Design Document for Keypad Driver

1 Outline

This document describes the keypad driver in Linux kernel of MVF TOWER BOARD (XTWR-VF600) with MVF SoC. PTB16 and PTB17 are used as GPIO key for this board, and raised events are notified to each application via input device.

2 Existing code to be changed

2.1 Source

- Key definition
  arch/mach-mx6/board-mx6q_sabreauto.c

2.2 Modifications

- Change in key definition
- arch/mach-mvf/board-twr_vf600.c

1. Define the key used for this board (key code is tentative)

```
static struct gpio_keys_button mvf_buttons[] = {
        GPIO_BUTTON(PTB16,    KEY_MENU,    1, "back",    0),
        GPIO_BUTTON(PTB17,    KEY_BACK,    1, "menu",    0),
    };
```

2. Define the key (that is defined above) as a platform resource

```
static struct gpio_keys_platform_data mvf_button_data = {
        .buttons  = mvf_buttons,
        .nbuttons = ARRAY_SIZE(mvf_buttons),
};
```

3. Configure GPIOkey driver to be able to detect such resource

```
static struct platform_device mvf_android_button_device = {
        .name           = "gpio-keys",
        .id             = -1,
        .num_resources  = 0,
        .dev            = {
```

```
                .platform_data = &mvf_button_data,
        }
};
```

3 API of new functions

None

4 Expected register settings

Port for key input must be configured as GPIO input.

5 Expected functionality and usage

Key event is MENU button event for PTB16, and BACK button event for PTB17.

6 Any other pertinent information

Set CONFIG_KEYBOARD_GPIO on in kernel configuration.