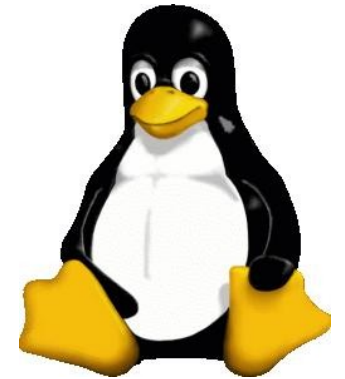


Indian GNU/Linux Users' Group, Chennai

<http://www.chennaiug.org>

presents

Careers with GNU/Linux



by

Shakthi Kannan MS

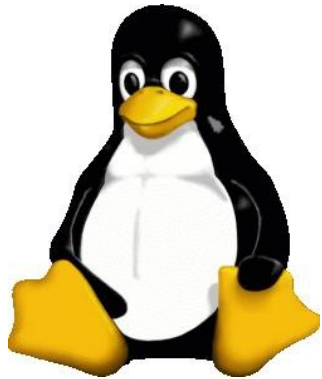
September 9, 2006

Introduction

- **GNU/Linux/Free Software Movement**
 - **Free Software Foundation (FSF)**
 - ***Free as in Freedom – Richard Stallman's Crusade for Free Software***
<http://www.oreilly.com/openbook/freedom/>
 - ***The Cathedral and the Bazaar - Eric Steven Raymond***
<http://www.catb.org/~esr/writings/cathedral-bazaar/cathedral-bazaar/>
- **GNU General Public License**
- **GNU/Linux distributions**
Red Hat, Fedora Core, SuSE, Mandrake, Debian, Slackware
Knoppix, Gnoppix, Gentoo
<http://www.distrowatch.com/>
- **(GNU/)Linux User Groups**
<http://www.linux.org/groups/>

free
SOFTWARE
FOUNDATION

Industry Domains



Bioinformatics
Computer Networks
Gaming industry
Embedded systems/VLSI
Operating Systems
Research
Service industry
Systems development
System/network administration
Teaching
Telecommunications



Job Designation

- **Application Developer**
- **Graphics Designer**
- **Database Programmer**
- **Embedded Systems Engineer**
- **Freelance Writer**
- **Professor/Researcher**
- **Marketing Specialist**
- **Consultant**
- **Network/System Administrator**
- **VLSI Engineer**
- **Systems Developer**
- **Web Developer**

GNU's Not UNIX



Application Developer

- **C, C++, Java, Fortran, Cobol, Lisp**
- **Perl, Python, Bash**
- **Tcl/Tk, GTK, Qt**

