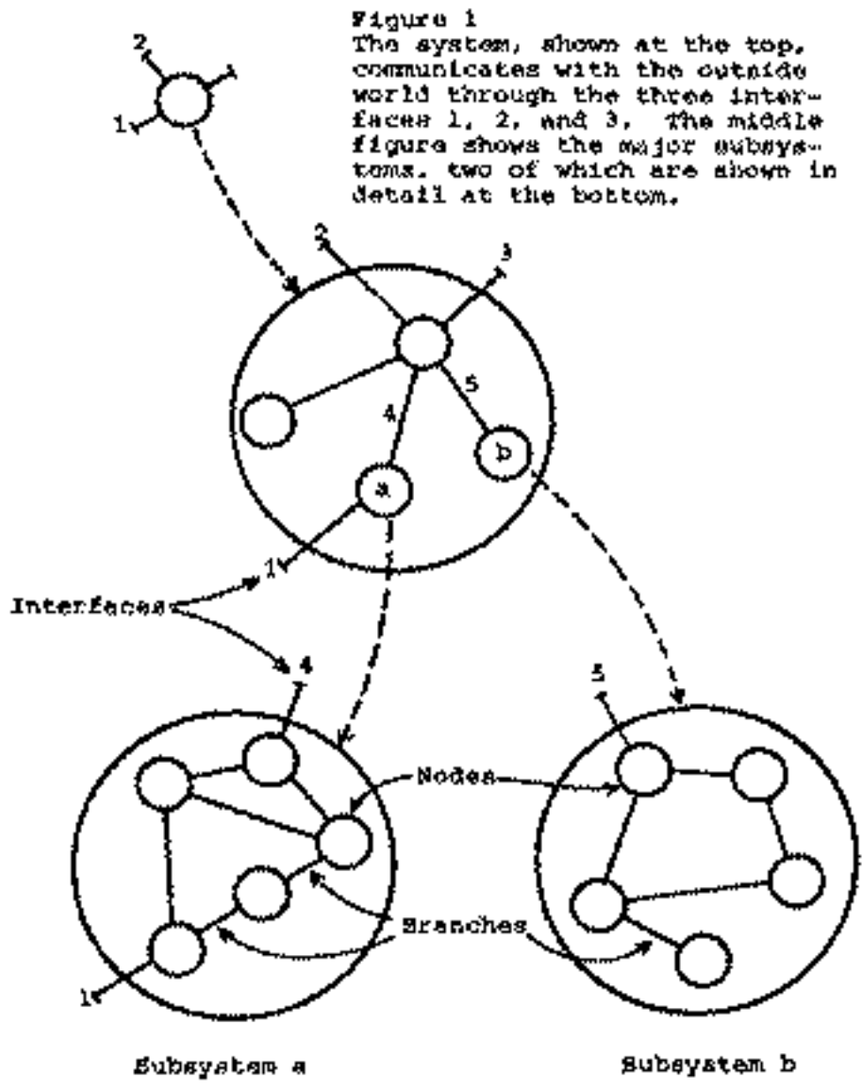
r7k

If We Took Conway's Law Seriously..

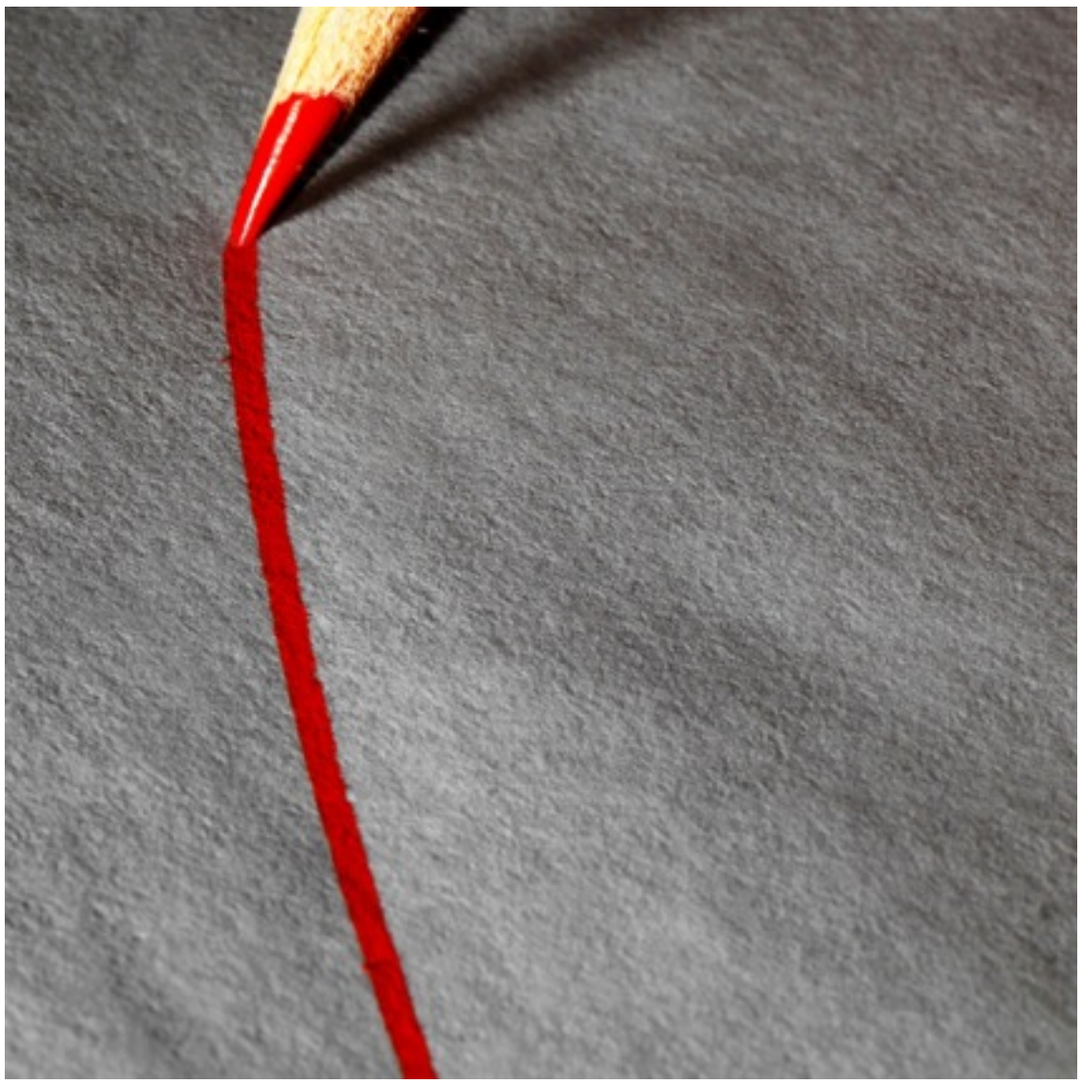
Michael Feathers
Director, R7K Research & Conveyance

