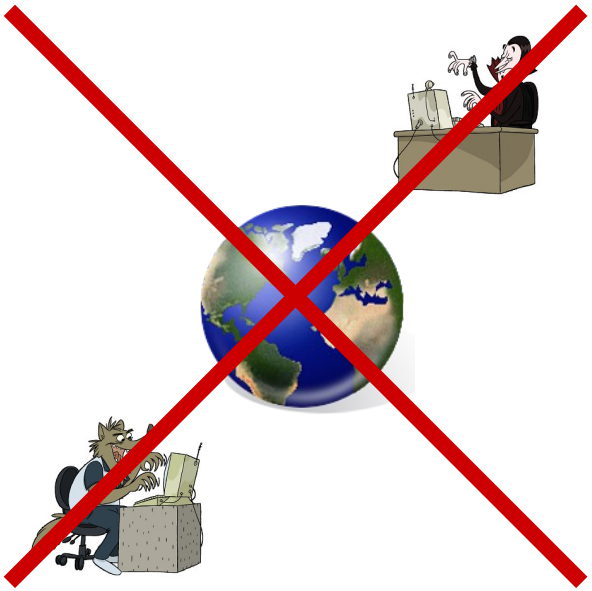


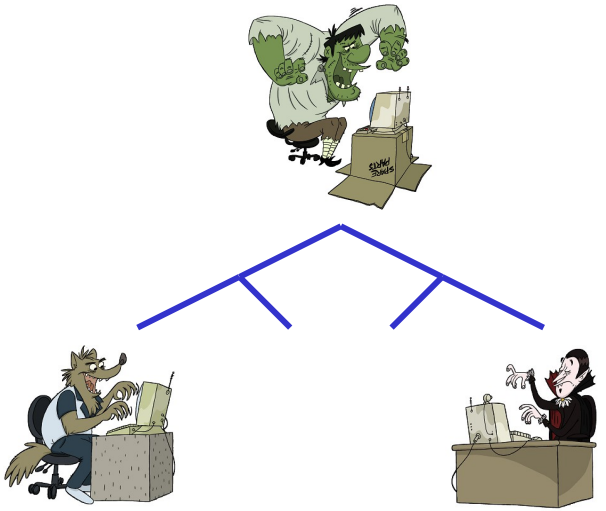






Unsurprising in retrospect





Unsurprising in retrospect

Actionable

What goes wrong in developers' first job?

Microsoft®

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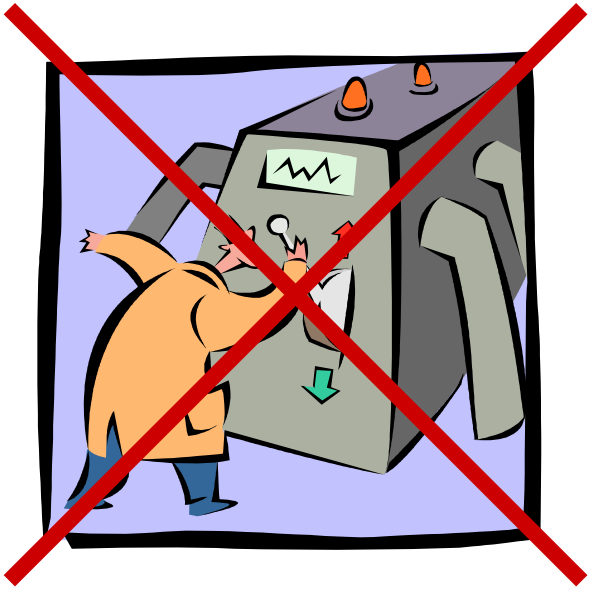

