ColdFire Development Tools

SE350 Lab Tutorial

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Environment Setup (1)

- Log onto your Nexus account
- Map your ecelinux/eceunix drive
  - Open My Computer
  - Click on Tools -> Map Network Drive
  - Under Driver, choose “P:”
  - Under Folder, type \\eceserv\homes
  - Check “Reconnect at logon” and click Finish

Environment Setup (2)

- Log into ecelinux/eceunix:
  - On the Start menu, go to Programs -> Internet Tools -> Remote Login -> Secure Shell Client
  - Click on Quick Connect
  - Host Name: ecelinux/eceunix,
  - User Name: your Nexus/engmail username,
  - Port Number: 22,
  - Authentication Method: Keyboard Interactive
  - When prompted, enter your password (your nexus password)
  - If another window then pops up, just click OK

Environment Setup (3)

- Edit your .cshrc file to include the following lines:
  setenv PATH “${PATH}:/opt/gcc-coldfire/bin:/opt/gcc-3.4.6-mcf5307/bin”
  setenv PATH “${PATH}:/opt/bin:/opt/coldfire-0.3.2/bin”
- Or, if you are using bash, add the following lines to .bashrc:
  export PATH=${PATH}:/opt/gcc-coldfire/bin:/opt/gcc-3.4.6-mcf5307/bin
  export PATH=${PATH}:/opt/bin:/opt/coldfire-0.3.2/bin
- At the shell prompt, type “source .cshrc” (or “source .bashrc”) and press enter

Building the Sample Code

- On your Nexus account, download the sample code from the lab web page:

  http://www.ece.uwaterloo.ca/~yqhuang/labs/ece354/doc/manual_5307v1a.zip
- Unzip the files to a folder on your eceunix drive
- On eceunix, cd to the folder where you unzipped the sample code
- cd to the “hello” directory
- Type “make” and press enter
- You should now have a file called “hello.s19”

Downloading to the Coldfire Board

- On your Nexus account, open HyperTerminal
  - On the Star t menu, go to Programs -> Accessories -> Communications -> HyperTerminal -> com-1-9600.ht
- Hit enter and you should see the janusROM prompt
- Type “dl -p terminal” and hit enter
- Click on Transfer -> Send Text File
- Browse to the “hello” directory on your eceunix drive, and select the file “hello.s19”

Running the Program

- When the file has finishing downloading to the board, type “go” at the janusROM prompt
- If everything worked correctly, you should see the message “Hello World!”

Using cf-server (1)

- On eceunix, cd to the “hello” directory
- Type “cfcp hello.s19 yourusername.s19” (fill in your own username) and hit enter. This will copy the program to the Coldfire server, changing the filename to yourusername.s19
- Type “telnet cf-server” and hit enter. When the menu appears, hit 1. You should now be connected to a Coldfire board

Using cf-server (2)

- At the janusROM prompt, type “tftp -f yourusername.s19” and hit enter. This copies your program from the Coldfire server to the particular board you are using
- You can now run your program by typing “go” at the janusROM prompt

Using cf-server (3)

- You can perform the above steps from your Nexus account as well, using the command prompt. Note that under Windows, the “cfcp” program doesn't allow you to rename the file. So in the case of our sample code, it will be automatically uploaded as “hello.s19”

Other Tools

- CVS - a version control system available on eceunix
- Subversion - a version control system available on eceunix
- Coldfire emulator -
  - eceunix: /opt/coldfire-0.3.2/bin
    /opt/coldfire-0.3.2/doc/UW-Student-README.txt
  - Nexus: Q:\eng\ece\Coldfire

Other Resources

- SE350 Lab website
  - http://www.ece.uwaterloo.ca/~yqhuang/labs/se350
  - An example non-preemptive RTX design
  - Lab manual and sample code
  - Header files
  - Automated testing sample object code
- UWACE Course Discussion Forum