NAME

gpioled - GPIO LED generic device driver

SYNOPSIS

To compile this driver into the kernel, place the following lines in your kernel configuration file:

> **device gpio**
> **device gpioled**

DESCRIPTION

The **gpioled** driver provides glue to attach a led(4) compatible device to a GPIO pin. Each LED in the system has a *name* which is used to export a device as */dev/led/<name>*. The GPIO pin can then be controlled by writing to this device as described in led(4).

On a device.hints(5) based system, like MIPS, these values are configurable for **gpioled**:

hint.gpioled.%d.at   The gpiobus you are attaching to. Normally assigned to gpiobus0.

hint.gpioled.%d.name   Arbitrary name of device in */dev/led/* to create for led(4).

hint.gpioled.%d.pins   Which pin on the GPIO interface to map to this instance. Please note that this mask should only ever have one bit set (any other bits - i.e., pins - will be ignored).

hint.gpioled.%d.invert If set to 1, the pin will be set to 0 to light the LED, and 1 to clear it.

hint.gpioled.%d.state   The initial state of the LED when the driver takes control over it. If set to 1 or 0, the LED will be on or off correspondingly. If set to -1, the LED will be kept in its original state.

On a FDT(4) based system, like ARM, the DTS part for a **gpioled** device usually looks like:

gpio: gpio {

>   gpio-controller;
>   ...

>   led0 {
>   compatible = "gpioled";
>   gpios = <&gpio 16 2 0>;   /* GPIO pin 16. */

```
                    name = "ok";
          };

          led1 {
                    compatible = "gpioled";
                    gpios = <&gpio 17 2 0>;                    /* GPIO pin 17. */
                    name = "user-led1";
          };
};
```

Optionally, you can choose to combine all the LEDs under a single "gpio-leds" compatible node:

```
simplebus0 {

          ...

          leds {
                    compatible = "gpio-leds";

                    led0 {
                              gpios = <&gpio 16 2 0>;
                              name = "ok"
                    };

                    led1 {
                              gpios = <&gpio 17 2 0>;
                              name = "user-led1"
                    };
          };
};
```

Both methods are equally supported and it is possible to have the LEDs defined with any sort of mix between the methods. The only restriction is that a GPIO pin cannot be mapped by two different (gpio)leds.

For more details about the *gpios* property, please consult */usr/src/sys/dts/bindings-gpio.txt*.

The property *name* is the arbitrary name of the device in */dev/led/* to create for led(4).

SEE ALSO

fdt(4), gpio(4), gpioiic(4), led(4)

HISTORY

The **gpioled** manual page first appeared in FreeBSD 10.1.

AUTHORS

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