Electrical and Computer Engineering

ECE453

Lab 2

Linux File System Creation

1. Lab 2 Overview

In Lab 2, you will install an Ubuntu based filesystem on a micro SD card used to boot the DE1-SoC. You will also be introduced to the other files required to successfully boot the DE1-SoC.

2. Ubuntu Filesystem Configuration

Your first task in creating a bootable micro USB card is to install and configure the Ubuntu base filesystem.

When you get to the section titled "Configuring the Filesystem", change make the following change to the commands:

```
# Configuring Network Interface
echo 'intel-soc' > /etc/hostname
```

to

```
# Configuring Network Interface.  Replace XX with your team #.
echo 'teamXX' > /etc/hostname
```

3. Required SoC Files

After installing and configuring the Ubuntu filesystem, you will need to format the micro SD card and copy a set of required files in order boot the DE1-SoC

You can find pre-built binaries here for all of the files needed to build a working micro SD card. Please use these images to ensure that you have followed the procedures correctly.

Once you have the micro SD card correctly formatted, insert it into the DE1-SoC and power the board on. If you have followed the directions, you should be presented with a login prompt.

4. Testing your zImage and u-boot.img files

After you have successfully booted into Linux, you will replace the supplied zImage and u-boot.img files with the files that you built as part of lab 1. These files should be found in /home/<username>/images.

Power the DE1-SoC off. Be sure to issue a "sudo halt" command before powering the board down.

Connect the micro SD card to your Linux virtual machine and copy the images for zImage and u-boot.img to the micro SD card. Insert the micro SD card into the DE1-SoC and power the board on. If you have followed the directions, you should be presented with a login prompt.

5. What to Turn in

Folder Name	Description
Lab2_Software.jpg (png)	A screen capture of the DE1-SoC booting to the Linux Prompt. The screen capture should show your team number printed out prior to the login prompt.