mtouchusb driver

Changes

- 0.3 - Created based off of scanner & INSTALL from the original touchscreen driver on freecode (http://freecode.com/projects/3mtouchscreendriver)
- Amended for linux-2.4.18, then 2.4.19
- 0.5 - Complete rewrite using Linux Input in 2.6.3 Unfortunately no calibration support at this time
- 1.4 - Multiple changes to support the EXII 5000UC and house cleaning Changed reset from standard USB dev reset to vendor reset Changed data sent to host from compensated to raw coordinates Eliminated vendor/product module params Performed multiple successful tests with an EXII-5010UC

Supported Hardware

```
All controllers have the Vendor: 0x0596 & Product: 0x0001


Controller Description          Part Number
-----------------------------------------------------

USB Capacitive - Pearl Case     14-205  (Discontinued)
USB Capacitive - Black Case     14-124  (Discontinued)
USB Capacitive - No Case        14-206  (Discontinued)

USB Capacitive - Pearl Case     EXII-5010UC
USB Capacitive - Black Case     EXII-5030UC
USB Capacitive - No Case        EXII-5050UC
```

Driver Notes

Installation is simple, you only need to add Linux Input, Linux USB, and the driver to the kernel. The driver can also be optionally built as a module.

This driver appears to be one of possible 2 Linux USB Input Touchscreen drivers. Although 3M produces a binary only driver available for download, I persist in updating this driver since I would like to use the touchscreen for embedded apps using QTEmbedded, DirectFB, etc. So I feel the logical choice is to use Linux Input.

Currently there is no way to calibrate the device via this driver. Even if the device could be calibrated, the driver pulls to raw coordinate data from the controller. This means calibration must be performed within the userspace.

The controller screen resolution is now 0 to 16384 for both X and Y reporting the raw touch data. This is the same for the old and new capacitive USB controllers.

Perhaps at some point an abstract function will be placed into evdev so generic functions like calibrations, resets, and vendor information can be requested from the userspace (And the drivers would handle the vendor specific tasks).

TODO

Implement a control urb again to handle requests to and from the device such as calibration, etc once/if it becomes available.

Disclaimer

I am not a MicroTouch/3M employee, nor have I ever been. 3M does not support this driver! If you want touch drivers only supported within X, please go to:

http://www.3m.com/3MTouchSystems/

Thanks

A huge thank you to 3M Touch Systems for the EXII-5010UC controllers for testing!