Conway’s Law

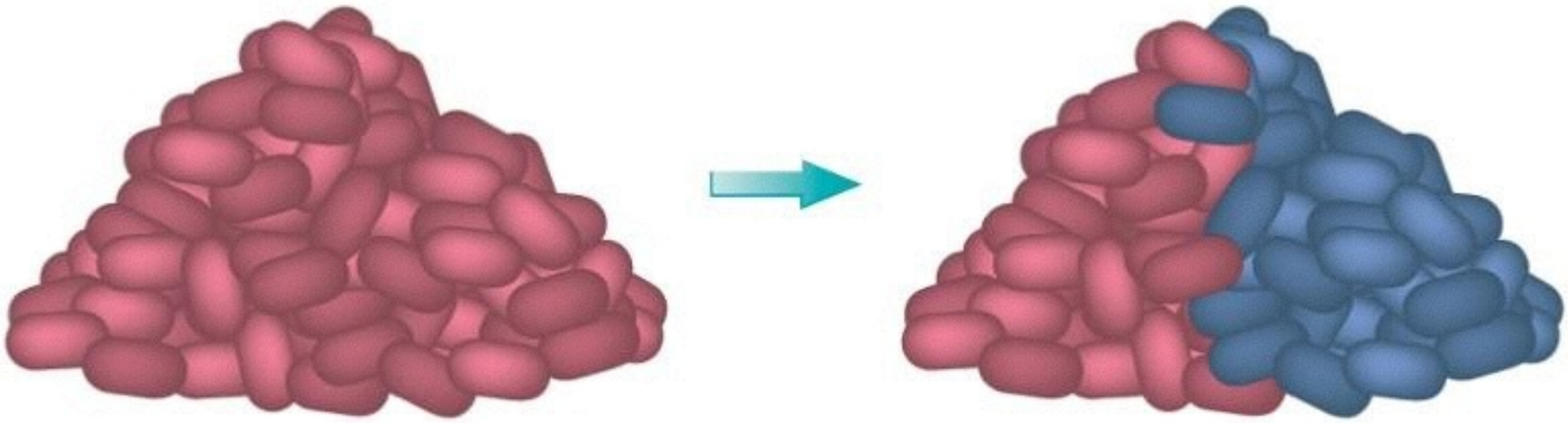
Any organization that designs a system will inevitably produce a design whose structure is a copy of the organization's communication structure.



Force Boundaries



Active Management



Original

One Half-life Later

Monitor Cruft

Monitor Closure

Software entities should be **Open** for extension, but **Closed** for modification