<http://sourceforge.net>

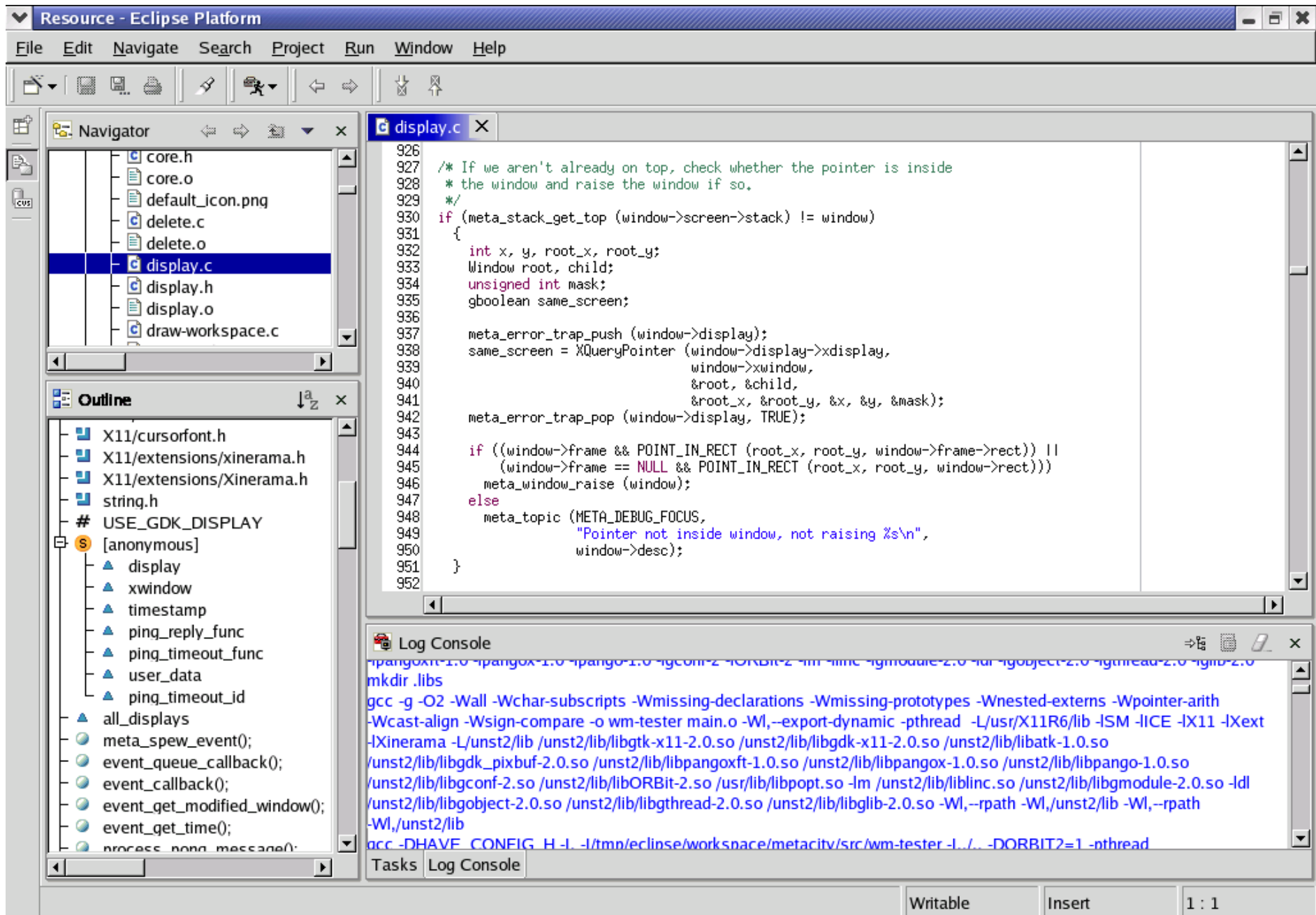
<http://freshmeat.net>



Coursework

- **CS131 Programming and Data Structures**
- **CS231 Introduction to Analysis of Algorithms**
- **CS237 Object Oriented Programming**
- **CS338 Software Engineering**
- **CS433 Object Oriented System Analysis and Design**

Eclipse IDE



Source: <http://ometer.com/eclipse-shots/eclipse-metacity.png>

Database Programmer

- **Webhosting, databases**
- **MySQL, PostgreSQL, ORACLE**
- **Java, swing, JDBC**
- **LAMP: Linux Apache MySQL PHP**

GNU/Linux SQL Databases and Tools

<http://linas.org/linux/db.html>

Coursework

- **CS234 Database Management Systems**
- **CS338 Software Engineering**
- **CS433 Object Oriented System Analysis and Design**
- **CS432 Web Technology**

