COMPUTER SYSTEMS LABORATORY
Fall 2011
Stage 2

Synopsis

During this stage you will develop the final system, running on a bare PC (i.e. without an operating system).

This final step requires you to develop code to access the hard disk in order to read the bitmap files from the Minix file system.

At the end of this stage, you should know:

- how to control a hard disk;
- how to deal with a Minix file system in a more generic way;
- incidentally, what is the internal organization of a specific type of BMP file;
- …

Dealing with the Minix file system

As in this stage we have the processor set to long mode, we're now able to develop the C code for dealing with the Minix file system in a more favorable environment than in Stage 0. In particular, we will develop all the code on top of a readSectors function, which initially will read directly from the virtual hard disk file.

Exercise 1

Create a C module that gives read access to a hard disk partition, by direct access to a virtual hard disk file, with operations: openPartition, readSectors, closePartition.

Exercise 2

On top of the previous operations, develop a C module to read directories and files from a Minix partition.

(to be continued)