GNU's Not UNIX

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This presentation

- length: ~ 15 minutes
- covers four parts:
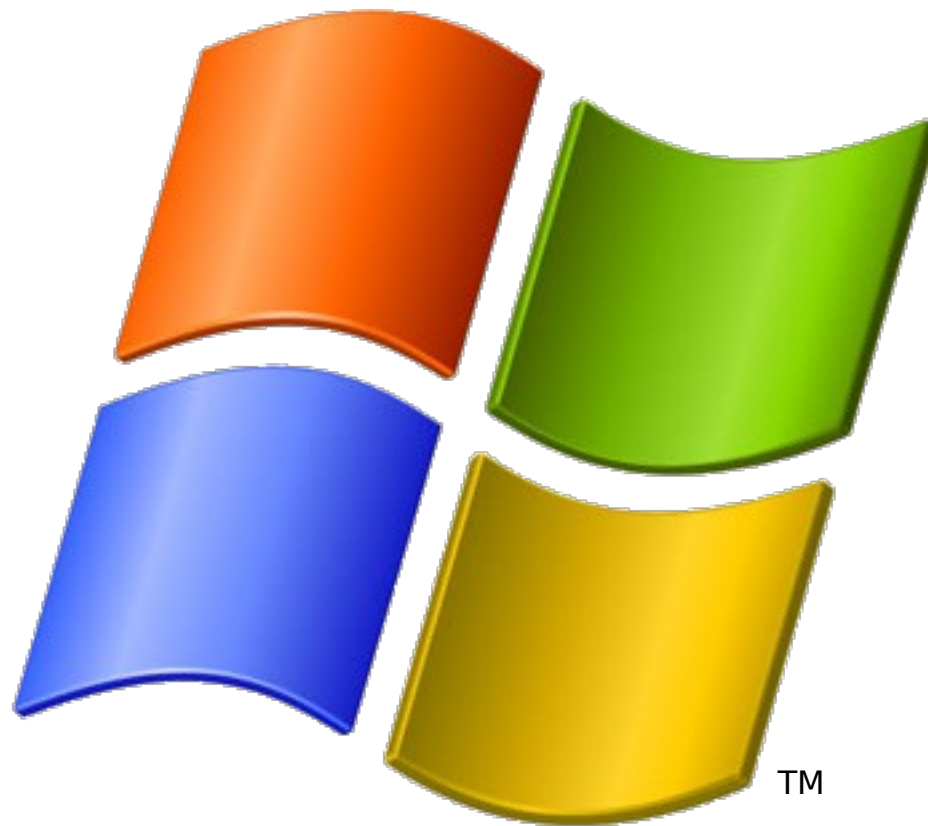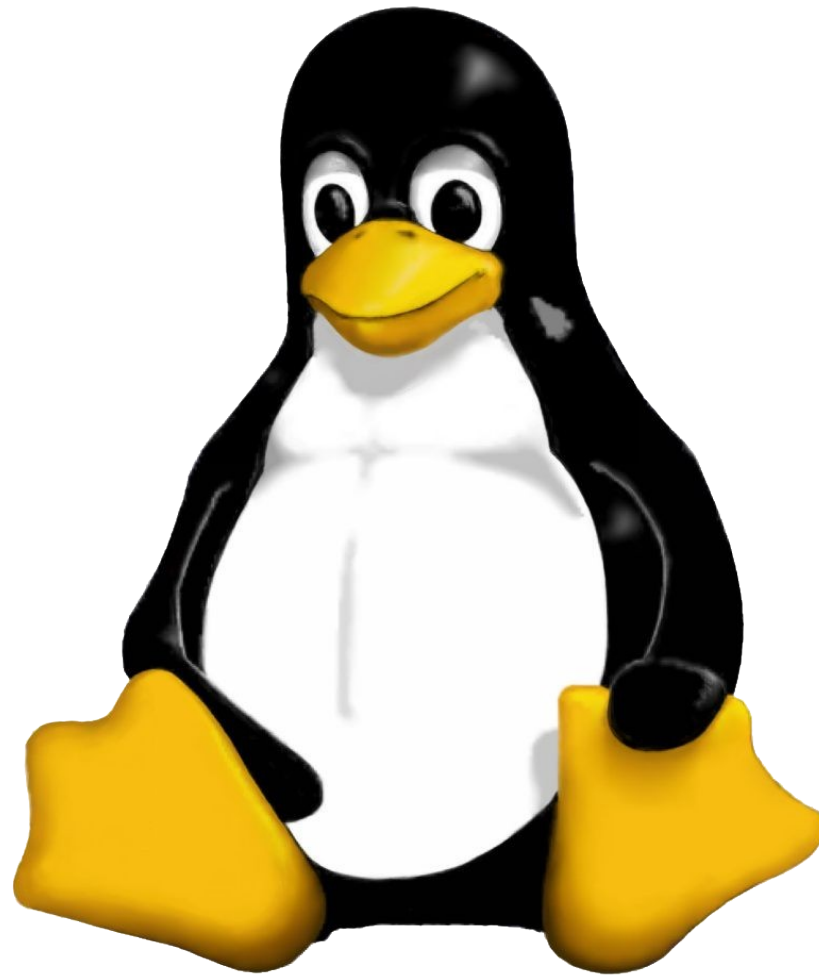   - what it is
    - history
    - structure
    - now & future
- questions at the end

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Who knows this logo?

