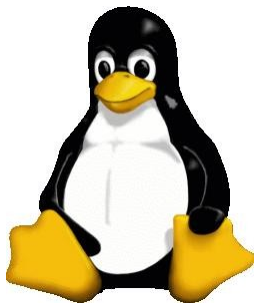


Indian GNU/Linux Users' Group, Chennai

<http://www.chennaiug.org>

presents

Free Software for Engineers



by

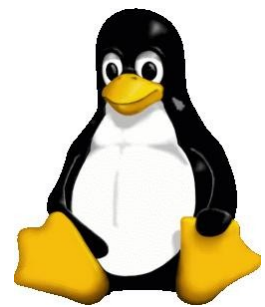
Shakthi Kannan

MS



October 29, 2007

Version 1.1

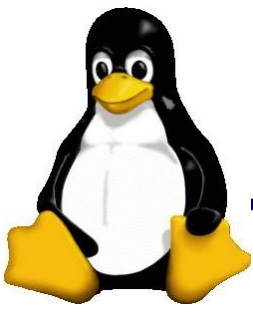


GNU/Linux Programming

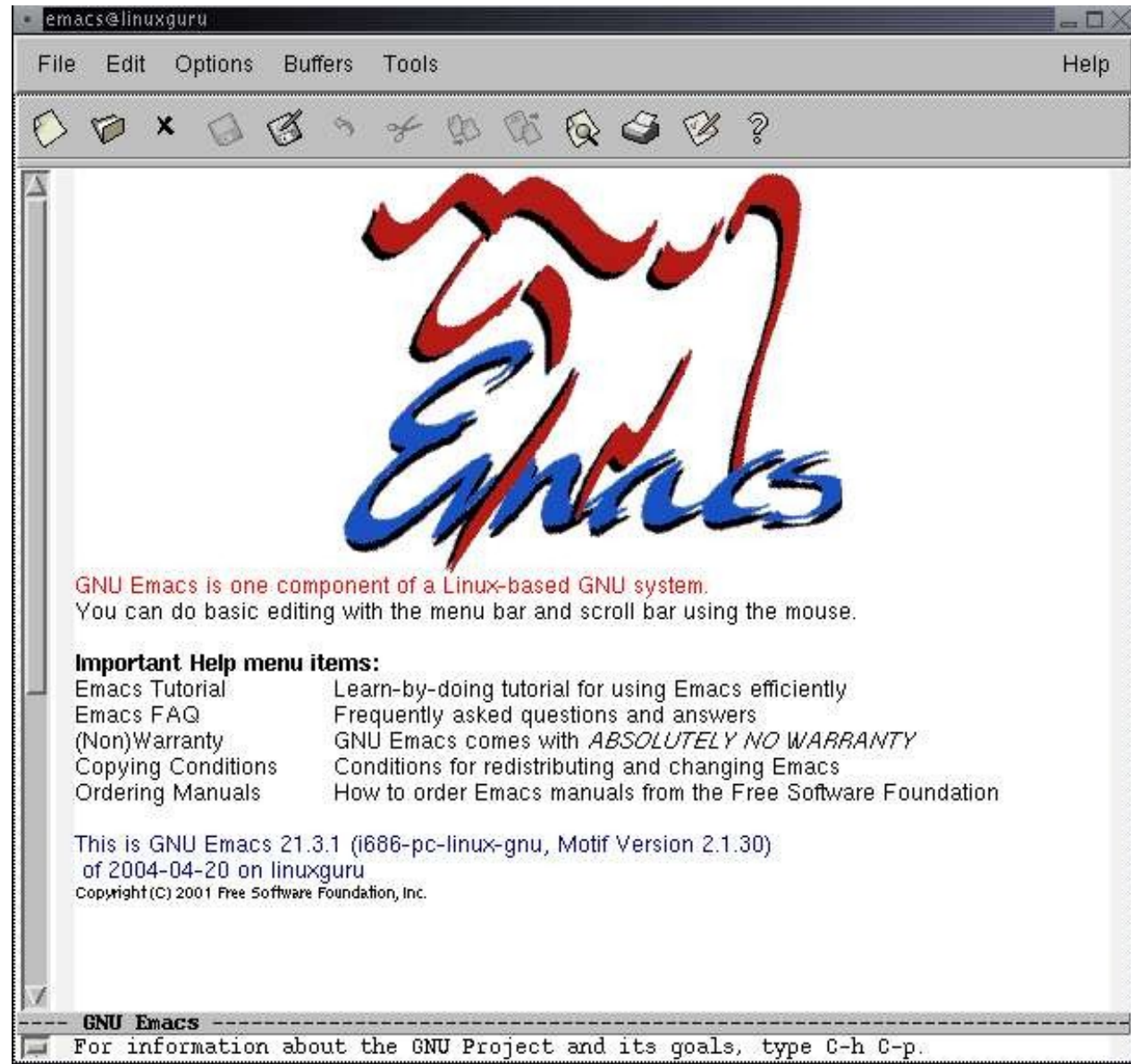


- **C**
- **C++**
- **Assembly**
- **Java**
- **Bash scripting**
- **Perl**
- **Python**
- **GUI Programming (GTK / Qt)**
- **Tcl/Tk**

GNU/Linux IDE/Text Editors



- Anjuta
- KDevelop
- DrPython
- vi/vim
- GNU Emacs
- Pico / Nano
- Kate
- Kwrite
- gedit