Business/Marketing

Consultant

- GNU/Linux deployment
- Migration

Linux Consultants Guide

<http://www.faqs.org/docs/consult/>

Marketing Specialist Freelance Writer

- Market research
- Advertising
- GNU/Linux Promotions
- Public relations

- Command of language
- Articles, publications, books

- <http://www.linuxjournal.com/>
- <http://slashdot.org/>

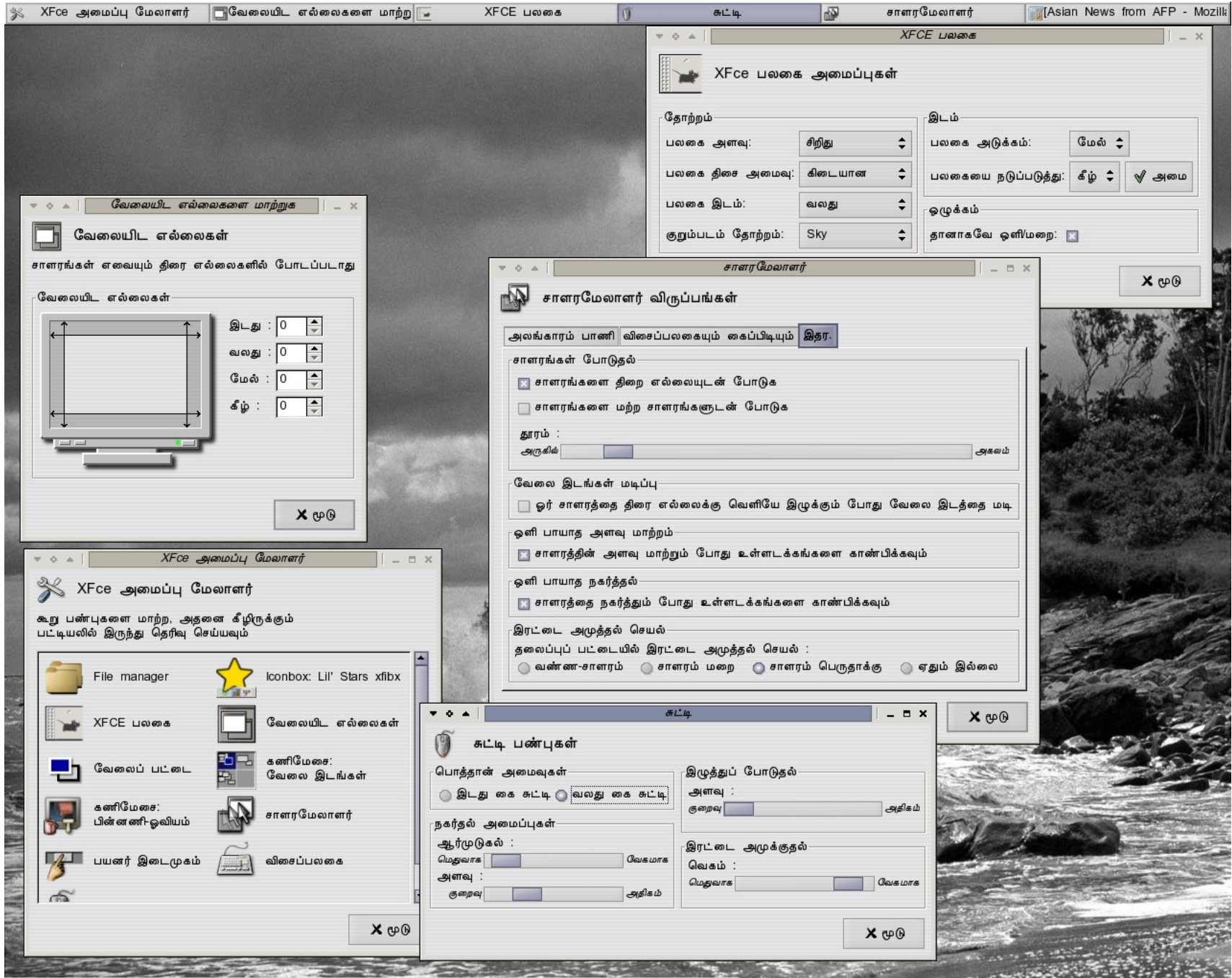
OpenOffice

The screenshot displays the OpenOffice 1.1.2-en interface. The main window shows a spreadsheet with a table titled 'Bibliography'. The table has columns for Identifier, Type, Address, Annote, Author, Booktitle, Chapter, Edition, Editor, and Howp. The data rows list various identifiers and their corresponding authors.

Identifier	Type	Address	Annote	Author	Booktitle	Chapter	Edition	Editor	Howp
BOR02a	1			Borges, Malte; Schumacher, Jörg					
BOR02b	1			Borges, Malte; Schumacher, Jörg					
BUS00	1			Busch, David D.; Olsen, J.W.					
DAN00	1			Dandenell, Malin; Ek, Jesper					
FAC01	1			Facundo Arena, Hector					
GAE02	1			Gäbler, Rene					
HAB00	1			Habraken, Joe					
JON00	1			Jones, Floyd; Haugland, Solveig					
MOL02	1			Molla, Ricard					
RAP00	1			Rapion, Anne					
RIN01	1			Rinne, Karin					
WAR01a	1			Warner, Nancy D.					

A 'Data Source Administration' dialog box is open, showing the 'General' tab. The 'Name' field is 'Data source 1'. The 'Database type' dropdown menu is open, showing options: jDBC, MySQL, Adabas, jDBC, ODBC, dBase, Text, Spreadsheet, and Address book. The 'Data source URL' field is empty. The dialog has 'OK', 'Apply', 'Cancel', and 'Help' buttons.