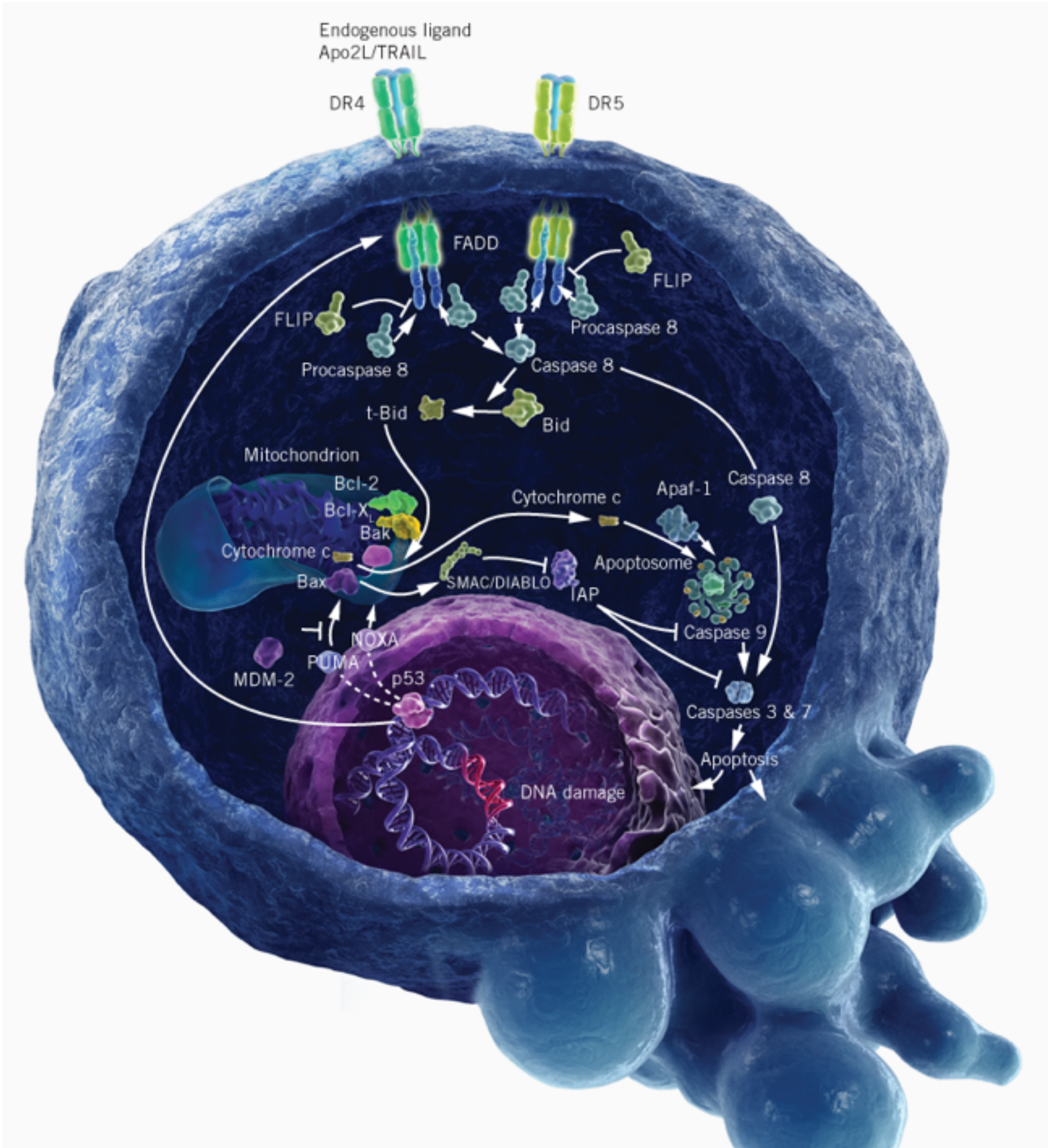
Turnover

According to PayScale's most recent survey, employee turnover rate among Fortune 500 companies is greatest in the IT industry.

According to PayScale's recent employee turnover report, the employee turnover rate among Fortune 500 companies in the IT industry is the highest among all industries surveyed. Here's PayScale's list of companies with the shortest tenure:

Rank	Employer Name	Median Age of Employees	Median Employee Tenure	Median Pay
1	Massachusetts Mutual Life Insurance Company	38	0.8	$60,000
2 - tie	Amazon.com Inc	32	1.0	$93,200
2 - tie	American Family Life Assurance Company of Columbus (AFLAC)	38	1.0	$38,000
4 - tie	Google, Inc.	29	1.1	$107,000
4 - tie	Mosaic	37	1.1	$69,900
6 - tie	Chesapeake Energy Corporation	31	1.2	$60,500
6 - tie	Group 1 Automotive, Inc.	32	1.2	$33,200
6 - tie	Ross Stores, Inc	29	1.2	$23,800
6 - tie	Wellcare Health Plans, Inc.	38	1.2	$49,900

Team == Codebase


Endogenous ligand
Apo2L/TRAIL
DR4
DR5
FADD
FLIP
Procaspase 8
FLIP
Procaspase 8
Caspase 8
t-Bid
Bid
Mitochondrion
Bcl-2
Bcl-X$_L$
Bak
Cytochrome c
Bax
Cytochrome c
Apaf-1
Caspase 8
SMAC/DIABLO
IAP
Apoptosome
Caspase 9
NOXA
PUMA
MDM-2
p53
Caspases 3 & 7
Apoptosis
DNA damage