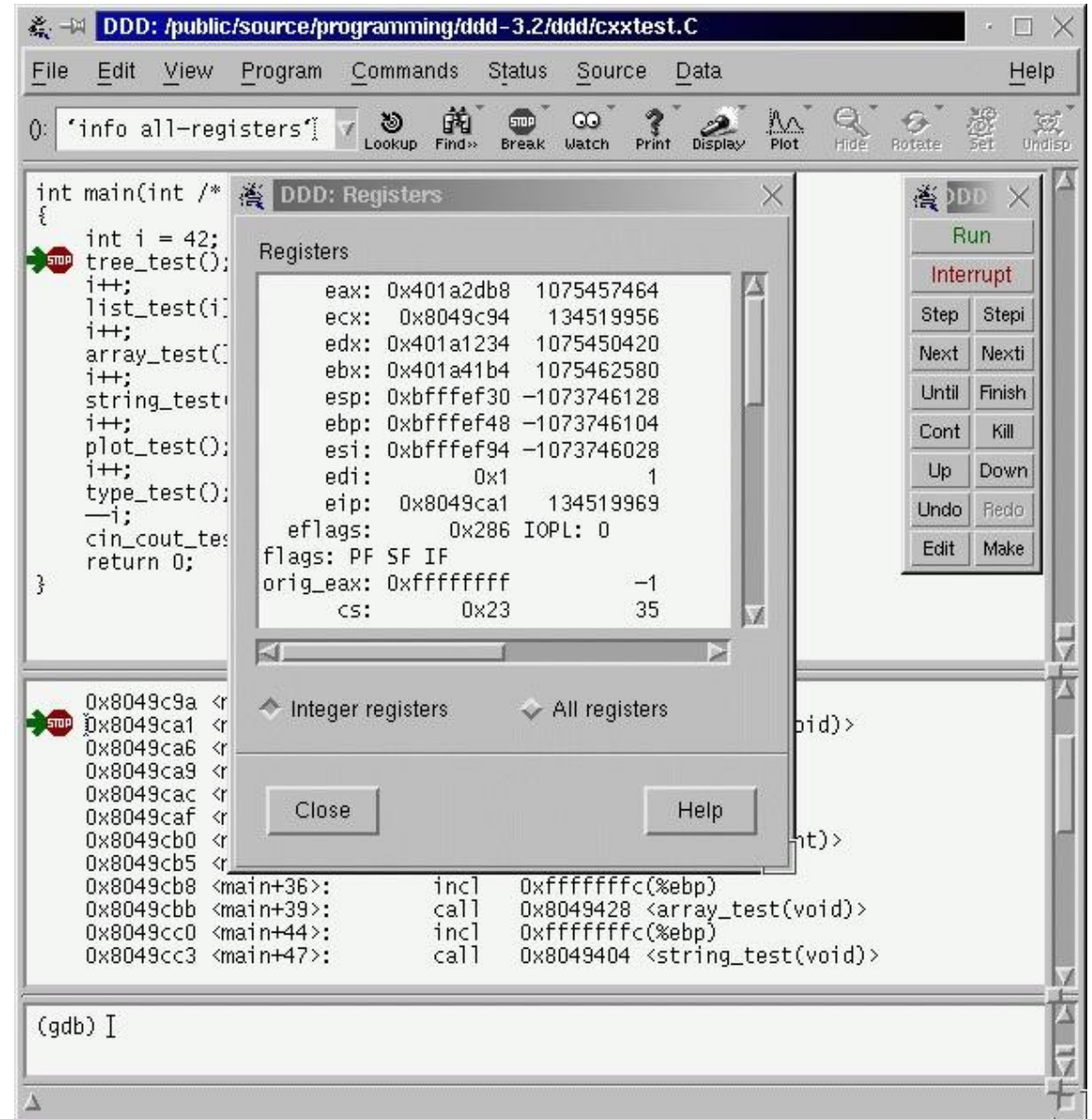


**What
Software
Tools?**



GNU/Linux Software Tools

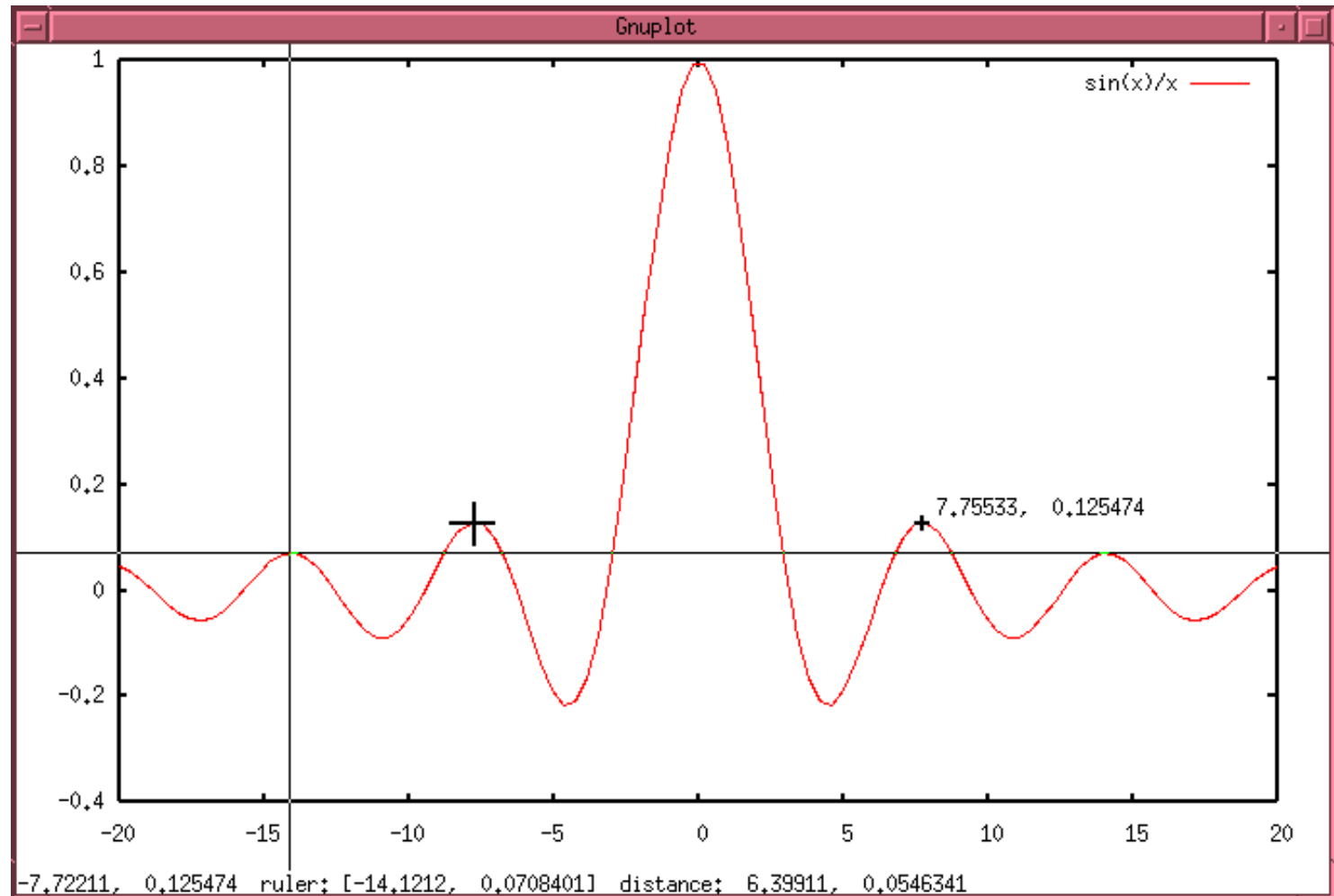
- GNU C Compiler (gcc)
- GNU Assembler (gas)
- GNU C++ compiler (g++)
- GNU Debugger (gdb)
- Data Display Debugger (ddd)
- Java
- Python
- Tcl