XFCE in Tamil



VLSI Engineer

- C
- Verilog, VHDL
- Alliance VLSI CAD tools
- gEDA, vlsi, PCB tool, EE tool,
- TkGate, Xcircuit, gerbv, gputils

Coursework

- EE337 Digital Signal Processing
- EE334 Integrated Circuits
- EE333 Digital Systems
- EE340 Microprocessor & Applications
- EE350 Computer Architecture

Systems Developer

- **Assembly, C**

Programming from the Ground-Up

<http://savannah.nongnu.org/download/pgubook/>

- **Device drivers, kernel development**

Linux Device Drivers

<http://www.xml.com/ldd/chapter/book/>

- **Compilers, assemblers, emulators, linkers, loaders**

- **Distributed computing, protocol development**

- **Filesystems, clustering, benchmarking**

GNU/Linux devices

<http://www.linuxdevices.com>

Systems Developer

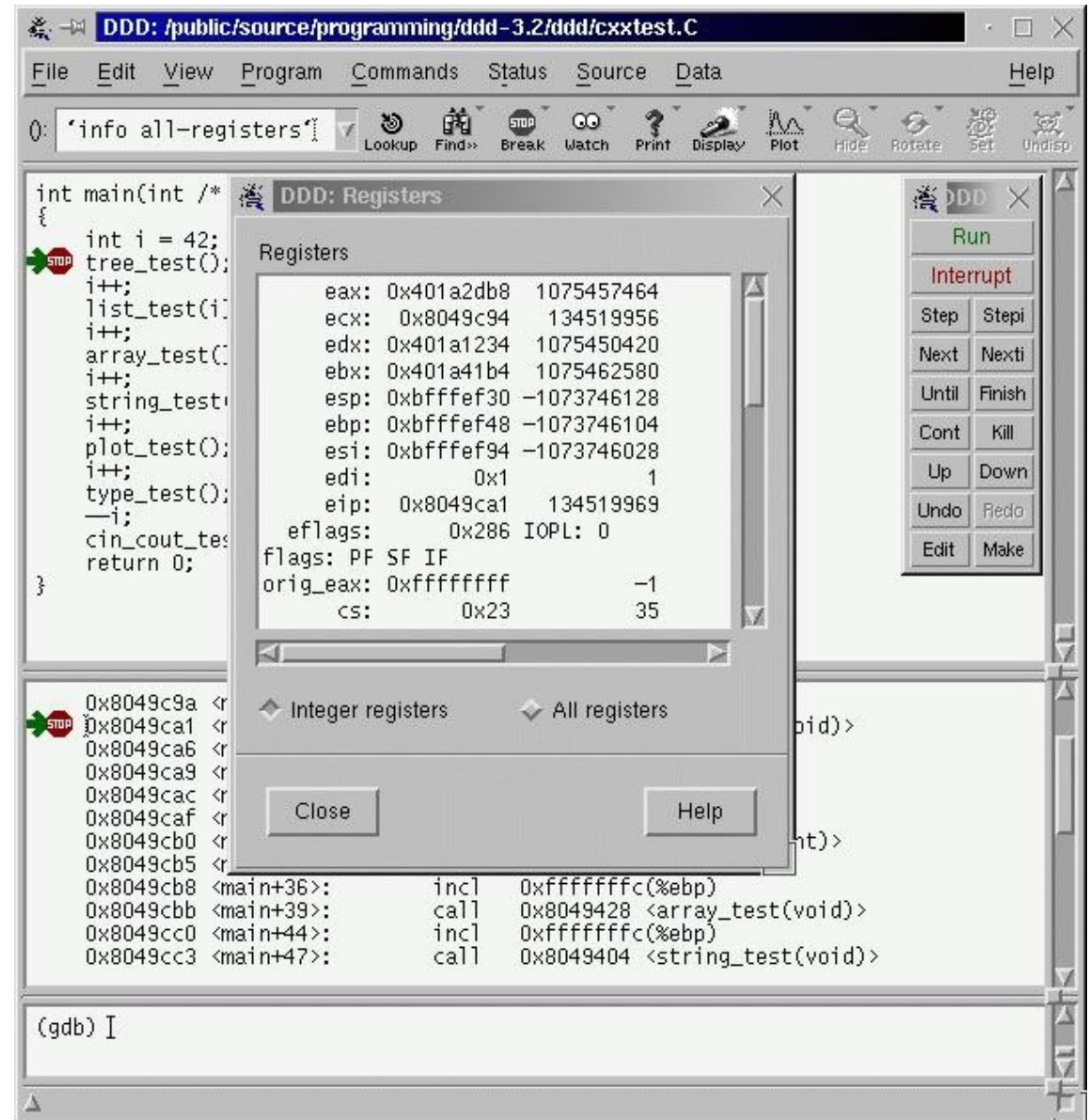
Coursework

- **CS131 Programming and Data Structures**
- **CS231 Introduction to Analysis of Algorithms**
- **CS232 Digital Systems**
- **CS233 System Software**
- **CS238 Computer Architecture I**
- **CS334 Microprocessors**
- **CS333 Operating Systems**
- **CS340 Computer Architecture II**
- **CS337 Principles of Compiler Design**
- **CS338 Software Engineering**