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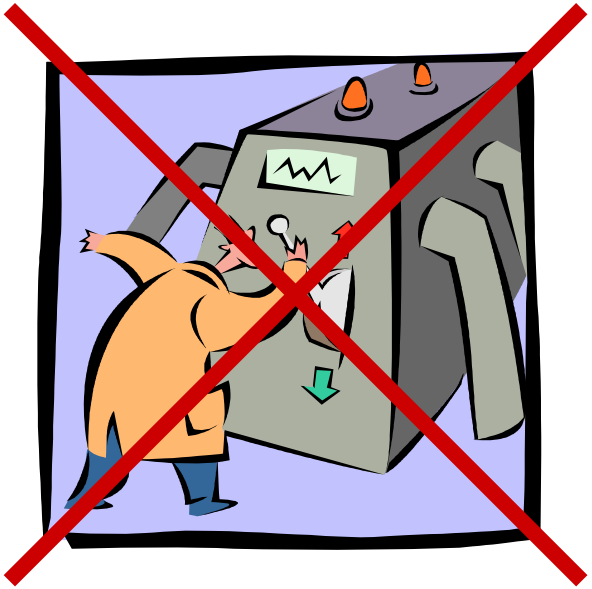

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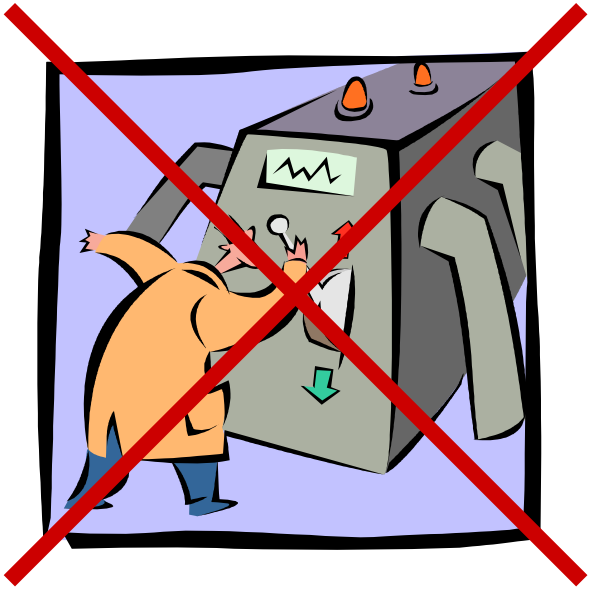

Also unsurprising in retrospect, and actionable

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Biggest hurdle is re-education

Test-Driven Development

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Meta-analysis of over 30 studies

No consistent effect

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The better the study, the weaker the signal

Boehm et al (1975): "Some Experience with Automated Aids to the Design of Large-Scale Reliable Software"

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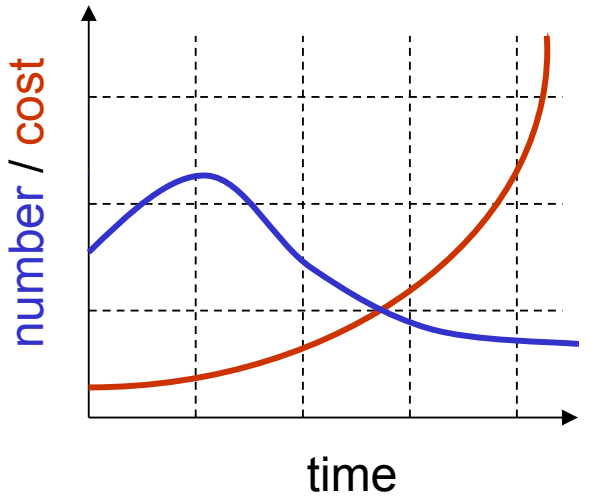
Most errors introduced during requirements analysis and design



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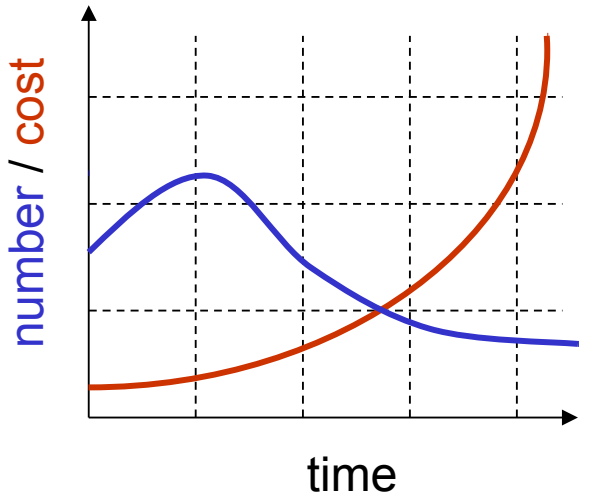
The later they are removed, the more expensive they are



