Exercise 3 – Multimedia in the Net

Task 3: A Steganographic Tool

Write a steganographic tool, `steg` that does the following:

1. accept an image file name and a text string as command line parameters and hide the string data in the image.
   Example: `steg cat.png „This is a secret message."`
   The tool may act only on certain image types. These should be described in a help text.
2. accept only an image file name. If the image contains a steganographically hidden message (hidden with your tool), print out the message on the command line.
3. if the image file from 2. does not contain a message, enter interactive mode:
   An X window will pop up, containing the selected image (appropriately scaled) and an [OK] button. The user can enter text which is displayed on top of the image. Pressing the Backspace or Delete buttons deletes a character. Clicking the [OK] button or pressing <Return> closes the window and hides the typed message in the image.

There are two bonus tasks if you have too much time:
1. encrypt the message (e.g. using libgcrypt)
2. hide text in a JPEG file

Hand in a make file (`Makefile`) and one or more .c and/or .h files which are compiled by issuing the command

                    make steg

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

Hints:
● use imlib2 and Xlib for image manipulation and X window. There's already a nice example in the imlib2 documentation

Send an e-mail with „MMN – Exercise 3" as subject, your immatriculation number in the e-mail body, and a tar.gz archive containing only the make file and source files (steg.tar.gz) as an attachment to raphael.wimmer@medien.ifi.lmu.de

Deadline: Sunday, 12. November 2006, 24:00.