GNU/Linux Software Tools

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



Professor/Researcher

Professor

- Command of language
- Universities/colleges/schools
- Lectures/training
- Conferences/seminars/workshops

Researcher

- Focused
- Conferences/seminars/workshops
- Papers, publications, journals
- Academia/industry research

Systems/Network Administrator

- Scripting – Bash, Perl, Python
- Services – Apache, BIND, DNS, DHCP, sendmail, LDAP
- Skills
 - Installation, configuration, monitoring, security
 - Backup and recovery procedures, troubleshooting,
 - Communication skills

<http://www.tldp.org/HOWTO/HOWTO-INDEX/categories.html>

Coursework

- CS339 Computer Networks
- CS431 Network protocols, management and security
- CS432 Web Technology

SuSE GNU/Linux Install

The screenshot shows the YaST (Yet another Setup Tool) interface for Network Configuration. On the left, a sidebar lists installation steps: Base Installation (Language, Installation Settings, Perform Installation) and Configuration (Perform Installation, Root Password, Network, Online Update, Users, Clean Up, Release Notes, Device Configuration). The main window is titled 'Network Configuration' and has two radio buttons: 'Skip Configuration' (unselected) and 'Use Following Configuration' (selected). Below this, there are four sections: 'Firewall' (enabled, external interface eth-id-00:50:ba:1b:62:78, SSH disabled, no additional services), 'Network Interfaces' (D-Link DFE-530TX rev A with DHCP, host name, name servers, and search list set by DHCP), 'DSL Connections' (not detected), and 'ISDN Adapters' (not detected). At the bottom of the main window are buttons for 'Change...', 'Back', 'Abort', and 'Next'. The YaST logo is in the top left, and the SuSE logo is in the top right.

YaST

Base Installation

- ✓ Language
- ✓ Installation Settings
- ✓ Perform Installation

Configuration

- ✓ Perform Installation
- ✓ Root Password
- ➔ Network
- Online Update
- Users
- Clean Up
- Release Notes
- Device Configuration

Network Configuration

Skip Configuration

Use Following Configuration

Firewall

- Firewall is enabled
- External Interfaces: eth-id-00:50:ba:1b:62:78
- SSH: disabled
- Additional Services: none

Network Interfaces

- D-Link DFE-530TX rev A
Configured with DHCP.
- Host Name: set by DHCP
- Name Servers: set by DHCP
- Search List: set by DHCP

DSL Connections

- Not detected.

