

The next 100 years

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The Next 100 Years - of what?

This keynote covers only:

- Software
- Computers

which may not be the most important problems to solve in the world (as we will see).

Software - what are we talking about?

De.Wikipedia.Org: *Juristical Definition of Software:*

☞ **Software is mental work, done in advance in an objectified form.**

objectified here means, that the results of the work are determined in form of a stored program or algorithm.

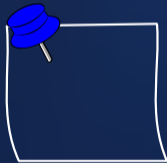
done in advance here means that there is a known procedure or steps that will create the results, for example the procedure of „hyphenation of words in a language“ in a text processor.

mental work means, well, concrete application of knowledge.



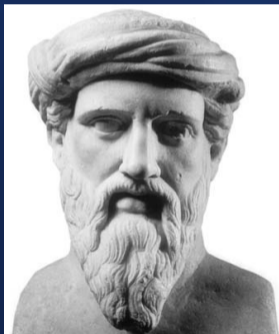
So, what is software really?

Software is a result-oriented *Idea* or *Plan*, which is based on *Knowledge*, manifested into an abstract *Algorithm* or *Program* (=instructions, „cookbook recipe“).



And?

SOFTWARE is KNOWLEDGE.



$$a^2 + b^2 = c^2$$

Pythagoras, ca. 569 bc. - 475 bc.

Types of Software

- Systemsoftware (i.e. for putting the system components into operation)
 - Also „embedded“ system software for compact devices
- applications for computer users (i.e. for productive work, communication, knowledge transfer, teaching, learning & playing games)
 - Also „embedded“ application software for compact devices, sometimes glued with the operating system.

Computers

...are valuable and useful META TOOLS for doing a lot of things

...are known to FAIL as soon as you start RELYING on them

...are FUN to play with.¹⁾

¹⁾This is surely not the only, but a very important reason why there is so much high-quality Free and Open Source Software around today.

Points in Time: Computer, Software, Culture

ca. 1938 (Z1): First experimental computing (numerical) machines using electronic relays, tubes, first transistors. Programs are still more „Hardware“ than „Software“.

1969-70: First multi-user machines. The „operating system“ (MULTICS/UNIX) is integral part of these machines and is available (accompanying the hardware) for free and with complete source code.

80s: Mainframes and first Personal Computers, first proprietary operating systems and programs with cost: System IV und System V, MS-DOS, VMS, but also, at the same time, sources for some other operating systems available (*BSD, GNU-Software).

1984: Richard Stallman founds the GNU-Project.

1991: Linus Torvalds publishes his first attempts to write parts of a new i386-based operating system on the internet, under an Open Source license (GPL).

1997: „The Cathedral and the Bazaar“ (Eric S. Raymond).

The Future™

5 predictions, based on deductive analysis of historical documents and observations in the past 100 years of computing, science and politics, are going to follow.

Hopefully, none of them will ever come true.

The Future™ (1)

„10 years from today, you won't be able to freely and permanently store a file (or any information/knowledge) anymore on your own computer.“



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The content industry (music, movies & games) is creating an „artificial shortage“ of cultural and art works such as audio and video content. Everything you could see or hear, must be payed-per-view™. Since there is no way of really „copy-protecting“ anything in a 100% reliable way, permanent storage of content will just become unlawful, therefore copyright laws will be changed in order to avoid any possibility of having „free“ (in both meanings) content permanently available.

Therefore, all multimedia-capable machines, including computers, will have to support „Digital Restriction Management“ that keeps users from storing data permanently, and it will be forbidden to use older computers that did not have this feature, and it will be illegal to switch off DRM or even „de-protect“ any data.

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The Future™ (2)

The vision stated before is relatively harmless, considering that:

„20 years from today, there won't be any software (for computers) anymore.“¹⁾

1) And I will have to find a different business for myself, too.



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Large software companies have (understandably) a strong interest of keeping monopolies for creating software that provides a high income (for them). Therefore, since you just cannot keep people from writing cheaper and better software, they will lobby politics into changing the law towards „better protection of intellectual property“. Meaning: whoever claims a patent on an idea first, has the global control over its application.

Since this makes it virtually impossible for anyone else to actually produce software, without a sufficient financial background to hire 10 fulltime lawyers to sue all competitors, or win lawsuits against those who claim they own your ideas, the software market will be „cleaned up“ and there will only be a consortium of a few giant companies left, that are legally allowed to actually create software. Lucky for them, this „Best Software Alliance“ will be able to tell their customers exactly what to buy, and the spooky „Free Software“ thing, where the customer could once determine how the software should be written, and what it should do, is finally over.

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The Future™ (3)

Actually, the vision before is not that frightening, because:

„30 years from today, there will be no more computers.“

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The multimedia electronics- together with the content industry is moving towards „limited-purpose“ devices that can only play certain proprietary formats without any possibility to save the content anywhere.

People are accepting these „non-computer“ devices without complaint, because:

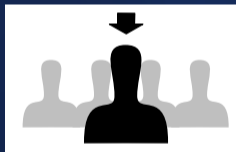
- They are cheaper than the „obsolete“ universal computer,
- they are very flashy looking and playful, have a great optical design,
- they have spiffy names like „XXL personal home internet entertainment center“,
- they are „recommended“ by the „major brands“ of movie issuers in order to be able to play their movies in high quality,
- they are much easier to use than „Windows“™ or „Linux“™ applications, because they only have one button, and that one is already pressed before delivery to, and free installation at your home.

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The Future™ (4)

All this will not be as bad as it may sound because, actually...

„50 years from now, most people will not know how to use a computer.“



(Some stressed out system administrators may annotate, that this has already happened...)

The Future™ (5)

... but all this is still not in the least way worrisky, considering that:

„100 years from now, there will be no more people.“



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After the industry has managed to make computing (or rather passive „multimedia consuming“) very EASY, STRAIGHTFORWARD, UNCOMPLICATED and UNAFFORDABLE (because there is only so much that consumers can pay for each second of information, education and entertainment), after universal computers have vanished and software is only running on special-purpose „human-friendly interfaces“, the world will come to a sudden end and mankind as we know it will just kill itself in a freaky accident, where technology is involved that is totally beyond the comprehension of any living person.

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And then...

After that, aliens will conquer earth.
: -)



Well, since it is probably a bad idea to let a keynote end with a very pessimistic and apocalyptic view of the future, let's just make fun of it, and go on to find some positive aspects in what we have today. Besides of that, who would believe a speaker saying things like „Everything is getting worse all the time, and we're all going to die“ ...

The Present™

...let's save the world.

- Freedom of Science and Knowledge
- Free and Open Source Software
- The Global Wiki



Common Misunderstandings



How Open Source vendors see the proprietary software industry



How proprietary vendors see the Open Source industry

„Copyleft“

...in fact, it is not a matter of „features“ or „price“, but of VALUES.

- Free Software and Open Source promote Knowledge as a Common Good.
- Knowledge itself should be free (of charge, and freely distributable).

Actually, this has been the base of evolution for thousands of years before.



Free Software and Creative Commons

- Legally binding Licenses like the GPL or „Creative Commons“, are a base for working together and sharing resources.
- These freedoms include the right to **make money** by providing **individual services**, and are therefore a valid business model that many companies build their strategies on.



The Next 100 Years

... we should just make sure that **Knowledge**, and therefore also its application in the computer world, stays as free as it is today (at least), and that there is always a **CHOICE**. Diversity is good.

