Add TouchScreen Driver

一、添加对应触摸屏的驱动文件：

path：kernel/drivers/input/touchscreen/

Makefile:将添加的文件编译进来（可选module/buildin）

参考commit: http://hcgit04-master:9080/#/c/mstar/kernel/linux-4.9/+/82668/

二、DTS添加触摸屏I2C padmux设定：

eg：kernel/arch/arm/boot/dts/infinity2m-ssc011a-s01a-display.dtsi

参考公版GOODIX的配置，根据硬件连接选择对应的I2C：

```
reg = <0x40>;     //i2c slave_id
gslx680_rst        //复位pin
gslx680_int      //中断pin
```

```
58      i2c1@1{
59          compatible = "sstar,i2c";
60          reg = <0x1F223200 0x200>,<0x1F203c00 0x200>,<0x1F207000 0x200>;
61              #address-cells = <1>;
62              #size-cells = <0>;
63          clocks = <&CLK_miic1>;
64          i2c-group = <1>;
65          /*
66           * padmux: 1 -> PAD_GPIO2, PAD_GPIO3
67           *         2 -> PAD_HDMITX_SCL, PAD_HDMITX_SDA
68           *         4 -> PAD_TTL22, PAD_TTL23
69           *         5 -> PAD_SD_CLK, PAD_SD_CMD
70          */
71          i2c-padmux = <1>;
72          /*
73           *  speed: 0 -> HWI2C_HIGH(high speed: 400 KHz)
74           *         1 -> HWI2C_NORMAL(normal speed: 300 KHz)
75           *         2 -> HWI2C_SLOW(slow speed: 200 KHz)
76           *         3 -> HWI2C_VSLOW(very slow: 100 KHz)
77           *         4 -> HWI2C_USLOW(ultra slow: 50 KHz)
78           *         5 -> HWI2C_UVSLOW(ultra-very slow: 25 KHz)
79           */
80          i2c-speed = <3>;
81          i2c-en-dma = <0>;  // 0: disable; 1: enable;
82          status = "ok";
83          touchscreen@40{ //EVB i2c-padmux=2 SSD201_SZ_DEMO_BOARD i2c-padmux=1
84              compatible = "gslX680";
85              reg = <0x40>;
86              gslx680_rst = <PAD_GPIO1>; //SSD201_SZ_DEMO_BOARD PAD_GPIO1  EVB PAD_GPIO0
87              gslx680_int = <PAD_GPIO0>; //SSD201_SZ_DEMO_BOARD PAD_GPIO13  EVB PAD_GPIO1
88              interrupts-extended = <&ms_gpi_intc INT_GPI_FIQ_GPIO0>;
89              interrupt-names = "gslx680_int";
90          };
91      };
```

```
58      i2c1@1{
59          compatible = "sstar,i2c";
60          reg = <0x1F223200 0x200>,<0x1F203c00 0x200>,<0x1F207000 0x200>;
61              #address-cells = <1>;
62              #size-cells = <0>;
63          clocks = <&CLK_miic1>;
64          i2c-group = <1>;
65          /*
66           * padmux: 1 -> PAD_GPIO2, PAD_GPIO3
67           *         2 -> PAD_HDMITX_SCL, PAD_HDMITX_SDA
68           *         4 -> PAD_TTL22, PAD_TTL23
69           *         5 -> PAD_SD_CLK, PAD_SD_CMD
70          */
71          i2c-padmux = <1>;
72          /*
73           *  speed: 0 -> HWI2C_HIGH(high speed: 400 KHz)
74           *         1 -> HWI2C_NORMAL(normal speed: 300 KHz)
75           *         2 -> HWI2C_SLOW(slow speed: 200 KHz)
76           *         3 -> HWI2C_VSLOW(very slow: 100 KHz)
77           *         4 -> HWI2C_USLOW(ultra slow: 50 KHz)
78           *         5 -> HWI2C_UVSLOW(ultra-very slow: 25 KHz)
79           */
80          i2c-speed = <3>;
81          i2c-en-dma = <0>;  // 0: disable; 1: enable;
82          status = "ok";
83          goodix_gt911@5D{ //EVB i2c-padmux=2 SSD201_SZ_DEMO_BOARD i2c-padmux=1
84              compatible = "goodix,gt911";
85              reg = <0x5D>;
86              goodix_rst = <PAD_GPIO1>; //SSD201_SZ_DEMO_BOARD PAD_GPIO1  EVB PAD_GPIO0
87              goodix_int = <PAD_GPIO13>; //SSD201_SZ_DEMO_BOARD PAD_GPIO13  EVB PAD_GPIO1
88              interrupts-extended = <&ms_gpi_intc INT_GPI_FIQ_GPIO13>;
89              interrupt-names = "goodix_int";
90          };
91      };
```

```
00855: static struct of_device_id gslX680_dt_ids[] = {
00856:     { .compatible = "gslX680" },
00857: };
00858:
00859: static struct i2c_driver gsl_ts_driver = {
00860:     .driver = {
00861:         .name = GSLX680_I2C_NAME,//#define GSLX680_I2C_NAME "gslX680"
00862:         .owner = THIS_MODULE,
00863:         .of_match_table = of_match_ptr(gslX680_dt_ids),
00864:     },
00865:     .probe       = gsl_ts_probe,
00866:     .remove      = gsl_ts_remove,
00867:     .id_table    = gsl_ts_id,
00868: };
00869:
```

以上两个步骤做完之后编译更新kernel，会有对应节点 /dev/input/eventX

*注意

1、要关闭不使用的TouchScreen，不要两个device同时使用

2、rst/int pin在dts中不要设置复用，列入GSLX680这里使用的int是GPIO0,那么在kernel/arch/arm/boot/dts/infinity2m-ssc011a-s01a-padmux-display.dtsi中就要将GPIO0的配置去掉

```diff
--- a/arch/arm/boot/dts/infinity2m-ssc011a-s01a-padmux-display.dtsi
+++ b/arch/arm/boot/dts/infinity2m-ssc011a-s01a-padmux-display.dtsi
@@ -76,7 +76,7 @@
                //<PAD_UART1_RX  >,
                //<PAD_UART1_TX  >,
                //<PAD_SD_CLK             PINMUX_FOR_I2S_MODE_3       MDRV_PUSE_I2S_BCK >,
-               <PAD_GPIO0              PINMUX_FOR_GPIO_MODE      MDRV_PUSE_SDIO0_PWR >,
+               <PAD_GPIO0              PINMUX_FOR_GPIO_MODE      MDRV_PUSE_NA >,
                <PAD_SD_CLK             PINMUX_FOR_SDIO_MODE_1       MDRV_PUSE_SDIO0_CLK >,
```