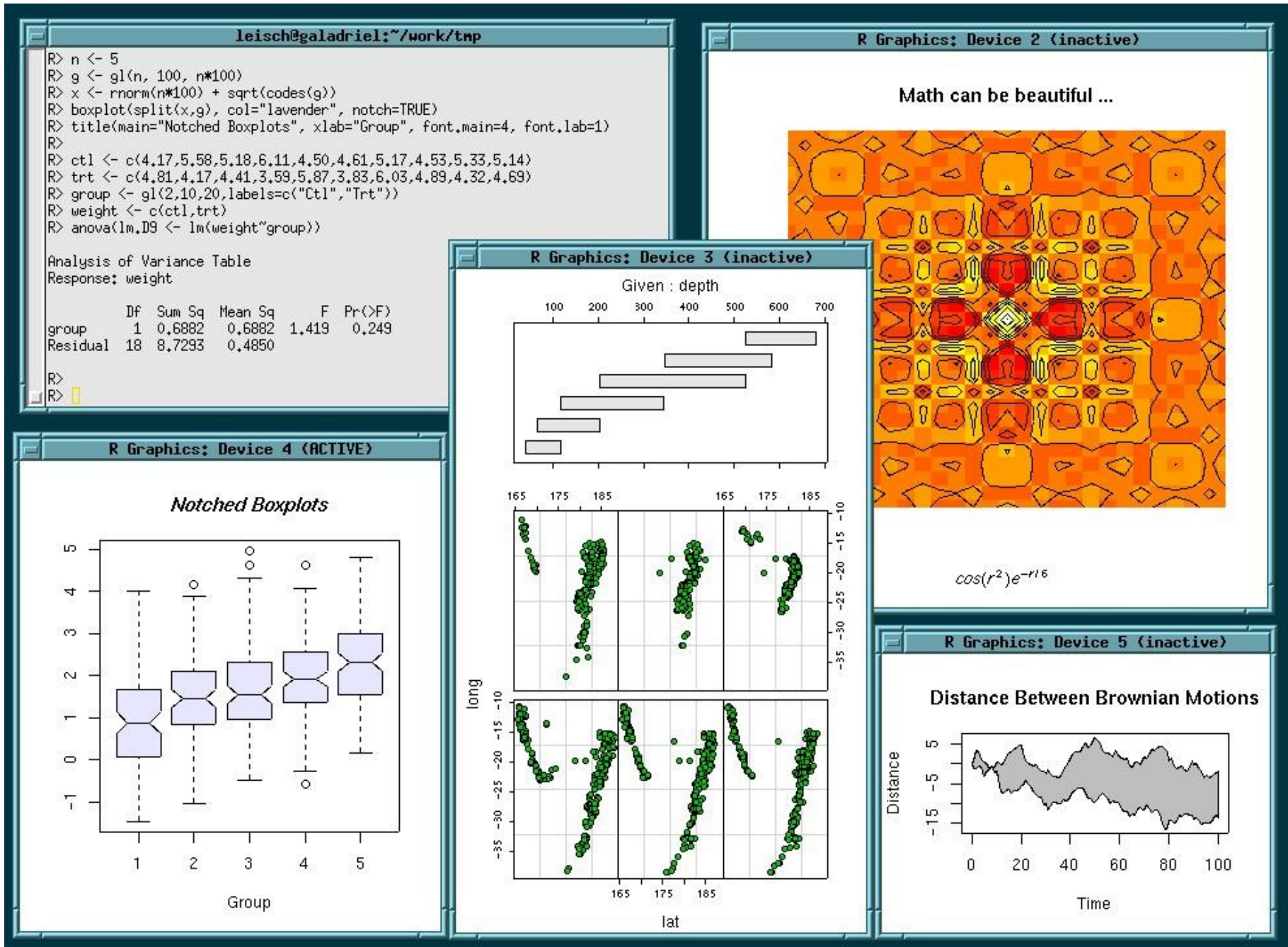
GNU/Linux Math Tools

- **r-project**
- **pspp**
- **IT++**
- **GSL**
- **GNU Octave**
- **gnuplot**
- **LabPlot**
- **LaTeX**



