Free Software and the Work Process
Old Thoughts / New Thoughts

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► FOSS is more than a way of developing software

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- It is a rich culture

- ▶ FOSS is more than a way of developing software
- ▶ It is a rich culture
- ▶ Left wing Richard Stallman and right wing Eric Raymond both love Lisp.

► The work process is this year's theme...

- The work process is this year's theme...
- But first a prologue...

- Over the road from this campus.
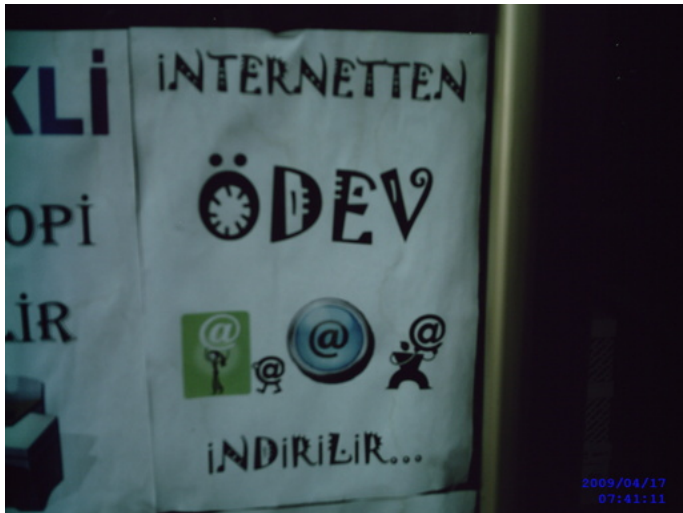
- Over the road from this campus.
- Yesterday morning

► Behind this campus.

- Behind this campus.
- Yesterday lunchtime
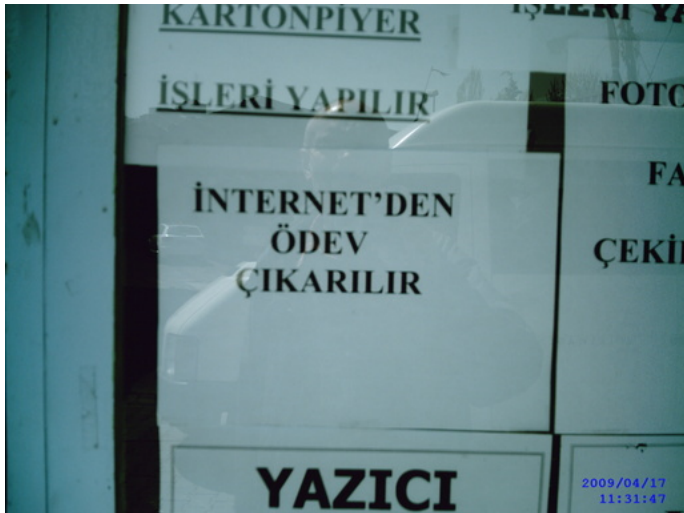
There is another way..

There is another way..
It goes against the grain of modern education to teach children to program. What fun is there in making plans, acquiring discipline in organizing thoughts, devoting attention to detail and learning to be self-critical?
Alan Perlis, Epigrams in Programming

Should computers make life easier....

Should computers make life easier....
... or richer?

Prologue
The Work Process
Not just Software
Conclusions

Old Wine in New Bottles
The modern world

Some old books...

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Some old books... about a 40 year-old problem.

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- 1971: *The Psychology of Computer Programming*, Gerald M. Weinberg

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and some new anecdotal experience.

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and some new anecdotal experience. ... about the work process.

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Weinberg

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Weinberg
But why is it so hard for developers to
submit their work for review by others
or to try to improve their own skills by
reviewing the work of others?
Curiously, superior developers tend to
find value with ...this... while the
merely clever do not. So ... the good get
better and the bad get worse. (25th
anniversary edition - 1996)

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Weinberg
Team vs Group:
It's their method of *learning* that
distinguishes teams from groups...
... team members always have a
common goal, regardless of a product -
the goal of helping one another to
perform better.(25th anniversary edition
- 1996)

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Weinberg
Still forgotten...

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Weinberg
Still forgotten...
The role of women..

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1975: *The Mythical Man-Month,*
Frederick P Brooks Jr.

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► Chapter 4: Aristocracy, Democracy
and System Design (with a picture of
a cathedral)

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▸ Chapter 4: Aristocracy, Democracy
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▸ Brooks' "pazar" for the hardware.

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- Chapter 4: Aristocracy, Democracy and System Design (with a picture of a cathedral)
- Brooks' "pazar" for the hardware.
- but not for the software
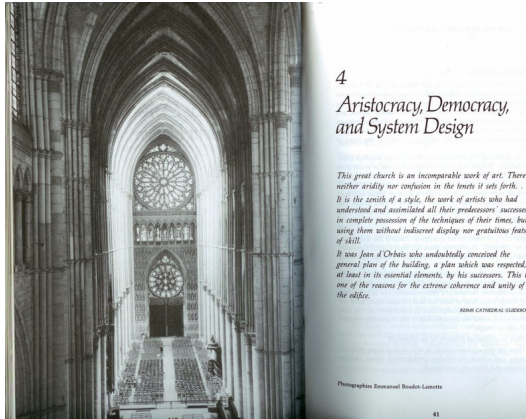
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► Show me your flowchart and conceal
your tables, and I shall continue to be
mystified. Show me your tables, and
I won't usually need your flowchart;
it'll be obvious.