The Optimal Class Size for Object-Oriented Software

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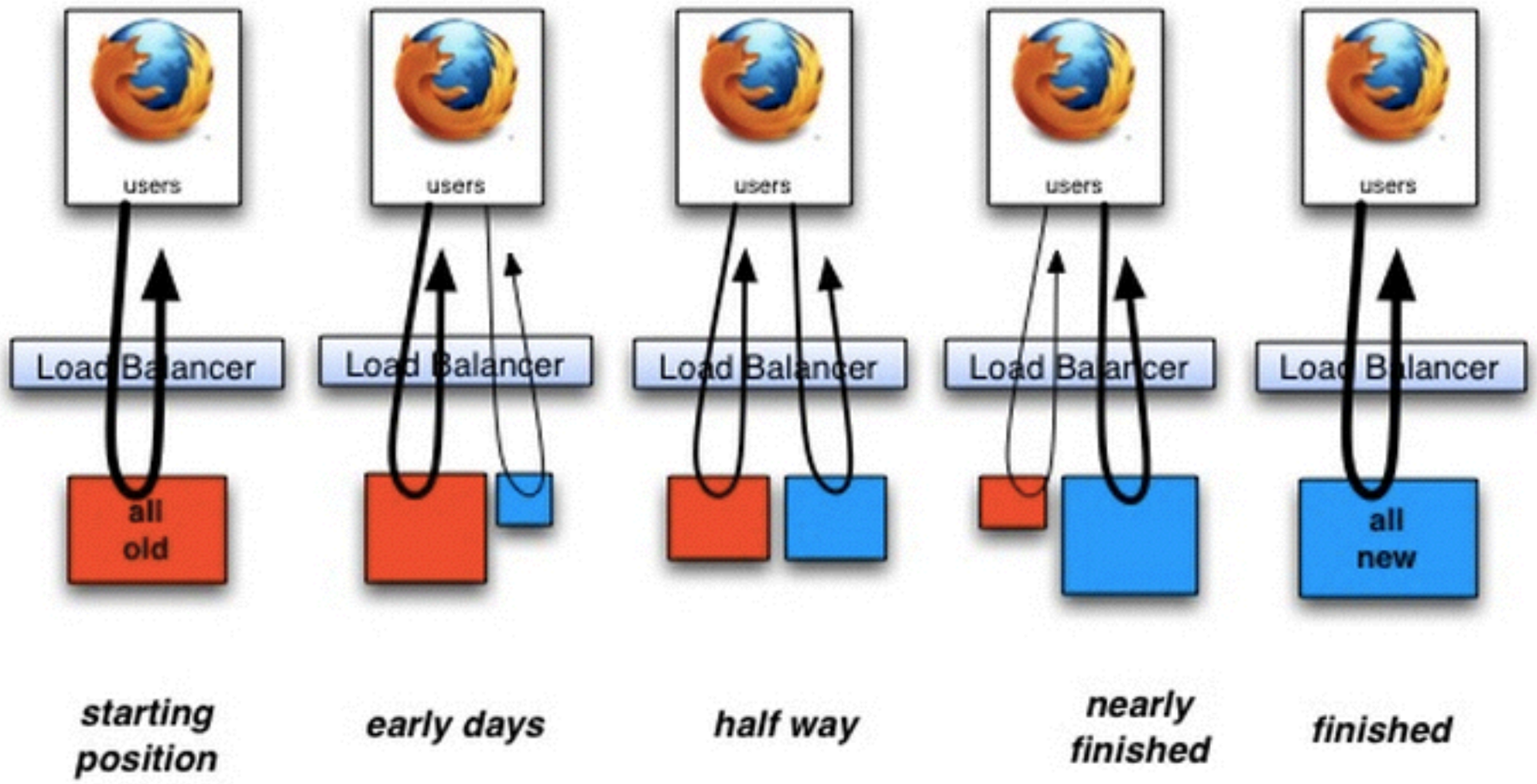
Strangler Application Pattern