Source: <http://gnuplot.sourceforge.net/screenshots/figs/term-mouse-X11.png>

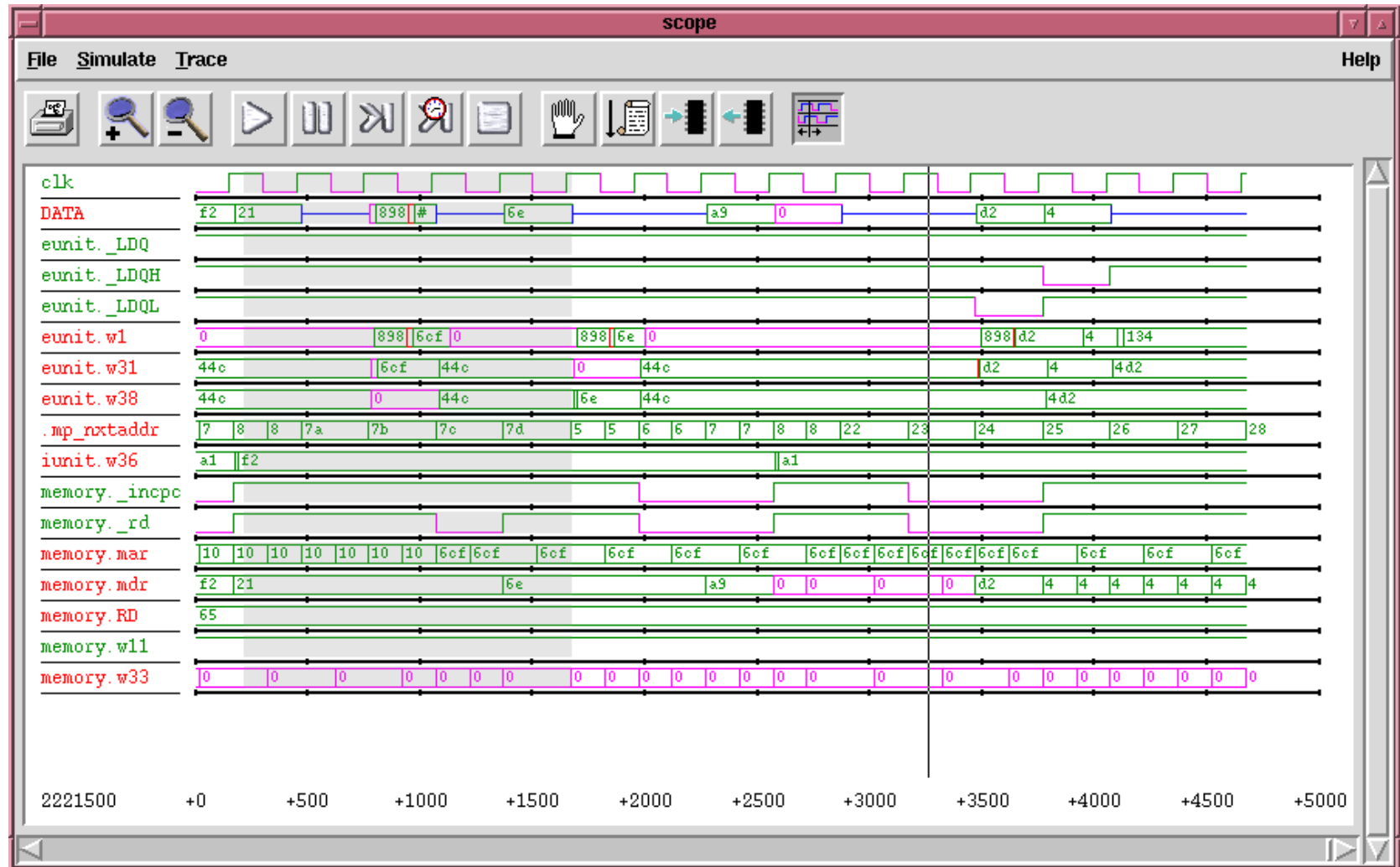
r-project





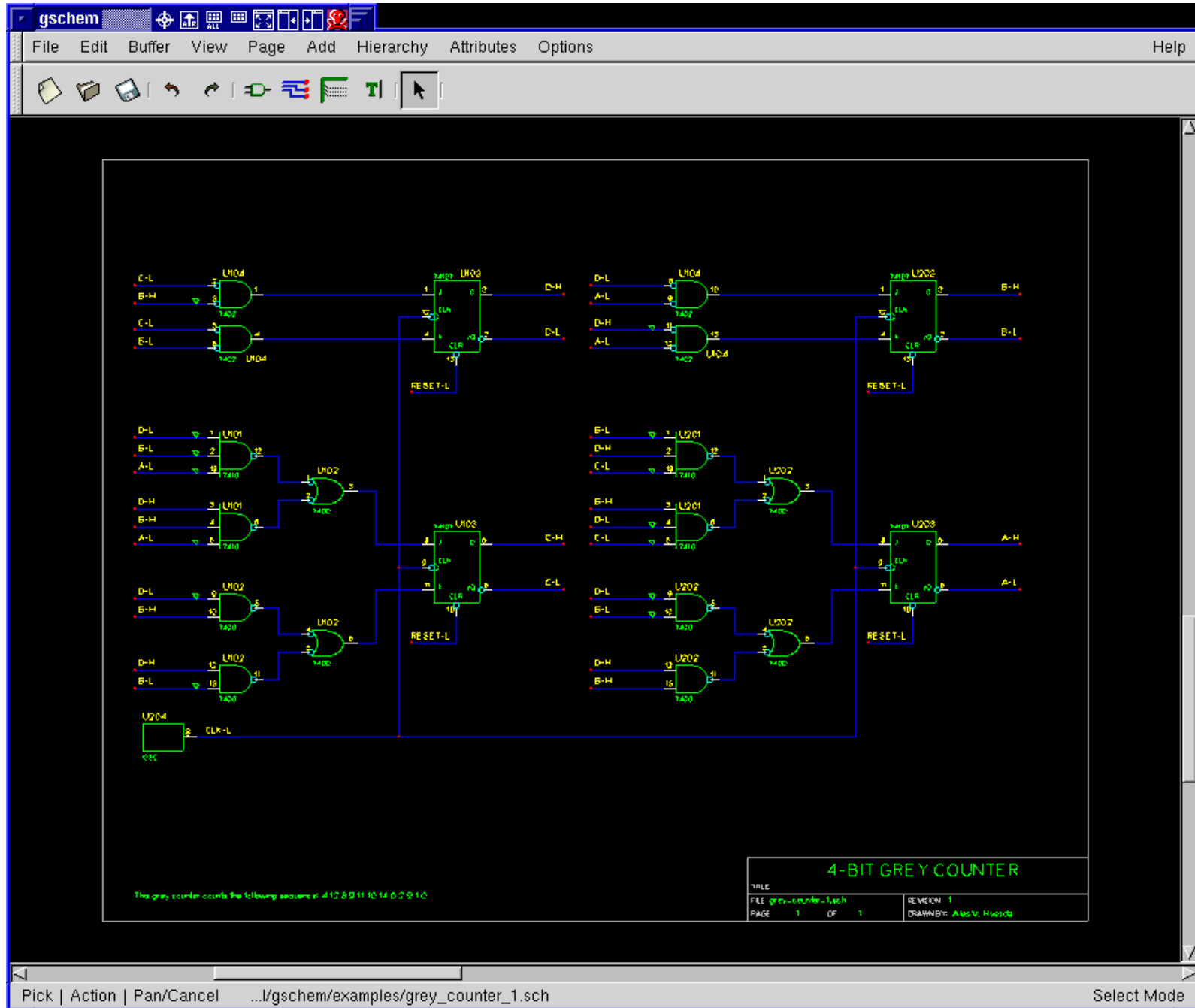
GNU/Linux EDA Tools

