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Lab 5 CF Disk and Simple Kernel Module

ECEN 449 Sec:505

Due: 10/17/2014

Introduction:

In Lab 5 we used the same hardware system setup as we had in lab 4 except. Then we modified the kernel to add support of the persistent memory. Lastly we created a kernel module.

Procedure:

First we copied our Lab 4 directory to a new Lab 5 directory. So that we would not have to repeat all the steps in lab 4.

Then we copied the complete disk file to replace the incomplete disk. After that we had to set up compilation of our linux kernel correctly. We added support for the file system in the configuration menu.

After testing our memory system we created a simple hello world module to use. We compiled it and put it on our flash card.

Results:

Verilog and C Source Files

Conclusion:

Adding disk support wasn’t terribly hard and it will allow us a lot greater functionality as far as user programs are concerned. Creating the module was a little more difficult than creating a standard user program would be, but it will allow us lower level access without too much pain.

Questions:

(a) If prior to step 3.f, we accidentally reset the XUP board, what additional steps would be needed

in step 3.g?

we would need to recreate our directory for mounting.

(b) What is the mount point for the CF card on the CentOS machine?

/media/TRANSCEND

(c) If we changed the name of our hello.c file, what would we have to change in the Makefile?

Likewise, if in our Makefile, we specified the kernel directory from lab 4 rather than lab 5, what

might be the consequences?we would have to change the obj-m =+ hello.o to the name of our c file with the extension .o instead of .c. We would not have kernel support for the fat filesystem and would be unable to read the contents of the card.