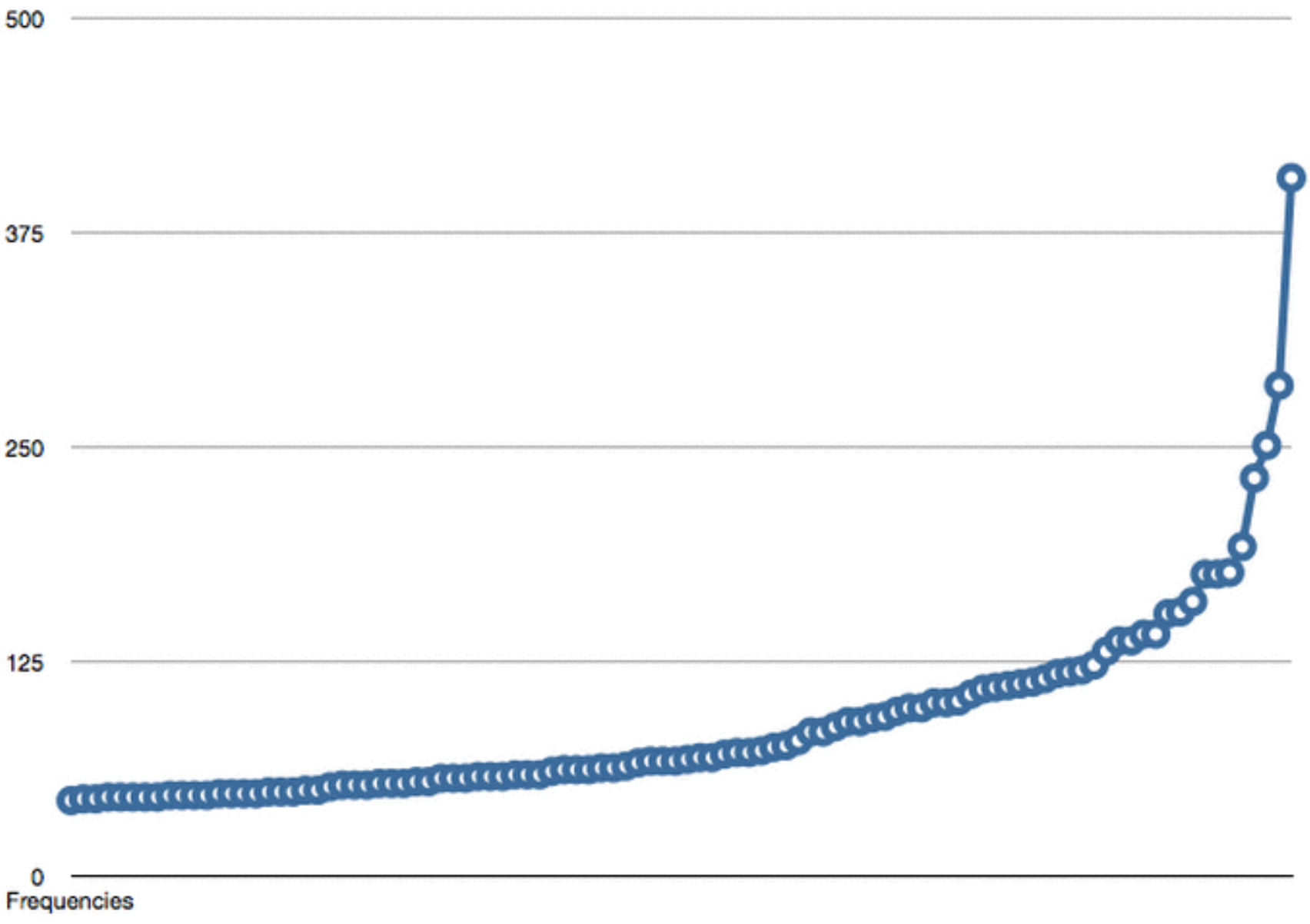


(Paul Hammant 2013)

Temporal Correlations

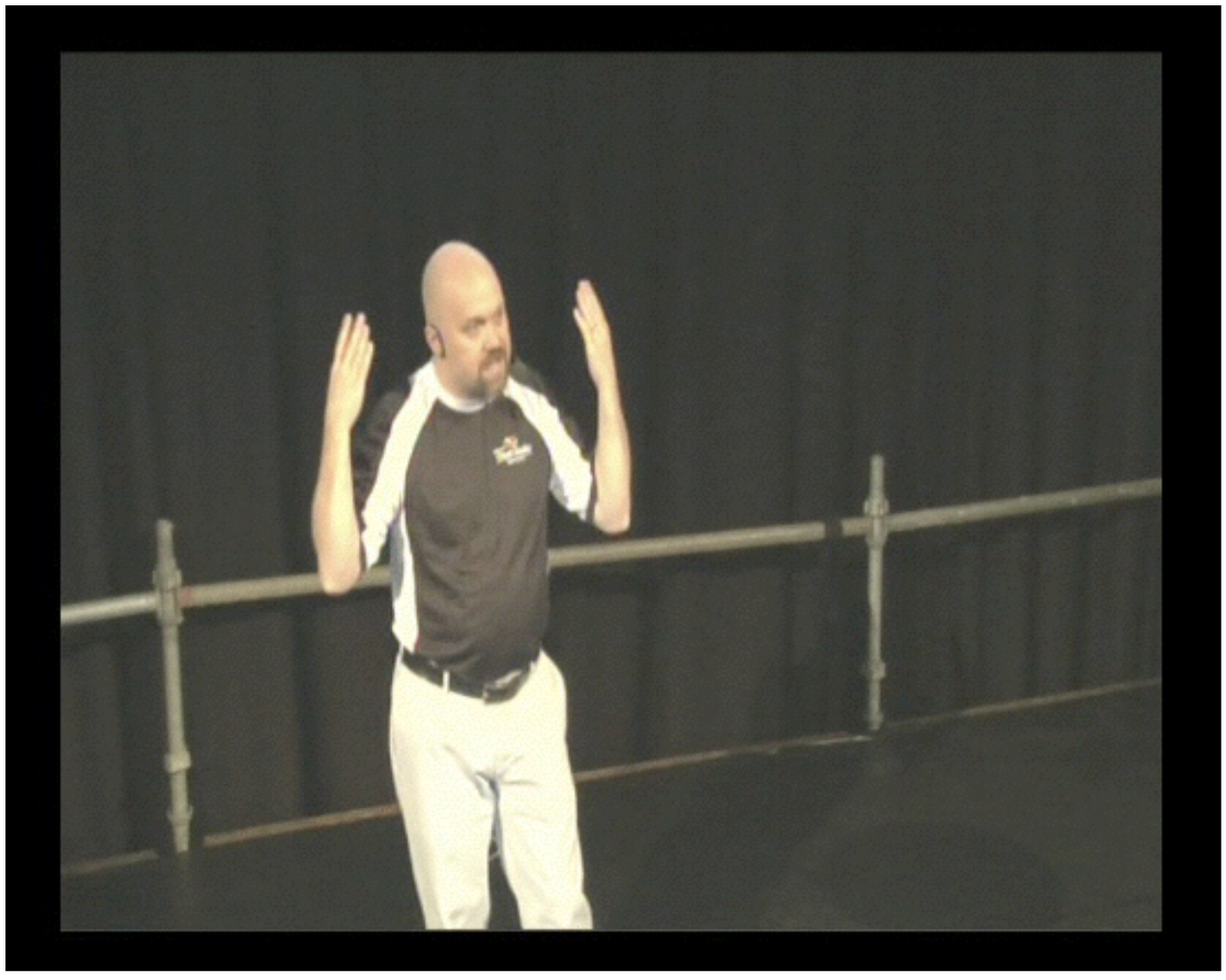
```
events.group_by {|e| [e.day,e.committer]}.values
  .map {|e| e.map(&:class_name).uniq.combination(2).to_a }
  .flatten(1).norm_pairs.freq_by {|e| e }.sort_by {|p| p[1] }
```

When you examine these sorts of frequencies, they typically have this sort of shape:



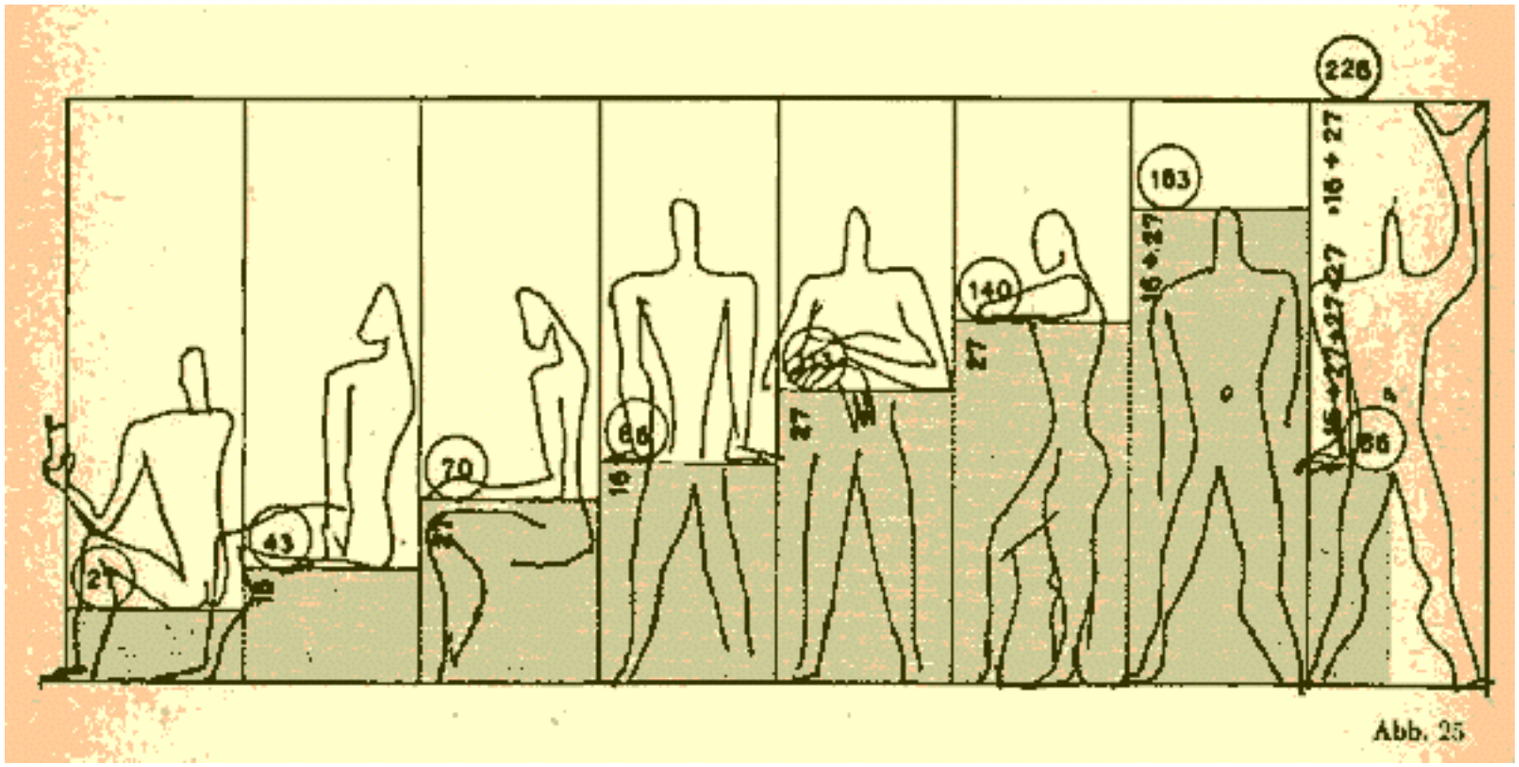
Broader Conway

Peter Provost - The Butterfly Effect




first year growth
rainy season
dry season
scar from forest fire

Respect Human Scale



Respect Human Scale

Dunbar's Number

Respect Human Scale

Dunbar's Number

Economies of Scale

Respect Human Scale

Dunbar's Number

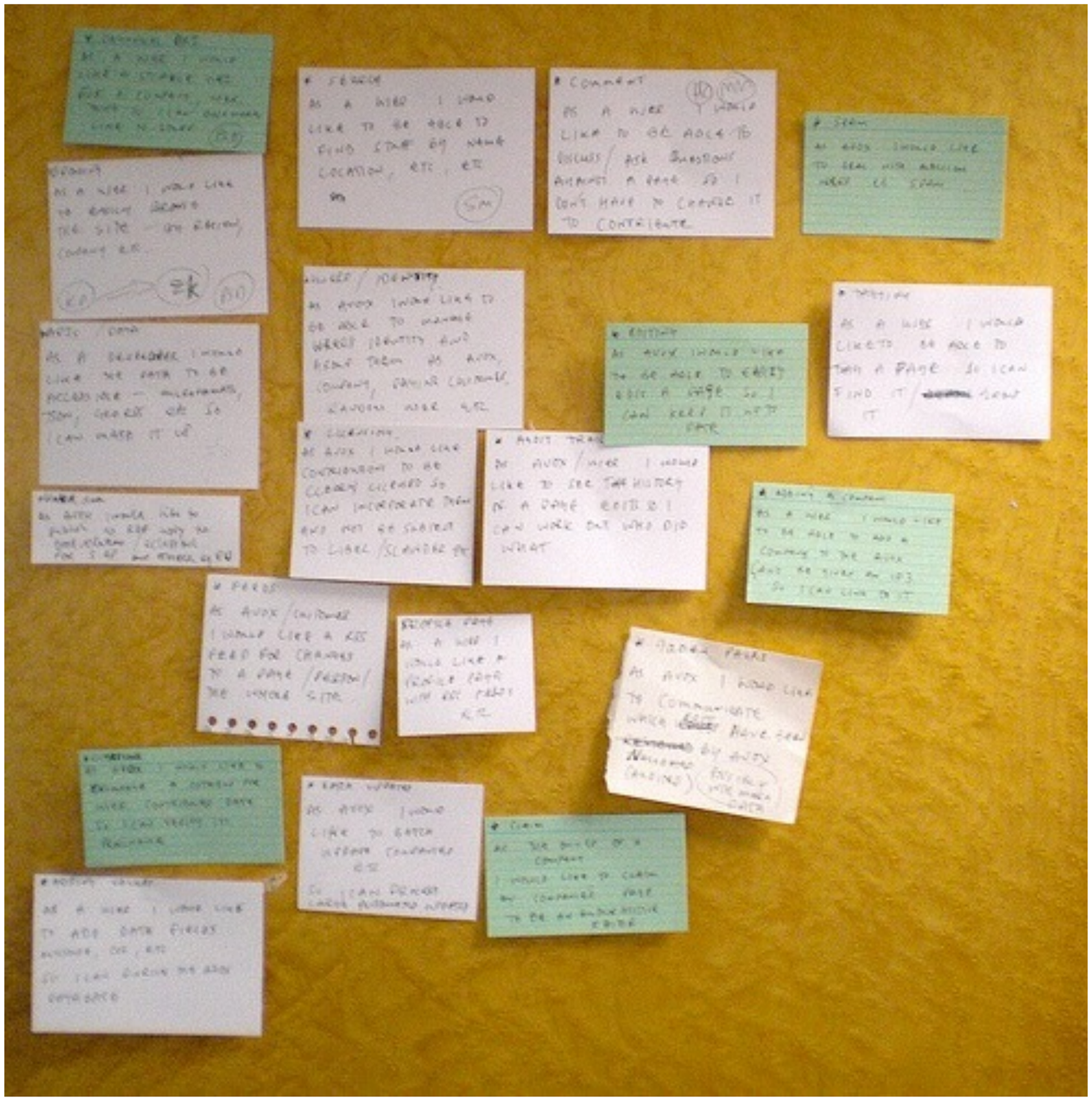
Economies of Scale

Product Sizing

Continuous Large Scale Refactoring

Strategically Plan Features and Design

Maybe we don’t need to make money that way?



