becoming a better programmer

Harald Armin Massa
Lightning Talk Man

EuroPython 2012
Firenze, Italy
apt-get --purge remove java
you are using THE programming language

picture source:
http://mitpress.mit.edu/sicp/
you worked through...
and you completed this mission...

picture source:
http://www-cs-faculty.stanford.edu/~uno/taocp.html
maybe even reached the bonus

picture source:
Geekz Shop, http://http://geekz.co.uk, out of business
created your own...

web framework
web framework

templating framework
web framework
templating framework
templating language very similar but with slightly different quirks then Python / C / Perl / ...
web framework
templating framework
templating language very similar to
but with slightly different quirks
then Python / C / Perl / …
your own packaging system
i.e. the programmers version of

„build a house, plant a tree, and have a son“
Grenzabstandsvorschriften für Bäume, Hecken, Sträucher und sonstige Pflanzen sind in den landesrechtlichen Nachbarrechtsgesetzen enthalten.
Nachricht von Diskussion [reddit.com rewritten in Python]


Yeah! Another web framework for Python!

Now we can proudly say: Python: the only language with more web frameworks than keywords

Harald
Johann Wolfgang von Goethe, Faust
Der Tragödie erster Teil
first part of the tragedy, prima parte della tragedia

picture source: https://bigbangtrans.wordpress.com
Habe nun, ach! Philosophie,
Juristerey und Medicin,
Und leider auch Theologie!
Durchaus studirt, mit heißem Bemühn.
Da steh’ ich nun, ich armer Thor!
Und bin so klug als wie zuvor;

I've studied, alas, philosophy,
Law and medicine, recto and verso
And how I regret it, theology also
Oh, God, how hard I've slaved away,
With what result? Poor fool that I am,
I'm no whit wiser than when I began!

Daß ich erkenne, was die Welt
Im Innersten zusammenhält,
2012-07-04

New Boson detected at
125.3 +/- 0.6 GeV
with 4.9 standard deviation
GenericStatementOfWork.pdf    -> 120.376 bytes
Generic.7z                    -> 115.281 bytes

faust-goethe-ebook-italian.pdf -> 1.251.786 bytes
faust.7z                      -> 1.178.432 bytes
and the current shall flow inhibited by 20 Ohm resistance
Big Bang Theory
Series 4 Episode 03
– The Zazzy Substitution

picture source:
https://bigbangtrans.wordpress.com
Sheldon: A breakup would imply she was my girlfriend. She was a girl who was my friend who is now a girl who is not my friend.

Penny: Wow. That’s like the worst country song ever. So, how are you doing?
SQL for databases

HTML, CSS

Javascript, learn to enjoy the pain of the DOM
Farbband

Ansteuerung

Druckkopf mit Nadeln

Papier

Anschlag

Vorschubwalze

picture source:
wikipedia, Nadeldrucker-Prinzip Arne Nordmann (norro)
picture source: http://blog.mkedu.org/, Amazon
concepts
WPM – words per minute
comprehension – how much do you understand (measured in %)
## Typical Reading Speeds

<table>
<thead>
<tr>
<th>who</th>
<th>speed</th>
</tr>
</thead>
<tbody>
<tr>
<td>grown ups without reading in their daily job</td>
<td>100 WPM</td>
</tr>
<tr>
<td>average speed when reading to others</td>
<td>150 WPM</td>
</tr>
<tr>
<td>average reader, used to reading</td>
<td>200-300 WPM</td>
</tr>
<tr>
<td>fast readers</td>
<td>1000 WPM</td>
</tr>
<tr>
<td>records with scientific check</td>
<td>3000-4000 WPM</td>
</tr>
</tbody>
</table>
why?