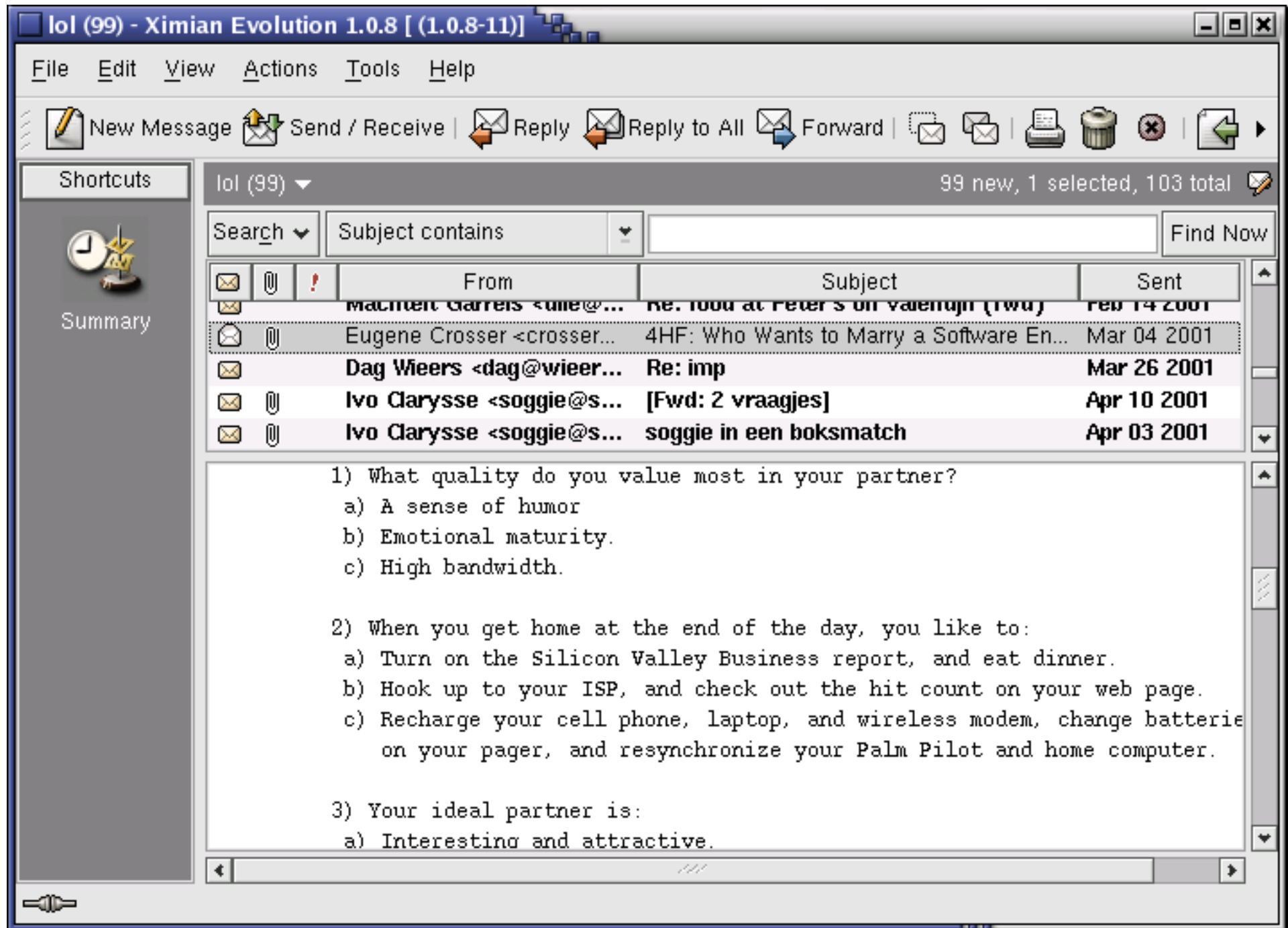
ISDN Adapters

- Not detected.

Change...