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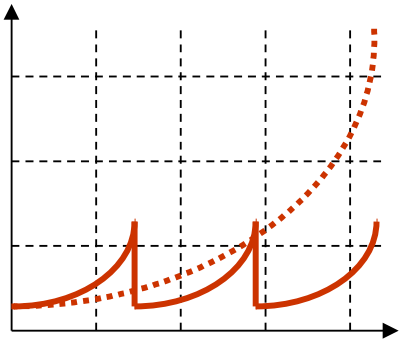

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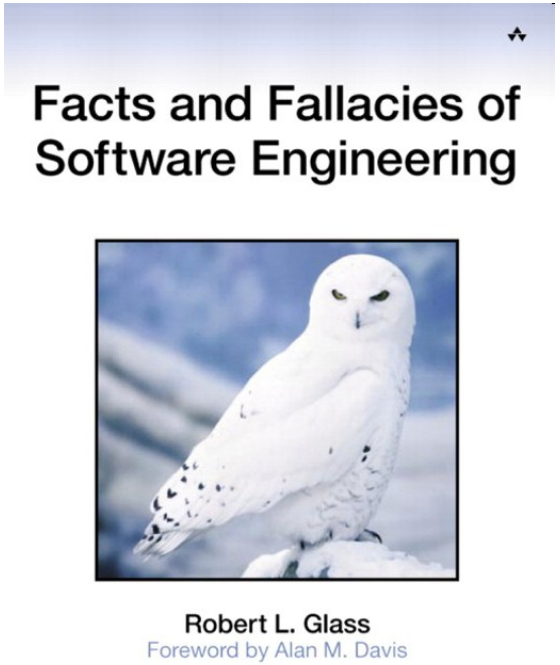
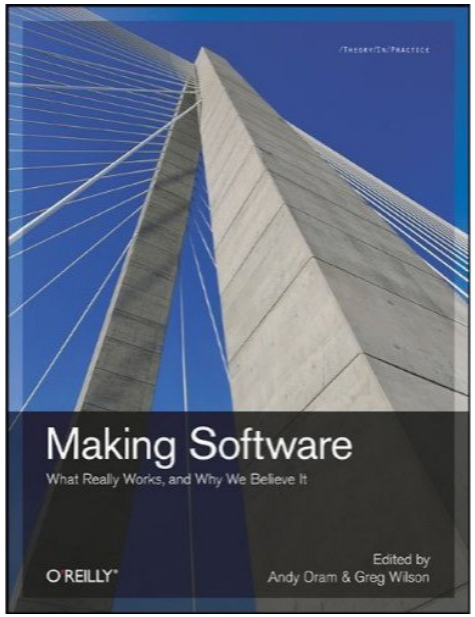
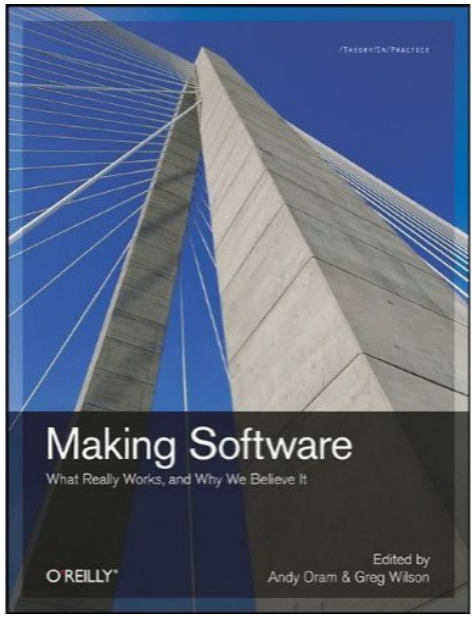
Code review now normal in open source


Facts and Fallacies of
Software Engineering
Robert L. Glass
Foreword by Alan M. Davis


Making Software
What Really Works, and Why We Believe It
O'REILLY
Edited by
Andy Oram & Greg Wilson

Do programming languages affect productivity?



