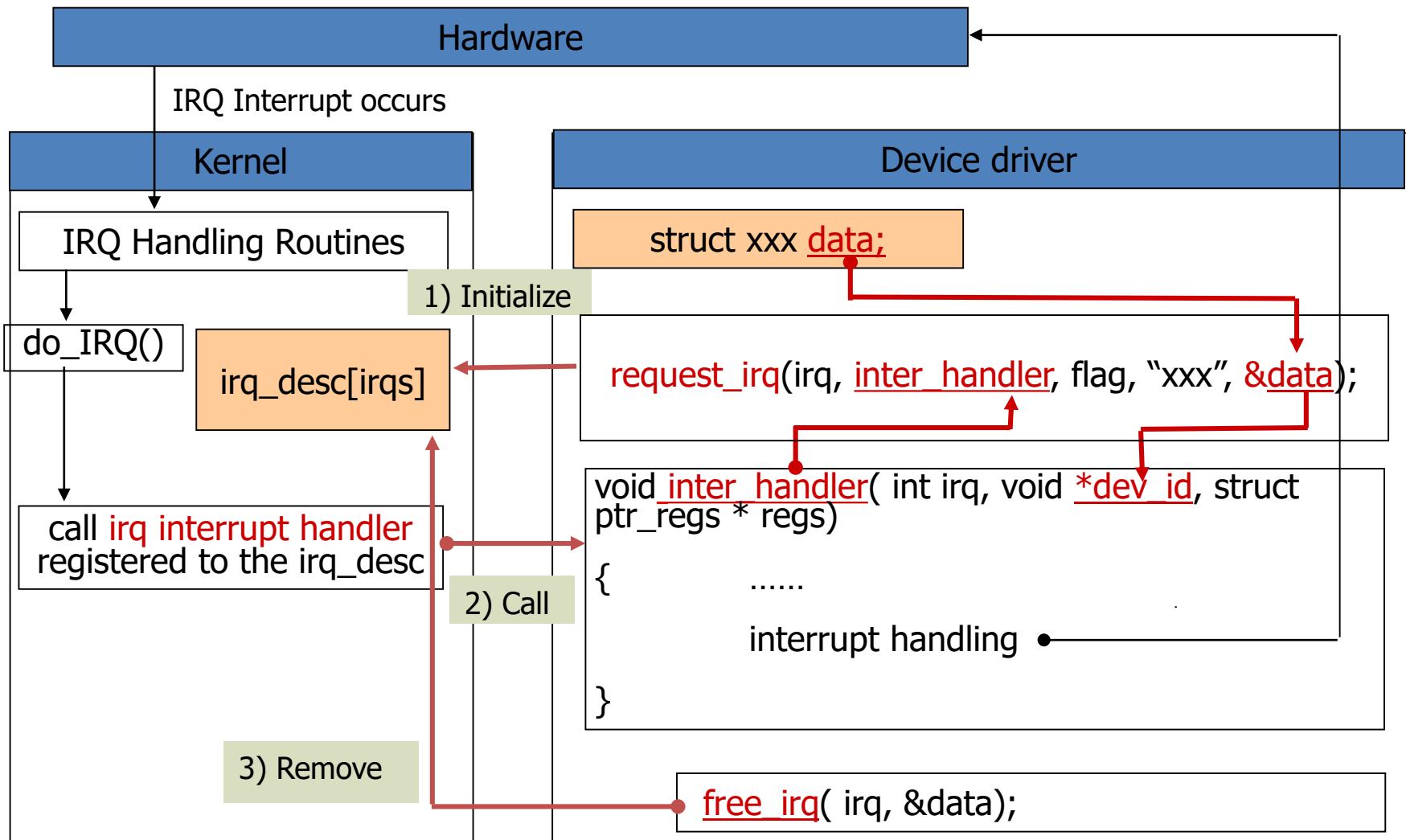


Interrupt

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Overall Flow of Interrupt Handling



Kernel 수정

- ▶ **arch/arm/mach-mx6/board-achroimx.c** 수정
(/work/achroimx_kernel 내부)

```
188 static struct gpio_keys_button ard_buttons[] = {  
189 //  GPIO_BUTTON(SABREAUTO_ANDROID_HOME,      KEY_HOME,          1, "home",          0),  
190 //  GPIO_BUTTON(SABREAUTO_ANDROID_BACK,     KEY_BACK,          1, "back",           0),  
191 //  GPIO_BUTTON(SABREAUTO_ANDROID_VOLUP,    KEY_VOLUMEUP,      1, "volume-up",       0),  
192 //  GPIO_BUTTON(SABREAUTO_ANDROID_VOLDOWN, KEY_VOLUMEDOWN,   1, "volume-down",    0),  
193   GPIO_BUTTON(SABREAUTO_ANDROID_POWER,     KEY_POWER,         1, "power-key",      1),  
194 };
```

- ▶ Kernel 컴파일 및 bootimage 생성
 - **source /root/.bashrc**
 - **make achroimx_defconfig**
 - **make -j4**
 - **./make_bootimage.sh** (/work/android에서)

Kernel 수정

▶ Kernel 기록

- **u-boot 모드 진입 (device)**
- **fastboot (device)**
- **fastboot erase boot (host)**
- **fastboot flash boot boot.img (host)**
- **fastboot reboot (host)**



Interrupt 실습

▶ arch/arm/mach-mx6/board-acroimx.c

```
89 #define SABREAUTO_ANDROID_HOME      IMX_GPIO_NR(1, 11)
90 #define SABREAUTO_ANDROID_BACK       IMX_GPIO_NR(1, 12)

94 #define SABREAUTO_ANDROID_VOLUP     IMX_GPIO_NR(2, 15)

105 #define SABREAUTO_ANDROID_VOLDOWN   IMX_GPIO_NR(5, 14)
```

▶ Interrupt Handling

- `request_irq(irq, inter_handler, flag, "xxx", &data)`
- **실습에서 쓰는 Flag(해당기기에 맞춘것) :**
`IRQF_TRIGGER_FALLING`(누를 때),
`IRQF_TRIGGER_RISING`(뗄 때),
`IRQF_TRIGGER_FALLING | IRQF_TRIGGER_RISING`(누를 때, 뗄 때 둘 다)
- `void inter_handler(int irq, void *dev_id, struct pt_regs * regs)`
- `free_irq(irq, &data);`

▶ Wait Queue

- `wait_queue_head_t`
- `interruptible_sleep_on (wait_queue_head_t * queue)`
- `void wake_up_interruptible (wait_queue_head_t * queue)`



기타 tip

- ▶ **Bashrc 다시 적용**
 - `source /root/.bashrc`
- ▶ **Tip : printk 출력 확인(보드-minicom에서)**
 - `echo "7 6 1 7" > /proc/sys/kernel/printk`
- ▶ **C crosscompile**
 - `arm-none-linux-gnueabi-gcc -static -o hello hello.c`
- ▶ **Device file 만들기**
 - `mknod /dev/inter c 246 0`
(`mknod /dev/[devicename] [type] [major] [minor]`)
- ▶ **전송(host에서)**
 - `adb push 파일이름 /data/local/tmp`