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► Show me your flowchart and conceal
your tables, and I shall continue to be
mystified. Show me your tables, and
I won't usually need your flowchart;
it'll be obvious.

► Smart data structures and dumb
code works a lot better than the other
way around. (Eric Raymond)

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► Every program should carry its tests
with it. Brooks

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Does this matter for the modern start-up?

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Does this matter for the modern start-up?

► Paul Graham founder of ViaWeb (later Yahoo! Store)

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Paul Graham:

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Paul Graham:

If you do everything the way the average startup does it, you should expect average performance. The problem here is, average performance means that you'll go out of business. The survival rate for startups is way less than fifty percent. So if you're running a startup, you had better be doing something odd. If not, you're in trouble.

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Today?
The boss says "But I can pick up PHP
programmers anywhere!"

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My smart questions

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My smart questions

► Do you read others' code?

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My smart questions

- Do you read others' code?
- Do others read your code?

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My smart questions

- Do you read others' code?
- Do others read your code?
- How do you design?

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My smart questions

- Do you read others' code?
- Do others read your code?
- How do you design?
- How do you test?

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My smart questions

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My smart questions

► How do you get information?

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My smart questions

► How do you get information?
► How do you find people?

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My smart questions

- How do you get information?
- How do you find people?
- How do you get help?

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My smart questions

- ► How do you get information?
- ► How do you find people?
- ► How do you get help?
- ► How would you find another job?

The recent past

- In 1990 the "average secretary" could produce a mail merge.

The recent past

- In 1990 the "average secretary" could produce a mail merge.
- In 1988, my sister, a librarian, learnt LaTeX and used it in her work for several years. She now uses MS Word and claims to know nothing about computers.

Hidden Labour

► Stefan Koch - "Hidden Labour"

Hidden Labour

- ▶ Stefan Koch - "Hidden Labour"
- ▶ But using "hidden labour" is the key to success.

Hidden Labour

- ► Stefan Koch - "Hidden Labour"
- ► But using "hidden labour" is the key to success.
- ► Grocer → Supermarket → Amazon → IKEA → TomTom → Google

Death by Powerpoint

Est autem unisonus quando due voces manent in uno et eodem loco, id est in uno et eodem sono.

In tertio autem loco est quedam consonantia que dicitur ditonus et continet duos tonos et habet species duas, scilicet: ut mi et fa la. Similiter in tertio est quedam consonantia que dicitur semiditonus, et continet unum tonum et unum semitonium, et habet similiter species duas, scilicet: re fa et mi sol.

Sit enim Prisma seu Cylindrus ABCD, cuius grauitatis centrum E in plano Cl, basi fultus CD. Sit et alter Cylindrus FGHI, cuius grauitatis centrum K fultus basi HIaequalis quidem et similis ipsi AD. Sit autem grauior FGHI, ipso ABCD. Dico, pari potentia vtrumque impellente, facilius euersum iri Cylindrum AD, ipso Fl. Ducantur EC, KH, et equales potentae applicentur punctis BG, pellentes Cylindros ad partes AF. Euersio autem

Death by Powerpoint

Seriously..

- ▶ What Powerpoint can do in the hands of the truly stupid

Death by Powerpoint

Lt. Gen. McKiernan later told Washington Post reporter Thomas Ricks (Fiasco, p. 75):
"It's quite frustrating the way this works, but the way we do things nowadays is combatant commanders brief their products in PowerPoint up in Washington to OSD and Secretary of Defense... In lieu of an order, or a frag [fragmentary] order, or plan, you get a set of PowerPoint slides..."

Point and click

Point and click is a language but a very poor language..
Enriching it with "gestures" shows a need, but is not a solution.

We need smarter users

- The idea that you can do anything useful without going through a learning process is a deeply, fundamentally, stupid idea.
- Remember the "average secretary".

We need to be smarter

- Free software forces you to be smart (as a developer or a user).

We need to be smarter

- ▶ Free software forces you to be smart (as a developer or a user).
- ▶ LaTeX forces you to be patient.

We need to be smarter

- ▶ Free software forces you to be smart (as a developer or a user).
- ▶ LaTeX forces you to be patient.
- ▶ Dumb can be very expensive. We are in the middle of a point-and-click crisis.

Free software model the answer?

- ▶ Open Office is no different from MS office (except the price, of course)

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Free software model the answer?

- ▶ Open Office is no different from MS office (except the price, of course)
- ▶ FOSS has not managed to include women.
- ▶ Maybe parts of the model are part of the solution.
- ▶ But while the moneymen call the tune and try to exploit the model, it will not realise its full potential.