<table>
<thead>
<tr>
<th>what</th>
<th>number of words</th>
<th>time @ 250WPM</th>
<th>time @ 1000 WPM</th>
<th>time @ 3500 WPM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Python standard library docu.</td>
<td>~500.000</td>
<td>2000 min 33,3h</td>
<td>500 min 8,3h</td>
<td>143min 2,4h</td>
</tr>
<tr>
<td>what</td>
<td>number of words</td>
<td>time @ 250WPM</td>
<td>time @ 1000 WPM</td>
<td>time @ 3500 WPM</td>
</tr>
<tr>
<td>-------------------------------------</td>
<td>-----------------</td>
<td>-------------------</td>
<td>------------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>Python standard library docu.</td>
<td>~500.000</td>
<td>2000 min 33,33h</td>
<td>500 min 8,333h</td>
<td>143min 2,38h</td>
</tr>
<tr>
<td>itunes licence</td>
<td>~ 5.200</td>
<td>20,86 min</td>
<td>5,2 min</td>
<td>1,5 min</td>
</tr>
<tr>
<td>IOS licence</td>
<td>~11.000</td>
<td>43,8 min</td>
<td>11 min</td>
<td>3,1 min</td>
</tr>
</tbody>
</table>
100% knowledge about 5% of library
5% knowledge about 100% of library
vocalizing

sub-vocalizing
Python is the most pythonic language. All others are way less pythonic.
Python is the most pythonic language. All others are way less pythonic.
Python is the most pythonic language. All others are way less pythonic.
Peripheral system: poor acuity, receptors grouped for high compression.

Peripheral system for general holistic impression of the situation.
Foveal system for high quality details.
remember information
create structure
MindMap

(→ Tony Buzan)

Zen of Python

unless you're dutch

Python

Standard Library

Zen of Python

unless you're dutch

Python

Standard Library
slash recall pattern

(→ Evelyn Wood)
the brain – hacks upon hacks

recommended reading:
the accidental mind
recommended reading:
Jeff Raskin about interface design
```python
def get_packages(self, repo):
    self.fetch_channel()
    if self.channel_info == False:
        return False
    if self.channel_info.get('packages', False) == False:
        return False
    if self.channel_info['packages'].get(repo, False) == False:
        return False
    output = {}
    for package in self.channel_info['packages'][repo]:
        copy = package.copy()
        platforms = copy['platforms'].keys()
        if sublime.platform() in platforms:
            copy['downloads'] = copy['platforms'][sublime.platform()]
        elif '*' in platforms:
            copy['downloads'] = copy['platforms']['*']
        else:
            continue
        del copy['platforms']
    copy['url'] = copy['homepage']
    del copy['homepage']
```
FreeMind
forced hierarchy
space constraints
readability
time constraints
frustration with some APIs even bigger
much to remember

function names
call parameters
variables
zen of python

whom to bill for all this stuff
Mnemonics

LDY #0
LDA #0
:SANDRA
STA 0100,Y
INY
CPY #11
BNE :SANDRA
great to remember during programming

harder to concentrate

needs stable relationships
or at least being successfull @ flirt

absolutely
unmaintainable in the long run
mnemonics

mnemotechnic

idea: connect abstract information with real world things
good for Magic Numbers (5432 is PostgreSQL's standard port)

was able to remember IP-Addresses & Phone-Numbers & Serials

and to recall information as "names of planets"

only a little slower then you can bing it
or remember shopping lists
in other words: rather useless for programming
MegaMemory is a commercial system sold through infomercials that claimed to boost memory via learning mnemonic techniques, developed by Kevin Trudeau.

It was one of a range of products that the Federal Trade Commission prosecuted for fraud. Trudeau claimed that help anyone achieve a photographic memory, even people with learning disabilities or low IQ's.

The FTC found that the memory system would not enable users to achieve a photographic memory, and the advertising claims were false. Trudeau, along with other marketers, settled out of court for $1.1 million.
sometimes:

code just flows into your editor of choice

you **feel** the calling conventions

variable names are more present and vivid as your memory of your first kiss
some call it FLOW

(Mihaly Csikszentmihalyi)

some call it the (programmers)
ZONE
wild myths are told

„you can only reach it for x minutes a day“

„thou shall not be disturbed“
selective serotonin reuptake inhibitors

koffein

modafinil

alcohol
hypnosis

procrastination
special state of mind
totally focused on something
ignoring other sensual information
get into „trance“ fast
meditation
Single user mode is necessary for a few administrative tasks.

A stand-alone server can be used to manually recover from certain kinds of accidental damage to the system catalogs.
fast reading

mindmap

read about brain research

check out hypnosis

meditation