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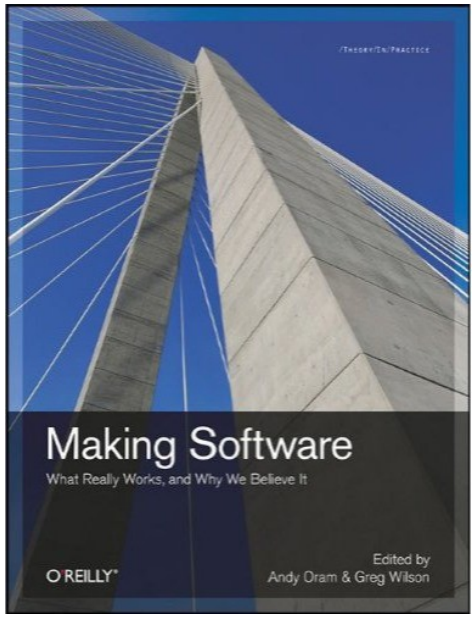

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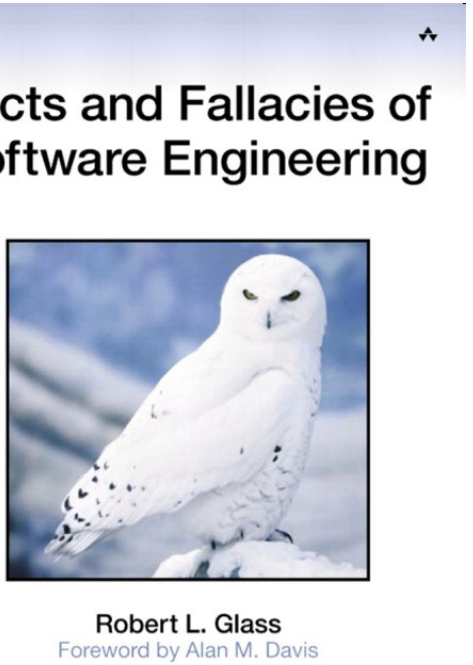

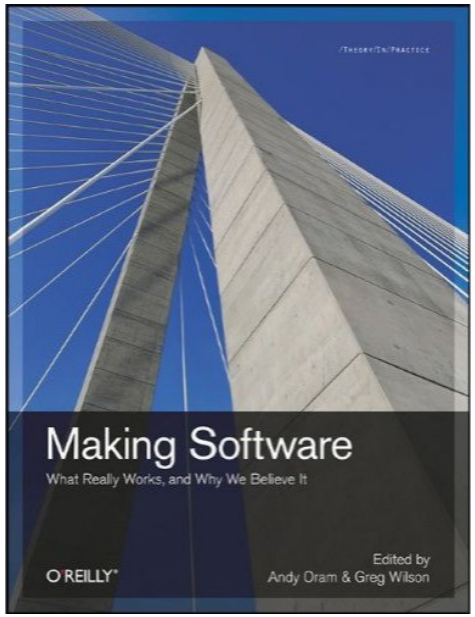

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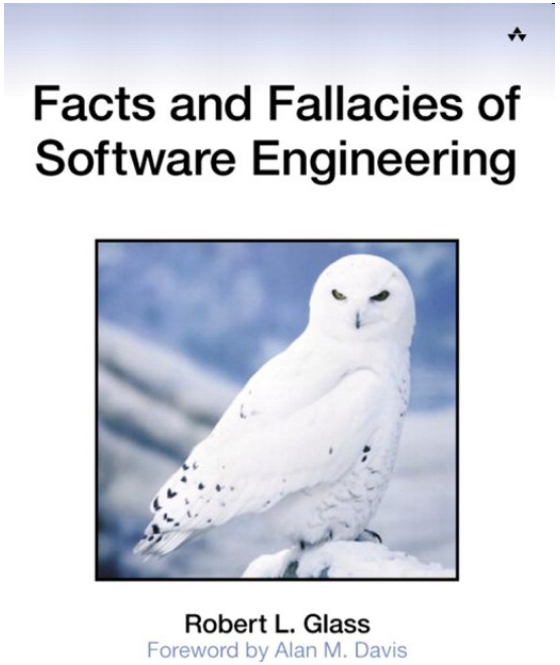

