Globalmems Shell Script Manual

General Introduction

This script is helpful for GMA driver to calibrate the accelerometer.
It has to provide two kinds of paths to gss.sh choice.

Path 1: use sysfs "/sys/class/input/inputX/calibration"

Path 2: use gmad . See detailed supplementary documents.

Reminder: This shell script should be used with gma301/gma302/gma303 kernel driver. Must implement the following five interfaces.

1. /sys/class/input/inputX/offset
2. /sys/class/input/inputX/reg_rx
3. /sys/class/input/inputX/reg_tx
4. /sys/class/input/inputX/chipinfo
5. /sys/class/input/inputX/calibration

There are five Features, refer to the following

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1. Features

- calib – calibration , the offset archive to “/data/misc/sensor/offset.txt”
- clear_offset - clear offset
- read_reg - Read register value
- write_reg - The value written to the register
- read_reg_map - Read all register value and archive to "/data/misc/sensor/reg_map.txt"

2. Usage

The gss.sh copied to the device, and execute permissions to open.

Example:

adb push gss.sh /system/bin

adb shell

chmod a+x /system/bin/gss.sh

```
[global@global-lab ~/panda_work_4_4/android 13:44 #44]$ adb remount
remount succeeded
[global@global-lab ~/panda_work_4_4/android 15:39 #45]$ adb shell
```

Prototype : sh /system/bin/gss.sh read_reg REG

sh /system/bin/gss.sh read_reg 0x12

Example: Reads the value of register 0x12, and its value is 0x55.

```
root@panda:/ # sh /system/bin/gss.sh read_reg 0x12
0x55 0xC0 0x08 0x00 0x09 0x00  ( Fri Jan  2 01:16:22 GMT 1970)
```

Prototype : sh /system/bin/gss.sh write_reg REG VALUE

sh /system/bin/gss.sh write_reg 0x0f 0x00

Example: Register 0x0f set its value 0x00.

```
root@panda:/ # sh /system/bin/gss.sh write_reg 0x0f 0x00
0x00 0x00 0x07 0x55 0xC0 0x06  ( Fri Jan  2 01:17:11 GMT 1970)
```

Prototype : sh /system/bin/gss.sh calib asix

sh /system/bin/gss.sh calib 9

Examples: Do zero-G and save offset.

Note : save offset to file “/data/misc/sensor/offset.txt”

```
root@panda:/ # sh /system/bin/gss.sh calib 9
start calibration....  ( Fri Jan  2 01:18:01 GMT 1970)
automatically determine the Z direction
offset save to /data/misc/sensor/offset.txt
```

Prototype : sh /system/bin/gss.sh clear_offset

sh /system/bin/gss.sh clear_offset

Examples: clear offset and save (0 0 0) to offset.txt.

```
root@panda:/ # sh /system/bin/gss.sh clear_offset
clear offset 0 0 0
```

Prototype : sh /system/bin/gss.sh read_reg_map

sh /system/bin/gss.sh read_reg_map

Note : save info to file “/data/misc/sensor/reg_map.txt”

```
root@panda:/ # sh /system/bin/gss.sh read_reg_map
register map save to /data/misc/sensor/reg_map.txt
```

3. File Usage

- /data/misc/sensor/offset.txt : Record lastest offset each reboot thus read the file offset.

```
root@panda:/ # cat /data/misc/sensor/offset.txt
0 0 0
```

- /data/misc/sensor/offset.log : Record each calibration offset and calibration time.

```
root@panda:/ # cat /data/misc/sensor/offset.log
0 0 0 Fri Jan  2 01:18:21 GMT 1970
6 -9 2 Fri Jan  2 01:18:01 GMT 1970
8 -8 1 Fri Jan  2 01:17:34 GMT 1970
```

- /data/misc/sensor/reg_map.txt : The current value of the records of all registers.

```
root@panda:/ # cat /data/misc/sensor/reg_map.txt
Read Gma301 Register MAP
REG(0x00) 0x06 0x00 0x00 0x00 0x00 0x00
REG(0x0C) 0x8F 0x74 0x00 0x00 0x00 0x07
REG(0x0D) 0x74 0x00 0x00 0x00 0x07 0x55
REG(0x0E) 0x00 0x00 0x00 0x07 0x55 0xC0
REG(0x0F) 0x00 0x00 0x07 0x55 0xC0 0x08
REG(0x11) 0x07 0x55 0xC0 0x08 0x00 0x09
REG(0x12) 0x55 0xC0 0x06 0x00 0x09 0x00
REG(0x13) 0xC0 0x06 0x00 0x09 0x00 0xBC
REG(0x14) 0x06 0x00 0x09 0x00 0xBC 0xFF
REG(0x15) 0x00 0x09 0x00 0xBC 0xFF 0xA4
REG(0x16) 0x09 0x00 0xBC 0xFF 0xA4 0x00
REG(0x17) 0x00 0xBC 0xFF 0xA4 0x00 0x55
REG(0x18) 0xBC 0xFF 0xA4 0x00 0x55 0xC0
REG(0x19) 0xFF 0xA3 0x00 0x55 0xC0 0x08
REG(0x1A) 0xA4 0x00 0x55 0xC0 0x08 0x00
REG(0x1B) 0x00 0x55 0xC0 0x08 0x00 0x09
REG(0x1C) 0xAA 0x40 0x00 0x06 0x00 0x09
REG(0x1F) 0x48 0x48 0x48 0x48 0x48 0x48
REG(0x21) 0x50 0x50 0x50 0x50 0x50 0x50
```

4. Supplement

Zero-G introduction.

Check the file" /sys/class/input/inputX/calibration" exists.

If the file exists on the use of the above path to zero-G.

else :Use ioctl to calibrate gsensor.(/system/bin/gmad)

Code reference ....

```
==========================================================
if [ -f "$inputpath/$ATTR_CALIB" ]; then
        #echo file calibration path was $inputpath/$ATTR_CALIB
        break;
else
        echo did not find $inputpath/$ATTR_CALIB
        inputpath=NULL
        echo "The second calibration method. Run EXE"
        $RUN_CALIB -c $2
==========================================================
```