Exercise 2 – Multimedia in the Net

Task 2: Simple Web Server

Write a web server in C that does the following:

1. Listen on a port defined on the command line (e.g. `web_server 1234`, default: 8888)
2. Serve arbitrary files, situated in a sub-folder `www/`, to browsers connecting to the server.
3. Replace every occurence of one of the following tags in an HTML file with the corresponding dynamic data:
     1. <date/> ➜ current date (e.g. *30.10.2006*)
     2. <ip/> ➜ the IP address of the client (e.g. *127.0.0.1*)
     3. <uptime/> ➜ the uptime of the server (e.g. *up 4 days, 9:26 hours*)
     4. <motd/> ➜ a random string of your liking (e.g. *„$ich ist toll!!"*)

Use threads or `fork()` to serve multiple concurrent connections.
Hand in a make file (`Makefile`) and one or more .c and/or .h files which are compiled by issuing the command

                       make web_server

The web_server generated by issuing the command
                   make funny_web_server

should output an HTML document containing a German joke, regardless of what file is requested. Use `IFDEF`s for this.

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

Hints:
- re-use the source code of a <u>simple</u> existing web server (not Apache!)
- the current uptime can be either read from /proc/uptime or by using the output from command `uptime`.

Send an e-mail with „MMN – Exercise 2" as subject, your immatriculation number in the e-mail body, and a tar.gz archive containing only the make file and source files (web_server.tar.gz) as an attachment to <u>raphael.wimmer@medien.ifi.lmu.de</u>

Deadline: Sunday, 5. November 2006, 24:00.