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Cpre 308

Lab 10

4/11/16

Introduction

In this lab I explored the FAT-12 filesystem which was the filesystem used by the good old floppy disk. Firstly, we looked at the boot sector of the FAT-12 filesystem. Secondly, we checked how the values are stored in the memory and we did so by checking the endianness of the system. I also looked at the swap function provided because sometimes its necessary to swap the values to get the desired endianness. I got the result that my system was little endianness by a running a small program. The output of the program is:

After that, I explored the how to access the file in FAT-12 and read from it. This was done to explore the values in the boot sector. A manual decoding of the boot sector yields the following results:

» » »	Hex » »	Decimal »	
Bytes / sector »	» 0200»	» 512»	
Sectors / cluster»	» 04»	» 4»	
Root directory entries	» 0200»	» 512»	
Sectors / FAT» »	» 0002»	» 2»	

Finally, I wrote the code to decode the boot sector. The struct provided together with the swap function made it very easy for me to write the code for the decoding and printing the values of the boot sector. The most interesting part was that, it required only 3 functions, the open, read and swap. I am including the output image below and will also have the output image file in the lab folder.

```
[deeksha@co1313-07 lab-10]$ gcc -o parser parser.c
[deeksha@co1313-07 lab-10]$ ./parser
No file given[deeksha@co1313-07 lab-10]$ ./parser image.fat12
Binary offset: eb        3c        90
Volume Label: m          k         f         s         .         f         a
Bytes/Sector: 512
Sector/Cluster: 4
Reserved Sector: 1
No. of Fats: 2
No. of Root Directory Entries: 512
No. of logical sector: 2048
Medium Descriptor: f8
Sectors per fat: 2
Sectors per track: 32
No. of heads: 64
No. of hidden Sectors: 0          0
No. of total sectors: 0           0
[deeksha@co1313-07 lab-10]$
```

Overall, this was an easy and informative lab about the FAT-12 file system.