- Alliance
- gEDA
- PCB Tool
- EE Tool
- TkGate
- XCircuit
- gerbv
- gputils
- vlsi



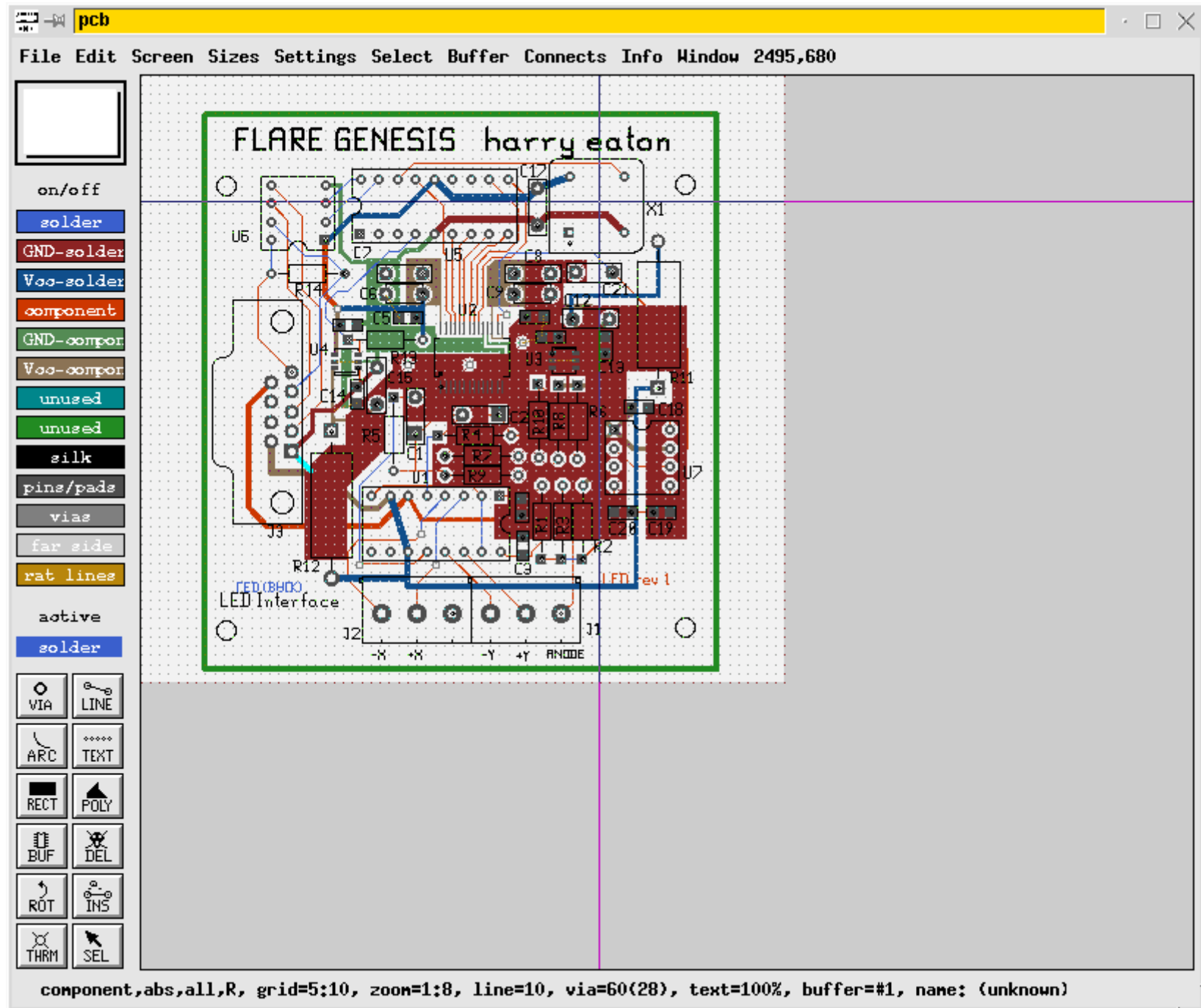
Source: <http://www.tkgate.org/fig/scopewin.gif>