Death By A Thousand Features

Joel on Software

The Law of Leaky Abstractions

by Joel Spolsky

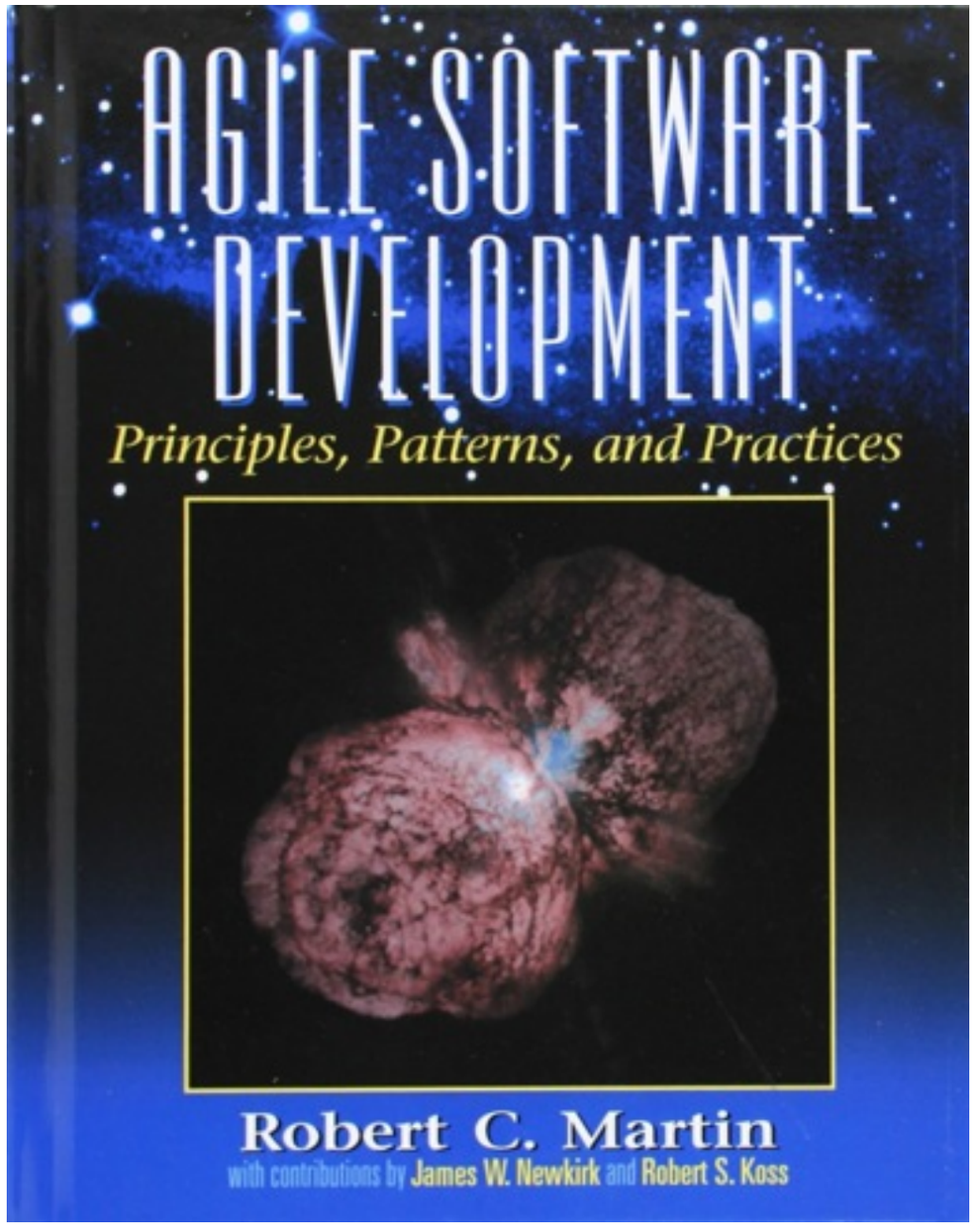
Monday, November 11, 2002

There's a key piece of magic in the engineering of the Internet which you rely on every single day. It happens in the TCP protocol, one of the fundamental building blocks of the Internet.