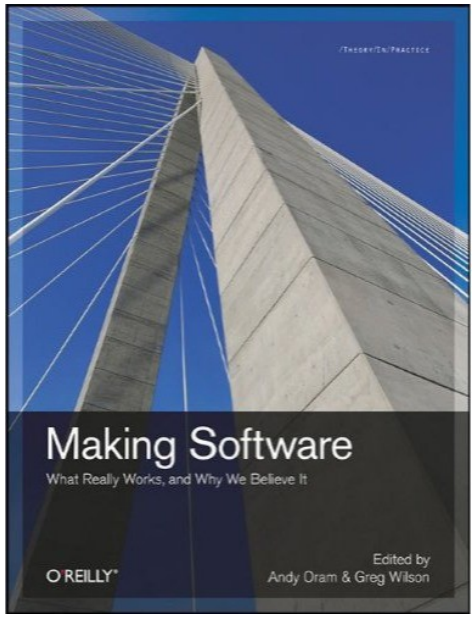

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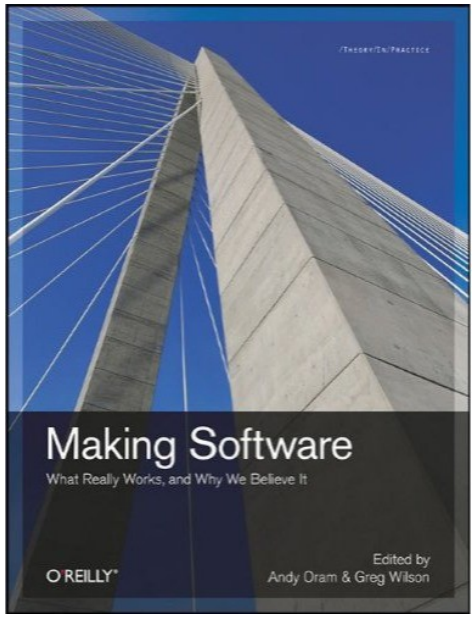

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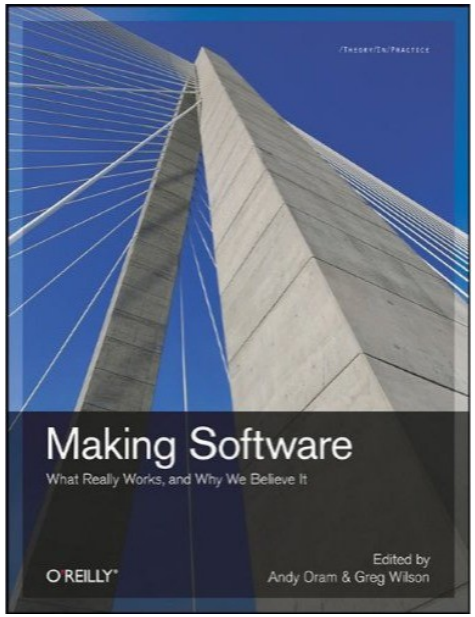

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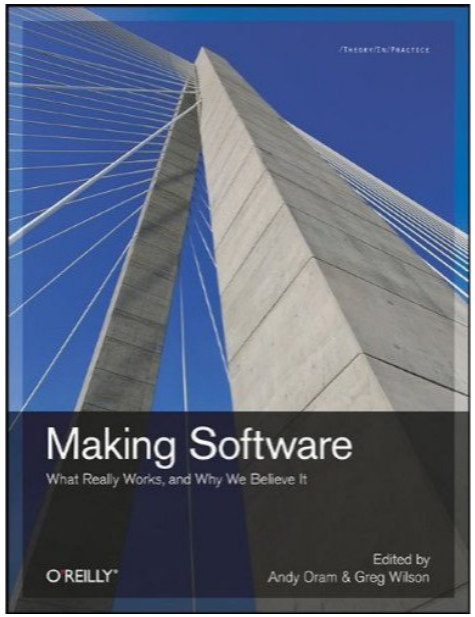

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narrated by

Greg Wilson

February 2011