gEDA



Source: <http://www.geda.seul.org/screenshots/screenshot-gschem1.png>

PCB



Source: http://bach.ece.jhu.edu/~haceaton/pcb/pcb_screen.gif

TkGate

The screenshot displays the TkGate 2.0 software interface. The main window shows a digital circuit design for a main module. The circuit includes an ALU (Arithmetic Logic Unit) and a register. The ALU is connected to an 8-bit data input (data_in) and an 8-bit data select input (data_select). The register is connected to an 8-bit data input (reg_out) and an 8-bit clock input (clk). The circuit is composed of various logic gates, including AND, OR, and NOT gates, and a full adder. The interface includes a menu bar (File, Edit, Tool, Circuit, Simulate, Module, Gate, Make, Help), a toolbar, and a status bar at the bottom showing the file name (test.v*) and the current module (main). The left sidebar shows a tree view of the main module, listing components like ALU, REGS, and Unused. The bottom status bar also displays the current module name (Module: main).

Welcome to TkGate 2.0

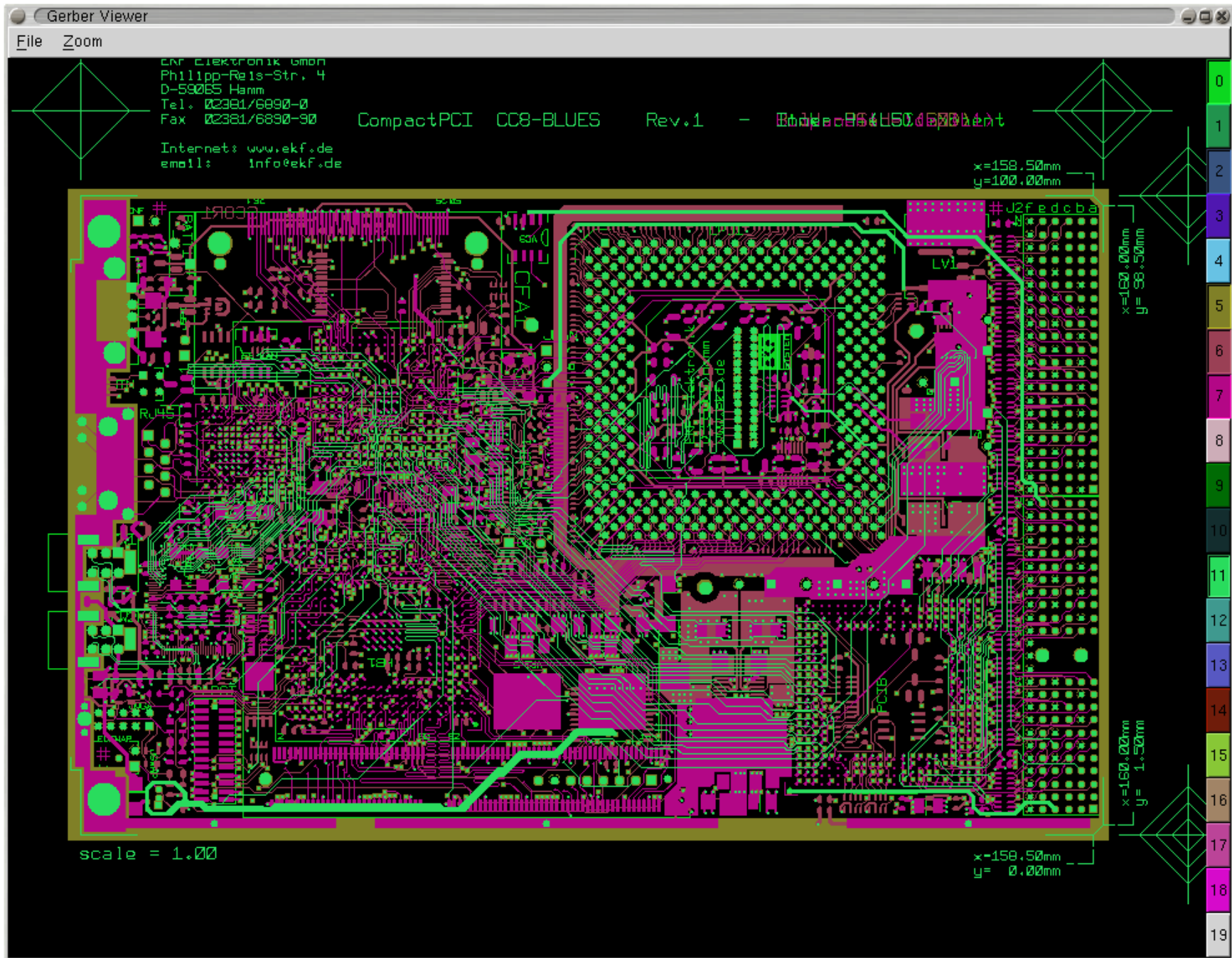
Copyright (C) 1987-2004 by Jeffery P. Hansen
TKGate comes with ABSOLUTELY NO WARRANTY; see 'Help...License' menu
for license and warranty details. Report problems to hansen@tkgate.org

Click on a link below to start using tkgate!