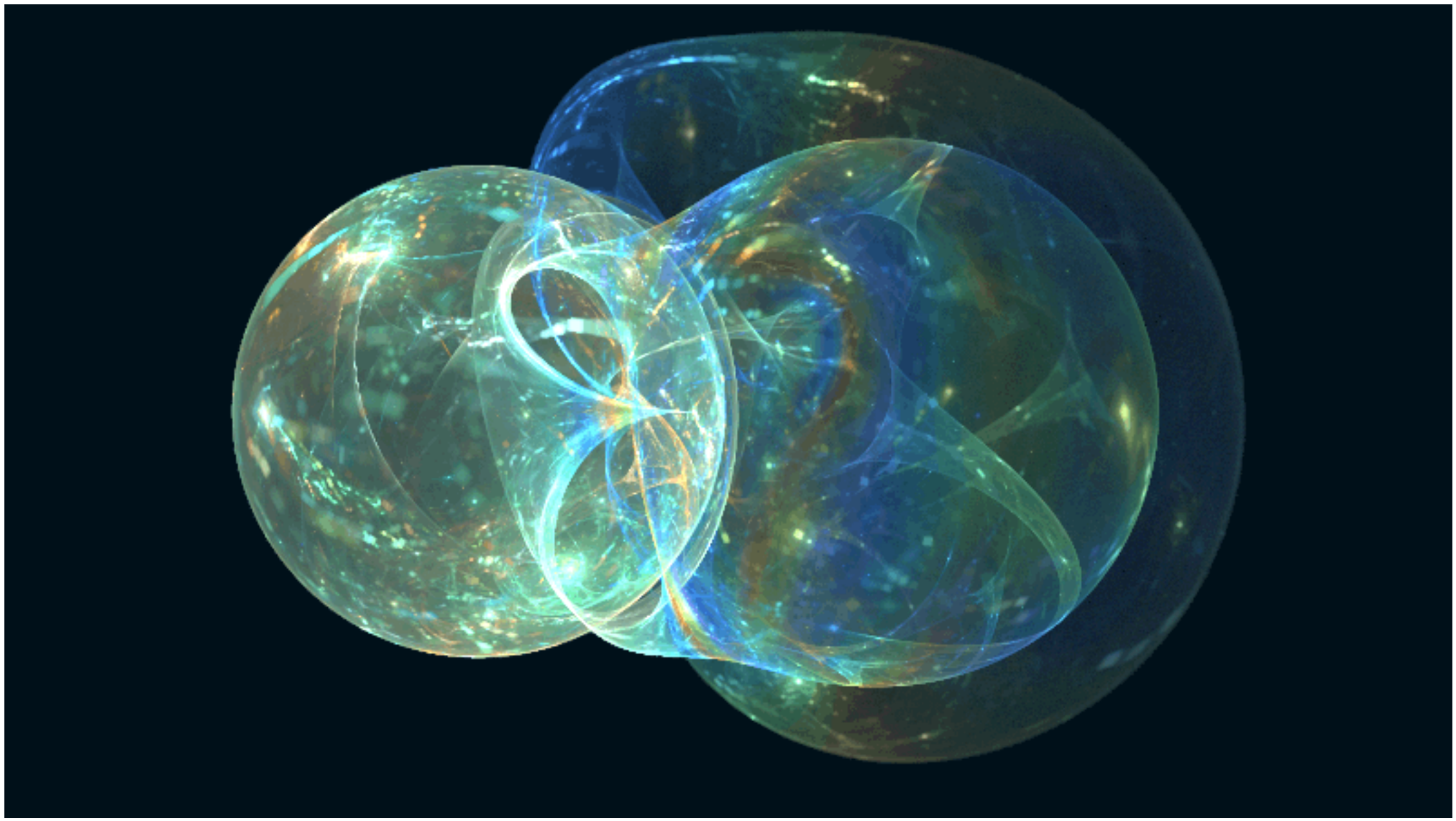
TCP is a way to transmit data that is *reliable*. By this I mean: if you send a message over a network using TCP, it will arrive, and it won't be garbled or corrupted.

Boundary Readjustment

Component Principles



Evolutionary Service Design



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