Back **Abort** **Next**

Ximian Evolution



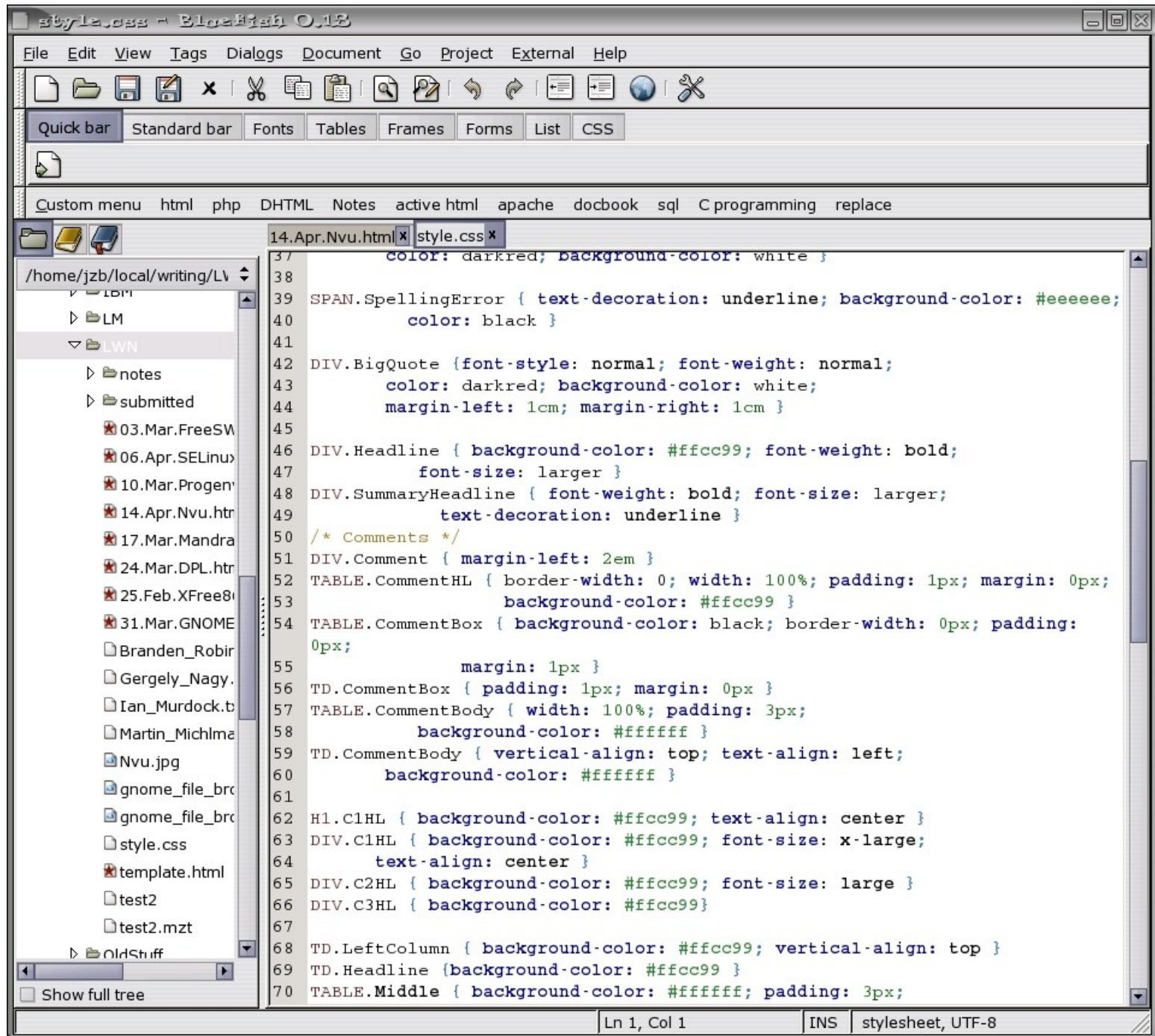
Web Developer

- XML/SGML, Perl, SQL
- HTML, XHTML, CSS
- LAMP (Linux, Apache, MySQL, PHP)
- <http://www.devshed.com/>
- <http://www.linuxforum.com/forums/index.php?showtopic=53452>

Coursework

- CS234 Database management Systems
- CS431 Network protocols, management and security
- CS432 Web Technology

Bluefish



Source: <http://lwn.net/Articles/80573/>

Graphics Designer

- **Creativity**
- **Animation: moho, maya, blender3D**
- **Imaging software: GIMP, openrender, DrQueue, YafRay**
- **Audio editing: wired, muse, ardour, rosegarden**
- **<http://www.linuxforum.com/forums/index.php?showtopic=53452>**

Coursework

- **ge134 Engineering graphics**
- **cs239 Interactive computer graphics**
- **CS432 Web Technology**

Rosegarden

The screenshot displays the Rosegarden music software interface. The main window, titled "/home/cannam/music/rg/squibble.rg - Rosegarden", features a menu bar (File, Edit, Composition, Segments, Tracks, Tools, Settings, Help) and a toolbar with various editing and playback icons. On the left, there are two panels: "Segment Parameters" (with fields for Label, Repeat, Transpose, Quantize, Delay, and Colour) and "Instrument Parameters" (with fields for MIDI external device, Channel, Percussion, Bank, Program, and various effect controls like Pan, Volume, Sustain, Chorus, Reverb, and Expression). The central area shows a multi-track arrangement for "C major" with a tempo of 120. Tracks include Recorded guitar, Piano (split), Piano theme, Piano theme 2, Bells, Erhu, and several untitled tracks. A piano roll is visible for the Piano track. Below the main window is a smaller window titled "squibble.rg - Segment Track #9 - Notation - Rosegarden", which shows a musical score in standard notation on a grand staff. The notation window has its own menu bar and toolbar. At the bottom of the Rosegarden interface is the "Rosegarden Transport" window, which includes a digital display showing "00:01:47.7796", a tempo of 120.000, and a status bar with "IN NO EVENTS" and "OUT NO EVENTS" indicators. The bottom status bar of the main window shows "Time: 16800 (8.750s)", "G1", "Ready.", "6 events selected", and "0%".