- [Go to the tutorial](#)
- [Edit a new circuit](#)
- [See the documentation at http://www.tkgate.org](http://www.tkgate.org)

File: test.v* Module: main

Gerber Viewer



Source: <http://gerbv.sourceforge.net/screenshot2.png>

**What about
Hardware?**



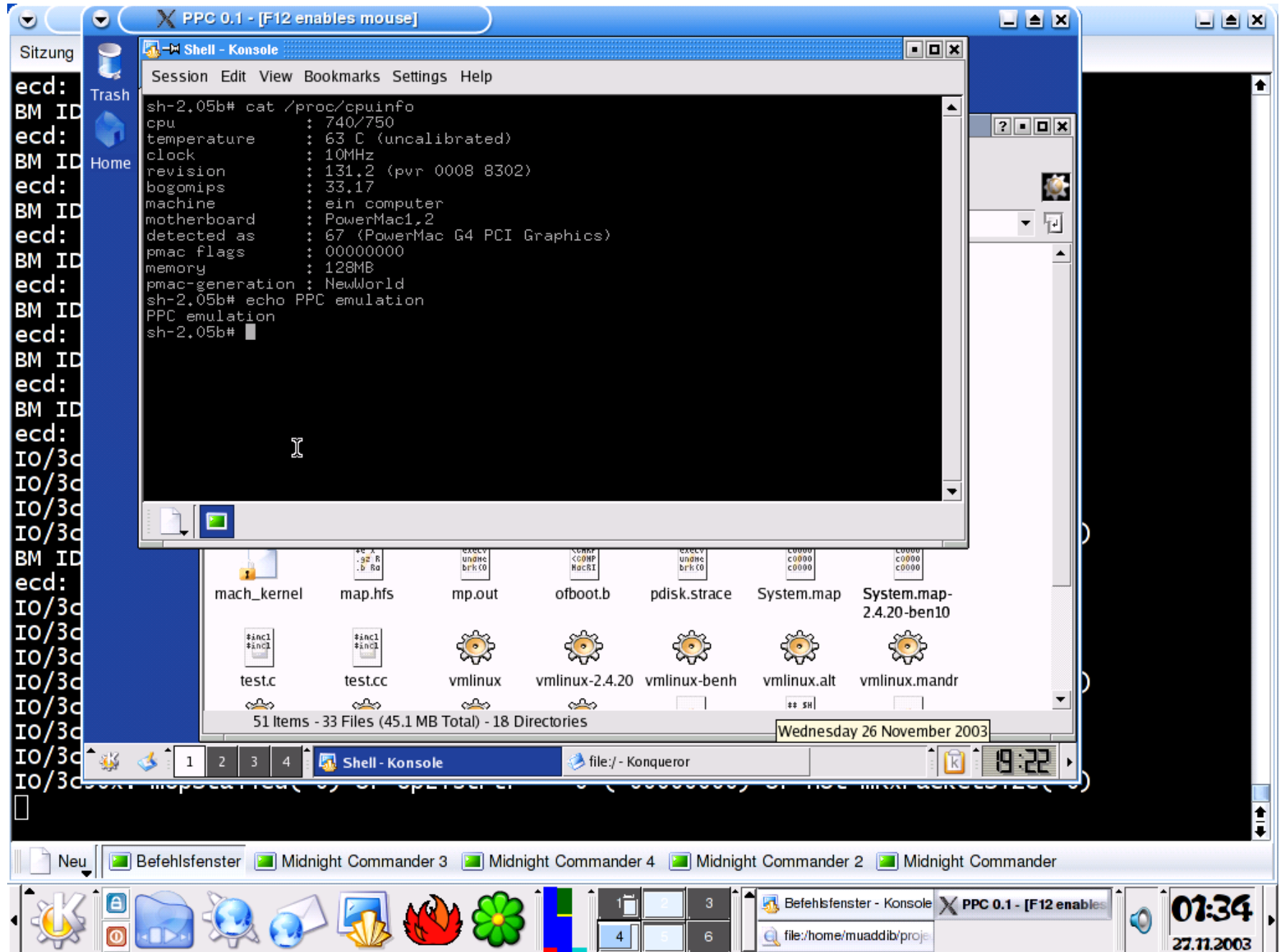
GNU/Linux Simulators/Emulators

- **DOSBox**
- **Bochs**
- **xmame**
- **PearPC**
- **MESS**
- **MAMEoX**
- **gsim51**
- **qucs**



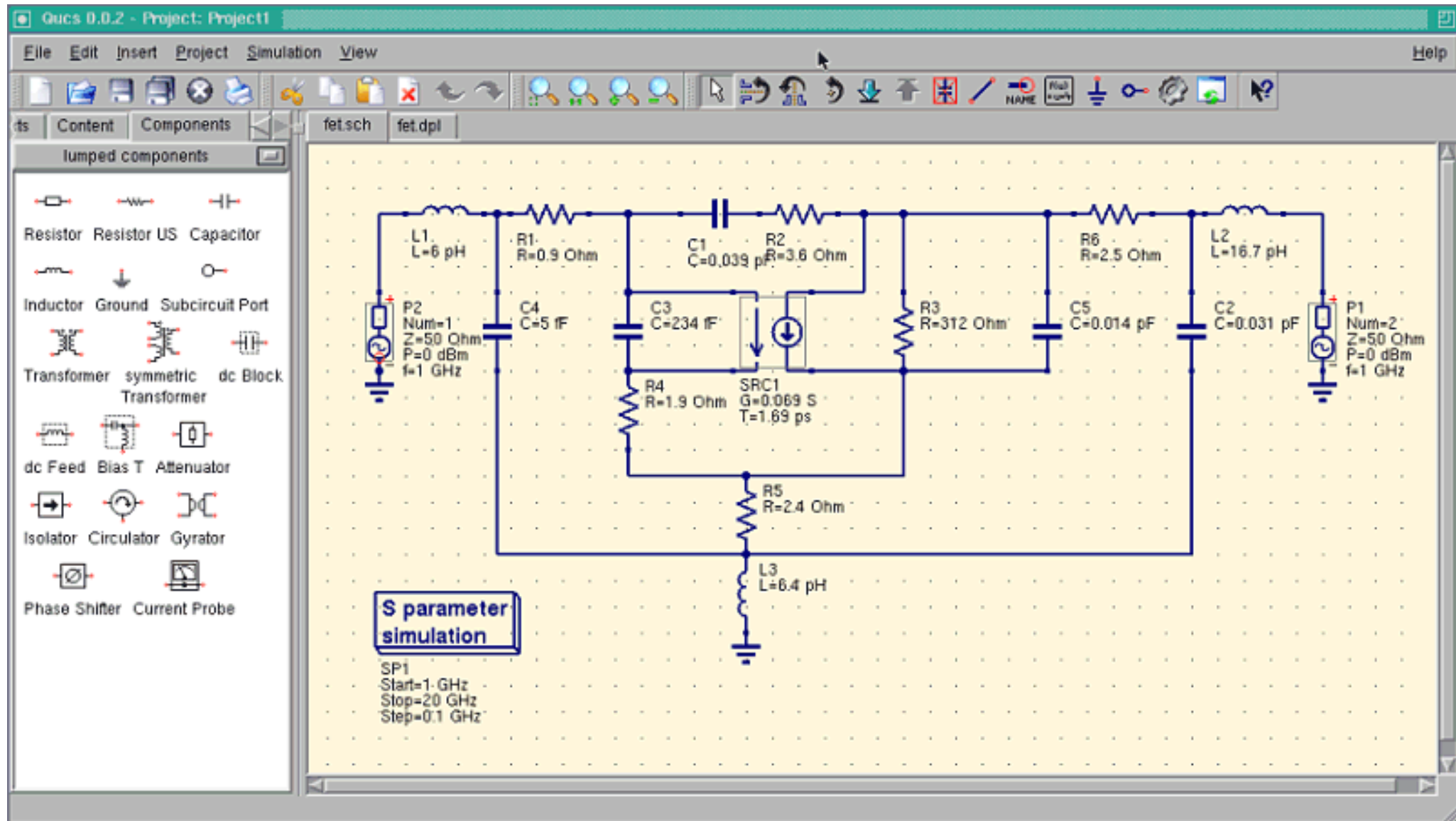
Source: <http://www.mess.org/messscrs.html>

