Kernel driver lp3944

- National Semiconductor LP3944 Fun-light Chip

  Prefix: 'lp3944'

  Addresses scanned: None (see the Notes section below)

  Datasheet:

    Publicly available at the National Semiconductor website http://www.national.com/pf/LP/LP3944.html

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Description

The LP3944 is a helper chip that can drive up to 8 leds, with two programmable DIM modes; it could even be used as a gpio expander but this driver assumes it is used as a led controller.

The DIM modes are used to set _blink_ patterns for leds, the pattern is specified supplying two parameters:

- period:
    from 0s to 1.6s
- duty cycle:
    percentage of the period the led is on, from 0 to 100

Setting a led in DIM0 or DIM1 mode makes it blink according to the pattern. See the datasheet for details.

LP3944 can be found on Motorola A910 smartphone, where it drives the rgb leds, the camera flash light and the lcds power.

Notes

The chip is used mainly in embedded contexts, so this driver expects it is registered using the i2c_board_info mechanism.

To register the chip at address 0x60 on adapter 0, set the platform data according to include/linux/leds-lp3944.h, set the i2c board info:

```
static struct i2c_board_info a910_i2c_board_info[] __initdata = {
        {
                I2C_BOARD_INFO("lp3944", 0x60),
                .platform_data = &a910_lp3944_leds,
        },
};
```

and register it in the platform init function:

```
i2c_register_board_info(0, a910_i2c_board_info,
            ARRAY_SIZE(a910_i2c_board_info));
```