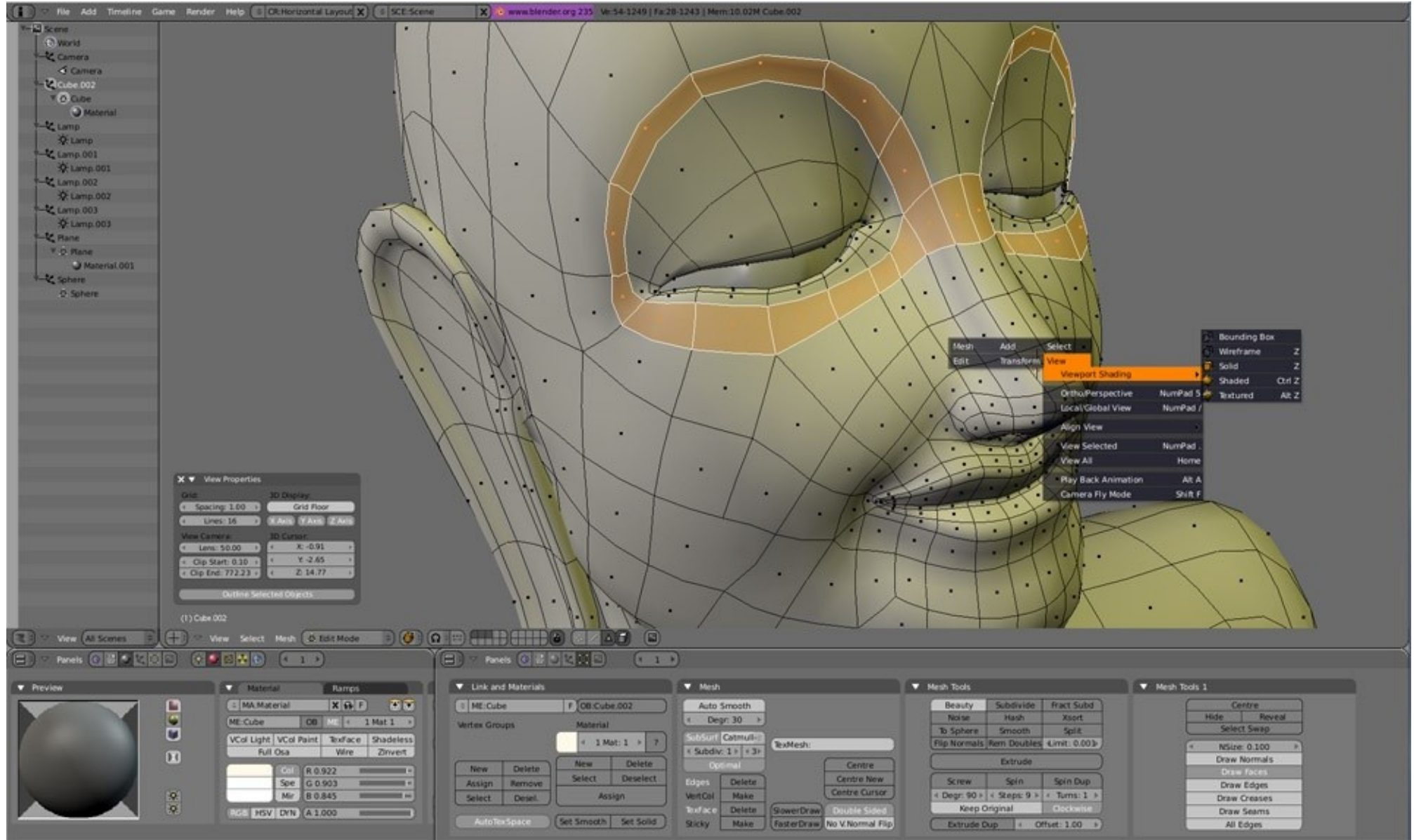
Source: <http://www.rosegardenmusic.com/images/rg4-0.9.9.png>

Blender



Source: <http://blender3d.org/cms/Images.151.0.html>

Blender



Source: <http://www.blender3d.org/cms/Home.2.0.html>

Summary

System/network administration

Gaming industry

Computer Networks

Telecommunications

Research

Service industry

Embedded systems/VLSI

Teaching

Operating Systems

Systems development

Bioinformatics

Web developer

Freelance Writer

Embedded Systems engineer

Application developer

Database programmer

Network administrator

Professor/Researcher

Graphics Designer

Systems developer

Consultant

Marketing Specialist

System administrator

Reference

[1] B.M.G's Logo Gallery. April 10, 2002.

http://www.astro.uni-bonn.de/~jbraun/logo_gallery/loggal.html

[2] Linux logos and mascots. 2005.

<http://www.linux.org/info/logos.html>

[3] The Linux Documentation Project. January 04, 2005.

<http://www.tldp.org/HOWTO/HOWTO-INDEX/categories.html>

[4] GNU Art Gallery. 2005.

<http://www.gnu.org/graphics/graphics.html>

Question Answer Session





**Thank
You**

