Exercise 6 – Multimedia in the Net

Task 6: Audio Recorder

Write an audio recorder `rec`, that does the following:

- capture audio via ALSA mixer
- write out an Ogg Vorbis encoded recording of this audio
- recording is stopped by pressing `<Ctrl-C>`
- the code should do extensive error checking and underrun recovery
- the written file should be left in a consistent state on exit.
- **optionally** the tool might additionally output a RIFF WAV file.

Hand in a make file (`Makefile`) and one or more .c and/or .h files which can be compiled on a computer in the CIP pool by issuing the command

                              make rec

The resulting binary file `rec` must run on the computers in the CIP-Pool.

Hints:
- read the libvorbis API documentation at
  `/usr/share/doc/packages/libvorbis-devel/` (SuSE),
  `/usr/share/doc/libvorbis-dev/` (Debian) or
  http://xiph.org/vorbis/doc/.
- read the ALSA lib API documentation at http://www.alsa-project.org/alsa-doc/alsa-lib .
- reuse code from the ALSA tutorial at http://equalarea.com/paul/alsa-audio.html (beware of the pointer error in the code) and from the libvorbis examples at http://svn.xiph.org/trunk/vorbis/examples/

Send an e-mail with „MMN – Exercise 6" as subject, your immatriculation number in the e-mail body, and a tar.gz archive containing only the make file and source files (rec.tar.gz) as an attachment to raphael.wimmer@medien.ifi.lmu.de

Deadline: Sunday, 10. December 2006, 24:00.