



**GNU's Not UNIX**

# *This presentation*

 length: ~ 15 minutes

 covers four parts:

 what it is

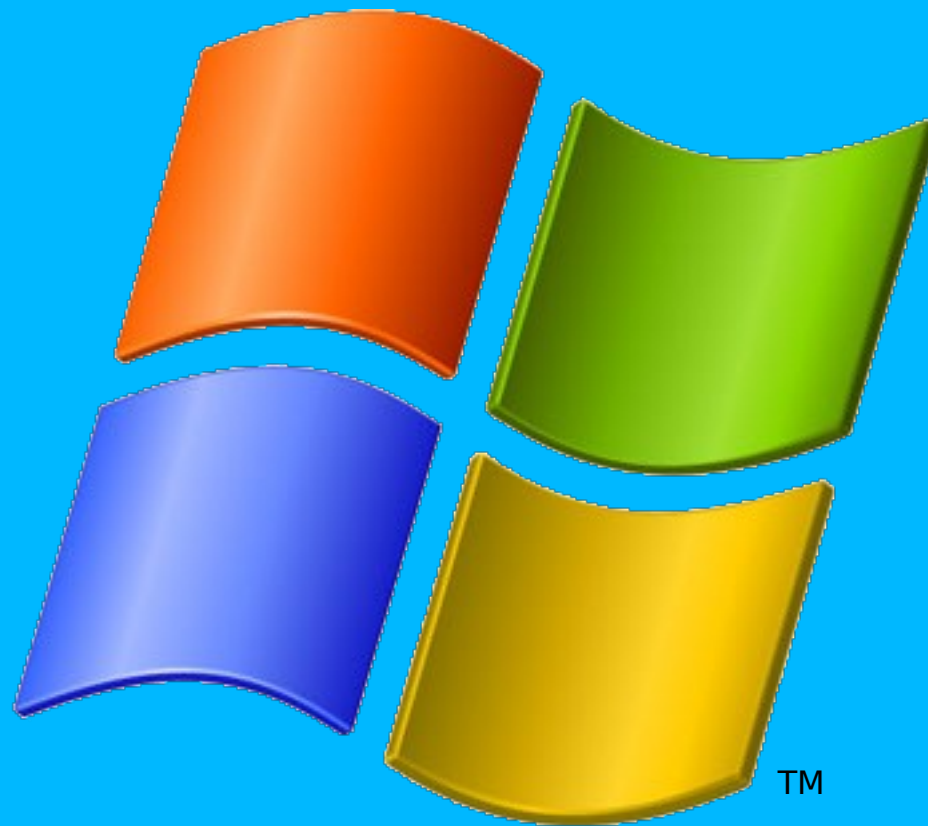
 history

 structure

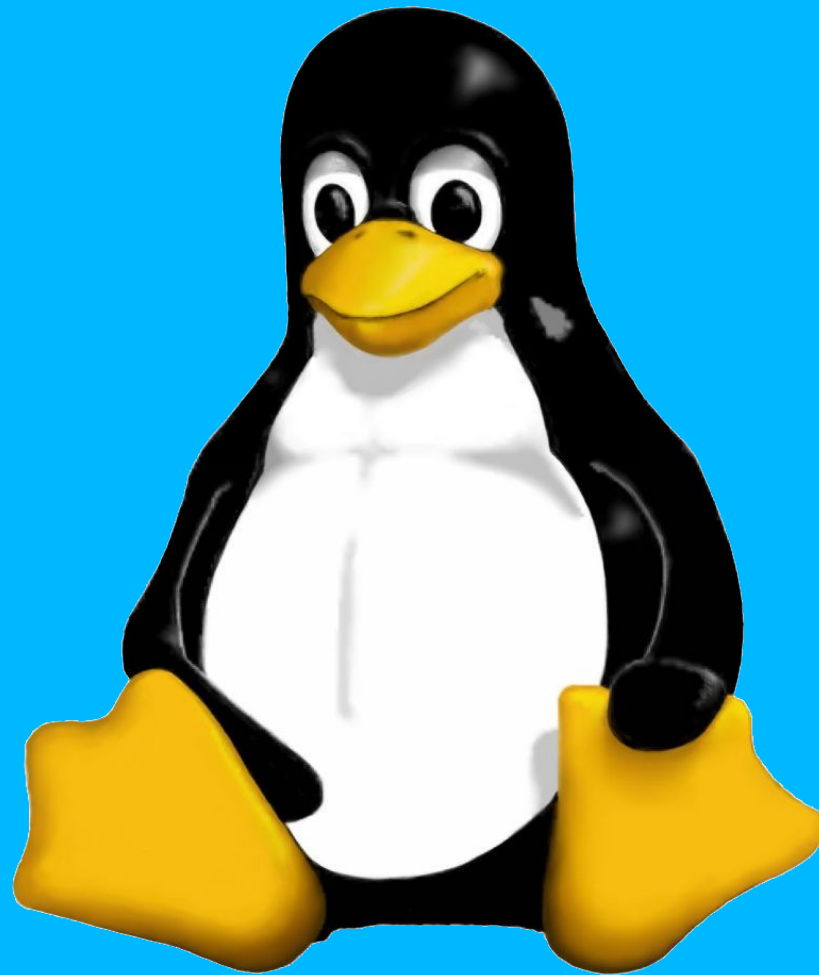
 now & future

 questions at the end

# *Who knows this logo?*



*And who knows this logo?*



*But who knows this one?*



***Break free!***

**There is a world beside Microsoft!**



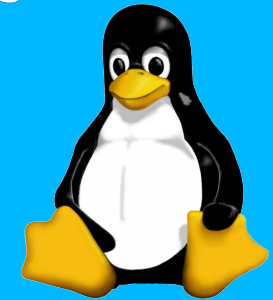
**better!?**

## *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 divided





# 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

## 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 emulator 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 ...)

# 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!*