And who knows this logo?

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But who knows this one?

Break free!

There is a world beside Microsoft!

better!?

My aim

- give a summary on **GNU/Linux**
- make you sensible for **Free Software**
- raise your interest for the **philosophy** behind it

What is GNU/Linux?

- what is GNU?
  - UNIX-like operating system
  - non-commercial (based on the GPL)
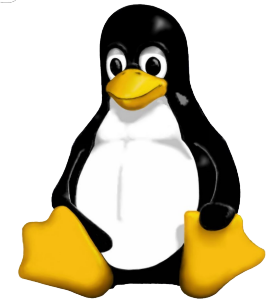 - developed by the FSF
- what is Linux?
  - OS kernel (= one part of an OS)
  - developed by Linus Torvalds
- naming problem
  - ``Linux'' is often (mis)used to name the whole system
  - the whole system should be called ``GNU/Linux''
  - the community is devided

The GNU Project

- stands for ``GNU's Not UNIX''

- pronunciation

  - ``guh-noo'' like canoe

  - ``g'noo'' with a hard `g'

- started in 1984 by Richard M. Stallman

- goal: free implementation of a UNIX OS

- collection of tools

The early days

- birth of the computer community (1950-1970)
    - roots at MIT and Bell Labs
    - software and its source code shared freely
- some years later (after 1970)
    - Personal Computers became popular
    - software distribution as binaries and without source
    - money for software
- RMS wants software to be free
    - founded the Free Software Foundation (1985)
    - established the General Public License

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What is free?

- free like in free speech, not like in free beer!
    - source code itself should be free and available
    - it is allowed to take money for the process of coping, for delivery and for support
- main points of the GPL
    - the right to run the program
    - the right to study and modify the source code
    - the right to copy and distribute it
    - the right to release improved versions
    - there is no warranty at all for the software

GNU meets Linux

- the FSF
    - had finished nearly all of their OS tools (gcc, bash, ...)
    - started with the still missing kernel ``Hurd'' in 1990
- Linus Torwalds (Finnish student)
    - wanted to code a terminal emulater and recognized that it was something like an OS kernel ;-) (1991)
    - developed Linux to work with GNU tools (v1.0 in 1994)
- the FSF, Linus and others
    - arrange the different parts to a complete OS
- Hurd?
    - is not finished even now :-/
    - runnable versions since 2001

Structure of a GNU system

- arrangement of lots of programs
    - bootloader (GRUB or LILO)
    - kernel (Linux or Hurd)
    - shell (bash, ksh, ...)
    - C compiler (gcc)
    - dev-tools (make, gdb, ...)
    - editor (Emacs, vi, ...)
    - X server
    - ... and many more
- just take what you need
    - alternatives to nearly every program

How to get GNU/Linux

- available as distributions
    - distribution = arranged selection of programs + installer + security updates
    - some distributions cost money
    - examples: SUSE, Red-Hat, Knoppix, Debian, ...
- the other way
    - get the source code of everything and compile and arrange it yourself
    - difficult and timeconsuming
    - tutorial ``Linux From Scratch''

Pros and cons

pros

- everything is Free Software
- very customizable
- highly efficient working possible
- clear design = works as you think it should work
- secure
- thousands of programs available (Debian: ~ 15,000)

cons

- it takes time to learn how to use it
- not that much `plug'n'play'
- some kinds of programs are not available (e.g. CMYK support, high end sound editing ...)

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The future

- great future for GNU!
    - expands in the desktop market
    - becomes more user friendly
    - more people become familiar with Free Software through programs like Firefox and OpenOffice.org
- conclusion
    - there **is** a world of good non-commercial software
    - there are people who provide that world for **YOU**
    - just have a look, it's free!

Going further

- try a liveCD like Knoppix

  - you can't damage anything on your system

- start with an easy distribution

  - Ubuntu, Fedora or Mandriva would be good

  - install it as dual-boot or on a second computer first

- with a little help from your friends

  - find geeks on the Internet or at the local LUG

  - contact me ;-)

Questions?

... feel free to ask!

References

- sources of information
    - http://gnu.org
    - http://en.wikipedia.org
    - Glyn Moody: ``Rebel Code''
    - Boris Gröndahl: ``Hacker''
- software used
    - Debian GNU/Linux
    - OpenOffice.org
    - The GIMP
    - Firefox

Thanks

- RMS for his idealism that made all this possible

- Ian Murdock for the awesome Debian Project

- the LUGU for some nice hours

- and of course my friend Ju for everything!

Happy GNUing!