PearPC



Source: <http://pearpc.sourceforge.net/screenshots/kde.png>

qucs



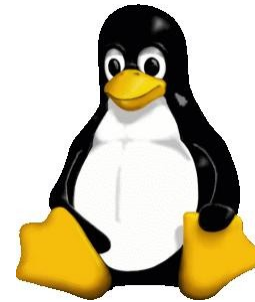
Source: <http://qucs.sourceforge.net/screenshots.html>

**I need tech
support**

GNU/Linux Tech Support

Projects

- <http://sourceforge.net>
- <http://freshmeat.net>
- <http://savannah.gnu.org>
- <http://sarovar.org>



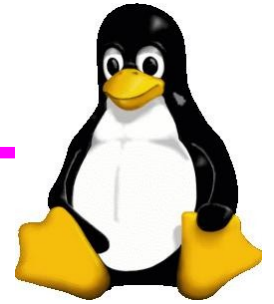
Online Documentation

- <http://www.tldp.org/>
- <http://www.google.com/linux>
- <http://www.linux.org>
- http://www.linuxforum.com/linux_sites.php
- <http://www.kernelnewbies.org>





GNU/Linux Tech Support



Internet Relay Chat (IRC)

irc.freenode.net

- **##c**
- **#asm**
- **#linux**
- **#redhat**
- **#suse**
- **#kernel**
- **#gentoo**

IRC Clients

- **xchat**
- **irssi**
- **gaim**

The screenshot shows the X-Chat IRC client interface. The title bar reads "X-Chat [2.0.8]: mbuf @ niven.freenode.net / #gentoo (+thcPLf) #gentoo-overflow 20,7". The main window has a menu bar with "X-Chat", "IRC", "Server", "Settings", "Window", and "Help". The chat log shows a message from "s" with the text "break xorg 6.8 || 2004.2 minimal cd won't boot? bug 58821". Below this, several users are listed with their messages: "scrp" says "- cos the resolv.conf is empty"; "lscd" says "razerboy: yes, depends on if you have the wong lived like i had the other day and had to start from stager1 to change the architecture"; "likewhoa" says "DJGummikuh: i suspect ext3 is the slowest; i don't have hard benchmarks [and a lot depends on your usages]"; "Athas" says "anyone linux2.6header users?"; "Athas" says "I don't get why people are so riled up about Emacs' resource usage. I mean, right now, Firefox and X combined, consume about 250mb, while Emacs hovers around 20."; "phox (~phox@phox.dk)" has joined the channel; "roger55" says "Statix: want to bet you didn't follow the instructions?". On the right side, there is a list of 32 ops and 894 total users, including "roger55", "rphillips", "SeJo", "slarti'", "SpanKY", "spyderous", "swegener", "taviso", "[pkh]", "[radon]", "[suller]", "[SV]Kal-Ei", "[WAN]Glow", and "\Locutus\". At the bottom, there is a text input field with "mbuf" and a row of channel buttons: "FreeNode", "#gentoo", "#c", "#asm", and "#kernel".

GNU/Linux Tech Support

Forums

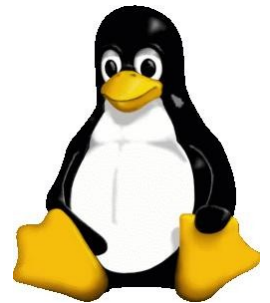
- <http://www.linuxquestions.org>
- <http://www.linuxforum.com/forums/>
- Mailing lists
- Usenet and Newsgroups

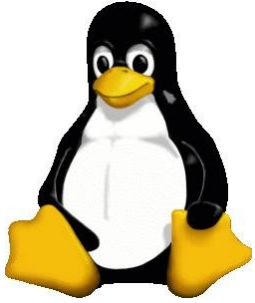


LUG

- <http://www.chennaiug.org>

GNU/Linux Expo/Conferences





Contact



- N Shakthi Kannan
- E shakthimaan@gmail.com
- IRC nickname "mbuf"
- linuxforum.com "x86processor"
- GNU/Linux Links

<http://www.shakthimaan.com> -> /links



Thank You

